



## THE PROJECT

### PROBLEM

necessary improvements on **RELIABILITY OF BUS SERVICE**

over **56,000** daily transit commuters on Geary Street

### SOLUTION

**Transit Signal Progression** optimizes signal split and offsets in timing plan to create the "green wave"

modifies signal timing by holding "green" longer or shortening "red"

**Transit Signal Priority**



### Contact Us

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## PROJECT

**TRAFFIC CONTROL STRATEGIES "SMART CITIES"**

**TRANSIT ESSENTIAL**  **TIME SAVER**

## TAKE ADVANTAGE OF OPTIMIZATION

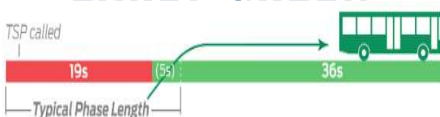


**SAVING 10-15% travel time**

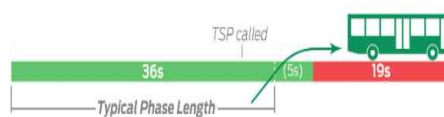
## TRANSIT SIGNAL PRIORITY STRATEGY



### EARLY GREEN



### GREEN EXTENSION



- + Provides a green phase earlier than programmed to clear an intersection approach with a waiting transit bus sooner
- + Easiest to implement on long blocks or on transitways with predictable travel times.

- + Provides extra time of a green phase for a detected transit vehicle to clear an intersection
- + Most applicable when transit bus at the back of the queue, as is common at the 1st signal after a far-side stop

## Our EXPLORATION PROCESS

### Step 1

#### Data Collection

Collect traffic flow, signal plan and transit operation data for Geary Street westbound & side streets from San Francisco Transportation Agency

### Step 2

#### Traffic Data Analysis

Analyze traffic characteristics of vehicles and components attributed from transit vehicles in PM Peak (4-7pm)

### Step 3

#### Signal Offset Plan

Generate system offsets through optimization by model "Synchro"; for reducing transit vehicles stopping at red lights to ensure smooth progression along Geary Street

### Step 4

#### Intelligent Signal Plan

Devise basic traffic signal plan with adjustable green-extension from TSP tailored for each intersection; optimize overall traffic performance of Geary by simulator "VISSIM"