Best Practices in Environmental Stewardship Competition

AASHTO Center for Environmental Excellence

AASHTO Annual Meeting
Minneapolis, MN
September 5-9, 2003
Define Problem > Components > Bring Together > Mitigate

OH! OH! Design

Context > Relationships > Total Design > Systems Integration
-- Improving environmental conditions and quality of life when possible, not just complying with regulations

-- Careful management of environmental resources and values through partnerships among public and private entities

-- Attitude, ethics, and behavior of individuals
-- Wise choices based on understanding consequences to the natural, human-made, and/or social environment

-- Fulfilling responsibilities as trustees of the environment for succeeding generations, moving toward a cost-effective and environmentally sustainable future

-- Integrating environmental values with partners within all transportation work as a “core business value”
Best Practices in Environmental Stewardship
The Route 146 Urban Parkway
Community Vision and Environmental Stewardship
COMMONWEALTH OF MASSACHUSETTS

Mitt Romney · Governor
Daniel Grabauskas · Secretary
John Cogliano · Commissioner
Community Goals

• Environmental Protection
• Historic Preservation
• Economic Growth
Design Features

- On-road bike route
- Off-road path
- Parking areas
- Corridor shared use path
Design Features

..connects the community to the river..
Design Features

..travels through protected natural areas...
Design Features

..and provides wildlife passage along the river.
Design Features

Historically significant bridge trusses...
Design Features

Creation of open space
Design Features

Light fixture with millwheel motif
Design Features

Bridge screen with millwheel motif
Design Features

Thematic colors
Design Features

Pattern walls and stone facing
Route 146 Project Benefits

Continuing Local Stewardship
  • Community awareness
  • Local initiatives

Adopting Practices on other Projects
  • Environmental awareness
  • Attentiveness to community/context
  • Responsive, creative and flexible design
  • Expanded use of design features
Adopted Practices

MassHighway Stormwater BMP Manual
Adopted Practices

Aesthetic Detail Standards
Adopted Practices

Historic/Aesthetic Bridge Detailing
Adopted Practices

Wildlife crossings and passages
The Challenge:
A thoughtfully designed highway
A New Era for Transportation: Design Around Place

- Each project belongs as a part of the place where it is built
- It fits within its environment
- It fits within the community
Making design context sensitive means:

Considering the effect that decisions have on safety, mobility and the natural environment and cultural resources based upon the value that each contributes to the quality of life of the community a project impacts and serves.
Aesthetic Design Guidelines guarantee a basic design that responds to the importance of context and visual quality in highway design, so that all solutions bring about harmony with the environment and community setting.
Visual Design Elements

• Line
• Shape
• Form
• Color
• Texture
Environmental and aesthetic issues, once treated as “externalities” or “extras”, must be dealt with as an integral part of the highway development process from the beginning because they have a major bearing on project acceptance.
Highway Elements

- Bridges
- Retaining Walls
- Noise Barriers
- Grading
- Signing
Highway Elements

- Lighting
- Landscaping
- Fencing
- Ponds & Wetlands
- Pedestrian & Bicycle Facilities
Mn/DOT’s program reflects the increasingly urgent need to consider highway projects as more than transportation.
The entire design process must become more context sensitive.
Frontier of Context Sensitive Solutions

-- Engineering design more than just infrastructure

-- Move away from the “Oh, Oh” design process

-- Need to better understand “context” with respect to engineering
The asterisk is important!!

Design process and guidelines must be flexible, that is, perhaps we need to bring “creativity” back into engineering