Bay Area’s Most Congested Freeway Segments

ITE SF BAY AREA SECTION MEETING
SEPTEMBER 17, 2015
Today’s Presentation

• Evolution of the “Top 10” List
• Definitions
• Methodology
• 2013 Top 10 Countdown
Evolution of the “Top 10” List

- **Floating Car**
  - Caltrans HICOMP
  - 2000

- **Floating Car**
  - State of the System
  - 2008

- **PeMS**
  - Caltrans MPR
  - 2013

+ **INRIX + PeMS Vital Signs**
Definitions

Congested Segment = A segment along a freeway experiencing recurring congestion over a typical weekday in the study period

Congestion = Travel speeds < 35 mph for at least 15 consecutive minutes

Recurring = Congestion is active more than 50% of monitored days

Typical weekday = All non-holiday Tuesdays, Wednesdays, and Thursdays in the study period

Study Period = March, April, September, October
Methodology – Step 1

- Review INRIX Data
  - 5-minute aggregate speeds
  - 50 days
  - 26 freeways
Methodology – Step 2

Identify Congested Segments
• Spatial & Temporal Extents
Methodology – Step 3

Calculate Congested Delay

\[
\text{Delay} = \frac{\text{Segment Length}}{\text{Average Segment Speed}} - \frac{\text{Segment Length}}{35 \text{ mph}}
\]

• Average across all monitored days
• Applied to vehicles affected
Methodology – Step 4

- Rank Congested Segments
  - 139 segments identified in 2013
  - 1 to 6,900 VHD
2013 Top 10 Facts

• Top 10 segments are represented by 6 freeway corridors
  • I-80
  • I-880
  • I-680
  • I-580
  • US 101
  • SR 24
2013 Top 10 Facts

• The most congested freeways are in 3 counties
  • Contra Costa
  • Alameda
  • Santa Clara
2013 Top 10 Facts

• Almost 40% of the region’s delay is on the top 10 segments

• Congestion persists through entire peak period, and in some cases, extends beyond
#10

NB PM

2,800 hours

Redwood City to San Mateo (6 miles)  3:20 PM to 7:50 PM
#9
EB PM        2,900 hours

Oakland to Orinda (6 miles)  3:25 PM to 7:15 PM
#8

**EB PM**

3,000 hours

West Grand Avenue to Albany (4 miles)

3:15 PM to 7:25 PM
SR-262/Mission Boulevard to SR-84 (9 miles) 3:00 PM to 7:55 PM

3,800 hours
San Joaquin County Line to Dublin (17 miles) 5:15 AM to 9:20 AM
San Ramon to Walnut Creek/Pleasant Hill (13 miles) 3:30 PM to 7:00 PM
#4 WB AM 5,000 hours

SR-4 to Emeryville (14 miles) 6:35 AM to 10:20 AM
#3 SB PM

5,500 hours

Sunnyvale to North San Jose (7 miles)

2:45 PM to 8:05 PM
#2 INTERSTATE 880

SB AM 5,600 hours

I-238 to Milpitas (21 miles) 6:20 AM to 10:35 AM
US-101 to Treasure Island (4 miles)  1:25 PM to 8:30 PM
Questions