Jeremy Kashman, PE
Keystone Project Manager

Location, Location, Location
Green Principles

- Reduce Energy Use
- Conserve Resources
- Promote the Health of Users

“Sustainable design meets the needs of the present generation without compromising the ability of future generations to meet their own needs.”

United Nations General Assembly, the Brundtland Commission

Overview

- History of the Project
- Design Strategies Used
- Sustainable Practices
- Looking to the Future
Brief History of the Project

• Relinquishment took place in 2007

• Added Travel Lanes Project Scheduled for 2008 Construction in advance of US 31

• Carmel’s project scheduled to be completed prior to commencement of US 31 Construction

126th & Keystone
What’s in a Name?

The community recognized the importance of “Green” within the logo

“Linking” communities together

“Connecting” and removing a barrier across the City

Providing a Solution for future generations

Creating Solutions for all forms of transportation
Why Roundabouts?

- Reduction in vehicle emissions
- Fuel Savings
- Reduction in vehicle noise pollution
- Reduction in overall R/W impacts

Reduce Energy Use
Conserve Resources
Promote the Health of Users
What was the reduction in personal injury accidents on Carmel, IN roundabouts in 2006?

A: 13%  B: 90%
C: 44%  D: 78%

What was the average cost of an accident on Hazel Dell Parkway at signalized intersections?

A: $2,500  B: $10,000
C: $5,300  D: $1,500
What was the average cost of an accident on Hazel Dell Parkway at roundabout intersections?

A: $2,500  B: $10,000

B: $5,300  D: $1,500

Accidents on Keystone Avenue

• Average of 215 reported accidents per year

• 159 accidents were reported in 2008

• 25% reduction in accidents during Construction!
Most Famous Project Quote

- “I think this is the first construction project that traffic flows better during construction than it ever did prior to.”

Reduce Energy Use
Conserve Resources
Promote the Health of Users

How does this impact your local landfill?

Conserve Resources
Sustainable Constraints

- Elevations
- Limited R/W
- Erosion Control
- Time

Sustainable Practices

Conserve Resources
Conserve Resources

Best Management Practices

Sustainable Practices

- Allow the use of Recycled Materials
- Utilize local resources
- Manage Stormwater
- Extensive Erosion Control Practices
- Removing traffic signals
- Optimized Lighting Design
- Promoting Alternative Transportation
**Looking to the Future**

Bioretention Structures

Conserve Resources

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**Street Tree Filters**

- Tree Grate
- Clean-out
- Root Uptake
- Biodegradation
- Bioretention
- 2" Mulch
- Storm Drain
- Rip-Rap
- Roadway

Sandy Filter Media

Drain Pipe

Optional Infiltration Storage

Conserve Resources

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Looking to the Future

Curb turnouts

Bio-swales

Conserve Resources
Questions?

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