Smart City Challenge
*San Francisco: Harnessing the Future of Shared Mobility*

What is the Smart City Challenge?

Simply put, it is creating the future of urban transportation. The U.S. Department of Transportation has pledged up to $40 million to one city to help define what it means to be a "Smart City" and become the country's first city to fully integrate innovative technologies – like self-driving cars and connected vehicles – into their transportation network. Vulcan Inc. has also pledged another $10 million to the winning city, which will link people to transportation in ways that improve quality of life and lower greenhouse gas emissions.

Seven cities were selected as finalists on March 12: Austin, Columbus, Denver, Kansas City, Pittsburgh, Portland and San Francisco. A winner will be announced this summer.

San Francisco Is the Right City

San Francisco is the right city to win this challenge. For innovation, openness and early adoption, there is no place better than San Francisco. We are the start-up capital of the world, and for decades we have been pioneering new transportation options. Our robust public transit systems average 1 million daily boardings and feature one of the largest zero-emission fleets in the country. We are the birthplace of ride-sharing and car-sharing companies. We created an innovative demand-pricing approach to parking that cut greenhouse gas emissions and parking wait times. And the San Francisco Bay Area is the hub for autonomous vehicle technology.
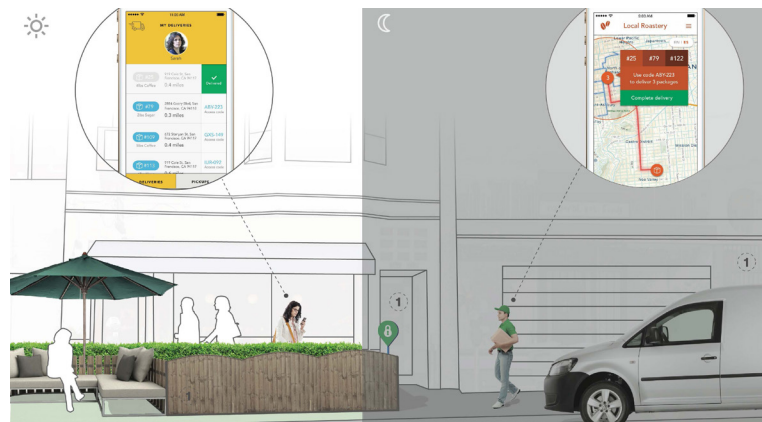
(At top) People will have multiple affordable, clean, and safe options, making daily trips much more convenient. (Below) A pilot program of micro delivery hubs would allow trucks to deliver to hubs at night rather than clog city streets during the day. Handcarts and cargo bikes would be used to distribute goods from the hub during the day.

World Class Research

The University of California, Berkeley is the perfect institution to partner with the City of San Francisco on the Smart City Challenge. With 22 Nobel Laureates, UC Berkeley is a premier global research institution. UC Berkeley's Transportation Sustainability Research Center and Institute of Transportation Studies, along with its partnership with the Lawrence Berkeley National Laboratory, provide unparalleled technical expertise and an academic infrastructure that cannot be matched by other applicants.

San Francisco by the Numbers

12 Companies Testing Autonomous Vehicles in California	**#1** City In Venture Capital Investment	**22** Nobel Laureates at Academic Partner UC Berkeley	**#1** Global Start-Up Ecosystem
1st The Birthplace of Ridesharing Services	**2nd** Most Electric Vehicle Charging Stations in the US	**1st** In Electric Vehicles More Than Any Other City	**1 mil** Daily Transit Boardings

Why a Smart City Challenge?

Our country's current car-focused transportation system is dangerous, inefficient and unaffordable. More than 30,000 people die in traffic fatalities in our nation every year. We're wasting valuable space storing cars along our streets and in garages where they sit unused 80 percent of the time. Combined, the 440,000 on-street parking spaces in San Francisco make up enough space to create another Golden Gate Park and still fill the floor space of 120 Transamerica Pyramids with affordable housing.

Our plan would phase in innovative technologies that allow us to repurpose public space currently under-utilized as parking into affordable housing, small parks and pedestrian amenities.

San Francisco is the city that can test and deliver innovative projects that move us to a future where there are zero traffic deaths, zero transportation emissions and everyone can get where they're going conveniently and affordably.
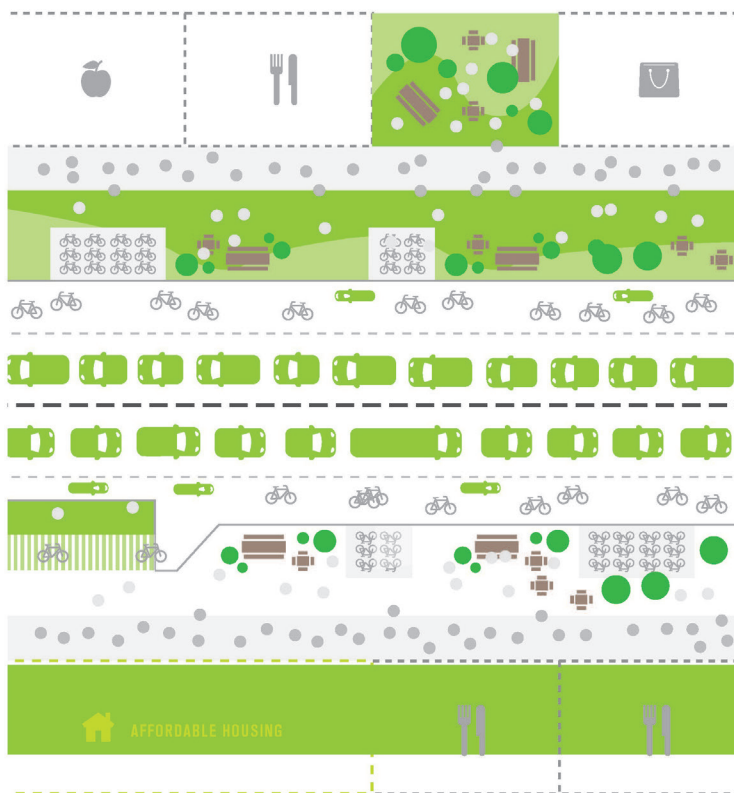
Shared, autonomous, connected, electric, transportation will streamline and synchronize traffic, eliminate the need for parking creating room for inviting public spaces and affordable housing.

San Francisco's Approach

Here's our plan: a phased approach that has shared, electric, connected vehicles – eventually autonomous ones – affordably link people seamlessly to enhanced transit or their nearby destination. We're partnering with UC Berkeley and innovative companies to make that happen. These are the main components:

- **Easy** – Combine routing, scheduling and payment through a single, simple mobile device app for: transit, bike share, scooter share, car share, ride share, public parking facilities and public shuttles.

- **Opportunity** – Provide low-income residents with access to smart phones and banking services so they can benefit from mobile payments. Free public Wi-Fi will connect the many residents who cannot afford mobile data plans from private companies. Transportation prices would be affordable to all residents. Service would be provided around the clock so late-night service workers would have safe and affordable means to get home. Low-income areas would be better connected to transit. Vehicles in the program would all be accessible to people with disabilities.

- **Safety** – Eliminate fatal collisions through collision avoidance technology and connected vehicles, including after-market devices for cars and trucks that currently lack the technology.

- **Shared** – Shared vehicles will always be available to take you where you need to go, eliminating the stress and expense of owning and parking a car. Since the vehicles would be in use nearly continuously, most parking could be turned into mini parks, relaxation areas and affordable housing.

- **Green** – Vehicles would be electric to minimize air and noise pollution, including cargo vans and cargo bikes. The smart grid will be enhanced and more charging stations built.

- **Community** – Some improvements will be citywide; for others neighborhoods would apply to participate in pilot programs. That way changes happen at a pace that communities embrace and benefit from.

- **Teach** – Work with UC Berkeley and industry partners to test, analyze and disseminate best practices learned from these pilot programs to other transportation agencies, academics, and students across the United States and the world.