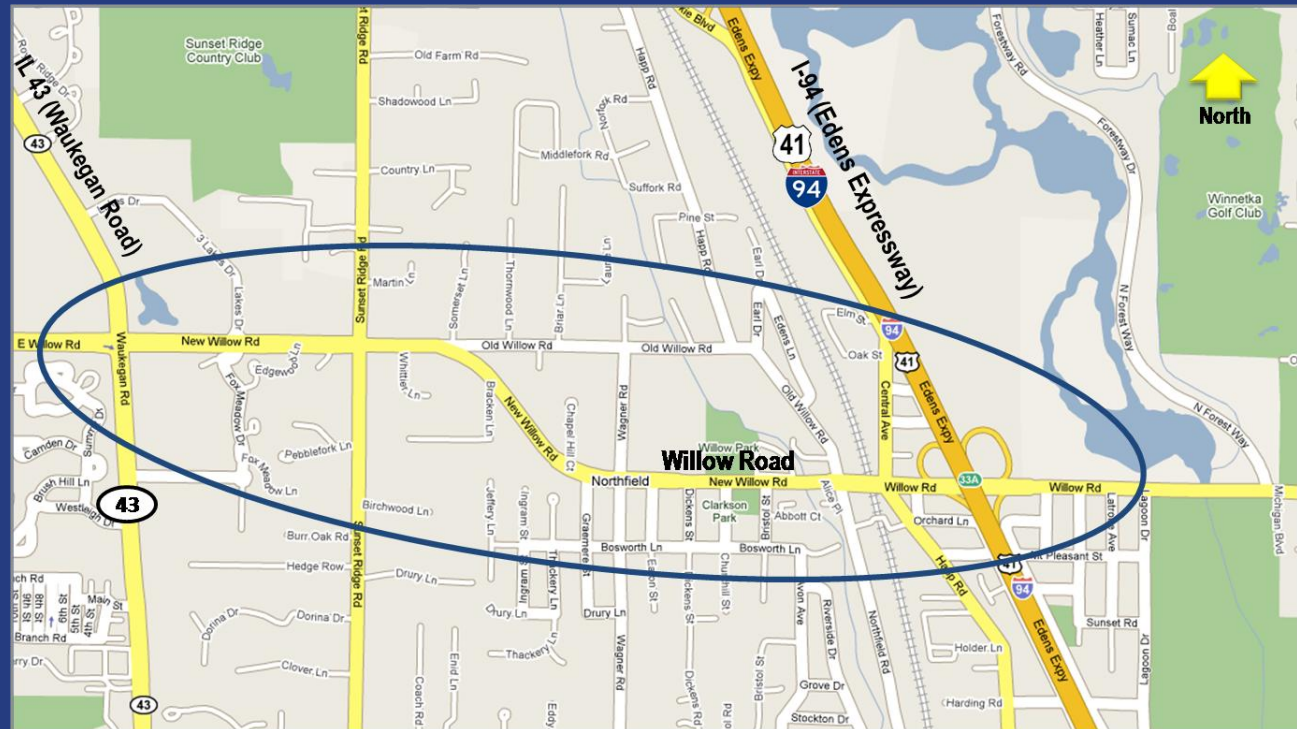


Community Advisory Group Meeting #4

Willow Road Study

Illinois Route 43 (Waukegan Road) to
Interstate 94 (Edens Expressway)

July 15, 2010

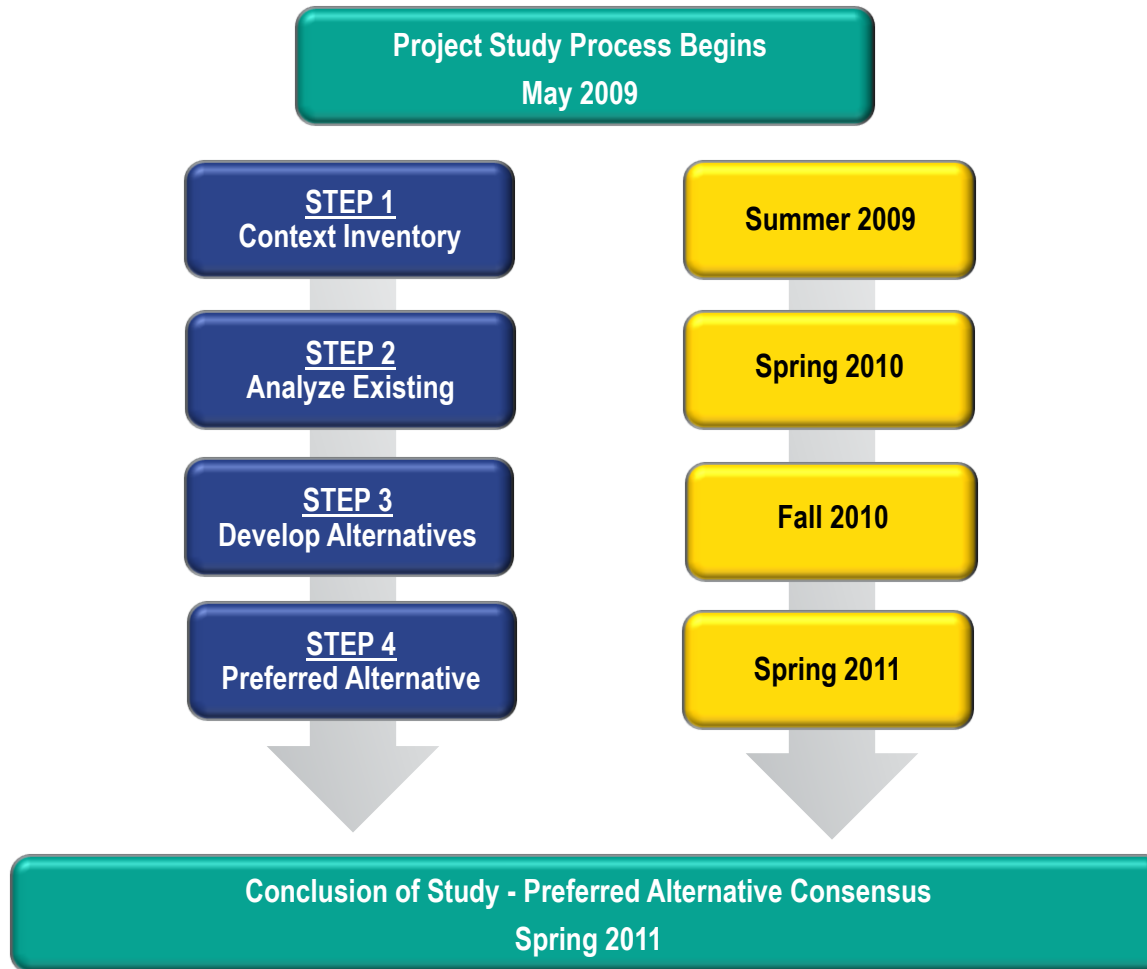


Tonight's Topics

- **Crash History Analysis**
- **Existing and Future No-Build Traffic Analysis**
- **Problem Statement**



Project Schedule



Crash Analysis Methodology

- **Data Collection**
- **Data Processing**
- **Data Analysis**

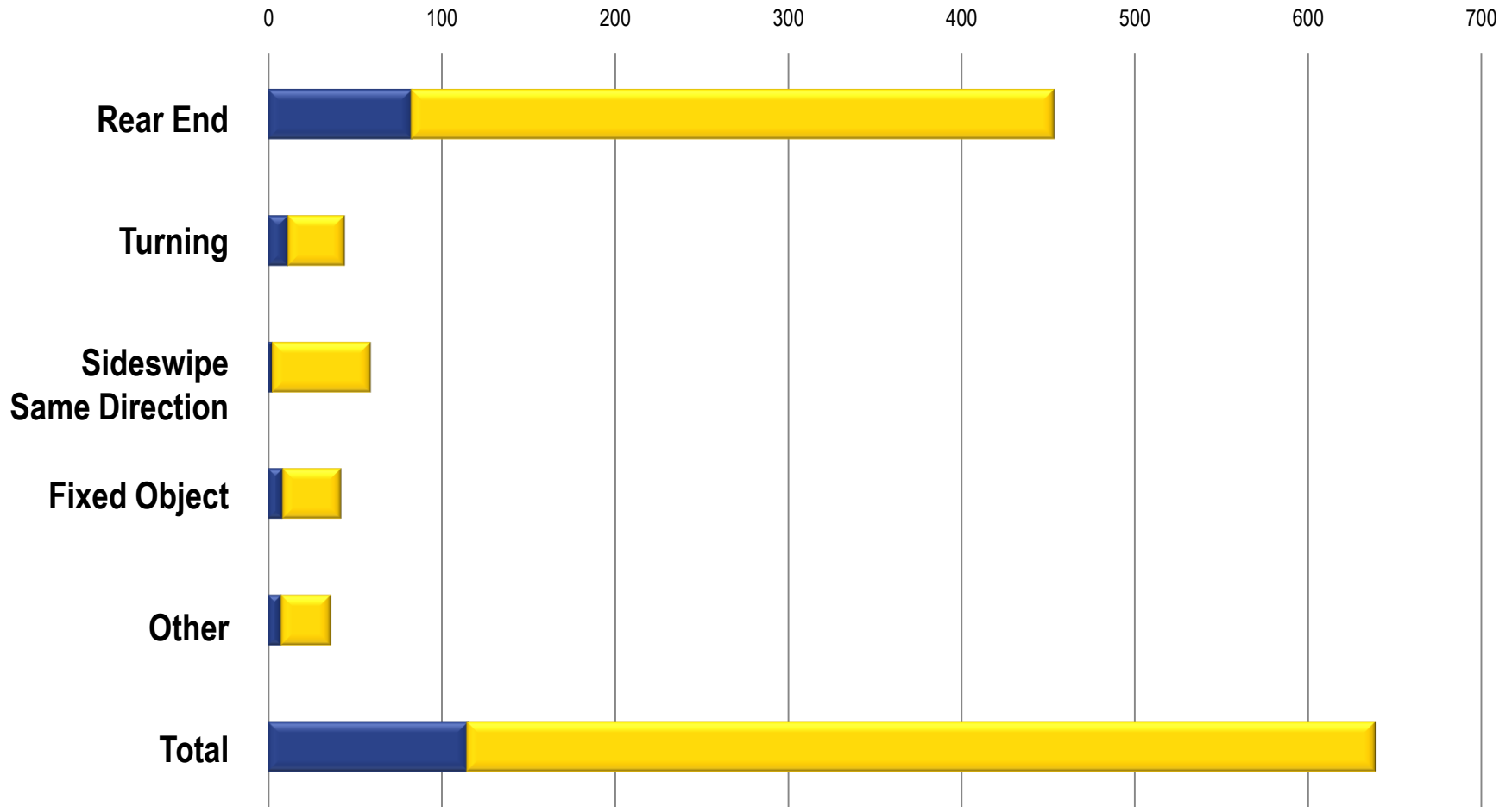
Summary of Crashes (2006-2008)

Crash Type	Number of Crashes	Total Injury Crashes	Injury Types			Fatalities
			A	B	C	
Angle	17	3	0	1	2	0
Animal	3	0	0	0	0	0
Fixed Object	43	9	0	8	1	0
Head On	2	1	0	1	0	0
Other Non-Collision	1	0	0	0	0	0
Other Object	7	1	0	0	1	0
Overtuned	2	2	0	1	1	0
Parked Motor Vehicle	0	0	0	0	0	0
Pedal Cyclist	1	1	0	0	1	0
Pedestrian	0	0	0	0	0	0
Rear End	454	83	2	27	54	0
Sideswipe Opposite Direction	4	0	0	0	0	0
Sideswipe Same Direction	60	3	0	0	3	0
Turning	45	12	0	8	4	0
Total Crashes (2006-2008)	639	115	2	46	67	0

Crash Summary (2006-2008)

- **Predominant Types**
 - **Rear End 71%**
 - **Sideswipe Same Direction 9%**
 - **Fixed Object 7%**
 - **Turning 7%**
 - **Other 6%**
- **Predominant Conditions**
 - **Dry**
 - **Daylight**
 - **Weekday**
 - **Afternoon**

Top Four Injury Crashes by Type (2006-2008)



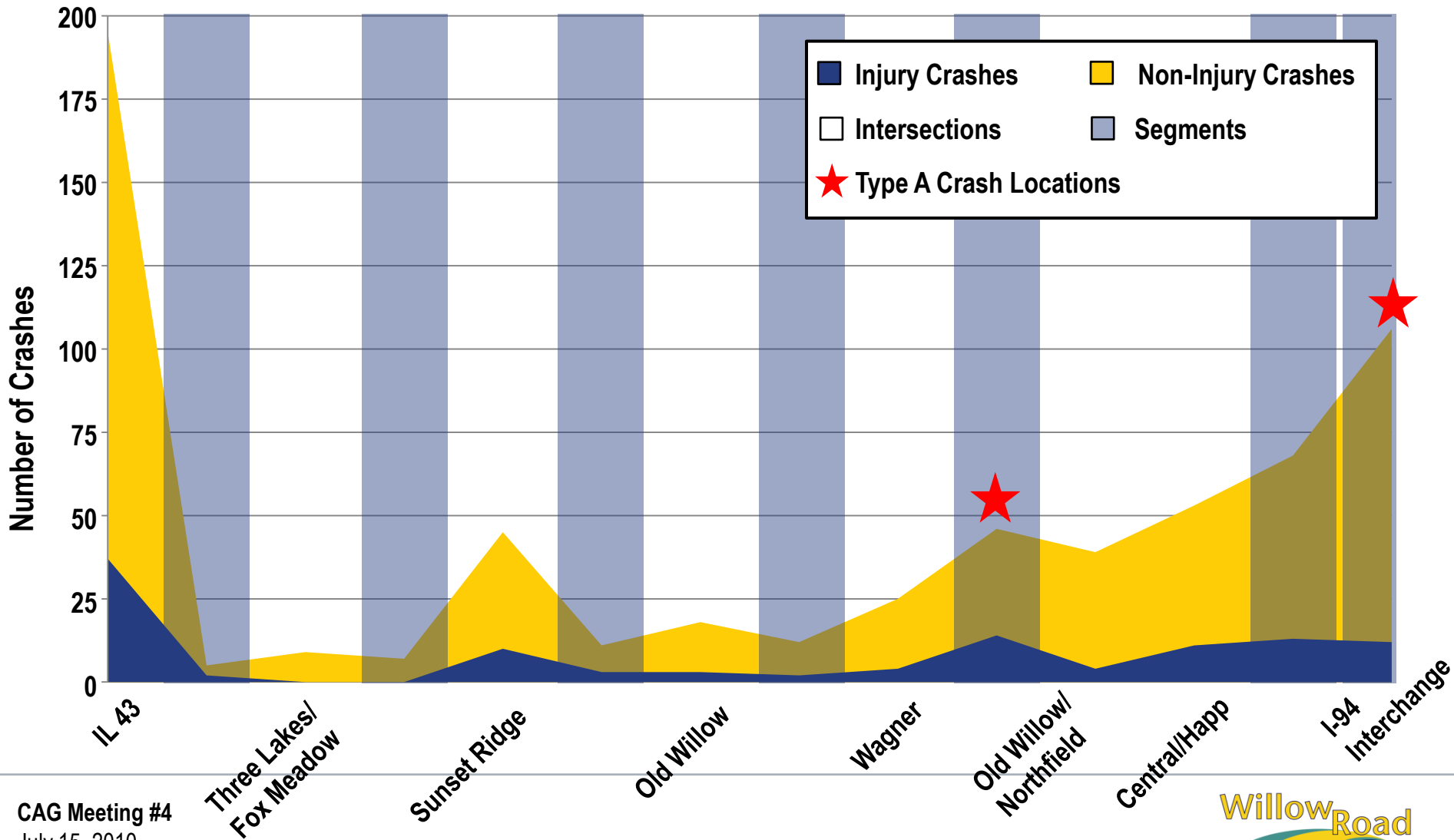
Comparison of Injury Crashes

Rear End and Sideswipe Crashes

Segment or Intersection Peer Group	Statewide	Willow Road
Urban Multilane Divided Highway	39%	60%
Urban 2-Lane Highway	27%	88%
Urban Freeway 6 Lanes	50%	50%
Urban Minor Leg Stop Control	28%	50%
Urban Signalized Intersection	30%	56%

- Percentage of Injury (Fatal, Type A & B) Rear End and Sideswipe crashes on Willow Road are greater than the Statewide average for other similar types of roadways

Total Crashes and Injuries by Location



CAG Meeting #4
July 15, 2010

Crashes vs. Traffic Volumes – Intersections with Willow Road

Intersection	Crash Rate (Crashes/MEV*)
Illinois Route 43	2.85
Three Lakes Drive/Fox Meadow Drive	0.25
Sunset Ridge Road	1.11
Old Willow Road	0.57
Wagner Road	0.82
Old Willow Road/Northfield Road	1.10
Central Avenue/Happ Road	1.28

- The IL Route 43 intersection has the relatively highest traffic volumes of all study area intersections, but it has even more crashes, which is reflected in its crash rate

*MEV: Million Entering Vehicles

Crashes vs. Traffic Volumes – Segments

Segment	Crash Rate (Crashes/MVM*)
Illinois Route 43 to Three Lakes Drive/Fox Meadow Drive	1.13
Three Lake Drive/Fox Meadow Drive to Sunset Ridge Road	1.51
Sunset Ridge Road to Old Willow Road	5.42
Old Willow Road to Wagner Road	1.26
Wagner Road to Old Willow Road/Northfield Road	5.29
Central Avenue/Happ Road through Interstate 94 Interchange	3.32
Interstate 94 at Willow Road Interchange	1.86

- These two segments have the relatively lowest volumes along Willow Road, while a relatively higher number of crashes are concentrated in these segments

*MVM: Million Vehicles Miles

Crash Severity – Critical Locations

Willow Road Segment or Intersection	Crash Severity (number of crashes per year)			
	Type A		Type B	
	Calculated	Observed	Calculated	Observed
Segment: Sunset Ridge Road to Old Willow Road	0.06	0.00	0.15	0.33
Segment: Wagner Road to Old Willow Road/Northfield Road	0.26	0.33	0.65	1.67

- Observed crash severity involving Type A and B injuries is higher than the calculated crash severity
- 27% to more than double the calculated number of crashes per year

Summary – Crash Analysis

- **Approximately 17 Crashes per Month**
- **Approximately 3 Injury Crashes per Month**
- **Rear End/Sideswipe Injury Crashes – Up to 3 Times Higher than Statewide Averages for Similar Roadway Types**
- **Higher Percent than Statistical Average for Type A Crashes**
 - Wagner to Old Willow/Northfield Road
- **Higher Percent than Statistical Average for Type B Crashes**
 - Sunset Ridge to Old Willow
 - Wagner to Old Willow/Northfield Road
- **Weather and Lighting Conditions not a Factor**

Summary – Crash Analysis

■ Rear End Accidents

- Accounts for Over 70% of Willow Road Crashes
 - Driver Behavior/Failure to Reduce Speed
 - Queuing at Intersections
 - Lack of Left Turn Lanes

■ Pedestrian Safety

- No Recorded Pedestrian Crashes (2006-2008)
- One Cyclist Crash

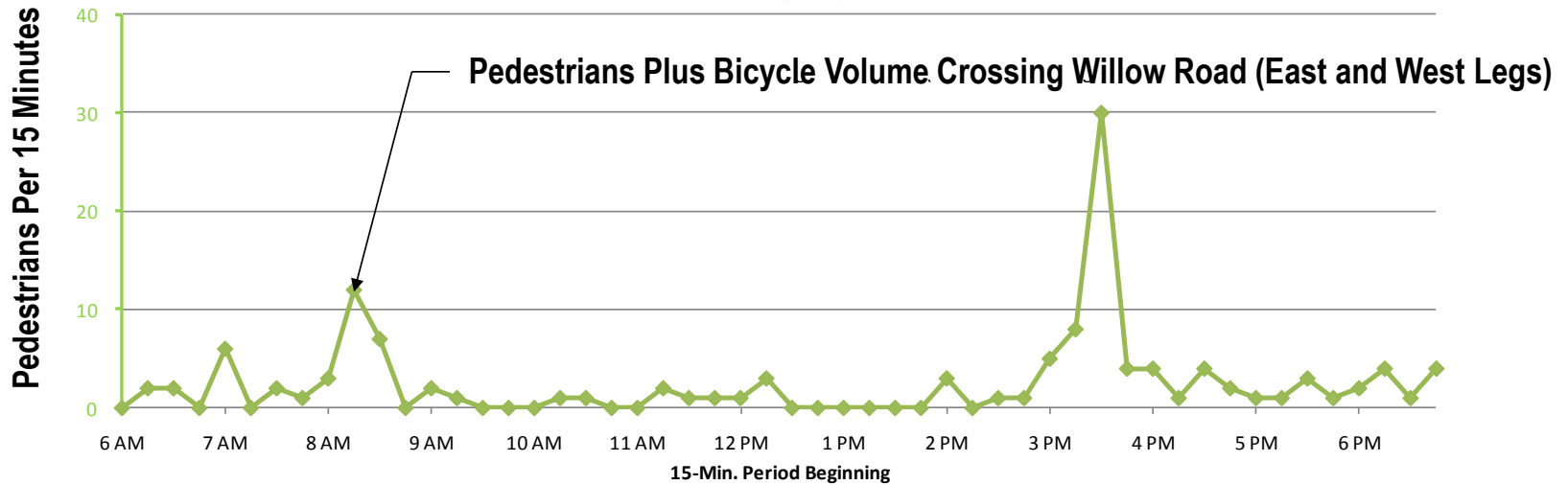
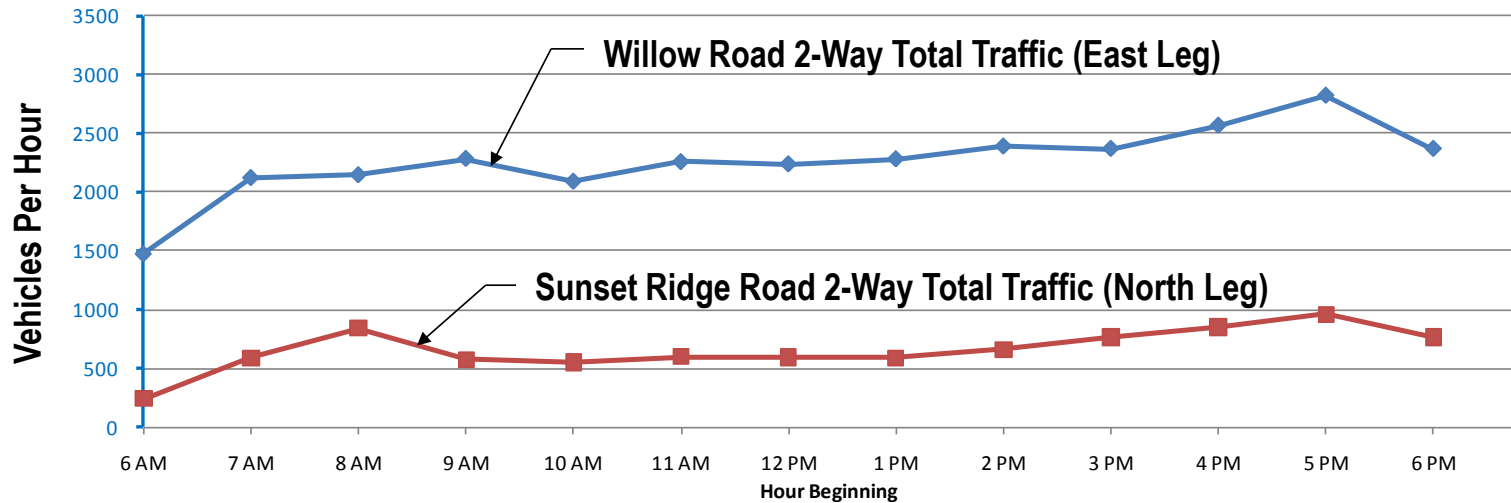
■ Next Steps – Safety Analysis

- Continued Pedestrian Safety Discussion (September)
 - Physical Inventory
 - Potential Pedestrian Safety Enhancements
- Evaluate Safety Effectiveness of Alternatives (Fall/Winter)

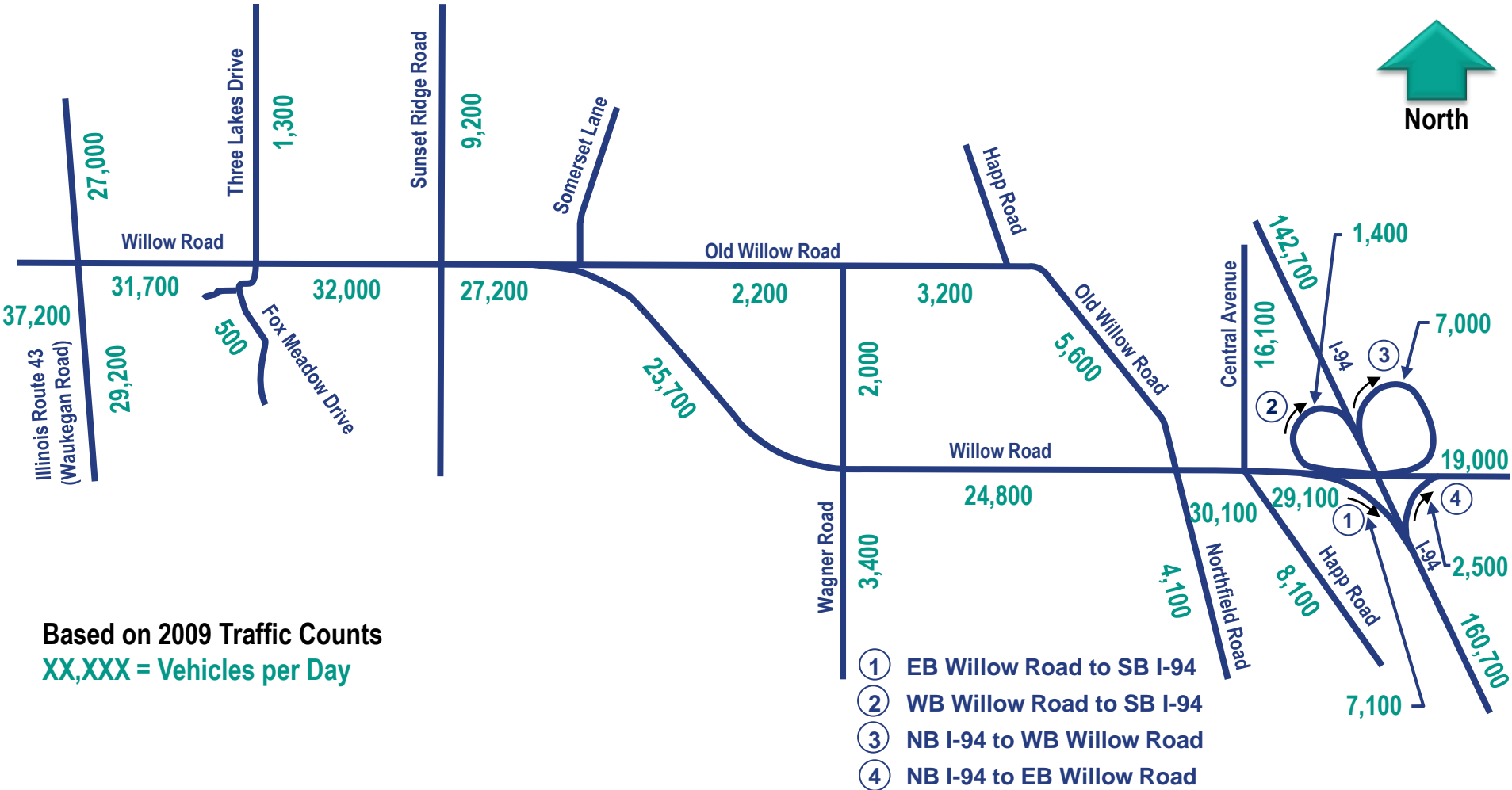
Traffic Analysis Methodology

- **Data Collection**
- **Data Processing**
- **Data Analysis**

Traffic Count Data – Example (Willow Rd at Sunset Ridge Rd)



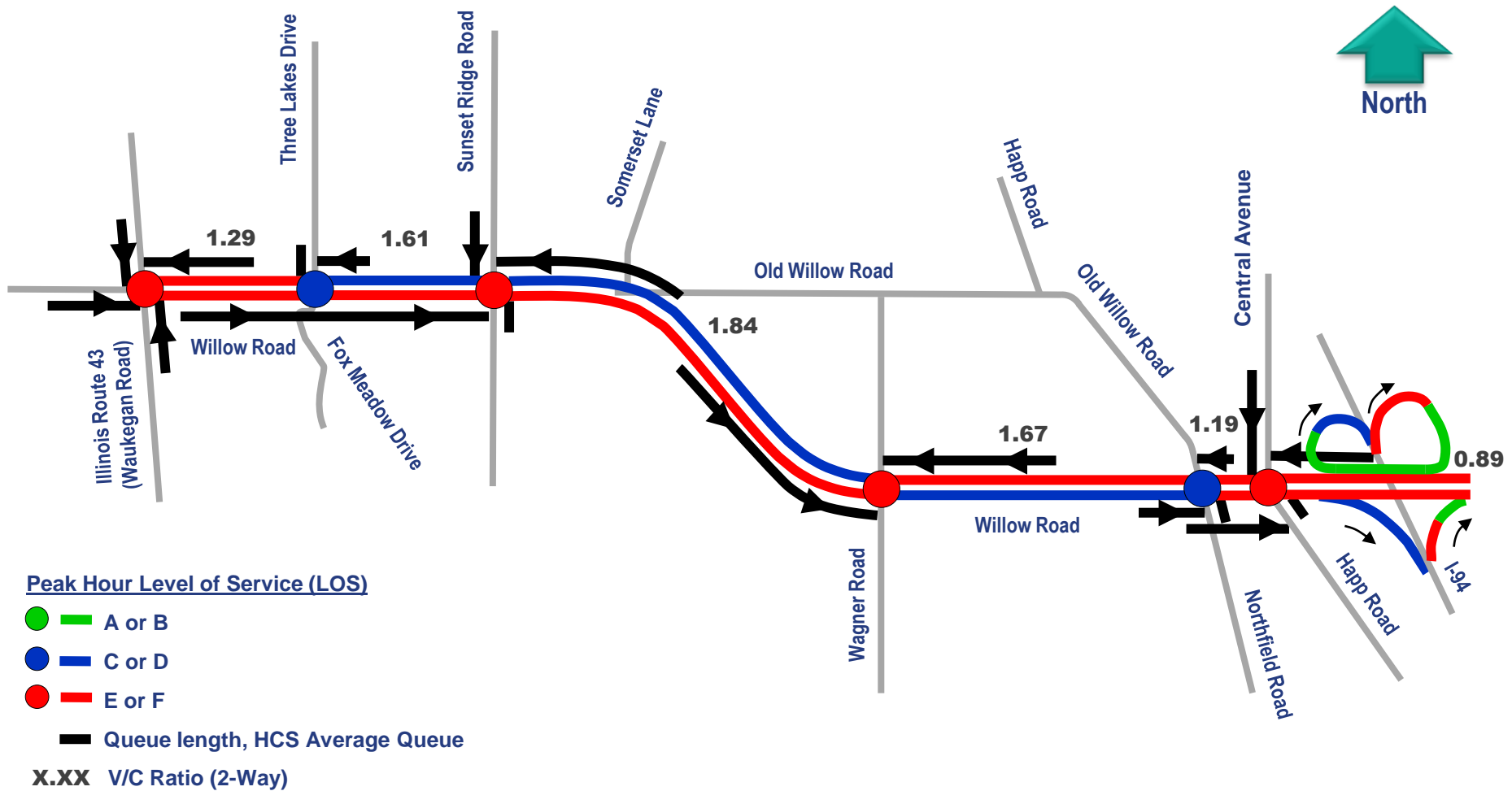
Existing (2009) Annual Average Daily Traffic (AADT)



Standards & Measures of Effectiveness

- **Minimum Level of Service is D**
- **Queues**
- **Volume/Capacity Ratio**

Level of Service, Queuing and V/C – Existing P.M. Peak



CAG Meeting #4
July 15, 2010

CMAP Transportation Modeling

- **The Chicago Metropolitan Agency for Planning (CMAP) is the Official Metropolitan Planning Organization for Northeastern Illinois**
- **CMAP is the Primary Agency for the Development and Maintenance of Travel Forecasting Methods for the Chicago Region**
- **The Processes are Subject to Regular Federal Review**

What is the CMAP Transportation Model?

- A Statistical Model of Human Travel Behavior
- Developed Using Observed Travel Choices
- Continuously Updated

What Information Does the Model Consider?

- Households and Household Composition
- Destination Opportunities (e.g. Employment)
- Transportation Network
- Travel Times/Congestion and Costs

2030 No Build Volumes

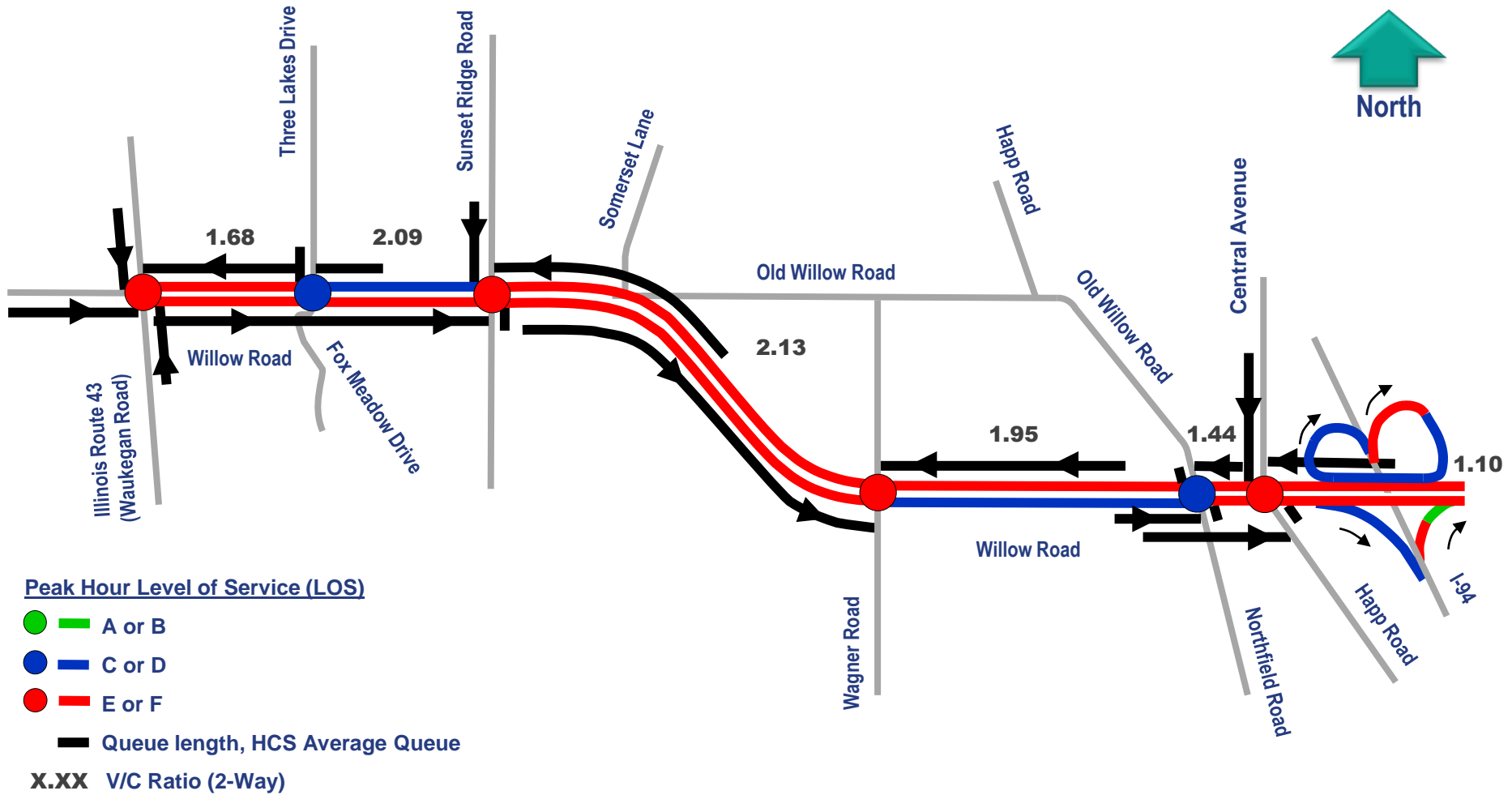
Uses of Model Results

- Calculate Regional Air Quality Emissions
- Identify Travel Trends
- Provide Data for Agencies

Results for Willow Road Study

- Assumes No Widening of Willow Road in Study Area
- 9%-18% Increase by 2030
- General Factors
 - Changes in Regional Development Patterns
 - Corresponding Changes in Travel

Level of Service, Queuing and V/C – 2030 No Build P.M. Peak



CAG Meeting #4
July 15, 2010

Summary – Traffic Analysis

- **Existing Operations/Capacity:**
 - Failing Level of Service E or F at 4 of 6 Signalized Intersections
 - Failing Level of Service E or F for Over Half of Roadway Segments
 - Long Queues
 - Volume/Capacity Ratio is Greater than 1.0
- **Worsens in 2030 No Build Scenario**
 - Increased Delays
 - Increased Vehicle Queues
 - Increased V/C Ratio
- **Next Steps**
 - Evaluate Alternatives to Address these Deficiencies

Original Problem Statement

Willow Road between Waukegan Road and the Edens Expressway is surrounded by homes, schools, churches, parks, and businesses. These land uses support Willow Road as a multi-modal corridor, which must safely and efficiently accommodate pedestrians (especially school-age children), bicyclists, transit users, and vehicular traffic. In addition, local and regional solutions to improve mobility should be explored. Solutions for all modes of transportation problems need to be developed, while avoiding, minimizing, and mitigating impacts to the surrounding environment.

Reasons Modifications Were Made

CAG Modifications

- **New Version Created**

IDOT Modifications

- **Acknowledges that Local and Regional Solutions will be Examined by IDOT**
- **Complies with State and Federal Planning Requirements**

Modified Problem Statement

Regional roadway network deficiencies have a profound impact upon the conditions on many local roadways throughout the four communities included in the Phase I study. Significant mainline I-94 congestion, missing and incomplete interchanges along I-94 and I-294, and the lack of full directional access to the Edens Spur drives tens of thousands of motorists attempting to bypass highway congestion, onto local east-west thoroughfares. This creates unnecessary safety hazards, local congestion, adverse environmental conditions, and unsustainable wear and tear on local streets.

These east-west roads are used primarily for residential purposes; however they also support commercial, **commuter**, school, church, and park uses. They are low-density environments with green space and floodplain storage. The current environment is reflective of the character of the towns in which they are located.

Regional, systemic gaps must be **identified as part of the alternatives development process, evaluated, and compared to any local road solutions that are proposed. quantified,** ~~evaluated and addressed before any local road solutions are proposed.~~ Any solution must be safe for pedestrians (particularly school children) and motorists, preserve the character of the surrounding environment, and be cost effective for taxpayers.

CAG Meeting #5

- **Thursday, September 16, 2010**
 - 6:00 p.m. to 8:00 p.m.
 - New Trier High School, Northfield Campus
- **Topics**
 - Purpose and Need
 - Identification of Potential Pedestrian and Non-motorized Safety Enhancements
 - Three-Lane Alternative
- **Future Meetings**
 - CAG Meeting #6 – November 18, 2010

Public Comments

CAG Meeting #4
July 15, 2010