US 231 Relocation Study

Capstone Presentation

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What is a Capstone?

In academic terms, a capstone project is an opportunity to analyze an experience, problem or opportunity whose lessons learned can be used in a real world setting.
Value of This Capstone

The US 231 Relocation Project Capstone provides an opportunity to take a 'soft‘ look back on the evolution of the planning, environmental assessment, design and ultimate construction of this important project in West Lafayette.

The environmental study was initiated in 2001 and the project was successfully constructed and opened to traffic in 2013.
Why the US 231 Relocation Project?

In 2001, INDOT and FHWA agreed that the project presented an opportunity to explore the value of using a different approach to collaboration and impact assessment during the environmental study.

Did this decision change the ultimate outcome of the project? Was there a lasting effect on policy and how projects are developed?
Brief History

2000

Final Engineering Design

December 2001:
Environmental docs for northern portion initiated;
Project website launched

Public Involvement

2010

2013

Construction

January 2003:
CAC meeting #5

2010:
Construction letting

2008:
Value engineering negotiations

July 2006:
CAC meeting to review final design

January 2002:
Public kick off
April: CAC mtg #1
May: CAC mtg #2
June: Public mtg to announce alternatives
July: CAC meeting #3; Final Section 106: Phase I Survey
September: CAC meeting #4
October: Public hearing to announce draft environmental
document proposed preferred alternative
November/December: Project team reviews all
comments and continues with context sensitive design

2013:
US 231 open to traffic

Future opportunities
Environmental Study Process

MPO as a partner

Purpose of the Project - relocation NOT bypass

Dynamic Community - Purdue Expansion

Enhanced Public Involvement

Community Impact Assessment Approach

Community Advisory Committee

Context Sensitive Design

Commitment to Continued Collaboration
Community Impact Assessment

• Indiana’s first formal CIA
• Community impacts are the primary project concern
• Very dynamic environment
• Able to use the CAC to provide detailed input
  • CAC members provide input related to community issues and certain aspects of project development to the project team
  • CAC members serve as liaisons between the project team and the community by sharing information discussed at each meeting with area organizations and neighborhoods, thereby increasing public knowledge of the project
Enhanced Public Involvement

Detailed Public Involvement Plan
• Interwoven with CAC

Small group meetings
• Repeated meetings with target stakeholders (i.e. Purdue)

Robust website
• All documents posted and available to public

Media relations
• Live at 5
Meeting 1:
• Project overview & role of the CAC
• NEPA and Community Impact Assessment
• Exercise: Identify Community Impact Issues
• Selection of CAC Spokesperson and Assistant Spokesperson

Meeting 2:
• Preliminary Alternatives Analysis & GIS Demonstration
• Section 106 / Historic & Cultural Resources
• The “Other” US 231 Study (Corradino Group)

Meeting 3:
• Review CAC Information Packet sent via mail (Purpose & Need, Alternatives Reduction Analysis, Traffic Report Synopsis, CIA Exercise, Community Impact Analysis)
• Exercise: Identify Neighborhood Impacts

Meeting 4/5:
• Envision the project after construction & suggest design/mitigation measures
• Evaluate the CAC process
2003

Results, Commitments & Context Sensitive Design

LEGEND

- Potential buffer landscaping
- Enhanced buffer landscaping/berms
- Intersections
- Popular bikeable streets
- Community/campus green space
- Existing/planned neighborhoods
- Existing wetlands
- Existing cultural resource
- Existing roadway
- Proposed greenways
- Complete trails
- Church or grave
- School
- Railroad

CONTEXT SENSITIVE DESIGN OPPORTUNITIES DEVELOPED WITH CAC

1. Path extension to Hadley Lake
2. US 52 intersection
3. Enhanced buffers on each side
4. Neighborhood access with no relocation
5. Greenway link to schools and West
6. Avoid old schoolhouse
7. Enhanced intersection for future extension and bike paths*
8. Wetland impacts minimized
9. Enhanced buffers on both sides
10. Avoid wetlands
11. Intersection options
12. Avoid soccer fields
13. Monitor Construction for burials
14. Cherry Lane and greenway extension
15. Purdue Gateway intersection
16. Avoid two wetland areas
17. Greenway extension
18. Grade separated greenway crossing at stream
19. Purdue Gateway intersection

*Paved pathways on both sides of the roadway will be provided
While the Project Waits for Funding...

- Things change over time
- Regulatory (ADA)
- Importance of transit and bike/pedestrian
- Sustainable communities, multimodal
- Purdue Master Planning
- New folks move in
The Unforeseen: Real Money

2003 Environmental Assessment
$59 million
$48 million construction
$10 million right-of-way estimate
$1 million utility

North portion
SR 26 to US 52

2006 Major Moves ★
$87 million
$62 million construction
$23 million right-of-way estimate
$2 million utility

INDOT combined north and south
(South River Road to SR 26) portions

2008 Before Negotiations
$98 million
$62 million construction
$24 million right-of-way estimate
$12 million utility
The **PURPOSE** of Value Engineering

Simply stated, VE is an organized application of common sense and technical knowledge directed at finding and eliminating unnecessary costs in a project.

Conducted to provide recommendations for:

- Providing the needed functions safely, reliably, efficiently, and at the lowest overall cost
- Improving the value and quality of the project
- Reducing the time to complete the project
The **VALUE** of Value Engineering

**2008 before negotiation $98 million**
- $62 million construction
- $24 million right-of-way estimate
- $12 million utility

**2008 after negotiation $88.7 million**
(INDOT funding available $76 million)
- $56.2 million construction
- $22.5 million right-of-way estimate
- $10 million utility

**Ultimate Funding Outcome:**
- INDOT - $76M
- Tippecanoe County - $8M
- MPO - $2.7M
- Purdue - $2M
**2008 Final Design & Value Engineering**

Value Engineering saved an estimated $6.45 million and preserved commitments to the community.

**NORTHERN PORTION**
- Reduced median width by 10 feet, saved 2.6 acres of ROW
- Reduced drainage structure length and saved $345K

**SOUTHERN PORTION**
- Reduced design speed to 45 mph
- Eliminated median barrier and slotted drain
- Realignment of US231 at Intramural (Jischke) Drive to eliminate one railroad bridge
2013 Preserved Commitments

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The Work is Never Done

• Planning, Environmental, Design, REPEAT
• Purdue is HOT
• Active Transportation
• Sustainability!
• It’s about the system
• Go North!
Lessons Learned

• INDOT’s *decision to do things differently* in 2001 matters

• Continuity of process, commitments and people is difficult
  • Multiple Project Managers
  • Multiple Consultants

• CIA/CAC established and preserved accountability
  • Documentation is important

• Value Engineering from MPO perspective is different

• Utilities! The struggle continues…….
Success

• The CIA/CAC approach fulfilled all NEPA requirements and served as a record of the community’s input
• CIA/CAC approach gave the MPO funding allocation support
• This project changed the way INDOT does business:
  • Enhanced Public Involvement
  • The MPO as a partner; resource
  • Context Sensitive Design
  • Bridging the gap b/w planning, NEPA and design
• Money well spent

“One of the things we learned since 2003 is that a public involvement plan should be required... that’s been a step in the right direction to get project management teams to pause and think about impacts to communities at the onset, figure some of the things we need to look at, and make a plan for moving forward.

Issues are being caught earlier, conversations are being had sooner. That can only be a good thing.

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US 231 Relocation Study

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Thank you!

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