



Illinois Department of Transportation

# Community Advisory Group (CAG) Meeting #2

September 22, 2011  
McHenry County College  
Shah Center



ILLINOIS

31



Illinois Route 31

ROUTE 176 TO ROUTE 120

[www.ILRoute31.com](http://www.ILRoute31.com)

McHenry County

# Introductions

- Illinois Department of Transportation
- STV Incorporated & Sub-Consultants
- Community Advisory Group Members
  - » Please refer to list provided in Binder.
  - » Introduce yourself and state the community in which you live and/or which group and/or government agency you represent.



# Meeting Agenda Overview & CAG Binders

- Meeting Agenda Overview
  - » Please refer to agenda provided in Binder.
- CAG Binder Handouts
  - » Meeting Materials
  - » Reference Materials
  - » Additional materials available at [www.ILRoute31.com](http://www.ILRoute31.com)



# Summary of CAG Meeting #1

- Project Introduction
- Reviewed IDOT Project Development and Public Involvement Process
- Reviewed Public Meeting and Questionnaire Responses
- Workshop: Project Problem Statement
  - » Please refer to the CAG Meeting #1 Summary documents in your binder



# CAG Meeting #1 Milestones

- Reviewed and Accepted Ground Rules
  - » Please refer to rules provided in the CAG binder
- Identified Key Transportation Issues and Concerns
  - » Congestion (Existing and Future)
  - » Safety
  - » Accessibility
  - » Existing design deficiencies
- Developed Project Problem Statement



# Summary of CAG Meeting #1

## Project Problem Statement

“The transportation problems along Illinois Route 31, from Illinois Route 176 to Illinois Route 120, to be solved by this project are: congestion (existing and future), safety for multi-modal users, accessibility for all users, and existing design deficiencies; in addition, minimize overall environmental impacts (e.g. storm water runoff and water quality).”

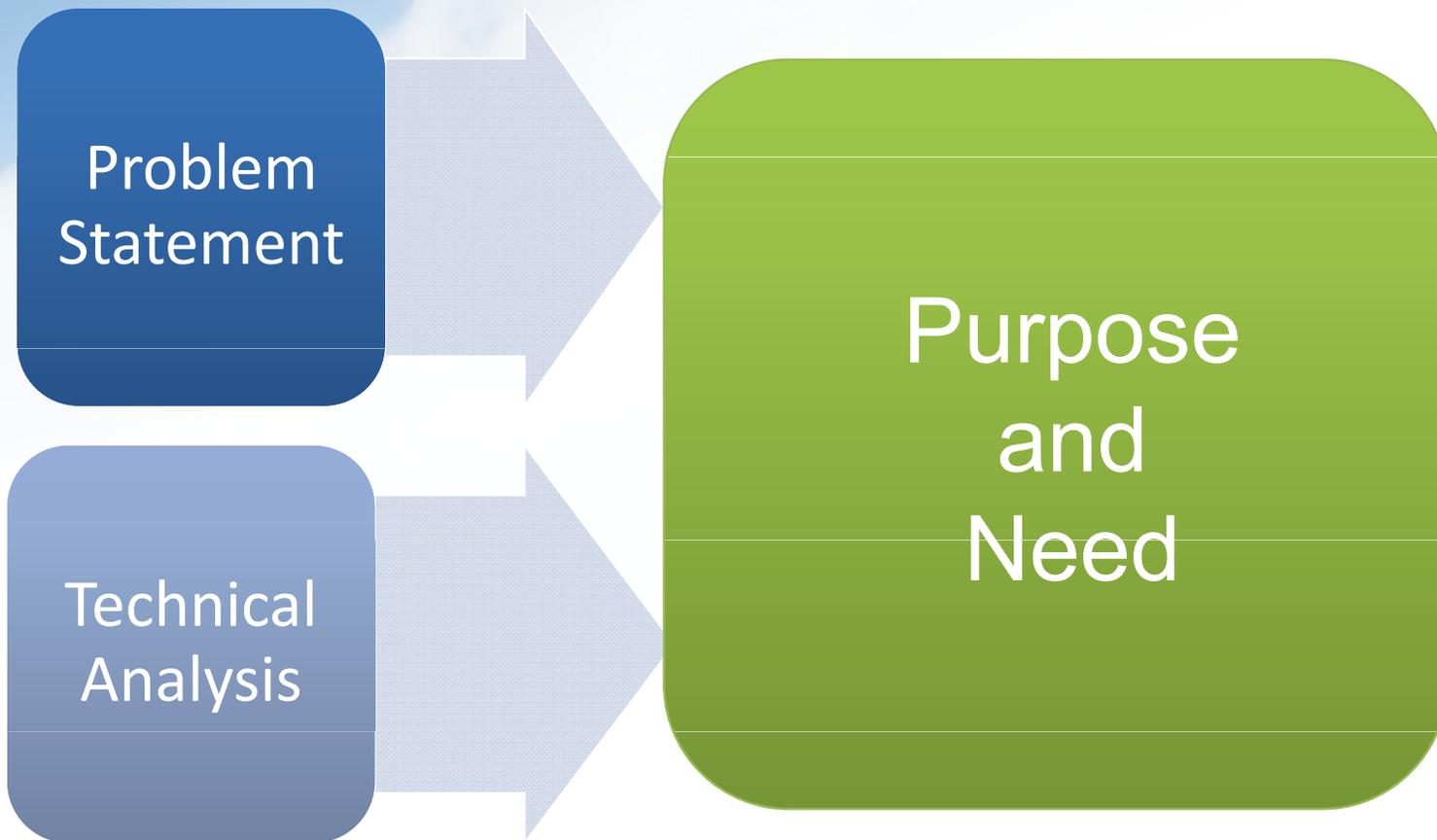


# Purpose and Need

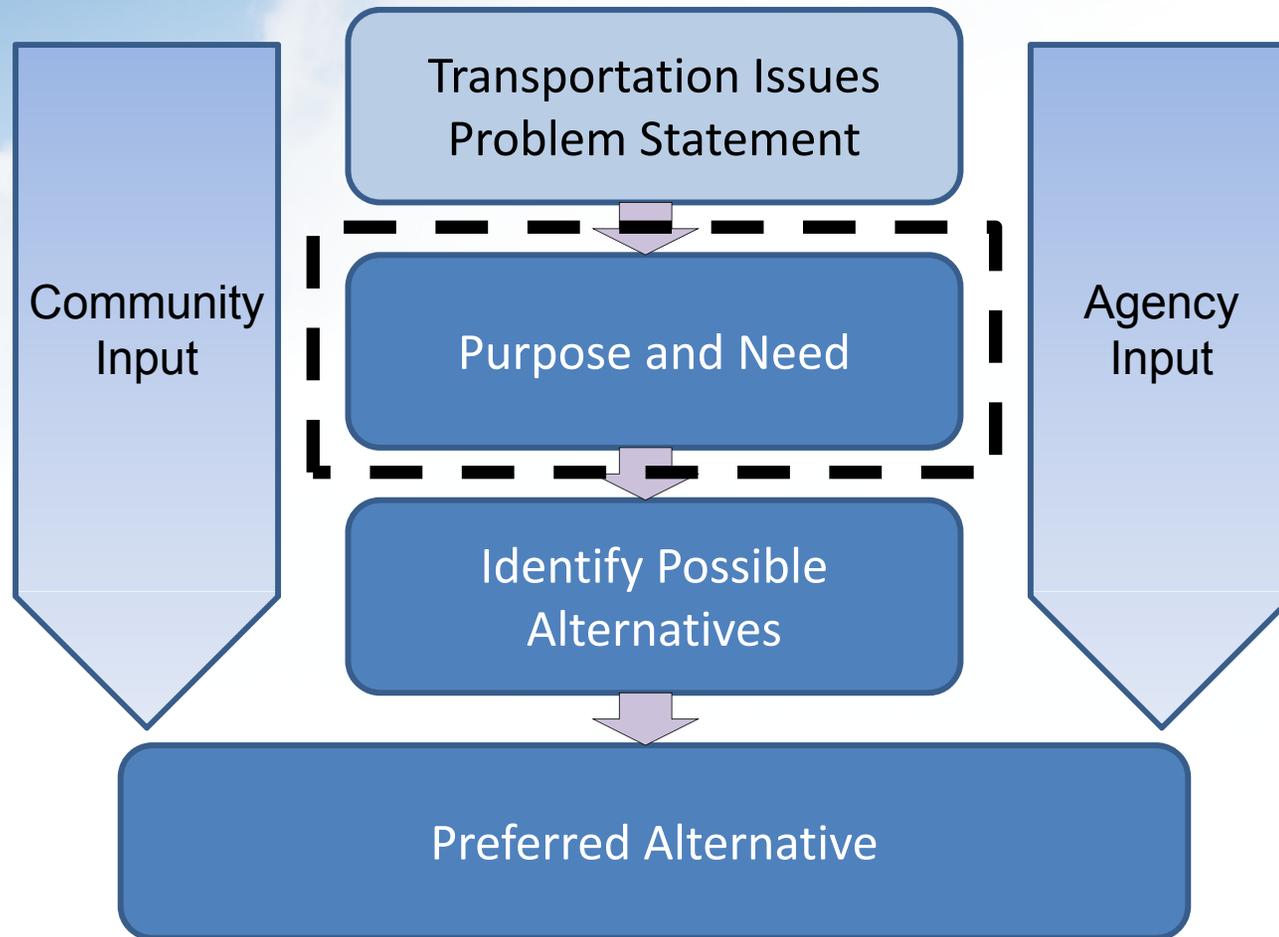
- What is the Purpose and Need?
  - » Required as part of an Environmental Assessment (EA)
  - » Consists of three parts:
    - » Purpose, Need and Goals and Objectives
  - » The foundation for the identification and evaluation of Project Alternatives
    - » How does a proposed solution address the **PURPOSE** of the project?
    - » How does a proposed solution address the **NEED** for improvements?



# Purpose and Need Development



# Project Process Purpose and Need



# Purpose and Need

- Why is the Purpose and Need Important?
  - » Required by law
  - » Sets the stage for consideration of alternatives
  - » Clarifies expected project outcome
  - » Justifies project expenditure
  - » Does not recommend specific solutions



# IL Route 31 – Project Purpose

## ■ Project Purpose

*“The purpose of the proposed action is to address transportation safety, capacity, pedestrian and bicycle needs, and geometric deficiencies along Illinois Route 31 from the intersection of Illinois Route 176 to the intersection of Illinois Route 120, in Eastern McHenry County.”*



# IL Route 31 – Identified Needs

- Needs Statement
  - Improve Roadway Safety
  - Expand Roadway Capacity and Address Traffic Issues
  - Correct Existing Roadway Design Deficiencies
  - Provide Pedestrian and Bicycle Accommodations



# Identified Needs: Roadway Safety

## ■ Roadway Safety

### » Crash Statistics (2006-2009) – 917 Total Crashes

- 443 Crashes in Roadway Segments (Non-intersection)

- 54% Rear End Collisions
- 11% Turning Collisions
- 9% Animal Collisions
- 8% Fixed Object
- 5% Sideswipe Same Direction
- 4% Angle Collisions
- 10% Other



- 6 Fatalities, 54 Incapacitating Injuries, 348 Total Injuries



# Identified Needs: Roadway Safety

- **Summary of Fatal Crashes (2006-2009)**
  - » **Two at Intersection at Half Mile Trail**
    - One head-on, one turning collision, two separate incidents
  - » **One on IL 31 Segment – Oak Crest Road to Half Mile Trail**
    - Overturned vehicle crash
  - » **One on IL 31 Segment – Half Mile Trail to Ames Road**
    - Head-on collision
  - » **Two on IL 31 Segment – Gracy to Veterans Parkway**
    - One head-on, one fixed-object collision, two separate incidents



# Identified Needs: Roadway Safety

- Summary of Fatal Crashes (2006-2009)
  - » Head-on Collisions Predominant Type
  - » Shady Oaks Lane to Veterans Drive
    - All fatal crashes from 2006 to 2009 are located within this segment of IL Route 31
    - This segment of IL Route 31 has the greatest number of geometric deficiencies throughout the corridor
    - Coincides with the large vertical profile “valley” in middle of the project



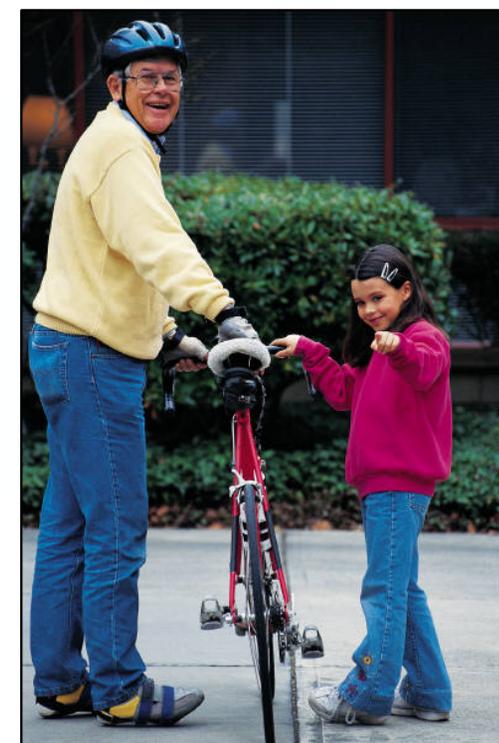
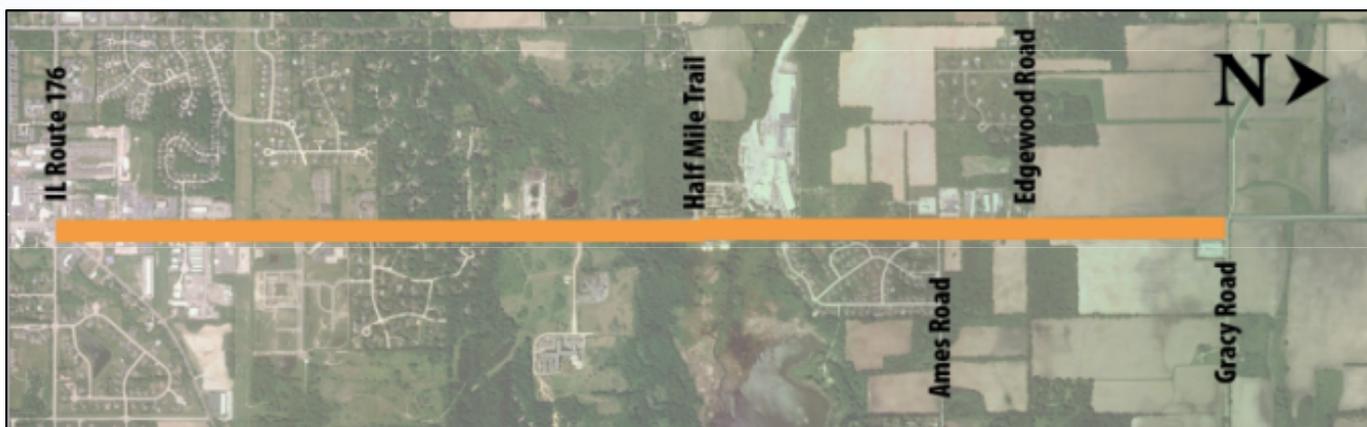
# Identified Needs: Roadway Safety

## ■ Pedestrian and Bicyclist Safety

- » **Separate Facilities:** Create a safe environment for pedestrians and bicyclists
- » **Roadway Interface:** Provide suitable crossing facilities

## ■ Top 5% Crash Locations

- » IL Route 176 to Gracy Road



# Identified Needs: Traffic & Capacity

## ■ Traffic and Capacity

### » Existing and Projected Levels of Service (LOS)



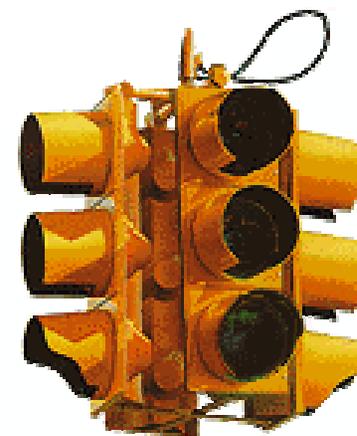
### » Year 2040 “No-Build Option” Traffic Projections

- Majority of study area LOS “E”
- IL 176 to Half Mile Trail LOS “F”



# Identified Needs: Traffic & Capacity

- Lack of Lane Capacity
  - » Inadequate through lane capacity
  - » Lack of turn lanes
  - » Inadequate turn lane storage
- Intersection Delay
  - » Inadequate Phasing/Timing
  - » Inadequate through and turn lane capacity



# Need: Existing Design Deficiencies

- Sight Distance Issues
  - » Horizontal
  - » Vertical
- Roadway Flooding Conditions
- Operational Deficiencies
- Lack of Turn Lanes
- Inadequate Turn Lane Storage
- Roadside Design Elements
- Driveway Entrances



# Need: Pedestrian and Bicycle Accommodations

- Safe Bicycle Accommodations
- Contiguous Sidewalk
- Pedestrian and Bicycle Crossing Accommodations at Signalized Intersections
- Connectivity to Existing Pedestrian and Bicycle Networks



# Project Goals: Roadway Safety

- Motorists: Reduce Number of Crashes
- Pedestrian/Bicyclists: Provide suitable facilities
- Property/Business Owners: Ability to access property safely



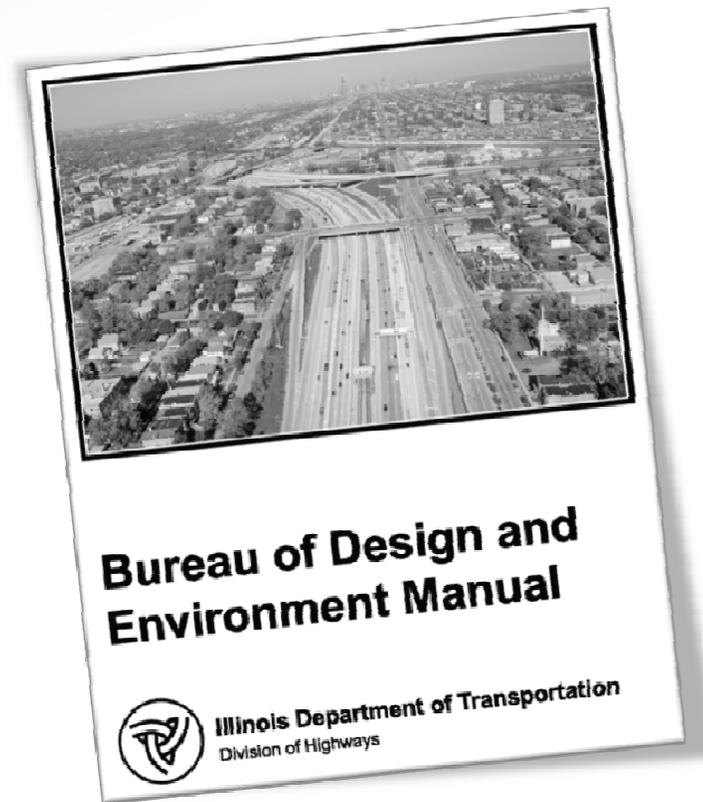
# Project Goals: Traffic & Capacity

- Increase Mobility
- Reduce Congestion
- Reduce Conflict Points
- Improve Intersection Performance
- Accommodate for existing and future economic development demands



# Project Goals: Proposed Design

- Geometric Improvements
  - » Horizontal Geometry
  - » Vertical Geometry
- Drainage Improvements
- Update Roadway to Meet Current Design Standards
- SRA Design Criteria



# What is a Strategic Regional Arterial?

## ■ Strategic Regional Arterial (SRA)

- » Regional Arterial Roadway Network
- » High volumes of local & regional traffic
- » Integration with expressway and transit transportation networks
- » Has specific design criteria to minimize delays to traffic
- » Available on IDOT's website



# Project Goals: Pedestrian and Bicycle Accommodations

- Create a safe environment for pedestrians and bicyclists
- Provide suitable crossing facilities at various locations throughout the project area
- IDOT Complete Streets Policy

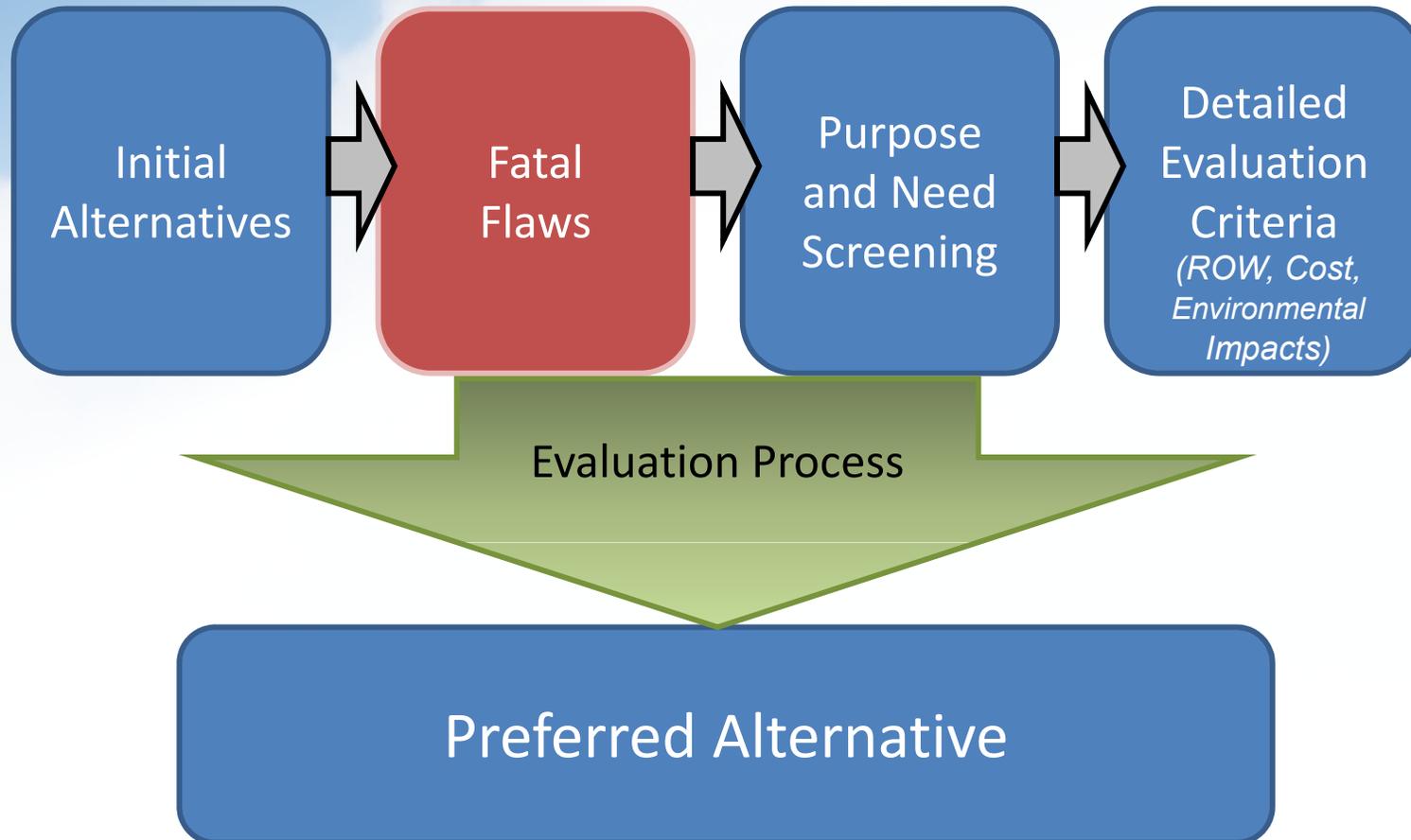


# Alternatives Development

- Alternatives development combines:
  - » Stakeholder input to date
  - » Project Purpose and Need
  - » Project elements
  - » Analysis of existing conditions
  - » Technical analysis of design requirements and constraints



# Alternates Development Evaluation Process



# Evaluation Criteria

- Meets Identified Needs
  - » Safety, Traffic and Capacity, Accessibility / Pedestrian & Bicyclist Accommodations, Corrects Existing Design Deficiencies
- Environmental, Social, and Cultural Impacts
  - » Drainage, Wetlands, Parks, Historic Buildings, Etc.
- Property Impacts / Right-of-way
  - » Residential, Commercial, Land Use Plans
- Construction Costs
  - » Construction, Maintenance



# Environmental, Social, and Cultural Resources

- Wetlands
- Floodplains
- Threatened and Endangered Species
- Parks / Recreation Areas
- Agricultural Land
- Ground Water
- Special Waste
- Air Quality
- Traffic Noise
- Multi-use trails
- Trees and Vegetation
- Surface Water Resources
- Historical and Archeological Properties



# Wetlands

Wetlands are transitional areas between wet and dry areas, defined by specific plants, soil, and hydrology.

## Importance of Wetlands

- Improve water quality
- Provide wildlife habitat
- Adds flood control
- Filters nutrients
- Groundwater recharge



# Floodplains

Areas adjacent to a body of water that store floodwater during flood events.



## Importance of Floodplains

- Flood Control
- Reduces flow velocity



# Threatened and Endangered Species

An endangered species is a plant or animal at risk of extinction throughout all or a significant portion of its range.

A threatened species is a plant or animal likely to become endangered in the foreseeable future.

## What species are in the Study Area

- Currently under review
- Environmental Survey Request submitted for IDNR review
- 84 plant and animal species in McHenry County



Blanding's Turtle



# Recreational Areas



Any publicly owned park, recreational area, or wildlife and waterfowl refuge.



# Agricultural Lands

Land used for the production of crops or raising livestock



# Groundwater

- Water located below surface in such a quantity the soil pore spaces become saturated with water
  - » Class I – Drinking Water
  - » Class II – Other Groundwater
- Ground water wells require a setback zone. A setback zone is a geographic area containing a public or private well with restrictions on land uses within that zone to protect water supply.



# Special Waste Sites

- Regulations are not established to protect special waste sites
- Avoidance of special waste sites preferred
- Special waste sites may include:
  - » Underground storage tank sites
  - » Leaking underground storage sites
  - » Hazardous waste generator sites
- Illinois State Geological Survey will identify sites



# Public Facilities

- There are no federal or state regulations, protecting non-Section 4(f) public facilities, schools, or places of worship.
- Should avoid impacting these resources, if possible.



# Historical and Archeological Properties



Any historic or archeological site (publicly or privately owned) of national, state, or local significance.



# What else is considered?

- Air Quality
- Traffic Noise
- Multi-use Trails
- Trees and Vegetation
- Surface Water Resources



# Engineering Toolbox

- A collection of design “tools” to improve safety and mobility along the highway system.
- Pedestrian Safety Improvement Tools
  - » Sidewalks / Bike / Multi-use Paths
  - » Crosswalks / Crosswalk Signals
- Roadway Safety Improvement Tools
  - » Raised Medians
  - » Left Turn Lanes
  - » Access Management
  - » Improved Sight Distance
  - » Geometric Realignments
  - » Traffic Signal Installation / Modernization
  - » Roadway Lighting



# Engineering Toolbox

- Capacity Improvement Tools
  - » Add Lanes
  - » Add Turn Lanes at Intersections
  - » Modify Turn Lane Storage Lengths and Tapers



# Workshop: Identify and Map Key Project Constraints

- What will be accomplished during this workshop?
  - » Identify and map key project constraints.
  - » These constraints will be used in Alternatives Development Workshop during next CAG meeting.
  - » Project Alternatives will not be discussed during this workshop.
- Group Exercise
  - » Identify and Map Key Project Constraints (15 minutes)
  - » Report back to large group by approximately 2:45 p.m.



# Next Steps and Future Meetings

## ■ Next Steps

- » Ongoing Engineering Project Development activities:
  - » Traffic Analysis / Projections
  - » Crash Analysis
  - » Environmental Surveys
- » Development of complete Project Purpose and Need document per NEPA requirements

## ■ Future Meetings

- » CAG Meeting #3: November 2011
- » Public Meeting #2: January 2012



# Thank You!

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## Illinois Route 31

ROUTE 176 TO ROUTE 120

McHenry County

