



Session 2:

DEFINING CONTEXT SENSITIVE SOLUTIONS



Columbia River Gorge Scenic Byway, OR

Welcome to the second session. Even though Session 1 was called the Introduction, this session is also introductory — to the concept of CSS. What is the definition of CSS? Pull out the definition you wrote down earlier as we go through this session, modifying it, as necessary, as we proceed.

Notice, again, the picture of the Columbia River Gorge Scenic Byway. Remember that it was constructed in the early part of the 20th century as a pleasure drive—a way to preserve the natural beauty of the Columbia River near Portland, Oregon. It was also built to promote the City of Portland and its great surroundings, both as a place to visit and as a place to live and conduct business.

Times change, but appearances don't always have to change with them. The railing today is almost identical to the original, except it has an unseen steel plate backing it—making it crash-worthy for 21st century drivers. This is a context sensitive solution that marries aesthetics, historic preservation, and traffic safety.



What is CSS?

More than Mitigation . . .

More than Enhancements . . .

More than a Fad . . .



What is CSS? First let's dispel some myths and define what it is not.

It is more than mitigation. It is more than making sure impacts to valued resources, such as wetlands or historic properties, are avoided, minimized, or compensated for.

It is more than enhancements. It is more than making a bridge aesthetically pleasing. It is more than creating structures that symbolize a community's identity or adding a bike path parallel to a highway project.

CSS is more than a fad. It is here to stay. The FHWA has mandated that all states will incorporate CSS into their way of conducting business by 2007. The Governor of Michigan has issued an Executive Directive outlining how MDOT will incorporate CSS into its policies and procedures, from planning to maintenance. The State Transportation Commission has adopted a policy on CSS, and MDOT is in the process of developing a set of CSS implementation procedures.

CSS is not going away. It is being mandated by the state's highest elected official. It has support at the highest levels of the state government and within MDOT, and is in full alignment with FHWA and AASHTO policies. It is how MDOT wants you to conduct all of your work.



CSS as defined by FHWA & MDOT:

“A collaborative, interdisciplinary approach that involves stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources while maintaining safety and mobility.”



MDOT has adopted the definition used by FHWA. Notice several things about the definition:

1. CSS is a collaborative, interdisciplinary approach. It means that we need to think in terms of teams when doing our work and involve those outside our typical work group when performing various tasks.
2. CSS involves stakeholders. In fact, it should involve all stakeholders. This includes those people adjacent to a transportation facility (neighbors) and those people who will use the facility (travelers). “Stakeholders” means the agencies that regulate MDOT and the communities we serve. It also means MDOT itself. MDOT is a very important stakeholder, one that is charged with developing and operating Michigan’s transportation network.
3. CSS creates a transportation system that fits the natural and social environment—preserving, conserving, and enhancing those resources and qualities valued by the people of Michigan.
4. CSS maintains safety and mobility. CSS is *not* about compromising safety and mobility. The same measures that have traditionally been used to gauge the performance of a transportation facility are also used on projects developed using a CSS process. CSS is not an invitation to reduce or avoid traditional measures of transportation improvements.



What is CSS?

Federal and State CSS Policies

FHWA Administrator Mary Peters in a January 24, 2002 memo challenged her agency . . .

“A transportation facility is an integral part of the community’s fabric and it can help define the character of a community or it can destroy it.”

“We should seek to institutionalize the principles of CSD with the same commitment that drove the implementation of the Interstate Highway System.”



Let’s examine policies first. CSS is a set of policies cascading from the federal government to the state Departments of Transportation. What does the FHWA say about CSS? Mary Peters, FHWA Administrator, clearly defines the federal government’s commitment to implementing CSS across the nation. In a January 2002 memo, she challenged her agency by stating:

“A transportation facility is an integral part of the community’s fabric and it can help define the character of a community or it can destroy it.

“We should seek to institutionalize the principles of CSD [Context Sensitive Design—an earlier acronym, still used by some organizations] with the same commitment that drove the implementation of the Interstate Highway System.”

We might not expect the head of the FHWA to state that the character of a community is tied to the character of its roads. But she said it and she meant it. And she knows that most Americans agree with her. This was the “shot heard ‘round the world!” No holds barred. Peters challenges us to recognize that highways, airports, ports, rail lines, transit, bicycle trails, and pedestrian sidewalks all contribute to the fabric of our communities and we must, as professionals, work with the community to achieve common goals.

Notice that Peters puts implementing CSS on par with the largest public works program in our nation’s history! She’s serious. And so is her agency, and MDOT.



What is CSS?

CSS Methods and Principles

- Engages stakeholders
- Utilizes interdisciplinary teams
- Embraces a multimodal approach
- Serves and respects its environmental and social context
- Provides a safe and efficient transportation system
- Applies to all MDOT activities

We have defined six guiding principles and methods that describe this new CSS approach to conducting business at MDOT. Of course we would like you to remember all six. However, our educational partners tell us that you are more likely to remember only three items. Therefore, we strongly recommend that you remember the first three. If you remember the first three we are confident that the other three items will follow by default.

1. Involve stakeholders
2. Use an interdisciplinary team
3. Embrace a multi-modal approach

Remember these three and the next three will easily follow:

1. Serve and respect the environmental and social context
2. Provide a safe and efficient transportation system
3. Apply to all of MDOT activities

Let's discuss these in more detail . . .



What is CSS?

CSS Methods and Principles

1. Engages stakeholders

Involves stakeholders, builds partnerships, and recognizes community values



2. Utilizes interdisciplinary teams

Uses a wide range of professionals in an integrated approach to get comprehensive results.



1. The first principle is to involve all stakeholders. This is paramount and unequivocal. It is critical that representatives of all interest groups, especially neighbors and travelers, be involved. It is essential that regulatory agencies and other units of government be involved. Most importantly it is necessary that MDOT be appropriately represented. Always ask stakeholders: Who is missing? Make sure that no one can say they were not represented. By engaging stakeholders, CSS creates partnerships and trust, resulting in a transportation system built on and supported by community values.
2. The second principle is to use an interdisciplinary team. CSS recognizes that developing and operating a transportation facility with sensitivity to its context requires a wide range of knowledge—a range of knowledge that can only be achieved by pulling together experts from a variety of disciplines. Professionals are trained to see the world one way, even if we all like to think we are broad-minded or that we know what is best for the general public. We don't. No one does. We must rely on each other's expertise to help us make the best decisions. Each team member must be able to understand and explain not only what is negotiable and what is not, but why some things must be done one way and not another. Everything is open to questioning but reason must prevail. Working as a team is a skill that can be learned through practice. We should practice on every opportunity, big or small.



What is CSS?

CSS Methods and Principles

3. Embraces a multimodal approach

Integrates all modes of transportation including pedestrians, bicycles, transit, motor vehicles, trains, ferries, ships, and airplanes.



I-43, Milwaukee, WI

4. Serves and respects its larger context

Transportation must serve society and respect the constraints and opportunities provided by the natural and cultural environments that form its context.



3. The third CSS principle is that the transportation system is inherently multimodal and so all planning, design, construction, and maintenance activities must consider how affecting one mode of the system affects other modes. CSS integrates all modes in a comprehensive system tailored to a specific location. In practice this means for a typical MDOT project, pedestrians, bicyclists, and transit users must be considered along with the people in motorized vehicles. (Considering pedestrians, bicyclists, and transit users will probably take care of the issues related to multi-modal concerns on 95% of MDOT's projects.)
4. The fourth CSS principle is that transportation is part of a larger socioeconomic system. It cannot be planned, designed, constructed, maintained, or operated in a vacuum. Many social issues that appear to be transportation problems, such as congestion, are now known to be part of a larger dynamic, such as the relationship between transportation and land use. By utilizing CSS, MDOT will establish partnerships that will allow it to influence the decisions of others. By influencing decisions and policies that affect a transportation facility's ability to provide an acceptable level of service, MDOT will be prudently conserving funding for situations where a transportation solution is actually required.



What is CSS?

CSS Methods and Principles

5. Provides a safe and efficient system

Safety and efficiency are still not only necessary but a primary goal of transportation projects and CSS.

6. Applies to all MDOT activities

CSS will be applied to all work done by MDOT from planning and design through construction, traffic operations, and maintenance.



I-696, Oakland County, MI



5. The fifth, and overarching CSS principle, is that MDOT is obligated by statute to provide the people of Michigan with a safe and efficient transportation system that contributes to their economic and social welfare. This has not changed. What has changed is that the people will now assist MDOT in determining the criteria by which projects will be judged “safe and efficient” and “contributing to their economic and social welfare.”
6. The sixth CSS principle is that for CSS to be effective it must be applied throughout MDOT. CSS must be integrated into the policies, procedures, and practices that the department uses to plan, design, construct, maintain, and operate Michigan’s transportation system.



Dispelling Myths About CSS

CSS is not about . . .

- Compromising safety and standards
- Listening only to the “squeaky wheel”
- Spending more time and money
- Tacking on enhancements

We need to dispel some rumors and incorrect assumptions about CSS. CSS is not about compromising safety and mobility. As previously stated, safety and efficiency is a guiding principle of the CSS process.

Nor is CSS about responding to the loudest “squeaky wheel.” It is about listening to stakeholders in a balanced way. In fact, it is important for you to find out if the squeaky wheel is representative of the community or an outlier. If the loudest voice *does* represent the larger community, you had better listen. If that individual is an outlier, the community will let them know—and you and the community can get on to improving the transportation system!

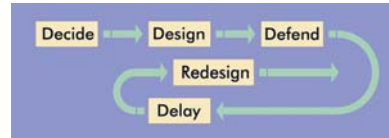
CSS is not necessarily about spending more money and time on a project. By focusing on the real needs, money is frequently saved. Large amounts of it. Sometimes more money is spent. But CSS is not about the quantity spent, but whether funds are being used appropriately. Traditionally many DOTs have thought that, if asked about their preferences, stakeholders will increase their demands for mitigation and enhancement to untenable heights. Nationally, experience is now showing the opposite; constituencies are frequently more fiscally conservative than agencies. Community members are typically concerned about long-term maintenance costs and diverting local dollars from other important programs.

CSS is not necessarily about adding art or ornamentation to bridge railings; casting a retaining wall in faux stone; using brick pavers in sidewalks; or constructing a clock tower on Main Street. These things *might* happen because of CSS but they are not ordained by CSS. Typically, CSS is less about pavers on Main Street’s sidewalks and more about how wide the sidewalk should be, how close the parking stalls should be to storefronts, and how traffic should be managed to improve safety for elderly pedestrians (who need to navigate traffic in order to shop at the stores that contribute to the viability of Main Street!).



CSS Avoids Rework

- Re-work is common on too many transportation projects and too commonly accepted as inevitable.
- Delays in implementing needed transportation improvements decrease economic productivity and social welfare.
- Typically, delayed projects also increase right-of-way and construction costs.



Good design takes time . . .
Bad design takes longer!

The primary motivational factor for Departments of Transportation to embrace CSS is to improve project delivery by avoiding the re-work cycle of

Design→Announce→Defend,

which unfortunately is typically followed by Delay and, eventually,

Re-Design→Announce→Defend.

For years, Departments of Transportation employed this method to produce construction plans for highways and bridges that were never built, wasting considerable resources. The Governor, MDOT management, and the FHWA recognize that this is not a very efficient way to run a state transportation agency and want to use CSS to avoid the re-work cycle.



CSS Streamlines Project Delivery

“CSS moves the discussion between MDOT and stakeholders from position-based stances to interest-based solutions.”

- Lynn Lynwood, ASLA
MDOT Landscape Architect



The CSS process attempts to eliminate the re-work cycle. The CSS cycle begins with Listen→Design→Build. Good design takes time; bad design takes longer!

Lynn Lynwood, MDOT Landscape Architect, suggests that “CSS moves the discussion between MDOT and stakeholders from position-based stances to interest-based solutions.”

By this she means that all stakeholders need to let their guard down a little and listen to each other. We need to ask, “What is in the interest of MDOT and the public?” We should define first what are we trying to achieve and be careful not to start with insisting on a standard solution. The public and MDOT should come to a mutual understanding of the problem that needs to be solved and how alternative solutions will be measured. (See the five dimensions of success on pages 60 and 61.) Successful solutions, embraced by all stakeholders, can only follow a mutual understanding of the issues and a willingness to jointly define success.



Embracing CSS in Michigan

- Expanding Current Methods and Practices
- New CSS Policies
- New CSS Training
- Fostering a *Learning Organization*
- Leading by Example



CSS is not something that is easily adopted. It requires several deep modifications in the way Departments of Transportation have traditionally conducted their business. As such, CSS will not be promoted as something to be understood by taking one introductory class or even an advanced class. Incorporating CSS into MDOT will mean that this must become a *learning organization*, systematically searching out the lessons it learns as it employs CSS and then applying those lessons to improve its policy and procedures.

Each of you has a responsibility for incorporating CSS into your daily work. How can you better involve stakeholders in your job? Who should you invite from other MDOT working groups to help you make an important decision? How can you integrate the needs of pedestrians, bicyclists, and transit users into your efforts?



Measurement

Five Measures of Success

- Functional Appropriateness
- Community Support
- Environmental Compliance
- Financial Feasibility
- Social and Economic Progress



I-465, Indianapolis, IN

There are five measures for evaluating if your CSS program is successful or if your CSS project is on track.

First, does it improve or at least maintain the function of the transportation system? Is it safe? Does it provide sufficient mobility and access? Are all the parameters typically addressed by MDOT fully explored and are the good solutions found supported within the department?

Second, is it receiving community support? Not begrudging consent but real support (which frequently results in political and funding support for the project and for the state's transportation program in general).

Third, was the environmental compliance more than a review? Did the regulators actually help you find solutions? Was the discussion moved from a position-based stance to an interest-based conversation where the regulators became part of the planning, design, construction, maintenance, or operations team?

Fourth, is the solution financially feasible? Do the partners who are proposing this work have sufficient funding to design, construct, maintain, and operate it? Does it create an undue burden on any particular agency or other governmental unit that will find it difficult to sustain its commitment to the project? Agreements are prudent and necessary to ensure that the public receives what it believes it is paying for. We recommend that getting the agreement in writing, prior to letting plans out for bid, is essential.

The fifth and last measure of success is: Did the project contribute to the common good? Will it help ensure social and economic progress? Will it lead to new development? Less crime? Better water quality? Again, transportation is part of a larger socioeconomic and political matrix. MDOT must be responsive to the needs of the society it serves and receptive to having others (who know how to do such things) measure and report on how well MDOT's projects contribute to the commonweal.



Conclusion: CSS is Beneficial

- Functional Appropriateness: Improved safety, mobility, and access
- Community Support: Better public, regulatory, and political support for projects and transportation
- Environmental Compliance: Enhanced environmental quality
- Financial Feasibility: Superior cost-benefit ratio
- Social and Economic Progress: Increased quality of life indicators



Watkins Memorial Drive, Kansas City

In conclusion, CSS is beneficial. It results in:

- Improved safety, mobility, and access
- Better public, regulatory, political support and advocacy for projects and transportation
- Enhanced environmental quality
- Superior cost-benefit ratio and better project delivery rates (percentage completed and schedule)
- Increased quality of life (social and economic) indicators



What is CSS?

CSS is an interdisciplinary process for developing, operating, and maintaining a safe, effective, and integrated, multi-modal transportation system that supports a community's vision.



I-35W, Minneapolis, MN

What is Context Sensitive Solutions? Simply put, it is a method for developing and operating a safe, effective, and integrated transportation system that supports a community's vision.

CSS is not a product, but a process.