GREEN TOGETHER

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

UCLA Luskin Center for Innovation

Acknowledgments

Prepared by the UCLA Luskin Center for Innovation
Principal Investigator: J.R. DeShazo, Ph.D.
Researchers: Silvia R. González, Elena Hernández, Jason Karpman, and Bo Liu
Editors: Colleen Callahan and Michelle Einstein

Prepared for
California Strategic Growth Council (SGC) (Contract Number: SGC19118)

Report Period
Green Together award date (December 2018) through month two of implementation (June 2020)

Acknowledgments
We thank SGC for commissioning the UCLA Luskin Center for Innovation to conduct a third-party evaluation of Transformative Climate Communities Program (TCC) investments in Northeast San Fernando Valley. In particular, we thank Louise Bedsworth, Alexandra Gallo, Sandra Lupien, Saharnaz Mirzazad, Gerard Rivero, and Sophie Young for their commitment to our work, and for their attention to our many informational requests.

Along with SGC, we would also like to extend our gratitude to our partners at the California Department of Conservation — namely, Brendan Pipkin, Elizabeth Hessom, and Sydney Mathis—for reviewing the accuracy of TCC background information provided in this report.

In addition to our state partners, we'd also like to thank the Green Together network for entrusting the evaluation of their initiative to the UCLA Luskin Center and its staff. In particular, Jasmine Silva, Dora Armenta, Robin Mark, Veronica Padilla, Judy Harper, and Melissa Guerrero. Moreover, a big thank you to all of the Green Together project partners for sharing so much primary data with the evaluation team, as well as reviewing the content within this report for accuracy.

This report would also not have been possible without the support of a team of skilled student and staff researchers who helped with data collection, analysis, writing, editing, and document design. Specifically, we would like to recognize Deanna Cunningham and Britta McOmber for their data and GIS contributions to this document. We owe a great deal of gratitude to Nick Cuccia and Christian Zarate for layout and design, and Amalia Merino for research support.

We would also like to thank Bruce Mirken, Alvaro Sanchez, and Emi Wang at the Greenlining Institute for their thoughtful input on how to structure the content contained in Luskin Center-led TCC evaluation reports across all sites and rounds.

Finally and importantly, as a land grant institution, the authors also acknowledge the Gabrielino and Tongva peoples as the traditional land caretakers of Tovaangar (Los Angeles basin, Southern Channel Islands), and recognize that their displacement has enabled the flourishing of UCLA.

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

For More Information
www.innovation.luskin.ucla.edu

Cover image: Bradley Green Alley & Plaza Renovation, one of Green Together's projects (Photo credit: Joe Sorrentino, TPL)

© May 20, 2021 by the Regents of the University of California, Los Angeles. All rights reserved.

Correction
An earlier version of this report contained incorrect estimates for travel cost savings for residents who shift their travel modes and energy cost savings for solar and street tree beneficiaries on page 9.

UCLA Luskin Center for Innovation

CALIFORNIA STRATEGIC GROWTH COUNCIL

Table of Contents

EXECUTIVE SUMMARY

Green Together's community leaders at the Pacoima Community Center, December 2017. Photo credit: Pacoima Beautiful

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

The California Strategic Growth Council (SGC) serves as the lead administrator of TCC. Through a competitive process, SGC awarded multimillion dollar grants in three rounds of awards. The UCLA Luskin Center for Innovation (LCI) serves as the lead evaluator for all three Round 1 sites, one Round 2 site (Northeast San Fernando Valley), and one Round 3 site (Stockton). LCI researchers are working with the these communities to document their progress and evaluate the impacts of TCC investments. See the Background section for a list of all TCC sites.

This report 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 the Northeast San Fernando Valley Green Together project area.[1] This specific report documents progress through the end of FY 2019-'20, which overlaps with about 18 months of program implementation for leveraged projects (December 2018 – June 2020), almost two months of implementation for funded projects (May 2020 – June 2020), and the first four months of the COVID-19 pandemic in 2020. Leveraged projects were allowed to begin when the grant was awarded; funded projects could begin at the time of grant execution. Project partners' responses to the pandemic are highlighted throughout the report.[1]

Key Accomplishments*

- **Laid the foundation for grant success by refining project scopes and finalizing evaluation protocols;**
- **Executed grant agreement (May 2020) and kicked off funded project implementation;**
- **Established partnerships and a governance structure to ensure meaningful community engagement and accountability;**
- **Kicked off community outreach and engagement;**
- **Launched all six leveraged projects and displacement avoidance plan.**

*From award date (Dec. 2018) through the end of FY 2019-'20 (June 2020)

[1] **For annual reports that document TCC investments evaluated by UCLA Luskin, visit https://innovation.luskin.ucla.edu/climate/climate-investments/**

Rendering of Bradley Green Alley as envisioned in 2015, which laid the groundwork for further revitalization through TCC leveraged funds. Photo credit: LAMas

The Northeast Valley Today

Located in the Northeast San Fernando Valley (NE Valley) in the City of Los Angeles, the Green Together project area includes part of the Pacoima and Sun Valley neighborhoods. The area is a vibrant, predominantly Latino immigrant community situated under the flight path of Whiteman Airport, at the intersection of multiple freeways, transportation corridors, and other industries that are a significant source of noise, greenhouse gas (GHG) emissions, and air pollution. Despite decades of local grassroots activism to address community needs, residents continue to face many economic and health challenges, including high pollution burden, high rates of poverty and obesity, and early stages of residential and commercial gentrification. Climate change could exacerbate these challenges.

Green Together

The roots for TCC in the NE Valley were laid in 2007, when a coalition of community residents, public agencies, and environmental groups worked to develop a collaborative process to reimagine a four-mile stretch of Pacoima Wash, a concrete channelized tributary of the Los Angeles River. Led by Pacoima Beautiful, the only environmental justice organization in the NE Valley, they held public workshops to collaboratively select projects to address key issues identified by the community. These efforts culminated with the 2011 the Pacoima Wash Vision Plan. Revitalization of the wash began in 2015 through the Pacoima Urban Greening Vision Plan with a grant from the SGC. The partnerships and goals borne out of these plans, as well as Pacoima Beautiful's 20 years of grassroots organizing, laid the groundwork for Green Together's TCC proposal.

In late 2018, Green Together was selected by SGC for a TCC grant of $23 million to bring to fruition their vision of a "neighborhood that is safe, green, socially inclusive and resilient to climate change." Green Together also committed to leveraging at least $38.7 million in outside funds to bring their vision to fruition. Along with previously funded sites, Green Together will serve as one of the first five 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

Green Together includes a total of 12 projects, three of which are fully funded by TCC dollars, six funded by leveraged dollars, and three funded projects that include leverage funds to meet grant requirements. The TCC funded and leveraged projects work synergistically to achieve the broad goals of TCC. The funded projects are consolidated into six distinct project types (summarized below). The funded and leveraged projects are mapped in Figure 1 (where applicable):

TCC Funded Projects

Active Transportation — Funds two distinct projects focused on pedestrian improvements and creating four mobility hubs. Street enhancements include 900 feet of new sidewalks, five new way-finding signs, 10 ADA ramps, 10 bicycle sharrows, and three high-visibility crosswalks each on Herrick Avenue and Haddon Avenue. The mobility hubs include bike share infrastructure, bike parking, seating, way-finding signage and public art. These projects will reduce car travel by making alternative mobility options safer and more convenient.

Transit Operations — Leverages TCC funds and other public dollars to electrify the DASH bus fleet that travels through the project area, with 14 new battery-electric buses and seven electric chargers. It couples these investments with increases in the frequency of bus service with a new E-DASH route. The investment is aimed at improving transit ridership and reducing vehicle miles traveled with transit routes that better respond to the community's needs.

Low Carbon Transportation — Implements EV charging infrastructure and air quality monitoring at the four mobility hubs described above. 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 — Leverages TCC funds and private dollars to install approximately 669 kilowatts of solar photovoltaic systems on 175 single-family homes in the project area. The project will enhance local generation of renewable energy and lower energy costs for property owners. The installation project is also part of the workforce development plan training activities that will create a pipeline of future local jobs and a thriving solar workforce in the Northeast Valley.

Urban Greening — Community driven design process and renovation of the existing 6.8-acre David M. Gonzalez Park. Project renovations include 95 shade trees, over an acre of new stormwater management landscapes, including drought-tolerant vegetation, stormwater capture, and a learning garden with native plants and bioswales, and new walking paths. The project will result in the sequestration of carbon through maturing trees and provide shading benefits.

Urban and Community Forestry — Leverages TCC funds and other public funds to plant and maintain 2,000 new trees, focusing on shade for commercial and residential properties to reduce AC usage. 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.

Leveraged Projects

Cool Roof Retrofits — Leverages funds to install 35 cool roofs on residential homes in the project area. The project will reduce interior temperatures during periods of extreme heat. Similar to the rooftop solar project, cool roof retrofits will lower energy and utility costs for property owners.

Community Resiliency Center — Leverages local public funds to develop community resiliency infrastructure by renovating David M. Gonzales Recreation Center with a 40kW solar photovoltaic system and approximately 40kW of energy storage, and two to four electric vehicle service equipment charging stations.

Bradley Green Alley and Plaza Renovation — Transforms 0.67 acres of alley and plaza space near a main commercial corridor and public housing with 800 feet of alley and street improvement, street lights, seating, shade, 1000 vines and shrubs, 46 trees, and a stormwater capture system to infiltrate up to five acre feet of water annually. The project supports multimodal travel in the area, and supplements water supply efforts for the City of Los Angeles.

East San Fernando Valley Transit Corridor — Leverages partnership with LA Metro and provides light rail transit service that will pass through the project area. Three stops are planned for the area. Project components include design documents, community engagement, and first/last mile station area plans.

Fernangeles Park Stormwater Capture — Leverages partnership with public agencies to install a 1.6-acre underground infiltration gallery in the existing Fernangeles Park. Features include a catch basin as well as bioswales and park improvements. The project will supplement local water supplies.

Green Streets — Funds the installation of green stormwater infrastructure design and construction in partnership with public agencies. Project features include bioswales, dry wells, curb inlets, vegetation, and tree planting in various parts of the project area. The project supports regional efforts to capture and infiltrate water and ensure the Los Angeles region has a source of local water supply.

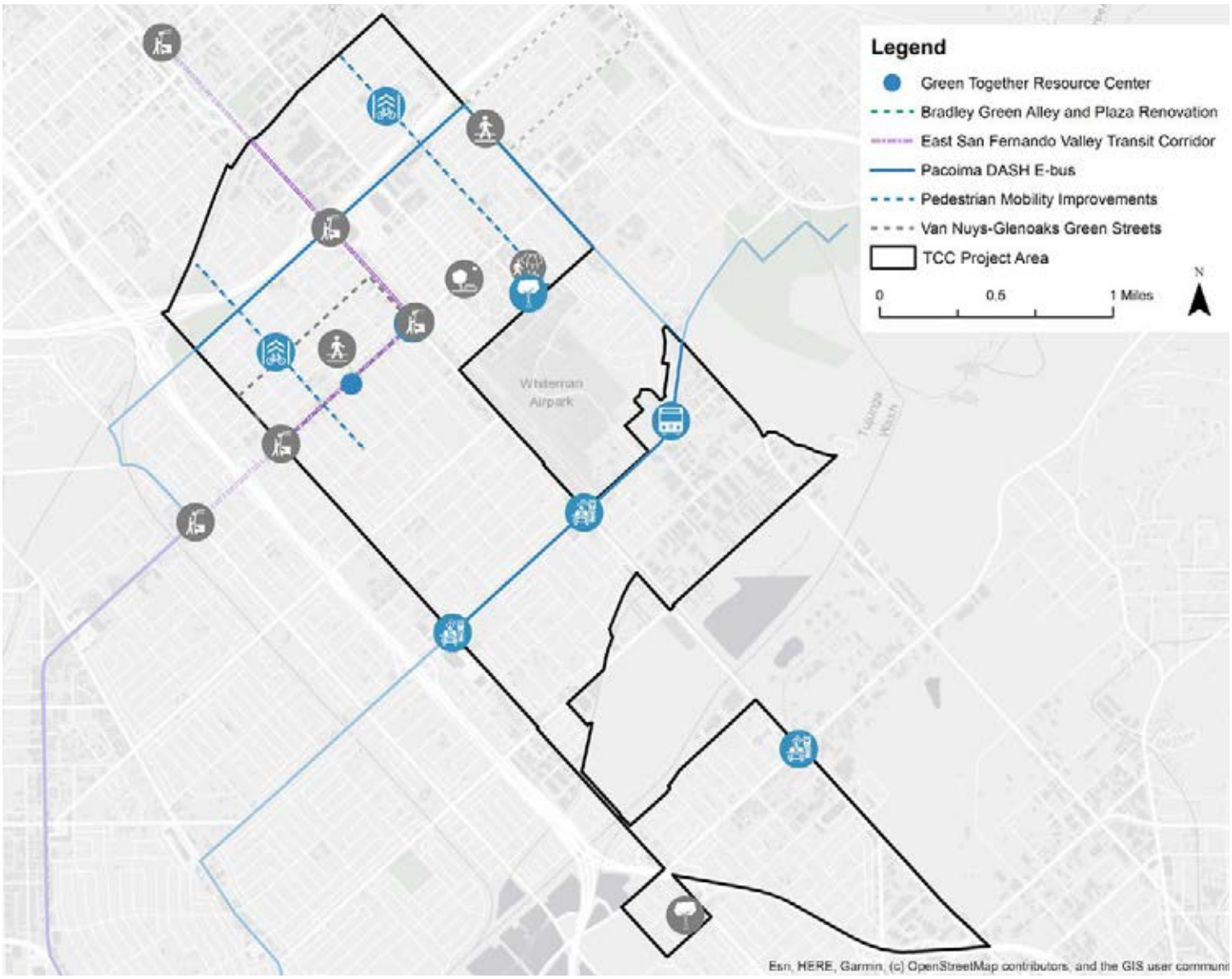
Transformative Plans

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 (CEP), workforce development plan (WDP), and displacement avoidance plan (DAP).

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

Community Engagement Plan	Workforce Development Plan	Displacement Avoidance Plan
» Continue to build civic engagement and foster the next generation of community leaders by engaging youth and residents through each project.	» Connect youth and residents with training and educational opportunities that provide them with new skills in solar, construction and urban forestry.	» Incentivize locally relevant affordable housing by understanding barriers and potential solutions to building accessory dwelling units and a community land trust.
» Institutionalize opportunities for residents to participate in the planning and governance of TCC implementation.	» Place residents in employment opportunities on TCC and leveraged projects.	» Protect tenure of existing residents.
	» Creates the Green Together Resource Center, a hub for WDP activities.	» Retain local small business and local artist development.

Figure 1. Project Area Map With Locations of Projects*



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

Anticipated Benefits

Green Together is slated to bring a number of benefits to residents of the TCC project area. The infographic below highlights a partial list of these benefits, grouped by indicator type. This list 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 Green Together will deliver by the end of project implementation. These outputs are expected to result in many positive outcomes and impacts. Outcomes refer to changes in stakeholder knowledge, attitudes, skills, behaviors, practices, or decisions, while impacts refer to changes in the environmental or human conditions that align with the objectives and goals of TCC.

Harder to quantify, but nevertheless important, is the leadership and collaboration capacity that will be created in the NE Valley 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 the NE Valley. In addition, lessons learned and best practices from Green Together TCC could inform local climate action and investments well beyond Pacoima and Sun Valley.

TCC Funded Project Outputs[2]

- **4** mobility hubs with bike and pedestrian infrastructure
- **2,095** minimum new trees to provide shade for buildings, sidewalks
- **4** electric vehicle charging stations
- **1** new bus route serving community needs
- **14** new fully electric buses
- **3** public art murals with solar reflective paint
- **900** feet of sidewalk construction and new design improvements
- **50** youth paid internships in urban forestry and brownfield remediation
- **669** kW of solar power on single-family homes

TCC Funded Project Outcomes and Impacts

- **32,607** metric tons (MT) of avoided GHG emissions (in CO2e)
- **$1,180,332** in travel cost savings for residents who shift their travel modes
- **9,222,827** gallons in avoided stormwater runoff
- **18,172,998** miles averted travel in passenger vehicles
- **$4,205,254** in energy cost savings for solar and street tree beneficiaries
- **95** direct jobs
  33 indirect jobs, and
  56 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) for one year of work (approximately 2,000 hours).

Accomplishments to Date

Much has happened following SGC's announcement of Green Together's TCC award in December 2018. From then through the close of the 2019-'20 fiscal year (June 30, 2020), project partners have developed grant administration processes, refined work plans, built 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 2019 – May 2020)

Laying the Foundation for Grant Success

In December 2018, SGC announced that Green Together was awarded a Round 2 TCC grant. This kicked off a process known as post-award consultation in which SGC and the project partners participated in a comprehensive review of all projects and transformative plans to ensure that they comply with TCC guidelines, and more broadly that the foundation is laid to maximize implementation success, including a sound evaluation plan for tracking the outputs and outcomes from each project and transformative plan. The process involved refining the scope and modifying the budget of several projects compared to what was originally submitted in the Green Together proposal. The post-award consultation process led to the following notable outcomes:

- Launched all leveraged projects, including environmental, design, and construction processes for infrastructure projects;
- Completed the procurement for 14 new electric buses;
- Launched community and youth engagement activities for leveraged projects and displacement avoidance plan;
- Made adjustments to the scope and budget of two projects;
- Established Green Together Steering Committee with at least one representative for each funded and leveraged project; and
- Conducted feasibility study for a community land trust to increase locally relevant housing options.

Post-Grant Execution (May 2020 – June 2020)

Kicking Off Implementation

Green Together executed its grant agreement with SGC on May 14, 2020, a date that marks the end of post-award consultation and the beginning of program implementation. Given the timing of grant execution, this first report overlaps only about one month 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 for TCC-funded projects include the following:

- Four funded projects have met SGC's full readiness requirements to start spending funds on building infrastructure and rolling out services;
- Two funded projects met partial readiness requirements and have allowable preconstruction, community engagement, and other predevelopment activities;
- Hired a Green Together network coordinator.

Establishing Partnerships and a Governance Structure

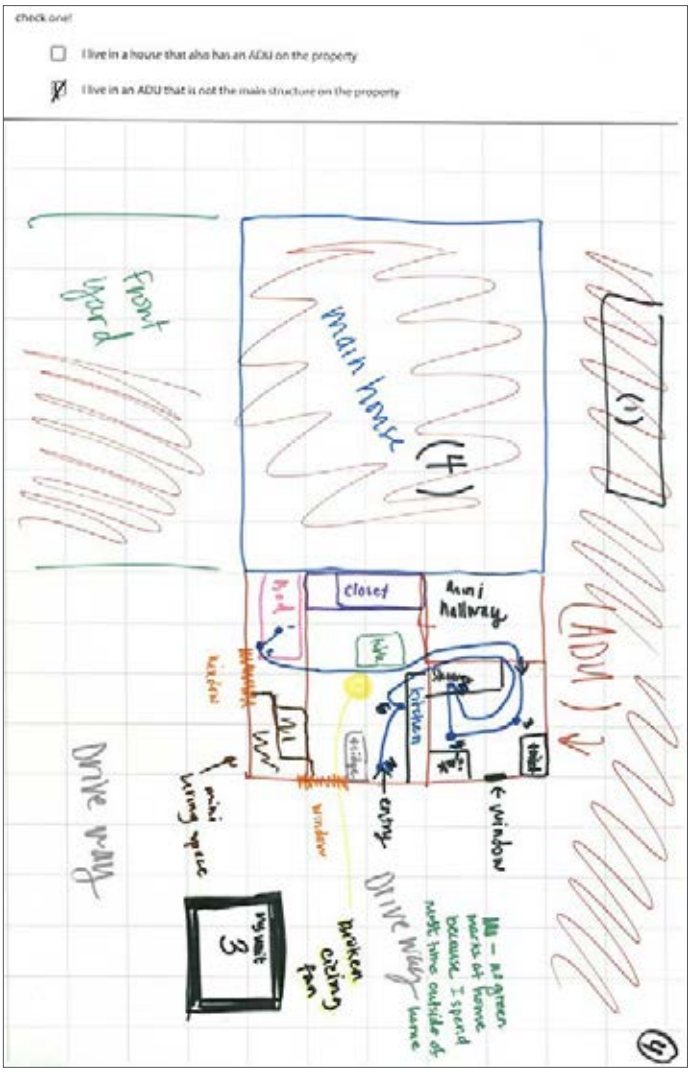
Green Together has also formed a number of partnerships in the community to facilitate TCC implementation. Many of these community partnerships were formed prior to the TCC application process and were strengthened during the process. These partnerships have been institutionalized in three forms:

- A Steering Committee comprising 11 organizational partners that will implement Green Together (see Appendix 3 for a complete list of members);
- An 11 member publicly elected Leadership Council that will provide feedback on key decisions to the Steering Committee, and will comprise two residents,two business leaders, two local nonprofits, two anchor institutions, two community leaders, and one local elected official;
- An Displacement Avoidance Advisory Committee made up of representatives from various government agencies and elected officials, experts on the topic, local business and community members;

Leveraging and Expanding Community Engagement Efforts

Planning for outreach and community engagement efforts commenced both sitewide and at the project level. Green Together's strategy for community engagement leverages much of the existing programming offered through Pacoima Beautiful and will include:

- Presentation of TCC activities at existing community meetings such as school parent centers, neighborhood council meetings, and monthly member meetings;
- Cultural and linguistically appropriate outreach activities, such as learning activities, focus groups, surveys, door-to-door canvasing, home "charlas" (talks).



Community engagement with youth to inform Displacement Avoidance Plan strategies, June 2019. **Photo credit: Cate Carlson, Thomson Dryjanski and Michael Peterson, UCLA**

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 Green Together initiative, this report characterizes baseline conditions in the TCC project boundary area and a set of similar, but nonadjacent census tracts that did not receive a TCC award before the rollout of Green Together. In addition to looking at baseline conditions in the TCC sites and control tracts, this report includes baseline conditions at the scale of Los Angeles County and the state of California 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]

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 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 and more reliant on electrical heating appliances. The former trend was statistically significant but the latter trend was not. With respect to solar PV installations, there appears to be a disparity in solar PV adoption among Green Together TCC residents relative to the rest of the county and state (the

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

adoption rate in the TCC project area is less than half that of the state).

Environment

Like energy indicators, there is a limited set of environmental indicators that can be tracked at the neighborhood scale from secondary sources. Thus, many of the environmental effects of TCC must be measured directly. During baseline data collection, the TCC evaluation team used land use data to classify the TCC project boundary area by land type. Based on the most recent set of available data from the California Protected Areas Database, it appears that the TCC project area has a very low percentage of open space (1.4%) relative to Los Angeles County (27.8%) and the World Health Organization's recommended open access thresholds.

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 available at appropriate temporal and geographic scales: 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. Bicycle collisions decreased 25% from 2014 to 2019 where the most level of injury was level 4: complaint of pain. Pedestrian collisions, on the contrary, increased about 23% from 2014 to 2019, with the most cases under level 3 injury: visible injury at time of collision.

Housing

Statistically significant housing trends in the TCC project area include a decrease in renter occupants, similar to state trends. Homeownership, on the contrary, had an increase according to the ACS. Spending over 50% of income on rent or mortgage decreased for both renters and homeowners. Similarly, homeowners indicated an increase in having more than one occupant per room, which should be of importance due to the rise of overcrowded housing in urbanized areas.

Transportation

Across Los Angeles County and California, there has been a decrease in modes of transportation by foot, bike, transit, and carpool. Despite this, modes of transport by car increased in both the county and state. Similar trends occurred for the TCC project area with a decrease in most modes of transportation — bike, carpool, and transit — with an exception of car and foot, which increased.

Demographics

The population in the Green Together TCC project area is growing overall, a trend similar to Los Angeles County and California. In terms of race/ethnicity distribution, we noted that there is a slight increase in Hispanic, non-Hispanic other groups and non-Hispanic white populations. On the other hand, there was a statistically significant decrease in non-Hispanic black population for the TCC project area, Los Angeles County, and California. The non-Hispanic Asian population decreased for the TCC Project area; however, trends for the county and state differ. For foreign-born population, the trend is an increase for the TCC project area whereas a decrease in trend for the county and state.

Economy

Economic conditions in the TCC project area in the NE San Fernando Valley appear to be following the county and state, with median household income increasing significantly. High income attainment, employment rate, and percent with a bachelor's degree or higher also followed an increasing trend. Percent of education less than a high school degree has decreased and poverty rates have decreased for all three geographies as well.

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

Indicator	Growth Rate from 2014 to 2019			
	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Total population	+1.0%	+3.8%	+1.1%	+3.1%
% Hispanic, all races	+1.0%	-1.0%	+0.7%	+2.1%
% Non-Hispanic, Asian	-35.8%	-0.9%	+4.5%	+6.9%
% Non-Hispanic, Black	-20.2%	+1.4%	-2.5%	-2.6%
% Non-Hispanic, White	+9.6%	+7.1%	-3.6%	-5.3%
% Non-Hispanic, other groups	+238.3%	+516.8%	+29.3%	+15.6%
% Foreign born	+1.6%	-6.3%	-2.6%	-0.7%
Median household income	+26.1%	+29.9%	+21.8%	+18.3%
% living below poverty	-17.3%	-27.2%	-18.9%	-22.6%
% high income ($125k+)	+112.4%	+106.0%	+35.9%	+27.1%
% employed within civilian labor force	+10.9%	+7.6%	+5.6%	+5.1%
% with less than high school education	-4.2%	-11.3%	-10.0%	-9.8%
% with bachelor's degree or higher	+8.5%	+25.6%	+8.8%	+9.4%
% renters**	-10.4%	-1.7%	+1.1%	-0.2%
% homeowners**	+10.7%	3.1%	-1.2%	0.2%
% renters paying ≥50% of income on rent**	-7.6%	-19.5%	-6.4%	-7.1%
% homeowners paying ≥50% of income on mortgage**	-23.0%	-32.3%	-20.3%	-27.1%
% of renters with more than one occupant per room**	-3.8%	-4.1%	-5.0%	+0.6%
% of homeowners with more than one occupant per room**	+7.9%	-4.4%	-6.0%	+0.0%
% of renters in same house 1 year ago**	-5.6%	+2.7%	+378.2%	+6.1%
% of homeowners in same house 1 year ago**	+16.6%	+5.6%	+282.5%	+0.6%
% commuting to work by car (alone)	+4.0%	+9.0%	+2.0%	+0.6%
% commuting to work by carpool	-18.5%	-15.8%	-8.1%	-9.6%
% commuting to work by transit	-8.7%	-25.9%	-17.2%	-2.4%
% commuting to work by bike	-65.5%	-27.5%	-12.8%	-16.2%
% commuting to work by foot	40.7%	-23.3%	-5.7%	-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).
**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 2010-2014 and 2015-2019 . 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 2015-2019 samples; and (3) the margins of error for each estimate.

BACKGROUND

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

The Vision Behind TCC

The Transformative Climate Communities Program (TCC) was authorized in 2016 by Assembly Bill 2722 (authored by Assembly member Autumn Burke). The bill's intent is to fund the development and implementation of neighborhood-level transformative climate community plans that include multiple coordinated greenhouse gas (GHG) emissions 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) its 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.

[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 toward the development of a shared vision of how to invest TCC funds. The program's emphasis on comprehensive community engagement helps ensure that proposals are based on a deep understanding of a community's needs and assets, thereby maximizing the benefits that TCC dollars bring to existing residents in a selected site.

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

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

Program Administration

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

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

Program Awards

Since the launch of the program in 2016, there have been three 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. Lastly, for Round 3, which was tied to FY 2019-2020 funding, a total of $48 million was allocated to implementation grants and a total of $0.6 million was allocated planning grants. Table 2 provides an overview of the implementation and planning grants that have been distributed through FY 2019-2020.

Table 2: Overview of TCC Implementation and Planning Grants Through FY 2019-2020

Site Location	Round (Fiscal Year)	Grant Type	Funding Amount
Fresno	Round 1 (FY 2016-2017)	Implementation	$66.5 million
Ontario	Round 1 (FY 2016-2017)	Implementation	$33.25 million
Los Angeles - Watts	Round 1 (FY 2016-2017)	Implementation	$33.25 million
Coachella Valley	Round 1 (FY 2016-2017)	Planning	$170k
East Los Angeles	Round 1 (FY 2016-2017)	Planning	$170k
East Oakland	Round 1 (FY 2016-2017)	Planning	$170k
Gateway Cities	Round 1 (FY 2016-2017)	Planning	$170k
Moreno Valley	Round 1 (FY 2016-2017)	Planning	$94k
Richmond	Round 1 (FY 2016-2017)	Planning	$170k
Riverside	Round 1 (FY 2016-2017)	Planning	$170k
Sacramento - Franklin	Round 1 (FY 2016-2017)	Planning	$170k
Stockton	Round 1 (FY 2016-2017)	Planning	$170k
West Oakland	Round 1 (FY 2016-2017)	Planning	$170k
Los Angeles - NE Valley	Round 2 (FY 2018-2019)	Implementation	$23 million
Sacramento - River District	Round 2 (FY 2018-2019)	Implementation	$23 million
Bakersfield	Round 2 (FY 2018-2019)	Planning	$200k
Indio	Round 2 (FY 2018-2019)	Planning	$200k
McFarland	Round 2 (FY 2018-2019)	Planning	$200k
South Los Angeles	Round 2 (FY 2018-2019)	Planning	$200k
Tulare County	Round 2 (FY 2018-2019)	Planning	$200k
East Oakland	Round 3 (FY 2019-2020)	Implementation	$28.2 million
Riverside	Round 3 (FY 2019-2020)	Implementation	$9.1 million
Stockton	Round 3 (FY 2019-2020)	Implementation	$10.8 million
Pomona	Round 3 (FY 2019-2020)	Planning	$200k
Porterville	Round 3 (FY 2019-2020)	Planning	$200k
San Diego - Barrio Logan/Logan Heights	Round 3 (FY 2019-2020)	Planning	$200k

Construction at Bradley Green Alley and Plaza, which will receive a number of improvements as a result of a leveraged project. Photo credit: The Trust for Public Land, April 2020.

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. UCLA was selected by the Green Together network as the evaluator for their project.

Evaluation plans for Green Together closely follow the evaluation plan from Round 1. The Green Together evaluation plan was modified, where needed, in consultation with the project partners. To qualify for TCC funding, TCC applicants had to identify performance indicators associated with each proposed project type and transformative plan.

The UCLA 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 TCC grantees and co-applicants
- **Outputs:** The products and services that TCC projects produce and deliver
- **Short-term Outcomes:** Changes in stakeholder's knowledge, attitude, and skills
- **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

[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

The latter four steps in the framework described above were treated as performance indicators that could be quantified and tracked for the purposes of program evaluation. The Round 2 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 will be partially split among the UCLA evaluation team and the grantees over a five-year period (2019-2024). In general, all output related indicators will be tracked by the grantees, while most outcome and impact related indicators will be tracked by the UCLA 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 seven-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 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 direction of impact indicators.

Methods for Evaluating TCC

The TCC Evaluation Plan includes two different modes of comparison. First, the UCLA evaluation team will measure changes in indicators in the TCC sites before and after the influx of TCC investment (before and after comparison). When possible, the evaluation team will construct a five-year pre-investment trend line prior to implementation kickoff (2015-2019) and following kickoff (2019-2023). Second, the UCLA 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 evaluation team is also looking 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.). Improvements in these indicators, however, do not necessarily correspond to improved social equity. If, for example, employment slightly increases within the TCC sites, but a much greater increase is observed regionally, then the economic gap between TCC sites and nearby communities has not been fully addressed.

In summary, the UCLA evaluation team will collect 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% area overlap with the TCC project boundary area will be used for indicator tracking purposes instead of the actual project boundary. This is the case for all indicators that rely on American Community Survey (ACS) data, which cannot reliably be apportioned to fit the actual TCC project boundary area. See Appendix 2 for a list of census tracts that will be used as a proxy for Green Together'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 3 for a list of census tracts that will be used as control sites for evaluating the impacts of TCC investment in the NE San Fernando Valley.
- **County:** The county in which TCC sites are situated (San Bernardino 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.

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

[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 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 of 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 cannot 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 2020

During the first year of program announcement and implementation, the UCLA 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 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 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 2025. 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 evaluation team will begin collecting qualitative data about the rollout of the grantees' three transformative plans: the community engagement plan (CEP), displacement avoidance plan (DAP), and workforce development plan (WDP). 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 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 evaluation team 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 evaluation will examine early impacts of TCC.

[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

Pacoima Beautiful youth art welcomes SGC at site tour required for application (November 2018). Photo credit: Pacoima Beautiful

Green Together: Looking Back and Forward

The NE Valley has been the focus of intense planning and pilot projects, and has a history of grassroots community organizing since the mid-1990s, particularly in the Pacoima neighborhood. The area experienced gang conflict that surged in the 1980s. Unprecedented levels of community activism, led by education, faith, and community leaders, arose to counter the longtime war on the streets. From these efforts, five mothers who wanted to improve the community through beautification projects formed Pacoima Beautiful in 1996. Pacoima Beautiful is now a trusted partner in the community, with over 10,000 members, and continues to be the only environmental justice organization in the NE Valley. Pacoima Beautiful is the lead organization behind Green Together Network. In the past decade, Pacoima Beautiful has partnered with residents, public agencies, and other groups in the Green Together Network to successfully plan and implement several major place-based initiatives to beautify NE Valley.

The work specific to Green Together began in 2007 when Pacoima Beautiful led a coalition of community residents, public agencies, and environmentalists to reimagine the Pacoima Wash as a vital community asset. A reinvisioned Pacoima Wash included improved wildlife habitats and providing access to new recreational amenities to create a healthier, more sustainable community. These efforts lead to the development of the 2011 Pacoima Wash Vision Plan funded through the Los Angeles County Department of Public Health by a competitive grant in 2008. The development of the plan included an extensive, multifaceted outreach effort that received input from a diverse group of NE Valley residents that live or work near the Pacoima Wash. Community engagement efforts included multiple focus groups, door-to-door knocking, and a mobile charette that gave participants the opportunity to walk alongside the Pacoima Wash, which is normally restricted to the public. Further visioning of the wash began in 2015 through the Pacoima Urban Greening Vision Plan with grants from the State's Strategic Growth Council (SGC) and the Santa Monica Mountains Conservancy in partnership with Kounkuey Design Initiative (KDI).

The result of these engagement efforts led to a suite of projects and plans developed for the TCC project based on community priorities identified through Pacoima Beautiful's decades of organizing. The projects and plans are aimed at reducing GHGs while also providing local environmental, health, and economic co-benefits for residents of the NE Valley. Per the TCC guidelines for applicants, the Green Together proposal included 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. As a place-based initiative, Green Together proposed concentrating TCC dollars in a 4.86-square-mile area of the NE Valley that includes central Pacoima and northern Sun Valley.

After its second attempt to receive TCC funding, in December 2018, Green Together was selected through a competitive grant process by SGC for a grant of $23 million to bring

their vision to fruition. Green Together will also leverage at least $38.7 million in outside funds toward this vision. The TCC award not only brings a significant influx of financial resources to the community but it also reinforces the cross-sector partnerships that were built before and during the TCC application process. Table 3 provides a summary of the Green Together projects, plans, and partners involved with implementation. Appendix 1 provides a detailed map of where the TCC and leveraged projects are located within the TCC boundary area.

The next three sections of this report provide summary profiles on the various transformative plans, TCC funded projects, and leveraged projects that make up Green Together. 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 following the announcement of Green Together's award through the end of FY 2019-2020. This period overlaps roughly with about one year of post-award consultation and one month of program implementation.

Table 3: Summary of Green Together Projects and Plans

Project/Plan Type	Project/Plan Name	Partners	TCC Funding	Leveraged Funding
Community Engagement Plan	N/A	Pacoima Beautiful	$1,930,002	$0
	Multi-Family Feed-in Tariff Program	Los Angeles Business Council	$429,000	$0
Displacement Avoidance Plan	N/A	Pacoima Beautiful	$0	$305,706
Workforce Development Plan	N/A	GRID Alternatives	$686,820	$0
Active Transportation	Pedestrian Mobility Improvements	The Trust for Public Land	$3,822,067	$0
Transit Operations	Pacoima DASH E-Bus	Los Angeles Department of Transportation	$2,513,000	$9,912,000
Low Carbon Transportation	Electric Vehicle Charging Stations	The Trust for Public Land	$459,173	$0
Rooftop Solar	Single-Family Solar Photovoltaic Installations	GRID Alternatives	$4,702,495	$111,350
Urban Greening	David M. Gonzales Park Renovation	The Trust for Public Land	$2,269,939	$0
Urban and Community Forestry	Street Tree Planting	Los Angeles Conservation Corps	$2,895,311	$175,000
Leveraged Projects	Cool Roof Retrofits	GRID Alternatives	$271,993	$0
	Community Resiliency Center	GRID Alternatives	$271,660	$0
	Bradley Green Alley and Plaza Renovation	Trust for Public Land and Los Angeles Bureau of Sanitation	$2,389,781	$0
	East San Fernando Valley Transit Corridor	Los Angeles Metropolitan Transportation Agency	$13,160,646	$0
	Fernangeles Park Stormwater Capture	Los Angeles Department of Water and Power	$8,426,000	$0
	Green Streets	Los Angeles Bureau of Sanitation	$3,665,000	$0
Total**			**$19,992,809**	**$38,689,136**

*Project lead

**TCC funding total does not include additional grant money provided for grant administration and other related activities to Community Partners ($2,532,190.95), and required budget for indicator tracking and technical assistance ($475,000 for a seven-year period) between the Grantee and University of California, Luskin Center for Innovation).

PROFILES:

TRANSFORMATIVE PLANS

The Green Together Network partners at SGC's hearing announcing Round 2 grantees, December 2018. Photo credit: SGC

THE COUPLING OF TRANSFORMATIVE PLANS alongside GHG reduction projects is one of the central elements of the TCC that separates it from all other California Climate Investments. For Round 2 of TCC, applicants were required to develop three transformative plans: a community engagement plan, workforce development plan, and displacement avoidance plan. Together, these three plans are designed to ensure that TCC investments reflect the community's vision and goals, bring economic opportunities to disadvantaged and low-income communities, and minimize the risk of gentrification and displacement of existing residents and businesses. Applicants were provided a menu of strategies for developing their plans and encouraged to choose those that spoke to the site's priorities and strengths. The following section provides an overview of how Green Together structured its three transformative plans and the progress has been made toward plan implementation.

Community Engagement Plan

Residents discuss the East San Fernando Transit Corridor leveraged project at Pacoima Beautiful monthly community meeting, March 2020. Photo credit: Pacoima Beautiful

NORTHEAST SAN FERNANDO VALLEY YOUTH, RESIDENTS, AND BUSINESSES are involved in the planning, implementation, and governance of Green Together and the initiative's various projects supported by the TCC grant. The Community Engagement Plan (CEP) leverages two decades of community-led planning efforts ushered by Pacoima Beautiful, one of Green Together's lead grantees. The many partnerships formed between Pacoima Beautiful, local nonprofits, project area residents, and business leaders through a variety of planning and visioning efforts that began in 2007, and resulted in the Pacoima Wash Vision Plan and the Pacoima Urban Greening Plan. This represents a decade of meetings, neighborhood canvassing, mobile charettes, site visits, and relationship building specifically to identify, describe, and strategize about the community's needs to inform future planning efforts such as TCC Green Together. Pacoima Beautiful will collaborate closely with Green Together partners to lead engagement efforts across all projects and the transformative plans. The new Green Together Resource Center and a new website will serve as the hubs of information and activity encompassing all aspects of the TCC project. The Green Together CEP has two components, one focused on general engagement for all TCC activities and a second related to climate change education.

Project Details

Start date

May 2020

Anticipated completion date

March 2026

TCC grant funds

$1,930,002

Leveraged funds

$0

General Engagement Strategy

Green Together's general strategy for engagement across all TCC activities draws heavily from the model used by Pacoima Beautiful. This includes a layered approach:

1. Utilize a team of dedicated staff organizers, volunteer community inspectors, and youth organizers to engage and inform stakeholders and residents;
2. Focus outreach on hard-to-reach residents by making meetings ADA accessible, providing Spanish translation, hosting during a range of hours that work best for the community, and offering child care;
3. Facilitate community participation by prioritizing interactive engagement, including charettes, door-to-door knocking, and surveys; and dotmacracy and social media to reach younger residents;
4. Engage residents through traditional public workshops and meetings as well as leverage existing community meetings, including at public school parent centers and the local neighborhood watch, which are often held in residents' houses.

Climate Education Engagement

A second component of Green Together's strategy for engagement is related to education on climate change. This includes two approaches:

1. Community survey data collection and education workshops on air quality and temperature monitoring with faculty experts at two regional universities, UCLA and the University of Southern California (USC);
2. Education on solar technologies, including solarthons and webinars focused on developing a multifamily feed-in tariff program (M-FiT) led by the Los Angeles Business Council.

Governance Model

Green Together has established a collaborative model to provide oversight of implementation of the TCC grant. The governance model includes three components:

1. Green Together Steering Committee is responsible for implementation of all activities. The committee has at least one representative from each funded and leveraged project and has met monthly since March 2019 and is convened by the grantee, Community Partners (see Appendix 3 for a list of partners);
2. Leadership Council will provide input on every aspect of the implementation process. Council members will be selected through a public nomination process. Members will include two neighborhood residents, two local business owners, two nonprofit organizations, two anchor institutions, two community leaders, and a local elected official. The Council will be convened on a quarterly basis by Pacoima Beautiful.
3. Displacement Avoidance Plan (DAP) Committee will comprise two task forces, one focused on housing and another on businesses. The task forces will convene stakeholders, academic experts, elected officials, local government agencies, and residents biannually and convene together as a committee annually.

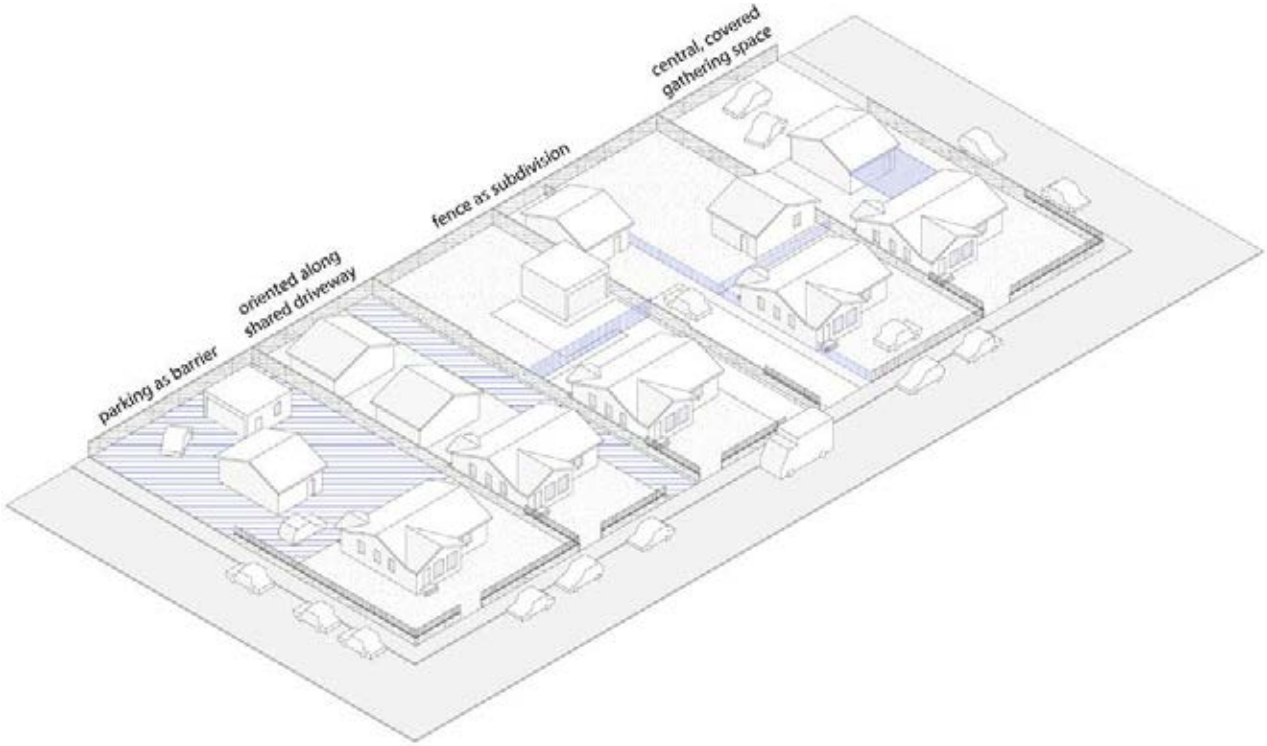
Key Accomplishments Through June 2020

- **Formed the Green Together TCC Steering Committee governance body, which has met monthly since March 2019;**
- **Presented TCC projects at four community meetings, including Pacoima Beautiful's monthly meeting attended by 57 residents to discuss the rail leveraged project;**
- **Knocked on 235 doors and engaged at least 185 adult and youth residents through displacement avoidance outreach activities; and**
- **Hired outreach team and TCC coordinator;**
- **LABC conducted survey, identified nine possible M-FiT project sites.**

Responses to COVID-19

- **All in-person events moved to virtual environments after May 2020 stay-at-home order was issued for residents of Los Angeles County.**

Displacement Avoidance Plan



Types of accessory dwelling units identified by UCLA research in June 2019, highlighting the importance of this culturally relevant affordable housing option in the community. Photo credit: Cate Carlson, Thomson Dryjanski and Michael Peterson, UCLA

GREEN TOGETHER'S DISPLACEMENT AVOIDANCE PLAN (DAP) weaves together a number of strategies toward the dual purpose of protecting and encouraging growth in the supply of culturally relevant affordable housing in the TCC project area, as well as protecting the tenure of residents and small businesses already located in the community. These strategies include extensive community-based research to understand the short- and longer-term needs of local residents and businesses in order to offer targeted workshops, trainings, and other resources. Research from UCLA has identified that the TCC project area is vulnerable to residential and commercial gentrification. The approaches outlined in the DAP are aimed at addressing 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 the Green Together's TCC funded activities will directly cause residential or business displacement as activities will occur within the public right-of-way. However, the East San Fernando Valley Transit Corridor leveraged project will partially or fully acquire a handful of residential and commercial properties in the area. DAP activities will be held at the Green Together Resource Center developed as part of the Workforce Development Plan.

Project Details

Start date

January 2019

Anticipated completion date

March 2026

TCC grant funds

$0

Leveraged funds

$305,706

The Green Together DAP is led by Pacoima Beautiful in consultation with expert economic development consultants, researchers at the UCLA Center for Neighborhood Knowledge, and faculty at the UCLA Department of Urban Planning. The DAP also incorporates extensive community engagement, a train-the-trainer approach to resource delivery, and a stakeholder engagement process through a DAC Advisory Committee. The train-the-trainer model is used by Pacoima Beautiful to build community capacity to advocate for planning and policy change. The DAP Advisory Committee comprises two task forces, one housing and another on businesses, that will inform the Green Together Steering Committee of any displacement pressures related to TCC activities. The Green Together DAP focuses on the displacement avoidance strategies outlined next.

Residential Anti-Displacement

1. To promote the production and protection of affordable housing options, Green Together will conduct a Community Land Trust (CLT) feasibility study to gauge community interest in this form of land tenure;
2. To promote the production and protection of affordable housing options, the DAP includes data gathering activities on the prevalence of accessory dwelling units (ADUs) in the project site to inform the development of a legalization action plan;
3. To help protect the tenure of existing residents, the Green Together will monitor gentrification in the project site, as well as conduct surveys and focus groups to understand tenant/landlord relationships. These activities will inform the design and implementation of culturally relevant tenant protection support services such as legal "charlas" (talks) and tenant rights workshops.

Business Anti-Displacement

To protect small businesses from displacement, Green Together will implement the following three policies in consultation with the DAP Steering Committee Business Task Force:

1. Conduct research to create an inventory of small business development programs available to local businesses as well as door-to-door surveys to understand the needs and challenges facing businesses in the project area;
2. Increase the visibility of small-business assistance programs by hosting annual workshops on financial assistance, state environmental compliance, commercial tenant protection rights, and Metro's business interruption;
3. Support alternative business models through creative capital to further strengthen local artists and the visual voice of the community, the DAP will do the following: a) Identify creative capital, professional development, and technical assistance opportunities for the local artist community; b) develop a weekend technical assistance workshop; c) host technical assistance workshops focused on the business needs of the artist community; d) provide referral support and follow-up to artists who participate in the workshops.

Key Accomplishments Through June 2020

- **Conducted a CLT feasibility study, including land use analysis to identify suitable properties, a review of best practices, and interviews with 16 residents to understand under what circumstances owners would sell or lease land for CLT with ADUs;**
- **Conducted ADU study on prevalence and challenges of owning and living in ADUs, including community survey of 96 residents, one in-depth case study, one focus group with four youth, six interviews with tenants and four financing experts, and 196 visual observations;**
- **Conducted ADU tenant rights study to gauge knowledge about tenant rights, living conditions, and relationships between tenants and landowners by participating in three community meetings and conducting 11 informal focus groups with 21 resident; and**
- **Interviewed seven businesses to understand their needs.**

Responses to COVID-19

- **All in-person events moved to virtual environments after May 2020 stay-at-home order was issued for residents in Los Angeles County.**

Workforce Development Plan

GRID Alternatives solar installation trainees in Los Angeles. Photo credit: GRID Los Angeles

GREEN TOGETHER'S WORKFORCE DEVELOPMENT PLAN (WDP) identified four workforce development program goals for project area and nearby residents: (1) increase social equity and economic opportunities; (2) create high-quality jobs that lead to permanent career pathways; (3) foster inclusive economic development for workers, businesses, and the local economy through a robust business retention and enhancement of the Clean-up Green-up Initiative, a local ordinance aimed at lessening cumulative health impacts from incompatible land uses in communities affected by a concentration of environmental hazards; and (4) support equity and opportunity by engaging with the DAP Business Task Force activities, when appropriate. To achieve these goals, Green together will develop a workforce development program in the project area that connects residents of Pacoima and Sun Valley with a job training and employment opportunities with a clear pathway for high-quality jobs in the green building and solar industries. The skills gained by participants will prepare them for jobs in solar panel installation and energy auditing, as well as provide a foundation for jobs in the manufacturing and recycling sectors.

Project Details

Start date

May 2020

Anticipated completion date

March 2026

TCC grant funds

$686,820

Leveraged funds

$0

Workforce Development Strategy

GRID Alternatives and the Los Angeles Conservation Corps will oversee the suite of workforce development program activities in the project area, with targeted outreach assistance from Pacoima Beautiful. Through this program at least 146 community members will receive training and job placement support through two opportunities:

1. LACC will offer paid work experience on urban forestry projects followed by brownfields remediation job skills training that will result in 50 opportunity youth program participants receiving federal, state, and industry recognized certifications. Youth will receive paid work experience and on-the-job training for TCC funded Street Tree Planting and Pedestrian Mobility projects. .
2. GRID Alternatives will train at least 96 adults residents from the project or nearby area to receive a solar installation basics training, targeting women, veterans, and justice-involved reentry residents. Industry recognized certification will be provided to participants who complete the 12-week, 250-hour program. Participants will receive job training through the TCC funded Single-Family Solar Installations project.

Targeted Recruitment Strategy

GRID's and LACC's targeted recruitment strategy focuses on low-income residents, women, veterans, reentry citizens, youth, and residents who may be impacted by project development. The recruitment strategy benefits from longstanding relationships with community groups, such as Pacoima Beautiful, public agencies that provide referrals, connections with vocational training schools and community colleges, and veteran, youth, and reentry-focused organizations. Between 30% and 40% of youth trainees in LACC's program will be residents from the project area. A minimum of 60% of trainees in GRID's solar training program will be residents from the project area

Strategy for Connecting Residents to Skilled Employment

To ensure that existing workforce programs and new TCC workforce opportunities reach residents of the TCC project area specifically, the WDP will rely on three strategies:

1. Use leveraged funds to create a Green Together Resource Center. The center will be a staffed one-stop shop near a major commercial corridor in Pacoima. It will serve as the hub for residents to learn about training, recruitment, and job opportunities on TCC funded projects.
2. Participants who complete the training will receive tool kits and belts at a completion ceremony, job search support,including leads, resume building, interview coaching, and interview clothes (leveraged) through the Resiliency Center.
3. Program completers will be connected with partner employers through hiring days and two career fairs organized by GRID, as well as the local Work Source Center, and through partnerships with a local staffing agency, local unions, contractors working on large-scale projects, and the City of LA Personnel Department to place graduates in city jobs.

Key Accomplishments Through June 20

- **Began recruitment plan development;**
- **Began training plan development; and**
- **Established location of Green Together Resource Center.**

Responses to COVID-19

- **All in-person events moved to virtual environments after May 2020 stay-at-home order was issued for residents in Los Angeles County.**

STORIES FROM THE COMMUNITY

Pacoima Beautiful's Community Inspectors in the community, 2019. Photo credit: Pacoima Beautiful

Climate planning and community engagement from the ground up

MARIA MADRIGAL is a longtime Sun Valley resident turned resident leader. She has lived in the community for over 34 years and for the past three years has been part of Pacoima Beautiful's Community Inspectors program. She joined the program to keep active during her retirement and make a difference in her community. Through the program, Pacoima Beautiful recruits and equips residents to become community leaders and advocates for social change using a "train-the-trainer" model. Inspectors identify toxic sources of pollution, opportunities for beautification, and teach other community members. Inspectors played a critical role in the process for developing the TCC proposal.

Maria meets with other Community Inspectors once a week to discuss environmental issues in the community, engage in public service projects to raise environmental awareness, and develop leadership skills by creating and advocating for community-led solutions. As a response to COVID-19, Maria is learning to use new technologies, such as video and web conferencing, to master different ways to engage with residents. She is also learning about solar energy, the benefits of solar roofs, and how to qualify for the TCC-funded rooftop solar installations. Using her new skills and social networks, Maria is excited to assist with implementing Green Together's Community Engagement Plan and outreach for the Solar Roofs project.

Photo credit: Pacoima Beautiful

"I have gone through the solar roof process. Once the neighbors see [the solar roof], I can inform them about the program."

MARIA MADRIGAL,
(center) at the weekly Community Inspectors meeting discussing community priorities, 2017.

STORIES FROM THE COMMUNITY

Photo credit: UCLA Luskin Center for Innovation

"I explain the benefits of programs like solar training with other moms ... to encourage their children to take advantage of these trainings because it has benefited my son."

SOFIA MALDONADO ,
(left) at the monthly food swap in 2019 where she shared about TCC.

SOFIA MALDONADO is another Community Inspector who will play a pivotal role in implementing Green Together's Community Engagement Plan. Sofia has been working with Pacoima Beautiful since 2008, first as a volunteer and then as a paid Community Inspector. She emigrated to Pacoima from Mexico 32 years ago with her children. She became involved with Pacoima Beautiful as a single parent looking for resources to help her children succeed in school and stay out of gangs. Through her involvement with the organization, she became aware of environmental burdens her community faces and decided to continue to fight for the health of the community and her children.

Sofia is most proud of two projects she has been able to accomplish through her activism. The first is the installation of speed bumps near her home. The second is the installation of a traffic light near a local high school after witnessing a few accidents that put children in harm's way. She gathered over 500 signatures and went through what she describes as a long and difficult process to reach her goal of a new street light. Sofia is excited to put her leadership skills to use, continue knocking on doors, and sharing her family's firsthand experience about the economic benefits her son received in previous solar training efforts in the community, which will be replicated as part of Green Together's Solar Roofs project.

VICTOR SANCHEZ is part of Pacoima Beautiful's Youth United Towards Environmental Protection (YUTEP) club, launched in 2002. Students from local middle and high schools are recruited through student campus-based clubs to participate in the program. The youth meet weekly to increase awareness of environmental issues, participate in public service projects, develop leadership skills and prepare for college. As with the Community Inspectors program, participants in YUTEP become core leaders of the organization and community engagement efforts and will play a key role in Green Together's community outreach activities.

Victor joined the YUTEP in 9th grade. Now in high school, age 16, he has developed the confidence to speak at public meetings, organize and lead community meetings and engagement efforts. By participating in paid internship opportunities such as the Future Rangers Program and certification courses like the California Naturalist training, Victor has decided to pursue a career in the sciences and hopes to design electric cars and to promote clean energy. He looks forward to new and rewarding opportunities to involve the community in TCC engagement efforts, making good connections, and seeing what the community can accomplish together.

Photo credit: Pacoima Beautiful

"As an environmentalist, I like seeing my community contributing to resolve issues around climate and the environment. I like the community pride.... We make projects our own and have a sense of community."

VICTOR SANCHEZ ,
at John Francis High School during community engagement event, August 2019.

Pacoima Beautiful Youth preparing for community outreach for the TCC funded Street Tree Planting Project, August 2020.
Photo credit: Pacoima Beautiful

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 evaluation team) to estimate the benefits of each project. The following section provides an overview of the Green Together projects, aggregated by project type, that will use TCC dollars to achieve the aims of the program.

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

Pedestrian Mobility Improvements

Pedestrian green street vision as part of the 2015 Pacoima Urban Greening Vision Plan funded by SGC. Photo credit: LAMas

Green Together's pedestrian mobility improvement project aims to reduce vehicle miles traveled (VMT) in passenger vehicles by improving mobility options for pedestrians, bicyclists, and transit riders to access key destinations in and outside the TCC project area. The project is led by The Trust for Public Land (TPL) and will focus on pedestrian improvements and creating four mobility hubs on major intersections in the project area. The project will install critical pedestrian infrastructure on 2.4 miles of northeast-southeast residential streets, Herrick and Haddon avenues, located between the Van Nuys business district and the future Pacoima Wash Greenway. These improvements will be branded as "mobility hubs." The streets will provide a slow, locally serving network facilitating safe and attractive connections between homes, schools, parks, shopping, and employment centers. Pacoima Beautiful will assist TPL in soliciting community feedback on designs. Trees will be planted in coordination with the Street Tree project.

Project Details

Anticipated completion date

April 2025

TCC grant funds

$3,822,067

Leveraged funds

$0

Project lifetime

20 years

The flexible and engaging neighborhood mobility hubs will also include space for innovative transit companies to park their zero-carbon vehicles and EV charging infrastructure, as described later in the TCC-funded Electric Charging Stations Project. The mobility hubs will be located at key community anchors within walking distance to activity centers, transit stations, places of employment and residence. A stretch of Herrick Avenue was chosen for pedestrian improvements because it passes by six schools, the David M. Gonzales Park funded project, and the Van Nuys Boulevard business district, and provides an important link across the Pacoima Wash to the City of San Fernando. It is also a popular route for residents of San Fernando Gardens, a large multifamily public housing complex nearby. Specifically, the Pedestrian Mobility Improvement Project includes the following upgrades along the 2.4 miles of streets that are part of these mobility hubs:

» 900 feet of new sidewalks as well as five way-finding signs, 10 ADA ramps for individuals with limited mobility, 10 bicycle sharrows, three high-visibility crosswalks;

» Site amenities at the mobility hubs also include improved signage, four bike parking areas, five areas for seating, and three public art murals; and

» Electric vehicle charging infrastructure.

Other estimated co-benefits over the project lifetime are detailed below.

Estimated Benefits Over Project Lifetime

GHG emissions reductions

47 $MTCO_2e$

VMT reduction

121,557 miles

Travel cost savings

$70,503

Direct jobs from TCC dollars

17 FTEs

Indirect jobs from TCC dollars

7 FTEs

Induced jobs from TCC dollars

13 FTEs

Key Accomplishments Through FY June 2020

» **Began cross-agency coordination activities;**

» **Other project implementation pending.**

Responses to COVID-19

» All in-person outreach activities moved to virtual environments after May 2020 stay-at-home order was issued in Los Angeles County.

Pacoima DASH E-Bus

BYD Inc. DASH E-bus manufacturing for LADOT in Lancaster, California, August 2020. Photo credit: LADOT

THE PACOIMA DASH E-BUS PROJECT, Green Together's Transit Operation Bus Project, leverages TCC funds and other public dollars to electrify the DASH bus fleet that travels through the Pacoima neighborhood in the project area. The project lead is the City of Los Angeles Department of Transportation (DOT), with community outreach support from Pacoima Beautiful. The DASH bus is a frequent, inexpensive, and convenient bus service designed to connect City of LA neighborhoods to regional services, but the program has historically undeserved the Pacoima area. In addition to electrification of current buses, the project will install electric vehicle chargers and couple these investments with increased bus service through a new E-DASH route. The route was developed with community input and will connect higher-density residential areas with major shopping complexes, schools, and medical care facilities. LADOT projects that the new route will increase DASH ridership by 90% in the project area.

Project Details

Anticipated completion date

December 2022

TCC grant funds

$2,513,000

Leveraged funds

$9,912,000

Project lifetime

12 years

It is important to note that the Pacoima DASH E-bus project will not impact fare structures. The investment is aimed at improving transit ridership and reducing vehicle miles traveled (VMT) with transit routes that better respond to the community's needs. The TCC funding will provide the incremental cost of upgrading from a compressed natural gas (CNG) bus to a battery-electric bus, achieving meaningful reduction in GHG emissions and improvement in air quality in this impacted community.

Specifically, Green Together's Pacoima DASH E-bus Project includes:

» 14 new battery-electric buses;

» Seven electric vehicle chargers;

» One new DASH e-bus route servicing the Pacoima neighborhood; and

» 45 new DASH E-bus stops along the new route.

Other estimated co-benefits over the life of the project are detailed in the table below.

Estimated Benefits Over Project Lifetime

GHG emissions reductions

18,070 $MTCO_2e$

VMT reductions

18,051,441 miles

Travel cost savings

$1,109,829

Direct jobs from TCC dollars

6 FTEs

Indirect jobs from TCC dollars

3 FTEs

Induced jobs from TCC dollars

5 FTEs

Key Accomplishments Through June 2020

» **LADOT has undergone the bus procurement process, including selecting a manufacturer in the nearby Lancaster area, placing the order for the buses, and beginning the bus manufacturing process.**

» **Other project implementation pending.**

Responses to COVID-19

» The buses required to operate the new DASH Pacoima route are being manufactured locally in Lancaster, California. Due to COVID-19 Stay at Home orders, the Lancaster factory put bus manufacturing on hold. LADOT and the bus manufacturer are coordinating to develop a revised production schedule.

Electric Vehicle Charging Stations

The Electric Vehicle Charging Station project will install critical infrastructure at four mobility hubs.

GREEN TOGETHER'S LOW-CARBON TRANSPORTATION PROJECT, referred to as the Electric Vehicle Charging Station project, will fill a critical mobility gap and increase access to services and amenities without production of GHGs from tailpipe emissions. There is currently very limited EV charging infrastructure available to residents in the Green Together project area. Installing charging stations at centrally located intersections and business districts will ensure that the new chargers are visible and accessible to residents interested in using them for their own vehicles or future EV car share mobility options. In doing so, the project is helping to break down barriers to EV car ownership and car share programs and helping to ensure that EVs become a practical alternative in all neighborhoods regardless of socioeconomic class. The EV Charging Station project is led by The Trust for Public Land (TPL), with community engagement support from Pacoima Beautiful. TPL will implement the EV charging infrastructure at four mobility hubs to facilitate convenient, safe and attractive active and alternative transportation options near community resources.

Project Details

Anticipated completion date

February 2025

TCC grant funds

$459,173

Leveraged funds

$0

Project lifetime

3+ years

The mobility hub sites were selected to address the community-identified needs for a safe, accessible walking and biking environment. They will provide important first-last mile connectivity to three planned Metro light-rail stations that are part of the East San Fernando Valley Transit Corridor leveraged project, as well as the DASH E-bus funded project, and existing Metro local and rapid bus service stops. In addition to the EV charging infrastructure, the hubs will include bike share infrastructure, bike parking, seating, way-finding signage, and public art as outlined in the Pedestrian Mobility Improvements funded project. GRID Alternatives, a lead partner for other TCC projects, will manage the installation of the EV chargers.

While new EV infrastructure will increase clean mobility options without production of GHGs from tailpipe emissions, there is not an established methodology for estimating GHG sequestration benefits in urban environments, VMT reductions, or travel cost savings. As such, these benefits are not included in estimates reported below.

Estimated Benefits Over Project Lifetime

Induced jobs from TCC dollars

2 FTEs

Key Accomplishments Through June 2020

» **Project implementation pending.**

Responses to COVID-19

» **TPL has implemented extensive changes to planned activities to meet public health guidelines, such as hosting community engagement activities on-line**

Single-Family Solar Photovoltaic Installations

Rooftop solar PV panels installed by GRID Alternatives staff and trainees in Los Angeles. Photo credit: GRID Alternatives

GREEN TOGETHER'S SOLAR PROJECT, referred to as the Single-Family Solar Photovoltaic Installations Project, will enhance the generation of local renewable energy and lower energy costs for property owners by installing 669 kW of photovoltaic systems on 175 single family homes in the project area. Single-Family Solar Photovoltaic Installations will be coupled with leveraged weatherization services to address the projected increase in extreme heat days in the project area and community concerns raised during the grant engagement process regarding lack of proper ventilation and air conditioning in many homes. The project is led by GRID Alternatives Los Angeles, a nonprofit organization that installs solar power systems and provides job training for undeserved communities. The installation project is also part of Green Together's Workforce Development Plan (WDP) training activities aimed at creating a pipeline of green local jobs and a thriving workforce in the Northeast Valley. As part of the WDP, the solar project will provide on-the-job training for at least 96 residents to participate in foundational career training in solar panel installation, energy auditing, manufacturing and recycling sectors.

Project Details

Anticipated completion date

April 2025

TCC grant funds

$4,702,495

Leveraged funds

$111,350

Project lifetime

30 years

The solar photovoltaic systems will be provided free of cost and there are no liens placed on the property either. Current homeowners may transfer the solar rooftops if they sell their home without cost to future owners. GRID will also conduct a post-installation training session for all homeowners that receive solar and these homeowners are invited to the training session within three months of install where they will be provided additional information about their system, their new energy bills, and important phone numbers in case there is a problem with the system. Homeowers will also be asked for referrals to others residents that may be interested.

The average cost per system is roughly $20,000 with an average DC rating (system size) of 3.72 kW, average AC rating (system size) of 3.22 kW, and an average lifetime client savings of $34,532. Homeowners can expect to save between 50-90% on their energy bill. Other project co-benefits are detailed in the table below.

Estimated Benefits Over Project Lifetime

GHG emissions reductions

9,074 $MTCO_2e$

Renewable energy generation

29,859,008 kWh

Energy cost savings

$3,989,163

Direct jobs from TCC dollars

22 FTEs

Indirect jobs from TCC dollars

11 FTEs

Induced jobs from TCC dollars

16 FTEs

Key Accomplishments Through June 2020

» **Project implementation pending.**

Responses to COVID-19

» Due to COVID-19, the GRID Alternatives Greater Los Angeles office temporarily closed its doors to the public and has transitioned from in-person workforce trainings and client interactions to on-line or hybrid engagement. In addition, extensive changes to training activities have been made to meet public health guidelines, such as hosting virtual engagement activities

David M. Gonzales Park Renovation

Mural at David M Gonzales recreation center. Photo credit: City of Los Angeles Parks & Recreation

GREEN TOGETHER'S URBAN GREENING PROJECT will be led by The Trust for Public Land (TPL) and will focus on the renovation of David M. Gonzales Park and Recreation Center, a 6.8-acre neighborhood park that serves roughly 11,000 residents within a 10-minute walk. Retrofits to the park will make it more useful to the community and more adaptable to the impacts of climate change by renovating it to mimic natural ecosystem and cooling microclimates. Project enhancements include the addition of 95 shade trees planted by the Los Angeles Conservation Corps (LACC), landscaped areas with drought-tolerant and California native plants, a nature trail through a Native Plant Demonstration Garden, picnic tables, permeable surfaces, walking paths, and new way-signage. In addition to cooling benefits, the project will reduce flooding, improve water destined for the Los Angeles River, enhance water quality and regional water security, and promote biodiversity. To achieve these aims, the project will incorporate over 71,000 square feet of green infrastructure elements and best management practices that simulate a natural system's ability to capture, absorb, and filter stormwater and pollutants. Other project co-benefits are detailed in the table below.

Project Details

Anticipated completion date
March 2026

TCC grant funds
$2,269,939

Leveraged funds
$0

Project lifetime
40 years

The renovation project will also be coupled with the Green Together Resiliency Center, a TCC leveraged project led by GRID Alternatives. The Resiliency Center Project will retrofit the community center located at David M. Gonzales Park with a solar system and will provide cooling amenities in the event of a major heat event.

The Trust for Public Land (TPL) will lead the park renovation with the support of other partners involved in urban greening as the TCC-funded project is the first phase of a two phase project for the park. The second phase is funded by the Los Angeles Department of Water & Power (LADWP) and includes sports field amenities and an infiltration gallery beneath the fields that will direct approximately 2,300,000 gallons of water to the local aquifer funded by the Los Angeles Department of Water & Power.

TPL will lead the complex coordination between all the entities involved in project implementation, including community outreach with Pacoima Beautiful, the City of LA Department of Recreation and Parks, the Los Angeles Department of Water and Power, the Los Angeles Conservation Corps, and GRID Alternatives.

Estimated Benefits Over Project Lifetime

GHG emissions reductions

84 $MTCO_2e$

Avoided stormwater runoff

380,780 gallons

Trees planted

95 shade trees

Direct jobs from TCC dollars

16 FTEs

Indirect jobs from TCC dollars

4 FTEs

Induced jobs from TCC dollars

10 FTEs

Key Accomplishments Through June 2020

- Began cross-agency coordination activities, including contracting and procurement processes;
- Began community engagement and outreach planning;
- Other project implementation activities are pending.

Responses to COVID-19

- TPL has implemented extensive changes to planned activities to meet public health guidelines, such as hosting cross-agency coordination activities on-line.

Street Tree Planting

Brothers Raymond and Ryan Castro planting street trees in the project area, August 2020. Photo credit: LACCs

GREEN TOGETHER'S URBAN AND COMMUNITY FORESTRY PROJECT will complement other efforts throughout the neighborhood to increase resident access to tree coverage and open green space, reduce air conditioning usage and demand for electricity for cooling purposes. The project is coordinated by the Los Angeles Conservation Corps (LACC), with outreach support from Pacoima Beautiful. LACC is a local nonprofit that provides at-risk young adults (18-24 years) and school-aged youth with opportunities for success through job skills training, education, and work experience with an emphasis on conservation and service projects that benefit the community. The tree project leverages TCC funds to plant and maintain 2,000 new trees, focusing on shade for commercial and residential properties usage. As the trees mature, they will sequester carbon and shade nearby buildings. The additional tree coverage will also reduce the urban heat island effect on hot days and absorb stormwater on rainy days.

Project Details

Anticipated completion date

February 2025

TCC grant funds

$2,895,311

Leveraged funds

$175,000

Project lifetime

40 years

LACC will coordinate community engagement activities with support from Pacoima Beautiful and will focus on two activities. First, raising awareness of the need for expanding the urban tree canopy, which will be accomplished by online and face-to-face messaging. The Corps' members and Pacoima Beautiful's Promotoras and youth community organizers will canvass residents and small-business owners to secure permission to plant. They will also invite them to participate in the ongoing care of the trees.

The Street Planting project is also part of the Green Together Workforce Development Plan (WDP) led by GRID Alternatives. Green Together's WDP provides 50 paid on-the-job training opportunities in TCC tree planting activities for local youth who are interested in a career in urban forestry and brownfields remediation. The Street Tree Planting project will also coordinate with the TCC-funded renovation of the David M. Gonzalez Park and Recreation Center, which includes ecosystem enhancements such as the addition of 95 shade and other green infrastructure to provide cooling and other benefits to nearby residents.

Other co-benefits of the Street Planting urban and community forestry project are detailed in the table below.

Estimated Benefits Over Project Lifetime

GHG emissions reductions
5,359 $MTCO_2e$

Trees planted
2,000 trees

Energy cost savings
$216,091

Avoided stormwater runoff
8,842,048 gallons

Direct jobs from TCC dollars
31 FTEs

Indirect jobs from TCC dollars
6 FTE

Induced jobs from TCC dollars
11 FTEs

Key Accomplishments Through June 2020

» **Project implementation pending.**

Responses to COVID-19

» To maximize the impact of these investments, LACC implemented extensive changes to planned activities to meet public health guidelines, reduce COVID exposure and transmission, and provide resources to staff and youth participants.

PROFILES:

LEVERAGED PROJECTS

Design Development plan for Bradley Green Alley and Plaza developed in 2018 by Pacoima Beautiful, The Trust for Public Land, and LA Sanitation. Photo credit: RCH Studios.

LEVERAGED PROJECTS are those that further the goals of TCC investments and use entirely external sources of funding to help further their vision of TCC grantees. In the case of Green Together, there are six independently funded projects totaling more than $38 million. These six leveraged projects include: (1) cool roof retrofits, (2) development of a Community Resiliency Center, (3) the renovation of Bradley Green Alley and Plaza, (4) engineering plans for the East San Fernando Valley Transit Corridor, (5) the development of a stormwater capture at Fernangeles Park, and (5) design and infrastructure of Green Streets. These projects include the planting of trees and plants, infrastructure to weather extreme heat events, stormwater capture and storage, and electric vehicle and charging infrastructure. The TCC grant will allow Green Together to augment existing community-driven and public efforts to create safer biking and walking infrastructure to increase multimodal travel options, create cooler conditions during extreme heat events, improve transit access, make electric vehicle and charging infrastructure accessible, and support regional efforts to supplement local water supplies. The following section provides an overview of the leveraged projects underway in the Northeast San Fernando Valley project area.

Cool Roof Retrofits

Single-family cool roofs (prototype shown here) will be offered to Green Together project area residents free of charge.
Photo credit: GRID Alternatives

The COOL ROOF RETROFITS PROJECT is a decarbonized energy and energy efficiency program that will reduce interior temperatures during periods of extreme heat and lower energy and utility costs. Installation of 35 cool roofs over the grant period on single-family residences receiving free solar as part of the TCC funded Solar Photovoltaics Project. Accessory dwelling units will also be eligible. Cool roof materials absorb less heat than standard roofing, thus reducing indoor temperatures during extreme heat events, which, according to CalAdapt data, are projected to increase in the area. During community engagement activities, residents raised concerns over the lack of proper ventilation and air conditioning. Retrofitting homes with cool roofs and providing weatherization services will give residents a more affordable option to power air conditioners. The project is led by GRID Alternatives Los Angeles (GRID), a nonprofit that installs solar power systems and provides job training for undeserved communities.

Project Details

Launch date
May 2020

Anticipated completion date
Ongoing

TCC grant funds
$0

Leveraged funds
$271,993

OUTREACH STRATEGY

GRID will use a layered approach to encourage widespread use of the project and ensure that the community is kept informed and engaged. GRID will work close with Pacoima Beautiful and other Green Together partners to determine effective outreach efforts for the community, including hosting workshops, town halls, and house parties; tabling at local monthly events; and participating in events at the TCC funded Green Together Resource Center. This new community resource center will be a "hub" of information and activity encompassing all aspects of the TCC Project.

ECONOMIC CO-BENEFITS

The installation project is also part of Green Together's Workforce Development Plan (WDP) activities to create a pipeline of green local jobs and a thriving workforce in the Northeast Valley. GRID will subcontract with local roofers, who will install the cool roof prior to solar installation by local resident trainees.

Key Accomplishments Through June 2020

- **Began cross-partner coordination activities to develop outreach plan;**
- **Identified local roofing subcontracts to complete cool roof installs.**

Responses to COVID-19

- **Due to COVID-19, GRID Alternatives Greater Los Angeles reconfigured outreach strategies to meet public health guidelines.**

Community Resiliency Center

David M. Gonzales Park, the future location of the Green Together Community Resiliency Center, 2014.
Photo credit: City of Los Angeles

GREEN TOGETHER'S COMMUNITY RESILIENCY CENTER will retrofit the David M. Gonzales Park's recreation center and will be designed with solar and storage systems that allow maintaining electricity during blackout events, providing safe harbor for residents to keep medicine cold, charge phones, and remain connected to families. The project will also serve as a cooling center during periods of extreme heat for at-risk populations such as seniors and families with small children. Extreme heat is an environmental burden facing Northeast Valley residents both outdoors as well as indoors, as many homes lack proper ventilation and air conditioning. The existing City of Los Angeles Department of Recreation and Parks community center is located at a 6.8-acre neighborhood park that serves roughly 11,000 residents within a 10-minute walk. The project is led by GRID Alternatives-Greater Los Angeles (GRID) in coordination with multiple TCC projects.

Project Details

Launch date
June 2020

Anticipated completion date
Ongoing

TCC grant funds
$0

Leveraged funds
$271,660

CROSS-CUTTING PROJECT APPROACH

Building the Community Resiliency Center requires extensive cross-partner and cross-agency coordination, highlighting the extensive need for partnership building to successfully design, implement, and maintain community-serving projects to address climate change.

The Community Resiliency Center Project will be funded by rebate dollars from Green Together's TCC-funded Residential Solar Photovoltaics Project. The project will be coupled with Green Together's Urban Greening Project, led by The Trust for Public Land, to renovate the existing 6.8-acre park with new stormwater management landscapes, a learning garden, and trees.

The project will also benefit from the TCC-funded Pedestrian Mobility Improvements project. The Community Resiliency Center will also leverage Green Together's Workforce Development Plan (WDP) training activities. Participants in the trainings will install the solar systems on the recreation center. Future non-TCC related phases of the Community Resiliency Center include installing a splash pad in the park to provide a place for children and families to cool off during heat event.

As a result of this multifaceted cross-cutting project, the Community Resiliency Center project will require coordination of at least seven organization and Green Together partners, including Pacoima Beautiful, the City of Los Angeles Department of Recreation and Parks, the Los Angeles Department of Water and Power, the Los Angeles Conservation Corps, TPL and GRID Alternatives.

The crosscutting renovation project will make the park more useful to the community and more adaptable to the impacts of climate change. Specifically, Green Together's Community Resiliency Center Project includes the following retrofits to David M. Gonzales Park and Recreation Center.

- Free electric vehicle service equipment (EVSE) charging stations for 2-4 vehicles.
- Renovation of David M. Gonzales Recreation Center with 40kW solar photovoltaic and storage system.

Key Accomplishments Through June 2020

- **Launched cross-agency coordination activities.**

Responses to COVID-19

- **Due to COVID-19, GRID Alternatives Greater Los Angeles reconfigured cross-agency and cross-partner collaborations to meet public health guidelines.**

Bradley Green Alley and Plaza Renovation

A segment of Bradley Green Alley that will be renovated through leveraged funds, 2016.
Photo credit: Arup and Los Angeles Bureau of Sanitation

BRADLEY GREEN ALLEY AND PLAZA RENOVATION is an urban greening project that will transform a 0.67 acres of a blighted 25-foot-wide alley and plaza into a community asset that will yield multiple environmental and public health benefits. The project is located in the heart of the Pacoima business district and is adjacent to the San Fernando Gardens public housing complex. Project improvements include a stormwater capture system, shade structure, seating constructed out of locally sourced reclaimed lumber, shade trees, drought tolerant landscaping, and traffic calming design features. The project was initiated by Pacoima Beautiful and is led by The Trust for Public Land (TPL) and the Los Angeles Bureau of Sanitation (LASAN) in collaboration with multiple partners. The project will support multimodal travel in the project area and will contribute to LA's water sustainability by supplementing local water supply efforts. The renovations are a decade in the making as the site was first identified in 2011 by the community as a flexible event space to meet the need for community gathering spaces.

Project Details

Launch date
February 2019

Anticipated completion date
December 2021

TCC grant funds
$0

Leveraged funds
$2,389,781

Green Together's Bradley Green Alley project includes the following renovations to Bradley Green Alley and Plaza:

- 800 feet of alley and street improvements;
- Six streetlights funded by the local city council, five seating fixtures from locally sourced lumber, one shade structure;
- At least 1,000 drought-tolerant climbing vines and shrubs;
- 46 new trees;
- A stormwater capture system including catch basins, a dry well, infiltration trench, and infiltration planters to infiltrate up to 2 million gallons, or 6 acre feet, per average rain year; and
- A nature classroom, informal play areas, and fitness equipment.

A VISION FOR A GREENER PACOIMA

The Bradley Green Alley and Plaza Renovation project was first envisioned by community during the development of Pacoima Urban Greening Vision Plan. The Urban Greening Vision Plan was made possible, in part, through an urban greening grant from the California Strategic Growth Council awarded to Pacoima Beautiful in 2011. The alley is one of the first Shared Streets in the City of Los Angeles designed to slow traffic down to create safe community gathering spaces, while allowing for pedestrian and vehicle access.

COLLABORATIVE IMPLEMENTATION APPROACH

TPL will manage design, construction, and overall project management. TPL has partnered with a robust team to assist with outreach, post-construction monitoring, and maintenance. The team and roles include the following: Pacoima Beautiful is responsible for outreach and updating the community on project progress. LASAN is responsible for supporting the project design and implementation and for maintaining the project once it is completed. LASAN will also conduct post-implementation water quality monitoring. Council for Watershed Health (CWH) will conduct post-implementation water quality monitoring. Other regional supporters include LA Waterkeeper and Liberty Hill Foundation.

The renovation of Bradley Green Alley and Plaza is another example of the extensive cross-partner collaboration needed to successfully design, implement, and maintain community-driven projects that empower them to choose their own goals, strategies, and projects to adapt to climate change.

Key Accomplishments Through June 2020

- **Completed community design, construction drawings, permitting, and contract bidding processes;**
- **Completed contract bidding process;**
- **Broke ground September 2019; and**
- **Opened alley to public May 2020.**

Responses to COVID-19

- **Adopted County/City health measures for the construction site, including masking, on-site sanitation facilities, and a site COVID-19 compliance supervisor. As construction was considered an essential activity, construction activities were not impacted other than minor delays for some pieces of equipment**
- **Pacoima Beautiful also worked closely with businesses and residents adjacent to the project site who were impacted by both the project construction activities and COVID lock-down measures.**

East San Fernando Valley Transit Corridor

Concept photo of the Laurel Canyon Blvd Metro stop, one of the three stops planned for the project area. Photo credit: Metro

The east SAN FERNANDO VALLEY TRANSIT CORRIDOR is a long-term endeavor underway in the Northeast San Fernando Valley that will provide vital public transit infrastructure investments to the community. The corridor includes light rail transit service that will run through the Pacoima neighborhood of the TCC project area by 2028 and will help bring improved mobility and access to and from Pacoima. The project is led by the Los Angeles County Metropolitan Transportation Authority (Metro) in partnership with Pacoima Beautiful for community engagement activities that fall within the Green Together project area. The leveraged portion of the project will support the development of planning and design for the East San Fernando Valley Transit Corridor, including three stations in the TCC Green Together project area. The project works in concert with other Green Together TCC-funded projects. Collectively, the mobility improvements from these projects have the potential to boost economic development and improve social justice by facilitating access to regional amenities such as job centers, educational and health facilities, and other activity centers.

Project Details

Launch date

December 2018

Anticipated completion date

March 2022

TCC grant funds

$0

Leveraged funds

$13,160,646

Specifically, leveraged project components for the East San Fernando Valley Transit Corridor will include the following:

» Preliminary engineering and design for the East San Fernando Valley Transit Corridor, which includes three stations in the TCC Green Together project area; and

» First/last mile plans for five stations of the East San Fernando Valley Transit Corridor that overlap with the TCC Green Together project area.

COLLABORATIVE IMPLEMENTATION APPROACH

The project will work with other Green Together low-carbon transportation projects, including the active transportation project, Pedestrian Mobility Improvements led by TPL. The Pedestrian Mobility Improvements project will provide four mobility hub sites to address first-last mile connectivity to three planned Metro rail stations that are part of the East San Fernando Valley Transit Corridor leveraged project, as well as the DASH E-bus TCC-funded project, and existing Metro local and rapid bus service stops. The hubs will include EV charging infrastructure, bike share infrastructure, bike parking, seating, way-finding signage, and public art as outlined in the Pedestrian Mobility Improvements project.

There are multiple mobility challenges within the Green Together project study area. The project area is expected to see continued population growth with increased demand for transit service along the Van Nuys Boulevard corridor, which already has high population density and persons who rely on transit for daily transportation, including commuting. The Green Together Network expects that the improved transit connectivity and increased service provided by these projects will increase transit ridership, which in turn could result in environmental benefits due to reduced vehicle trips, reductions in vehicle miles traveled, less roadway congestion, and improved air quality.

Key Accomplishments Through June 2020

- **Received approval to hire contractor and start planning, design, and construction process for the transit corridor;**
- **Launched planning efforts for the First-Last Mile Plans to improve transit riders' experiences walking and biking to planned stations;**
- **Hosted or participated in 14 community events in the project area or nearby communities;**
- **Held three walk audits in the half-mile area, one for each of the proposed stations, to identify key issues with roads and sidewalks;**
- **227 people provided commentary or input on the transit design;**
- **The project team, in partnership with Pacoima Beautiful, conducted a virtual bilingual workshop on the East San Fernando Valley Transit Corridor for the Pacoima community on November 10, 2020.**

Responses to COVID-19

- **All in-person programming was suspended and moved to online platforms to comply with local COVID-19 guidelines.**

Fernangeles Park Stormwater Capture

Fernangeles Park Stormwater Capture leveraged project aerial site plan, June 2020. Photo credit: Ninjo & Moore

FERNANGELES PARK STORMWATER CAPTURE project will install a 1.6-acre underground infiltration gallery in an existing City of Los Angeles Park. The multi-benefit project will capture and infiltrate stormwater with the goals of reducing potential flooding, improve stormwater quality, increase water supplies through stormwater capture, and provide recreational, social, and economic benefits. The design of the project includes features that will allow capture of stormwater from the park and adjacent streets and will recharge the San Fernando Groundwater Basin. The project will install a catch basin, bioswales, and a variety of park improvements, some of which will be informed by the community. The site is located in the Sun Valley Neighborhood in the southwest portion of the project area near the intersection of the I-5 freeway and State Highway 170. The project is led by the City of Los Angeles Department of Water and Power (LADWP), an agency responsible for providing the City of Los Angeles with a safe and reliable supply of water for a variety of uses.

Project Details

Launch date

May 2019

Anticipated completion date

November 2023

TCC grant funds

$0

Leveraged funds

$8,426,000

Project implementation will include the following:

» Planning and design engineering for 1.6-acre underground infiltration gallery capable of storing approximately 703,000 cubic feet of water;

» Design elements include catch basins, diversion structure(s), bioswales, hydrodynamic separator (HDS) units, flow measuring devices, supervisory control and data acquisition, educational signage, and park restoration/improvements;

» Various green street improvements to Morehart Street, such as new pavements, sidewalks, curbs and gutters.

» Park improvements will include upgrades to two baseball fields, including new dugouts, backstops, batting cages, benches, sports lighting, and irrigation systems. The remainder of park improvements will be refined during design based on community input.

COLLABORATIVE IMPLEMENTATION APPROACH

The City of Los Angeles is a part of a complex multijurisdictional region. As such, implementing effective and comprehensive local stormwater capture projects involves a collaborative effort between several agencies.

The Fernangeles Park Stormwater Capture leveraged project is part of the LADWP's Stormwater Capture Master Plan approved in 2015. The Master Plan was developed in close coordination with the Los Angeles County Flood Control District, the United States Bureau of Reclamation (USBR) Basin Study, and LASAN's Enhanced Watershed Management Plans (EWMPs). The project also cooperated with the Mayor's Sustainable City pLAn and the City's 2015 Urban Water Management Plan.

The LADWP will work in close coordination with the City of Los Angeles Department of Recreation and Parks, Pacoima Beautiful, the City of Los Angeles Council District 7, Los Angeles Department of Public Works, Los Angeles Department of Transportation, and the California Department of Transportation and other partners working in the Northeast San Fernando Valley.

Key Accomplishments Through June 2020

» **Launched cross-agency coordination activities to discuss challenges, requirement, and specifications to prepare for design plans;**

» **Initiated preliminary design phase;**

» **Completed draft geotechnical report;**

» **Launched and completed construction contracting;**

» **Hosted a community Stormwater Capture Parks Program event at the project site.**

Responses to COVID-19

» **COVID-19 did not significantly impact the Fernangeles Stormwater Capture Project as the project was in the preliminary design phase, which required minimal field work with few personnel. Contractors safely conducted their work following local COVID-19 guidelines.**

Green Streets

Concept green street envisioned as part of the Pacoima Urban Greening Plan that laid groundwork for TCC. Photo credit: LAMas

THE VAN NUYS-GLENOAKS GREEN STREETS PROJECT is a stormwater management approach that incorporates vegetation, soil, and engineered systems to slow, filter, and clean urban runoff from impervious surfaces. The project will focus on two streets in the Pacoima neighborhood of the project area and will take a distributed approach and install green stormwater infrastructure at various locations surrounding a part of the neighborhood. This project is a joint partnership between the City of Los Angeles Sanitation's (LASAN) Watershed Protection Division and the Department of Water and Power (LADWP). The project works in concert with Green Together's TCC-funded Street Planting project led by the Los Angeles Conservation Corps and youth training component of the Workforce Development Plan (WDP). The project supports regional efforts to increase the local water supply and meeting the city's water quality standards by removing pollutants. Other project benefits include recharging the San Fernando Groundwater Basin and reduction in localized flooding.

Project Details

Launch date

November 2019

Anticipated completion date

December 2021

TCC grant funds

$0

Leveraged funds

$3,665,000

Specifically, the Van Nuys-Glenoaks Green Streets project will implement the following:

» Two types of green stormwater infrastructure systems, a bioswale for water pretreatment and a dry well infiltration system.

» Other design features will include curb inlets, vegetation, and a porous concrete gutter;

» The average yearly capture rate for the combined green street projects is 95 acre-feet per year.

In addition to the stormwater capture improvements, the project also includes street tree plantings to help shade and cool the streets and sidewalks and increase pedestrian comfort. This is an important feature as the already warm area is expected to experience an increase in extreme heat days over the coming decades. Together, these project components will capture stormwater and urban runoff from a combined 100-acre watershed, bringing the benefits of urban greening to a disadvantaged community that has a long history of neglect.

COLLABORATIVE IMPLEMENTATION APPROACH

The planning for this work was initiated by Pacoima Beautiful years ago with the Pacoima Wash Vision Plan in 2008, and most recently with the Pacoima Urban Greening Vision Plan in 2015. LASAN will manage the design and implementation of the Van Nuys-Glenoaks Green Streets project. LASAN worked closely with community partners, including Pacoima Beautiful, to ensure that the project meets community needs for greening, beautification and more shade in the Northeast Valley while also capturing and cleaning stormwater.

The Green Together network and Pacoima Beautiful will support with outreach and help raise awareness of the green street projects in the community. LASAN will hire a construction contractor to build the improvements. The Los Angeles Conservation Corps will plant all the street trees as part of the Green Together Street Tree Planting project, providing training opportunities for youth.

Key Accomplishments Through FY 2019-'20

» **Began cross-agency and cross-partner coordination activities;**

» **Completed stormwater infrastructure design phase;**

» **Held construction kickoff meeting and began construction of bioswales, dry wells, curb inlets, vegetation, and tree planting.**

Responses to COVID-19

» **COVID-19 did not significantly impact the Green Streets Project as the project was in design phase and required minimal field work with few personnel. Completed work followed local COVID-19 guidelines.**

INDICATOR TRACKING: BASELINE DATA

Aerial view of the Green Together TCC site boundary; the site is 4.9 square miles and measures 1.6 miles from west to east and 4.6 miles from north to south at the farthest points. Photo credit: ESRI 2020

THE FIRST STEP IN EVALUATION is to establish baseline data for indicators in treatment and control settings prior to an intervention. In evaluating Green Together, 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 of Green Together. In addition to looking at baseline conditions in the project boundary area and control tracts, the evaluation team will also look at baseline conditions at the scale of San Bernardino County and the state of California 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 (2015-2019). 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 evaluation team will be tracking over the five-year evaluation period. More detailed data are provided in the Appendix.

Demographics

The population in the Green Together TCC project area is growing overall, a trend similar to Los Angeles County and California. In terms of race/ethnicity distribution we noted that there is a slight increase of Hispanic population, non-Hispanic other groups and non-Hispanic white. On the other hand, there was a statistically significant decrease of non-Hispanic black population for the TCC project area, Los Angeles County and California. For the non-Hispanic Asian population it decreased for the TCC Project area; however, trends for the county and state differ. For foreign born population, the trend is an increase for the TCC project area whereas a decrease in trend for the county and state. See Table 4 for an overview of the trends discussed here.

Table 4: ACS Demographic Indicators[12]

Indicator	ACS Five-year Sample	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Total population	2015-2019	54,691	140,328	10,081,570	39,283,497
	2010-2014	54,157	135,167	9,974,203	38,066,920
	% Change	+1.0%*	+3.8%*	+1.1%*	+3.2%*
Percent Hispanic, all races	2015-2019	91.3%	82.6%	48.5%	39.0%
	2010-2014	90.4%	83.5%	48.1%	38.2%
	% Change	+1.0%	-1.0%	+0.7%*	+2.2%*
Percent Non-Hispanic, Asian	2015-2019	1.7%	6.2%	14.4%	14.3%
	2010-2014	2.7%	6.2%	13.8%	13.3%
	% Change	-35.8%*	-0.9%	+4.5%	+7.4%*
Percent Non-Hispanic, Black	2015-2019	2.7%	2.3%	7.8%	5.5%
	2010-2014	3.4%	2.3%	8.0%	5.7%
	% Change	-20.2%	+1.4%	-2.5%*	-2.5%*
Percent Non-Hispanic, White	2015-2019	3.4%	7.8%	26.2%	37.2%
	2010-2014	3.1%	7.3%	27.2%	39.2%
	% Change	+9.6%	+7.1%	-3.6%*	-5.0%*
Percent Non-Hispanic, others (Pacific Islander, American Indian, two or more races, and other)	2015-2019	0.1%	0.2%	0.3%	0.3%
	2010-2014	0.0%	0.0%	0.2%	0.2%
	% Change	+238.3%	+516.8%*	+29.3%*	+18.5%*
Percent foreign-born population	2015-2019	44.4%	43.9%	34.0%	26.8%
	2010-2014	43.7%	46.9%	34.9%	27.0%
	% Change	1.6%	-6.3%*	-2.6%*	-0.7%*

* 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).

[12] 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 the NE San Fernando Valley appear to be following the county and state where Median Household Income is statistically significant increasing. High income attainment, employment rate, and percent with a bachelor's degree or higher also followed an increasing trend.

Percent of education less than a high school degree has decreased and poverty rates have decreased for all three geographies as well. See Table 5 for an overview of the trends discussed here.

Table 5: ACS Economic Indicators[13]

Indicator	ACS Five-year Sample	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Median household income	2015-2019	$57,501	$52,107	$68,044	$75,235
	2010-2014	$45,611	$40,124	$55,870	$61,489
	% Change	+26.1%*	+29.9%*	+21.8%*	+22.4%*
Percent of individuals living below poverty	2015-2019	19.7%	19.5%	14.9%	13.4%
	2010-2014	23.9%	26.8%	18.4%	16.4%
	% Change	-17.3%*	-27.2%*	-18.9%*	-18.4%*
Percent high-income households ($125k+)	2015-2019	14.0%	12.7%	24.5%	28.0%
	2010-2014	6.6%	6.2%	18.0%	20.4%
	% Change	+112.4%*	+106.0%*	+35.9%*	+37.2%
Percent with less than high school education	2015-2019	47.0%	39.1%	20.9%	16.7%
	2010-2014	49.1%	44.0%	23.2%	18.5%
	% Change	-4.2%	-11.3%*	-10.0%*	-9.8%*
Percent with bachelor's degree or higher	2015-2019	8.5%	14.9%	32.5%	33.9%
	2010-2014	6.8%	11.9%	29.9%	31.0%
	% Change	+8.5%*	+25.6%*	+8.8%*	+9.4%*
Percent employed in civilian labor force	2015-2019	60.0%	60.7%	60.7%	59.4%
	2010-2014	54.1%	56.4%	57.5%	56.4%
	% Change	10.9%*	+7.6%*	+5.6%*	+5.3%*

* 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).

[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.

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 Green Together TCC project area, it appears residents are becoming increasingly less reliant on natural gas utilities for their heating needs, and more reliant on electrical heating appliances. Both the positive trend for electricity and negative trend for gas were statistically significant. With respect to solar PV installations, data were not available for different points in time, but was available at different geographic scales, showing a disparity in solar PV adoption among Green Together TCC residents relative to the rest of the county and state (the adoption rate in the TCC project area is three-quarters that of the county and slightly higher at four-fifths of the state). See Tables 6 and 7 for a summary of the energy related indicators.

Table 6: ACS Energy Indicators[14]

Indicator	ACS Five-year Sample	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Percent of households heating home with electricity	2015-2019	30.7%	28.0%	26.1%	26.6%
	2010-2014	26.4%	28.6%	25.2%	25.8%
	% Change	+16.1%*	-2.1%	+3.3%*	+3.3%*
Percent of households heating home with utility gas	2015-2019	51.2%	58.2%	65.7%	64.1%
	2010-2014	56.9%	59.1%	67.2%	65.6%
	% Change	-9.9%*	-1.6%	-2.2%*	-2.2%*
Percent of households heating home with other fossil fuels (bottled, tank, or liquefied petroleum gas; fuel oil, kerosene, etc.; coal or coke)	2015-2019	0.4%	1.0%	1.4%	3.5%
	2010-2014	0.3%	0.8%	1.3%	3.4%
	% Change	+43.2%	+21.4%	+10.0%*	+1.6%
Percent of houses with no fuel used	2015-2019	16.3%	12.2%	6.1%	3.3%
	2010-2014	15.9%	11.1%	5.8%	3.0%
	% Change	+3.0%	+9.6%	+6.1%*	+10.2%*

*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 7: Solar PV Systems per 1,000 Households[15]

Indicator	Dataset Year	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Solar PV Systems for All Building Types	2018	42.7	24.5	55.4	49.4

[14] 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.

[15] 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.[16] 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 Green Together initiative over time.

Satellite data, however, are 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. This classification process, however, is resource intensive because it requires time and expertise to properly stitch together satellite imagery at the neighborhood scale. For that reason, the LCI evaluation team will refrain from analyzing vegetative cover within the Green Together project area until the end of project implementation, when pre- and post-implementation imagery can be processed alongside one another, thereby allowing for cost-efficiencies.

As an interim measure of vegetative cover, the LCI evaluation team has analyzed the percentage of open space within the Green Together project area and comparison geographies. The underlying data for this analysis was obtained from the California Protected Areas Database (CPAD).[17] This database reflects lands that are owned in fee and protected for open space purposes by over 1,000 public agencies or nonprofit organizations. It's important to note that this database does not include open space that is not formally designated as such (e.g., landscaped medians, tree wells along sidewalks, etc.), nor does it include privately held open space (e.g., backyards, golf courses, etc.), so it is an imperfect proxy of total vegetative cover within the project area. Nonetheless, open space coverage does communicate how much of a neighborhood is expressly protected from hardscaped development.

According to data from CPAD, about 1.4% of the total project area is open space. When normalized by population, that translates to about 31 square feet of open space per resident. The World Health Organization recommends the availability of a minimum of 9 square meters (or 97 square feet) of green space per individual.[18] The Green Together project area falls short of that threshold, while the City and County of Los Angeles greatly exceed it. The City of Los Angeles was added as a comparison geography for this particular metric because the northern half of Los Angeles County is much less densely populated than the rest of the county and is also home to a large swath of National Forest land, which skews the county's open space percentage to be much higher on average than within the more urbanized city boundary.

Table 8: Land-Cover Indicators[19]

	NESFV Site Boundary	Control Census Tracts	City of Los Angeles	Los Angeles County	California
Open access (sq mi)	0.06	0.40	59.95	1,320.93	51,761.00
Total area (sq mi)	4.37	10.30	472.97	4,751.06	163,695.57
Percent of open access	1.4%	3.9%	12.7%	27.8%	31.6%
Total population	54,691	140,328	3,979,576	10,081,570	39,283,497
Open access per person (sq ft)	31	79	420	3,653	36,735

[16] CalEPA and OEHHA, 2017. CalEnviroScreen 3.0.

[17] The December 2020 edition of CPAD was used for this report. Accessible at: https://www.calands.org/cpad/

[18] World Health Organization. 2012. Health Indicators of Sustainable Cities in the Context of the Rio+20 UN Conference on Sustainable Development

[19] Interim; land-cover indicators were derived from the California Protected Areas Database (CPAD).

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. Green Together'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 Green Together: health insurance coverage and vehicle collisions involving a cyclist or pedestrian.

While enrolling individuals in health insurance programs is not an explicit objective of Green Together, it could be an indirect effect of the initiative by virtue of a couple of pathways. Within the TCC project area, there has already been a statistically significant trend toward increased enrollment in health insurance, which is true for Los Angeles County and California as well. This could be explained by the rollout of the Affordable Care Act in 2010. See Table 9 for a summary of these trends.

Pedestrian- and bicyclist-involved vehicle collisions continue to be a concern in California.[20] The Green Together initiative's investments in active transportation infrastructure, such as protected bike lanes and sidewalks, should theoretically lead to a decline in vehicle collisions involving bicyclists and pedestrians. Prior to these investments, total vehicle collisions involving a bicyclist in the TCC project area declined by 25% from 2014 to 2019 (20 to 16 collisions, respectively), while collisions involving a pedestrian have increased by 23% (32 to 26 collisions respectively). See Table 10 for a summary of collisions involving bicyclists and pedestrians in both the TCC project area and control sites.

Table 9: ACS Health Indicators[21]

Indicator	ACS Five-year Sample	NE Valley TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Percent with health insurance coverage	2015-2019	86.0%	85.4%	90.4%	92.5%
	2010-2014	73.7%	69.0%	79.1%	83.3%
	% Change	+16.6%	+23.7%*	+14.2%*	+11.0%*
Percent with private insurance coverage	2015-2019	39.4%	38.8%	58.4%	63.8%
	2010-2014	33.1%	34.2%	54.1%	60.8%
	% Change	+19.0%*	+13.5%*	+7.8%*	+4.9%*
Percent with public insurance coverage	2015-2019	50.7%	50.2%	38.8%	38.0%
	2010-2014	43.7%	38.3%	31.1%	30.8%
	% Change	+16.0%*	+30.9%*	+24.7%*	+23.1%*

*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).

[20] CalSTA, 2019, California Office of Traffic Safety 2019 Annual Report

[21] 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 10: Vehicle Collisions Involving Bicyclists and Pedestrians[22,23]

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	2019	0	0	0	0
	2014	0	0	0	0
	% Change	No change	No change	No change	No change
Bicycle Collision at Injury Level 2: Severe Injury	2019	2	3	17.3	8.5
	2014	2	3	17.3	8.5
	% Change	No change	No change	No change	No change
Bicycle Collision at Injury Level 3: Visible Injury	2019	4	19	34.6	53.9
	2014	12	32	103.7	90.7
	% Change	-67%	-41%	-67%	-41%
Bicycle Collision at Injury Level 4: Complaint of Pain	2019	7	15	60.5	42.5
	2014	6	26	51.9	73.7
	% Change	16%	-42%	+17%	-42%
Pedestrian Collision at Injury Level 1: Fatal	2019	3	4	25.9	11.3
	2014	1	3	8.6	8.5
	% Change	+200%	+33%	+201%	+33%
Pedestrian Collision at Injury Level 2: Severe Injury	2019	5	15	43.2	42.5
	2014	3	4	25.9	11.3
	% Change	+67%	+275%	+67%	+276%
Pedestrian Collision at Injury Level 3: Visible Injury	2019	14	31	121.0	87.9
	2014	15	24	129.6	68.0
	% Change	-7%	+29%	-7%	-23%
Pedestrian Collision at Injury Level 4: Complaint of Pain	2019	10	51	86.4	144.6
	2014	7	34	60.5	96.4
	% Change	+43%	+50%	+43%	+50%

[22] 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 129 miles for the project area and 470 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.

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

Housing

There 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 snapshot 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.[24] See Table 11 for a summary of the housing indicators tracked for renters and Table 12 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 trends were a decrease in the share of renters and the tenure of homeowners in the same house. These trends were unique to the TCC project area as the share of renters in Los Angeles County has increased due to the rising cost of homeownership across the state of California relative to incomes. Likewise, the increase in the share of homeowners who have been in their home for more than one year could also be due to the cost of housing, which diminishes the mobility of residents. However, this trend could also be interpreted as an increase in housing stability for residents that own a home in the area or prevalence of longtime residents.

Table 11: ACS Housing Indicators for Renters[25]

Indicator	ACS Five-year Sample	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Percent renters**	2015-2019	45.5%	63.2%	54.2%	45.2%
	2010-2014	50.8%	64.3%	53.6%	45.2%
	% Change	-10.4%*	-1.7%	+1.1%*	-0.2%
Percent of renters paying ≥30% of income on rent**	2015-2019	63.4%	58.5%	54.9%	52.1%
	2010-2014	63.4%	64.2%	57.0%	54.2%
	% Change	-0.1%	-8.9%*	-3.7%*	-4.0%*
Percent of renters paying ≥50% of income on rent**	2015-2019	35.8%	30.4%	29.0%	26.6%
	2010-2014	38.7%	37.8%	31.0%	28.5%
	% Change	-7.6%	-19.5%*	-6.4%*	-6.6%*
Percent of renters with more than one occupant per room in their unit**	2015-2019	13.6%	17.8%	8.8%	6.0%
	2010-2014	14.1%	18.6%	9.3%	6.0%
	% Change	-3.8%	-4.1%	-5.0%*	+0.6%
Percent of renters in same house one year ago**	2015-2019	39.9%	56.2%	44.2%	35.9%
	2010-2014	42.3%	54.7%	41.0%	33.7%
	% Change	-5.6%	+2.7%	+7.9%*	+6.5%*
Percent of housing units for rent that are vacant	2015-2019	0.8%	1.2%	1.8%	1.6%
	2010-2014	1.7%	3.1%	2.2%	2.0%
	% Change	-54.4%	-60.3%*	-17.7%*	-22.5%*

*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.

[24] 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).

[25] 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 12: ACS Housing Indicators for Homeowners[26]

Indicator	ACS Five-year Sample	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Percent homeowners**	2015-2019	54.5%	36.8%	45.8%	54.8%
	2010-2014	49.2%	35.7%	46.4%	54.8%
	% Change	+10.7%*	+3.1%	-1.2%*	+0.2%
Percent of homeowners paying ≥30% of income on mortgage**	2015-2019	25.6%	25.2%	25.7%	24.4%
	2010-2014	27.3%	31.4%	29.4%	28.5%
	% Change	-6.3%	-19.9%*	-12.8%*	-14.5%*
Percent of homeowners paying ≥50% of income on mortgage**	2015-2019	6.4%	6.9%	5.9%	5.3%
	2010-2014	8.2%	10.2%	7.4%	6.7%
	% Change	-23.0%	-32.3%*	-20.3%*	-21.4%*
Percent of homeowners with more than one occupant per room in their unit**	2015-2019	24.9%	22.8%	11.3%	8.2%
	2010-2014	23.1%	23.8%	12.1%	8.2%
	% Change	+7.8%	-4.2%	-6.6%	0%
Percent of homeowners in same house one year ago**	2015-2019	55.1%	37.1%	46.1%	52.0%
	2010-2014	47.3%	35.2%	46.3%	51.7%
	% Change	+16.6%*	+5.6%	-0.5%	+0.6%
Percent of housing units for sale that are vacant	2015-2019	0.6%	0.3%	0.5%	0.6%
	2010-2014	0.6%	0.4%	0.6%	0.8%
	% Change	+5.4%	-15.0%	-27.9%*	-30.1%*

*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.

[26] Ibid.

Transportation

Across Los Angeles County and California more broadly, there has been a statistically significant shift toward 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. See Table 13 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 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 Green Together, 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 electric vehicles in the TCC project area appears to be growing at a faster rate than the rest of Los Angeles County.[27] Level 2 charging stations grew from 0 to 1; however, direct current (DC) charging stations did not. 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 Tables 14 and 15 for a summary of EV and publicly available charging station data collected for this baseline report.

Table 13: ACS Transportation Indicators[28]

Indicator	ACS Five-year Sample	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	California
Percent of workers commuting to work by car (alone)	2015-2019	72.3%	70.7%	74.0%	73.7%
	2010-2014	69.6%	64.9%	72.6%	73.2%
	% Change	+4.0%*	+9.0%*	+2.0%*	+0.6%*
Percent of workers commuting to work by carpool	2015-2019	14.7%	12.7%	9.5%	10.1%
	2010-2014	18.1%	15.1%	10.3%	11.1%
	% Change	-18.5%	-15.8%*	-8.1%*	-8.8%*
Percent of workers commuting to work by public transit	2015-2019	5.4%	8.4%	5.8%	5.1%
	2010-2014	5.9%	11.4%	7.0%	5.2%
	% Change	-8.7%	-25.9%*	-17.2%*	-2.3%*
Percent of workers commuting to work by foot	2015-2019	2.0%	2.4%	2.7%	2.6%
	2010-2014	1.4%	3.1%	2.9%	2.7%
	% Change	+40.7%	-23.3%*	-5.7%*	-4.2%*
Percent of workers commuting to work by bike	2015-2019	0.3%	0.7%	0.8%	1.0%
	2010-2014	0.7%	0.9%	0.9%	1.1%
	% Change	-65.5%*	-27.5%	-12.8%*	-13.9%*

* 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).

[27] Data were not collected for California at this time because it must be requested by county directly from the California Air Resources Board (CARB).

[28] 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 14: Plug-in Electric Vehicle (PEV) Registrations[29]

Indicator	Dataset Year	Gross Number			Normalized per 10,000 Residents		
		NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County
Battery electric vehicle (BEV)	2019	45	194	67,509	8.2	13.8	67.7
	2017	23	115	37,977	4.0	8.3	37.6
	% Change	+95%	+68%	+78%	+104%	+66%	+80%
Plug-in hybrid electric vehicle (PHEV)	2019	78	288	58,563	14.3	20.5	58.7
	2017	30	108	25,777	5.3	7.8	25.5
	% Change	+160%	+166%	+127%	+171%	+163%	+130%
Fuel cell vehicle (FCEV)	2019	0	8	2,165	0	0.6	2.2
	2017	0	1	174	0	0.1	0.2
	% Change	No change	+700%	+1144%	No change	+689%	+1160%
Total EVs	2019	123	490	126,562	22.5	34.9	126.9
	2017	53	224	63,928	9.3	16.2	63.0
	%Change	+132%	+118%	+98%	+142%	+115%	+100%

Table 15: Publicly Available Charging Infrastructure[30]

Indicator	Dataset Year	Gross Number			Normalized per 10,000 Residents		
		NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County	NESFV TCC Census Tracts	Control Census Tracts	Los Angeles County
Level 2 Stations	2019	1	5	659	0.2	0.4	0.7
	2015	0	2	547	0	0.1	0.5
	% Change	+100%	+150%	+20%	+100%	+300%	+40%
DC Fast-Charging Stations	2019	0	0	125	0	0	0.1
	2015	0	0	61	0	0	0.1
	% Change	No change	No change	+105%	No change	No change	No change

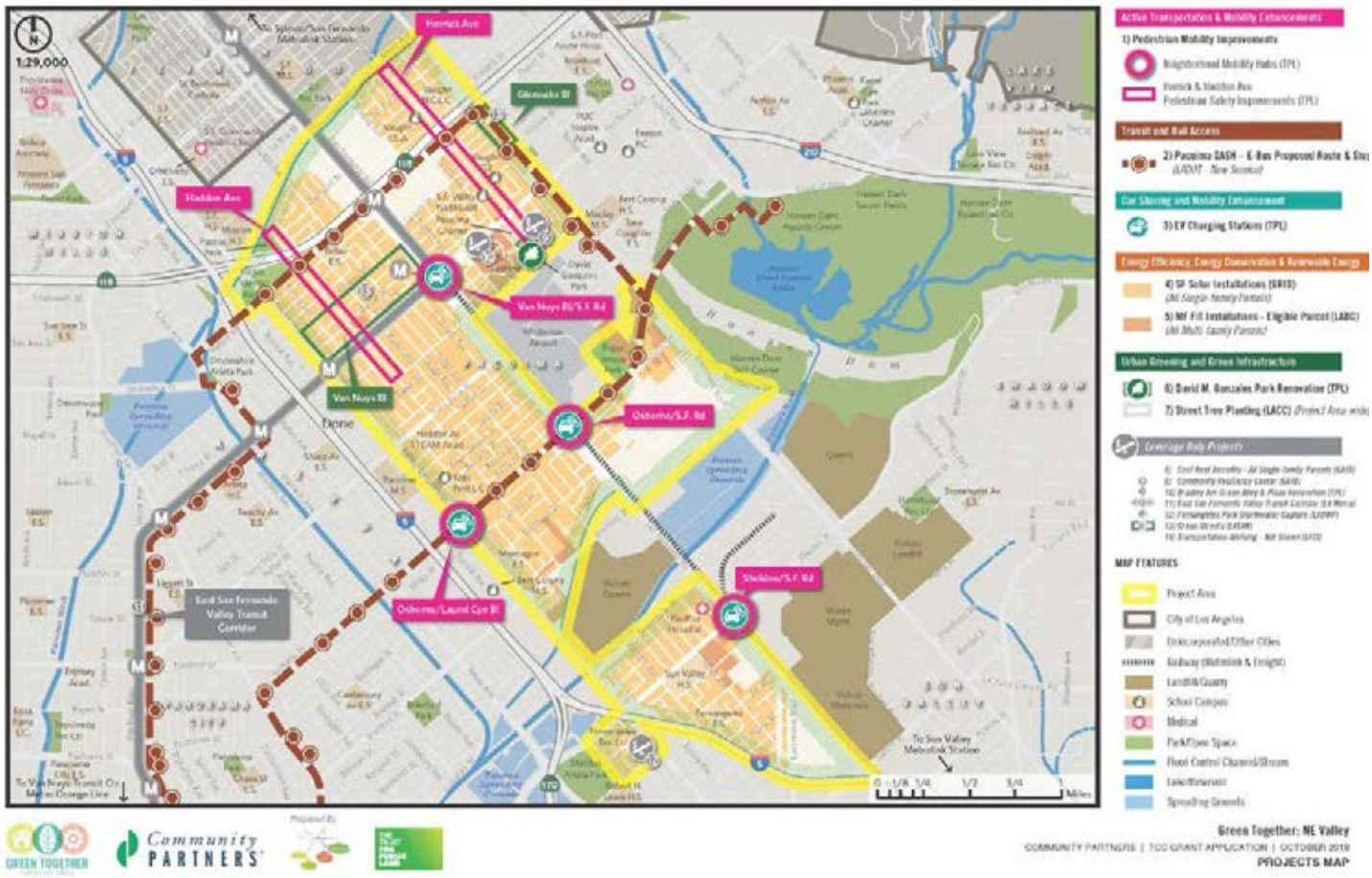
* Difference is due to population growth because there was no change in charging stations.

[29] EV registration data were obtained by request from the California Air Resources Board (CARB) Online Fleet Database. The EV registration data were normalized with 2017 and 2015 five-year ACS data.

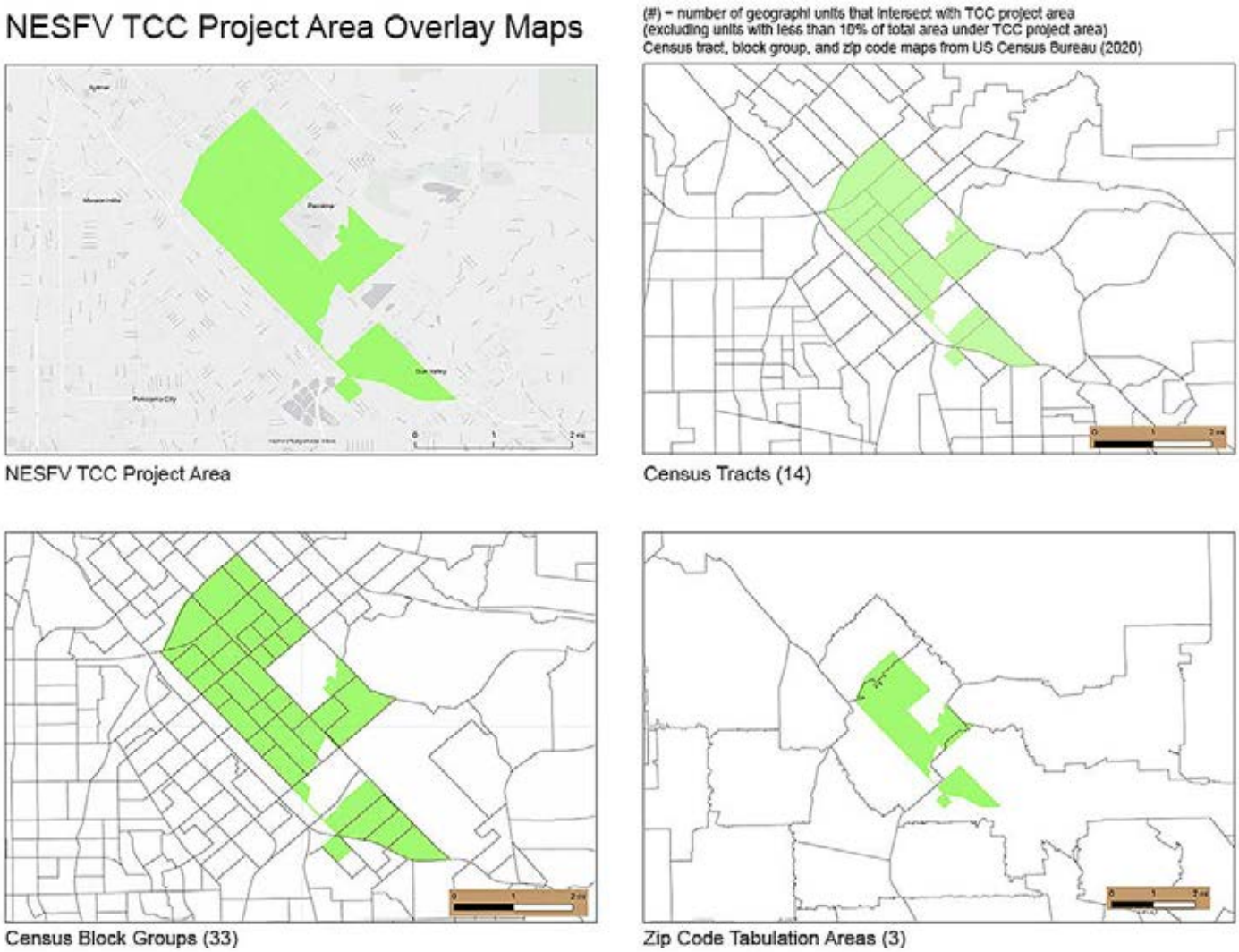
[30] Charging station data were obtained by request from the Alternative Fuels Data Center (AFDC), a resource administered by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy's Vehicle Technologies Office. The 2015 and 2018 datasets include active stations and does not include stations that have previously opened and closed. The charging station data were normalized with 2015 and 2018 five-year ACS data.

APPENDICES

Appendix 1: Supplemental Maps



Detailed project map. **Figure credit: Green Together**



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

Appendix 2: Summary of Methods for Estimating Project Benefits

Benefit	Methodology	Version
Avoided stormwater runoff	iTree Planting	1.1.3
Energy cost savings	California Air Resources Board (CARB) Co-benefit Assessment Methodology for Energy and Fuel Cost Savings[31]	September 13,2019
Greenhouse gas (GHG) reductions	CARB GHG Quantification Methodologies	FY 2017–'18
Jobs (direct, indirect, induced)	Job Co-benefit Assessment Methodology	January 31, 2020
Travel cost savings	California Air Resources Board (CARB) Co-benefit Assessment Methodology for Travel Cost Savings	October 18, 2019
Vehicle miles traveled (VMT) reductions	CARB GHG Quantification Methodologies	FY 2017–'18

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

Appendix 3: Green Together Stakeholder Structure

Member	Membership Type
Community Partners	Grantee
Pacoima Beautiful (PB)	Project Partner
The Trust for Public Land (TPL)	Project Partner
GRID Alternatives Greater Los Angeles (GRID)	Project Partner
Los Angeles Business Council (LABC)	Project Partner
Los Angeles Conservation Corps (LACC)	Project Partner
Los Angeles Department of Transportation (LADOT)	Project Partner
City of Los Angeles Bureau of Sanitation (LASAN)	Project Partner
Los Angeles County Metropolitan Transportation Authority (Metro)	Project Partner

Appendix 4: Green Together TCC Census Tracts

Census Tract GeoID Number	City	Population (ACS 2014-2019 estimate)	Area (sq. mi.)	Population Density (pop./ sq.mi.)
14000US06037104500	Los Angeles	3,025	0.20	14,758
14000US06037104310	Los Angeles	4,962	0.58	8,521
14000US06037104320	Los Angeles	5,292	0.47	11,310
14000US06037104701	Los Angeles	4,402	0.21	20,716
14000US06037104810	Los Angeles	5,631	0.43	12,986
14000US06037104610	Los Angeles	3,386	0.23	14,814
14000US06037104620	Los Angeles	3,528	0.21	17,207
14000US06037104404	Los Angeles	3,084	0.21	14,806
14000US06037104703	Los Angeles	2,174	0.45	4,820
14000US06037104821	Los Angeles	3,551	0.21	17,299
14000US06037121210	Los Angeles	2,926	0.78	3,740
14000US06037104704	Los Angeles	4,321	0.64	6,733
14000US06037121222	Los Angeles	5,139	0.52	9,973
14000US06037104401	Los Angeles	3,270	0.26	12,438

Appendix 5: Green Together Control Census Tracts

Census Tract GeoID Number	City	Population (ACS 2015-2019 estimate)	Area (sq. mi.)	Population Density (pop./ sq.mi.)
14000US006037106604	Los Angeles	5,068	1.01	5,012
14000US006037122200	Los Angeles	3,469	0.66	5,274
14000US006037201602	Los Angeles	2,960	0.41	7,199
14000US006037127400	Los Angeles	6,558	0.84	7,790
14000US006037187200	Los Angeles	2,963	0.37	8,073
14000US006037199202	Los Angeles	3,155	0.37	8,568
14000US006037123206	Los Angeles	2,572	0.23	11,057
14000US006037201301	Los Angeles	4,498	0.33	13,460
14000US006037120010	Los Angeles	2,704	0.22	12,390
14000US006037115302	Los Angeles	3,957	0.32	12,239
14000US006037185320	Los Angeles	2,991	0.23	13,127
14000US006037122420	Los Angeles	4,503	0.33	13,528
14000US006037120105	Los Angeles	2,832	0.21	13,322
14000US006037204700	Los Angeles	5,510	0.39	14,125
14000US006037201501	Los Angeles	5,367	0.34	15,653
14000US006037117201	Los Angeles	5,191	0.31	16,993
14000US006037201504	Los Angeles	2,302	0.14	16,199
14000US006037121801	Los Angeles	3,127	0.19	16,686
14000US006037122121	Los Angeles	2,829	0.16	17,798
14000US006037204910	Los Angeles	3,341	0.20	16,707
14000US006037106114	Los Angeles	6,324	0.39	16,146
14000US006037122120	Los Angeles	5,011	0.28	18,042
14000US006037185203	Los Angeles	3,566	0.21	16,863
14000US006037134001	Los Angeles	3,864	0.23	17,160
14000US006037203900	Los Angeles	3,353	0.17	19,362
14000US006037204810	Los Angeles	5,277	0.30	17,770
14000US006037185310	Los Angeles	3,131	0.16	19,273
14000US006037204300	Los Angeles	5,445	0.25	21,933
14000US006037221210	Los Angeles	3,165	0.14	22,863
14000US006037119320	Los Angeles	4,906	0.19	25,602
14000US006037203200	Los Angeles	5,695	0.20	28,608
14000US006037218210	Los Angeles	3,721	0.15	24,825
14000US006037203710	Los Angeles	3,270	0.11	30,048
14000US006037204120	Los Angeles	2,971	0.10	29,236
14000US006037120108	Los Angeles	4,732	0.15	31,694

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

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
DEMOGRAPHIC-RELATED INDICATORS									
Total Population (B01003)	2009-2013	52,983	1,768	134,587	2,474	9,893,481	0	37,659,181	0
	2010-2014	54,157	1840	135,167	2,395	9,974,203	0	38,066,920	0
	2011-2015	54,874	1,597	135,034	2,292	10,038,388	0	38,421,464	0
	2012-2016	55,391	1,548	137,283	2,272	10,057,155	0	38,654,206	0
	2013-2017	57,027	1,601	138,508	2,270	10,105,722	0	38,982,847	0
	2014-2018	56,191	1,581	138,268	2,362	10,098,052	0	39,148,760	0
	2015-2019	54,691	1,726	140,328	2,426	10,081,570	0	39,283,497	0
Percent Hispanic, all races (B03002)	2009-2013	91.0%	1.6%	83.1%	1.1%	47.9%	0.0%	37.9%	0.0%
	2010-2014	90.4%	1.8%	83.5%	1.1%	48.1%	0.0%	38.2%	0.0%
	2011-2015	90.9%	1.5%	83.2%	1.0%	48.2%	0.0%	38.4%	0.0%
	2012-2016	90.7%	1.3%	83.1%	0.9%	48.3%	0.0%	38.6%	0.0%
	2013-2017	91.3%	1.3%	83.1%	1.0%	48.4%	0.0%	38.8%	0.0%
	2014-2018	90.9%	1.5%	83.2%	1.1%	48.5%	0.0%	38.9%	0.0%
	2015-2019	91.3%	1.4%	82.6%	1.1%	48.5%	0.0%	39.0%	0.0%
Percent White, non-Hispanic (B03002)	2009-2013	3.0%	0.6%	7.0%	0.6%	32.5%	0.0%	39.7%	0.0%
	2010-2014	3.1%	0.6%	7.3%	0.6%	27.5%	0.0%	39.2%	0.0%
	2011-2015	3.0%	0.6%	7.5%	0.6%	27.2%	0.0%	38.7%	0.0%
	2012-2016	2.8%	0.5%	7.3%	0.6%	26.9%	0.0%	38.4%	0.0%
	2013-2017	3.0%	0.5%	7.5%	0.6%	26.7%	0.0%	37.9%	0.0%
	2014-2018	2.9%	0.6%	7.8%	0.5%	26.5%	0.0%	37.5%	0.0%
	2015-2019	3.4%	0.6%	7.8%	0.5%	26.2%	0.0%	37.2%	0.0%
Percent all communities of color, non-Hispanic: Black, Asian, Pacific Islander, American Indian, Other, and Two or More Races (B03002)	2009-2013	6.0%	1.0%	9.9%	0.7%	24.6%	0.1%	22.4%	0.0%
	2010-2014	6.5%	1.1%	9.3%	0.6%	24.7%	0.1%	22.7%	0.0%
	2011-2015	6.1%	0.9%	9.3%	0.6%	24.8%	0.1%	22.9%	0.0%
	2012-2016	6.5%	0.9%	9.6%	0.7%	24.9%	0.1%	23.1%	0.0%
	2013-2017	5.7%	0.8%	9.4%	0.7%	25.1%	0.1%	23.3%	0.0%
	2014-2018	6.1%	0.9%	9.0%	0.6%	25.2%	0.1%	23.6%	0.0%
	2015-2019	5.3%	0.9%	9.6%	0.6%	25.3%	0.1%	23.8%	0.0%

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

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
DEMOGRAPHIC-RELATED INDICATORS (CONTINUED)									
Percent other communities of color, non-Hispanic: Pacific Islander, American Indian, Other, Two or More Races	2009-2013	0.5%	0.2%	0.7%	0.2%	2.7%	0.0%	3.6%	0.0%
	2010-2014	0.4%	0.2%	0.8%	0.2%	2.8%	0.1%	3.7%	0.0%
	2011-2015	0.6%	0.3%	0.8%	0.2%	2.9%	0.1%	3.7%	0.0%
	2012-2016	0.7%	0.3%	0.9%	0.2%	2.9%	0.0%	3.8%	0.0%
	2013-2017	0.5%	0.2%	0.8%	0.2%	2.9%	0.0%	3.9%	0.0%
	2014-2018	0.5%	0.2%	1.0%	0.2%	3.0%	0.0%	3.9%	0.0%
	2015-2019	0.8%	0.3%	1.1%	0.3%	3.0%	0.1%	4.0%	0.0%
Percent Black, non-Hispanic (B03002)	2009-2013	3.5%	0.8%	2.3%	0.4%	8.1%	0.0%	5.7%	0.0%
	2010-2014	3.4%	0.9%	2.3%	0.4%	8.0%	0.0%	5.7%	0.0%
	2011-2015	3.3%	0.8%	2.4%	0.4%	8.0%	0.0%	5.6%	0.0%
	2012-2016	3.0%	0.7%	2.5%	0.4%	8.0%	0.0%	5.6%	0.0%
	2013-2017	2.5%	0.5%	2.3%	0.4%	7.9%	0.0%	5.5%	0.0%
	2014-2018	2.8%	0.6%	2.1%	0.3%	7.9%	0.0%	5.5%	0.0%
	2015-2019	2.7%	0.7%	2.3%	0.4%	7.8%	0.0%	5.5%	0.0%
Percent Asian, non-Hispanic (B03002)	2009-2013	2.1%	0.5%	6.9%	0.6%	13.7%	0.0%	13.1%	0.0%
	2010-2014	2.7%	0.7%	6.2%	0.5%	13.8%	0.0%	13.3%	0.0%
	2011-2015	2.3%	0.5%	6.2%	0.5%	14.0%	0.0%	13.5%	0.0%
	2012-2016	2.8%	0.5%	6.2%	0.5%	14.1%	0.0%	13.7%	0.0%
	2013-2017	2.7%	0.6%	6.2%	0.5%	14.3%	0.0%	13.9%	0.0%
	2014-2018	2.8%	0.6%	6.0%	0.5%	14.4%	0.0%	14.1%	0.0%
	2015-2019	1.7%	0.5%	6.2%	0.5%	14.4%	0.0%	14.3%	0.0%
Percent Pacific Islanders, non-Hispanic (B03002)	2009-2013	0.0%	0.1%	0.0%	0.0%	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%	0.0%	0.1%	0.1%	0.3%	0.0%	0.4%	0.0%
	2012-2016	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.4%	0.0%
	2013-2017	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.4%	0.0%
	2014-2018	0.0%	0.0%	0.1%	0.0%	0.3%	0.0%	0.4%	0.0%
	2015-2019	0.1%	0.1%	0.0%	0.0%	0.2%	0.0%	0.4%	0.0%
Percent American Indian, non-Hispanic(B03002)	2009-2013	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.4%	0.0%
	2010-2014	0.1%	0.1%	0.1%	0.1%	0.2%	0.0%	0.4%	0.0%
	2011-2015	0.1%	0.1%	0.1%	0.0%	0.2%	0.0%	0.4%	0.01%
	2012-2016	0.1%	0.1%	0.1%	0.0%	0.2%	0.0%	0.4%	0.01%
	2013-2017	0.1%	0.1%	0.1%	0.0%	0.2%	0.0%	0.4%	0.0%
	2014-2018	0.1%	0.1%	0.0%	0.0%	0.2%	0.0%	0.4%	0.0%
	2015-2019	0.1%	0.1%	0.1%	0.0%	0.2%	0.0%	0.4%	0.0%

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
DEMOGRAPHIC-RELATED INDICATORS (CONTINUED)									
Percent two or more races, non-Hispanic (B03002)	2009-2013	0.4%	0.2%	0.5%	0.2%	2.1%	0.0%	2.6%	0.0%
	2010-2014	0.3%	0.2%	0.6%	0.2%	2.2%	0.0%	2.7%	0.0%
	2011-2015	0.5%	0.3%	0.6%	0.2%	2.2%	0.0%	2.8%	0.0%
	2012-2016	0.5%	0.2%	0.6%	0.2%	2.2%	0.0%	2.9%	0.0%
	2013-2017	0.3%	0.2%	0.6%	0.2%	2.2%	0.0%	2.9%	0.0%
	2014-2018	0.2%	0.1%	0.7%	0.2%	2.2%	0.0%	3.0%	0.0%
	2015-2019	0.5%	0.2%	0.8%	0.2%	2.3%	0.1%	3.0%	0.0%
Percent other, non-Hispanic (B03002)	2009-2013	0.0%	0.1%	0.1%	0.0%	0.2%	0.0%	0.2%	0.0%
	2010-2014	0.0%	0.1%	0.0%	0.0%	0.2%	0.0%	0.2%	0.0%
	2011-2015	0.1%	0.1%	0.0%	0.0%	0.3%	0.0%	0.2%	0.0%
	2012-2016	0.1%	0.1%	0.1%	0.1%	0.3%	0.0%	0.2%	0.0%
	2013-2017	0.1%	0.2%	0.1%	0.1%	0.3%	0.0%	0.2%	0.0%
	2014-2018	0.2%	0.2%	0.1%	0.1%	0.3%	0.0%	0.2%	0.0%
	2015-2019	0.1%	0.2%	0.2%	0.1%	0.3%	0.0%	0.3%	0.0%
Percent foreign-born population (B05006)	2009-2013	44.1%	1.9%	47.4%	1.0%	35.1%	0.1%	27.0%	0.1%
	2010-2014	43.7%	1.9%	46.9%	1.0%	34.9%	0.1%	27.0%	0.1%
	2011-2015	44.3%	1.6%	46.3%	0.9%	34.7%	0.1%	27.0%	0.1%
	2012-2016	44.4%	1.4%	45.4%	0.9%	34.5%	0.1%	27.0%	0.1%
	2013-2017	45.3%	1.7%	44.5%	0.9%	34.4%	0.1%	27.0%	0.1%
	2014-2018	44.5%	1.7%	44.5%	0.9%	34.2%	0.1%	26.9%	0.1%
	2015-2019	44.4%	2.0%	43.9%	0.9%	34.0%	0.1%	26.8%	0.1%
Percent born in Asia (B05006)	2009-2013	1.9%	0.4%	5.9%	0.5%	11.9%	0.1%	9.8%	0.0%
	2010-2014	2.3%	0.6%	5.4%	0.4%	12.0%	0.1%	10.0%	0.0%
	2011-2015	2.1%	0.4%	5.5%	0.4%	12.0%	0.1%	10.1%	0.0%
	2012-2016	2.6%	0.5%	5.4%	0.4%	12.1%	0.1%	10.2%	0.0%
	2013-2017	2.6%	0.5%	5.6%	0.4%	12.1%	0.1%	10.4%	0.0%
	2014-2018	2.5%	0.5%	5.6%	0.4%	12.2%	0.1%	10.5%	0.0%
	2015-2019	1.9%	0.5%	5.7%	0.4%	12.2%	0.1%	10.6%	0.0%
Percent born in Africa (B05006)	2009-2013	0.0%	0.1%	0.2%	0.1%	0.5%	0.0%	0.4%	0.0%
	2010-2014	0.0%	0.1%	0.2%	0.1%	0.5%	0.0%	0.4%	0.0%
	2011-2015	0.0%	0.1%	0.3%	0.1%	0.6%	0.0%	0.4%	0.0%
	2012-2016	0.0%	0.1%	0.3%	0.1%	0.5%	0.0%	0.5%	0.0%
	2013-2017	0.1%	0.1%	0.2%	0.1%	0.6%	0.0%	0.5%	0.0%
	2014-2018	0.1%	0.1%	0.2%	0.1%	0.6%	0.0%	0.5%	0.0%
	2015-2019	0.2%	0.1%	0.3%	0.1%	0.6%	0.0%	0.5%	0.0%

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
DEMOGRAPHIC-RELATED INDICATORS (CONTINUED)									
Percent born in Latin America (B05006)	2009-2013	0.1%	0.1%	0.1%	0.1%	0.3%	0.0%	0.2%	0.0%
	2010-2014	0.0%	0.1%	0.1%	0.1%	0.3%	0.0%	0.2%	0.0%
	2011-2015	42.1%	1.7%	40.0%	1.0%	20.0%	0.1%	14.2%	0.1%
	2012-2016	41.5%	1.5%	39.2%	0.9%	19.8%	0.1%	14.0%	0.0%
	2013-2017	42.5%	1.7%	38.0%	0.9%	19.6%	0.1%	13.8%	0.1%
	2014-2018	41.8%	1.7%	38.0%	0.9%	19.4%	0.1%	13.7%	0.1%
	2015-2019	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%
ECONOMIC INDICATORS									
Median household income (B19001)	2009-2013	$45,516	NA	$39,952	NA	$55,909	$256	$61,094	$157
	2010-2014	$45,611	NA	$40,124	NA	$55,870	$244	$61,489	$154
	2011-2015	$46,403	NA	$39,937	NA	$56,196	$270	$61,818	$156
	2012-2016	$49,106	NA	$40,921	NA	$57,952	$331	$63,783	$188
	2013-2017	$51,369	NA	$43,311	NA	$61,015	$262	$67,169	$192
	2014-2018	$55,026	NA	$47,468	NA	$64,251	$247	$71,228	$217
	2015-2019	$57,501	NA	$52,107	NA	$68,044	$347	$75,235	$232
Percent of individuals living below poverty (B17001)	2009-2013	23.5%	2.4%	25.9%	1.6%	17.8%	0.2%	15.9%	0.1%
	2010-2014	23.9%	2.4%	26.8%	1.5%	18.4%	0.2%	16.4%	0.1%
	2011-2015	24.6%	2.2%	26.7%	1.4%	18.2%	0.1%	16.3%	0.1%
	2012-2016	24.3%	2.2%	25.8%	1.4%	17.8%	0.2%	15.8%	0.1%
	2013-2017	22.8%	2.3%	23.9%	1.4%	17.0%	0.2%	15.1%	0.1%
	2014-2018	20.9%	2.2%	22.1%	1.4%	16.0%	0.2%	14.3%	0.1%
	2015-2019	19.7%	2.5%	19.5%	1.3%	14.9%	0.1%	13.4%	0.1%
Percent high income ($125k +) (B19001)	2009-2013	5.5%	1.2%	5.8%	0.7%	17.6%	0.1%	19.9%	0.1%
	2010-2014	6.6%	1.3%	6.2%	0.7%	18.0%	0.1%	20.4%	0.1%
	2011-2015	7.2%	1.3%	6.2%	0.7%	18.3%	0.1%	20.9%	0.1%
	2012-2016	8.0%	1.3%	7.0%	0.7%	19.4%	0.1%	22.1%	0.1%
	2013-2017	9.4%	1.4%	8.7%	0.8%	21.0%	0.2%	23.9%	0.1%
	2014-2018	11.7%	1.7%	10.4%	0.9%	22.8%	0.2%	26.1%	0.1%
	2015-2019	14.0%	2.0%	12.7%	1.0%	24.5%	0.2%	28.0%	0.1%
Percent with less than high school education (S1501)	2009-2013	51.1%	2.5%	44.6%	1.4%	23.4%	0.1%	18.8%	0.1%
	2010-2014	49.1%	2.6%	44.0%	1.3%	23.2%	0.1%	18.5%	0.1%
	2011-2015	48.3%	2.1%	44.2%	1.2%	22.7%	0.1%	18.2%	0.1%
	2012-2016	47.8%	2.0%	43.1%	1.2%	22.3%	0.1%	17.9%	0.1%
	2013-2017	46.9%	1.9%	41.7%	1.3%	21.8%	0.1%	17.5%	0.1%
	2014-2018	46.1%	2.0%	40.5%	1.2%	21.3%	0.1%	17.1%	0.1%
	2015-2019	47.0%	2.1%	39.1%	1.3%	20.9%	0.1%	16.7%	0.1%

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
ECONOMIC INDICATORS (CONTINUED)									
Percent with bachelor's degree or higher (S1501)	2009-2013	6.7%	0.9%	11.5%	0.7%	29.7%	0.2%	30.7%	0.1%
	2010-2014	6.8%	0.9%	11.9%	0.7%	29.9%	0.2%	31.0%	0.1%
	2011-2015	7.3%	1.0%	12.3%	0.7%	30.3%	0.2%	31.4%	0.1%
	2012-2016	7.4%	0.9%	12.8%	0.7%	30.8%	0.1%	32.0%	0.1%
	2013-2017	7.6%	0.9%	13.3%	0.7%	31.2%	0.2%	32.6%	0.1%
	2014-2018	8.1%	1.1%	14.1%	0.7%	31.8%	0.2%	33.3%	0.1%
	2015-2019	8.5%	1.0%	14.9%	0.8%	32.5%	0.2%	33.9%	0.1%
Percent employed for the population 16 years and over (B23025)	2009-2013	53.8%	1.7%	56.1%	1.0%	57.5%	0.1%	56.4%	0.1%
	2010-2014	54.1%	1.6%	56.4%	0.9%	57.5%	0.1%	56.4%	0.1%
	2011-2015	55.2%	1.3%	57.4%	0.9%	58.0%	0.1%	56.9%	0.1%
	2012-2016	55.9%	1.3%	58.5%	0.9%	58.6%	0.1%	57.5%	0.1%
	2013-2017	58.0%	1.5%	59.3%	0.9%	59.3%	0.1%	58.2%	0.1%
	2014-2018	59.6%	1.5%	59.7%	0.9%	60.0%	0.1%	58.9%	0.1%
	2015-2019	60.0%	1.5%	60.7%	0.9%	60.7%	0.1%	59.4%	0.1%
ENERGY-RELATED INDICATORS									
Percent of households heating home with electricity (B25040)	2009-2013	26.4%	2.5%	28.3%	1.4%	25.0%	0.1%	25.5%	0.1%
	2010-2014	26.4%	2.3%	28.6%	1.3%	25.2%	0.1%	25.8%	0.1%
	2011-2015	29.9%	2.2%	29.2%	1.3%	25.7%	0.1%	26.2%	0.1%
	2012-2016	26.6%	2.2%	29.0%	1.3%	25.9%	0.2%	26.4%	0.1%
	2013-2017	27.3%	2.4%	28.9%	1.3%	26.0%	0.1%	26.5%	0.1%
	2014-2018	28.2%	2.3%	28.3%	1.3%	25.9%	0.2%	26.4%	0.1%
	2015-2019	30.7%	2.4%	28.0%	1.3%	26.1%	0.2%	26.6%	0.1%
Percent of households heating home with other non-fossil fuels (B25040)	2009-2013	0.3%	0.3%	0.3%	0.2%	0.3%	0.0%	1.8%	0.0%
	2010-2014	0.4%	0.4%	0.3%	0.2%	0.3%	0.0%	1.9%	0.0%
	2011-2015	0.6%	0.5%	0.3%	0.2%	0.4%	0.0%	1.9%	0.0%
	2012-2016	0.7%	0.5%	0.3%	0.1%	0.4%	0.0%	1.9%	0.0%
	2013-2017	0.6%	0.5%	0.2%	0.1%	0.5%	0.0%	2.0%	0.0%
	2014-2018	1.1%	0.7%	0.3%	0.2%	2.0%	0.1%	2.1%	0.0%
	2015-2019	1.3%	0.7%	0.5%	0.2%	0.5%	0.0%	2.1%	0.0%
Percent of households heating home with utility gas (B25040)	2009-2013	55.3%	2.7%	60.0%	1.5%	67.7%	0.2%	66.0%	0.1%
	2010-2014	56.9%	2.7%	59.1%	1.5%	67.2%	0.1%	65.6%	0.1%
	2011-2015	53.8%	2.4%	58.1%	1.4%	66.6%	0.2%	65.0%	0.1%
	2012-2016	56.5%	2.5%	57.8%	1.4%	66.2%	0.2%	64.6%	0.1%
	2013-2017	55.0%	2.5%	58.3%	1.4%	66.0%	0.1%	64.4%	0.1%
	2014-2018	53.1%	2.6%	58.3%	1.4%	65.9%	0.2%	64.3%	0.1%
	2015-2019	51.2%	2.7%	58.2%	1.4%	65.7%	0.2%	64.1%	0.0%

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
ENERGY-RELATED INDICATORS (CONTINUED)									
Percent of households heating home with other fossil fuels (B25040)	2009-2013	0.4%	0.3%	0.8%	0.2%	1.2%	0.0%	3.5%	0.0%
	2010-2014	0.3%	0.3%	0.8%	0.2%	1.3%	0.0%	3.4%	0.0%
	2011-2015	0.3%	0.3%	0.9%	0.2%	1.3%	0.0%	3.4%	0.0%
	2012-2016	0.3%	0.2%	0.8%	0.2%	1.3%	0.0%	3.4%	0.0%
	2013-2017	0.1%	0.2%	0.8%	0.2%	1.4%	0.0%	3.5%	0.0%
	2014-2018	0.4%	0.3%	1.1%	0.3%	1.4%	0.0%	3.5%	0.0%
	2015-2019	0.4%	0.3%	1.0%	0.3%	1.4%	0.1%	3.5%	0.0%
Percent of houses with no fuel used (B25040)	2009-2013	17.4%	2.3%	10.6%	1.0%	5.6%	0.1%	2.9%	0.0%
	2010-2014	15.9%	2.0%	11.1%	1.0%	5.8%	0.1%	3.0%	0.0%
	2011-2015	15.2%	1.8%	11.5%	1.0%	5.9%	0.1%	3.2%	0.0%
	2012-2016	15.7%	1.9%	12.1%	1.0%	6.1%	0.1%	3.3%	0.0%
	2013-2017	16.8%	1.9%	11.8%	0.9%	6.2%	0.1%	3.4%	0.0%
	2014-2018	17.2%	2.0%	12.0%	1.0%	6.2%	0.1%	3.4%	0.0%
	2015-2019	16.3%	2.0%	12.2%	1.0%	6.1%	0.1%	3.3%	0.0%
HEALTH-RELATED INDICATORS									
Percent with health insurance coverage (B27001)	2009-2013	72.1%	1.7%	66.9%	1.2%	77.8%	0.2%	82.2%	0.1%
	2010-2014	73.7%	0.9%	69.0%	1.1%	79.1%	0.1%	83.3%	0.1%
	2011-2015	76.5%	1.1%	73.1%	0.9%	81.6%	0.1%	85.3%	0.1%
	2012-2016	79.3%	1.1%	77.1%	0.9%	84.1%	0.1%	87.4%	0.1%
	2013-2017	81.8%	1.1%	81.1%	0.8%	86.7%	0.1%	89.5%	0.1%
	2014-2018	84.3%	1.1%	84.2%	0.8%	89.2%	0.1%	91.5%	0.1%
	2015-2019	86.0%	0.9%	85.4%	0.7%	90.4%	0.1%	92.5%	0.1%
Percent with private health insurance coverage (B27002)	2009-2013	33.6%	2.0%	33.2%	1.2%	54.3%	0.2%	61.0%	0.2%
	2010-2014	33.1%	1.9%	34.2%	1.1%	54.1%	0.2%	60.8%	0.2%
	2011-2015	33.5%	1.8%	35.1%	1.1%	55.0%	0.2%	61.2%	0.2%
	2012-2016	35.2%	1.7%	35.7%	1.1%	55.8%	0.2%	61.8%	0.2%
	2013-2017	36.1%	1.8%	38.2%	1.2%	56.8%	0.2%	62.6%	0.2%
	2014-2018	38.4%	1.8%	39.2%	1.2%	57.9%	0.2%	63.4%	0.2%
	2015-2019	39.4%	1.8%	38.8%	1.2%	58.4%	0.3%	63.8%	0.2%
Percent with public health insurance coverage (B27003)	2009-2013	41.9%	2.2%	37.1%	1.3%	29.7%	0.1%	29.5%	0.1%
	2010-2014	43.7%	2.1%	38.3%	1.3%	31.1%	0.1%	30.8%	0.1%
	2011-2015	46.0%	2.0%	41.6%	1.2%	32.9%	0.1%	32.6%	0.1%
	2012-2016	47.8%	2.1%	44.8%	1.3%	34.7%	0.2%	34.3%	0.1%
	2013-2017	49.5%	2.1%	46.4%	1.3%	36.4%	0.1%	35.8%	0.1%
	2014-2018	50.1%	1.9%	48.6%	1.3%	38.0%	0.1%	37.2%	0.1%
	2015-2019	50.7%	2.2%	50.2%	1.3%	38.8%	0.2%	38.0%	0.1%

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
HOUSING-RELATED INDICATORS									
Percent renters (B25003)	2009-2013	49.4%	2.8%	64.4%	1.3%	53.1%	0.2%	44.7%	0.1%
	2010-2014	50.8%	2.6%	64.3%	1.3%	53.6%	0.1%	45.2%	0.1%
	2011-2015	50.5%	2.3%	64.4%	1.3%	54.0%	0.2%	45.7%	0.1%
	2012-2016	48.9%	2.2%	64.1%	1.2%	54.3%	0.2%	45.9%	0.2%
	2013-2017	47.7%	2.4%	63.6%	1.2%	54.1%	0.2%	45.5%	0.1%
	2014-2018	46.5%	2.5%	63.1%	1.3%	54.2%	0.2%	45.4%	0.1%
	2015-2019	45.5%	2.5%	63.2%	1.2%	54.2%	0.2%	45.2%	0.1%
Percent homeowners (B25003)	2009-2013	50.6%	2.6%	35.6%	1.2%	46.9%	0.3%	55.3%	0.3%
	2010-2014	49.2%	2.5%	35.7%	1.2%	46.4%	0.3%	54.8%	0.3%
	2011-2015	49.5%	2.2%	35.6%	1.2%	46.0%	0.3%	54.3%	0.3%
	2012-2016	51.1%	2.2%	35.9%	1.2%	45.7%	0.3%	54.1%	0.3%
	2013-2017	52.3%	2.4%	36.4%	1.2%	45.9%	0.3%	54.5%	0.3%
	2014-2018	53.5%	2.4%	36.9%	1.2%	45.8%	0.3%	54.6%	0.3%
	2015-2019	54.5%	2.4%	36.8%	1.2%	45.8%	0.3%	54.8%	0.3%
Percent of households paying ≥30% of income on rent (B25070)	2009-2013	65.0%	5.2%	63.4%	2.5%	56.4%	0.3%	54.1%	0.2%
	2010-2014	63.4%	5.0%	64.2%	2.5%	57.0%	0.3%	54.2%	0.1%
	2011-2015	62.9%	4.7%	64.8%	2.5%	56.9%	0.3%	54.0%	0.1%
	2012-2016	61.8%	4.5%	64.3%	2.4%	56.5%	0.3%	53.6%	0.1%
	2013-2017	64.4%	5.0%	62.4%	2.5%	56.1%	0.3%	53.1%	0.1%
	2014-2018	61.3%	4.9%	60.4%	2.5%	55.5%	0.3%	52.6%	0.2%
	2015-2019	63.4%	5.1%	58.5%	2.5%	54.9%	0.3%	52.1%	0.2%
Percent of households paying ≥50% of income on rent (B25070)	2009-2013	38.4%	4.1%	37.6%	1.9%	30.7%	0.2%	28.3%	0.1%
	2010-2014	38.7%	4.1%	37.8%	1.9%	31.0%	0.2%	28.5%	0.1%
	2011-2015	37.8%	3.7%	37.0%	1.9%	30.9%	0.2%	28.2%	0.2%
	2012-2016	37.3%	3.6%	36.9%	1.8%	30.6%	0.2%	27.9%	0.1%
	2013-2017	38.8%	4.1%	34.9%	1.9%	30.1%	0.3%	27.4%	0.1%
	2014-2018	35.1%	3.9%	32.9%	1.9%	29.5%	0.2%	27.0%	0.2%
	2015-2019	35.8%	4.1%	30.4%	1.8%	29.0%	0.2%	26.6%	0.2%
Percent of households paying ≥30% of income on mortgage (B25091)	2009-2013	26.3%	3.6%	32.1%	2.6%	30.3%	0.2%	29.7%	0.1%
	2010-2014	27.3%	3.4%	31.4%	2.3%	29.4%	0.2%	28.5%	0.0%
	2011-2015	27.6%	3.3%	30.8%	2.3%	28.5%	0.2%	27.4%	0.2%
	2012-2016	28.3%	3.3%	29.0%	2.3%	27.5%	0.2%	26.2%	0.2%
	2013-2017	26.1%	3.3%	27.2%	2.3%	26.5%	0.2%	25.3%	0.0%
	2014-2018	26.6%	3.3%	26.8%	2.2%	26.0%	0.2%	24.7%	0.0%
	2015-2019	25.6%	3.5%	25.2%	2.2%	25.7%	0.2%	24.4%	0.0%

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
HOUSING-RELATED INDICATORS (CONTINUED)									
Percent of households paying ≥50% of income on mortgage (B25091)	2009-2013	7.7%	2.1%	11.0%	1.6%	7.9%	0.1%	7.2%	0.1%
	2010-2014	8.2%	1.9%	10.2%	1.4%	7.4%	0.1%	6.7%	0.0%
	2011-2015	7.6%	1.8%	9.6%	1.4%	7.0%	0.1%	6.2%	0.0%
	2012-2016	9.2%	2.2%	7.7%	1.2%	6.5%	0.1%	5.8%	0.1%
	2013-2017	7.4%	1.9%	6.7%	1.1%	6.3%	0.1%	5.5%	0.1%
	2014-2018	7.7%	1.9%	7.0%	1.2%	6.0%	0.1%	5.4%	0.1%
	2015-2019	6.4%	1.8%	6.9%	1.3%	5.9%	0.1%	5.3%	0.0%
Percent of households with more than one occupant per room (B25014)	2009-2013	24.8%	2.9%	24.3%	1.5%	12.1%	0.1%	8.2%	0.1%
	2010-2014	23.1%	2.6%	23.8%	1.4%	12.1%	0.1%	8.2%	0.1%
	2011-2015	23.0%	2.4%	22.3%	1.3%	11.8%	0.1%	8.2%	0.1%
	2012-2016	24.5%	2.4%	22.5%	1.3%	11.8%	0.1%	8.2%	0.1%
	2013-2017	24.9%	2.4%	22.0%	1.3%	11.7%	0.1%	8.2%	0.1%
	2014-2018	25.6%	2.4%	22.6%	1.4%	11.4%	0.1%	8.2%	0.1%
	2015-2019	24.9%	2.5%	22.8%	1.4%	11.3%	0.1%	8.2%	0.1%
Percent of households with more than one occupant per room (renters) (B25014)	2009-2013	13.5%	2.2%	19.2%	1.4%	9.3%	0.1%	6.0%	0.0%
	2010-2014	14.1%	2.2%	18.6%	1.3%	9.3%	0.1%	6.0%	0.0%
	2011-2015	14.2%	2.0%	17.5%	1.2%	9.2%	0.1%	6.0%	0.1%
	2012-2016	14.6%	1.9%	17.6%	1.2%	9.2%	0.1%	6.1%	0.0%
	2013-2017	14.1%	1.9%	16.9%	1.2%	9.1%	0.1%	6.0%	0.1%
	2014-2018	14.5%	1.9%	17.7%	1.3%	8.9%	0.1%	6.0%	0.0%
	2015-2019	13.6%	1.9%	17.8%	1.3%	8.8%	0.1%	6.0%	0.1%
Percent of households with more than one occupant per room (homeowners) (B25014)	2009-2013	11.3%	1.9%	34.7%	1.5%	2.9%	0.1%	2.3%	0.0%
	2010-2014	8.9%	1.5%	5.2%	0.7%	2.8%	0.1%	2.2%	0.0%
	2011-2015	8.8%	1.4%	4.8%	0.6%	2.7%	0.1%	2.2%	0.0%
	2012-2016	9.9%	1.4%	4.9%	0.6%	2.6%	0.0%	2.1%	0.0%
	2013-2017	10.8%	1.5%	5.1%	0.6%	2.6%	0.0%	2.2%	0.0%
	2014-2018	11.2%	1.5%	4.9%	0.6%	2.6%	0.0%	2.2%	0.0%
	2015-2019	11.3%	1.6%	5.0%	0.6%	2.5%	0.1%	2.2%	0.0%
Percent of households in same house 1 year ago (renters) (B07013)	2009-2013	13.5%	2.2%	54.7%	1.7%	40.2%	0.2%	32.7%	0.2%
	2010-2014	42.3%	3.3%	54.7%	1.7%	41.0%	0.2%	33.7%	0.2%
	2011-2015	42.8%	3.0%	55.1%	1.6%	42.0%	0.3%	34.7%	0.2%
	2012-2016	43.1%	2.8%	55.2%	1.6%	42.9%	0.3%	35.4%	0.2%
	2013-2017	42.1%	3.0%	55.2%	1.5%	43.4%	0.3%	35.6%	0.2%
	2014-2018	41.2%	2.9%	55.7%	1.6%	43.9%	0.2%	35.8%	0.2%
	2015-2019	39.9%	3.0%	56.2%	1.5%	44.2%	0.3%	35.9%	0.2%

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
HOUSING-RELATED INDICATORS (CONTINUED)									
Percent of households in same house 1 year ago (homeowners) (B07013)	2009-2013	49.8%	3.0%	34.7%	1.5%	46.9%	0.3%	52.3%	0.3%
	2010-2014	47.3%	2.6%	35.2%	1.4%	46.3%	0.3%	51.7%	0.3%
	2011-2015	48.7%	2.4%	35.8%	1.4%	45.9%	0.3%	51.3%	0.3%
	2012-2016	49.4%	2.3%	36.0%	1.4%	45.6%	0.3%	51.0%	0.3%
	2013-2017	51.2%	2.7%	36.9%	1.4%	45.9%	0.3%	51.4%	0.2%
	2014-2018	52.6%	2.8%	37.3%	1.5%	45.9%	0.3%	51.6%	0.2%
	2015-2019	55.1%	2.7%	37.1%	1.5%	46.1%	0.3%	52.0%	0.3%
Percent of households in same house 1 year ago (w/ income of ≥ $75k) (B07010)	2009-2013	1.5%	0.3%	2.6%	0.3%	10.5%	NA	12.1%	0.1%
	2010-2014	2.0%	0.4%	2.7%	0.3%	10.6%	0.1%	12.3%	0.1%
	2011-2015	2.2%	0.4%	2.9%	0.3%	10.7%	0.1%	12.4%	0.1%
	2012-2016	2.4%	0.4%	3.1%	0.3%	11.2%	0.1%	13.0%	0.1%
	2013-2017	2.8%	0.4%	3.6%	0.3%	11.9%	0.1%	13.8%	0.1%
	2014-2018	3.7%	0.5%	4.2%	0.3%	12.8%	0.1%	14.8%	0.1%
	2015-2019	4.0%	0.5%	4.9%	0.4%	13.8%	0.1%	16.0%	0.1%
Percent of households in same house 1 year ago (w/ income of < $75k) (B07010)	2009-2013	88.1%	1.4%	86.8%	1.1%	75.9%	NA	72.2%	0.1%
	2010-2014	87.8%	0.9%	87.0%	0.9%	76.1%	NA	72.5%	0.1%
	2011-2015	89.8%	0.9%	87.7%	1.0%	76.5%	NA	72.9%	0.1%
	2012-2016	90.4%	1.0%	87.9%	1.1%	76.6%	NA	72.8%	0.1%
	2013-2017	91.1%	1.2%	88.1%	1.1%	76.5%	NA	72.4%	0.1%
	2014-2018	90.9%	1.4%	88.2%	1.0%	76.2%	NA	71.8%	0.1%
	2015-2019	91.4%	1.1%	87.9%	1.0%	75.6%	0.2%	71.0%	0.1%
Percent of housing units for rent that are vacant (B25002 and B25004)	2009-2013	0.8%	0.6%	3.0%	0.6%	2.3%	0.1%	2.1%	0.1%
	2010-2014	1.7%	0.8%	3.1%	0.5%	2.2%	0.1%	2.0%	0.0%
	2011-2015	1.8%	0.8%	2.7%	0.5%	1.9%	0.1%	1.8%	0.0%
	2012-2016	1.6%	0.8%	2.1%	0.4%	1.8%	0.1%	1.7%	0.0%
	2013-2017	1.2%	0.6%	1.6%	0.4%	1.7%	0.1%	1.6%	0.0%
	2014-2018	0.9%	0.5%	1.5%	0.4%	1.7%	0.1%	1.5%	0.0%
	2015-2019	0.8%	0.5%	1.2%	0.4%	1.8%	0.1%	1.6%	0.0%
Percent of housing units for sale that are vacant (B25002 and B25004)	2009-2013	0.8%	0.6%	0.5%	0.2%	0.7%	0.0%	0.9%	0.0%
	2010-2014	0.6%	0.4%	0.4%	0.2%	0.6%	0.0%	0.8%	0.0%
	2011-2015	0.5%	0.4%	0.4%	0.2%	0.6%	0.0%	0.7%	0.0%
	2012-2016	0.6%	0.4%	0.3%	0.2%	0.5%	0.0%	0.6%	0.0%
	2013-2017	0.2%	0.3%	0.2%	0.2%	0.5%	0.0%	0.6%	0.0%
	2014-2018	0.1%	0.2%	0.3%	0.2%	0.5%	0.0%	0.6%	0.0%
	2015-2019	0.6%	0.5%	0.3%	0.2%	0.5%	0.0%	0.6%	0.0%

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
TRANSPORTATION-RELATED INDICATORS									
Percent of households with a vehicle available (B08201)	2009-2013	24.8%	2.5%	37.1%	1.5%	35.1%	0.1%	32.3%	0.1%
	2010-2014	27.7%	2.4%	35.7%	1.5%	35.1%	0.1%	32.2%	0.1%
	2011-2015	25.6%	2.2%	35.2%	1.4%	35.1%	0.2%	32.1%	0.1%
	2012-2016	24.9%	2.1%	35.0%	1.4%	34.7%	0.2%	31.7%	0.1%
	2013-2017	24.7%	2.1%	33.9%	1.4%	34.3%	0.2%	31.2%	0.1%
	2014-2018	24.3%	2.2%	33.4%	1.4%	33.9%	0.2%	30.8%	0.1%
	2015-2019	22.9%	2.2%	32.8%	1.4%	33.5%	0.2%	30.4%	0.1%
Percent of workers commuting to work alone by car (B08301)	2009-2013	68.4%	2.0%	63.4%	1.2%	72.4%	0.1%	73.2%	0.1%
	2010-2014	69.6%	1.8%	64.9%	1.2%	72.6%	0.1%	73.2%	0.1%
	2011-2015	72.0%	2.0%	66.5%	1.2%	73.0%	0.2%	73.4%	0.1%
	2012-2016	72.1%	1.8%	67.4%	1.2%	73.3%	0.1%	73.5%	0.0%
	2013-2017	72.8%	1.9%	69.2%	1.3%	73.7%	0.2%	73.6%	0.1%
	2014-2018	73.2%	2.0%	70.2%	1.1%	73.9%	0.2%	73.7%	0.0%
	2015-2019	72.3%	2.0%	70.7%	1.2%	74.0%	0.2%	73.7%	0.0%
Percent of workers commuting to work by carpool (B08301)	2009-2013	19.5%	2.8%	15.7%	1.2%	10.6%	0.1%	11.3%	0.1%
	2010-2014	18.1%	3.4%	15.1%	1.2%	10.3%	0.1%	11.1%	0.1%
	2011-2015	14.2%	1.8%	13.7%	1.1%	9.9%	0.1%	10.8%	0.1%
	2012-2016	14.6%	1.6%	13.4%	1.0%	9.8%	0.1%	10.6%	0.1%
	2013-2017	14.3%	1.6%	13.3%	1.1%	9.6%	0.1%	10.4%	0.1%
	2014-2018	13.1%	1.5%	12.6%	1.0%	9.5%	0.1%	10.3%	0.1%
	2015-2019	14.7%	1.7%	12.7%	1.0%	9.5%	0.1%	10.1%	0.1%
Percent of workers commuting to work by public transit (B08301)	2009-2013	5.3%	1.1%	12.0%	1.0%	7.1%	0.1%	5.2%	0.0%
	2010-2014	5.9%	1.3%	11.4%	0.9%	7.0%	0.1%	5.2%	0.0%
	2011-2015	6.4%	1.2%	11.2%	0.9%	6.8%	0.1%	5.2%	0.0%
	2012-2016	6.0%	1.0%	10.7%	0.9%	6.5%	0.1%	5.2%	0.0%
	2013-2017	6.0%	1.1%	9.2%	0.7%	6.3%	0.1%	5.2%	0.0%
	2014-2018	5.7%	1.0%	9.2%	0.8%	6.0%	0.1%	5.1%	0.0%
	2015-2019	5.4%	1.0%	8.4%	0.8%	5.8%	0.1%	5.1%	0.0%
Percent of workers commuting to work by foot (B08301)	2009-2013	2.3%	0.8%	3.1%	0.5%	2.9%	0.1%	2.7%	0.0%
	2010-2014	1.4%	0.5%	3.1%	0.5%	2.9%	0.1%	2.7%	0.0%
	2011-2015	1.7%	0.6%	3.4%	0.5%	2.8%	0.1%	2.7%	0.0%
	2012-2016	1.7%	0.6%	3.3%	0.5%	2.8%	0.1%	2.7%	0.0%
	2013-2017	1.6%	0.6%	3.2%	0.4%	2.7%	0.1%	2.7%	0.0%
	2014-2018	2.0%	0.7%	2.7%	0.4%	2.7%	0.1%	2.7%	0.0%
	2015-2019	2.0%	0.7%	2.4%	0.4%	2.7%	0.1%	2.6%	0.0%

	Time Period (ACS 5-Year sample)	Estimate NESFV TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Los Angeles County	MOE	Estimate for California	MOE
TRANSPORTATION-RELATED INDICATORS (CONTINUED)									
Percent of workers commuting to work by bike (B08301)	2009-2013	0.6%	0.4%	1.2%	0.4%	0.9%	0.0%	1.1%	0.0%
	2010-2014	0.7%	0.4%	0.9%	0.3%	0.9%	0.0%	1.1%	0.0%
	2011-2015	0.7%	0.4%	1.0%	0.3%	0.9%	0.0%	1.1%	0.0%
	2012-2016	0.7%	0.3%	0.9%	0.3%	0.9%	0.0%	1.1%	0.0%
	2013-2017	0.5%	0.3%	0.8%	0.2%	0.9%	0.0%	1.1%	0.0%
	2014-2018	0.4%	0.3%	0.7%	0.2%	0.8%	0.0%	1.0%	0.0%
	2015-2019	0.3%	0.2%	0.7%	0.2%	0.8%	0.0%	1.0%	0.0%
Percent of workers commuting to work by other modes: taxicab, motorcycle, and other (B08301)	2009-2013	1.0%	0.5%	1.5%	0.4%	1.2%	0.0%	1.3%	0.0%
	2010-2014	1.5%	0.6%	1.6%	0.3%	1.3%	0.0%	1.3%	0.0%
	2011-2015	1.8%	0.7%	1.7%	0.4%	1.4%	0.0%	1.4%	0.0%
	2012-2016	2.4%	0.8%	1.8%	0.4%	1.4%	0.0%	1.4%	0.0%
	2013-2017	2.8%	0.8%	1.6%	0.3%	1.5%	0.0%	1.5%	0.0%
	2014-2018	3.7%	0.9%	1.6%	0.3%	1.6%	0.0%	1.6%	0.0%
	2015-2019	3.1%	0.8%	1.7%	0.3%	1.6%	0.0%	1.6%	0.0%

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

Indicator	Dataset Year	Gross Number of Collisions				Normalized by 1,00 Street Mile			
		Value for NESFV TCC Site by Buffer Size		Value for Controls by Buffer Size		Value for NESFV TCC Site by Buffer Size		Value for Controls by Buffer Size	
		0ft	50 ft	0ft	50 ft	0ft	50 ft	0ft	50 ft
Bicycle Collision at Injury Level 1: Fatal	2019	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	% Change	No change	No change	No change	No change	No change	No change	No change	No change
Bicycle Collision at Injury Level 2: Severe Injury	2019	2	2	3	3	17.3	17.3	8.5	8.5
	2014	2	2	3	4	17.3	17.3	8.5	11.3
	% Change	No change	No change	No change	-25%	No change	No change	No change	No change
Bicycle Collision at Injury Level 3: Visible Injury	2019	4	6	19	32	34.6	51.9	53.9	90.7
	2014	12	13	32	42	103.7	112.4	90.7	119.0
	% Change	-66%	-54%	-41%	-24%	-66%	-54%	-41%	-24%
Bicycle Collision at Injury Level 4: Complaint of Pain	2019	7	9	15	26	60.5	77.8	42.5	73.7
	2014	6	7	26	35	51.9	60.5	73.7	99.2
	% Change	+16%	+28%	-42%	-26%	+16%	+28%	-42%	-26%
Pedestrian Collision at Injury Level 1: Fatal	2019	3	3	4	9	25.9	25.9	11.3	25.5
	2014	1	2	3	4	8.6	17.3	8.5	11.3
	% Change	+200%	+50%	+33%	+125%	+200%	+50%	+33%	+125%
Pedestrian Collision at Injury Level 2: Severe Injury	2019	5	5	15	24	43.2	43.2	42.5	68.0
	2014	3	4	4	8	25.9	34.6	11.3	22.7
	% Change	+67%	+25%	+275%	+200%	+67%	+25%	+275%	+200%
Pedestrian Collision at Injury Level 3: Visible Injury	2019	14	14	31	48	121.0	121.0	87.9	136.1
	2014	15	16	24	42	129.6	138.3	68.0	119.0
	% Change	-7%	-13%	+29%	+14%	-7%	-13%	+29%	+14%
Pedestrian Collision at Injury Level 4: Complaint of Pain	2019	10	11	51	72	86.4	95.1	144.6	204.1
	2014	7	8	34	54	60.5	69.1	96.4	153.1
	% Change	+43%	+38%	+50%	+33%	+43%	+38%	+50%	+33%

Indicator	Dataset Year	Gross Number of Collisions				Normalized by 1,00 Street Mile			
		Value for NESFV TCC Site by Buffer Size		Value for Controls by Buffer Size		Value for NESFV TCC Site by Buffer Size		Value for Controls by Buffer Size	
		0ft	50 ft	0ft	50 ft	0ft	50 ft	0ft	50 ft
Combined Bicycle and Pedestrian Collision at Injury Level 1: Fatal	2019	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	% Change	No change	No change	No change	No change	No change	No change	No change	No change
Combined Bicycle and Pedestrian Collision at Injury Level 2: Severe Injury	2019	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	% Change	No change	No change	No change	No change	No change	No change	No change	No change
Combined Bicycle and Pedestrian at Injury Level 3: Visible Injury	2019	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	% Change	No change	No change	No change	No change	No change	No change	No change	No change
Combined Bicycle and Pedestrian at Injury Level 4: Complaint of Pain	2019	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	% Change	No change	No change	No change	No change	No change	No change	No change	No change

UCLA Luskin
Center for Innovation