

Real-World Big Data for Active Transportation Planning


A pilot project for a new repository of bike and pedestrian travel behavior that enabled practitioners across California to:

- 1 Empirically measure bike and pedestrian activity
- 2 Quickly obtain quality real-world data via an analytics platform
- 3 Conduct data-driven analysis of infrastructure needs



STREETLIGHT
Big Data for Mobility

ABOUT THE DATA PROJECT

In July 2018, the **California Department of Transportation**  **Caltrans** initiated a project in partnership with StreetLight Data. The project resulted in statewide information on people's active transportation behavior to better inform planning and investments. This information is derived by fusing Big Data acquired from mobile devices along with conventional data collection techniques.

DATA AND ANALYTICS DEVELOPMENT

The project team led by StreetLight Data developed machine learning algorithms to identify walking and biking activity, and short-distance auto trips near or on state facilities. The algorithms were trained, tested and validated using multi-app locational data, in-road bicycle and pedestrian counters and video sensors. StreetLight Data worked with all 12 Caltrans districts to validate the data. The results of the project were presented at the American Planning Association and at the Association of Pedestrian and Bicycle Professionals annual conferences.

INFRASTRUCTURE INVESTMENT ANALYSIS

Viewable travel patterns and multiple metrics allow for developing equitable, multi-objective criteria to identify Caltrans facilities for new active transportation infrastructure investments and to help inform policy decisions for Caltrans long range bicycle and pedestrian plans. Accessing the database Caltrans district staff and their partners will use StreetLight InSight®, an on-demand cloud-based platform developed by StreetLight Data, to access the information while protecting consumer privacy.

An On-Demand Platform for Active Transportation Data and Infrastructure Investment Analysis



StreetLight InSight® users can measure active mode trips by designing and visualizing origin-destination and aggregate activity analytics. They can “slice-and-dice” by time, geography, and more.

Analytics enable the user to assess multimodal activity on corridors and in TAZs to:



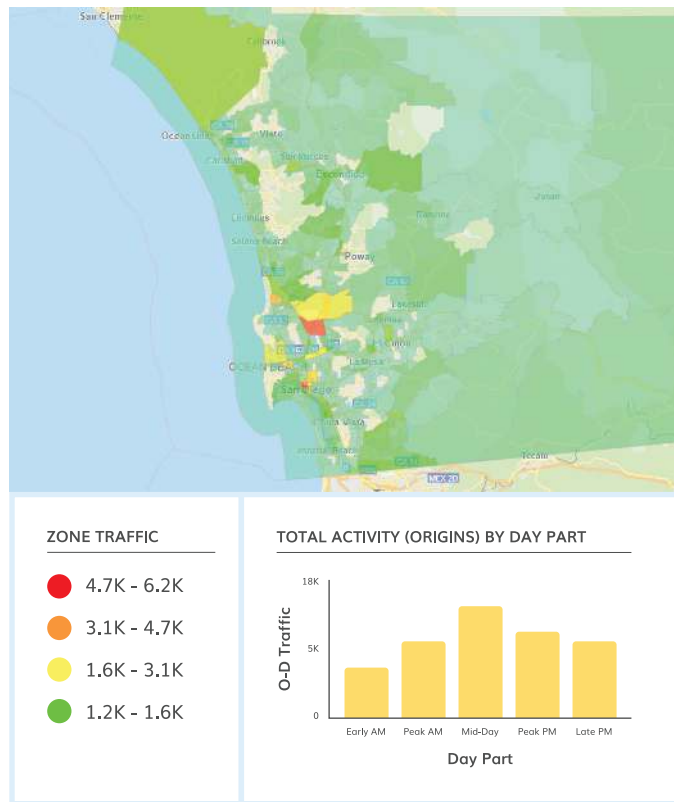
Identify needs for **increased accessibility** and **safer bike and pedestrian crossings** over Caltrans facilities.



Prioritize bicycle infrastructure in areas where there are currently **gaps in the network**.



Identify **collision prone areas** and evaluate which have the most existing bicycle and pedestrian activity to prioritize safety planning.



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