Session 14:

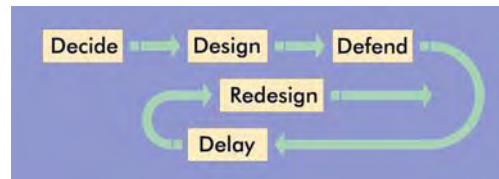# CONTEXT SENSITIVE SOLUTIONS AND CONTINUOUS IMPROVEMENT

Mackinac Bridge, MI

CSS and Continuous Improvement

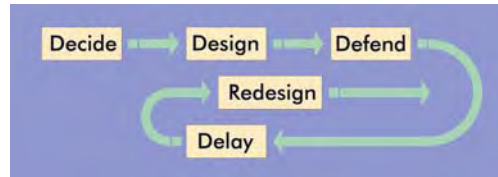The goal of both is to avoid the re-work cycle

The goal of both CSS and Continuous Improvement is to avoid the re-work cycle that plagues productivity.

MDOT
Michigan Department of Transportation

CSS and Continuous Improvement

Without CSS:

- **D**esign

- **A**nnounce

- **D**elay / **D**efend

A clever acronym, *DAD* (for Design, Announce, Delay) has been coined to label a stereotypical DOT approach to the planning, design, construction, operations, and maintenance of a state's transportation system. Not being able to build a project after it has been designed is similar to a manufacturer having to discard all of its production because the customer won't accept the product due to inherent design flaws. Manufacturers have adopted Continuous Improvement (or CI) to avoid this problem. MDOT can adopt CSS to avoid a similar problem.

MDOT
Michigan Department of Transportation

CSS and Continuous Improvement

With CSS

- Publicly

- Owned

- Project / Process

Listen ➡ Design ➡ Build

Another clever acronym that CSS advocates have employed is *POP*, referring to a "Publicly Owned Project" or Process. POP avoids the re-work cycle.

MDOT
Michigan Department of Transportation

CSS and Continuous Improvement

It is possible to get to "Yes" the first time by engaging stakeholders, by employing an interdisciplinary team, and by integrating all modes of transportation—by using CSS principles and methods!
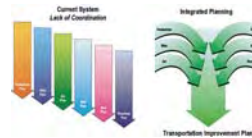
By using the CSS principles and methods previously discussed it is possible to get agreement the first time. As practitioners of CSS, we have seen this time and time again. Please refer to many of the national case studies in Appendix B2 for examples.

CSS and Continuous Improvement

- Create partnerships with stakeholders
- Define project purpose and need
- Define and evaluate alternatives
- Select the preferred alternative
- Define mitigation and enhancement strategies
- Agree to funding and maintenance obligations and practices

HNTB   Session 14: CSS and Continuous Improvement
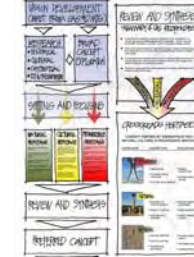
Important milestones in making sure that the CSS process is being followed and that you will be able to avoid the re-work cycle include:

- Creating partnerships with stakeholders
- Defining purpose and need
- Defining and evaluating alternatives
- Selecting a preferred alternative
- Defining mitigation and enhancement strategies
- Creating funding and maintenance obligations
- Reaching agreements on construction and maintenance practices

MDOT is a CSS Learning Organization

- Evaluate current and previous projects for CSS lessons learned
- Modify procedures as necessary
- Broadcast partners' successes
- Let partners broadcast MDOT's successes

HNTB
Session 14: CSS and Continuous Improvement

To become a CSS Learning Organization, MDOT will need to evaluate each of its activities for lessons that have been learned while implementing CSS. Procedures will need to be modified, as lessons become reasons for making changes to policies, design standards, specifications, or other institutional procedures. Finally it is important for MDOT to tout the success of its stakeholder partners. If a new culvert improves fish habitat through a CSS process, MDOT should publicly declare why it supported such an effort along a highway right-of-way. In turn, stakeholders will begin to compliment MDOT, which will be more beneficial than any proclamation MDOT makes on its own behalf. CSS will have stakeholders doing MDOT's public relations for it!

Conclusion

- Create Partnerships
- Consider Multimodal Components
- Use Interdisciplinary Teams
- Minimize Re-work
- Foster a CSS Learning Organization

HNTB   Session 14: CSS and Continuous Improvement

In conclusion, the most important activity for each MDOT employee is to help forge partnerships with stakeholders; utilize a team approach to planning, design, construction, operations, and maintenance; minimize formal regulatory agency review by increasing informal communications; and become an employee who tells others about what they have learned in practicing CSS.

Future Report in Your Local Newspaper:

"Local officials, labor leaders, and even environmental interest groups expressed support at a House legislative hearing Tuesday night for a MDOT proposal to aggressively increase the size and accelerate the schedule for the state's transportation program over the next five years. Traditional advocates and even some traditional foes of highway projects testified that it was important to the state's economic, social, and environmental welfare that the large funding package be passed and signed into law immediately. The package does have the support of the Senate and Governor."

HNTB   Session 14: CSS and Continuous Improvement

Wouldn't it be grand if your local newspaper greeted you with such a story, tomorrow morning?

Six National Case Studies

We concluded the classroom sessions with an examination of six national case studies. We suggest you study these case studies in greater detail by referring to Appendix B2.

MDOT
Michigan Department of Transportation

US-54 / Kellogg Avenue Freeway Improvements
Wichita, Kansas

- Improved Kellogg Ave. from a major arterial to a limited-access freeway
- Interagency and community participation
- Hike/bike trails connecting to neighborhoods
- Bas-relief form-liner art reflecting Wichita identity
- Balanced cost challenges with long-term vision for city

HNTB   Session 14: CSS and Continuous Improvement

A great story here: A national Fortune 500 company decided not to re-locate to Wichita because the city's transportation infrastructure was functionally and aesthetically inadequate. The city responded by using simple techniques to communicate its identity in new infrastructure, thus spurring economic development. See Appendix B2 for the full story.

For years, Interstate 10 lay uncompleted in Phoenix because residents were afraid that freeways would decrease property values and bring crime to their neighborhoods. By using CSS principles, the freeway was developed as an asset to the community. Read the full story in Appendix B2.

I-676, Vine Street Expressway

Philadelphia, Pennsylvania

- Integration of road and neighborhoods
- On-grade link between communities
- Created "special places" in crucial locations
- Pedestrian-friendly treatment of surface streets

HNTB Session 14: CSS and Continuous Improvement

This project sliced through minority neighborhoods in historic Philadelphia. By listening to neighbors, project designers recognized that making the streets above the freeway friendly to transit, bicyclists, and pedestrians was key to garnering public acceptance. See the case study in Appendix B2.

**Edge of the Wilderness
National Scenic Byway**

Itasca County, Minnesota

- Three-tiered public involvement process
- Interpretive areas, trails, rest areas, boat access sites
- Supported year-round use by loggers and resort industry
- Protected natural resources
- Corrected only locations with crash history
- Created 10-ton, all-season road

HNTB   Session 14: CSS and Continuous Improvement

This project received the 2005 AASHTO award for best CSS project. The key to its success was using extensive public involvement and interdisciplinary teams. As part of interdisciplinary teams, composed of DOT staff and members of regulatory agencies, the regulators became the designers. Read more about this project in Appendix B2.

I-35W Access Project
"Ellipseabout" Bridge
Minneapolis, Minnesota

• Reduced air pollution and noise

• Improved safety and mobility

• Included HOV lanes

• Pedestrian and bicycle movement

• Innovative traffic calming techniques

HNTB   Session 14: CSS and Continuous Improvement

Moving access ramps on an urban freeway is not usually embraced by a neighborhood. But in this case, design criteria were established by the community first and the design evolved from the criteria, resulting in acceptance of the proposed design. More about this project, still under development, is found in Appendix B2.

St. Croix Trail CSAH Highway 21
Washington County, Minnesota

- Let neighbors define issues, goals, and scope of project
- On-site meetings and adjustments to alignment as it was staked
- Aesthetic treatments mimicked rustic architecture from nearby state park
- Shoulder accommodate bicycle traffic
- Corrected only locations with crash history

HNTB   Session 14: CSS and Continuous Improvement

This project is a great example of how to work with a hostile audience. Despite a history of friction between the transportation agency and the community, the use of a transparent CSS process resulted in accelerated environmental and community reviews of this very controversial project. For the complete story, see Appendix B2.

Thank you for taking MDOT's CSS Awareness Training. We hope you have enjoyed it. If you have any questions about CSS or want to learn more, please talk to people you know who may have taken the classroom version of the course, talk to a member of MDOT's CSS Committee, call one of the contacts from a particular case study, or go on line, using the links suggested in Appendix C.

Remember, you are the key to MDOT becoming a CSS learning organization!