The Meaning of Stewardship
Linking Planning, Process & Stewardship
Scott Bradley - Director of Context Sensitive Solutions - April 21, 2011

From Ecological Engineering, Dr. Hein van...
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From Ecological Engineering, Dr. Hein van
What is Stewardship?

- Taking responsibility as a caretaker for informing choices and actions
- Serving life-giving and life-sustaining cycles through restrained and creative interventions
- Taking responsibility for choices and actions that further capacity for natural, social and economic order to thrive together for the future

A Triple Bottom Line
Why is Stewardship Important?

Threats to and concerns about core common values that seem to matter most to the public:

- Economic Viability
- Health & Safety
- Quality of Life

A “Critical Issues & Responses” objective in Mn/DOT’s “Strategic Vision”

A key goal in Mn/DOT’s “Engineering Services Division Charter” …

“We will perform our mission with the understanding that we are the caretakers of the social, economic, natural and cultural environment for future generations”
Examining Mn/DOT’s Legacy
More FHWA Excellence Awards Than Any Other State (1970 - 2010)
Case study research presented to and published by TRB (1997) Twenty Five Years of Advocacy for Excellence in Transportation and Environmental Design: A Mn/DOT Case Study (S. Bradley, 1996)

I-90 Between St. Charles and the Mississippi River

Third Avenue Bridge in Minneapolis
10 Keys to Past Mn/DOT Success
(In Order of Perceived Influence – S. Bradley Research, 1996)

- Comprehensive planning & effective public involvement
- Perseverance of individuals (champions) pursuing excellence
- Visionary leadership & proactive environmental advocacy
- Maximizing project funding & collaboration opportunities
- Systematic integration of interdisciplinary experts & resources
- Innovative & flexible design with sensitivity to context
- Analyzing other’s successes & failures prior to enacting new ideas
Examining Mn/DOT’s Legacy

Transportation Excellence & Context Sensitivity

According to John Bowers Jr. (former FHWA Asst. Division Engineer):

Mn/DOT’s honesty, proactivity, continuous improvement and accountability forged a positive relationship with FHWA and nurtured trust and effective working relationships with constituencies.

Mn/DOT was not willing to settle for mediocrity and was a national leader and model in many program areas. A culture and tradition of quality placed Mn/DOT in a position to frequently obtain extra federal funding for candidate projects and non-traditional project components.

Mn/DOT’s inter-disciplinary design expertise and creativity demonstrated that you could integrate amenities and improve quality without excessive cost and in some cases at less cost. Mn/DOT was viewed as trying to do the right thing in the best public interests and was rewarded for it.
Examining Mn/DOT’s Legacy
Transportation Excellence & Context Sensitivity

1995 Environmental Sensitivity Study of Mn/DOT by Townsend Consulting:

Going beyond the regulations to the spirit and intent of NEPA, the Department has been proactive in developing programs that enhance the environment and build greater environmental awareness.

Mn/DOT tries to bring agencies together as part of the solution through communications, networking, ad hoc groups, partnerships and training. Over time, they have broken down barriers and have fostered win-win relationships and better cooperation between agencies.

The success of Mn/DOT’s environmental sensitivity involves letting the affected public have some role through effective citizen participation. Mn/DOT has relied heavily on feedback and education of the public and stakeholders to establish compromise and creative best solutions.
Examining Our 21st Century Challenges
A New “Snapshot” In Time

- Revenue Limitations
- Increasing Transportation Needs
- Faltering Economic Vitality
- Deteriorating Infrastructure
- Increasing Construction Costs
- Increasing Energy Costs
- Environmental Quality Concerns
- Quality of Life Concerns... Etc.

“Even if you’re on the right track, you’ll get run over if you sit there”

(Will Rogers)
What About Our 21st Century Legacy?

A New “Snapshot” In Time

Challenges May Be Opportunities In Disguise ... How Do We Use Restrained And Creative Interventions To Realize Opportunities?

A newly renamed Mn/DOT Office of Environmental Stewardship and a New Vision and enhanced Strategy & Structure will help...

“Provide and grow the collaborative, multidisciplinary expertise and leadership necessary to foster and support context-sensitive and sustainable multimodal transportation practices and partnerships”

Building upon the past Office success in supporting Mn/DOT with collaborative, interdisciplinary and holistic expertise, leadership, and innovation for the future and a “matrix” organization approach
Office Of Environmental Stewardship

Organizational Chart

[Diagram showing the organizational structure of the Office of Environmental Stewardship]
Mn/DOT’s Strategic Vision & Plan

**Vision** - Global leader in transportation committed to upholding public needs and collaboration with internal and external partners to create a safe, efficient and sustainable transportation system for the future

**Strategic Directions**
- Safety
- Mobility
- Innovation
- Leadership
- Transparency
Mn/DOT’s Strategic Vision & Plan

Build Trust & Confidence … Regenerate a Spirit of Innovation and Creativity

Global Leader … Committed to Public Needs and Collaboration with Partners

A High Quality Multimodal System Thru Ingenuity, Integrity, Alliance, Accountability

Preserve & Improve State Assets Green Transportation

Environmental Stewardship Smart & Sustainable Solutions

Fiscal Responsibility Value, Promote & Reflect Diversity

Improve Access, Movement and Alternative Means of Travel

Value Service & Excellence Measure Performance …
Mn/DOT’s Strategic Vision & Plan

The Flagship Initiatives

Safety
- Toward Zero Deaths
Mobility
- ADA Implementation
Innovation
- Context Sensitive Solutions
- Innovative Finance
- Sustainability
Leadership
- Major Projects Management
- Modal Integration
- Business Information Plan
- Workplace of Choice
- Transportation Strategic Mgmt & Operations Advisory Task Force
- Workforce and DBE Collaborative
- Technical Communication

Transparency
Context Sensitive Solutions & The Strategic Plan

The CSS Flagship Initiative:

Seeks to integrate CSS in Mn/DOT as a business model to improve our processes and to balance competing objectives while enabling Mn/DOT to achieve more of the benefits that are now correlated with applying CSS philosophy and principles together.
The CSS Business Case and Approach Supports

- Improving our customer & stakeholder relationships (building confidence and trust)
- Improving our performance and efficiency (reducing costly delays and rework cycles)
- Improving our ability to balance competing objectives (optimizing benefit to cost ratios & flexibility in design)
- Reducing our cost of doing business (delivering collaborative & right-sized solutions)
- Achieving more desired agency & user benefits (benefits correlated by research to applying CSS principles)
Understanding Context

• Interrelated conditions in which something exists
• Constraints and opportunities
• Tying parts together to work as a cohesive whole

What’s Most Important About People - Places - Circumstances
Why Context is Important

Some Public Measures of Success

• Public Health & Safety
• Public & Stakeholder Acceptance
• Community Compatibility
• Environmental Compatibility
• Social & Economic Equity
• Return upon Investments
• Functions, Performance & Safety
• Timeliness of Response & Delivery
• Contributions to Quality of Life
• Preservation of Investments & Commitments
Why Context is Important

Federal Authoritative Basis:
Decades of Raising the Bar on Context Sensitivity

- 1965 Highway Beautification Act
- 1966 Historic Preservation Act
- 1968 Federal-Aid Highway Act [4(f)]
- 1969 National Environmental Policy Act
- 1991 Intermodal Surface Transportation Efficiency Act
- 1995 National Highway System Designation Act
- 1999 Transportation Equity Act for the 21st Century
- 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act

- Pending Federal Reauthorization Act... will the bar be raised again?
Understanding CSS

Current FHWA & AASHTO Definition

CSS is a collaborative, interdisciplinary approach that involves all stakeholders in providing a transportation facility that fits its setting. It is an approach that leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources while improving or maintaining safety, mobility & infrastructure conditions.
Understanding CSS

Philosophy and Principles applying to Programs, Services, Planning, Project Development, Construction, Operations, and Maintenance ...
Understanding CSS
FHWA & AASHTO CSS Philosophy / Core Strategies

• Strive towards a shared stakeholder vision to provide a basis for decisions
• Demonstrate a comprehensive understanding of contexts
• Foster continuing communication and collaboration to achieve consensus
• Exercise flexibility and creativity to shape effective transportation solutions while preserving and enhancing community and natural environments
CSS Principles

Original 15 CSD (Now CSS) Principles
“Paraphrased”

- Use interdisciplinary teams
- Involve your stakeholders
- Seek broad public involvement
- Use a full range of communication strategies
- Seek consensus in determining purpose and need
- Address alternatives and all modes of transportation
- Seek safe facilities for all users
- Address community and social issues
- Address aesthetic concerns and integrations
- Utilize a full range of design choices and flexibility
- Document all project decisions
- Track and meet all commitments
- Use agency resources effectively
CSS Benefits Research

Based Upon 33 Case Studies From Across the United States

Like MN TH 61 Reconstruction (North Shore of Lake Superior)
CSS Benefits - Agency Emphasis
Correlated To Applying CSS Principles (NCHRP Report 642)

01. Improved predictability of project delivery
02. Improved project scoping and budgeting
03. Improved long term decisions and investments
04. Improved environmental stewardship
05. Optimized maintenance and operations
06. Increased risk management and liability protection
07. Improved stakeholder / public feedback
08. Increased stakeholder / public participation, ownership & trust
09. Decreased costs for overall project delivery
10. Decreased time for overall project delivery
11. Increased partnering opportunities
CSS Benefits - User Emphasis

Correlated To Applying CSS Principles (NCHRP Report 642)

12. Minimized impact to human and natural environment
13. Improved mobility for users
14. Improved walkability and bikeability
15. Improved safety (vehicles, pedestrians, and bicyclists)
16. Improved multi-modal options (including transit)
17. Improved community satisfaction
18. Improved quality of life for community
19. Improved speed management
20. Design features appropriate to context
21. Minimized construction related disruption
22. Improved opportunities for economic development
Mn/DOT Leadership in CSS

1998 FHWA Designation of 5 CSD “Pilot State” DOTs

CT, KY, MD, MN & UT were selected as CSD “pilot state” DOTs to further regional and national implementation and mainstreaming of CSD.

Mn/DOT assembled a CSD steering team and advisory group to guide the approach including development and deployment of CSD Training, Policy (Tech Memo) and Marketing in 2000 and emphasis on (6) Core Principles deemed most important for Mn/DOT.

As a “pilot state”, Mn/DOT partnered with the FHWA MN Division and the University of Minnesota Center for Transportation Studies in advancing CSD (now CSS) locally & nationally.
Mn/DOT Leadership in CSS
Many Award Winning & Nationally Recognized CSS Successes Stories

North Shore Hwy 61 - All American Road
I-35 Extension - Duluth
Stone Arch Bridge Restoration - Minneapolis
TH 23 – Spicer to New London
North Shore Hwy 61 - Silver Creek Cliff
Stone Arch Bridge Re-use - Minneapolis
Mn/DOT Leadership in CSS
Many Award Winning & Nationally Recognized CSS

TH 60 Bridge - Wabasha
TH 10 – Detroit Lakes
TH 371 Mississippi River Bridge - Brainerd
TH 22 – St. Peter to Mankato
TH 197 Paul Bunyan Drive - Bemidji
Hiawatha LRT Stations - Minneapolis
Mn/DOT Leadership in CSS
Many Award Winning & Nationally Recognized CSS Success Stories

- Roadside Resource Mgmt Programs
- Community Partnership Programs
- Visual Quality Management Programs
- Plant Selection Expert System
- Living Snow Fence Program
- Historic Properties Mgmt Programs
Other Initiatives Closely Aligned With CSS

Mn/DOT Sustainability Flagship Initiative

Sustainable transportation practices will respect, support, and regenerate environmental systems, the economy and its overlying social system.

Quality of Life

The Triple Bottom Line
Social - Economic - Environmental

- CSS
- Modal integration
- Complete Streets
- Asset management
- Flexible design
- Hear Every Voice
- Innovative finance
- Scoping
- Materials research
- Innovative construction, ops and maintenance
- Risk assessment
- Performance management
- Environmental review
- And much more!
US DOT-EPA-HUD Sustainability Partnership
Raising The Bar (2009)

Partnership Agreement & Livability Principles to help align and guide combined agency efforts and investments to maximize community benefits in livability, affordability, environmental excellence and the promotion of green jobs

Livability Principles:
• Provide more transportation choices
• Promote equitable, affordable housing
• Enhance economic competitiveness
• Support existing communities
• Coordinate and leverage federal policies and investment
• Value communities and neighborhoods
FHWA Emphasis on Sustainability
Development of Sustainable Highways Self-Evaluation Tool

Sustainable best practices scored as credits based upon the relative impact on roadway sustainability.

Filters by Phases (system planning, project development, and systems operations and maintenance) ... also by Principles (ecology, equity, economy, context, performance, and education) ... and by Benefits
Other Initiatives Closely Aligned With CSS

Performance-Based Solutions and Flexibility in Design

Complete Streets Study
Other Initiatives Closely Aligned With CSS
Performance-Based Solutions & Flexibility in Design

- Marshall Ave Road Diet in St. Paul
- TH 169 / 494 Interchange in Southwest Metro
- TH 1 Reconstruction between Ely and Isabella
- TH 100 Retrofits in West Metro
Other Initiatives Closely Aligned With CSS

Attributes of Performance-Based Solutions

- Focusing on system context in addition to project context
- Analyzing project alternatives as investments with an understanding of the returns that should be realized as well as the diminishing points of return
- Seeking lower cost / lower impact approaches to achieving acceptable levels of project improvements but not beyond diminishing returns for investments
- Applying design flexibility to achieve substantive, rather than nominal, safety
- Achieving more safety, mobility and public benefits, rather than less, within the same level of available funding
- Seeking right-sized and best-fit solutions that achieve the best balance points specific to competing project and system-level objectives
Other Initiatives Closely Aligned With CSS

Complete Streets

Complete Streets does not mean “all modes on all roads” as the goal but it does mean:

• Develop a balanced transportation system integrating all modes via planning inclusive of each mode

• Provide for all surface modes and users of all ages and abilities
Other Initiatives Closely Aligned With CSS

Is this a Complete Street?

Is this a Complete Street?
Other Challenges / Opportunities

Research and Guidance

Evaluating Driver Responses & Behaviors in a Vehicle Simulator
Other Challenges / Opportunities
Collaborative & Multi-Jurisdictional Planning

Balancing Surface Transportation Systems by Integrating All Modes as the Goal via Planning Inclusive of Each Mode
Other Challenges / Opportunities
Planning Development and Redevelopment such that Land Use and Transportation Become Mutually Supportive in Design and Functions.

Re-examining Multi-functional Arterials and their Context Zones
Other Challenges / Opportunities
Allocation & Reallocation of Space

How Much Space Do You Really Need and For What?
Other Challenges / Opportunities
Accessibility and Safety
Other Challenges / Opportunities

Operations and Maintenance

Complete Street in Summer

How About in Winter?

Multimodal Operations & Maintenance Issues

Year-Round
Other Challenges / Opportunities

**Complete Green Streets**

Complete Green Streets are designed and operated to further healthier and more sustainable infrastructure development.

*Balancing Green & Grey Infrastructure*

2011 North St. Paul Living Streets Plan
Other Challenges / Opportunities

Greenroads Program Examples (www.greenroads.us)
Other Challenges / Opportunities

Low Impact Development
For Questions & More Info:
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CSS – The Road Best Traveled