

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



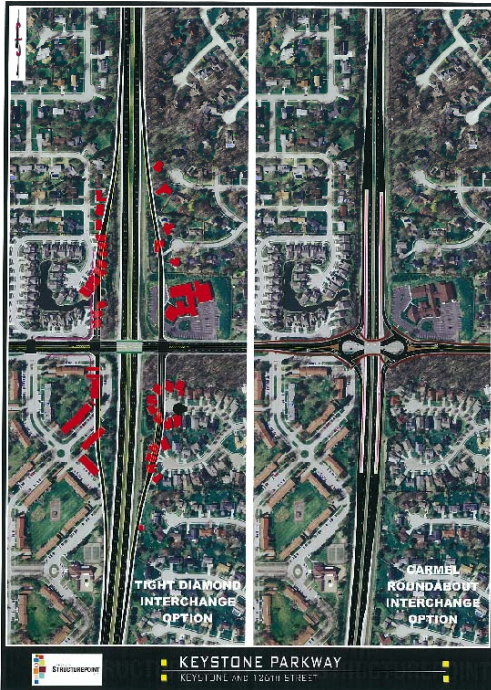
What's in a Name?



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

126th & Keystone



Carmel Drive & Keystone





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%

Promote the Health of Users

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

Promote the Health of Users

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

Promote the Health of Users

Accidents on Keystone Avenue

- Average of 215 reported accidents per year
- 159 accidents were reported in 2008
- 25% reduction in accidents during Construction!

Promote the Health of Users

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

106th & Keystone Parkway



136th & Keystone Parkway





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

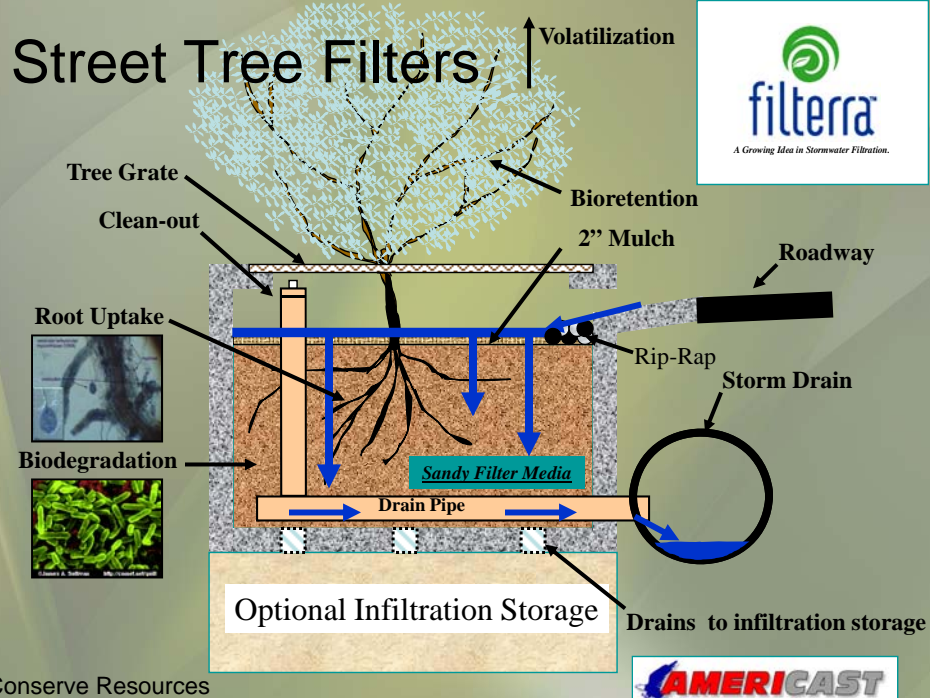
Looking to the Future



Bioretention Structures

Conserve Resources

Street Tree Filters



Conserve Resources

Looking to the Future



Curb turnouts



Bio-swales

Conserve Resources



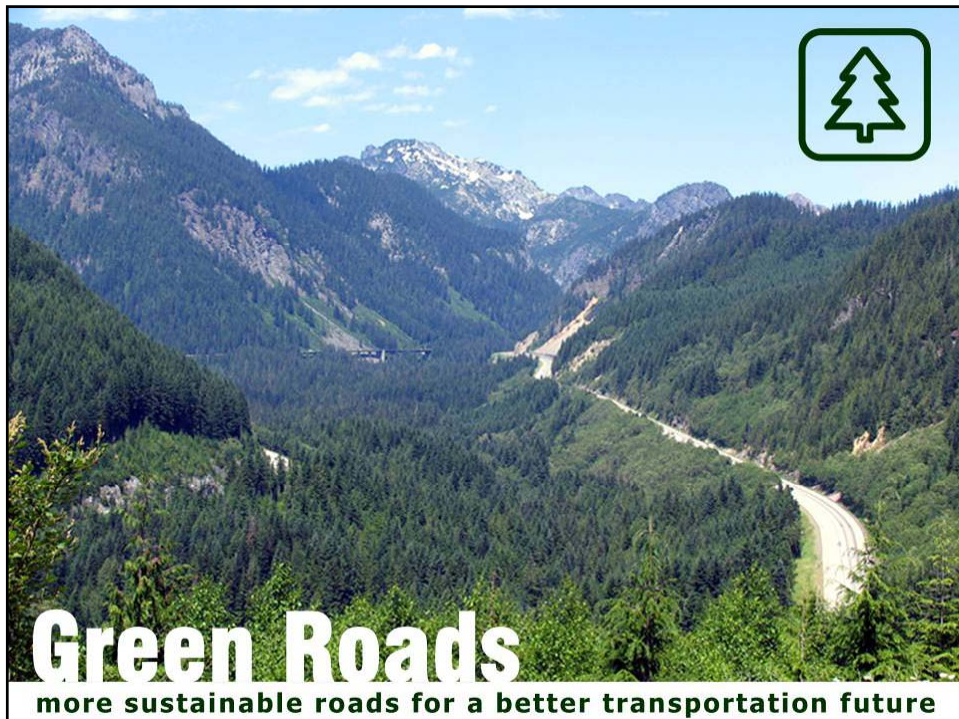
Looking to the Future



Open Graded Paths

Warm-Mix Asphalt

Reduce Energy Use
Conserve Resources



Green Roads

more sustainable roads for a better transportation future

Questions?



Jeremy Kashman, PE
Keystone Project Manager
jkashman@structurepoint.com
317-547-5580

