



CA-VIUS

Overview, Lessons Learned, & Initial Results

presented to

**TRB Innovations in Freight Data
Workshop**

presented by

Cambridge Systematics, Inc.

Jim Brogan



**CAMBRIDGE
SYSTEMATICS**

Think  Forward

Today's Agenda

- CA-VIUS Overview
- Notable Approach Elements
- Lessons Learned
- Results to Date

CA-VIUS

Overview

What?

- Statewide truck survey
- Physical and operational characteristics of trucks operating in California
- Web-based survey methods and GPS

Why?

- Replaces (discontinued) Federal VIUS
- Critical in helping Caltrans make more informed infrastructure and operational decisions

Notable Approach Elements

Two-Tailed Population Definition

**California Based
Trucks**

IHS/Polk



**Out of State
Trucks**

**IRP Clearinghouse for
California**

Notable Approach Elements

GPS/OBD

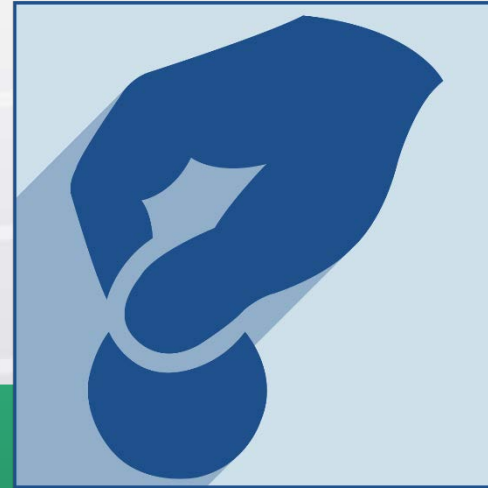
Parameter	Included in CA-VIUS	Raw Data provided to Caltrans
Trip date/time/duration	✓	✓
Trip distance	✓	✓
Latitude/longitude	✓	✓
Trip fuel usage	✓	✓
Idling percentage		✓
Idling fuel usage		✓
Engine on-hours		✓
GHG emissions		✓
Acceleration and braking scores		✓
Speed	✓	✓

Notable Approach Elements

Incentives



- Cash incentives from \$40-\$100 per truck
- Separate incentives for GPS devices



- Guide Dogs for the Blind
- St. Christopher's Fund
- American Cancer Society
- Red Cross

Lessons Learned

What We WERE Worried About

- Sharing data with CARB would depress industry participation
- Introduce bias by allowing multiple trucks per fleet
- Dispersing cash incentives would be an administrative burdensome
- GPS/OBD Devices would not be returned

Lessons Learned

What We SHOULD Have Worried About

- Extent of IRP population
- Truck scheduling and routing for IRP fleets
- GPS recruitment/install burden
- Incomplete/inaccurate registration information

Survey Status

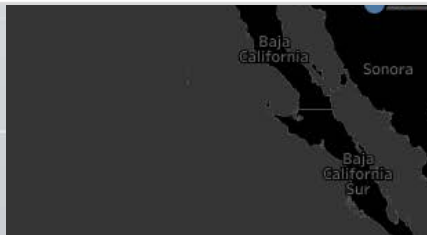
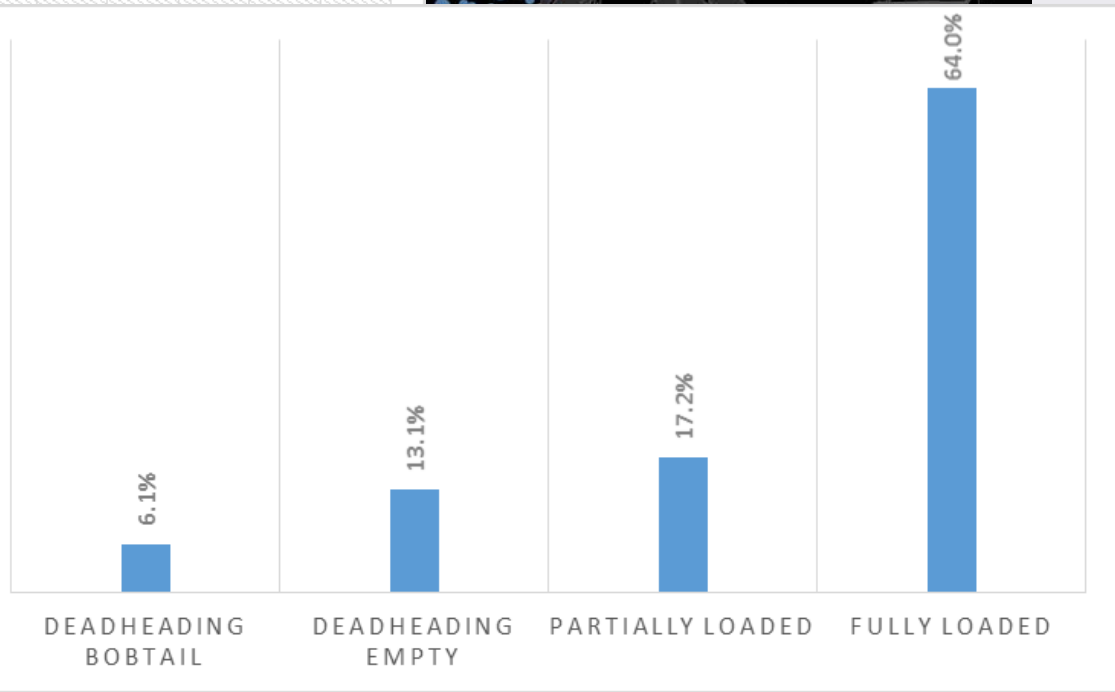
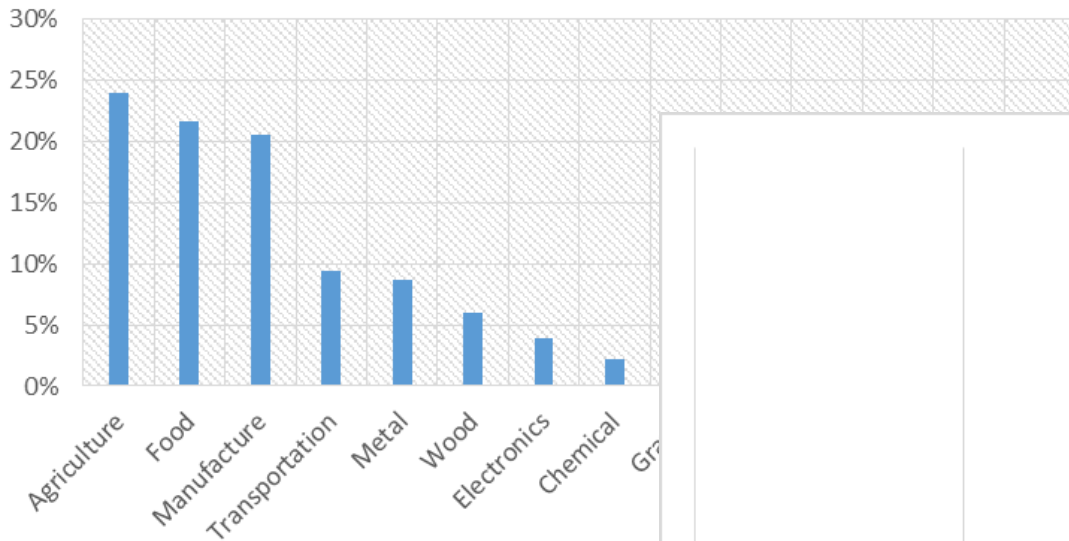
Preliminary Results

- Goal is to collect data from 12,000 trucks
- Over 5,650 surveys collected
 - » Average rate: 300 trucks per week
 - » About 50 GPS trucks being recruited per week
- Extensive QA/QC and data analysis underway

Survey Status

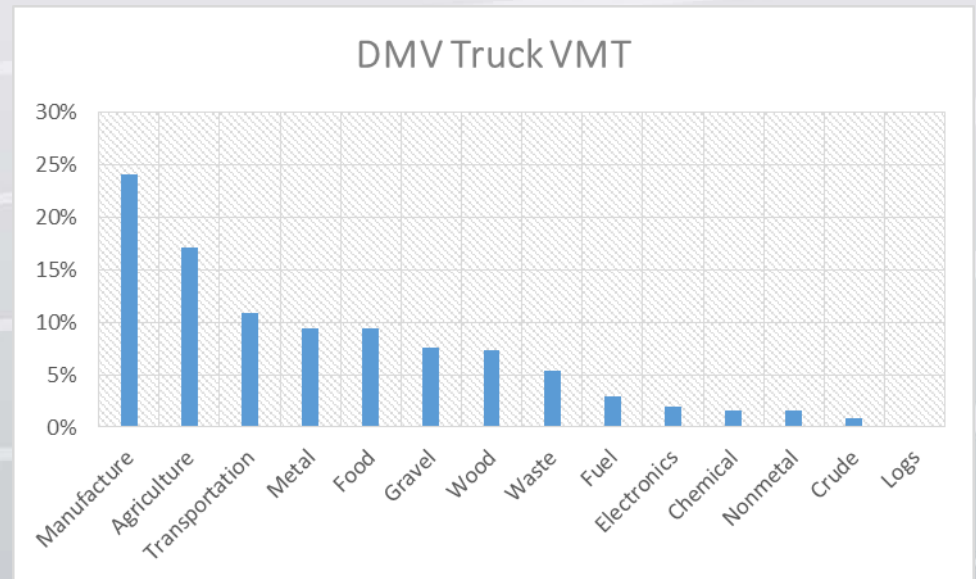
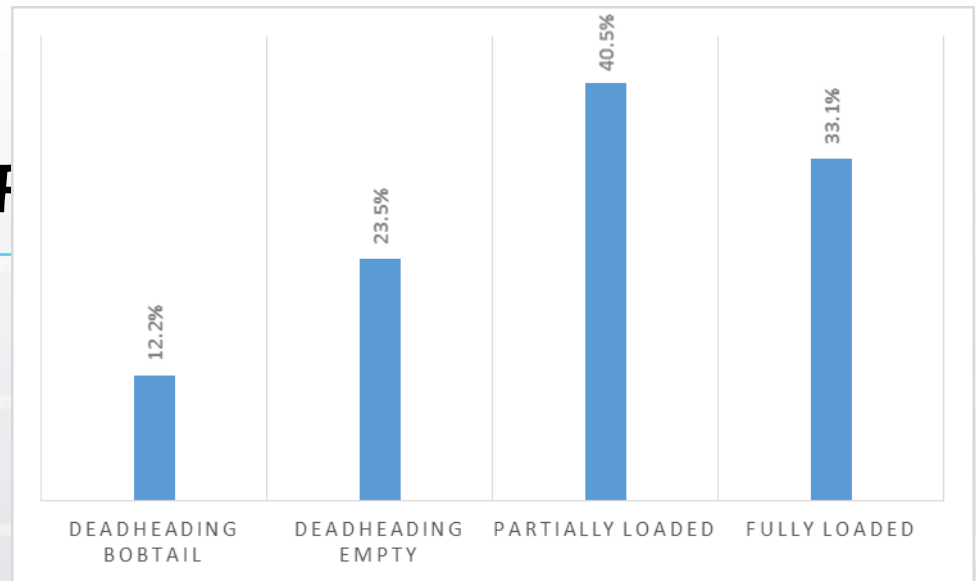
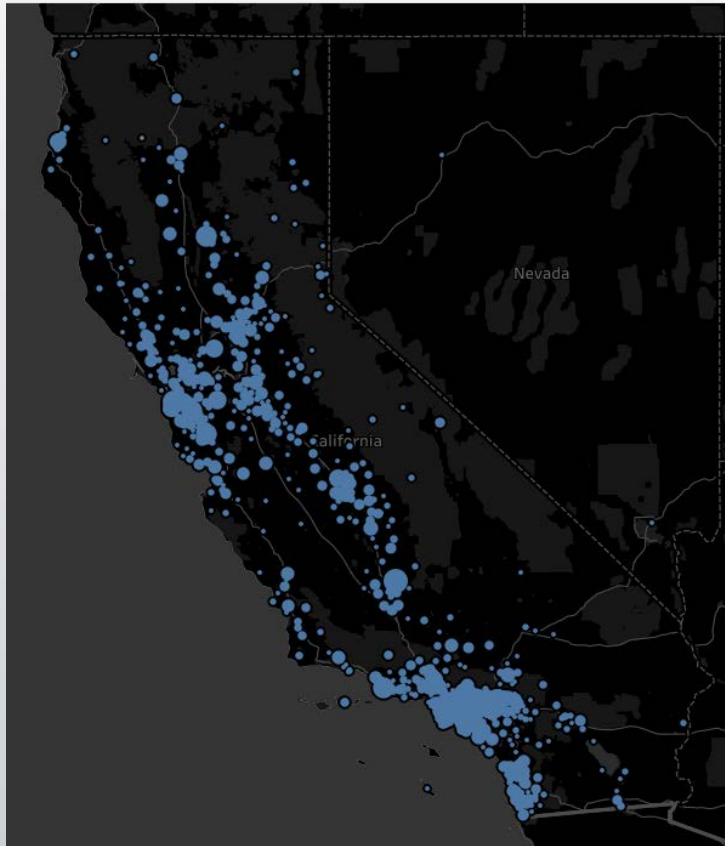
IRP Trucks Preliminary Results

IRP Truck VMT



Survey Status

DMV Trucks Preliminary F



Next Steps

- Data collection to run through December 2017
- Develop Detailed Survey Expansion Techniques
 - » Validate against commodity flow information
- Develop Robust Estimates for
 - » Out-of-State Truck VMT
 - » Commodity Movements
 - » Payload Factors
 - » Trip Patterns by Truck Type

Questions?

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