TRANSFORM FRESNO

A BASELINE AND PROGRESS REPORT ON EARLY IMPLEMENTATION OF THE TRANSFORMATIVE CLIMATE COMMUNITIES PROGRAM GRANT

Report Period: Award Date (January 2018) through Month Three of Implemenation (June 2019)

By: UCLA Luskin Center for Innovation, Program Evaluator
Commissioned by: California Strategic Growth Council

UCLA Luskin Center for Innovation

Acknowledgments

For More Information

www.innovation.luskin.ucla.edu

Cover image: A GRID Alternatives crew installing solar panels, representative of clean energy projects coming to Fresno as part of the Transformative Climate Communities grant (Photo credit: GRID Alternatives).

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EXECUTIVE SUMMARY

Community members, leaders, and organizers traveled to Fresno to advocate for TCC funds to be invested in Southwest Fresno at a Strategic Growth Council meeting on April 4, 2017. Photo credit: Leadership Counsel for Justice and Accountability

THE TRANSFORMATIVE CLIMATE COMMUNITIES PROGRAM (TCC) is an innovative, new 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 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. In its first year, and through a competitive process, SGC awarded multimillion dollar grants to the City of Fresno ($66.5 million), the Watts Neighborhood of Los Angeles ($33.25 million), and the City of Ontario ($33.25 million).

The UCLA Luskin Center for Innovation (LCI) is serving as the lead evaluator for this first round of funding. Researchers are working with the three communities to document their progress and evaluate the impacts of TCC investments through fiscal year (FY) 2022-2023. This is the first in a series of five annual reports that will provide an overview of the funded projects, key accomplishments, and estimated benefits of TCC investment in Fresno.[1] This first annual report documents progress through the end of FY 2018-19, which only overlaps with about three months of program implementation (March 2019 through June 2019), so the focus of the report is on early accomplishments and baseline indicators. Future reports will provide updates on implementation milestones and select indicators where new data are available.

> ## Key Accomplishments*
>
> - **Laid the foundation for grant success by refining project scopes and finalizing evaluation protocols;**
> - **Executed grant agreement and kicked off implementation;**
> - **Established partnerships and a governance structure to ensure meaningful community engagement and accountability;**
> - **Acted to prevent displacement; and**
> - **Trained and utilized the clean energy workforce**
>
> ***from award date (January 2018) through the end of FY 2018-'19 (June 2019)**

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[1] For annual reports that document TCC investments in Ontario and Watts, visit: https://innovation.luskin.ucla.edu/climate/climate-investments/

Aerial view of the City of Fresno. 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, 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 (Collaborative).

Transform Fresno

The Collaborative employed a participatory process to identify a series of 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, 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 overwhelming 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 greenhouse gas (GHG) emissions while also providing local environmental, health, and economic and social equity benefits. In early 2018, the Strategic Growth Council (SGC) awarded Transform Fresno a TCC grant of $66.5 million to bring their vision to fruition. Transform Fresno will also leverage $117.3 million in other funding towards this vision. Along with the City of Ontario and the City of Los Angeles' neighborhood of Watts – two other sites awarded Round 1 TCC funding – Fresno will serve as one of the first communities in the country to pilot a community-led, multi-benefit, and place-based climate change mitigation program that specifically targets the needs of low-income households.

Projects

Transform Fresno includes a total of 21 projects, 17 of which are funded by TCC dollars and four of which are funded 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 eleven distinct project types below, and are mapped in Figure 1 (where applicable):

TCC Funded Projects

Active Transportation — Funds the installation of more than 14,000 square 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, increasing active transportation, and reducing vehicle miles traveled (VMT), along with lowering housing and travel costs for Fresno residents.

Food Waste Prevention and Rescue — Funds the rescue, processing, and distribution of off-farm edible food waste to food pantries, food kitchens, and community organizations to increase 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 and electric bicycle sharing mobility network of 34 cars, eight vans, 200 bicycles, and vehicle charging infrastructure. The low carbon transportation project fills a critical mobility gap and will increase residents' access to services and amenities without producing GHGs from tailpipe emissions.

Rooftop Solar and Energy Efficiency — Funds three distinct projects aimed at installing free 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 and solar water heating measures on 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 construction of two miles of bicycle lanes, and construction of a new nine and a half acre public park. Similar to the urban and community forestry projects, the planted trees will sequester carbon, reduce 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 rooftop solar and energy efficiency upgrades with additional rebates and incentives to help residents afford an electric or hybrid vehicle, a home charging station, and electric service panel upgrades.

Southwest Offsite 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 purchasing electric buses and installing an electric charging station. Like the affordable housing project, the TCC Connector is aimed at improving transit ridership and reducing VMT.

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 project and to minimize unintended harms. Specifically, grantees were required to develop a community engagement plan, workforce development plan, and displacement avoidance plan. Respectively, 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. In the case of Transform Fresno, these three plans have been adapted in the following ways:

Community Engagement Plan	Workforce Development Plan	Displacement Avoidance Plan
» Institutionalize opportunities for residents to participate in the planning and governance of TCC implementation » Continue to build civic engagement while fostering the next generation of community leaders	» Connect residents with training and educational opportunities that provide them with new skills » Place residents in employment opportunities on TCC and leveraged projects	» Preserve the supply of affordable housing, neighborhood stabilization and wealth building » Protect tenure of existing residents » Retain and grow the local small business community

Figure 1. Project Area Map With Locations of Projects*

Legend

— Southwest Fresno Trail

--- Southwest Urban Forest Expansion

— Annadale Mode Shift

▪▪▪ Southwest Offsite Improvements

— TCC Connector

☐ TCC Project Area Boundary

☐ Fresno City Limits

0   0.25   0.5 Miles

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Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community
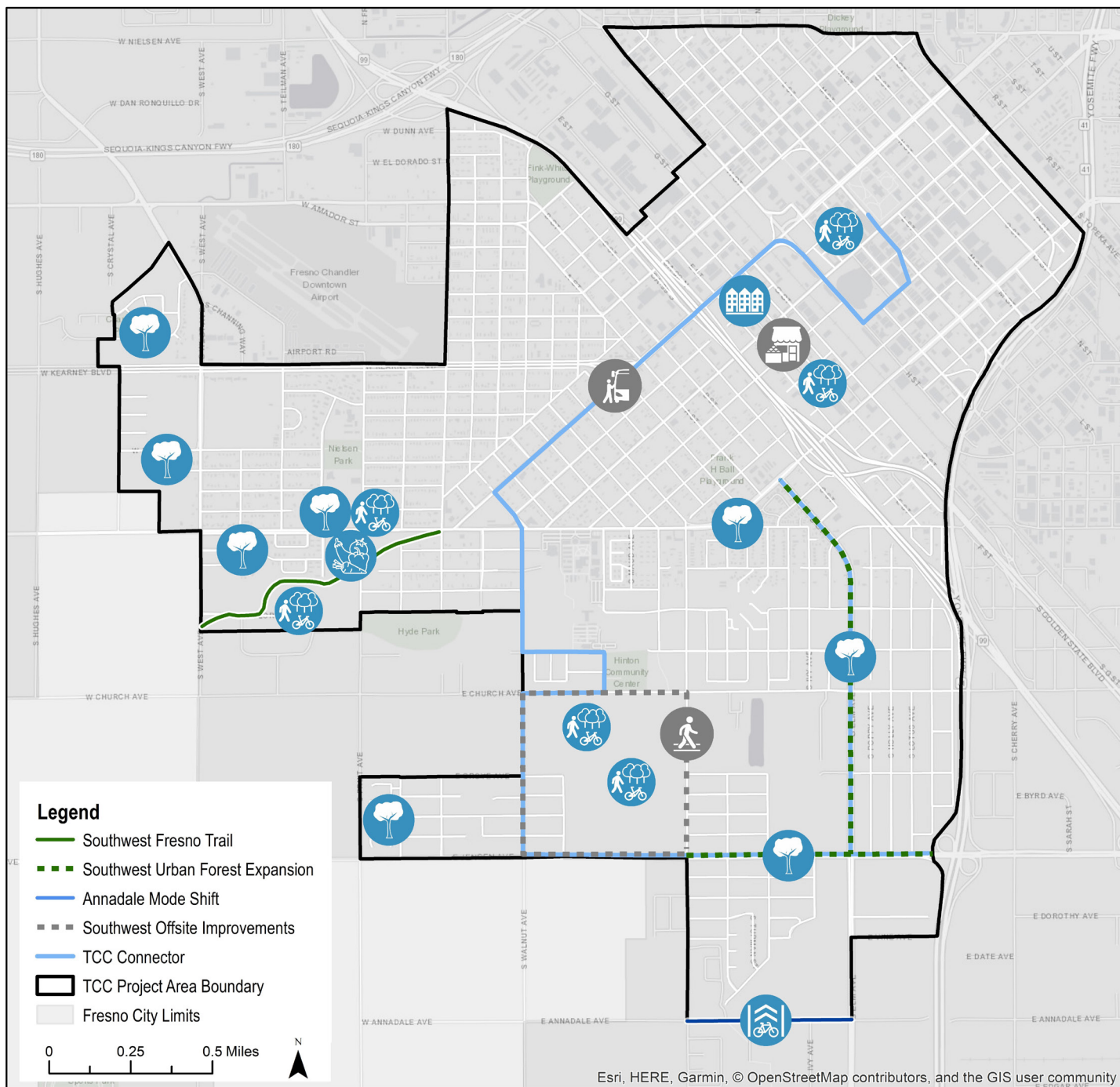
***See the previous page for information about what each project icon represents.** This map does not include projects or plans that are sitewide (e.g., community engagement) or projects for which locations have not yet been determined (e.g., rooftop solar installations). Figure credit: UCLA Luskin Center 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 non-exhaustive list of these benefits, grouped by indicator type. This list only includes 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.

Project Outputs

2.5 miles of Class I, Class II, and Class III bike lanes

42 new battery-electric vehicles for a car sharing network

784 kW of solar power on affordable multi-family developments and single family homes

1 mile of sidewalk construction and improvements

17 acres minimum of parks, parklets, and community gardens and orchards

200 TCC area individuals trained for residential solar installation projects

57 new housing units (56 affordable units)

1,458 new trees that will provide shade for buildings and sidewalks

31 tons of material diverted from landfills

Project Outcomes and Impacts[2]

20,816 metric tons (MT) of avoided GHG emissions (in CO2e)

$9,239,479 in travel cost savings for residents who change their travel modes

5,149,183 gallons in avoided stormwater runoff

14,832,662 miles of averted travel in passenger miles

$4,825,526 in energy cost savings for solar PV and street tree beneficiaries

337 direct jobs, **112** indirect jobs, and **190** induced jobs supported by TCC funding[3]

[2] See Appendix 2 for a summary of methods for how these benefits were estimated. Benefits are reported as totals over the operational period of the projects, also referred to as project lifetimes. Totals reported here for projects implemented in 2019 reflect revisions completed after the release of the California Climate Investments 2020 Annual Report. These revisions will be reflected in the next reporting cycle for California Climate Investments.

[3] All jobs are reported as full-time equivalents (FTEs).

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 many other funding and action-oriented opportunities that leverage the TCC projects and plans to bring additional environmental, health, and economic benefits to Fresno. In addition, lessons learned and best practices from Fresno TCC could inform local climate action and investments well beyond Fresno.

Early Accomplishments

Much has happened following SGC's announcement of Transform Fresno's TCC award in 2018. From then through the close of the 2018-19 fiscal year (June 30, 2019), project partners have refined plans, built both capacity and governance structures, and taken initial steps necessary to implement an ambitious, unprecedented climate action initiative. These accomplishments are described in more detail below according to the time period in which they occurred.

Post Award Process (January 2018 - April 2019)

Laying the Foundation for Grant Success

In 2018, SGC announced that Transform Fresno was awarded a Round 1 TCC grant. This kicked off a process known as post-award consultation in which SGC and the City of Fresno participated in a comprehensive review of all projects and transformative plans to ensure that they are in compliance with TCC guidelines, and more broadly that the foundation is laid to maximize implementation success. This includes having a sound evaluation plan for tracking the outputs and outcomes from each project and transformative plan. The process also involved refining the scope and modifying the budget of several projects compared to what was originally submitted in the Transform Fresno proposal. The post-award consultation process led to the following notable outcomes:

» Procurement underway for the purchase of two 40-foot electric buses

» Procurement underway for the construction of an electric transit vehicle charging station

Post Grant Execution (April 2019 - June 2019)

Kicking Off Implementation

The City of Fresno executed its grant agreement with SGC on April 3, 2019, a date which marks the end of post-award consultation and the beginning of program implementation. Given the timing of grant execution, this first annual report overlaps with only about three months of program implementation. Most of this early implementation period was spent on meeting SGC's readiness requirements (e.g., completing necessary California Environmental Quality Act documentation, obtaining permits, finalizing project maps and designs, developing operations and maintenance plans, etc). Early implementation milestones include the following:

» **Eight TCC funded projects met SGC's full readiness requirements to start spending funds on building out infrastructure and rolling out services**

» **Seven TCC funded projects have allowable pre-construction, community engagement, and workforce development activities**

» **Two projects must meet full readiness or other conditions before starting implementation**

Establishing a Structure for Governance and Community Engagement

The City of Fresno has established a number of partnerships in the community to facilitate TCC implementation, all grounded in comprehensive community engagement. Many of these partnerships were formed during the TCC application process and have now been institutionalized in the form of a collaborative stakeholder group, referred to as the Fresno Transformative Climate Communities Collaborative. For example, the advisory oversight group, called the Outreach and Oversight (O&O) Committee, was formed in 2018 and has held quarterly, open-door meetings to share Transform Fresno updates and provide an opportunity for public comment. All 16 members of the O&O Committee live, work, or own property in the Transform Fresno project area.

The City of Fresno, along with a consultant, developed a framework for meaningful community engagement for the Community Engagement Plan (CEP). In 2019, Transform Fresno residents and stakeholders informed the design of the plan through community workshops, surveys, and written and public comments. Incorporating this collaborative approach, the CEP's overarching goal is for residents, workers, business owners, property owners, and other stakeholders in Chinatown, Downtown, and Southwest Fresno to be knowledgeable of Transform Fresno efforts, and to enable these diverse stakeholders to be active participants in all areas of project planning and implementation. The community engagement methods in the CEP will be implemented by the City of Fresno, the 12 project partners, the O&O Committee, and six community partner agencies. The multi-faceted CEP, with its collaborative and capacity-building activities, will be integral to achieving the change desired by the Transform Fresno initiative. Early milestones include the following:

» **Seven O&O Committee quarterly meetings held**

» **Five CEP Workshops held**

» **120 TCC-area residents directly engaged at CEP workshops**

» **A request for qualifications was issued to contract with six community partner organizations to implement the comprehensive CEP**

Acting to Prevent Displacement

The City of Fresno has taken actions to prevent displacement of residents and businesses in and around the Transform Fresno project area. It is important to note that TCC funded projects will not cause direct displacement, as all proposed housing units will be constructed on vacant lots and transportation activities will occur within the public-right-of-way. However, indirect displacement from rising property values - as a result of large-scale investment in historically underserved TCC neighborhoods - remains a concern for residents and business owners. To address these concerns in a meaningful way, the City of Fresno established an Anti Displacement Task Force (ADTF) in November 2018. The ADTF has 11 appointed members representing residential tenant organizations, commercial tenant organizations, developers, and advocacy agencies. Together these stakeholders will analyze data trends on rents and property values throughout the five-year TCC grant term, and recommend solutions related to all causes and areas of displacement in the TCC project area and the City of Fresno more broadly. Early milestones include the following:

» Three ADTF meetings held

» One Displacement Avoidance Plan (DAP) workshop held

» 23 surveys collected for development of the DAP

» One DAP was collaboratively developed and approved to institutionalize displacement avoidance

goals, policies, and other preventative measures and proactive solutions. See the DAP profile for details.

Training and Utilizing the Clean Energy Workforce

Three clean energy projects were able to start implementation shortly after their individual subgrants were approved with the City of Fresno in April and May of 2019. Two projects, led by GRID Alternatives, will install no-cost solar PV systems on 60 single-family homes and five multi-family dwellings in the project area. The third project, which is led by the Fresno Economic Opportunities Commission, will install energy efficiency measures, solar water heating, and solar PV systems on 170 single-family homes across the Transform Fresno neighborhoods. In addition to providing significant savings on utility costs to families in Downtown, Chinatown, and Southwest Fresno, these projects will collectively train over 200 residents from the project area in solar PV and energy efficiency installation. The workforce development components of these projects provide hands-on, on-the-job training and credentials, and will uniquely position Transform Fresno with a growing, qualified clean energy workforce. Early milestones include the following:

» Eight applications approved for single-family solar PV systems

» Four individuals trained on solar PV installation and maintenance

» Two individuals trained on energy efficiency installation measures

An initial proposal for the Mariposa Plaza project presented at a Community Steering Committee meeting in September 2017. Photo credit: Phil Meyer.

Baseline Trends for Evaluating Project Impacts

The first step in evaluation is to establish baseline data for indicators in treatment and control settings prior to an intervention. In the case of the Transform Fresno initiative, this report characterizes baseline conditions in the TCC project boundary area and a set of similar, but nonadjacent census tracts prior to TCC investments. In addition to looking at baseline conditions in the TCC sites and control tracts, this report includes baseline conditions at the scale of Fresno County and the State of California in order to understand how TCC investments are addressing equity gaps at broader geographic scales. See Table 1 for a summary of key trends at these four geographic scales. A discussion of these findings and additional details can be found in the final chapter of this report.[4]

Demographics
The population in the TCC project area in Fresno has grown slightly, a trend that is consistent with the rest of Fresno County and California, though not as pronounced. Furthermore, across all three geographic scales, there has been a statistically significant increase in the Hispanic population and a statistically non-significant decrease in the non-Hispanic Black and the foreign-born populations. Unlike the county and state, the TCC project area is becoming more non-Hispanic White and less non-Hispanic Asian. These latter two trends in the TCC project area, however, are not statistically significant and could be due to sampling error.

Economy
Economic conditions in the TCC project area in Fresno appear to have improved according to multiple American Community Survey (ACS) indicators during the decade that followed the recession: median household income and the employment rate increased, while poverty levels decreased. Only the indicator for employment rate, however, show a statistically significant improvement. Educational attainment, a precursor to economic mobility, is also increasing (though not at a statistically significant rate).

Energy
There is a limited set of energy-related indicators that can be tracked at the census tract scale or smaller given the regional nature of electricity generation and transmission. However, several useful indicators can be obtained at an appropriate geographic scale useful for tracking trends in local energy resources, such as reliance on fossil fuels for heating purposes and solar PV adoption. With respect to heating fuels, it appears that residents are becoming increasingly less reliant on natural gas utilities for their heating needs, and more reliant on electrical heating appliances. The trend for electrical heating was statistically significant, however the trend for natural gas was statistically

non-significant and could be due to sampling error. With respect to solar PV installations, there are lower adoption rates in the Fresno TCC project area than in the county and state.

Environment
Like energy indicators, there is a limited set of environmental quality indicators that can be tracked at the neighborhood scale from secondary sources. Thus, many of the environmental effects of TCC on awarded sites must be measured directly. During baseline data collection, the TCC evaluation team was able to use satellite data to classify the TCC project boundary area by land type. Based on the most recent set of available satellite imagery for 2016, it appears that the TCC project area has a high percentage of impervious surfaces (39% of total land area) and low percentage of vegetative cover (12%) relative to urbanized communities across California.

Health
Health data are highly sensitive information and are not generally available from secondary sources at a temporal and geographic scale appropriate for measuring neighborhood-level transformations. Nonetheless, there are two health related indicators that can be tracked at a geographic scale that is appropriate for evaluating the effects of Transform Fresno: health insurance coverage and vehicle collisions involving a cyclist or pedestrian. The former indicator experienced a statistically significant increase during the study period, which could be explained by the rollout of the Affordable Care Act in 2010. The latter indicator is already low, declining from nine collisions in 2013 to one collision in 2018.

Housing
Among the various housing indicators tracked for the TCC project area, the only statistically significant trend was an increase in the percentage of homeowners in the same home as one year ago. This trends could be interpreted as an increase in housing stability for homeowners, potentially due to rising incomes and employment, as discussed in the section on economic indicators. However, without more primary data on the motivations for residents to stay in their units, it is difficult to draw conclusions about explanatory variables.

Transportation
Across Fresno County and California more broadly, there has been a statistically significant shift towards more work commutes by car. This trend was also observed in the TCC project area. Commuting by other modes remained relatively stable, as changes were not statistically significant. However, an increasing share of households in the TCC area appear to be commuting by bicycle and carpool than those in Fresno County or California over the observed years.

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[4] Additional information related to indicator tracking can also be found in the appendices. .

Table 1. Summary Table of Key Baseline Trends[5]

Indicator	Growth Rate From 2013 to 2018			
	Fresno TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Total population	+1.8%	+2.7%	+4.1%*	+4.0%*
Percent Hispanic, all races	+10.1%*	+1.9%	3.9%*	+2.6%*
Percent Non-Hispanic, Asian	-22.4%	+10.4%	+6.1%	+7.6%*
Percent Non-Hispanic, Black	-27.3%	-6.8%	-6.0%	-3.3%
Percent Non-Hispanic, White	+13.3%	-9.6%	-7.3%	-5.4%
Percent Non-Hispanic, other groups	+41.1%	+7.0%	+3.7%	+9.1%*
Percent foreign born	-9.3%	-11.0%	-2.3%	-0.4%
Median household income	+5.8%	+7.5%	+12.5%*	+16.6%*
Percent living below poverty	-0.8%	+0.2%	-7.1%	-10.4%
Percent high income ($125k+)	-20.2%	+81.7%*	+31.5%*	+31.0%*
Percent employed within civilian labor force	+10.7%*	+9.0%*	+5.0%*	+4.4%*
Percent with less than high school education	-11.2%	-5.7%	-8.3%	-9.0%
Percent with bachelor's degree or higher	+17.8%	+18.8%	+5.8%*	+8.4%*
Percent renters**	-2.4%	+3.5%	+2.0%*	+1.5%*
Percent homeowners**	+6.0%	-7.5%	-1.8%	-1.2%
Percent renters paying ≥50% of income on rent**	-3.5%	+7.2%	-1.5%	-4.6%
Percent homeowners paying ≥50% of income on mortgage**	+72.0%	-55.6%	-24.2%	-25.7%
Percent renters with more than one occupant per room**	-19.7%	+1.8%	-9.8%	+1.4%*
Percent homeowners with more than one occupant per room**	+16.4%	+5.6%	-8.2%	-3.9%
Percent of renters in same house 1 year ago**	-5.9%	+1.0%	+4.4%*	+9.5%*
Percent of homeowners in same house 1 year ago**	+16.6%*	-1.6%	0.0%	-1.3%
Percent commuting to work by car (alone)	+7.7%*	+2.6%	+2.0%*	+0.8%*
Percent commuting to work by transit	-27.2%	+39.1%	-4.3%	-1.6%
Percent commuting to work by bike	+80.6%	-86.1%	-21.3%	-5.9%
Percent commuting to work by foot	-33.0%	-3.8%	-21.3%	-3.3%

*Statistically significant at the 95% confidence level. Significance tests were conducted in accordance with methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018).
**Refers to households rather than individuals.

[5] These growth rates are based on data from the American Community Survey (ACS) using five-year samples for 2009-2013 and 2014-2018. See Appendix 6 for the following details: (1) the ACS table numbers that were sourced for each indicator; (2) estimates (rather than percentage changes) for 2009-2013 through 2014-2018 samples; and (3) the margins of error for each estimate.

Governor Jerry Brown in Fresno signs a package of climate change bills in September of 2016, including Assembly Bill 2722, which was authored by Assemblymember Autumn R. Burke (at right) and established the Transformative Climate Communities Program (TCC). **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 Assemblymember 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.[6] 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) 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.

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[6] AB 2722, Transformative Climate Communities. 2016. Web. February 2017. Retrieved from: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB2722

As a place-based program, all grant applicants must identify a project area that will be the focus of the TCC proposal. Proposals must be borne out of a robust community engagement process that brings together residents and stakeholders towards 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 neighborhood. 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.

Lastly, the program emphasizes cross-sector partnerships by requiring applicants to form a coalition of organizations that would carry the implementation of the community vision. To assure that the implementation will deliver the community 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 California Department of Conservation (DOC), with collaboration by other state agencies. SGC staff coordinate 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 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 Proposition 84 funds.

Program Awards

Since the launch of the program in 2016, there have been two 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 $0.8 million was allocated to planning grants. Round 3 will be tied to FY 2019-2020 funding, with a total of $56 million available in funding for implementation grants and $1 million for planning grants. Table 2 provides an overview of the implementation and planning grants that have been distributed through FY 2018-2019.

Table 2: Overview of TCC Implementation and Planning Grants Through FY 2018-2019

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	$90k
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	Round 2 (FY 2018-2019)	Implementation	$23 million
Sacramento - Twin Rivers 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

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

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 sites.[7] For Round 2 of the program, each TCC site selected a third-party evaluator from a list of qualified evaluation technical assistance providers that were pre-approved by SGC through an open application process. Evaluation plans for Round 2 are still under development, but will closely follow the Round 1 evaluation plan.

The Round 1 Evaluation Plan was developed in close consultation with the TCC Round 1 sites. To qualify for TCC funding, TCC applicants had to identify performance indicators associated with each proposed project type and transformative plan. The UCLA-UCB evaluation team then worked with the awarded grantees to refine their indicator tracking plans to ensure that they aligned with their project goals. To do so, the evaluator developed project-specific and plan-specific logic models in collaboration with the grantees. Logic models are a helpful evaluation tool that illustrate all of the interim steps that must occur for a project or plan to realize its intended goals. These steps are defined as follows:

» **Inputs: The investment dollars and leveraged funds that support TCC**

» **Activities: The work of the TCC grantees and co-applicants**

» **Outputs: The products and services that the TCC projects produce and deliver**

» **Short-term Outcomes: Changes in stakeholder's knowledge, attitude, and skills**

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[7] 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

» Intermediate Outcomes: Changes in stakeholder's behaviors, practices, or decisions

» Impacts: Changes in environmental or human conditions that align with the objectives and goals of TCC

The latter four steps in the framework described above are treated as performance indicators that will be quantified and tracked over a five-year period (2019-2024) for the purposes of program evaluation. The Round 1 evaluation plan for TCC summarizes the final list of indicators adopted by SGC for TCC evaluation and the methods for tracking those indicators.[8] Indicator tracking responsibilities are split among the UCLA-UCB evaluation team and the grantees. In general, all output related indicators will be tracked over time by the grantees, while most outcome and impact related indicators will be tracked by the UCLA-UCB evaluation team.

It is important to note that it could take a generation for many of the transformative impacts of TCC investment to show up in secondary data. Trees can take 40 years to grow to maturity, financial security can take decades to achieve, and affordable housing developments can take years to break ground. Thus, at the end of the relatively short five-year evaluation period, changes in the impact indicators may be too small to be distinguishable from statistical noise, thereby making it difficult to draw any statistically valid conclusions about indicator changes at the selected sites. Nonetheless, the UCLA-UCB evaluation team will assess impact indicators annually for the sake of maintaining a complete time series, which will be helpful for developing trend lines over the long run that show the directionality of impact indicators.

Methods for Evaluating TCC
The TCC Program Evaluation Plan includes two different modes of comparison. First, the UCLA-UCB evaluation team will measure changes in indicators in the TCC sites before and after the influx of TCC investments (before and after comparison). When possible, the UCLA-UCB evaluation team constructed a five-year pre-investment trend line prior to implementation kickoff (2014-2018) and will construct a five-year post-kickoff trend line (2019-2023). Second, the UCLA-UCB evaluation team will conduct the same before and after comparison for a set of control sites to isolate the effect of TCC investment from larger social, economic, and environmental forces. These control sites are individual census tracts that are similar to their respective TCC sites along a number of dimensions, including socioeconomic demographics, climate, and pollution burden (as demonstrated by their CalEnviroScreen scores).[9]

In addition to measuring changes within the TCC sites and a set of control sites, the UCLA-UCB evaluation team will also look at changes at the county and state level for a select set of indicators that speak to social equity (e.g., income, employment, housing costs, etc.). Tracking social equity indicators in these larger surrounding geographies will allow the evaluator to assess the degree to which TCC has helped reduce the economic gaps that exist in TCC sites relative to nearby communities.

In summary, the UCLA-UCB evaluation team is collecting data at four geographic scales to assist with evaluating the effects of TCC:

» **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% areal 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 can not reliably be apportioned to fit the actual TCC project boundary area. See Appendix 4 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, including socioeconomic demographics, climate, and pollution burden, but that did not receive TCC investment. Collecting before and after data for the control sites will help control for external forces such as broader trends that could also explain the changes in environmental, health, and economic conditions observed in the three awarded TCC sites. See Appendix 5 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 situated (Fresno County in this report). County-scale measurements are helpful for understanding the degree to which TCC investments are addressing social equity concerns.

» **State:** The state in which TCC sites are situated (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.

Whenever possible, the UCLA-UCB evaluation team will track indicators for the TCC project area and at the scale of

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[8] Ibid.

[9] See 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

the control sites, county, and state. However, a number of indicators do not easily lend themselves to measurement for the latter three geographies. Many of the indicators tracked by the UCLA-UCB evaluation team rely on primary data (e.g., transit ridership, business retention, compost production, etc.) that would be cost-prohibitive or technically infeasible to obtain at the same level detail for control sites, the county, or the state. Even when secondary data are available, it may not be prudent to use limited evaluation resources to analyze indicators at all four scales. For example, accessibility indicators will be tracked for both TCC sites and control sites, but not at the county and state scale because of the processing time associated with running network analyses in ArcGIS. Furthermore, there are some indicators that must be estimated because they are tied to specific project activities and can not be reliably obtained from either primary or secondary data (e.g., GHG reductions, energy and travel cost-savings, indirect and induced jobs, etc.). In these cases, estimates will be provided only for the TCC sites.

Evaluation Summary Through June 2019

During the first year of program implementation, the UCLA-UCB evaluation team worked with TCC grantees to operationalize indicator tracking protocols. More specifically, the UCLA-UCB evaluation team developed reporting forms to streamline tracking activities and trained TCC project leads on how to use those forms. On an annual basis, TCC grantees will complete and submit these reporting forms to the UCLA-UCB evaluation team. Each submission reflects the grantee's activities during the previous fiscal year. Many of the key accomplishments described in this document are pulled directly from the grantees' reporting forms for the first year that includes the post award period and the three months of implementation after grant execution.

The UCLA-UCB evaluation team also completed baseline data collection during the first year of program implementation, the results of which are summarized in the final chapter of this annual report. For most indicators, baseline data will be updated on an annual basis through the end of 2023. A complete accessibility analysis and vegetative cover analysis, however, will not be updated until the end of the five-year evaluation period due to the labor-intensiveness of these two particular activities.

Upcoming Evaluation Activities

During the second year of program implementation, the UCLA-UCB evaluation will begin collecting qualitative data about the rollout of the grantees' three transformative plans (i.e., the community engagement plan, displacement avoidance plan, and workforce development plan). The qualitative data will be collected through a mix of surveys, interviews, and focus groups among a limited sample of TCC residents, job trainees, and other project stakeholders.[10]

For each upcoming year of TCC grant implementation, the UCLA-UCB evaluation team will issue an updated annual report culminating in a total of five annual reports. Following the fifth year of implementation, grantees are expected to have completed all of their projects, and will enter a two-year performance period in which they continue to report on how projects are progressing. At the close of the performance period, the UCLA-UCB evaluation will issue a closeout report in which baseline indicators are updated one last time. At this time, there will be two five-year non-overlapping samples of ACS data, one before program implementation and one following implementation, from which the UCLA-UCB evaluation will examine early impacts of TCC.

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[10] 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

Former SGC Executive Director Randall Winston (center, standing) leading 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

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 been formed or have continued the legacy of community engagement in the TCC project area to address 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 Southwest Fresno Specific Plan (2017), the Downtown Neighborhoods Community Plan (2016), and the Fulton Corridor Specific Plan (2016) 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 the final TCC project package reflected and directly addressed the

needs of the community. The first step was establishing a Collaborative Stakeholder Structure (the Collaborative), which formed in 2017 during the development of Fresno's TCC application. Over the course of 90 days (July - October 2017), 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 were encouraged to participate and to propose and discuss the types of projects the they wanted to see come to fruition. Sixty-two projects were proposed in total, of which 37 were eligible for funding consideration under TCC guidelines. The eligible projects were then gathered into five packages, each package totaling between $75 million and $77 million, that were presented and voted on in the final meeting.

In order to be a voting member for the final project package, residents had to prove they lived in the project area and had attended more than 50% of the Community Steering Committee meetings, and workers or property owners had to have attended more than 66% of the meetings. A total of 529 people participated, and 164 community members were eligible to vote at the final Steering Committee meeting. One hundred and twenty-six voting members attended the final meeting and overwhelmingly chose the

package of projects designed by residents of Southwest Fresno. Collectively, this was the largest participatory budgeting process in the City of Fresno'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 only use matching funds; and (3) transformative plans to ensure that the suite of projects are bolstered by meaningful community engagement, workforce development, and displacement avoidance activities.

In early 2018, Transform Fresno was selected by SGC for a TCC grant of $66.5 million. Transform Fresno will also leverage $117.3 million in outside funds towards this vision.

The TCC award not only brings a significant influx of financial resources to the community, but also reinforces the cross-sector partnerships that were built before and during the TCC application process. Table 3 provides a summary of the final set of Transform Fresno projects, plans, and partners involved with implementation. Appendix 1 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 comprise 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 2018-2019. This baseline and initial evaluation period overlaps with about 13 months of post-award consultation and three months of program implementation.

Table 3: Summary of Transform Fresno Projects and Plans

Project/Plan Type	Project/Plan Name	Partners	TCC Funding	Leveraged Funding
Community Engagement Plan	N/A	The City of Fresno;* Prime Community Partner; Data and Reporting Partner; Direct Outreach Partner; Leadership Development Partner; Media and Communications Partner; Event Coordination Partner	$891,083	$0
	Bike Safe Fresno	US Green Building Council – Central California*	$138,540	$0
Displacement Avoidance Plan	N/A	The City of Fresno;* Fresno Anti Displacement Task Force; Central Valley Business Diversity Partnership; Wells Fargo; Fresno Regional Workforce Development Board	$0	$60,500
Workforce Development Plan	West Fresno Advanced Transportation Technology Training	Fresno Regional Workforce Development Board;* West Fresno Advanced Transportation Technology Training	$1,249,432	$0
	N/A	TBD*	$1,850,000	$0
	N/A	The City of Fresno*	$110,500	$0
Active Transportation Program	Annadale Mode Shift	Self-Help Enterprises;* The City of Fresno	$343,000	$150,000

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

Table 3 continues next page▸

Project/Plan Type	Project/Plan Name	Partners	TCC Funding	Leveraged Funding
Affordable Housing and Sustainable Communities	Chinatown Housing Development	Fresno Housing Authority*	$10,807,319	$18,994,761
		The City of Fresno*	$977,902	$0
Food Waste Prevention and Rescue	Southwest Fresno Community Food Hub: Edible Food Rescue and Distribution	Fresno Food Commons*	$1,488,280	$2,062,366
Low Carbon Transportation	Clean Shared Mobility Network	Fresno Metro Black Chamber of Commerce;* San Joaquin Valley Latino Environmental Advancement and Policy (Valley LEAP); Inspiration Transportation; Shared use Mobility Center; Bethel Temple Early Readers Preschool	$7,717,014	$2,292,900
Rooftop Solar and Energy Efficiency	EOC Partnership for Energy Savings and GHG Reductions in SW Fresno	Fresno Economic Opportunities Commission (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	$883,826	$535,808
	GRID Solar Collaborative Multi-Family Partnership	GRID Alternatives;* The Fresno Center; Stone Soup	$352,549	$110,000
Urban and Community Forestry	Southwest Urban Forest Expansion	The 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	$434,153
	Inside Out Community Garden	Fresno EOC;* Another Level Training Academy; The City of Fresno	$98,000	$0
	Southwest Fresno Community Food Hub: Community Orchard	Fresno Food Commons*	$262,500	$436,255
Urban Greening	Southwest Fresno Trail	The City of Fresno;* US Green Building Council - Central California; Urban Diversity Design	$1,978,959	$0
	Chinatown Urban Greening	The City of Fresno;* US Green Building Council - Central California (USGBC-CC); Urban Diversity Design	$6,965,696	$0
	Mariposa Plaza	The City of Fresno*	$3,859,000	$0
	Park at MLK Magnet Core	The City of Fresno*	$5,430,467	$1,500,000
	Southwest Fresno Community Food Hub: Urban Heat Island Mitigation	Fresno Food Commons*	$62,220	$70,500
	Fresno City College: West Fresno Satellite Campus	State Center Community College District (SCCCD)*	$16,542,746	$70,000,000

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

Project/Plan Type	Project/Plan Name	Partners	TCC Funding	Leveraged Funding
Leveraged Projects	Chinatown Property Based Improvement District	The 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
Total**			$65,797,110	$116,517,664

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

One of the five Community Engagement Plan pop-up workshops, shown here at the Chinatown Empowerment Center site, on May 30, 2019. Photo credit: The City of Fresno

THE COUPLING OF TRANSFORMATIVE PLANS alongside a comprehensive suite of 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 (CEP), displacement avoidance plan (DAP), and workforce development plan (WDP). 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 their three transformative plans and what progress has been made towards plan implementation.

Community Engagement Plan

Fresno residents gathered at the West Side Church of God in 2017 to vote on the final package of Transform Fresno projects. The chosen project package was overwhelmingly approved. Photo credit: Leadership Counsel for Justice and Accountability

A DIVERSE GROUP OF STAKEHOLDERS are shaping the planning, implementation, and governance of Transform Fresno and its various projects supported by TCC. The Community Engagement Plan (CEP) leverages the many partnerships formed throughout the TCC application and project implementation process. Partnerships among stakeholders include the City of Fresno, local nonprofits, community-based and faith-based organizations, project area residents, community leaders, and business owners.

The City of Fresno, along with nonprofit groups and a consultant, led the engagement process around Fresno's TCC proposal. After the TCC grant award, the City of Fresno, the Outreach and Oversight (O&O) Committee, and the consultant Raimi & Associates Inc. led the process for developing the CEP. More recently, the City of Fresno hired a full-time staff member to manage program implementation, and plans to contract six community partners to facilitate engagement throughout the implementation of Transform Fresno projects.

Project Details

Anticipated completion date
March 2024

TCC grant funds
$891,083

Leveraged funds
$0

Goals and Activities for Community Engagement and Empowerment

The overarching goal of the CEP is for residents, workers, business owners, property owners, and other stakeholders in Downtown, Chinatown, and Southwest Fresno to be knowledgeable of Transform Fresno projects, activities, events, and efforts, and to enable these diverse stakeholders to be active participants in all areas of project planning and implementation. The plan outlines specific methods for the City of Fresno, community partners, and project partners to follow to ensure impactful information sharing and communication, participation, and documentation.

Community members will learn about TCC activities through the Transform Fresno website, social media, newsletters, texts, emails, door-to-door canvassing, mailings, and posted flyers. Residents and stakeholders will be able to actively shape and participate in Transform Fresno activities through quarterly Outreach and Oversight Committee meetings, project-specific workshops, preference and opinion surveys, and by directly engaging in projects as volunteers, trainees, or beneficiaries. Furthermore, the CEP will strive to foster the next generation of community leaders by establishing a TCC Fresno Youth Leadership Development Program. The outcomes, successes, and lessons learned from Transform Fresno projects will be documented and shared throughout the grant period.

In these ways, the CEP will provide transparency, continue to build trust within the community, and expand and institutionalize civic engagement. The multi-faceted CEP, with its collaborative and capacity-building activities, will be integral to achieving the change desired by the Transform Fresno initiative.

Governance

Transform Fresno has a Collaborative Stakeholder Structure that includes the City of Fresno, 12 project partners, the O&O Committee, and six community partner organizations, along with residents, business owners, and property owners in the project area. The Collaborative began in 2017 to develop Fresno's TCC application. In a series of Community Steering Committee meetings, people who lived, worked, or owned property in the project area gathered to propose, discuss, and identify projects resulting in environmental and economic benefits to Downtown, Chinatown, and Southwest Fresno. This community-driven participatory budgeting process resulted in 164 active voting members, and ensured the final package of Transform Fresno projects directly addressed the needs and challenges of the community. After the final project package was approved, 16 of the 164 eligible voting members were appointed to the O&O Committee, which serves as the main advisory and oversight body of Transform Fresno. Additionally, the City of Fresno has issued a request for qualifications for six community partner agencies to carry out tasks in the CEP related to outreach, data and reporting, leadership development, media and communications, and event coordination.

Key Accomplishments*

» **Community members approved the final Transform Fresno project package (125-1)**

» **7 O&O Committee quarterly meetings held, with 30-60 stakeholders engaged at each**

» **120 community members engaged at five pop-up workshops conducted by the consultant Raimi & Associates Inc. in May 2019**

» **Draft CEP Framework released May 24th, 2019**

» **30 community members filled out surveys evaluating the Draft CEP Framework between May 24 -June 23, 2019**

through fiscal year 2018-'19

STORIES FROM THE COMMUNITY

Residents come together
in participatory budgeting process

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: The Luskin Center for Innovation**

ARTIE PADILLA, born and raised in Fresno, is a member of the O&O Committee representing Southwest Fresno, where he lives. 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 environmental, economic, and social 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 consistency and active involvement of residents attending the early TCC meetings. "One of the ripple effects [of the community engagement process thus far] is that it helped spark more civic engagement throughout the Transform Fresno area, especially among folks that normally don't attend community meetings," said Padilla. He thinks 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

STORIES FROM THE COMMUNITY

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 currently a member of the O&O Committee.

Since Gustafson is interested in Downtown revitalization efforts, the potential of the TCC investment funds sparked her curiosity and motivated her to attend the first TCC community meeting. Once there she quickly realized the types of 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 being able to create a sense of trust, and the participatory budgeting was extremely successful in bringing people together to agree on the direction of TCC funding," stated Gustafson.

BARBARA WILSON has decades-long ties to the community. Her father, a preacher and church elder, moved her family to Fresno in the early 1960s. After graduating 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 up a few friends to ask them if they had heard about it, and told them that they should all check it out. She has never missed a single TCC-related meeting after that. She says her motivation to initially get involved, and to stay involved, comes from her love and connection to Fresno as her home. The opportunity to see redevelopment within 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 budgeting 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

Displacement Avoidance Plan

Members of the Anti-Displacement Task Force meet on October 7, 2019. Photo credit: Community Media Access Collaborative

TRANSFORM FRESNO'S DISPLACEMENT AVOIDANCE PLAN (DAP) outlines policies that are intended to understand the impact of TCC investments in the project area specific to avoiding displacement among existing households and businesses, while opening discussions about preventative measures and proactive solutions. These efforts seek to address the indirect effects of TCC investment that may lead to displacement by raising the value of residential and commercial land. It is important to note that none of Transform Fresno's proposed activities will directly cause displacement, as all proposed housing units will be constructed on vacant underutilized lots and transportation activities will occur within the public right of way.

Project Details

Anticipated completion date
March 2024

TCC grant funds
$0

Leveraged funds
$60,500

The City of Fresno has led the development of the DAP through a community process that informs the design of the plan and that includes strategies to reduce economic displacement risk within the Project Area. The City will leverage relationships between the Anti Displacement Task Force (ADTF), DAP implementation consultant, O&O Committee, and other stakeholders to inform future preventative measures and policy development. The ADTF has 11 appointed members representing residential tenant organizations, commercial tenant organizations, developers and advocacy agencies, and will work to analyze data and recommend solutions related to all causes and areas of displacement. The City will hire a DAP consultant who will be responsible for carrying out various tasks in the plan's scope of work. The O&O Committee will provide direction for policy development. Residents and business owners will provide feedback and information regarding displacement concerns, and project partners will report project-specific data to the DAP consultant. Additional partner agencies include Wells Fargo, the Central Valley Business Diversity Partnership, and the Fresno Regional Workforce Development Board Business Service Center.

Currently there is limited data that focuses on displacement within the Transform Fresno project area. One of the strategies of the DAP is to gather the data needed to establish more concrete policies in the future. In this regard, the DAP is meant to be a living document, where additional displacement avoidance policies and protections can materialize over the TCC grant period. The DAP also proposes several educational and outreach strategies to be carried out with various partners to further the goal of protecting existing residents and businesses from displacement in the Transform Fresno project area.

Strategies to Avoid Displacement of Very Low- and Low-Income Households

To preserve the supply of affordable housing, the DAP consultant will gather and analyze data on how rent levels are changing within and outside the project area, conduct an educational and informational community workshop, provide a report on overall displacement vulnerability, and make recommendations for developing rent control, stabilization, ordinances, and rent review board policies. While there is currently no rent control ordinance nor city-wide review board in Fresno, the City will continue to operate a rent stabilization program specific to mobile home parks.

To protect the tenure of existing residents, the DAP consultant will gather and analyze data on evictions and eviction issues within Transform Fresno project area, conduct an educational and informational community workshop, provide a report on overall displacement vulnerability, and make recommendations for developing "just cause" eviction policies.

Key Accomplishments*

» **ADTF established November 29, 2018 with 11 members appointed by the Mayor**

» **3 ADTF meetings held between April 29 - June 30, 2019**

» **Stakeholders identified and prioritized DAP policies at a May 15, 2019 workshop**

» **Downtown Displacement Report informing the DAP was released in May 2019 by the City of Fresno Development and Resource Management Long Range Planning Division**

» **Draft DAP Framework released May 24th, 2019**

» **23 community members filled out surveys evaluating the Draft DAP Framework between May 24-June 23, 2019**

» ***through fiscal year 2018-'19**

With respect to neighborhood stabilization and wealth building, the City of Fresno will partner with Wells Fargo to conduct Homebuyer and Financial Literacy Education Summits for Transform Fresno residents. The biannual events will cover the home buying process, the necessary qualifications for buying a home, and present an educational credit seminar. The City and Wells Fargo will inform the community through various community engagement activities regarding these workshops. 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 for the Transform Fresno project area, and will identify thresholds for hiring local workers to gain and keep wealth in the neighborhoods employing residents.

Strategies to Avoid Displacement for Local and Small Businesses

To protect small businesses from displacement, the City of Fresno will facilitate the creation of a small business alliance, business development and retention programs, and financial assistance to local and minority-owned institutions. The alliance of small businesses will be established through the Chinatown Property Based Improvement District (PBID). The City will hire a Chinatown PBID consultant

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(separate from the DAP consultant) to conduct a feasibility study for the creation of the PBID and hold community outreach meetings to provide information about the potential district.

The City will work with the Central Valley Business Diversity Partnership 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 the Fresno Regional Workforce Development Board Business Center to hold two business development workshops per year in the project area.

With respect to business stabilization and wealth building, the DAP consultant will gather and analyze data specific to rental subsidies for local, minority-owned businesses in the Transform Fresno project area, provide a complete data and research report, and conduct an educational and informational community workshop on the availability of business rental subsidies for small businesses.

Workforce Development Plan

A zero-emission Class 8 heavy-duty truck. Photo credit: California Air Resources Board)

TRANSFORM FRESNO'S WORKFORCE DEVELOPMENT PLAN (WDP) will fund the creation of a new pilot program that project area residents on the operation and maintenance of advanced clean transportation technologies. The pilot program, called West Fresno Advanced Transportation Technology Training (WFATT), will recruit and train 200 qualified residents, of which 80% will be from the 93706 (Southwest Fresno) and 93721 (Downtown and Chinatown) zip codes areas.

The services offered through WFATT will include academic and career assessments, case management, supportive services, job readiness workshops, interview skills, vocational training, and job placement. Qualified participants will complete 160 hours of classroom and field training in clean truck operation with the Fresno United Truck Driving School. After completing the training, WFATT will refer participants to employers that currently operate zero- and low-emission truck fleets in Fresno County. WFATT will assist all trainees who have successfully completed the training and obtained a Class A driver's license in finding gainful employment in the trucking industry. The project goal is to place participants in full-time, high-quality jobs that provide competitive wages and benefits.

Project Details

Anticipated completion date
March 2024

TCC grant funds
$1,249,432

Leveraged funds
$0

The WDP leverages other job training, educational, and employment opportunities created through Transform Fresno projects and activities. Specifically, project area residents will be recruited for the following job training and employment opportunities that are partially funded by TCC dollars:

» **Construction jobs to build the affordable housing development at Chinatown Housing Project (56 estimated direct jobs) (local hiring preference pending DAP policy outcome)**

» **Solar PV system installation training with GRID Alternatives to install solar PV systems in residential settings (200 trainees) (CPR certifications)**

» **Solar PV system installation training with the Fresno Economic Opportunities Commission (6 trainees) (6 SunPower certifications)**

» **Food Waste Rescue Program jobs at the Southwest Fresno Community Food Hub**

» **Workforce training, technical certificates and degree programs, and employment opportunities offered at the new Fresno City College: West Fresno Satellite Campus**

Key Accomplishments*

Plan implementation pending.

*through fiscal year 2018-'19

The WDP will be implemented by a variety of project partners, particularly those listed above. The Fresno Regional Workforce Development Board will serve as the plan lead for the WFATT by providing grant administration and oversight. The Development Board already oversees a suite of workforce development programs in the region that help place Fresno County residents in new jobs or gain new skills. These programs include career services, occupational skills and on-the-job training services, job placement assistance, supportive services, and job readiness and interview preparation workshops for adults, young adults, and dislocated workers.

TCC FUNDED PROJECTS

Community members volunteer on 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 GHGs; (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.[11] 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.

[11] For more information about California Climate Investments, visits: http://www.caclimateinvestments.ca.gov/

Active Transportation Project

An example of a Class II bicycle lane. Photo credit: Climate Central

THE ANNADALE MODE SHIFT will help make active transportation options more safe and convenient for the Transform Fresno community. The project plans to install approximately 14,070 square feet of new sidewalk, 1,196 linear feet of Class II bicycle lanes, signage for 1,085 linear feet of Class III bike lanes, and street lighting on East Annadale Avenue between South MLK Jr. Boulevard and South Elm Avenue. The Annadale Mode Shift 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, Clinica Sierra Vista Health Center, and current and proposed affordable housing developments. By shifting more trips out of cars and encouraging alternative modes of travel, the project will reduce traditional vehicle miles traveled, thereby reducing tailpipe GHG emissions. The project is expected to be operational in late 2020.

Project Details

Anticipated completion date

December 2020

TCC grant funds

$343,000

Leveraged funds

$150,000

Project lifetime

20 years

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.

Estimated Benefits Over Project Lifetime

GHG emissions reductions

41 MTCO$_2$e

VMT reductions

111,511 miles

Travel cost savings

$62,114

Direct jobs from TCC dollars

2 FTEs

Indirect jobs from TCC dollars

1 FTE

Induced jobs from TCC dollars

1 FTE

Key Accomplishments*

Project implementation pending.

*through fiscal year 2018-'19

Affordable Housing and Sustainable Communities Project

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

TRANSFORM FRESNO WILL FUND the construction of a 57-unit mixed-use affordable housing development in Chinatown called the Chinatown Housing Project.[12] The high density, four-story development will include 4,695 square feet of ground floor retail space, as well as a below-ground parking garage. The project will consist of 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. Additional amenities include on-site resident services, a computer room, an exercise room, and a community room. Since the project site is located on 0.60 acres of vacant land, it will not directly displace Chinatown residents nor businesses. Project partners anticipate the affordable housing units will be available for occupancy in 2021.

Project Details

Anticipated completion date

December 2021

TCC grant funds

$11,785,221

Leveraged funds

$18,994,761

Project lifetime

30 years

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[12] For a definition of affordable, see Appendix A of the FY 2017-18 AHSC Program Guidelines.

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 (ATP) 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 0.5 miles of paved pedestrian facilities surrounding the apartment development**

» **STI #2 (UG) will plant 26 trees on F Street from Fresno to Mariposa Streets to increase the urban tree canopy and provide more green space in Chinatown. One parklet and irrigation systems will also be installed within these limits.**

» **STI #3 (UG) 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.**

The development will be constructed by the Fresno Housing Authority, which serves as the developer and general partner of the project. The project's architect is GGLO Design, which is an architecture and design firm specializing in sustainable solutions for urban environments. The City of Fresno will also support the project by providing long-term operations and maintenance for the STI projects.

Estimated Benefits Over Project Lifetime

GHG emissions reductions

5,345 MTCO$_2$e

VMT reductions

14,170,461 miles

Travel cost savings

$8,873,388

Direct jobs from TCC dollars

56 FTEs

Indirect jobs from TCC dollars

30 FTEs

Induced jobs from TCC dollars

4 FTEs

Key Accomplishments*

» **GGLO Design submitted preliminary architectural site plan drawings to City of Fresno, which were approved in November 2017**

» **The property for the project site was acquired in January 2018**

» **2 community meetings were conducted in 2018 to discuss the design of the project**

» **The project secured part of its leveraged funding through an Infill Infrastructure Grant, awarded in June 2018**

*through fiscal year 2018-'19

Food Waste
Prevention and Rescue Project

Architectural rendering of the future Southwest Fresno Community Food Hub. Photo credit: Shaunt Yemenjian

THE FOOD WASTE PREVENTION AND RESCUE PROJECT, called Edible Food Rescue and Distribution, will provide access to fresh, local and healthy food for Transform Fresno residents at the newly constructed Southwest Fresno Community Food Hub. The planned site for the Community Food Hub will be built at the southeast corner of Fruit and California Avenues, and will include a new distribution center for edible food waste rescued through the project.

The project will create a new "ugly" fruit program that will sort and process edible food and divert remnants to composting on-site and at Mid Valley Disposal. The project will also expand Food Commons Fresno's existing food waste prevention and rescue program to reduce off-farm edible food waste. Food Commons Fresno will expand the transportation, storage, sorting, and processing capabilities of the existing program to distribute edible food waste that is currently being landfilled or composted. Rescued edible food waste will be redistributed to food pantries, food kitchens, and community organizations, as well as through the Ooooby community supported agriculture (CSA) and wholesale businesses. The project is expected to be operational in 2022.

Food Commons Fresno is the lead partner for this project and will manage long-term operations and maintenance of the Community Food Hub.

Project Details

Anticipated completion date

March 2022

TCC grant funds

$1,488,280

Leveraged funds

$2,062,366

Project lifetime

10 years

Estimated Benefits Over Project Lifetime

GHG emissions reductions

9 MTCO$_2$e

Material diverted from landfill

31 tons

Direct jobs from TCC dollars

16 FTEs

Indirect jobs from TCC dollars

4 FTEs

Induced jobs from TCC dollars

7FTEs

Key Accomplishments*

Project Implementation pending.

*through fiscal year 2018-'19

Low Carbon Transportation Project

An example of electric vehicle charging stations currently located at the Kearney Palms shopping mall in the Transform Fresno project area. The Clean Shared Mobility Network will install additional charging stations throughout Downtown, Chinatown, and Southwest Fresno for the electric vehicles in the car sharing, vanpool, and ridesharing network.
Photo credit: EVgo

THE PROJECT WILL ESTABLISH new electric vehicle (EV) car sharing, vanpool, ridesharing, and bicycle sharing programs collectively named the Clean Shared Mobility Network. Together, these programs will provide low- to no-cost mobility services throughout the project area. The car share network will consist of 34 battery-electric vehicles (Tesla Model 3 or Chevy Bolt) that can be rented at hourly rates, with below-market rates for low-income members. A component of the car share network is an EV vanpool consisting of eight battery-electric vehicles (Tesla Model X) that will transport residents to and from employment centers. The bike share will include 200 electric bicycles and approximately 300 docking stations at hubs around Downtown, Chinatown, and Southwest Fresno. The project will offer vouchers to individuals and households in order to reduce the economic burden of accessing and using these new mobility options. The project is expected to be operational in 2022.

Project Details

Anticipated completion date

March 2022

TCC grant funds

$7,717,014

Leveraged funds

$2,292,900

Project lifetime

3 years

Estimated Benefits Over Project Lifetime

GHG emissions reductions

1,446 MTCO$_2$e

Direct jobs from TCC dollars

37 FTEs

Indirect jobs from TCC dollars

15 FTEs

Induced jobs from TCC dollars

23 FTEs

Key Accomplishments*

Project Implementation pending

*through fiscal year 2018-'19

In addition to the investment in new electric vehicles, bicycles, and vouchers to keep the car and bike share costs affordable, Transform Fresno TCC dollars will also fund the following:

» **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 which will provide rides to underserved residents**

» **Developing an integrated services web platform and phone/tablet application**

These low carbon mobility options will assist residents in getting to school, work, and healthcare appointments, while generating new growth for the local business community. The Fresno Metro Black Chamber of Commerce 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 partners include San Joaquin Valley Latino Environmental Advancement and Policy (Valley LEAP), Inspiration Transportation, Shared Use Mobility Center, and the Bethel Temple Early Readers Preschool.

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 projects will collectively install up to 340 kW of solar photovoltaic (PV) panels on affordable multi-family housing developments and single-family properties owned by low-income households (see Table 4 for a complete list of projects). The projects are led collectively by GRID Alternatives and the Fresno EOC. Each project includes workforce development and community engagement activities targeted towards residents in the project area. The solar and energy efficiency projects aim to reduce emissions while providing direct economic benefits for local families by reducing their electrical utility costs.

GRID Alternatives is a nonprofit organization that installs solar power systems and provides job training for underserved communities throughout California. GRID Alternatives will install 91 kW of solar on five Fresno Housing Authority multi-family buildings in the project area, and 183 kW of solar on 60 single-family homes in Southwest Fresno. All of the project beneficiaries will be low-income families falling below 80% of the AMI in the TCC project area.

Project Details

Anticipated completion date

March 2020
through
March 2021

TCC grant funds

$4,444,754

Leveraged funds

$645,808

Project lifetime

25–30 years

The Fresno EOC is a locally based nonprofit agency (specifically, a Community Action Agency per the U.S. Economic Opportunity Act of 1964). The Fresno EOC 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. The EOC will install energy efficiency and solar water heating measures on 170 single-family homes in Southwest Fresno, and install 510 kW of solar photovoltaic systems on 135 single-family homes throughout the TCC project area.

Training a Solar and Energy Efficiency Workforce

GRID Alternatives will target 200 TCC area individuals for on-the-job and classroom training for residents who are interested in a career in the solar sector. The training will be conducted by GRID Alternatives, which provides trainees with direct installation skills, as well as job safety and basic electrical skills. 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, train-

ing opportunities, and educating the community on energy efficiency and consumer behaviors that save money on electrical utility bills. GRID Alternatives will also provide technical support during the post installation warranty period, and the project is expected to be completed in 2021.

Fresno EOC's Local Conservation Corps, along with the subcontractor GHS Govans, will have trainees and crews who reside in the Transform Fresno project area. Fresno EOC will provide on-the-job training and classroom training at the Solar Training Lab located in the EOC Neighborhood Youth Center. Approximately six trainees will attend a three-day training and certification with SunPower, a company that develops solar power systems and offers trainings to accredit solar installers. The EOC will perform community outreach to identify qualified homes for energy efficiency and solar measures, and provide energy conservation education to residents. Fresno EOC and GRID Alternatives will coordinate their outreach and installation plans. Fresno EOC will provide technical support to homeowners during the post-installation warranty period, and the project is expected to be completed in 2020.

Table 4: Transform Fresno Solar and Energy Efficiency Projects

Project Name	Project Lead	TCC Project Area Location(s)	TCC Grant Funds	Non-TCC Grant Funds	Installed Capacity (kW)
EOC Partnership for Energy Savings and GHG Reductions in SW Fresno	Fresno EOC	170 Single-Family Homes	$3.2 million	$0	510
GRID Solar Collaborative Single-Family Partnership	GRID Alternatives	60 Single-Family Home	$883,826	$535,808	183
GRID Solar Collaborative Multi-Family Partnership	GRID Alternatives	5 Fresno Housing Authority Multi-Family Units	$352,549	$110,000	91

Estimated Benefits Over Project Lifetime

GHG emissions reductions

11,139 MTCO$_2$e

Renewable energy generation

36,091,175 kWh

Energy cost savings

$3,602,265

Direct jobs from TCC dollars

24 FTEs

Indirect jobs from TCC dollars

10 FTEs

Induced jobs from TCC dollars

16 FTEs

Key Accomplishments*

EOC Partnership for Energy Savings and GHG Reductions in SW Fresno

» **Sub-grant agreement with the City of Fresno executed on May 16, 2019**

» **2 individuals trained in energy efficiency measures (PG&E training facility)**

» **2 individuals trained in solar PV maintenance (SunPower training facility)**

» **The Partner attended 5 outreach events to raise awareness of the project**

GRID Solar Collaborative Single-Family and Multi-Family Partnerships

» **Sub-grant agreement with the City of Fresno executed on April 3, 2019**

» **2 individuals trained in solar PV maintenance (GRID Alternatives training facility)**

» **10 applications received, and eight applications approved, for single-family solar installations**

» **3 unique site visits to eligible multifamily units conducted**

» **187 residents and stakeholders contacted in outreach activities (160 in English, 16 in Spanish, and 11 in Hmong), and 4 outreach events held (2 in English, 2 in Hmong)**

through fiscal year 2018-'19

STORIES FROM THE COMMUNITY

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

Training a clean energy workforce in Fresno

LUTHER MAYS recently moved to Fresno this past summer to help out a family member. Mays is a long-time 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 so he 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 Alternative's Central Valley offices.

After volunteering on a few solar installations, he learned he could be-
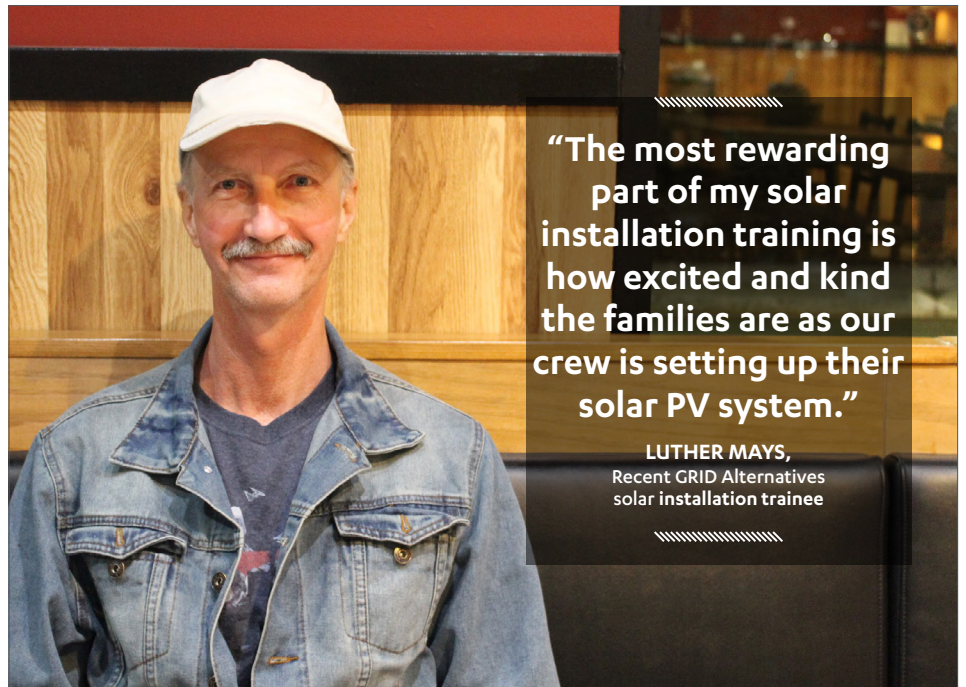
> **"The most rewarding part of my solar installation training is how excited and kind the families are as our crew is setting up their solar PV system."**
>
> **LUTHER MAYS,**
> Recent GRID Alternatives
> solar **installation trainee**

STORIES FROM THE COMMUNITY

come 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 hands-on, on-the-job training in rooftop solar PV system installation. Enrolled participants also become certified on basic workplace safety with the Occupational Safety and Health Standards 10-hour (OSHA 10) training, and receive a cardiopulmonary resuscitation (CPR) credential.

"You mean I can keep doing this? Sign me up!"

Mays says his motivation for joining the training program came from wanting to learn a useful skill, and help himself and other people. He now knows how to safely install and configure a solar array, and has logged over 100 hours of installation experience. 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 the IBT-200 program in September 2019 and is inspired to keep working towards a career in the solar field.

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

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

> **"[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."**

credentials and installation experience.

Mays was not familiar with the TCC program before his first day volunteering on a solar installation. GRID 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.

Urban and Community Forestry Projects

Kids from the community learning about the new garden boxes at the Inside Out Community Garden kick-off event on October 7, 2019. Photo credit: City of Fresno

Trees, Community Gardens, and Open Green Space

The four Urban and Community Forestry (UCF) projects will complement other efforts throughout the neighborhood to increase resident access to tree coverage, healthy food, and open green space (see Table 5 for a complete list of UCF projects). Together the projects will plant over 500 trees along sidewalks, in street medians, in park strips, in existing parks, and in newly constructed community gardens and orchards. As the trees mature, they will reduce GHGs by sequestering carbon and by cooling nearby buildings, which should reduce the demand for electricity on hot days.

The shade cover from increased tree canopy can encourage more active forms of transportation, such as walking and biking. Many of these trees will also make healthy and nutritious food more accessible to residents. For example, the Southwest Fresno Community Food Hub: Community Orchard will plant 120 citrus, stone fruit, and nut trees, and the Inside Out Community Garden and Yosemite Village Permaculture Community Garden and Urban Farm Incubator projects will predominately plant fruit trees.

Project Details

Anticipated completion date

September 2021 through March 2022

TCC grant funds

$940,199

Leveraged funds

$870,408

Project lifetime

40 years

The UCF projects will utilize environmentally- and water-friendly practices in vegetable and produce plots. The Yosemite Village project plans to incorporate organic and permaculture techniques such as non-mechanical, no-till, no-spray methods, along with on-site composting. Similarly, the Inside Out Community Garden will use organic soil, non-genetically modified seeds, drip irrigation, and create a composting area, while the Southwest Fresno Community Orchard will include landscaped bioswales and rainwater capture features.

The three community garden and orchard projects (Yosemite Village, Inside Out, and Southwest Fresno Community Orchard) give the opportunity for residents to garden, grow, and harvest their own fruits and vegetables. These projects will also include design elements to encourage community use, such as walking paths, benches, and picnic areas. Together, the projects benefit the community by providing residents with healthy and nutritious food options while promoting carbon sequestration and water conservation.

Community Engagement and Education
Community engagement, input, partnership, and education are integral parts of UCF project implementation. For instance, the City of Fresno will partner with Tree Fresno and other non-profits to educate volunteers on proper tree planting techniques in the Southwest Urban Forest Expansion, and Fresno Food Commons wants to increase orchard management awareness through on-site experiential learning opportunities at the Southwest Fresno

Community Orchard.

Fresno Metro Ministry will partner with the Youth Leadership Institute and the Fresno Housing Authority to conduct multi-cultural, multi-generational, multi-lingual outreach to residents and community members to engage in Yosemite Village Community Garden's programming. The project partners will hold volunteer planting days, nutrition classes, cooking classes, and establish a small farmer incubator for gardeners and participants to sell their produce to the community. The Inside Out Community Garden, with support from the Fresno EOC and Another Level Training Academy, plans to hold weekly community harvesting events, monthly outreach and community events, and provide healthy food education through live cooking demonstrations.

The UCF projects will also leverage community partnerships and engagement in long-term tree care and garden maintenance. The City of Fresno Department of Public Works will care for trees planted under the Southwest Urban Forest Expansion, and support the Fresno EOC with tree care for the Inside Out Community Garden. The Yosemite Village project will establish a resident-based Garden Leadership Committee that will manage the garden's operations and maintenance in conjunction with Fresno Metro Ministry. Additionally, Food Commons Fresno will have an on-site manager who, along with community members, will manage the long-term operations and maintenance of the Southwest Fresno Community Orchard.

Table 5: Transform Fresno Urban and Community Forestry Projects

Project Name	Project Lead	Location(s)	TCC Grant Funds	Leverage Funds	Trees
Southwest Urban Forest Expansion	City of Fresno	Jensen Median (41st St to S M.L.K. Jr. Blvd); Elm Median (Ventura St to Jensen St); Fruit Ave and E Jensen St Buffer; Tupman Park and Chandler Park	$212,199	$0	295
Yosemite Village Permaculture Community Garden & Urban Farm Incubator	Fresno Metro Ministry	Yosemite Village housing complex	$367,500	$434,153	90
Inside Out Community Garden	Fresno EOC	Sunset Community Center	$98,000	$0	4
Southwest Fresno Community Food Hub: Community Orchard	Food Commons Fresno	Southeast corner of Fruit Ave and California Ave	$262,500	$436,255	120

Estimated Benefits Over Project Lifetime

GHG emissions reductions

799 MTCO$_2$e

Trees planted

509

Avoided stormwater runoff

2,172,415 gallons

Direct jobs from TCC dollars

11 FTEs

Indirect jobs from TCC dollars

4 FTEs

Induced jobs from TCC dollars

4 FTEs

Key Accomplishments*

Yosemite Village Permaculture Community Garden & Urban Farm Incubator

» **Sub-grant agreement with the City of Fresno executed on April 11, 2019**

Southwest Urban Forest Expansion; Inside Out Community Garden; Southwest Fresno Community Food Hub

» *Project implementation pending.*

*through fiscal year 2018-'19

Urban Greening Projects

A tree being planted through the Urban Greening Program. Photo credit: California Climate Investments

Trees, Bike Lanes, and Open Green Space

The six Urban Greening (UG) 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 (see Table 6 for a complete list of UG projects). Together the projects will plant nearly 950 trees along sidewalks and in parks. As the trees mature, they will reduce GHGs by sequestering carbon and by cooling nearby buildings, which should reduce the demand for electricity on hot days.

The UG 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

Project Details

Anticipated completion date

March 2022
through
March 2024

TCC grant funds

$34,839,088

Leveraged funds

$71,570,500

Project lifetime

40 years

For example, the Southwest Fresno Trail plans to install a new Class I multi-use trail along the Fanning Ditch alignment, while the Chinatown Urban Greening and the Park at MLK Magnet Core projects will make improvements to sidewalks and pedestrian facilities. The Fresno City College: 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 UG projects also plans to install street, path, and trail lighting to make biking and walking more safe and convenient options for the community.

Several UG projects will improve public access to recreation and open green space areas. These projects also utilize environmentally- and water-friendly practices in landscaping and park design. Mariposa Plaza will install permeable paving, a rainwater capture pavilion and irrigation system, and drought-tolerant shrubs and plants. 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. The new Southwest Fresno Community Food Hub: Urban Heat Island Mitigation project will have an entry plaza with a permeable surface, 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 multi-objective stormwater goals through drought-tolerant landscaping, permeable paving, bioswales, and a central water feature with a stormwater capture and conservation function.

Community Engagement and Education

The UG projects integrate community engagement and educational components. For both the Southwest Fresno Trail and Chinatown Urban Greening projects, the US Green Building Council of Central California (USBGC-CC) and Urban Diversity Design are partnering with the City of Fresno to implement a section of the Transform Fresno Community Engagement Plan. USBGC-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 has hosted a series of community discussions regarding the West Fresno Satellite Campus. This was done to solicit feedback on the proposed project, and through the outreach efforts the local community was able to express its concerns, preferences, and needs related to project implementation.

The UG projects will also leverage community partnerships and engagement 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 the Park at MLK Magnet Core projects. The lead project partners for the Urban Heat Island Mitigation (Food Commons Fresno) and West Fresno Satellite Campus (Fresno City College) will manage the long-term operations and maintenance for the landscaping, urban greening, and stormwater reduction improvements made under the projects.

Table 6: Transform Fresno Urban Greening Projects

Project Name	Project Lead	Location(s)	TCC Grant Funds	Leverage Funds	Trees (#)
Southwest Fresno Trail	City of Fresno	Fanning Ditch (S West Ave to S Thorne St)	$2.0 million	$0	102
Chinatown Urban Greening	City of Fresno	F St (Mariposa St to Ventura St); Kern St (G St to E St); Mariposa St (E St to G St); China Alley (Tulare St to Kern St and Inyo St to Ventura St)	$7.0 million	$0	248
Mariposa Plaza	City of Fresno	Mariposa St (Congo Alley to Fulton St)	$3.9 million	$0	8
Park at MLK Magnet Core	City of Fresno	West of S M.L.K. Jr. Blvd (E Church St to E Jensen Ave)	$5.4 million	$1.5 million	100
Southwest Fresno Community Food Hub: Urban Heat Island Mitigation	Fresno Food Commons	Southeast Corner of Fruit Ave and California Ave	$62,220	$70,500	41
Fresno City College: West Fresno Satellite Campus	State Center Community College District	E Church Ave (S Walnut Ave to S M.L.K. Jr. Blvd)	$16.5 million	$70 million	450

Estimated Benefits Over Project Lifetime

GHG emissions reductions

2,043 MTCO$_2$e

VMT reduction

550,690 miles

Trees planted

949

Avoided stormwater runoff

2,976,767 gallons

Energy cost savings

$3,745

Travel costs savings

$303,977

Avoided stormwater runoff

2,976,767 gallons

Direct jobs from TCC dollars

215 FTEs

Indirect jobs from TCC dollars

58 FTEs

Induced jobs from TCC dollars

151 FTEs

Key Accomplishments*

Implementation pending for all projects.

*through fiscal year 2018-'19

LEVERAGED PROJECTS

Historic Chinatown's F Street. Several TCC and leveraged-only projects will come to fruition in Chinatown.
Photo credit: Rick Ele

IN ADDITION TO THE 17 Transform Fresno projects that are receiving TCC funding, the City of Fresno has also included four leveraged projects as part of their Transform Fresno package. These leveraged projects are independently funded and help further the objectives of TCC. In Fresno, these four leveraged projects include: (1) the Chinatown Property Based Improvement District, (2) the EOC Partnership for Energy Savings and GHG Reductions in SW Fresno: EFMP Plus-Up Vehicle Replacement and Incentives, (3) Southwest Offsite Improvements, and (4) the TCC Connector. These four projects are part of a longstanding effort underway in Fresno to transform the economic, health, and mobility conditions of local residents. The TCC grant will allow the City of Fresno to augment their 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 currently underway in Fresno.

Chinatown Property Based Improvement District

The Central Fish Company is a family-owned business established in 1950, and is considered a cornerstone business in the Chinatown neighborhood. Photo credit: Fresno Flyer

THIS TRANSFORM FRESNO leveraged-only project will fund a Property Based Improvement District (PBID) in Chinatown. The City of Fresno will serve as a lead partner for the Chinatown PBID. The overarching goals for the Chinatown PBID include job creation, business attraction and retention, economic growth, and drawing new investments. The PBID will complement other planned TCC investments into urban greening, pedestrian infrastructure, and housing projects in Chinatown.

The project has two main components, including a feasibility study and the eventual formation of the PBID. In the feasibility study, the City of Fresno will hire a consultant to identify property owners in the potential district. Efforts by the consultant will include assessing service priorities and support levels, outreach to educate property owners and stakeholders regarding the proposed district, and providing a finalized findings report with recommendations on the feasibility of the PBID.

The second phase, formation of the PBID, will build off the groundwork laid in the feasibility study. Continued outreach efforts will educate property owners on the proposed PBID, a Draft Management District Plan, and the preparation of a PBID petition for the public hearing and a ballot process. Several of the tasks and responsibilities for forming the PBID are outlined in the Displacement Avoidance Plan, which share overarching goals for preventing displacement of existing businesses while TCC investments are implemented in Chinatown.

Project Details

Anticipated completion date

Ongoing

TCC grant funds

$0

Leveraged funds

$75,000

Key Accomplishments*

» **Sub-grant agreement with the City of Fresno executed on January 28, 2018**

*through fiscal year 2018-'19

EFMP Plus-Up Vehicle Replacement and Incentives

An electric vehicle plugged in and charging. Photo credit: MyEV

THE FRESNO EOC is partnering with the non-profit organization Valley Clean Air Now (Valley CAN) to implement the Enhanced Fleet Modernization Program (EFMP) Plus-Up Vehicle Replacement and Incentives project. The project is based on the existing EFMP Plus-Up program, which is a GHG reduction pilot currently operating in the San Joaquin Valley Air Pollution Control District. The EFMP Plus-Up program 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 electric, 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.

Project Details

Anticipated completion date

March 2020

TCC grant funds

$0

Leveraged funds

$530,000

This leveraged-only project will be carried out in close conjunction with another Transform Fresno project led by the Fresno EOC. The EOC will identify approximately 135 households that may qualify for the EFMP Plus-Up program through the EOC Partnership for Energy Savings and GHG Reductions in Southwest Fresno (this project is described more in depth under the Solar and Energy Efficiency Projects chapter). Valley CAN will assess the qualifications of the households to participate in the EFMP Plus-Up pro-gram 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. The households that qualify for the Vehicle Replacement and Incentives project will benefit from reduced vehicle operation and fuel costs. The project also achieves GHG reductions that further the air quality improvement goals for the community. The project is expected to be operational in 2020.

Key Accomplishments*

» **Sub-grant agreement with the City of Fresno executed on May 16, 2019**

*through fiscal year 2018-'19

Southwest Offsite 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 West Fresno Satellite Campus. The project also plans to install underground power lines and make water utility and roadway improvements. The boundaries of the project are S M.L.K Jr. Boulevard, E Church Avenue, E Jensen Avenue, and S Walnut Avenue.

The leverage-only Southwest Offsite Improvements project supports the active transportation components of the TCC funded West Fresno Satellite Campus project (see the Urban Greening chapter for more information on this 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 this project, which is expected to be operational in 2023.

Project Details

Anticipated completion date

December 2023

TCC grant funds

$0

Leveraged funds

$15,732,648

Key Accomplishments*

» **Sub-grant agreement with the City of Fresno executed on January 29, 2018**

*through fiscal year 2018-'19

TCC Connector

A FAX bus stopping along Route 38. Photo credit: Fresno County Rural Transit Agency

THE CITY OF FRESNO Department of Transportation will increase 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 S Cedar and E Jensen Avenues. This segment of Route 38 currently runs on 30-minute headways, and the TCC Connector project will add additional buses and operators to run at 15-minutes headways between 6:00 AM and 6:00 PM on weekdays.

In addition to recruiting, hiring, and training additional bus operators, the leveraged funds for this project will be used to purchase two 40-foot electric buses and construct an electric charging station for the new zero-emission buses. These electric buses will help the project meet GHG reduction and air quality goals.

This portion of Route 38 runs through the Transform Fresno project area and will directly benefit residents with faster service times, making it more convenient to catch the bus at one of the 28 bus stops between the Downtown Transit Center and Cedar/Jensen. The TCC Connector project is expected to be operational in 2020.

Project Details

Anticipated completion date
April 2020

TCC grant funds
$0

Leveraged funds
$3,532,774

Key Accomplishments*

- » **Sub-grant agreement with the City of Fresno executed on January 29, 2018**
- » **Procurement underway for the purchase of two 40-foot electric buses**

*through fiscal year 2018-'19
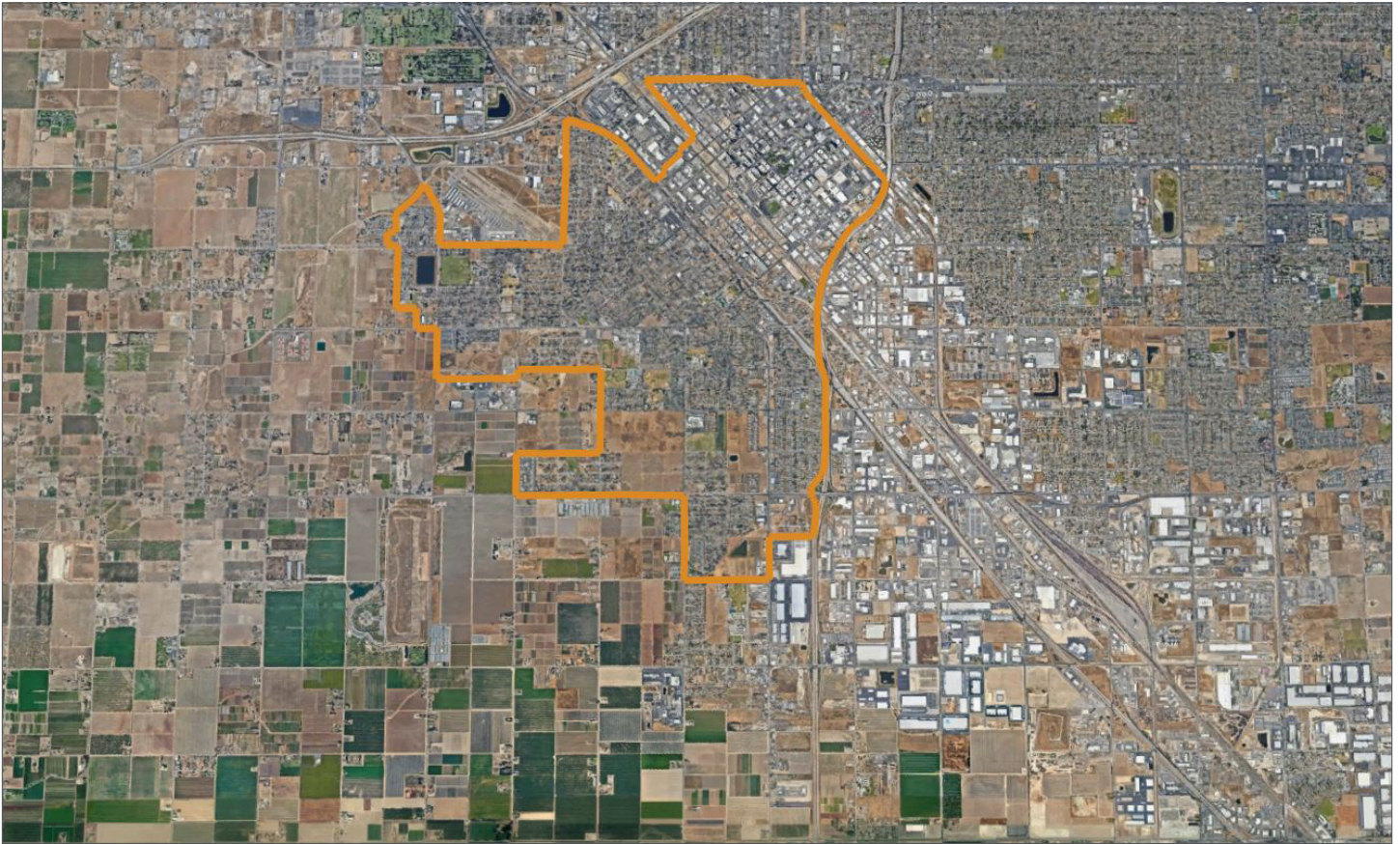
Aerial view of the Fresno TCC site boundary; the site is 4.9 square miles and measures 2.6 miles from west to east and 3.0 miles from north to south at the farthest points. Photo Credit: Google Earth 2020

THE FIRST STEP IN EVALUATION is to establish baseline data for indicators in treatment and control settings prior to an intervention. In evaluating Transform Fresno, baseline data reflects conditions in the project boundary area and a set of similar, but nonadjacent census tracts that did not receive a TCC award prior to the rollout out of Transform Fresno. In addition to looking at baseline conditions in the project boundary area and control tracts the UCLA-UCB evaluation team will also be looking at baseline conditions at the scale of Fresno County and the State of California in order to understand how TCC investments are addressing equity gaps at broader geographic scales

Ideally, baseline data will reflect a five-year trend period prior to program implementation (2014-2018). However, many indicators lack a publicly available archive from which to draw a five-year pre-investment trend line (e.g., solar PV systems, electric vehicle registrations, etc.). For these indicators, a pre-investment snapshot or truncated trend line is provided. The following section provides a high-level summary of the baseline conditions for the indicators that the UCLA-UCB will be tracking over the five-year evaluation period. More detailed data are provided in the Appendix.

Demographics

The population in the TCC project area in Fresno has grown slightly, a trend that is consistent with the rest of Fresno County and California, though not as pronounced. Furthermore, across all three geographic scales, there has been a statistically significant increase in the total Hispanic population and a statistically non-significant decrease in the non-Hispanic Black and the foreign-born populations.

Unlike the county and state, the TCC project area is becoming more non-Hispanic White and less non-Hispanic Asian. These latter two trends in the TCC project area, however, are not statistically significant and could be due to sampling error. See Table 7 for an overview of the trends discussed here.

Table 7: ACS Demographic Indicators[13]

Indicator	ACS Five-year Sample	Fresno TCC Census Tracts	Control Census Tracts	Fresno County	California
Total population	2014-2018	39,860	50,165	978,130	39,148,760
	2009-2013	39,140	48,862	939,605	37,659,181
	% Change	+1.8%	+2.7%	+4.1%*	+4.0%*
Percent Hispanic, all races	2014-2018	67.8%	59.3%	52.7%	38.9%
	2009-2013	61.5%	58.2%	50.8%	37.9%
	% Change	+10.1%*	+1.9%	3.9%*	+2.6%*
Percent Non-Hispanic, Asian	2014-2018	8.0%	12.6%	10.0%	14.1%
	2009-2013	10.3%	11.4%	9.4%	13.1%
	% Change	-22.4%	+10.4%	+6.1%*	+7.6%*
Percent Non-Hispanic, Black	2014-2018	14.6%	10.0%	4.5%	5.5%
	2009-2013	20.1%	10.8%	4.8%	5.7%
	% Change	-27.3%	-6.8%	-6.0%	-3.3%
Percent Non-Hispanic, White	2014-2018	7.2%	15.8%	29.8%	37.5%
	2009-2013	6.4%	17.5%	32.2%	39.7%
	% Change	+13.3%	-9.6%	-7.3%	-5.4%
Percent Non-Hispanic, others (Pacific Islander, American Indian, two or more races, and other)	2014-2018	2.4%	2.2%	2.9%	3.9%
	2009-2013	1.7%	2.1%	2.8%	3.6%
	% Change	+41.1%	+7.0%	+3.7%	+9.1%*
Percent foreign-born population	2014-2018	24.9%	22.2%	21.3%	26.9%
	2009-2013	27.4%	25.0%	21.9%	27.0%
	% Change	-9.3%	-11.0%	-2.3%	-0.4%

* Statistically significant at the 95% confidence level. Significance tests were conducted in accordance with methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018).

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[13] See Appendix 6 for the following details: (1) the ACS table numbers that were sourced for each indicator; (2) additional estimates for 2010-2014, 2011-2015, 2012-2016, and 2013-2017; and (3) the margins of error for all estimates.

Economy

Economic conditions in the TCC project area in Fresno appear to have improved according to multiple ACS indicators during the decade that followed the recession: median household income and the employment rate increased, while poverty levels decreased. Only the indicator for employment rate, however, shows a statistically significant improvement. Educational attainment, a precursor to economic mobility, is also increasing (though not at a statis-

tically significant rate). Due to the limitations of ACS data, which are derived from a different sample of respondents each year, it's difficult to say whether improved economic conditions are occurring for long-time residents in the Fresno TCC project area or are the result of outmigration and inmigration. See Table 8 for an overview of the trends discussed here.

Table 8: ACS Economic Indicators[14]

Indicator	ACS Five-year Sample	Fresno TCC Census Tracts	Control Census Tracts	Fresno County	California
Median household income[15]	2014-2018	$24,171	$27,223	$51,261	$71,228
	2009-2013	$22,843	$25,319	$45,563	$61,094
	% Change	+5.8%	+7.5%	+12.5%*	+16.6%*
Percent of individuals living below poverty	2014-2018	50.1%	42.0%	24.1%	14.3%
	2009-2013	50.5%	42.0%	26.0%	15.9%
	% Change	-0.8%	+0.2%	-7.1%	-10.4%
Percent high income ($125k +)	2014-2018	1.9%	3.2%	14.6%	26.1%
	2009-2013	2.4%	1.7%	11.1%	19.9%
	% Change	-20.2%	+81.7%*	+31.5%*	+31.0%*
Percent with less than high school education	2014-2018	43.1%	36.7%	24.7%	17.1%
	2009-2013	48.5%	38.9%	26.9%	18.8%
	% Change	-11.2%	-5.7%	-8.3%	-9.0%
Percent with bachelor's degree or higher	2014-2018	7.6%	8.0%	20.7%	33.3%
	2009-2013	6.5%	6.7%	19.6%	30.7%
	% Change	+17.8%	+18.8%	+5.8%*	+8.4%*
Percent employed within civilian labor force	2014-2018	40.1%	46.5%	55.0%	58.9%
	2009-2013	36.2%	42.6%	52.4%	56.4%
	% Change	+10.7%*	+9.0%*	+5.0%*	+4.4%*

* Statistically significant at the 95% confidence level. Significance tests were conducted in accordance with methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018).

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[14] ISee Appendix 6 for the following details: (1) the ACS table numbers that were sourced for each indicator; (2) additional estimates for 2010-2014, 2011-2015, 2012-2016, and 2013-2017; and (3) the margins of error for all estimates.

[15] Median incomes for the TCC project area and TCC control tracts are not true medians because the evaluator did not have access to the underlying survey data. So to construct a representative median for the TCC project area and TCC control tracts, the evaluator aggregated the number of households in each income range in ACS Table B19001 for selected census tracts, calculated cumulative shares for each range, and used linear interpolation to determine the median. This approach assumes an even distribution of incomes within the range that contains the midpoint. This approach yields a comparable figure to the median income within the aggregated tracts, but it overestimates the margin of error compared to methods that rely on actual survey data. Given these limitations, the evaluator only estimated the median for this indicator and did not conduct a test for statistical significance. More details about the methodology can be found in California Department of Finance (2011) *Re-calculating Medians and their Margin of Errors for Aggregated ACS Data.*

Energy

There is a limited set of energy-related indicators that can be tracked at the census tract scale or smaller given the regional nature of electricity generation and transmission. Also, utility data on electricity and gas consumption at the address level are not publicly available for privacy reasons. However, several useful indicators can be obtained at an appropriate geographic scale useful for tracking trends in local energy resources. In particular, ACS data can be used to examine the reliance of different communities on fossil fuels for heating purposes. Additionally, satellite data processed and maintained by Stanford University's DeepSolar Project can be used to examine the prevalence of solar PV systems among households in different communities.

Within the TCC project area in Fresno, it appears that residents are becoming increasingly less reliant on natural gas utilities for their heating needs, and more reliant on electrical heating appliances. The positive trend for electric heating appliances was statistically significant, however the trend for natural gas heating was statistically non-significant and could be due to sampling error. With respect to solar PV installations, data was not available for different points in time, but was available at different geographic scales, showing a disparity in solar PV adoption among Fresno TCC residents relative to the rest of the county and state (the adoption rate in the TCC project area is about two-thirds that of the state). See Table 9 and 10 for a summary of the energy related indicators discussed here.

Table 9: ACS Energy Indicators[16]

Indicator	ACS Five-year Sample	Fresno TCC Census Tracts	Control Census Tracts	Fresno County	California
Percent of households heating home with electricity	2014-2018	32.3%	42.0%	34.5%	26.4%
	2009-2013	27.0%	42.0%	35.5%	25.5%
	% Change	+19.7%*	-0.1%	-2.9%	+3.7%*
Percent of households heating home with utility gas	2014-2018	63.9%	54.1%	56.0%	64.3%
	2009-2013	70.3%	55.7%	55.5%	66.0%
	% Change	-9.1%	-3.0%	+0.9%	-2.6%
Percent of households heating home with other fossil fuels (bottled, tank, or liquefied petroleum gas; fuel oil, kerosene, etc.; coal or coke)	2014-2018	2.8%	1.4%	1.0%	3.4%
	2009-2013	1.9%	0.5%	0.9%	2.9%
	% Change	+45.2%	+175.3%*	+14.1%	+18.8%*
Percent of houses with no fuel used	2014-2018	15.1%	14%	6.2%	3.4%
	2009-2013	18.4%	12.2%	5.6%	2.9%
	% Change	-17.9%	+14.7%*	+10.7%*	+18.8%*

*Statistically significant at the 95% confidence level. Significance tests were conducted in accordance with methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018).

Table 10: Solar PV Systems per 1,000 Households[17]

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

[16] See Appendix 6 for the following details: (1) the ACS table numbers that were sourced for each indicator; (2) additional estimates for 2010-2014, 2011-2015, 2012-2016, and 2013-2017; and (3) the margins of error for all estimates.

[17] 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).

Environment

Like energy indicators, there is a limited set of environmental quality indicators that can be tracked at the neighborhood scale from secondary sources. The California Environmental Protection Agency (CalEPA) and the California Office of Environmental Health Hazard Assessment (OEHHA) publish a number of environmental metrics at the census tract scale (e.g., air pollutants, pesticide use, drinking water contaminants, etc.) through the CalEnviroScreen tool, but these metrics are derived from a sample of data that represent a more coarse geographic scale, and then modeled or estimated at the census tract scale.[18] The resulting data are helpful for ranking census tracts according to their likely pollution burden, but are not a reliable source for measuring the effects of the Transform Fresno initiative over time.

Satellite data, however, is regularly updated and can be used to measure changes in land cover at small geographic scales. The National Agriculture Imagery Program (NAIP) administered by the United States Department of Agriculture (USDA) Farm Service Agency (FSA), provides satellite imagery at a one-meter ground sample distance with an infrared band that allows researchers to classify imagery according to the spectral wavelengths of different land-cover types. Using 2016 imagery (the most recent year imagery was available in California), it appears that the TCC project area is dominated by impervious surfaces (39% of total land area). This percentage is slightly lower than the average percentage for urban land across California (43%) that was observed two years earlier.[19] Moreover, green vegetation in the TCC project area (12% of total area) is well below the average area covered by trees (not even including other vegetation cover) for urban land across California (32%).[20] See Table 11 for a summary of baseline land-cover indicators for the TCC project area.

Table 11: Land-Cover Indicators[21]

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

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[18] CalEPA and OEHHA, 2017. CalEnviroScreen 3.0.
[19] Nowak, D.J., and E.J. Greenfield, 2018. "Declining urban and community tree cover in the United States." Urban Forestry & Urban Greening 32: 32-55.
[20] Ibid.
[21] Land-cover indicators were derived from satellite imagery maintained by the National Agriculture Imagery Program (NAIP).

Health

Health data are highly sensitive information and are not generally available from secondary sources at a temporal and geographic scale appropriate for measuring neighborhood-level transformations. Many of the indicators of interest to TCC stakeholders, such as changes in the prevalence of asthma, obesity, diabetes, and heart disease, are only available at the zip code level or are not released annually. Fresno's TCC project boundary area, however, is much smaller than the zip code boundaries that it bisects (see Appendix 1 for an overlap between the TCC project boundary area and zip code boundaries). Nonetheless, there are two health related indicators that can be tracked at a geographic scale that is appropriate for evaluating the effects of Transform Fresno: health insurance coverage and vehicle collisions involving a cyclist or pedestrian.

While enrolling individuals in health insurance programs is not an explicit objective of Transform Fresno, it could be an indirect effect of the initiative. he workforce development components of Transform Fresno could provide workers with access to employer sponsored health insurance

packages or provide the supplemental income needed to purchase health insurance from the public market. Within the TCC project area, there has already been a statistically significant trend towards increased enrollment in health insurance, which is true for Fresno County and California as well. This could be explained by the rollout of the Affordable Care Act in 2010. See Table 12 for a summary of these trends.

Pedestrian- and bicyclist-involved vehicle collisions continue to be a concern in California.[22] The Transform Fresno initiative's investments in active transportation infrastructure, such as bike lanes and sidewalks, should theoretically lead to a decline in vehicle collisions involving bicyclists and pedestrians. However, the background rate of collisions in the TCC project area is already low. In 2018, there were zero collisions involving a bicyclist and one involving a pedestrian. In 2013, there were four collisions involving a bicyclist and five collisions involving a pedestrian. See Table 13 for a summary of collisions involving bicyclists and pedestrians in both the TCC project area and control sites.

Table 12: ACS Health Indicators[23]

Indicator	ACS Five-year Sample	Fresno TCC Census Tracts	Control Census Tracts	Fresno County	California
Percent with health insurance coverage	2014-2018	86.9%	89.2%	90.5%	91.5%
	2009-2013	74.4%	77.6%	80.4%	82.2%
	% Change	+16.8%*	+14.9%*	+12.5%*	+11.3%*
Percent with private insurance coverage	2014-2018	22.4%	32.4%	51.7%	63.4%
	2009-2013	19.5%	28.7%	48.9%	61.0%
	% Change	+14.8%*	+12.9%*	+5.8%*	+3.9%*
Percent with public insurance coverage	2014-2018	70.1%	64.7%	48.7%	37.2%
	2009-2013	60.5%	54.2%	40.2%	29.5%
	% Change	+16.0%*	+19.2%*	+21.3%*	+26.0%*

*Statistically significant at the 95% confidence level. Significance tests were conducted in accordance with methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018).

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[22] CalSTA, 2019, California Office of Traffic Safety 2019 Annual Report.
[23] See Appendix 6 for the following details: (1) the ACS table numbers that were sourced for each indicator; (2) additional estimates for 2010-2014, 2011-2015, 2012-2016, and 2013-2017; and (3) the margins of error for all estimates.

Table 13: Vehicle Collisions Involving Bicyclists and Pedestrians[24,25]

Indicator	Data range	Gross Number		Normalized per 1,000 Street Miles	
		TCC Project Boundary Area	Control Census Tracts	TCC Project Boundary Area	Control Census Tracts
Bicycle Collision at Injury Level 1: Fatal	2018	0	0	0	0
	2013	1	0	0	0
	% Change	No change	No change	No change	No change
Bicycle Collision at Injury Level 2: Severe Injury	2018	0	0	0	0
	2013	0	0	0	0
	% Change	No change	No change	No change	No change
Bicycle Collision at Injury Level 3: Visible Injury	2018	0	0	0	0
	2013	2	0	18	8
	% Change	-100%	No change	-100%	No change
Bicycle Collision at Injury Level 4: Complaint of Pain	2018	0	0	0	0
	2013	1	1	9	8
	% Change	-100%	-100%	-100%	-100%
Pedestrian Collision at Injury Level 1: Fatal	2018	1	4	9	30
	2013	2	1	19	8
	% Change	-50%	+300%	-50%	+300%
Pedestrian Collision at Injury Level 2: Severe Injury	2018	0	1	0	8
	2013	0	0	0	0
	% Change	No change	>+100%	No change	>+100%
Pedestrian Collision at Injury Level 3: Visible Injury	2018	0	1	0	8
	2013	1	3	9	23
	% Change	-100%	-67%	-100%	-67%
Pedestrian Collision at Injury Level 4: Complaint of Pain	2018	0	0	0	0
	2013	2	2	19	15
	% Change	-100%	-100%	-100%	-100%

[24] 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 OpenStreetsMap (OSM) and totaled 106 miles for the project area and 132 miles for the control tracts. See Appendix 7 for results at different buffer sizes to capture collisions with geographic coordinates that may not have perfectly overlapped with street lines within the project area and control tracts.

[25] Vehicle collisions involving bicycles and pedestrians are not mutually exclusive because some accidents may involve both modes.

Housing

Here are a number of housing related indicators that can be tracked using ACS data: housing cost burden, housing crowding, tenure length, and vacancies of units for rent or for sale. Taken together, these indicators provide a snap-shot of displacement pressures that may be occurring in the TCC project area. High rent burdens, low vacancies, short tenures, and crowded conditions all suggest that a neighborhood is vulnerable to residential displacement or already experiencing displacement.[26] See Table 14 for a summary of the housing indicators tracked for renters and Table 15 for a summary of the housing indicators for homeowners in the TCC project area and comparison geographies.

Among the various housing indicators tracked for the TCC project area, the only statistically significant trend was an increase in the percentage of homeowners in the same home as one year ago. This trend could be interpreted as an increase in housing stability, potentially due to rising incomes and employment, as discussed in the section on economic indicators. However, without more primary data on the motivations of homeowners for staying in their homes, it is difficult at this point to draw any conclusions about explanatory variables.

Table 14: ACS Housing Indicators for Renters[27]

Indicator	ACS Five-year Sample	Fresno TCC Census Tracts	Control Census Tracts	Fresno County	California
Percent renters**	2014-2018	69.9%	70.4%	47.2%	45.5%
	2009-2013	71.6%	68.0%	46.2%	44.7%
	% Change	-2.4%	+3.5%	+2.0%*	+1.5%*
Percent of renters paying ≥30% of income on rent**	2014-2018	58.0%	65.8%	53.6%	52.6%
	2009-2013	58.4%	66.2%	54.5%	54.1%
	% Change	-0.7%	-0.7%	-1.6%	-2.7%
Percent of renters paying ≥50% of income on rent**	2014-2018	34.0%	42.8%	29.3%	27.0%
	2009-2013	35.2%	39.9%	29.7%	28.3%
	% Change	-3.5%	+7.2%	-1.5%	-4.6%
Percent of renters in with more than one occupant per room in their unit**	2014-2018	11.0%	13.5%	6.6%	6.0%
	2009-2013	13.7%	13.2%	7.3%	6.0%
	% Change	-19.7%	+1.8%	-9.8%	+1.4%*
Percent of renters in same house in same house one year ago**	2014-2018	53.1%	53.0%	37.0%	35.8%
	2009-2013	56.4%	52.5%	35.5%	32.7%
	% Change	-5.9%	+1.0%	+4.4%*	+9.4%*
Percent of housing units for rent that are vacant	2014-2018	4.8%	2.2%	1.6%	1.5%
	2009-2013	5.8%	5.5%	2.9%	2.1%
	% Change	-18.3%	-60.5%	-44.0%	-27.4%

*Statistically significant at the 95% confidence level. Significance tests were conducted in accordance with methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018).
**Refers to households rather than individuals.

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[26] Zuk, M., Bierbaum, A. H., Chapple, K., Gorska, K., Loukaitou-Sideris, A., Ong, P., & Thomas, T. (2015, August). Gentrification, displacement and the role of public investment: a literature review. In Federal Reserve Bank of San Francisco (Vol. 79).
[27] See Appendix 6 for the following details: (1) the ACS table numbers that were sourced for each indicator; (2) additional estimates for 2010-2014, 2011-2015, 2012-2016, and 2013-2017; and (3) the margins of error for all estimates.

Table 15: ACS Housing Indicators for Homeowners[28]

Indicator	ACS Five-year Sample	Fresno TCC Census Tracts	Control Census Tracts	Fresno County	California
Percent homeowners**	2014-2018	30.1%	29.6%	52.8%	54.3%
	2009-2013	28.4%	32.1%	53.8%	55.3%
	% Change	+6.0%	-7.5%	-1.8%	-1.2%
Percent of homeowners paying ≥30% of income on mortgage**	2014-2018	23.9%	23.1%	22.0%	24.7%
	2009-2013	26.2%	29.7%	27.9%	29.7%
	% Change	-8.7%	-22.3%	-21.0%	-16.6%
Percent of homeowners paying ≥50% of income on rent**	2014-2018	8.3%	4.4%	4.5%	5.4%
	2009-2013	4.9%	9.9%	5.9%	7.2%
	% Change	+72.0%	-55.6%	-24.2%	-25.7%
Percent of homeowners in with more than one occupant per room in their unit**	2014-2018	3.7%	3.1%	2.7%	2.2%
	2009-2013	3.2%	3.0%	2.9%	2.3%
	% Change	+16.4%	+5.6%	-8.2%	-3.9%
Percent of homeowners in same house one year ago**	2014-2018	31.6%	28.1%	48.7%	51.6%
	2009-2013	27.1%	28.5%	48.7%	52.3%
	% Change	+16.6%*	-1.6%	0.0%	-1.3%
Percent of housing units for sale that are vacant	2014-2018	0.8%	0.0%	0.6%	0.6%
	2009-2013	1.0%	0.3%	1.0%	0.9%
	% Change	-21.2%	-100.0%	-41.0%	-37.6%

*Statistically significant at the 95% confidence level. Significance tests were conducted in accordance with methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018).
**Refers to households rather than individuals.

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[28] Ibid.

Transportation

Across Fresno County and California more broadly, there has been a statistically significant shift towards more work commutes by car. This trend was also observed in the TCC project area and was statistically significant. Commuting by other modes remained relatively stable, as changes were not statistically significant, though an increasing share of households in the TCC area appear to be commuting by bicycle than households in Fresno County or California over the observed years. See Table 16 for a summary of the ACS data analyzed here. Aside from the ACS data on commutes to work, there is no other secondary data that is updated on an annual basis at the census tract scale or smaller for understanding the travel behavior of TCC project area residents in relation to the comparison to other geographies.

In addition to tracking changes in work commutes, this report also provides baseline data on the adoption rate of electric vehicles (EV) and the rollout of EV charging infrastructure. While these are not explicit objectives of Transform Fresno, they could be indirectly affected. For example, improved economic outcomes for TCC residents alongside community education about the environmental goals of TCC could lead to changes in consumer demand for zero-emission technologies. Prior to TCC investment, the adoption of EVs in the TCC project area appears to be growing at a slower rate than the rest of Fresno County, though the share of EV registrations has increased from 2015 to 2017.[29] The number of Level 2 EV charging stations per 1,000 residents increased from one to three from 2015 to 2018, with no increase in DC fast chargers (zero across years). Compared to Fresno County, the Transform Fresno site has more EV charging stations per 1,000 residents. The sample size for publicly available charging stations in the TCC project area is small, so these relative growth rates should be interpreted with caution. See Table 17 and Table 18 for a summary of the electric vehicle and publicly available charging station data collected for this baseline report.

Table 16: ACS Transportation Indicators[30]

Indicator	ACS Five-year Sample	Fresno TCC Census Tracts	Control Census Tracts	Fresno County	California
Percent of workers commuting to work by car (alone)	2014-2018	65.8%	71.9%	78.5%	73.7%
	2009-2013	61.1%	70.2%	77.0%	73.2%
	% Change	+7.7%*	+2.6%*	+2.0%*	+0.8%*
Percent of workers commuting to work by carpool	2014-2018	16.7%	13.4%	12.0%	10.3%
	2009-2013	15.8%	12.8%	12.2%	11.3%
	% Change	+5.7%	+4.7%	-1.3%	-9.4%
Percent of workers commuting to work by public transit	2014-2018	3.2%	4.8%	1.2%	5.1%
	2009-2013	4.4%	3.4%	1.2%	5.2%
	% Change	-27.2%	+39.%	-4.3%	-1.6%
Percent of workers commuting to work by foot	2014-2018	2.0%	2.7%	1.7%	2.7%
	2009-2013	2.9%	2.8%	2.1%	2.7%
	% Change	-33.0%	-3.8%	-5.6%	-3.3%
Percent of workers commuting to work by bike	2014-2018	1.6%	0.3%	0.6%	1.0%
	2009-2013	0.9%	2.5%	0.8%	1.1%
	% Change	+80.6%	-86.1%	-21.3%	-5.9%

* Statistically significant at the 95% confidence level. Significance tests were conducted in accordance with methods described by the U.S. Census Bureau in Understanding and Using American Community Survey Data: What All Data Users Need to Know (2018).

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[29] Data were not collected for California at this time because it must be requested by county directly from the California Air Resources Board (CARB).
[30] See Appendix 6 for the following details: (1) the ACS table numbers that were sourced for each indicator; (2) additional estimates for 2010-2014, 2011-2015, 2012-2016, and 2013-2017; and (3) the margins of error for all estimates.

Table 17: Plug-in Electric Vehicle (PEV) Registrations[31]

Indicator	Dataset Year	Gross Number			Normalized per 1,000 Residents		
		TCC Census Tracts	Control Census Tracts	Fresno County	TCC Census Tracts	Control Census Tracts	Fresno County
Battery electric vehicle (BEV)	2017	28	25	1,919	0.7	0.5	2.0
	2015	16	6	867	0.4	0.1	0.9
	% Change	+75.0%	+316.7%	+121.3%	+75.5%	+317.5%	+118.0%
Plug-in hybrid electric vehicle (PHEV)	2017	7	14	534	0.2	0.3	0.5
	2015	7	6	315	0.2	0.1	0.3
	% Change	No Change	+133.3%	+69.5%	+0.4%	+133.8%	+66.9%
Fuel cell vehicle (FCV)	2017	0	0	0	0	0	0
	2015	0	0	0	0	0	0
	% Change	No Change	No Change	No Change	No Change	No Change	No Change
Total electric vehicle (EV) registration	2017	35	39	2,453	0.9	0.8	2.5
	2015	23	12	1,182	0.6	0.2	1.2
	% Change	+52.2%	+225.0%	+107.5%	+52.8%	+225.7%	+104.4%

Table 18: Publicly Available Charging Infrastructure[32]

Indicator	Dataset Year	Gross Number			Normalized per 1,000 Residents		
		TCC Census Tracts	Control Census Tracts	Fresno County	TCC Census Tracts	Control Census Tracts	Fresno County
Level 2 Stations	2018	3	1	25	0.1	<0.1	<0.1
	2015	1	0	7	<0.1	0	<0.1
	% Change	+200%	>+100%	+257.1%	+192.4%	>+100%	+249.3%
DC Fast-Charging Stations	2018	0	0	7	0	0	<0.1
	2015	0	0	3	0	0	<0.1
	% Change	No change	No change	+133.3%	No change	No change	+128.2%

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[31] 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.

[32] 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. The 2015 and 2018 datasets include active stations and does not include stations that have previously opened and closed. The charging station data were normalized with 2015 and 2018 five-year ACS data.

Appendix 1: Supplemental Maps

Transform Fresno Plan Projects
January 2020

Legend

- TCC Project Area Boundary (4.92 square miles)
- High Speed Rail Station and Intermodal Transit Center
- City Limits

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.
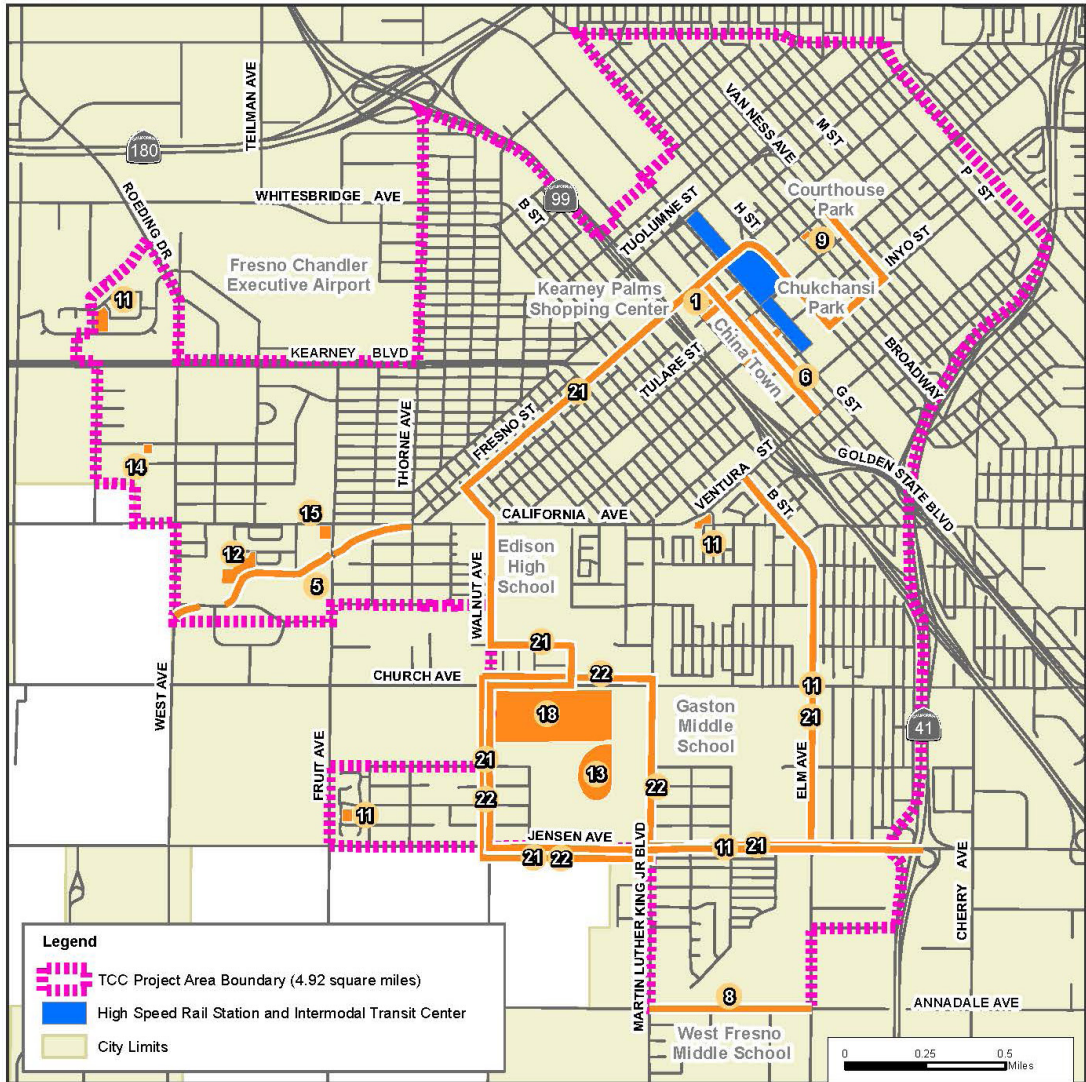
01 - Chinatown Housing Project
05 - Southwest Fresno Trail
06 - Chinatown Urban Greening- Pedestrian Pathways,
Lighting and Tree Planting
08 - Annadale Mode Shift
09 - Mariposa Plaza
11 - Southwest Urban Forest Expansion-Tree Planting
12 - Yosemite Village Permaculture Community Garden
and Urban Farm
13 - Park at MLK Magnet Core
14 - Inside Out Community Garden
15,16,17- Southwest Fresno Community Food 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: Low/Zero EmissionTruck
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)
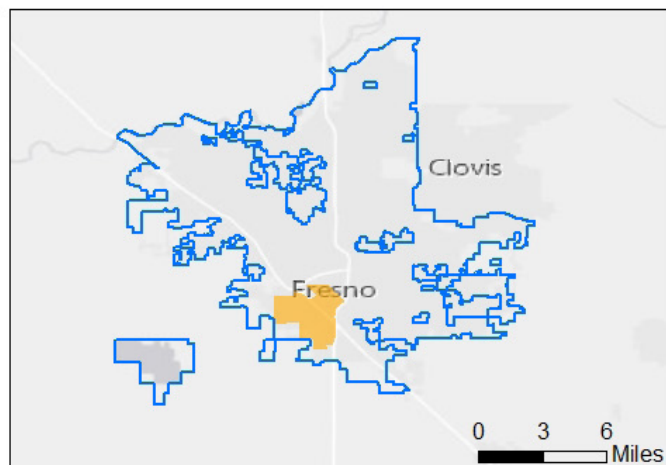
City of Fresno (blue) and TCC Project Area (orange)
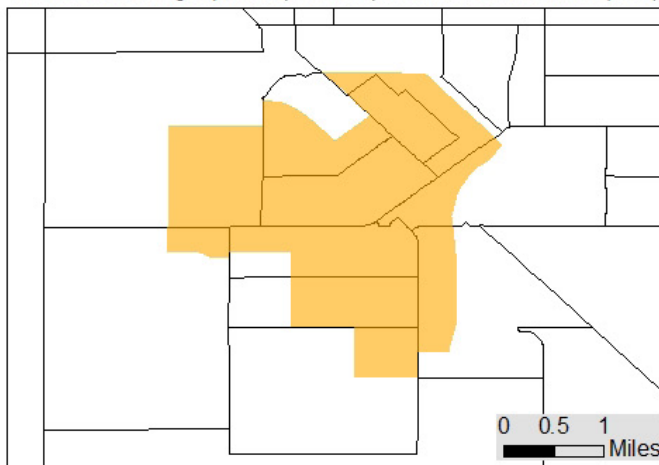
Census Tracts (11)
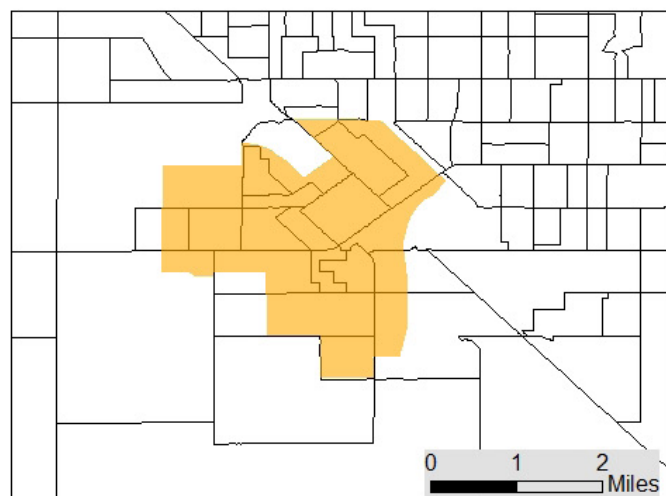
Census Block Groups (21)
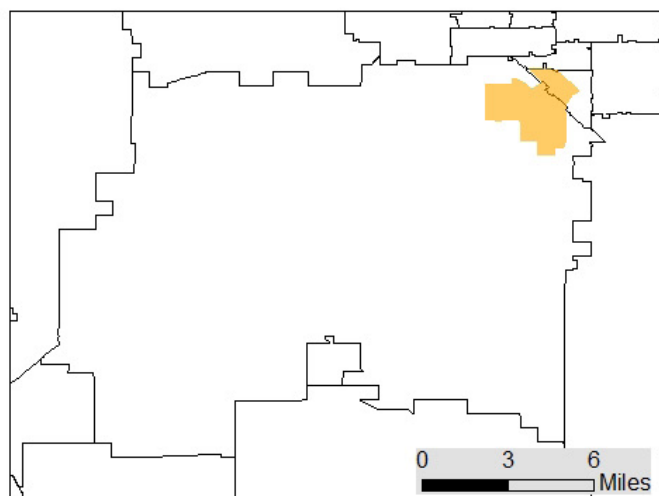
Zip Code Tabulation Areas (2)

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
Avoided stormwater runoff	iTree Planting
Energy cost savings	California Air Resources Board (CARB) Energy and Fuel Cost Savings Co-benefit Assessment Methodology
Jobs (direct, indirect, induced)	Job Co-benefit Assessment Methodology
Greenhouse gas (GHG) reductions	CARB GHG Quantification Methodologies
Travel cost savings	CARB Travel Cost Savings Co-benefit Assessment Methodology
Vehicle miles traveled (VMT) reductions	CARB GHG Quantification Methodologies

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).
Community Partners	The six Community Partner Agencies will support the building of long-term civic infrastructure and will be required to demonstrate the use of inclusive and meaningful engagement methods that will address the barriers to participation specific to the project area. Each Community Partner agency or organization will carry out tasks in the Community Engagement Plan in a given category, including Prime Community Partner, Data and Reporting Partner, Direct Outreach Partner, Leadership Development Partner, Media and Communications Partner, and Event Coordination Partner.

Transform Fresno Outreach & Oversight Committee Members

TCC Role / Neighborhood	Member
Chair	Miguel Arias
Chinatown	Monica Diaz
	Morgan Doizaki
	Arthur Moye
	Barbara Wilson
Downtown	Amy Arambula
	Jordan Gustafson
	Sabrina Kelly
	Vacant
Southwest	Mary Curry
	Sandra Flores
	B.T. Lewis
	Willie Moore
	Artie Padilla
	Margarita Rocha
	Ivanka Saunders Hunt
	Vacant

Transform Fresno Community Partner Outreach Methods

Name	Outreach Methods
Prime Community Partner	Providing translation services; Coordinating Annual Transform Fresno Summit; Providing community engagement updates; Coordinating community meetings; Creating quarterly newsletters; Conducting text, email, and other direct outreach; Coordinating with other Community Partners; Updating the Outreach and Oversight Committee on engagement activities
Data and Reporting Community Partner	Coordinating with 12 Project Partners, Consolidating and Analyzing Survey Data; General Reporting; Coordinating with the Evaluation Team; Producing Semi-Annual Reports; Producing Final Engagement Summary Report
Direct Outreach Community Partner	Printing materials for distribution; Distributing Transform Fresno flyers and mailers; Maintaining a volunteer interest database; Maintaining an online community engagement calendar; Administering surveys
Leadership Development Community Partner	Coordinating the Transform Fresno Youth Leadership Development Program
Media and Communications Community Partner	Creating branding; Updating and maintaining Transform Fresno website; Sharing informational videos; Sharing media for Transform Fresno and project progress; Coordinating radio updates; Coordinating with Partners for Project-Wide Style Guide
Event Coordination Community Partner	Coordinating one or two cultural or arts community events; Coordinating project milestone events

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	AnaLilia 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 4:
Transform Fresno TCC Census Tracts

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

Appendix 5:
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 6:
Margins of Error (MOE) for ACS Variables

	Time Period (ACS 5-year sample)	Estimate for TCC Site	MOE	Estimate for Controls	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
DEMOGRAPHIC-RELATED INDICATORS									
Total Population (B01003)	2009-2013	39,140	1,647	48,862	1,786	939,605	0.0	37,659,181	0.0
	2010-2014	39,389	1,499	49,190	1,716	948,844	0.0	38,066,920	0.0
	2011-2015	38,854	1,349	48,698	1,598	956,749	0.0	38,421,464	0.0
	2012-2016	39,322	1,412	48,026	1,572	963,160	0.0	38,654,206	0.0
	2013-2017	38,699	1,501	48,598	1,796	971,616	0.0	38,982,847	0.0
	2014-2018	39,860	1,494	50,165	1,633	978,130	0.0	39,148,760	0.0
Percent Hispanic, all races (B03002)	2009-2013	61.5%	2.9	58.2%	3.3	50.8%	0.0	37.9%	0.0
	2010-2014	63.5%	2.6	55.6%	2.9	51.2%	0.0	38.2%	0.0
	2011-2015	65.0%	2.4	57.3%	2.8	51.6%	0.0	38.4%	0.0
	2012-2016	65.7%	2.6	56.2%	3.0	52.0%	0.0	38.6%	0.0
	2013-2017	65.5%	2.8	59.1%	2.8	52.4%	0.0	38.8%	0.0
	2014-2018	67.8%	2.3	59.3%	2.5	52.7%	0.0	38.9%	0.0
Percent White, non-Hispanic (B03002)	2009-2013	6.4%	1.0	17.5%	1.8	32.2%	0.1	39.7%	0.0
	2010-2014	6.8%	1.1	16.6%	1.6	31.6%	0.1	39.2%	0.0
	2011-2015	6.2%	1.0	15.3%	1.4	31.2%	0.1	38.7%	0.0
	2012-2016	6.5%	1.0	15.1%	1.5	30.8%	0.0	38.4%	0.0
	2013-2017	7.2%	1.4	15.3%	2.0	30.2%	0.1	37.9%	0.0
	2014-2018	7.2%	1.1	15.8%	2.1	29.8%	0.1	37.5%	0.0
Percent communities of color, non-Hispanic: Black, Asian, Pacific Islander, American Indian, other, and two or more races (B03002)	2009-2013	32.1%	2.8	24.2%	2.3	17.1%	0.2	22.4%	0.0
	2010-2014	29.7%	2.6	27.8%	2.3	17.1%	0.2	22.7%	0.0
	2011-2015	28.8%	2.2	27.3%	2.4	17.2%	0.2	22.9%	0.0
	2012-2016	27.9%	2.1	28.7%	2.8	17.2%	0.2	23.1%	0.0
	2013-2017	27.4%	2.0	25.6%	2.0	17.3%	0.2	23.3%	0.0
	2014-2018	25.0%	2.0	24.8%	2.1	17.5%	0.2	23.6%	0.0
Percent other communities of color, non-Hispanic: Pacific Islander, American Indian, Other, Two or More Races	2009-2013	1.7%	0.6	2.1%	0.7	2.8%	0.2	3.6%	0.0
	2010-2014	2.1%	0.8	2.5%	0.9	2.8%	0.2	3.7%	0.0
	2011-2015	2.1%	0.6	2.1%	0.6	2.9%	0.1	3.7%	0.0
	2012-2016	2.4%	0.7	1.9%	0.5	2.7%	0.2	3.8%	0.0
	2013-2017	1.8%	0.5	2.2%	0.7	2.8%	0.2	3.9%	0.0
	2014-2018	2.4%	0.8	2.2%	0.7	2.9%	0.2	3.9%	0.0

	Time Period (ACS 5-year sample)	Estimate for TCC Site	MOE	Estimate for Controls	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
DEMOGRAPHIC-RELATED INDICATORS									
Percent Black, non-Hispanic (B03002)	2009-2013	20.1%	2.0	10.8%	1.6	4.8%	0.1	5.7%	0.0
	2010-2014	17.9%	1.9	12.4%	1.5	4.8%	0.1	5.7%	0.0
	2011-2015	16.5%	1.7	11.7%	1.6	4.7%	0.1	5.6%	0.0
	2012-2016	17.0%	1.6	12.9%	1.9	4.7%	0.1	5.6%	0.0
	2013-2017	17.4%	1.8	10.3%	1.2	4.7%	0.1	5.5%	0.0
	2014-2018	14.6%	1.5	10.0%	1.3	4.5%	0.1	5.5%	0.0
Percent Asian, non-Hispanic (B03002)	2009-2013	10.3%	2.1	11.4%	1.6	9.4%	0.1	13.1%	0.0
	2010-2014	9.8%	1.7	12.8%	1.7	9.5%	0.1	13.3%	0.0
	2011-2015	10.2%	1.4	13.6%	1.8	9.6%	0.1	13.5%	0.0
	2012-2016	8.5%	1.3	13.9%	2.1	9.7%	0.1	13.7%	0.0
	2013-2017	8.2%	1.1	13.1%	1.7	9.9%	0.1	13.9%	0.0
	2014-2018	8.0%	1.2	12.6%	1.6	10.0%	0.1	14.1%	0.0
Percent Pacific Islanders, non-Hispanic (B03002)	2009-2013	0.2%	0.3	0.2%	0.2	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
	2011-2015	0.3%	0.3	0.1%	0.1	0.1%	0.0	0.4%	0.0
	2012-2016	0.3%	0.4	0.1%	0.1	0.1%	0.0	0.4%	0.0
	2013-2017	0.1%	0.1	0.1%	0.1	0.1%	0.9	0.4%	0.0
	2014-2018	0.1%	0.2	0.0%	0.	0.1%	0.0	0.4%	0.9
Percent American Indian, non-Hispanic(B03002)	2009-2013	0.5%	0.2	0.4%	0.4	0.5%	0.1	0.4%	0.0
	2010-2014	0.4%	0.2	0.5%	0.5	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
	2012-2016	0.3%	0.2	0.2%	0.1	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
	2014-2018	0.3%	0.2	0.4%	0.2	0.5%	0.0	0.4%	0.0
Percent two or more races, non-Hispanic (B03002)	2009-2013	1.0%	0.5	1.4%	0.6	2.0%	0.1	2.6%	0.0
	2010-2014	1.4%	0.7	1.7%	0.7	2.0%	0.1	2.7%	0.0E
	2011-2015	1.4%	0.5	1.6%	0.5	2.0%	0.1	2.8%	0.0
	2012-2016	1.7%	0.6	1.5%	0.5	2.0%	0.1	2.9%	0.0
	2013-2017	1.4%	0.5	1.7%	0.6	2.0%	0.1	2.9%	0.0
	2013-2018	1.9%	0.7	1.7%	0.6	2.1%	0.2	3.0%	0.0
Percent other, non-Hispanic (B03002)	2009-2013	0.0%	0.1	0.0%	0.0	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
	2011-2015	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
	2013-2017	0.0%	0.1	0.1%	0.1	0.2%	0.1	0.2%	0.0
	2014-2018	0.0%	0.1	0.1%	0.2	0.2%	0.1	0.2%	0.0

	Time Period (ACS 5-year sample)	Estimate for TCC Site	MOE	Estimate for Controls	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
DEMOGRAPHIC-RELATED INDICATORS									
Percent foreign-born population (B05006))	2009-2013	27.4%	2.5	25.0%	2.7	21.9%	0.3	27.0%	0.1
	2010-2014	27.2%	2.3	23.5%	2.2	21.7%	0.3	27.0%	0.1
	2011-2015	26.2%	1.9	23.8%	2.1	21.4%	0.3	27.0%	0.1
	2012-2016	26.0%	1.8	22.5%	1.8	21.4%	0.3	27.0%	0.1
	2013-2017	25.6%	1.8	22.8%	1.7	21.0%	0.3	27.0%	0.1
	2014-2018	24.9%	1.6	22.2%	1.7	21.3%	0.4	26.9%	0.1
Percent born in Asia (B05006)	2009-2013	4.4%	1.0	5.7%	0.9	5.6%	0.2	9.8%	0.0
	2010-2014	4.6%	1.0	6.4%	1.0	5.8%	0.2	10.0%	0.0
	2011-2015	4.4%	0.8	7.0%	1.1	5.8%	0.2	10.1%	0.0
	2012-2016	3.9%	0.8	6.6%	1.2	5.8%	0.2	10.2%	0.0
	2013-2017	4.0%	0.7	6.1%	1.0	5.8%	0.2	10.4%	0.0
	2014-2018	4.0%	0.7	6.1%	1.1	5.9%	0.2	10.5%	0.0
Percent born in Africa (B05006)	2009-2013	0.0%	0.1	0.0%	0.1	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
	2011-2015	0.0%	0.1	0.2%	0.2	0.2%	0.0	0.4%	0.0
	2012-2016	0.0%	0.1	0.3%	0.3	0.2%	0.0	0.5%	0.0
	2013-2017	0.0%	0.1	0.3%	0.3	0.2%	0.0	0.5%	0.0
	2014-2018	0.1%	0.1	0.3%	0.3	0.2%	0.1	0.5%	0.0
Percent born in Latin America (B05006)	2009-2013	0.1%	0.1	0.1%	0.1	0.1%	0.0	0.2%	0.0
	2010-2014	0.1%	0.1	0.0%	0.1	0.1%	0.0	0.2%	0.0
	2011-2015	21.5%	1.9	16.0%	1.9	14.6%	0.3	14.2%	0.1
	2012-2016	21.8%	1.7	14.8%	1.6	14.5%	0.3	14.0%	0.0
	2013-2017	21.3%	1.8	15.7%	1.5	14.2%	0.3	13.8%	0.1
	2014-2018	20.7%	1.6	15.2%	1.5	14.4%	0.3	13.7%	0.1
ECONOMIC INDICATORS									
Median household income (B19001)	2009-2013	$22,843	N/A	$25,319	N/A	$45,563	638	$61,094	157
	2010-2014	$22,332	N/A	$26,387	N/A	$45,201	713	$61,489	154
	2011-2015	$22,148	N/A	$26,502	N/A	$45,233	692	$61,818	156
	2012-2016	$23,075	N/A	$24,848	N/A	$45,963	661	$63,783	188
	2013-2017	$23,405	N/A	$26,905	N/A	$48,730	655	$67,169	192
	2014-2018	$24,171	N/A	$27,223	N/A	$51,261	808	$71,228	217
Percent of individuals living below poverty (B17001)	2009-2013	50.5%	3.7	41.9%	3.6	26.0%	0.6	15.9%	0.1
	2010-2014	52.7%	3.7	41.7%	3.1	27.4%	0.6	16.4%	0.1
	2011-2015	52.7%	3.2	42.0%	3.1	26.8%	0.7	16.3%	0.1
	2012-2016	52.2%	3.4	46.6%	3.4	26.9%	0.6	15.8%	0.1
	2013-2017	50.3%	3.6	43.0%	3.4	25.4%	0.6	15.1%	0.1
	2014-2018	50.1%	4.2	42.0%	3.1	24.1%	0.6	14.3%	0.1

	Time Period (ACS 5-year sample)	Estimate for TCC Site	MOE	Estimate for Controls	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
ECONOMIC INDICATORS									
Percent high income ($125k +) (B19001)	2009-2013	2.4%	1.1	1.7%	0.8	11.1%	0.4	19.9%	0.1
	2010-2014	1.7%	0.9	1.6%	0.8	11.1%	0.4	20.4%	0.1
	2011-2015	2.2%	0.8	2.1%	0.9	11.3%	0.4	20.9%	0.1
	2012-2016	1.9%	0.7	1.7%	0.8	12.0%	0.4	22.1%	0.1
	2013-2017	2.3%	0.9	3.0%	1.1	13.3%	0.4	23.9%	0.1
	2014-2018	1.9%	0.8	3.2%	1.0	14.6%	0.5	26.1%	0.1
Percent with less than high school education (S1501)	2009-2013	48.5%	3.0	38.9%	3.6	26.9%	0.5	18.8%	0.1
	2010-2014	47.9%	2.8	37.9%	2.6	26.8%	0.5	18.5%	0.1
	2011-2015	46.4%	2.8	37.8%%	2.7	26.5%	0.5	18.2%	0.1
	2012-2016	44.2%	2.5	37.0%	2.8	26.2%	0.5	17.9%	0.1
	2013-2017	45.3%	3.0	36.0%	2.7	25.3%	0.5	17.5%	0.1
	2014-2018	43.1%	2.5	36.7%	2.8	24.7%	0.5	17.1%	0.1
Percent with bachelor's degree or higher (S1501)	2009-2013	6.5%	1.1	6.7%	1.0	19.6%	0.4	30.7%	0.1
	2010-2014	6.9%	1.1	7.8%	1.3	19.5%	0.4	31.0%	0.1
	2011-2015	5.8%	1.0	8.4%	1.3	19.4%	0.4	31.4%	0.1
	2012-2016	6.5%	1.0	8.4%	1.3	19.7%	0.4	32.0%	0.1
	2013-2017	6.1%	1.1	7.9%	1.3	20.1%	0.4	32.6%	0.1
	2014-2018	7.6%	1.3	8.0%	1.4	20.7%	0.4	33.3%	0.1
Percent employed for the population 16 years and over (B23025)	2009-2013	36.2%	2.5	42.6%	1.7	52.4%	0.4	56.4%	0.1
	2010-2014	36.6%	2.3	43.3%	2.1	52.3%	0.4	56.4%	0.1
	2011-2015	36.5%	2.2	42.5	2.0	52.8%	0.5	56.9%	0.1
	2012-2016	38.4%	2.3	42.7%	2.0	53.3%	0.4	57.5%	0.1
	2013-2017	39.6%	2.2	45.6%%	2.1	54.3%	0.3	58.2%	0.1
	2014-2018	40.1%	2.0	46.5%	2.2	55.0%	0.4	58.9%	0.1
ENERGY-RELATED INDICATORS									
Percent of households heating home with electricity (B25040)	2009-2013	27.0%	2.6	42.0%	3.0	35.5%	0.7	25.5%	0.1
	2010-2014	25.7%	2.3	43.1%	2.8	36.0%	0.7	25.8%	0.1
	2011-2015	26.4%	2.5	44.4%	3.0	36.1%	0.6	26.2%	0.1
	2012-2016	27.3%	2.7	43.2%	2.9	35.7%	0.5	26.4%	0.1
	2013-2017	30.5%	2.8	43.2%	3.0	35.4%	0.5	26.5%	0.1
	2014-2018	32.3%	2.9	42.0%	2.8	34.5%	0.5	26.4%	0.1
Percent of households heating home with other non-fossil fuels (B25040)	2009-2013	0.0%	0.2	0.3%	0.3	2.0%	0.2	1.8%	0.0
	2010-2014	0.0%	0.2	0.3%	0.3	2.0%	0.2	1.9%	0.0
	2011-2015	0.2%	0.3	0.3%	0.3	2.1%	0.2	1.9%	0.0
	2012-2016	0.3%	0.3	0.4%	0.3	2.1%	0.2	1.9%	0.0
	2013-2017	0.3%	0.3	0.6%	0.5	2.5%	0.2	2.0%	0.0
	2014-2018	0.4%	0.4	0.9%	0.6	2.7%	0.2	2.1%	0.0

	Time Period (ACS 5-year sample)	Estimate for TCC Site	MOE	Estimate for Controls	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
ENERGY-RELATED INDICATORS									
Percent of households heating home with utility gas (B25040)	2009-2013	70.3%	2.7	55.7%	2.8	55.5%	0.6	66.0%	0.1
	2010-2014	71.5%	2.4	54.3%	2.8	55.1%	0.6	65.6%	0.1
	2011-2015	70.5%	2.6	53.0%	2.9	54.9%	0.7	65.0%	0.1
	2012-2016	69.8%	2.6	53.6%	2.9	55.2%	0.6	64.6%	0.1
	2013-2017	66.7%	2.7	53.4%	2.9	55.4%	0.7	64.4%	0.1
	2014-2018	63.9%	2.8	54.1%	2.8	56.0%	0.5	64.3%	0.1
Percent of households heating home with other fossil fuels (B25040)	2009-2013	0.7%	0.5	1.3%	0.6	5.2%	0.3	3.5%	0.0
	2010-2014	0.7%	0.4	1.6%	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
	2012-2016	0.6%	0.4	1.4%	0.6	5.0%	0.2	3.4%	0.0
	2013-2017	0.4%	0.4	1.2%	0.6	4.7%	0.2	3.5%	0.0
	2014-2018	0.4%	0.4	1.6%	0.7	4.8%	0.2	3.5%	0.0
Percent of houses with no fuel used (B25040)	2009-2013	1.9%	0.8	0.5%	0.3	0.9%	0.1	2.9%	0.0
	2010-2014	2.0%	0.9	0.6%	0.4	1.0%	0.1	3.0%	0.0
	2011-2015	2.2%	1.0	0.7%	0.4	1.0%	0.1	3.2%	0.0
	2012-2016	2.0%	0.9	1.3%	0.6	1.1%	0.1	3.3%	0.0
	2013-2017	2.0%	0.9	1.4%	0.6	1.0%	0.1	3.4%	0.0
	2014-2018	2.8%	1.3	1.4%	0.7	1.0%	0.1	3.4%	0.0
HEALTH-RELATED INDICATORS									
Percent with health insurance coverage (B27001)	2009-2013	74.4%	1.8	77.6%	1.6	80.4%	0.4	82.2%	0.1
	2010-2014	75.3%	2.3	79.2%	1.8	81.5%	0.4	83.3%	0.1
	2011-2015	78.4%	1.8	81.7%	1.6	83.6	0.4	85.3%	0.1
	2012-2016	81.0%	2.0	83.7%	1.3	85.8%	0.4	87.4%	0.1
	2013-2017	83.8%	1.7	86.3%	1.1	88.3%%	0.4	89.5%	0.1
	2014-2018	86.9%	1.7	89.2%	1.0	90.5%	0.3	91.5%	0.1
Percent with private health insurance coverage (B27002)	2009-2013	19.5%	1.9	28.7%	1.8	48.9%	0.6	61.0%	0.2
	2010-2014	20.5%	2.1	29.4%	2.0	49.0%	0.6	60.8%	0.2
	2011-2015	21.6%	2.0	30.1%	2.3	49.4%	0.6	61.2%	0.2
	2012-2016	21.7	2.2	30.0%	2.3	49.9%	0.6	61.8%	0.2
	2013-2017	23.0%%	2.1	32.6%	2.3	51.3%	0.6	62.6%	0.2
	2014-2018	22.4%	1.9	32.4%	2.3	51.7%	0.5	63.4%	0.2
Percent with public health insurance coverage (B27003)	2009-2013	60.5%	2.7	54.2%	2.9	40.2%	0.5	29.5%	0.1
	2010-2014	59.9%	2.9	55.7%	2.8	41.3%	0.4	30.8%	0.1
	2011-2015	61.8%	2.5	58.3%	2.7	43.1%	0.5	32.6%	0.1
	2012-2016	64.5%	2.6	60.7%	2.4	45.2%	0.6	34.3%	0.1
	2013-2017	66.5%	2.4	61.2%	2.8	46.9%	0.5	35.8%	0.1
	2014-2018	70.1%	2.8	64.7%	2.6	48.7%	0.5	37.2%	0.1

	Time Period (ACS 5-year sample)	Estimate for TCC Site	MOE	Estimate for Controls	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
HOUSING-RELATED INDICATORS									
Percent renters (B25003)	2009-2013	71.6%	2.7	68.0%	2.7	46.2%	0.5	44.7%	0.1
	2010-2014	71.0%	2.6	69.1%	2.5	46.9%	0.7	45.2%	0.1
	2011-2015	70.6%	2.8	69.8%	2.4	47.2%	0.6	45.7%	0.1
	2012-2016	70.5%	2.7	71.3%	2.6	47.5%	0.6	45.9%	0.2
	2013-2017	69.2%	2.8	72.2%	2.5	47.0%	0.6	45.5%	0.1
	2014-2018	69.9%	2.7	70.4%	2.6	47.2%	0.5	45.4%	0.1
Percent homeowners (B25003)	2009-2013	28.4%	2.5	32.0%	2.4	53.8%	0.5	55.3%	0.3
	2010-2014	29.0%	2.5	30.9%	2.2	53.1%	0.7	54.8%	0.3
	2011-2015	29.3%	2.3	30.2%	2.4	52.8%	0.5	54.3%	0.3
	2012-2016	29.5%	2.4	28.7%	2.3	52.5%	0.6	54.1%	0.3
	2013-2017	30.8%	2.3	27.8%	2.2	53.0%	0.6	54.4%	0.3
	2014-2018	30.1%	2.4	29.6%	2.3	52.8%	0.5	54.6%	0.3
Percent of households paying ≥30% of income on rent (B25070)	2009-2013	58.4%	4.8	66.2%	4.8	54.5%	1.2	54.1%	0.2
	2010-2014	60.1%	4.6	66.1%	4.7	55.1%	1.1	54.2%	0.1
	2011-2015	59.7%	4.6	67.5%	4.8	55.0%	1.1	54.0%	0.1
	2012-2016	60.4%	4.7	68.1%	4.4	55.5%	1.3	53.6%	0.1
	2013-2017	59.7%	4.8	64.0%	4.7	54.1%	1.1	53.1%	0.1
	2014-2018	58.0%	4.7	65.8%	4.6	53.6%	1.2	52.6%	0.2
Percent of households paying ≥50% of income on rent (B25070)	2009-2013	35.2%	3.9	39.9%	3.7	29.7%	0.9	28.3%	0.1
	2010-2014	36.1%	3.5	40.2%	3.5	30.5%	0.9	28.5%	0.1
	2011-2015	34.6%	3.8	41.3%	3.5	29.8%	0.9	28.2%	0.2
	2012-2016	33.6%	3.6	44.0%	3.4	30.6%	1.1	27.9%	0.1
	2013-2017	33.5%	3.8	42.0%	3.8	29.8%	0.9	27.4%	0.1
	2014-2018	34.0%	3.5	42.8%	3.7	29.3%	0.9	27.0%	0.2
Percent of households paying ≥30% of income on mortgage (B25091)	2009-2013	26.2%	5.6	29.7%	5.0	27.9%	0.8	29.7%	0.1
	2010-2014	23.5%	5.2	24.0%	4.6	26.5%	0.8	28.5%	0.0
	2011-2015	24.2%	5.3	25.1%	4.8	25.4%	0.8	27.4%	0.2
	2012-2016	22.3%	4.5	20.5%	4.2	24.0%	0.7	26.2%	0.2
	2013-2017	21.3%	4.4	20.3%	4.5	22.8%	0.7	25.3%	0.0
	2014-2018	23.9%	5.4	23.1%	4.9	22.0%	0.7	24.7%	0.0
Percent of households paying ≥50% of income on mortgage (B25091)	2009-2013	4.9%	2.6	9.9%	3.4	5.9%	0.4	7.2%	0.1
	2010-2014	3.1%	1.7	8.3%	3.2	5.6%	0.4	6.7%	0.0
	2011-2015	5.0%	2.3	8.5%	3.2	5.3%	0.4	6.2%	0.0
	2012-2016	6.3%	2.5	7.2%	2.7	5.1%	0.4	5.8%	0.1
	2013-2017	7.6%	3.0	6.2%	2.4	4.8%	0.3	5.5%	0.1
	2014-2018	8.3%	3.6	4.4%	1.9	4.5%	0.3	5.4%	0.1

	Time Period (ACS 5-year sample)	Estimate for TCC Site	MOE	Estimate for Controls	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
HOUSING-RELATED INDICATORS									
Percent of households with more than one occupant per room (B25014)	2009-2013	16.8%	2.5	16.2%	2.5	10.2%	0.4	8.2%	0.1
	2010-2014	16.4%	2.4	14.4%	2.2	10.0%	0.4	8.2%	0.1
	2011-2015	15.9%	2.3	13.1%	2.0	9.7%	0.4	8.2%	0.1
	2012-2016	15.2%	2.2	12.5%	2.0	9.5%	0.3	8.2%	0.1
	2013-2017	13.9%	2.2	14.6%	2.2	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
Percent of households with more than one occupant per room (renters) (B25014)	2009-2013	13.7%	2.3	13.2%	2.4	7.3%	0.3	6.0%	0.0
	2010-2014	13.2%	2.2	11.7%	2.0	7.2%	0.4	6.0%	0.0
	2011-2015	12.4%	2.0	10.9%	1.8	6.9%	0.3	6.0%	0.1
	2012-2016	11.8%	2.0	10.5%	1.8	6.7%	0.3	6.1%	0.0
	2013-2017	10.3%	1.9	12.0%	2.1	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
Percent of households with more than one occupant per room (homeowners) (B25014)	2009-2013	3.2%	1.0	3.0%	0.9	2.9%	0.2	2.3%	0.0
	2010-2014	3.1%	1.0	2.7%	1.0	2.8%	0.2	2.2%	0.0
	2011-2015	3.6%	1.0	2.2%	0.9	2.7%	0.2	2.2%	0.0
	2012-2016	3.4%	1.0	2.0%	0.9	2.7%	0.2	2.1%	0.0
	2013-2017	3.7%	1.1	2.6%	0.9	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
Percent of households in same house 1 year ago (renters) (B07013)	2009-2013	3.2%	3.8	3.0%	3.9	2.9%	0.6	2.3%	0.2
	2010-2014	3.1%	3.4	2.7%	3.2	2.8%	0.7	2.2%	0.2
	2011-2015	3.6%	3.3	2.2%	3.2	2.7%	0.6	2.2%	0.2
	2012-2016	3.4%	3.4	2.0%	3.2	2.7%	0.5	2.1%	0.2
	2013-2017	3.7%	3.3	2.6%	3.3	2.8%	0.7	2.2%	0.2
	2014-2018	3.7%	3.7	3.1%	3.2	2.7%	0.7	2.2%	0.2
Percent of households in same house 1 year ago (homeowners) (B070103)	2009-2013	27.1%	2.7	28.5%	2.4	48.7%	0.6	52.3%	0.3
	2010-2014	28.2%	2.8	27.3%	2.5	48.2%	0.8	51.7%	0.3
	2011-2015	29.1%	2.8	26.6%	2.6	47.9%	0.6	51.3%	0.3
	2012-2016	29.8%	2.7	25.1%	2.6	47.7%	0.6	51.0%	0.3
	2013-2017	32.0%	2.7	25.0%	2.4	48.5%	0.7	51.4%	0.2
	2014-2018	31.6%	2.8	28.1%	2.6	48.7%	0.7	51.6%	0.2
Percent of households in same house 1 year ago (w/ income of <$75k) (B07010)	2009-2013	77.5%	2.0	80.0%	2.1	77.4%	0.7	72.2%	0.1
	2010-2014	76.7%	2.2	79.7%	2.5	77.5%	0.7	72.5%	0.1
	2011-2015	74.9%	2.2	76.9%	2.4	77.2%	0.7	72.9%	0.1
	2012-2016	74.1%	2.2	75.7%	2.5	76.9%	0.7	72.8%	0.1
	2013-2017	76.2%	1.8	76.6%	2.3	76.7%	0.7	72.4%	0.1
	2014-2018	76.7%	2.1	78.9%	2.3	76.5%	NA	71.8%	0.1

	Time Period (ACS 5-year sample)	Estimate for TCC Site	MOE	Estimate for Controls	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
HOUSING-RELATED INDICATORS									
Percent of housing units for rent that are vacant (B25002 and B25004)	2009-2013	5.8%	1.4	5.5%	1.4	2.9%	0.3	2.1%	0.0
	2010-2014	5.6%	1.5	5.7%	1.4	2.8%	0.2	2.0%	0.0
	2011-2015	6.1%	1.5	4.4%	1.2	2.4%	0.2	1.8%	0.0
	2012-2016	5.6%	1.3	4.0%	1.1	2.1%	0.2	1.7%	0.0
	2013-2017	5.3%	1.4	3.0%	0.9	1.8%	0.2	1.6%	0.0
	2014-2018	4.8%	1.4	2.2%	0.8	1.6%	0.2	1.5%	0.0
Percent of housing units for sale that are vacant (B25002 and B25004)	2009-2013	1.0%	0.6	0.3%	0.4	1.0%	0.2	0.9%	0.0
	2010-2014	1.0%	0.7	0.3%	0.4	0.8%	0.2	0.8%	0.0
	2011-2015	1.0%	0.6	0.0%	0.1	0.7%	0.1	0.7%	0.0
	2012-2016	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
	2014-2018	0.8%	0.6	0.0%	0.1	0.6%	0.1	0.6%	0.0
TRANSPORTATION-RELATED INDICATORS									
Percent of households with a vehicle available (B08201)	2009-2013	37.8%	3.1	43.5%	3.0	34.6%	0.6	32.3%	0.1
	2010-2014	36.3%	3.0	43.7%	3.0	34.3%	0.6	32.2%	0.1
	2011-2015	35.1%	2.9	45.2%	2.9	34.3%	0.6	32.1%	0.1
	2012-2016	37.2%	3.0	44.1%	3.1	33.8%	0.6	31.7%	0.1
	2013-2017	38.2%	3.1	42.1%	3.2	33.3%	0.5	31.2%	0.1
	2014-2018	37.6%	3.1	41.5%	3.0	32.9%	0.6	30.8%	0.1
Percent of workers commuting to work alone by car (B08301)	2009-2013	61.1%	2.5	70.2%	2.5	77.0%	0.6	73.2%	0.1
	2010-2014	62.7%	2.6	71.1%	1.6	77.0%	0.4	73.2%	0.1
	2011-2015	64.1%	2.7	71.0%	2.4	76.9%	0.4	73.4%	0.1
	2012-2016	65.7%	3.0	68.8%	2.0	77.0%	0.6	73.5%	0.0
	2013-2017	64.8%	2.9	69.8%	2.1	78.1%	0.7	73.6%	0.1
	2014-2018	65.8%	2.9	71.9%	2.7	78.5%	0.7	73.7%	0.0
Percent of workers commuting to work by carpool (B08301)	2009-2013	15.8%	3.5	12.8%	2.7	12.2%	0.5	11.3%	0.1
	2010-2014	14.9%	3.4	11.9%	2.3	12.5%	0.5	11.1%	0.1
	2011-2015	15.6%	3.4	14.8%	2.7	12.8%	0.6	10.8%	0.1
	2012-2016	15.1%	3.3	16.8%	3.4	12.8%	0.5	10.6%	0.1
	2013-2017	17.4%	3.2	15.2%	3.1	12.2%	0.6	10.4%	0.1
	2014-2018	16.7%	2.9	13.4%	2.7	12.0%	0.5	10.3%	0.1
Percent of workers commuting to work by public transit (B08301)	2009-2013	4.4%	1.4	3.4%	1.2	1.2%	0.1	5.2%	0.0
	2010-2014	3.5%	1.1	4.2%	1.3	1.3%	0.2	5.2%	0.0
	2011-2015	4.2%	2.1	4.5%	1.5	1.3%	0.2	5.2%	0.0
	2012-2016	3.5%	1.6	4.9%	1.7	1.3%	0.1	5.2%	0.0
	2013-2017	4.0%	1.8	5.0%	1.8	1.2%	0.1	5.2%	0.0
	2014-2018	3.2%	1.6	4.8%	1.5	1.2%	0.1	5.1%	0.0

	Time Period (ACS 5-year sample)	Estimate for TCC Site	MOE	Estimate for Controls	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
TRANSPORTATION-RELATED INDICATORS									
Percent of workers commuting to work by foot (B08301)	2009-2013	2.9%	1.3	2.8%	1.4	2.1%	0.2	2.7%	0.0
	2010-2014	2.8%	1.3	2.1%	1.0	2.1%	0.2	2.7%	0.0
	2011-2015	1.9%	0.9	1.8%	0.7	1.9%	0.2	2.7%	0.0
	2012-2016	1.8%	0.8	2.0%	0.8	1.7%	0.1	2.7%	0.0
	2013-2017	2.1%	0.9	2.5%	1.0	1.6%	0.2	2.7%	0.0
	2014-2018	2.0%	0.8	2.7%	0.9	1.7%	0.2	2.7%	0.0
Percent of workers commuting to work by bike (B08301)	2009-2013	0.9%	0.7	2.5%	1.0	0.8%	0.1	1.1%	0.0
	2010-2014	1.4%	0.8	2.2%	0.9	0.8%	0.1	1.1%	0.0
	2011-2015	1.6%	0.8	1.3%	0.6	0.9%	0.1	1.1%	0.0
	2012-2016	1.5%	0.9	0.8%	0.5	0.9%	0.1	1.1%	0.0
	2013-2017	1.5%	0.9	0.5%	0.4	0.7%	0.1	1.1%	0.0
	2014-2018	1.6%	0.9	0.3%	0.4	0.6%	0.1	1.0%	0.0
Percent of workers commuting to work by other modes: taxicab, motorcycle, and other (B08301)	2009-2013	9.5%	4.5	5.3%	2.3	2.7%	0.3	1.3%	0.0
	2010-2014	10.7%	3.3	4.7%	2.3	2.4%	0.2	1.3%	0.0
	2011-2015	9.4%	2.4	3.3%	1.4	2.0%	0.2	1.4%	0.0
	2012-2016	7.8%	2.1	2.6%	1.2	2.0%	0.2	1.4%	0.0
	2013-2017	5.9%	1.6	2.4%	1.0	1.8%	0.2	1.5%	0.0
	2014-2018	5.0%	1.6	2.2%	0.9	1.7%	0.2	1.6%	0.0

Appendix 7:
Expanded Results for Vehicle Collisions Involving Cyclists and Pedestrians

Indicator	Dataset Year	Gross Number of Collisions							
		Value for TCC Site by Buffer Size				Value for Controls by Buffer Size			
		0ft	50 ft	100 ft	200 ft	0ft	50 ft	100 ft	200 ft
Bicycle Collision at Injury Level 1: Fatal	2018	0	0	0	0	0	0	0	0
	2013	1	1	1	1	2	2	2	2
	% Change	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%
Bicycle Collision at Injury Level 2: Severe Injury	2018	0	0	0	0	0	0	0	0
	2013	0	0	0	0	0	0	0	0
	% Change	None	None	None	None	None	None	None	None
Bicycle Collision at Injury Level 3: Visible Injury	2018	0	0	0	0	0	0	0	0
	2013	2	2	2	2	0	0	0	0
	% Change	-100%	-100%	-100%	-100%	None	None	None	None
Bicycle Collision at Injury Level 4: Complaint of Pain	2018	0	0	0	0	0	1	1	1
	2013	1	1	1	1	1	2	2	2
	% Change	-100%	-100%	-100%	-100%	-100%	-50%	-50%	-50%
Pedestrian Collision at Injury Level 1: Fatal	2018	1	1	1	1	4	4	4	4
	2013	2	3	3	3	1	1	1	1
	% Change	-50%	-67%	-67%	-67%	+300%	+300%	+300%	+300%
Pedestrian Collision at Injury Level 2: Severe Injury	2018	0	0	0	0	1	1	1	1
	2013	0	1	1	1	0	0	2	2
	% Change	None	-100%	-100%	-100%	>+100%	>+100%	-50%	-50%
Pedestrian Collision at Injury Level 3: Visible Injury	2018	0	0	0	0	1	2	2	2
	2013	1	1	1	1	3	3	3	3
	% Change	-100%	-100%	-100%	-100%	-67%	-33%	-33%	-33%
Pedestrian Collision at Injury Level 4: Complaint of Pain	2018	0	0	0	1	0	0	0	0
	2013	2	2	2	2	2	2	2	2
	% Change	-100%	-100%	-100%	-50%	-100%	-100%	-100%	-100%