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Think Forward

Southern California Association of Governments

2016 Regional Screenline Count Database

presented to

SCAG Modeling Task Force

presented by

Cambridge Systematics, Inc.

National Data and Surveying Services

March 22, 2017

Discussion Items

- Motivation for the study

- Data collection approach

- Current status and schedule

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Motivation and Background

Motivation and Background

➤ Data needed for SCAG model validation
 » Count data last collected in 2012 by SCAG
 » Region has undergone change in the interim

➤ Detailed classification data required:
 » 15-minute intervals
 » Segmented by vehicles classes

➤ Comprehensive region-wide coverage

➤ Leverage existing data to the extent possible

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Data Collection Approach

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Three-step Approach

Primary Data Collection	Caltrans Data Sources	Local Data Sources
• Freeways • Non-Freeways	• PeMS • WIM/TAMS • Caltrans Counts	• Complementary efforts • County/city data

- Data collected on Tuesday-Wednesday-Thursday
- No data collected on President's Day/Memorial Day Tuesdays
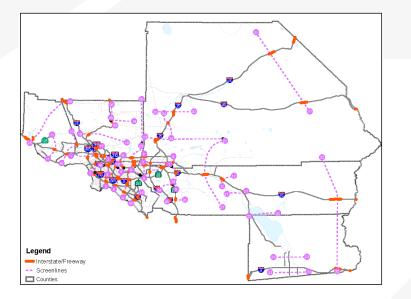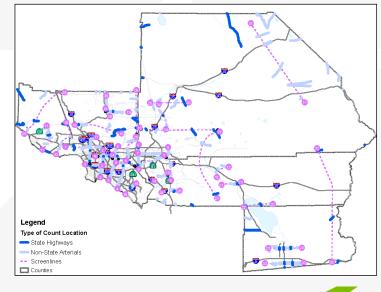- No data collection around Universities during Spring Break

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Primary Data Collection

- Includes screenlines and external cordons

- Includes freeways and arterials

- 2012 locations used as starting point

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Primary Data Collection

➤ Locations identified by SCAG

Screenline/Cordon	Freeways	Non-Freeways	Total
Screenline	231	547	**778**
External Cordons	20	33	**53**

➤ Dropped low volume roadways

➤ Final list of locations

Screenline/Cordon	Freeways	Non-Freeways	Total
Screenline	231	488	**719**
External Cordons	20	32	**52**

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Primary Data Collection

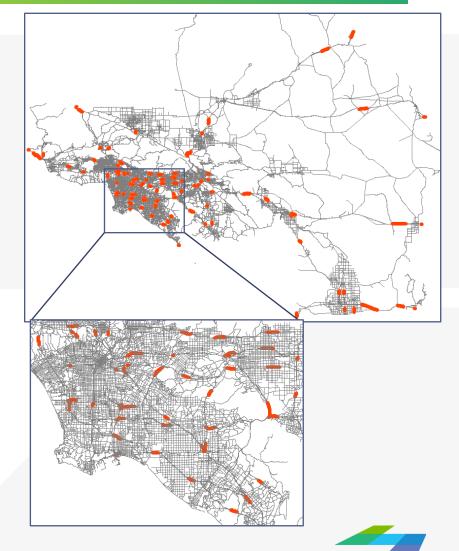➤ Non-Freeway locations
  » All locations will be counted using tubes
  » Data obtained in 15-minute intervals
  » Includes all 13-FHWA classes of vehicles

➤ Freeway locations
  » Primary data collected at 30 locations
  » Uses a combination of Wavetronix and video
  » Remaining locations obtained using existing Caltrans data sources
  » One-day data collection at all locations

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Primary Data Collection
Identifying Freeway Locations

➤ Include locations that have poor quality or no Caltrans data.

➤ Include major external locations

➤ Some locations deemed important in 2012

➤ Good distribution throughout the region

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Available Caltrans Data

PeMS data

- » Comprehensive coverage
- » Historical data
- » Detailed time slices
- » No vehicle classification

Major steps

- » Assign station to screenline
- » Evaluate data quality
- » Drop poor performing stations

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Available Caltrans Data

- WIM data
  - » Weigh-in-motion
  - » Less comprehensive
  - » Historical data
  - » Detailed time slices
  - » Vehicle classifications
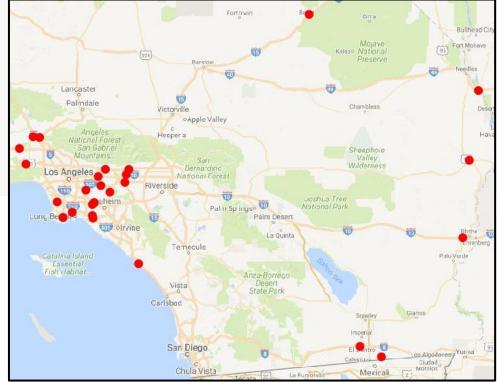- Same criteria as PeMS data cleaning
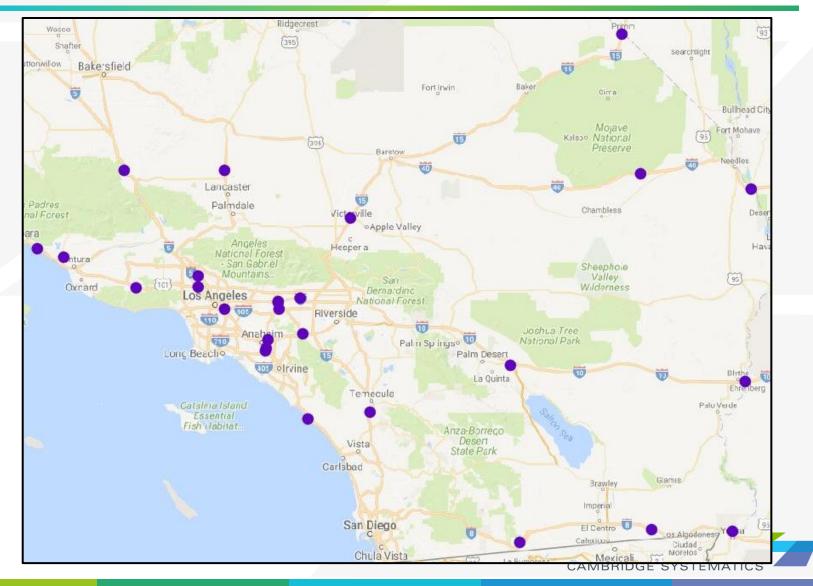
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Available Caltrans Data

> **TAMS Data**

» Truck Activity Monitoring System

» Developed by UC Irvine Researchers

» Captures vehicle classification

» Subset of PeMS

> **Same criteria as PeMS data cleaning**

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Primary Data Collection on Freeways

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Local Data Sources

- Explore data-sharing with LA Metro

- Request SCAG Partners for other existing data
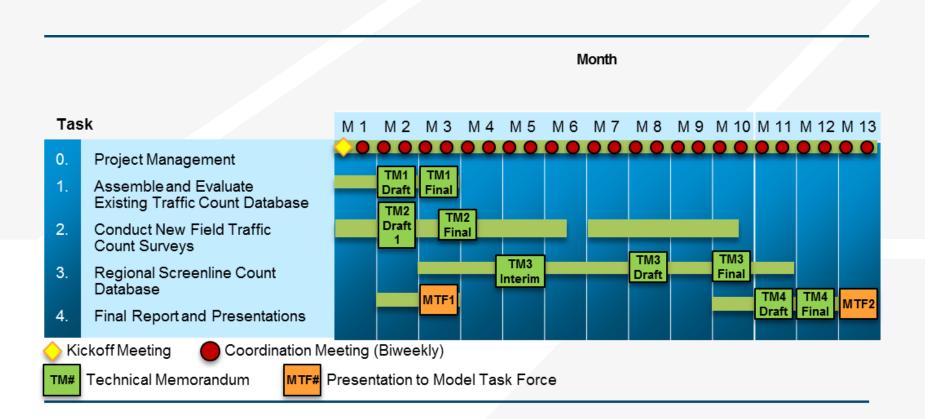
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Current Status & Schedule

Schedule

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Tasks Accomplished

- Finalized primary data collection locations.

- Data collection on non-freeway locations underway (~15% completed)

- Plan to access and assess Caltrans data.

- Preparing permit requests for freeway locations.

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Next Steps

➤ Data review of all sources

➤ Design database to house data

➤ Develop procedures to adjust for:
  » Time-of-day splits
  » Seasonality
  » Vehicle classification for PeMS

➤ Integrate within SCAG model network

➤ Present to MTF after project is complete

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CS and SCAG Team

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Thank You

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