Real-World Big Data for Active Transportation Planning

STREETLIGHT
Big Data for Mobility

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

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

ABOUT THE DATA PROJECT

In July 2018, the California Department of Transportation (Caltrans) initiated a project in partnership with StreetLight Data. The project will result 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 has developed machine learning algorithms to identify walking and biking activity, and short-distance auto trips near or on state facilities. The algorithms are being trained, tested and validated using multi-app locational data, mode-specific app data, in-road sensors and video readers. StreetLight Data will work with individual Caltrans districts to validate the data. The Caltrans StreetLight Data Project was selected by Southern California Association of Governments (SCAG) Data Science Federation Program to tackle policy issues using data-driven decision making. Through this program, Claremont Graduate University's research will provide a secondary data validation.

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. 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
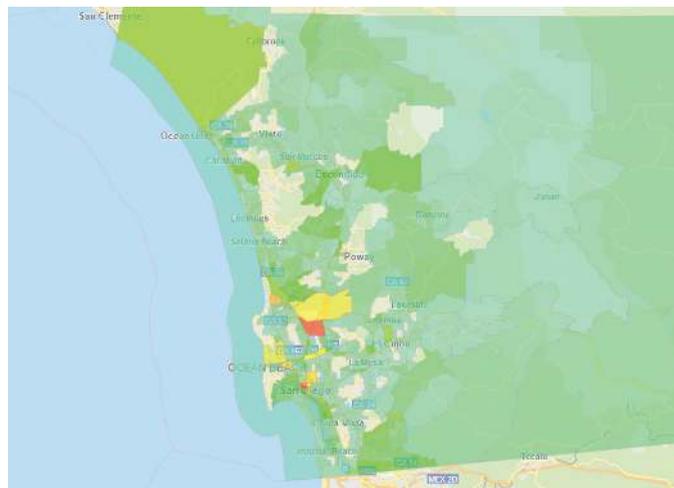
STREETLIGHT InSight

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 include assessments of corridors and transportation analysis zones (TAZs) for the applicability and need for infrastructure such as bike lanes and pedestrian crossings.

The analytics will support the development of Caltrans Active Transportation Plans and influence future project planning and programming analyses.
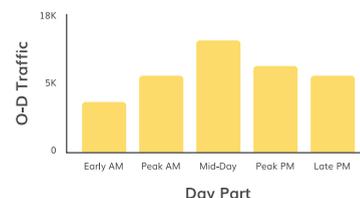
The data became available for districts in December 2018. New data and functionality will be incorporated throughout 2019.

ZONE TRAFFIC

- 4.7K - 6.2K
- 3.1K - 4.7K
- 1.6K - 3.1K
- 1.2K - 1.6K
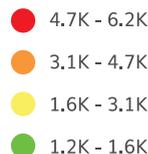
TOTAL ACTIVITY (ORIGINS) BY DAY PART

STREETLIGHT

FOR MORE INFORMATION, CONTACT:

Christopher Nicholas
Caltrans
christopher.nicholas@dot.ca.gov

Laura Schewel
StreetLight Data
laura.schewel@streetlightdata.com