

ON TO 2050

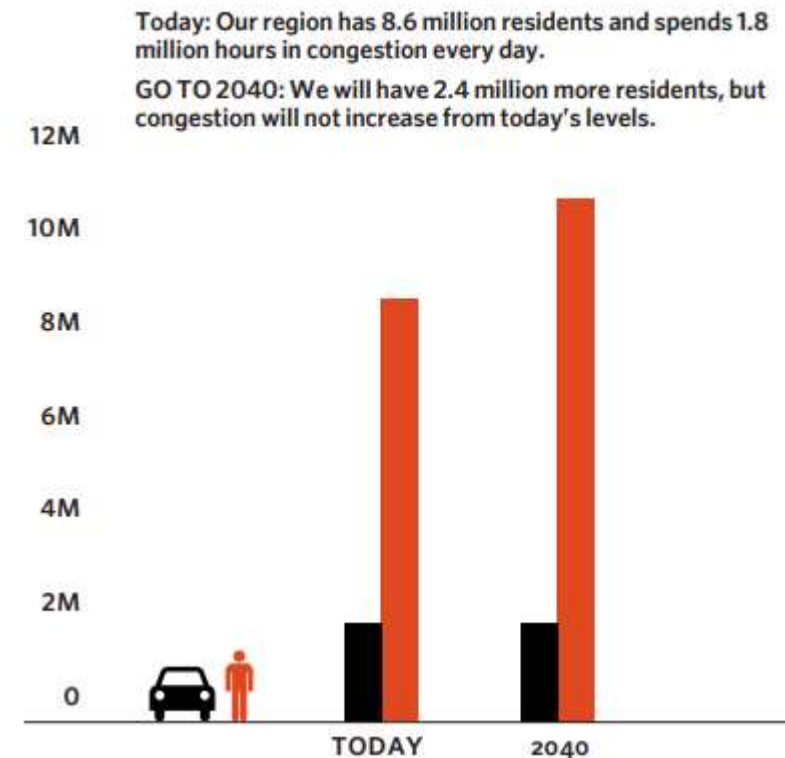
# CMAP Highway Congestion Reduction Study

December 14, 2017

# Why a congestion study?

- The region will add 2.3 million residents and 920,000 jobs by 2050.
- GO TO 2040's goal is to maintain our current level of congestion
- Goal will likely be repeated in ON TO 2050
- Lack specific strategies

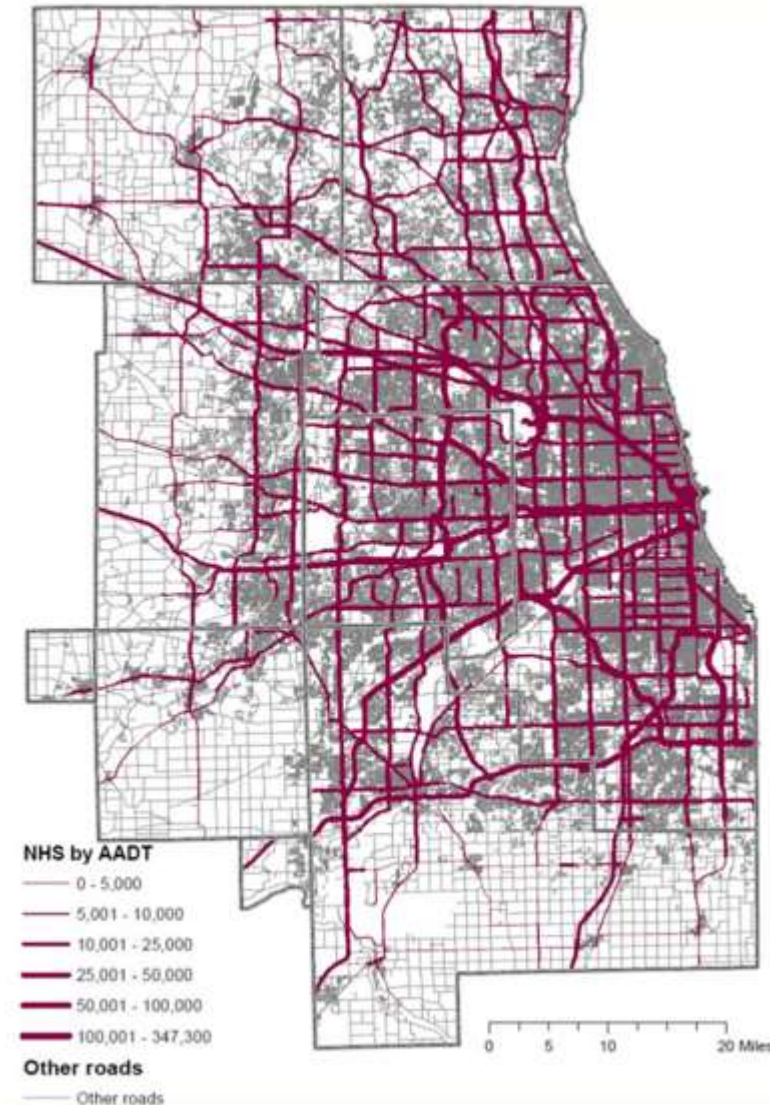
Figure 54. Time spent in congestion, today and 2040



# Focus on the National Highway System?

- focus of the performance measurement requirements
- 8 percent of regional mileage but carries 57% of vehicle-miles traveled

Figure 2: NHS from highway system trends

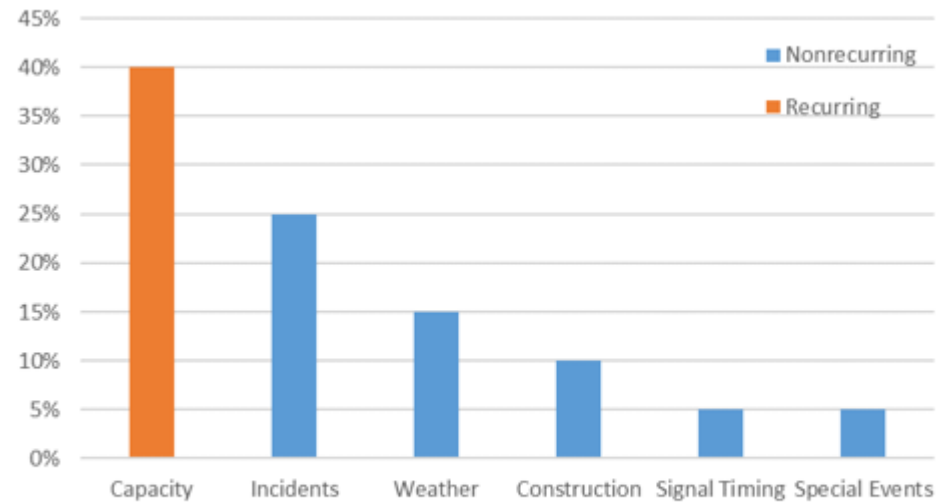


AADT = average annual daily traffic  
Source: Illinois Roadway Information System

# Sources of congestion



Figure 1: Sources of congestion



Source: FHWA Office of Operations,

[http://www.ops.fhwa.dot.gov/congestion\\_report/executive\\_summary.htm#overview](http://www.ops.fhwa.dot.gov/congestion_report/executive_summary.htm#overview)

$$\text{MeanTTI} = 1.0274 * \text{RecurringMeanTTI}^{1.2204} \quad (\text{H.4})$$

$$\text{80th percentile TTI} = 1 + 2.1406 * \ln(\text{MeanTTI}) \quad (\text{H.7})$$

$$\text{95th percentile TTI} = 1 + 3.6700 * \ln(\text{MeanTTI}) \quad (\text{H.5})$$

# Example Strategies

## **Regional**

*Vehicle technology*

*Parking pricing*

*VMT fee*

*Land use*

*Truck delivery time*

## **Expressway**

*Managed lane system*

*Interstate tolling*

*Variable speed limits*

*Hard shoulder running*

*Significant projects*

*Reduce access*

*Incident management*

## **Arterial**

*Access management*

*Traffic signal modernization*

*No parking on NHS*

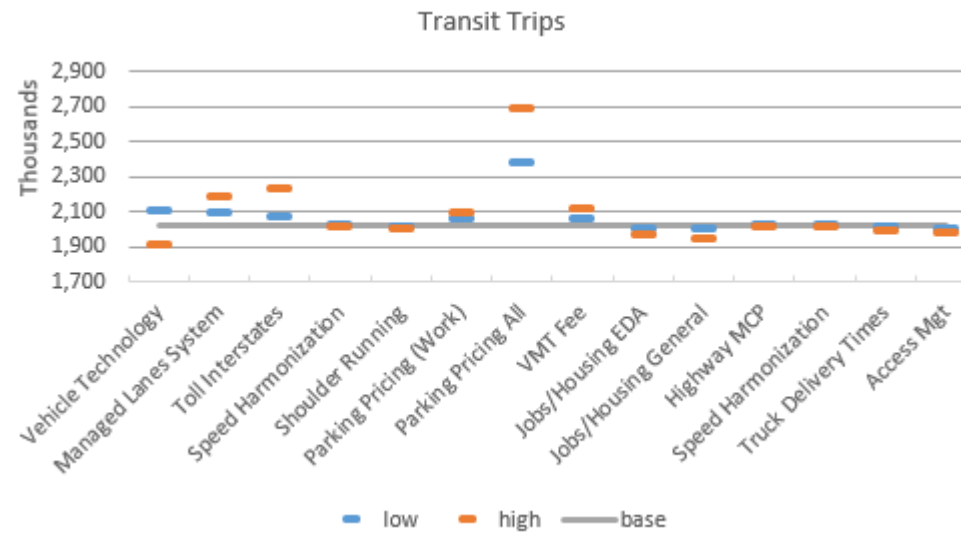
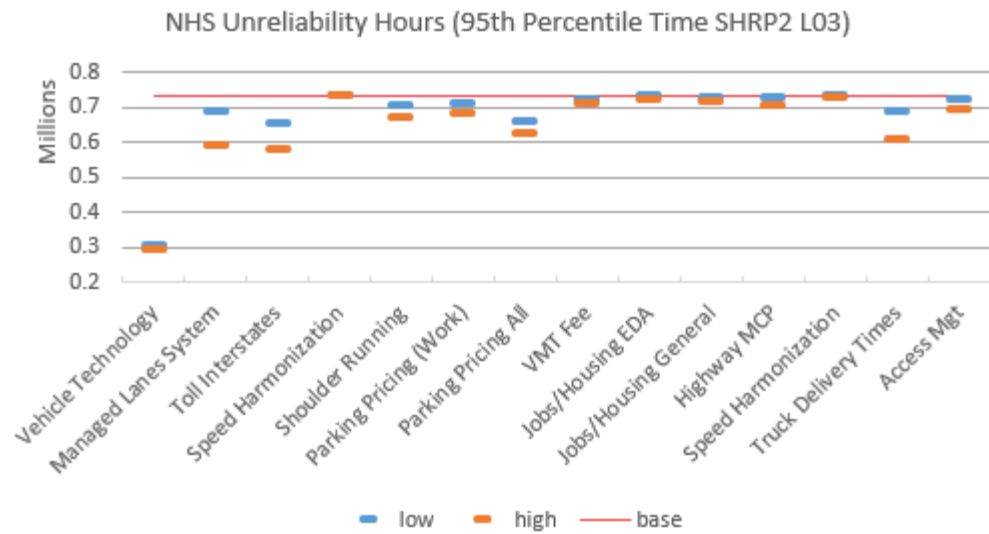
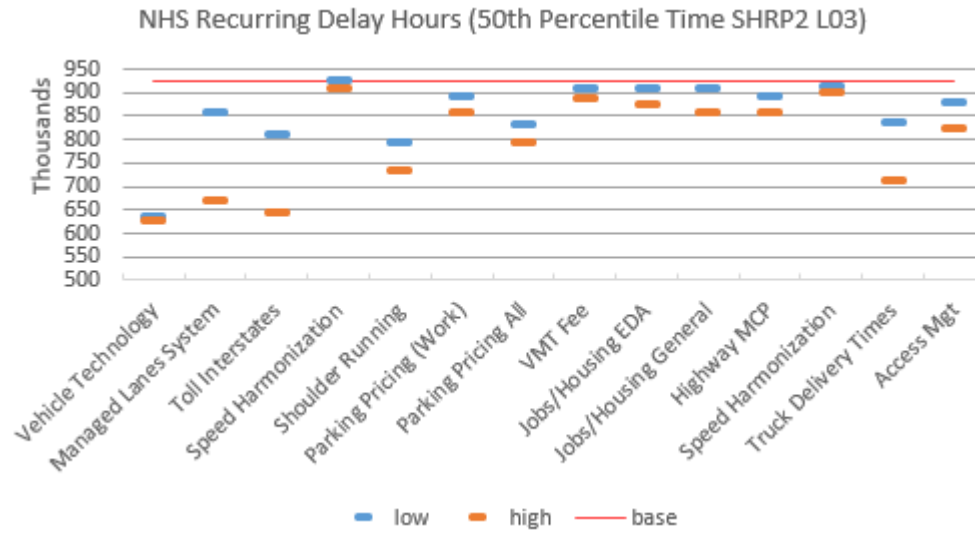
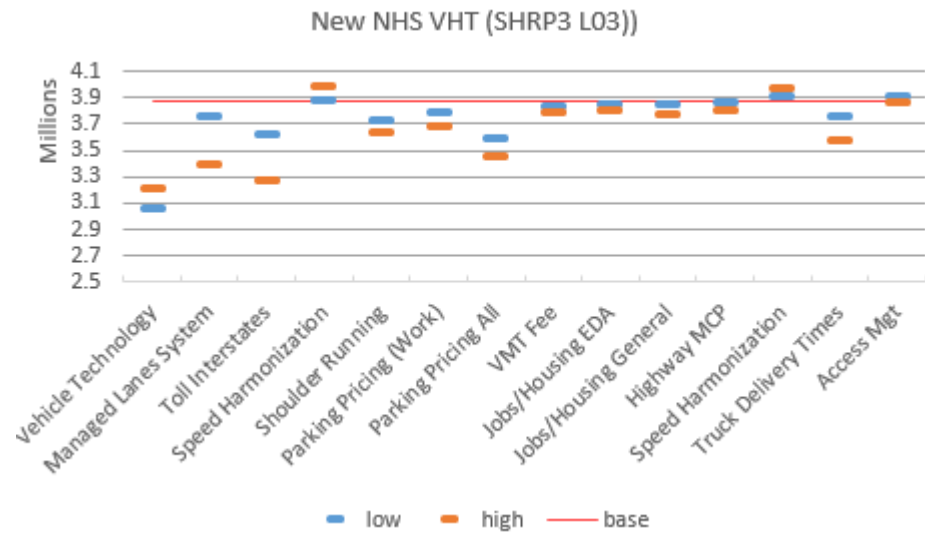
*Traffic signal interconnects*

*Multiple new bridges*

# Evaluation measures

- NHS total vehicle hours traveled = base hours + delay hours
- NHS delay hours =
  - recurring delay hours (50<sup>th</sup> percentile) +*
  - poor operations delay hours (80<sup>th</sup> percentile)+*
  - unreliability delay hours (95<sup>th</sup> percentile)*
- NHS unreliability (95<sup>th</sup> percentile hours)
- Transit trips
- Job access for residents of economically disconnected areas
- Heavy truck NHS vehicle hours traveled

# Some Preliminary Results (2050)



# Strategy impact on delay





# Feedback – missing strategies?

- Arterial
- Interstate
- Regionwide

# Questions?

**Thank You!**

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