Presentation to
2017 Purdue Road School

Innovation & Consensus Building
With Traffic Simulation
DOES THIS SOUND LIKE FUN TO YOU?

- Serious Safety Problems & Growing Congestion
- Competing Demands for Access & Mobility
- Frustrated & Skeptical Public
- Multiple Agency Jurisdictions
- MANY Stakeholders with Direct or Indirect Influence (NIMBY)

“We need a solution that fixes this mess…but doesn’t impact businesses or economic development.”
A WICKED WEB...

- IDOT Highway
- City Arterial
- Institutions – Southern IL University, Carbondale HS
- Many Existing Businesses
- Multiple Developers of Adjacent Properties
- Skeptical Public & Frustrated Residents
- Southern IL MPO (Client)

How can consensus be achieved amongst conflicting interests and priorities?
Safety Analysis

Crashes 2011 - 2013

Lochmueller Group
in association with
SIMPO • IDOT • City of Carbondale
Future Development Assumptions
2040 No-Build VISSIM Model
Option 1 Schematic
Option 2 Schematic

- Relocate Frontage Road
- Potential improvements to add capacity
- Right turn only onto Route 13 (one-way)
- Roundabout
- Right in/Right out
- Right in/Right out
- Left in
- Median on Giant City Road
- New road
Option 3 Schematic

- Potential improvements to add capacity
- Right turn only off Route 13 (one-way)
- Roundabout
- Right in/Right out
- Westbound left in
- Right in/Right out
- Left in
- Median on Giant City Road
- New two-way connection
- Right turn only onto Route 13 (one-way)
- Roundabout
- New two-way connection
Intersection of IL 13 & Giant City Road

Improvement Needs

- Add Southbound Right-Turn Lane
- Add Second Northbound Left-Turn Lane
- Modify Signal Phasing, Sequencing & Timing
Improvement Needs North of IL 13

- Simple “turnaround” roundabout (Option 1) will NOT work as long-term solution
- Need to relocate the North Frontage Road several hundred feet to the north (Option 2 or 3)
  - Install a four-leg roundabout
  - Retain existing frontage road as right-in/right-out only
2040 VISSIM Model – North of IL 13
Additional Improvement Options North of IL 13

- Break In Access for Westbound IL 13
  - Roundabout on the North Frontage Road
  - Accommodate traffic off of and onto IL 13 directly
2040 VISSIM Model – Optional Improvements
2040 VISSIM Model – Drive-Through
Improvement Needs South of IL 13

- TWO feasible alternatives for the South Frontage Road
  - Add a relocated Frontage Road on both sides of Giant City Road along back side of businesses
  - OR provide alternate access to the west side at the existing South Frontage Road plus a relocated east South Frontage Road
- Bicycle and pedestrian facilities should be provided along Giant City Road and tie in with IDOT’s planned improvements along IL 13
2040 VISSIM Model – South of IL 13
Additional Improvement Options South of IL 13

- Break In Access on IL 13 to the east of Giant City Road to provide right-in/right-out/left-in access
  - Recommend installation of a partial signal
  - Westbound IL 13 never stops and eastbound stops are coordinated with existing stops at Giant City Road to minimize disruptions
Summary of Study Findings

• The recommended improvements will significantly reduce congestion, reduce crashes by 60-80% & accommodate future growth.

• A phased implementation is feasible for both the immediate and long-term needs of the corridor.

• Each project would be a candidate for Highway Safety funding as well as STP-U funding.

• The preservation of right-of-way is important as development continues within the project area.
Building a Consensus Through Innovation

- Giant City Road has constraints common to many small & medium size communities with edge development.

- Local planning agencies & MPOs can take the lead to help foster collaboration.

- The use of technology & visualization tools are powerful for building consensus among stakeholders – people are much more likely to agree when the “see” the results from a personal perspective.
Thank You!

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