



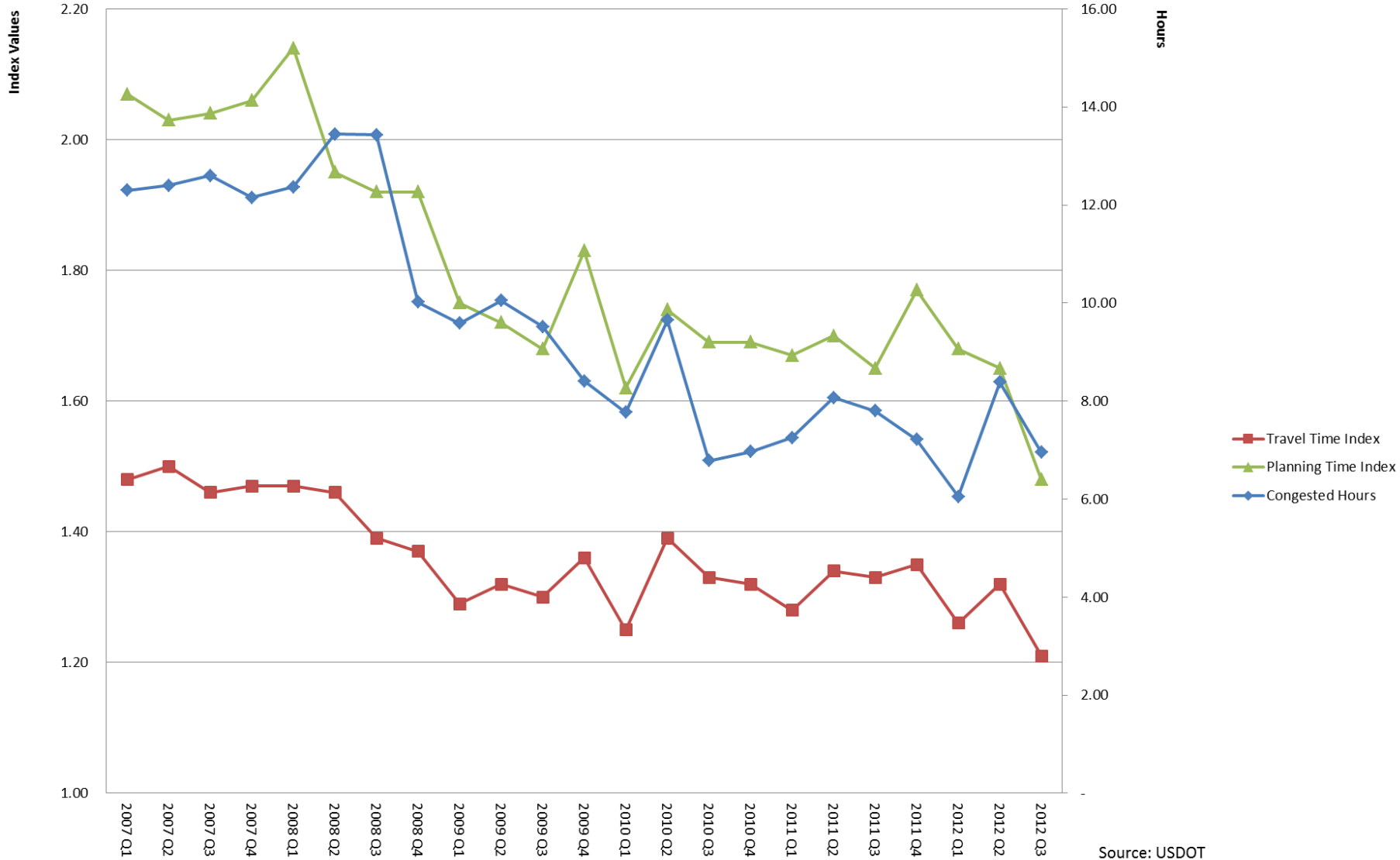
CMAP **GO TO 2040**

**Archive Vehicle-Probe
Travel-Speed Datasets**

May 15, 2014

Presented by Tom Murtha

Chicago Region Freeway/Tollway Congestion Indicators, 2007-2012



Source: USDOT

Link Performance Analysis – Congestion Scan

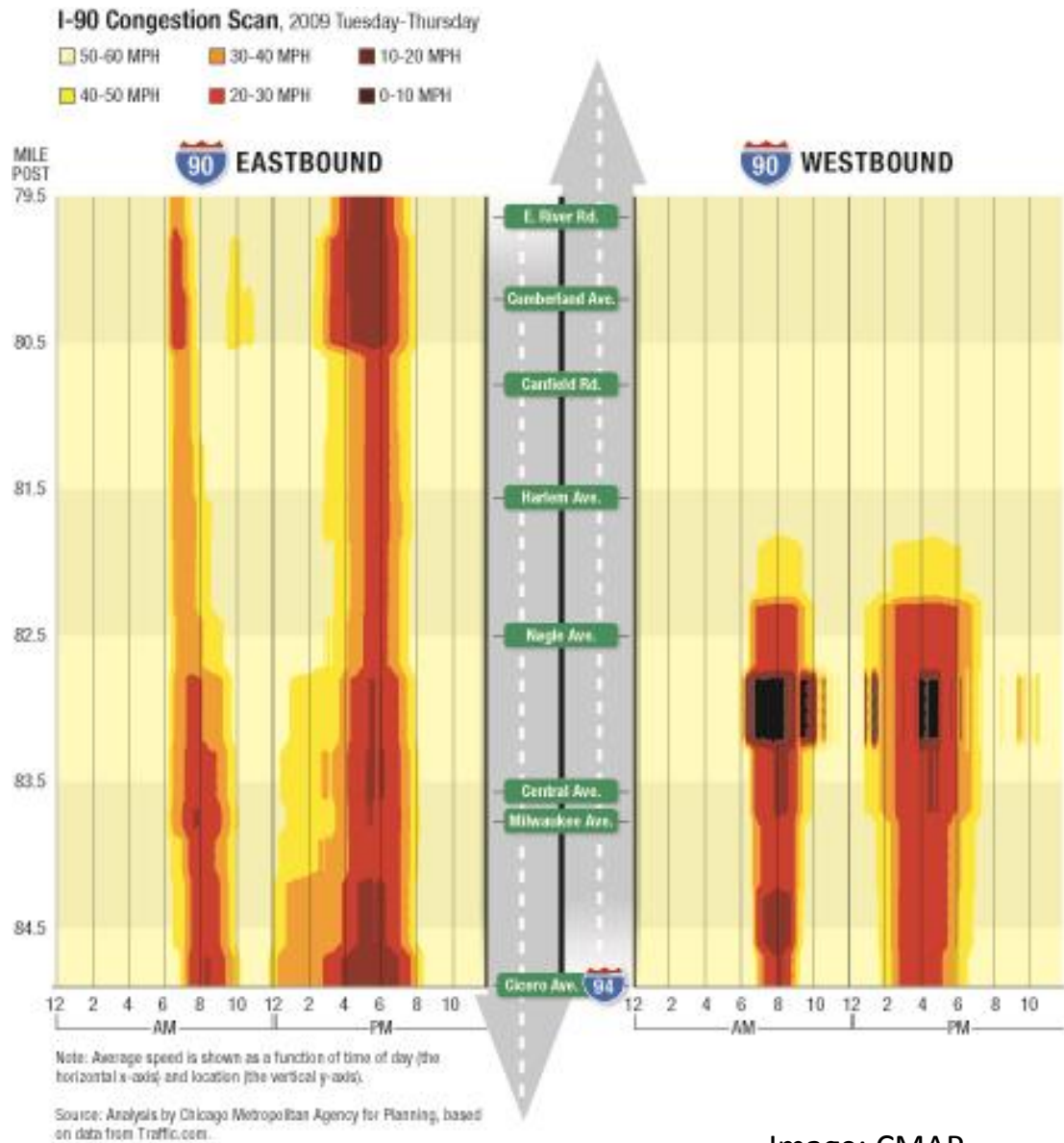


Image: CMAP

Probe Datasets: Support Regional Transportation Performance Measures

4

- Regional Transportation Performance Measures address needs of proposed “performance-based funding” processes.
- Goal: develop a set of regional performance measures for use in funding decisions.
- Requires the acquisition and development of the data and analysis for the proposed measures.

Probe Datasets: Transportation Performance Measurement Concepts

5

Uses of performance measures (FHWA):

- *Set goals and standards*
- *Detect and correct problems*
- *Manage, describe, and improve processes*
- *Document accomplishments*

Probe Datasets: Transportation Performance Measurement Concepts

6

Benefits of performance measurement (FHWA):

- *Greater accountability*
- *Improved transparency*
- *Facilitates assessment of system performance*
- *Refocus decision-making on outcomes*
- *Cost effectiveness*

Probe Datasets: Transportation Performance Measurement Concepts

7

CMAP's performance categorizations:

- Safety
- System Preservation
- Mobility
- Reliability
- Accessibility
- Equity
- Livability

Probe Datasets: Transportation Performance Measurement Concepts

8

Travel modes addressed:

- Auto
- Transit
- Freight
- Walking and Cycling

Probe Datasets: Highway Data: Sensing, Monitoring, and Archiving

9

- Highway Speed/Volume Sensors:
 - ▣ Inductive Loops - Occupancy
 - ▣ Cameras/Video
- Vehicle Probe Data:
 - ▣ Public Fleets
 - ▣ Commercial Vehicles/Fleet Monitoring
 - ▣ Bluetooth
 - ▣ Cell Phones
- Weather: Important New Sensor Data

Probe Datasets Commercially Available

Typical vendors:

- HERE (successor to Navteq)
- INRIX
- Midwest Software Solutions (HERE Value-added reseller)

Probe Datasets: National Performance Measurement Research Dataset

11

FHWA National Performance Measurement Research Dataset (NPMRD)

- Available monthly from [HERE](#)
- Will support performance measure requirements in MAP-21
- Processed into postgresql database by CMAP
- License Restriction: Access permitted only by State DOTs and MPOs

Probe Datasets: National Performance Measurement Research Dataset

12

FHWA National Performance Measurement Research Dataset (NPMRD)

- 5-minute archive
- National Highway System, including intermodal connectors
- Only probe data - no estimates
- Lacks sample-size data
- Includes truck-speed data

Probe Datasets: MS2 Speed Dataset

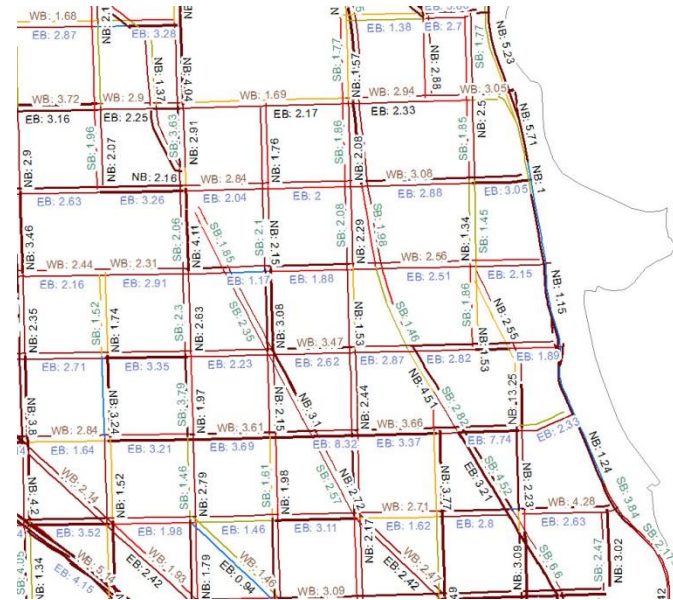
13

Midwest Software Solutions Dataset

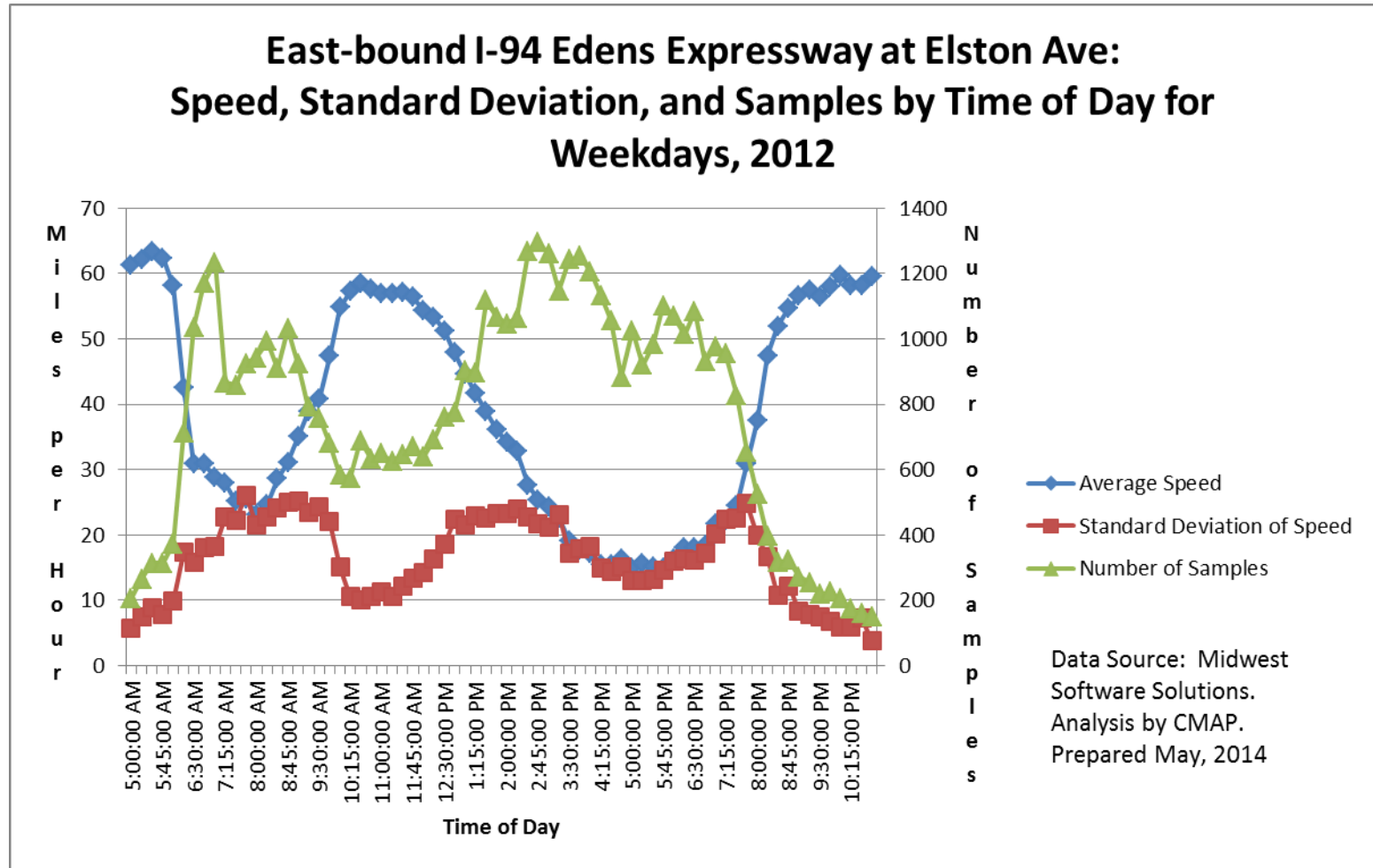
- Supports IDOT performance measure and congestion studies
- Speeds for 15-minute epoch by day of week by month
- HERE-based
- Most arterial highways
- Probe data and estimates (identified)
- Includes sample-size data
- Lacks truck-speed data

Probe Datasets - Samples

- Performance measure datasets, with link to GIS
- Source: MS2, HERE, CMAP, IDOT



Probe Datasets - Samples



Probe Datasets: Current Endeavors

16

Current Work

- Transmit data to IDOT and IDOT congestion-study contractors
- Performance measure dataset for programming
- Upgrade computer supporting database
- Truck speed analysis (NPMRD)
- Link data to IDOT's IRIS database
- Validation with road sensor data archive
- Prepare demo animations and analyses of congestion hot-spots and bottlenecks



CMAP GO TO 2040

Thank you.

Tom Murtha

Tel: 312.386.8649

Email: tmurtha@cmmap.illinois.gov