

# IL ROUTE 53/120

## Blue Ribbon Advisory Council

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### **Mobility & Finance Working Group**

### **November 7, 2011**

Lake County Central Permit Facility





# WORKING GROUP OVERVIEW – NOVEMBER

<b>Mobility &amp; Finance</b> <i>How much traffic and revenue would different scenarios generate? What problems are we trying to solve? What trips do we want to accommodate?</i>	<b>Design &amp; Land Use</b> <i>What is the purpose of the proposed road? How does current and desired future land use inform the potential design for 53/120?</i>	<b>Environment &amp; Sustainability</b> <i>What are the environmental issues &amp; constraints? How should we measure success?</i>
NOVEMBER AGENDAS		
<p><b>Background</b> Results of past studies Status of other area improvements</p> <p><b>Travel Forecast Basics</b> Current volumes How scenarios could impact behavior</p> <p><b>Projections for Various Scenarios</b> Traffic Revenue</p> <p><b>Establish Evaluation Criteria</b></p> <p><b>Next Steps</b></p>	<p><b>Background</b> Results of past studies Status of other area improvements</p> <p><b>Land Use Overview</b></p> <p><b>Define Purpose of the Road</b> <i>Discuss decision points and outline roadway concepts to carry forward</i></p> <p>Lanes Speed Trucks Transit</p> <p><b>Next Steps</b></p>	<p><b>Background</b> Results of past studies Status of other area improvements</p> <p><b>Review Environmental Features and Constraints</b></p> <p><b>Review I-LAST Manual</b></p> <p><b>Suggest Draft Environment &amp; Sustainability Metrics for 53/120</b></p> <p><b>Next Steps</b></p>



# BACKGROUND

## Lake County Transportation Improvement Project (LCTIP)

- ❑ Countywide needs assessed
- ❑ Alternatives evaluated; narrowed to two final
- ❑ Also reviewed transit alternatives
- ❑ Project office closed April 2002 – no decision
- ❑ Provided foundation for next steps
- ❑ Future studies to update traffic, engineering and environmental

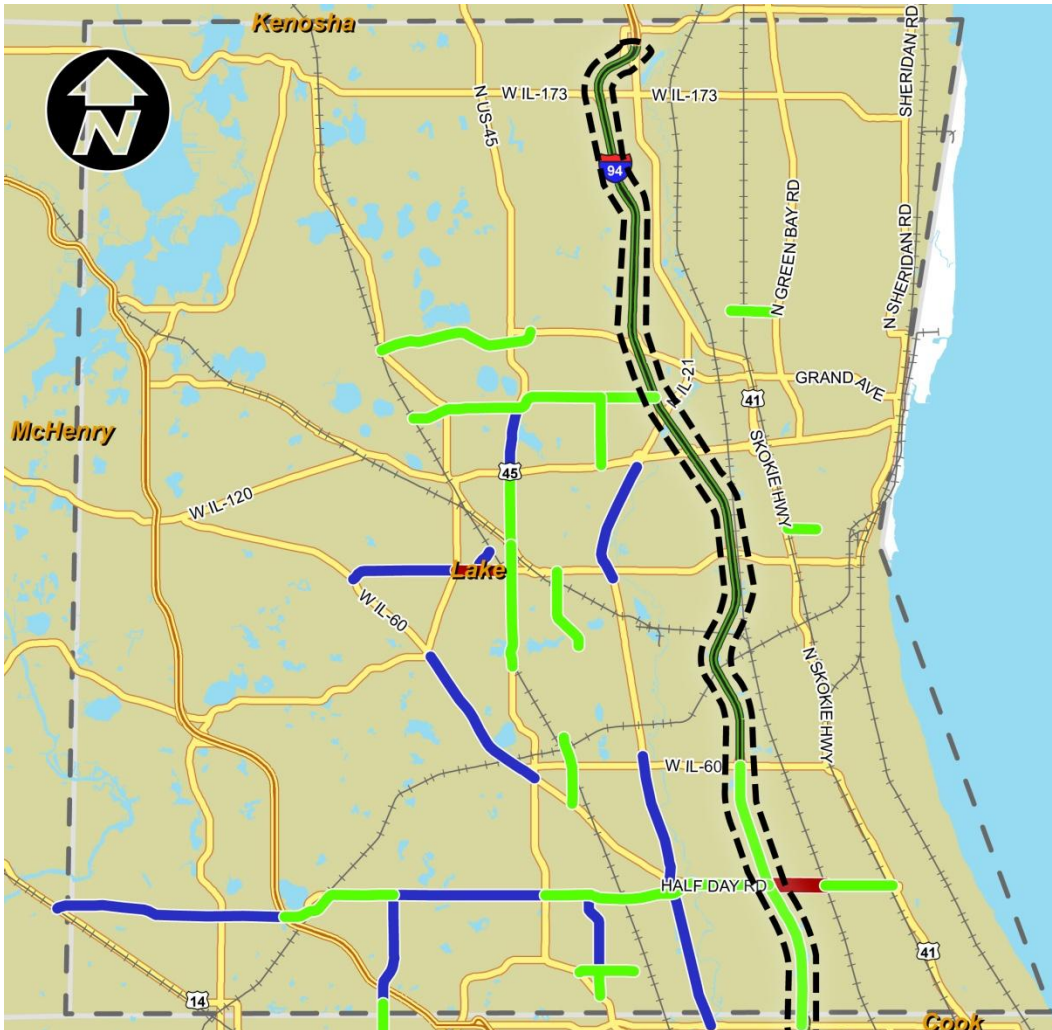
## IL Route 120 Unified Vision Process

- ❑ Considered alignments, configurations and interchange types/locations for improved 120
- ❑ 14.5 miles of existing 120 from Rt. 12 to Rt. 41
- ❑ Five alternatives evaluated
- ❑ Selected IL Route 120 bypass, four-lane, signalized boulevard
- ❑ Change to expressway if Route 53 is extended
- ❑ Could include extension of three existing roads (Hainesville Rd., Cedar Lake Rd., Lake St.) and connector to IL-83
- ❑ Analysis deferred: grade separations, environmental mitigation and intersection/interchange types





# STATUS OF LCTIP BASELINE PROJECTS



## LEGEND

- Complete
- Construction
- Design

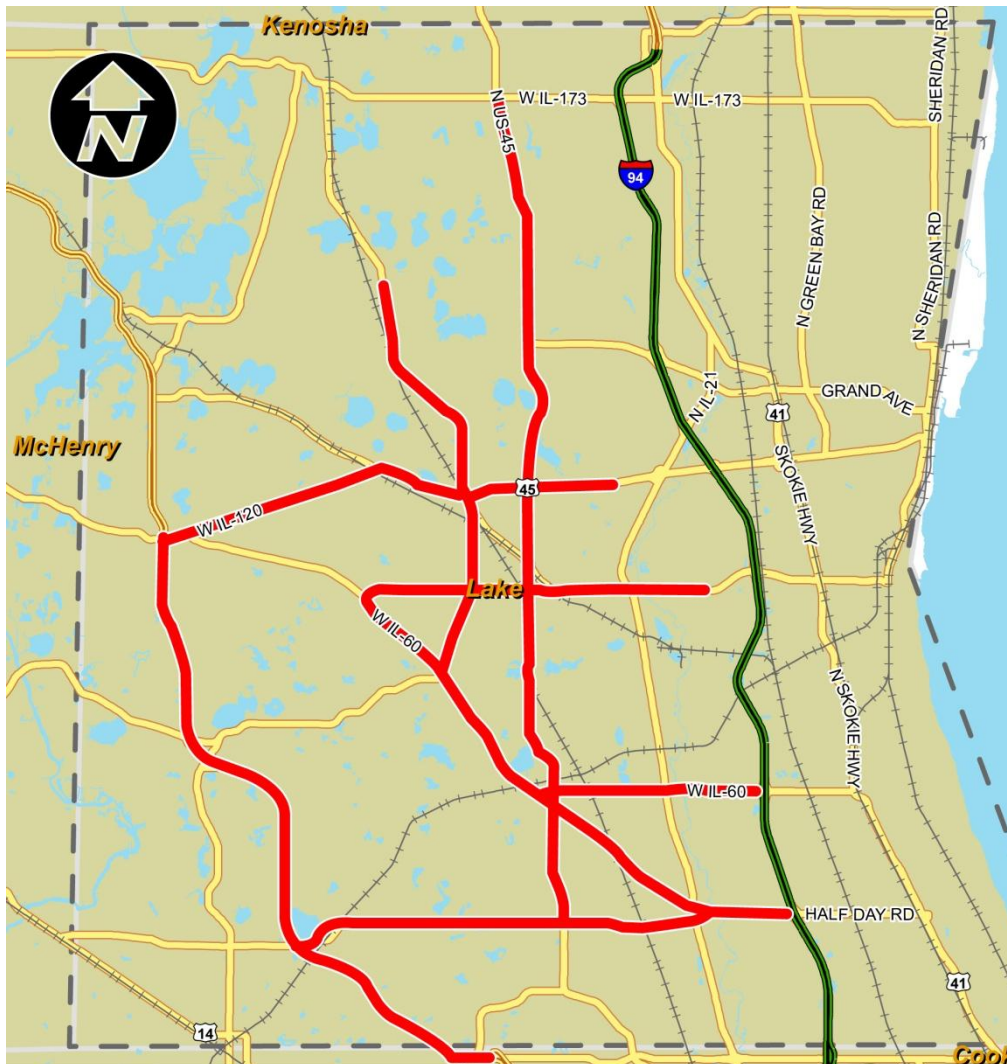
## NOTE:

I-94 not in LCTIP baseline, but Tollway widened from 3 to 4 lanes in 2008





# CURRENT LAKE COUNTY CONGESTION



## High-level illustration of current congestion

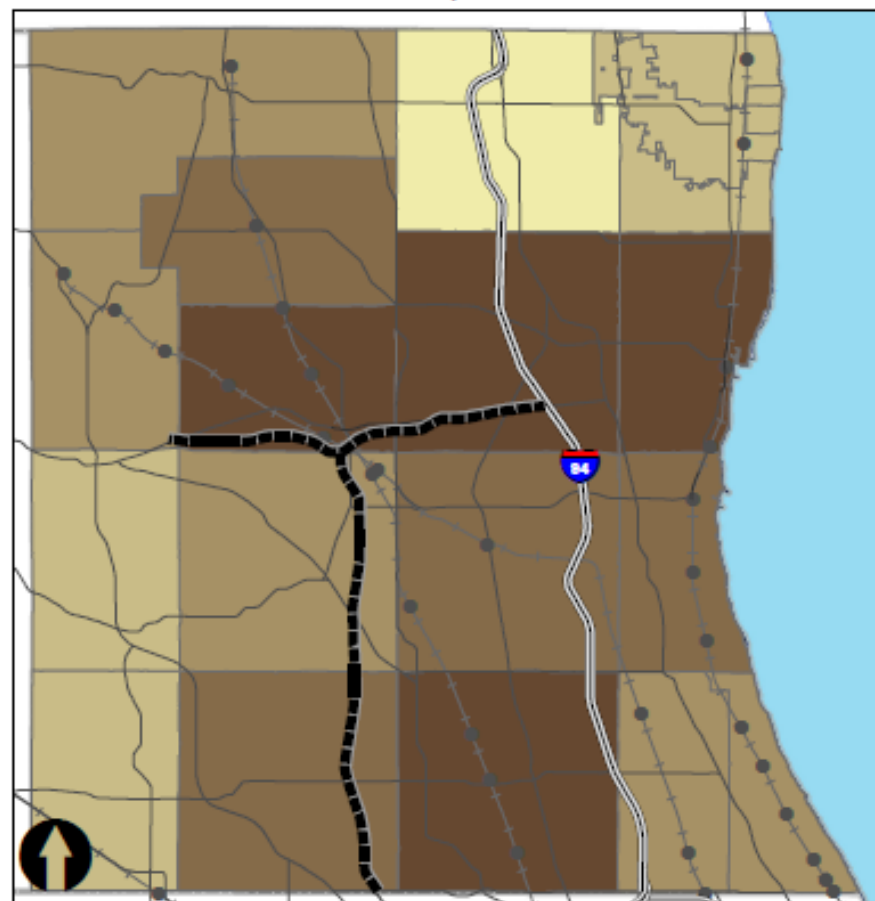
- Based on CMAP 2009 Air Quality Conformity Output
- Based on peak hour volumes (not all day)
- Focused on congestion at intersections (areas of greatest delay)
- Measured by volume of traffic on the road (V) compared to the road's capacity (C)
  - V/C ratio of 1 = congested
  - V/C ratio of 1.1= severely congested
  - Red shown exceeds 1.1



# Proposed Lake County Corridor: Lake County Population by Township

6

2010 Population



0 2 4 8 Miles

Proposed Route 53/120 Corridor

Metra Stations

Metra Lines

2010 Township Population

6,770

16,826 - 24,413

26,523 - 34,129

39,062 - 53,139

64,841 - 90,893

Township Population Change

-4,352 - -685

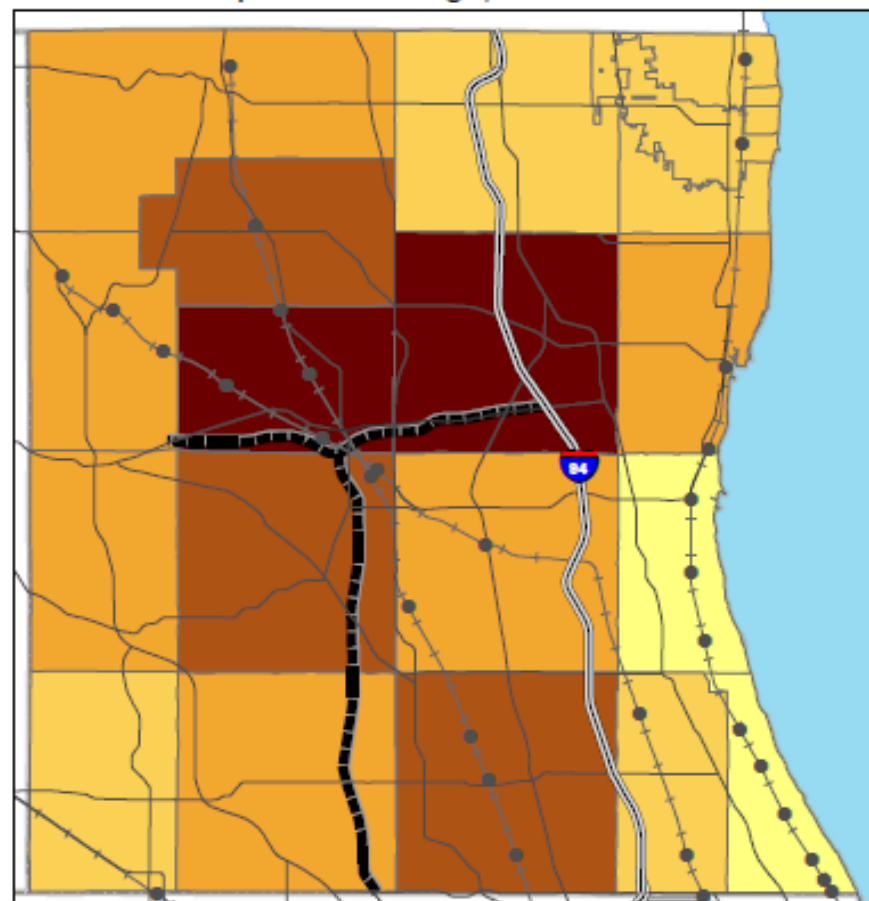
1,497 - 4,638

8,871 - 12,708

15,954 - 19,512

29,012 - 30,056

Population Change, 1990 to 2010



Lake County Population and Employment

	1990	2000	2010
Population	440,372	644,356	703,462
Employment	210,671	298,220	309,034

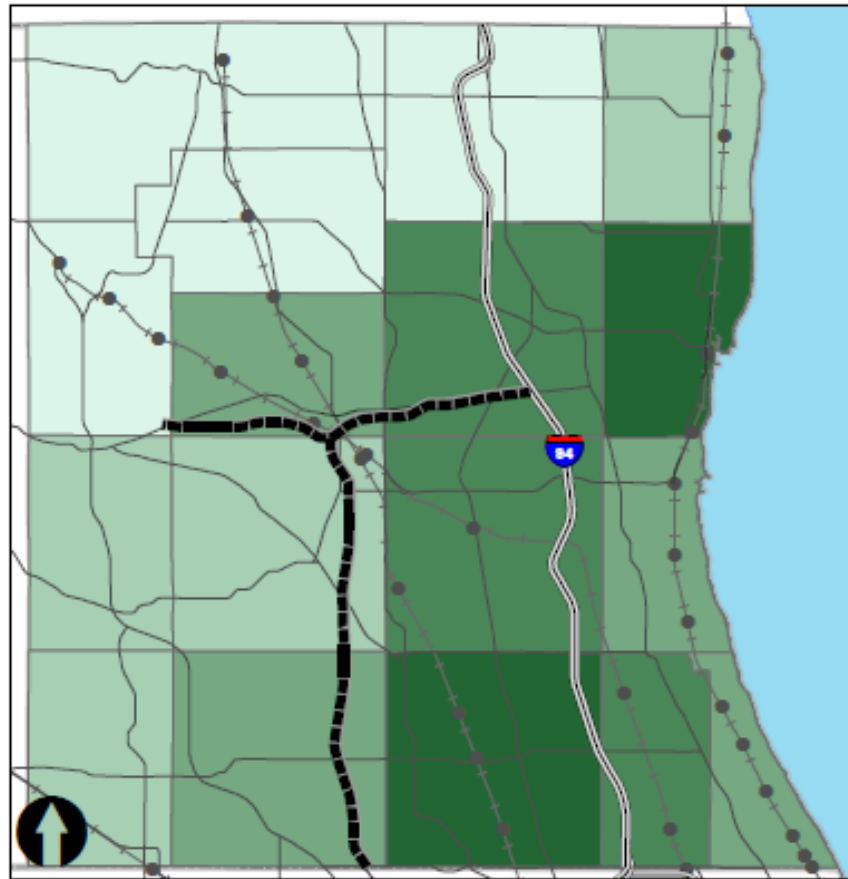
Sources: CMAP analysis of US Decennial Census data and Illinois Department of Economic Security Quarterly Workforce Indicators

The Proposed Route 53/120 Corridor shown is for illustrative purposes only and does not reflect an exact alignment.



# Proposed Lake County Corridor: Lake County Employees by Township

## 2010 Employee Count



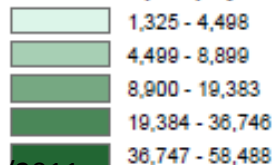
0 2 4 8 Miles

Proposed Route 53/120 Corridor

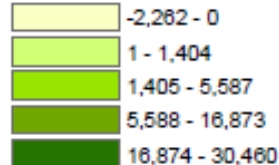
Metra Stations

Metra Lines

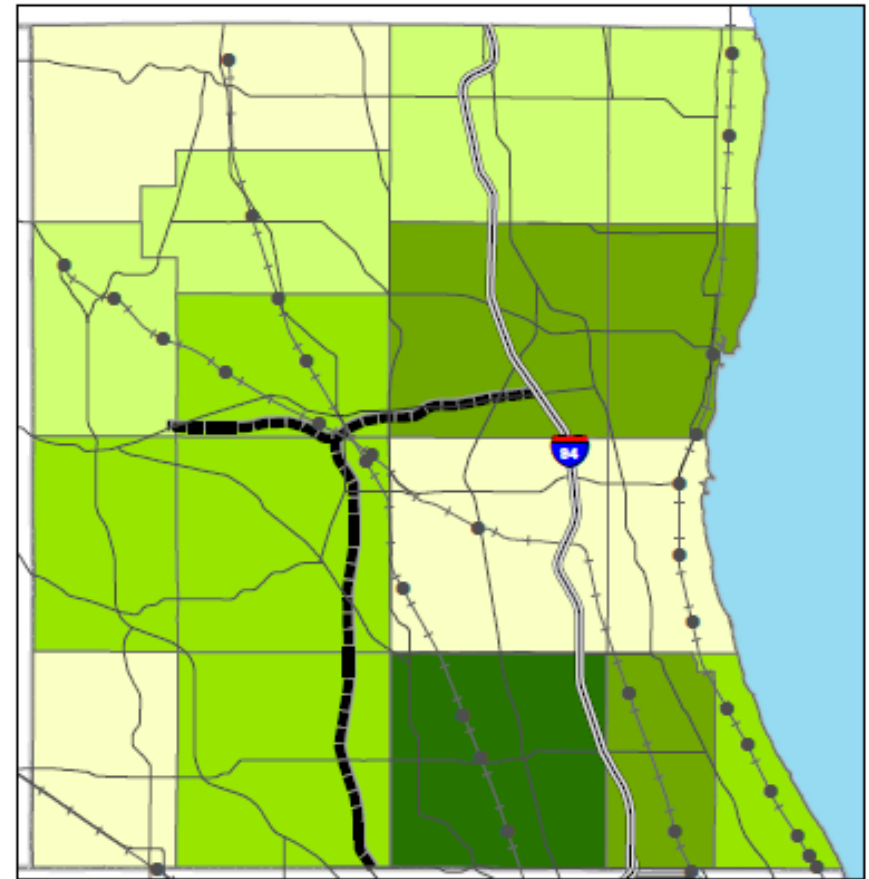
2010 Township Employee Count



Employee Count Change



## Employee Change, 1990 to 2010



## Lake County Demographic and Economic Trends

	1990	2000	2010
Population	440,372	644,356	703,462
Employment	210,671	298,220	309,034
Commercial Development			
Retail SF	No Data	27,600,000	33,520,000
Office SF	No Data	30,210,000	34,680,000
Industrial SF	No Data	75,630,000	82,490,000

Sources: CMAP analysis of US Decennial Census data, CoStar commercial property data, and Illinois Department of Economic Security Quarterly Workforce Indicators

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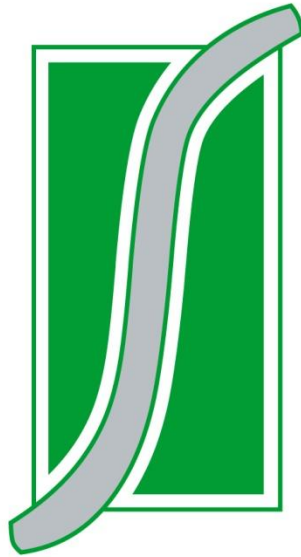
## TAKE-AWAY

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- ❑ Past studies indicate a need for the Route 53 extension and improvements in the IL 120 corridor
- ❑ Improvements are being made to other area roads, but these do not eliminate the need for a 53/120 project
- ❑ Lake County is growing and will continue to grow- road provides a crucial link between people and jobs
- ❑ Location is largely defined for 53/120, but questions about roadway character and environmental considerations remain
- ❑ GO TO 2040 calls for a “modern boulevard” approach







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# Travel Forecast Basics





# PROCESS

**1**

**Understand current traffic:** *what happens at Lake Cook Road?*

- ▣ How many trips (volume)?
- ▣ Where are they going (origin and destination)?
- ▣ Use CMAP regional model

**2**

**Introduce scenarios:** *what if there were another option?*

- ▣ “Route analysis” using more detailed data
- ▣ How does roadway type/price impact behavior?
- ▣ How do the scenarios compare to one another?

**3**

**Establish criteria:** *what do we want to achieve?*

- ▣ What problems are we trying to solve?
- ▣ What trips do we want to accommodate?

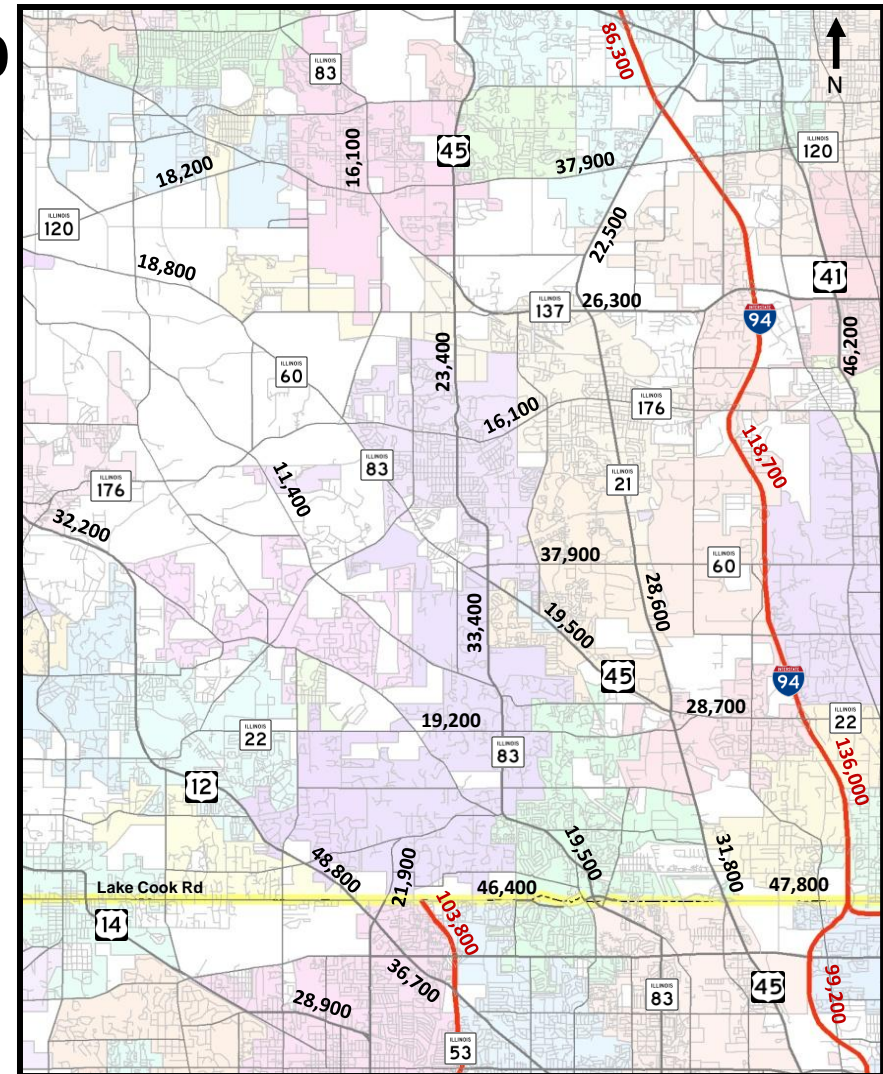


# 1 UNDERSTAND CURRENT TRAFFIC

## □ IDOT Actual Traffic Counts, 2009

(Average Daily Total Traffic numbers shown on map, with key roadways listed below)

- **IL 53 at Lake Cook Road: 103,800**
- **IL 83: 19,500 – 33,400**
- **US 12: 32,200 - 48,800**
- **IL 22: 19,200**
- **US 45: 19,500 - 31,800**
- **IL 176: 16,100**
- **IL 21: 22,500 – 31,800**
- **IL 120: 18,200 - 37,900**



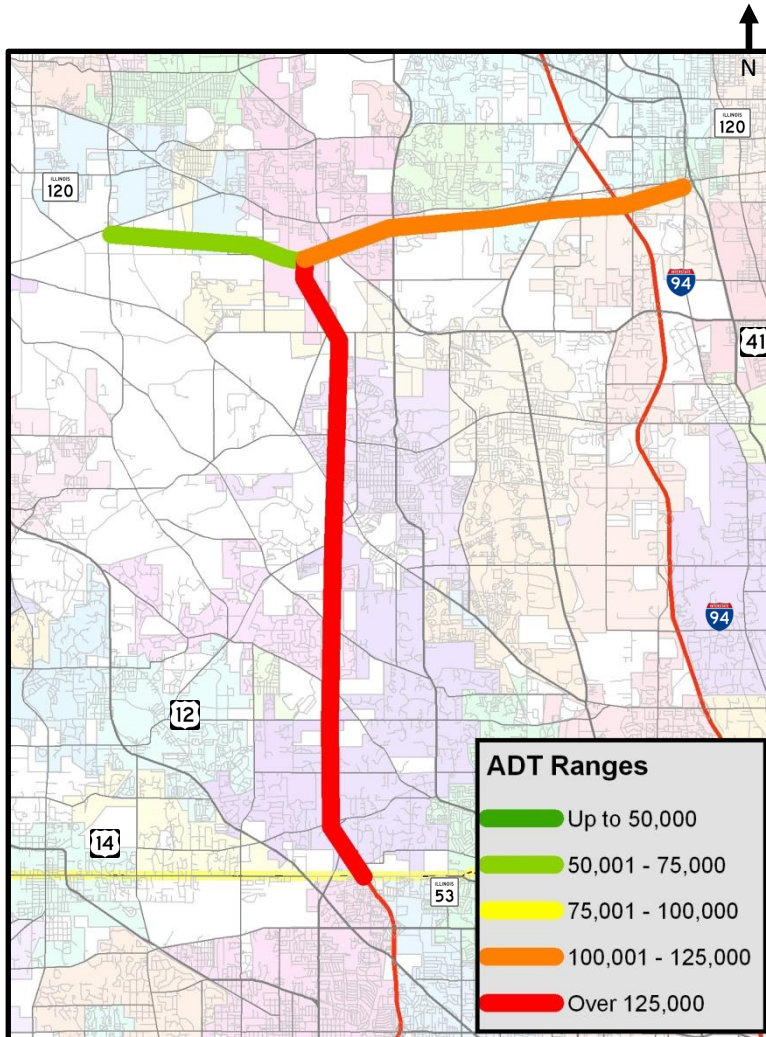
## 2 INTRODUCE SCENARIOS

- Scenarios are **not** recommendations – they are a starting point for discussion
- Scenarios are for comparative purposes only
- Scenarios represent the ends of the spectrum and one middle option
  - Expressway
  - Tolled Highway
  - Tolled Boulevard
- Revenue estimates are gross and **do not include O&M costs** (which can vary depending on design features)
- Revenue estimates are for the **year 2040**





# Expressway (2040)



## ASSUMPTIONS

- 6 lanes on IL-53, 4 lanes on IL-120
- Speed limit 65mph
- No tolls

## IMPACTS

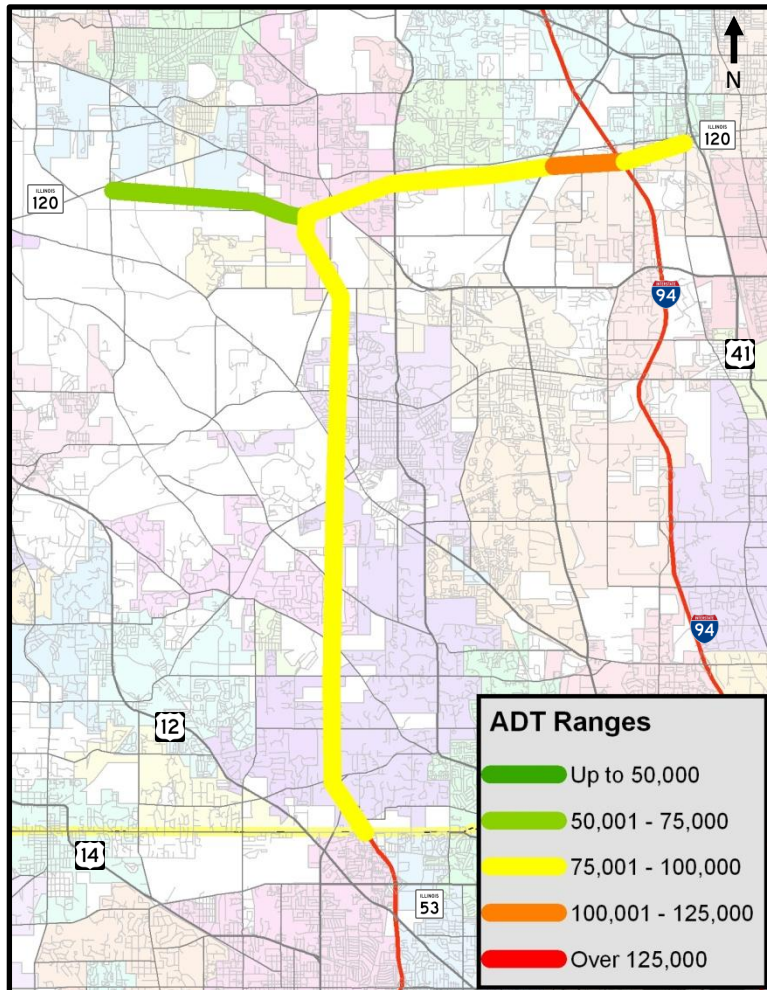
- Illustrates the overall travel demand in the corridor
- Draws traffic away from other routes
- Generates no revenue
- Accommodates all vehicles types
- Inconsistent with Council's Guiding Principles







# Tolled Highway (2040)



## ASSUMPTIONS

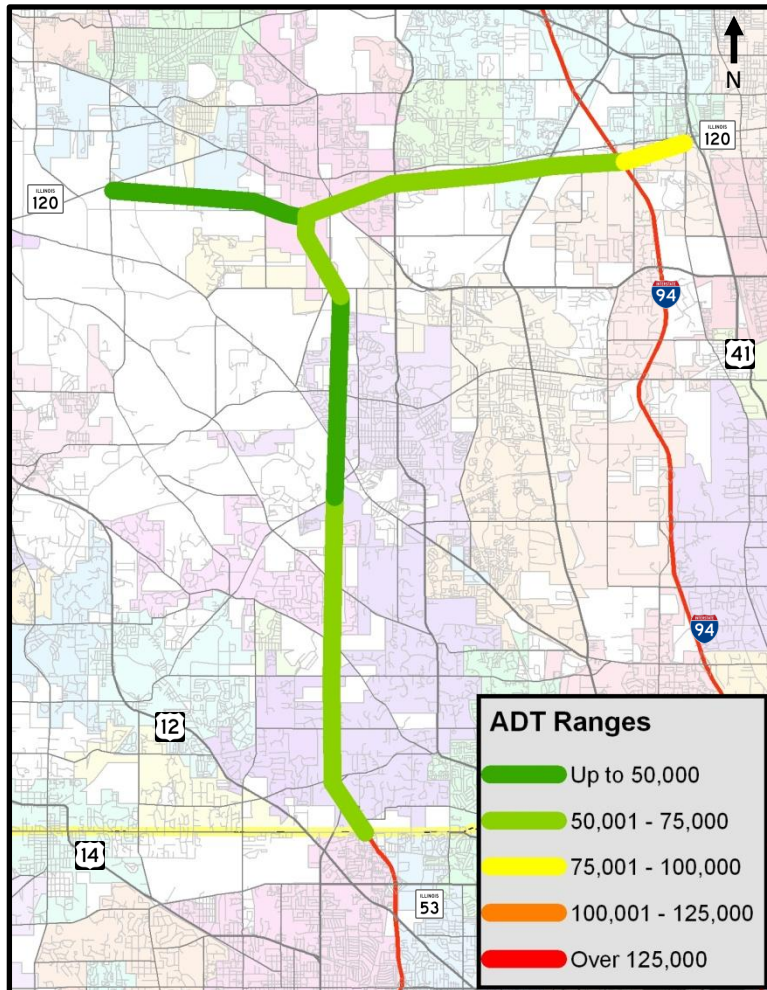
- ❑ 6 lanes on IL-53, 4 lanes on IL-120
- ❑ Speed limit 65mph
- ❑ Passenger cars tolled at \$0.20/mile, commercial vehicle tolls set at 2040 I-355 rates
- ❑ All-Electronic Tolling

## IMPACTS

- ❑ High speed
- ❑ Attracts 30% less traffic than expressway
- ❑ Generates approximately \$125M - \$175M annual gross revenue
- ❑ Accommodates all vehicle types



# Tolled Boulevard (2040)



## ASSUMPTIONS

- 4 lanes on IL-53, 4 lanes on IL-120
- Speed limit 45mph
- Passenger cars tolled at \$0.20/mile
- No trucks
- All-Electronic Tolling

## IMPACTS

- Attracts 50% less traffic than expressway
  - Slower speed
  - Fewer lanes
- Generates approximately \$50M - \$75M annual gross revenue
- Prohibits commercial vehicles (= less revenue)





# SUMMARY

	Expressway	Tolled Highway	Tolled Boulevard
<b>Features</b>	Highest speed. Attracts most traffic. Inconsistent with Council's principles	High speed. Attracts 30% less traffic than expressway.	Low speed. Attracts 50% less traffic than expressway.
<b>Estimated Annual Revenue (Millions)</b>	None	\$125 - \$175	\$50 - \$75
<b>Speed Limit</b>	65	65	45
<b>IL-53 Lanes</b>	6	6	4
<b>IL-120 Lanes</b>	4	4	4
<b>Trucks Allowed?</b>	Yes	Yes	No

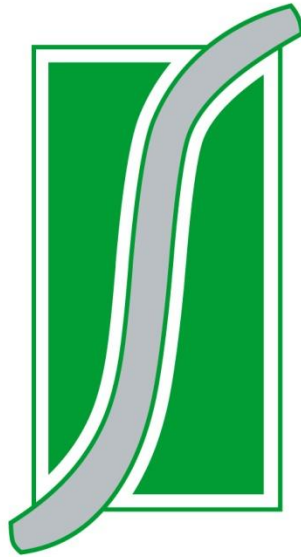


# 3 ESTABLISH CRITERIA

## □ Group discussion

- How does this information impact our perspectives on what's needed in the Central Lake County Corridor?
- What problems are we trying to solve?
- What trips do we want to accommodate?
- What criteria should be used to evaluate roadway alternatives? (Alternatives are being developed by the Design & Land Use working group)





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# Next Steps

