Final Report

A. Project Profile

Project Name: GreenTRIP Online Parking Database

Lead and Partner Organizations: TransForm

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Sub-Grant Program: Housing the Workforce

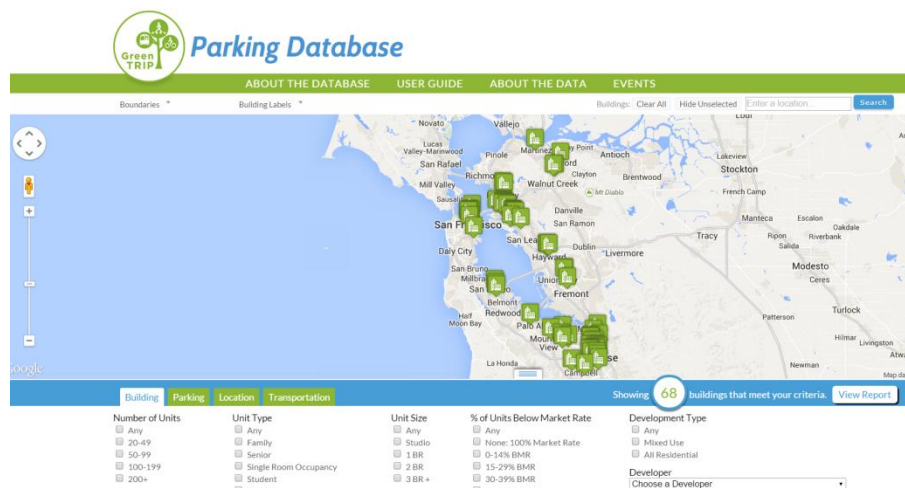Project Type: Implementation Tool

Total Grant Amount: $100,000

Total Match (if any): $255,022

Geographic Coverage of Project: Bay Area

Brief Description:

TransForm's GreenTRIP Program created an online Parking Database to show the number of parking spaces that are provided at multi-family residential buildings around the Bay Area, and the number of parking spaces that are not being used, as counted in middle of the night, mid-week parking counts. The Database is fully functional and free for all to use on the web at database.greentrip.org. There are 68 sites included in the website, including affordable housing, market rate, sites with transit passes for residents, sites with car share, and unbundled parking. Additional data makes it possible to filter the sites to customize a comparison report along with building profile reports to share with decision-makers and inform future development decisions. The data collected showed that 31% of parking spaces were empty across 68 sites, costing developers approximately $139 million, and using about 20 acres of space.

Images:

San Francisco Bay Area Regional Prosperity Plan:
Final Report for TransForm's GreenTRIP Online Parking Database, March 31, 2015.

B. Project Description

1. Goals and Objectives

Affordable homes, especially those with traffic reduction strategies, should be credited with appropriate transportation benefits and reduced parking requirements. This would make more developments financially feasible and increase the number of homes in a given building envelope. Yet most cities do not give credit to affordable homes, neighbors fight proposed developments, and traffic models underestimate their benefits.

TransForm set out to count parking utilization at 40 sites in the Bay Area at peak residential parking demand. With city staff and developer partners' collaboration, the GreenTRIP team counted parking use at 68 sites, and organized the collected data for seamless integration into a free website for stakeholders to use. The Parking Database is changing conversations among developers, city staff and decision-makers, and with community members.

Lower income households looking for housing in the Bay Area will benefit directly, as affordable homes will become more financially feasible to build with this data. Developers and consultants are eager to use this data, and city staff are using the data to support lower parking in new projects near transit that leverage traffic reduction strategies.

2. Work Plan

The project had several key tasks, broken into phases below:

- Site selection and gaining site permissions: working with housing development organizations
- Data collection: training data collectors and working with on-site management
- Cleaning data and performing quality control on data collected
- Designing and reviewing database construction: working with Center for Neighborhood Technology to make the ideas work online
- Releasing the database: getting the word out and training users on how to use this powerful tool
- Maintenance plan: how data will be added for new sites and kept fresh

The deliverables included:

- Data forms for each site where data was collected
- The Parking Database itself
- A number of Meetings, Presentations, Focus Groups and Trainings to engage stakeholders and make sure the end product would be useful. These were conducted on the internet, by phone, and in person.

3. Role of Lead and Partners

TransForm: Secured permissions, collected data, prepared data for database, designed concept, conducted outreach and completed documentation and maintenance plan.

California Housing Partnership Corporation (CHPC): Assisted with outreach to affordable housing developers.

Center for Neighborhood Technology (CNT): Created database frame and user interface, added layers of data from transit, map layers, reports, user guide.

City of Oakland, City of San Jose: Gave feedback on design, site selection, learned how to use the Parking Database. Piloted use in applying parking requirement reductions.

Data hosts: Provided access to sites for data collection, and completed data forms.

C. Challenges and Outcomes

1. Challenges

The biggest challenge to completing the GreenTRIP Parking Database was gaining permissions and getting access to a specific set (and a wide variety) of multi-family residential sites around the Bay Area. TransForm chose sites based on transit proximity, affordability, traffic reduction strategy implementation and then reached out to developers for permissions. Many developers were willing to allow TransForm to include those sites in the Parking Database, but there were others who were unwilling. The toughest sites to gain permission to included market rate apartments and condominiums. The reasons given when permission was denied included a lack of capacity within the organization to work with us and privacy concerns about how the data would be used.

A second challenge was the time it took to collect the data and clean the data for use in the parking database. Some data hosts were unable to provide all the data we asked for, for some the data form was too long and was not complete, and the data collectors were occasionally unable to get all the data on the form. These delays made the project more difficult. We underestimated the data collection effort and if we were to collect additional data, we would allow for more time and budget to accommodate those needs.

In the next phase, we would simplify the data form to the essential data shared in the database. We learned from King County, WA, and their work and added more fields. Also, focusing the data collection within a shorter time period, with increased staff time during data collection, or alternatively, contracting out all the data collection (as was originally intended) might streamline data collection.

We would also like to have been able to include resident surveys as part of the data collection effort, to collect data on vehicle ownership and parking preferences and practices by residents of these buildings. We plan to rely on results from other research projects we are partners on.

2. Outcomes

The project was a real success in that the data collected showed what we anticipated, and to a greater extent than expected: parking is provided at levels above the number of spaces being used at peak residential parking times, on average 31% of spaces counted were empty. We collected more data than we had planned (68 rather than 40 sites), and the amount of data as well as our methodology produced robust research outcomes, and exceeds some other well-used data sources, such as ITE parking generation rates. It adds to a growing body of data on parking, and many developers, consultants, city staff and members of the public are using the results, with over 1,500 pageviews since our launch.

The data collected and the interviews conducted showed the importance of **parking management** –it is not only the number of spaces provided for residents, but the way those spaces are managed that create optimal parking situations. The perception of a parking scarcity problem was common at many sites, but data revealed that there were empty spaces during peak parking demand. These sites would benefit from implementation of improved parking management strategies, such as permitting vehicles, but allowing for unassigned parking spaces, to maximize flexibility of time of use.

Many people have benefitted from the GreenTRIP Parking Database (furthered described in our Documentation Report), including:

- Affordable Housing and Market Rate developers who may no longer have to commission a consultant to complete a parking study (cost estimates of $5,000-10,000)

- City staff who now have enough data to support policies allowing parking requirement reductions in specific plans and variances for individual projects, for example in Walnut Creek and Mountain View
- Community members who now have better data to ask for reduced parking and less traffic
- Neighborhoods with a more pedestrian friendly design without parking dominating street scapes
- All Californians as we reduce greenhouse gas emissions from future residents

D. Replicability and Dissemination

1. Replicability

The GreenTRIP Parking Database applies across the Bay Area, as our sites represent different geographies and place types. We chose not to include sites in some Bay Area counties due to lack of anticipated growth, but we have representative sites for diverse locations. There is a real benefit to local data, and the Parking Database provides additional sites for our partner cities of Oakland and San Jose.

Each jurisdiction in the Bay Area determines parking codes within city limits. We support cities to re-examine parking requirements with this Parking Data, and advocacy and outreach will increase the impact of this work. Providing model language to support those changes to code would be a natural next step (example: King County's Right Size Parking Draft Model Code document, Dec 2013).

We have targeted San Jose and Oakland as partner cities, and yet impact of this project can be replicated throughout the Bay Area and beyond. TransForm has worked with over 23 cities through our Great Communities Collaborative work on specific plans that support less parking with local evidence. We also hear interest from LA and in other regions around the country.

2. Tools and Resources

The main product of the project is the tool itself: the GreenTRIP Parking Database, accessible online to all at database.greentrip.org. Additionally, there are comparison reports and building reports that can be viewed and printed from the online database (examples appended to Methodology Report). In our Documentation and Methodology report we include copies of the data form, higher level analyses and findings, along with examples so others could replicate our work on their own.

3. Sharing and Dissemination

Over the next 12 months, TransForm will continue to disseminate information about the GreenTRIP Parking Database to ensure that cities, developers and neighbors know how to use it to facilitate parking production to the "right size," avoiding excessive parking that is a waste of resources and diminishes the quality of life in urban areas.

The GreenTRIP team continues to conduct outreach at regional events (past and future):

- Great Communities Collaborative (GCC)
- TransForm's Silicon Valley Summit (March 2015)
- HUD-MTC Housing the Workforce meetings and events (ongoing)
- Presentations at SFMTA, Oakland and San Jose staff trainings, NPH, SPUR, EBHO
- National conferences, such as RailVolution in Minneapolis (2014), APA in Oakland (2015)

TransForm is also actively developing the GreenTRIP Connect tool, which will build on the data foundation of the Parking Database to create a dynamic model predicting parking, VMT and GHGs for new developments, based on the traffic reduction strategies included and the affordability. Connect will be accessible to all users, just like the Parking Database, and will apply to all of California.

E. Recommendations and Next Steps

1. Recommendations

- Reduce parking requirements in Bay Area cities for existing and future areas with walkable neighborhoods and mixed use developments, especially near rich transit.
- Reduce required parking further for multi-family residential projects that are affordable (subsidized), recognizing that low-income families own fewer cars and use transit more. The range of incomes within "affordable housing" varies, and the lower the income, the lower car ownership rates.
- Give greenhouse gas reduction credit to affordable homes and those that use traffic reduction strategies – support state Greenhouse Gas Reduction Funds to be used for these projects.
- Create a repository of parking data regionally (similar to UK's TRICS system) where municipalities keep the data and require new projects to submit data annually.
- Integrate this database into the regional Parking Database that MTC is building now to make a "One Stop Shop" location for all things parking data related. By institutionalizing the database, it will be accessible even if GreenTRIP and TransForm no longer maintain it. Provide funding to update the GreenTRIP Parking Database.
- Regional funding should incent projects to voluntarily collect and share data on parking.
- Incorporate reference to the Parking Database through reports appended to all relevant applications to decision makers within the region as a resource. Use in place of "parking studies."
- State level agencies (SGC, ARB, HCD) require applicants to reference the Parking Data and participate in future data collection on parking.
- County level CMA agencies (ACTC, VTA, C/CAG) require jurisdictions seeking funds to participate in data collection on parking.
- TOAH funds can be directed to developments that will participate in the Parking Database.
- Cities require new developments to submit reports from the Parking Database as part of their applications, and to participate in the Parking Database once constructed.
- Developers use the data to support requests for reduced parking for projects near transit.
- Community members use the parking data to improve future developments.

2. Next Steps

We seek funding that will allow us to maintain and add to the GreenTRIP Parking Database. We promote the Parking Database and rely on partners to do the same. Regional entities refer to it in analyses and reports as partners throughout the Bay Area continue to use the Database.

GreenTRIP Connect is the next step for this program, and will extend beyond the Bay Area to the state level and perhaps even beyond California, if other regions collaborate and share data. GreenTRIP Connect is an online tool that will let city officials, developers, and community members everywhere see immediately the benefits (GHG reductions, cost savings) of transit access, affordable homes and implementing GreenTRIP strategies to reduce traffic and parking.

We support other research projects that collect data on trip generation and that include resident surveys to get better data on household decisions on mode and VMT. Specifically, a Caltrans funded project on Smart Growth Trip Generation with Portland State (2015-2017) examines and quantifies reductions in VMT from housing with affordable units and traffic reduction strategies. Also, ARB is considering a project led by Susan Handy at UC Davis that includes resident surveys, and we serve in an advisory role on that project as well.

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