

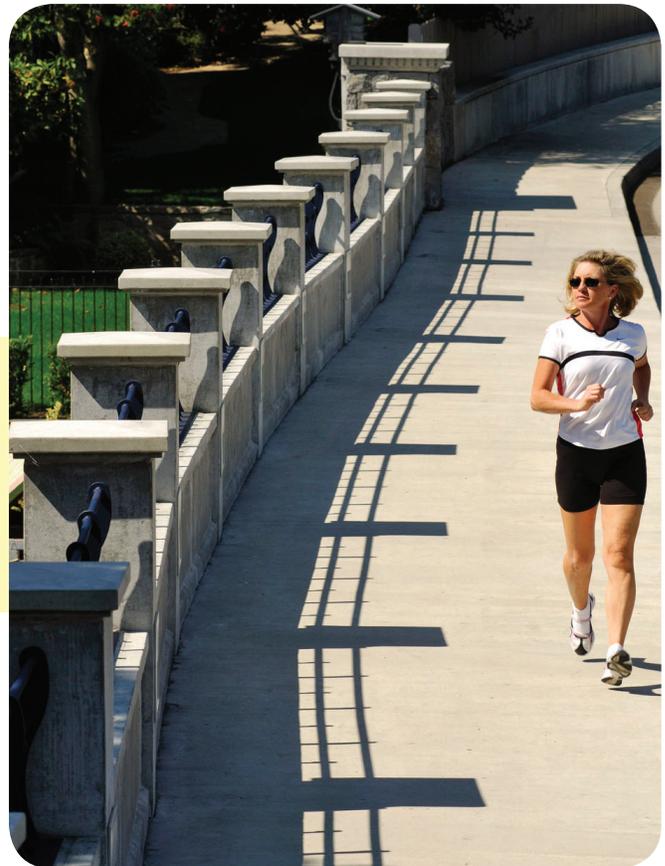


# CONTEXT SENSITIVE SOLUTIONS

As citizens' expectations for transportation projects have risen, so too has awareness of community needs among transportation planners and roadway designers. The question now becomes, "how do we create projects that are broadly supported and meet a range of needs?" The collaborative context sensitive solutions (CSS) approach is an answer to that question. With this approach, interdisciplinary teams work with public and agency stakeholders to tailor solutions to the setting; preserve scenic, aesthetic, historic, and environmental resources; and maintain safety and mobility. The goal of FHWA's CSS program is to deliver a program of transportation projects that is responsive to the unique character of the communities it serves. In short, CSS supports livable communities and sustainable transportation.

Community leaders, elected officials, managers, and transportation practitioners will find in these pages the information needed to develop a deeper understanding of the context sensitive approach. The purpose is to highlight the value of these approaches and identify practical ways in which agencies can incorporate CSS principles.

*CSS is about a dynamic interface between people and infrastructure*



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# A DIFFERENT APPROACH

In the past, transportation projects were typically developed by technical experts and presented to the public once many decisions had already been made. Over time, the public has become increasingly interested in influencing the details of transportation projects. People who are affected wish to be more closely involved in project development—from early planning through detailed design and construction. Transportation officials seek innovative ways to solve transportation problems and, at the same time, respond to social, economic and environmental goals. Achieving this balance has required a shift toward greater collaboration with the public. Transportation professionals must be prepared to respond to this shift as they develop and deliver projects or maintain facilities.

## *The Old Way*



# The CONTEXT SENSITIVE WAY

The CSS approach to project development is to simultaneously engage stakeholders and interdisciplinary teams to resolve transportation problems together. It is not only a better way to solve the problem, it often produces a better solution.

The CSS approach assumes that all projects have a context that should inform the development of solutions. An understanding of the landscape and the community is essential. The context sensitive way plans for and

responds to the unique needs and qualities of individual communities. At each step, inclusiveness, flexibility, and creativity fuel development of fresh solutions and increase the prospects for success. In the end, stakeholders are generally more satisfied with both the process and the outcome.

CSS processes build consensus among all stakeholders. Consensus is commonly defined as the point at which all stakeholders recognize that an outcome is best for the community as a whole—even if it does not completely serve individual interests.



# WHAT IS CSS?

The CSS process is a collaborative, interdisciplinary, holistic approach to the development of transportation projects. It is both process and product, characterized by a number of attributes. It involves all stakeholders, including community members, elected officials, interest groups, and affected local, state, and federal agencies. It puts project needs and both agency and community values on a level playing field and considers all trade-offs in decision making.

The process differs from traditional processes in that it considers a range of goals that extends beyond the transportation problem. It includes goals related to community livability and sustainability, and seeks to identify and evaluate diverse objectives earlier in the process and with greater participation by those affected. The result is greater consensus and a streamlined project during later stages of project development and delivery.

While CSS processes are often associated with design, the approach is most effective when used during each step of planning and project development—from long-range transportation plans to individual corridor strategies.

## CSS and consensus

While every project has unique circumstances, all CSS processes should build consensus around these issues before solutions are identified:

- Project context, including geography and community values
- Implementation plan and decision-making process and roles
- Problem to be addressed
- Vision, goals, and evaluation factors

Once stakeholders agree on these, the team can begin to identify and evaluate alternatives and make decisions. The steps for building agreement are flexible and can be adapted to suit individual projects. At the heart of the approach is the methodical integration of diverse values at each step of the process.

*CSS is:*

collaborative

interdisciplinary

a tailored approach

about both *process* and *outcomes*

## definitions

**The Federal Highway Administration (FHWA) defines context sensitive solutions (CSS) as:** *“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, and infrastructure conditions.”*

**Context** is a broad description of a project's physical, economic, and social setting. The context may include the community, ecological, aesthetic, and transportation conditions as well as the political and policy environment.

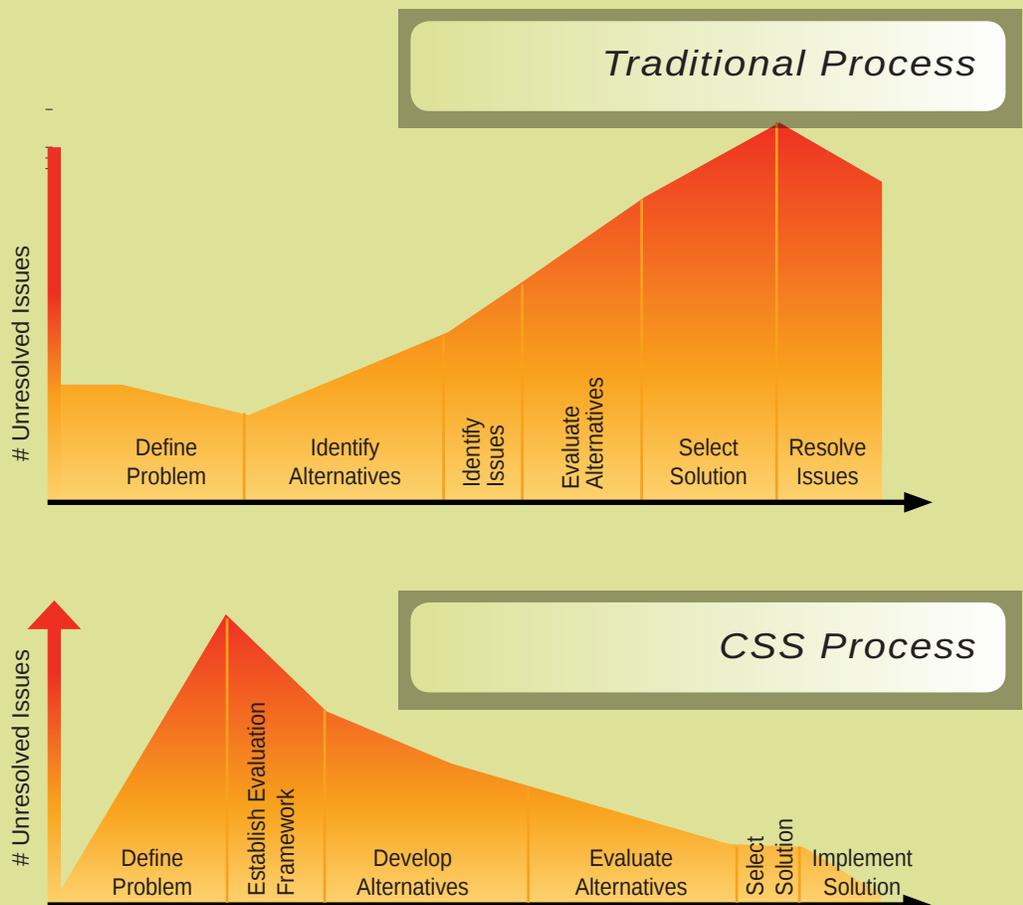
**Interdisciplinary teams** are groups involving people with different backgrounds who work collaboratively to solve a common problem.

**Stakeholders** are affected people and organizations, including agency staff and elected officials, organized groups, area residents, and business owners.

## characteristics of the CSS process

- Communication with all stakeholders is open, respectful, honest, early, and continuous and is tailored to the context and phase
- Establishes an interdisciplinary team early, including a full range of stakeholders, with skills based on the needs of the transportation activity
- The landscape, community livability, valued resources and ecology, and construction issues are researched and understood before engineering design is started
- There is a clearly defined decision-making process
- Project teams track and honor commitments through lifecycle of the project
- Full range of stakeholders and transportation officials are involved in identifying issues
- Project purpose is clearly defined consensus is sought on the shared stakeholder vision and scope of projects and activities, while incorporating transportation, community, and environmental elements
- There is commitment to the process from top agency officials and local leaders
- Process involves multiple alternatives, resulting in a full

As shown by the graphs to the right, a CSS process becomes less contentious as the design becomes more complex. Public and stakeholder involvement might be a primary activity early in the project, but by the time engineers are producing detailed plans, stakeholders only wish to be kept informed about progress and involved when changes arise. This front-loaded community participation and decision-making process allows stakeholders to influence outcomes by raising issues early when they can still be addressed.



### characteristics of the CSS process (continued)

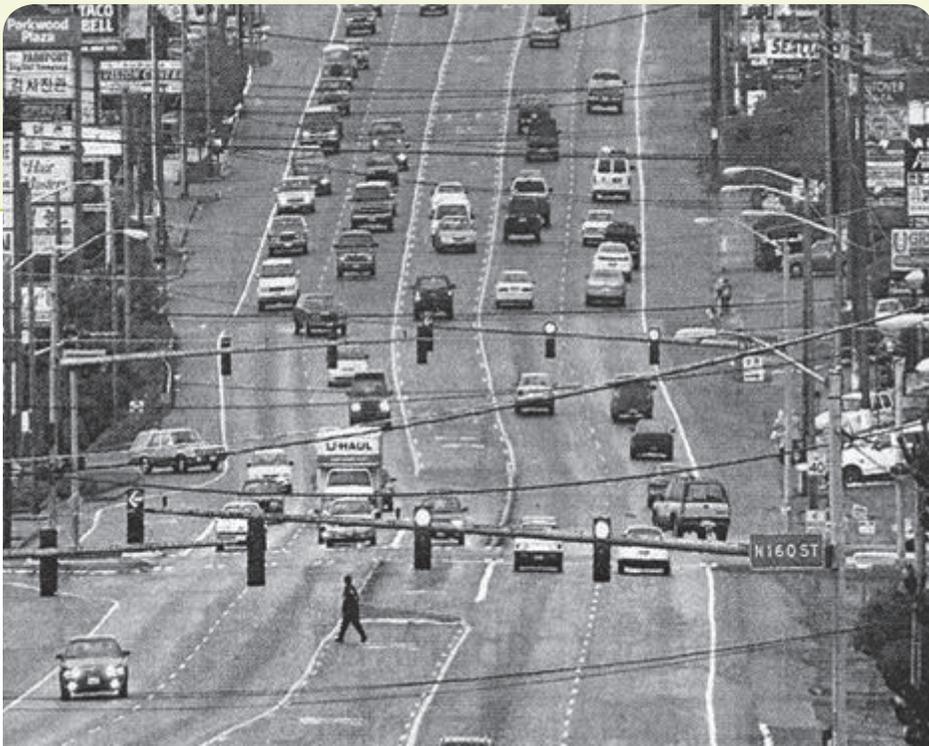
- examination of a range of possible solutions and agreement on the best path forward
- Agency and stakeholder participants monitor how well the process is working and improve it as needed
- Participants encourage mutually supportive transportation and land use decisions and consider the needs of a variety of transportation modes
- Full range of communication and visualization tools are used to engage stakeholders

### characteristics of the CSS product or design

- The project is in harmony with the community, and it preserves environmental, scenic, aesthetic, historic, and natural resource values of the area
- The project is a safe facility for all users and the community
- The project solves problems and satisfies the purpose and needs identified by a full range of stakeholders
- The project exceeds the expectations of both designers and stakeholders and is perceived as adding lasting value to the community as a whole
- The project involves efficient and effective use of resources (time, budget) of all involved parties

*"The community' is anyone who has an interest or stake in a particular place. It is made up of the people who live near a particular place (whether they use it or not), own businesses, or work in the area, or attend institutions such as schools and churches there. It also includes elected officials who represent an area and groups that organize activities there, such as a . . . merchants association."*

— Project for Public Spaces (PPS) from *How to Turn a Place Around: A Handbook for Creating Successful Public Spaces*





## sustainability and livable communities

CSS projects consider new and emerging technologies, funding sources, and public policy issues aimed at addressing major drivers such as energy supply, climate change, and sustainability initiatives.

CSS projects address livability issues such as bicycle and pedestrian facilities, transit, and multimodal connections.

CSS projects embrace sustainability principles such as stormwater management, water quality, and the use of recycled materials throughout their lifecycles.



*These before and after photos from the Aurora Avenue Project (Shoreline, Washington) illustrate how successful CSS projects improve safety and mobility for a variety of users. The photo illustrates a new grade-separated pedestrian crossing, improved sidewalks, managed access, enhanced greenscape.*

*"To be more responsive to the public, we need to move from expert-based design to community-based design."*

— American Association of State Highway and Transportation Officials (AASHTO)

from *Getting it Right in the Right of Way: Citizen Participation in Context-Sensitive Highway Design*

## let's define “context”

The first step of the CSS process is to define the context for a project. This is essentially the framework within which this approach will be applied, so it is important to understand what that includes. So what is “context?”

*"Context refers to the natural or built environment created by the land, topography, natural features, buildings and associated features, land use types, and activities on property adjacent to streets and on sidewalks, and a broader area created by the surrounding neighborhood, district, or community. Context also refers to the diversity of users of the environment."*

—Federal Highway Administration

While the context for every project will be different, every project has a context.

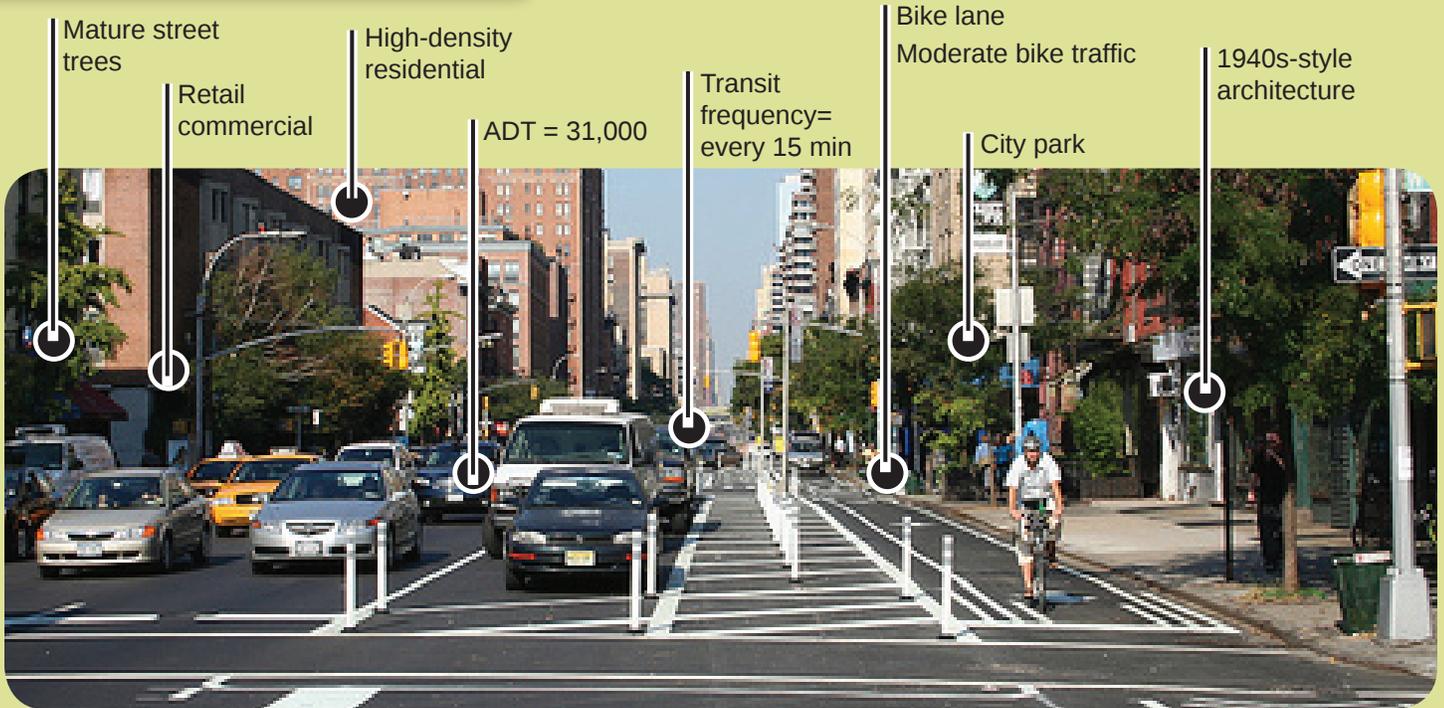
An inventory of the context may include:

- The area's **natural environment**. Does the project area include a major natural feature such as a river, open space, or view to a mountain?
- The area's **social environment**. How do stakeholders perceive the community and its strengths and weaknesses? Are there major gathering places in the project area? What are the area's demographics? Are there elderly, low-income, or minority communities in the area?
- The **function and design** of the transportation facility. What types of users and trips does the facility need to accommodate?
- The **transportation behavior** in the area. Who is traveling in the area? What modes are they using?
- The area's **economic environment**. What are the land uses in the area? How does the transportation facility affect businesses and residents?
- The area's **cultural characteristics**. What aspects of the community are important to stakeholders? What significant features define the community?

Some aspects of context might be viewed positively by one stakeholder group and negatively by another. For example, substantial regional traffic might be a positive for the owner of an auto-oriented business and a negative for the area's residents. Descriptions of the context should use objective, value-neutral language to reflect the perspectives of all stakeholders without judging which aspects are good or bad.

Creating an inventory or profile of community resources and attributes has long been a part of the "Community Impact Assessment (CIA) process. For more information on this methodology, see <http://www.ciatrans.net>.

Example of Urban Context



Mature street trees

Retail commercial

High-density residential

ADT = 31,000

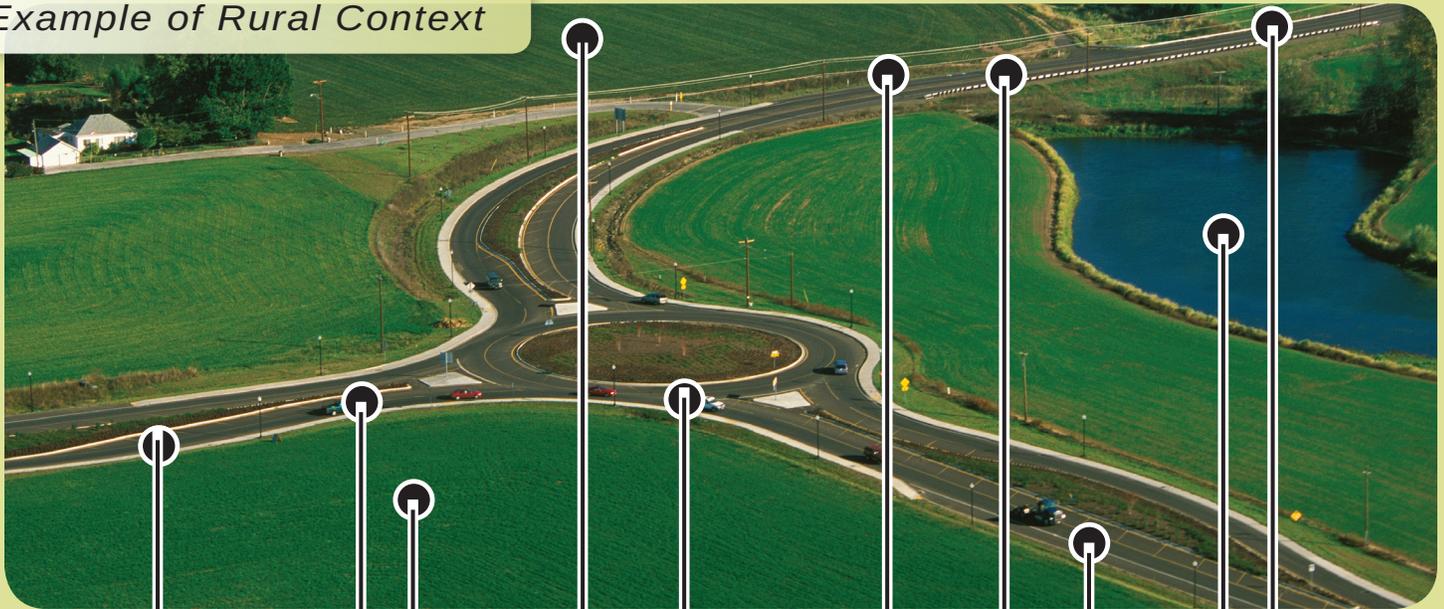
Transit frequency= every 15 min

Bike lane  
Moderate bike traffic

1940s-style architecture

City park

Example of Rural Context



Connects farmers to highway system

ADT = 7,796

Farmland/rural agricultural land use

Rolling topography

Heavy agricultural truck volumes

Sidewalks are discontinuous

Shared lane with cyclists. Heavy cyclist use on weekends

2-lane arterial

One mile east to rural community

Wetland and habitat

*Beyond function and design of a transportation facility, context includes built and natural environmental as well as social, cultural, and economic aspects*

# The BENEFITS OF CSS

better value  
tailored solutions  
customer satisfaction  
on-time delivery

## one

### Better Value

CSS processes deliver better value in the form of reduced costs or more cost effective projects, on-time delivery, or—perhaps most importantly—improved community relationships. Direct cost savings relate to right sizing of facilities, avoidance actions (reducing the environmental clearance from an EIS to an EA/FONSI), and avoidance of opposition which can lead to costly litigation and delays. Finally, CSS processes provide opportunities to leverage a wider range of funding options, including non-traditional funding sources or cost-sharing approaches.

Many senior executives of state departments of transportation (DOTs) recognize that applying CSS principles to their project delivery systems will save time and resources and better ensure delivery of projects as planned. For example, under David Ekern's leadership, the Virginia DOT's business plan calls for implementing a CSS program as part of its Number 1 objective: improve project development and delivery. Mr. Ekern has asserted "We will do CSS because it saves us time and money."

The 2007 Joint AASHTO/FHWA Context Sensitive Solutions Strategic Planning Process determined that CSS processes helped project teams meet—or exceed—the expectations of both designers and stakeholders, "thereby adding lasting value to the community, the environment, and the transportation system."

## two

### Tailored Solutions

An agency's design manuals, standards, and criteria will generally produce proven solutions to typical problems. The challenge for designers is to recognize when the standard solution may not "fit" or perhaps not work, and a unique approach is required. A CSS mindset can help a designer know when to apply a tailored approach. Being context sensitive means that designers look for solutions that avoid or minimize impacts while operating safely and efficiently. Ultimately, this results in better—even optimal—solutions, which are in alignment with the environment and community.

The process requires flexibility and creativity. To be flexible, designers must first have thorough knowledge of how and why specific design criteria are applied, and keep key issues and values in mind. Designers who are

*"Agencies that have institutionalized CSD/CSS confirm that real, measurable benefits accrue to the agency and ultimately the taxpayers and constituents of their states. The benefits can be broadly categorized as reducing agency costs of doing business, as delivering projects on schedule (avoiding delays or project halts that were previously common), and as improving the relationship with their customers."*

—NCHRP Report 480

*"If you are a customer-focused organization, these concepts are logical and inevitable. Context sensitive design is a fancy term for common sense. Context sensitive design is a philosophy."*

—Connecticut DOT staff

understand that the design process is not one of applying mandates by rote, but rather of carefully exercising choices involving these design controls and roadway elements:

- Design speed
- Design traffic and level of service
- Design vehicle
- Design elements
- Facility operations

Design choices are influenced by the context: topography, location, functional classification of the facility, adjacent land use, and presence and nature of environmental features, including built elements. Designers exercise judgment about design controls, and look for creative solutions that balance stakeholder needs while preserving operational safety and efficiency. Designers might, for example, suggest asymmetric designs or policy or operational changes that will make possible a solution that performs optimally within the project's unique context.

*"We have reached the realization that the highway department does not know what is best for everyone.."*

—Charles Adams, Maryland State Highway Administration

*"Roads that follow the topography require minimal cut and fill, which reduces the impact on landforms and the cost of hauling out excess material."*

—Scenic Byways: A Design Guide for Roadside Improvements

### Examples of Creative Design Solutions



Cross-median crashes were all too common on the Baltimore-Washington Parkway, owned by the National Park Service. A concrete barrier, the traditional solution for this kind of safety issue, was not acceptable to stakeholders

because of aesthetic impacts. The solution shown was a concrete barrier with stone facing that met safety requirements and standards while fitting the highway's historic and aesthetic context.



The alignment of a road widening in Maryland was set to run straight through an established oak tree. To preserve the tree, the team realigned the roadway with the tree in the median, redesigned the profile to preserve the tree's root

system, implemented a special irrigation treatment, and installed a timber-faced guardrail to shield the tree from median encroachments. This saved a tree valued by the community and resulted in a safe, efficient roadway.

# three

## Customer Satisfaction

CSS projects are not only acceptable to stakeholders, they can become a community rallying point and source of civic pride. An agency-wide commitment to CSS approaches can increase agency credibility and lead to more productive relationships between the agency and its "customers," the community.

Many people assume that a context sensitive process will cost more than a traditional project development process. These processes are scalable and do not necessarily require an extensive (expensive) public involvement process. A CSS process does require taking the time to listen to stakeholders early on and develop solutions that reflect stakeholder values; but developing solutions with stakeholders is less expensive than redesigning a project!



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

- Scott Bradley, Minnesota Department of Transportation,  
Context Sensitive Design/Solutions: A Better Way



## four On-Time Delivery



By gaining an understanding of stakeholder issues early, teams who use CSS approaches can shorten the project development process and reduce the likelihood of redesign and litigation later on.

Benefits can include:

- **Simpler, Faster Permit Approvals** – When the appropriate agencies are involved at each step of the process, there are likely to be fewer questions at the end of the design phase when the agency applies for permits.
- **Reduced Environmental Analysis Requirements** – Avoidance actions can reduce the required environmental analysis for the project (e.g. from an environmental impact statement to an environmental assessment/finding of no significant impact).
- **Community Support** – Because stakeholders are involved early, issues and barriers are identified and addressed early, resulting in less re-work and a shorter and more reliable timeline for project development.

# APPLYING CSS

Context sensitive processes can be applied to almost any function for which an agency is responsible. These are some of the ways in which this approach can be useful:

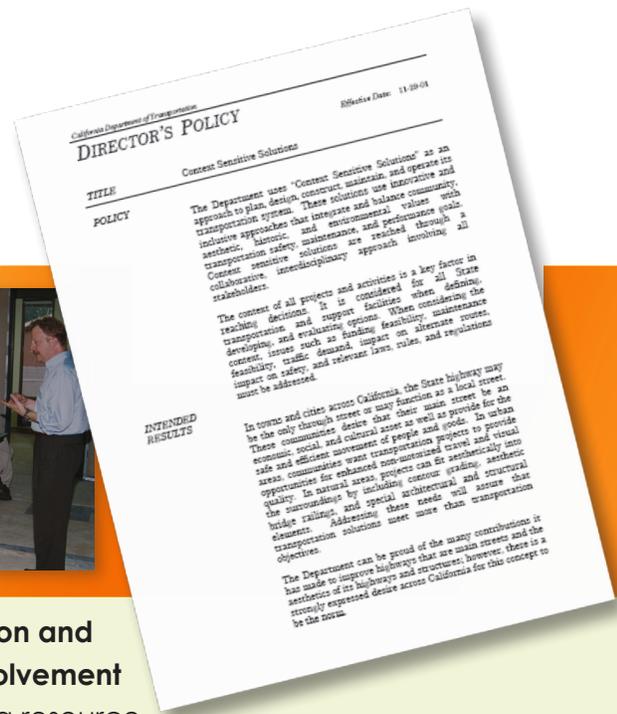


- **Long-Range Transportation Plans** – Attention to diverse stakeholder values can play an integral role in visioning, screening, and prioritizing projects. Long-range plans can also include policies that encourage CSS approaches during plan implementation and project development.
- **Area-wide Transportation Planning** – This approach can be applied over a variety of project areas, including statewide, metropolitan planning organizations (MPO), and regional and area-wide planning through such techniques as integrating transportation, economic, environmental, and land use factors at the area level before projects are selected.
- **Agency Standards and Criteria** – The application of CSS during the development of agency policies and standards may not only lead to additional criteria, but also to greater flexibility, so that a project's context can be adequately considered.
- **Develop Project Concepts** – Using the CSS approach leads to a more comprehensive and diverse set of alternatives that may offer different ways of balancing stakeholder interests and objectives.
- **Project Development** – CSS approaches offer a framework that fully supports National Environmental Policy Act (NEPA) documents, approvals, and permitting and other related environmental regulations considered within the NEPA decision-making framework.

- **Consultation and Public Involvement**
  - Engaging resource agencies and the public in decision making ensures greater chances for project success.
- **Preliminary Engineering and Final Design** – Applying CSS principles during the design process results in a more thorough understanding of choices, opportunities, and constraints and further clarifies purpose and need.
- **Construction** – Coordination and participation in developing traffic management plans, scheduling traffic delays, maintaining business impacts, and other mitigation of construction impacts.
- **Maintenance and Operations** – The use of CSS approaches leads to scheduling activities to avoid conflicts with major events, providing information to those affected by the activity, and use of equipment and pesticides that avoid or minimize impacts on the natural environment.

## strategies for agency and department managers

- **Encourage Interdisciplinary Teams** – Create collaborative teams that include all relevant planning and design disciplines. Endorse policies that lead to regular cooperation as projects develop.
- **Mentor Staff** – Identify staff with experience using the approach and encourage knowledge/skill sharing.



# challenges of implementing CSS

While CSS can ultimately be a rewarding approach to project development, there are also challenges. It is important to meet these challenges head on and address them up front:

- **Provide Training** – Send staff to seminars and conferences to learn new applications and share experiences.
  - **Use New Technologies** – Invest in new technologies that will improve designs and public understanding and involvement.
  - **Adopt Performance Measures** – The NCHRP report, “Performance Measures for Context Sensitive Solutions,” illustrates measures that track the use of CSS approaches, both at the project level and organization-wide.
  - **Document the Business Case** – When CSS projects are successfully completed, summarize and distribute the information so other agencies can learn the benefits gleaned from the project, especially in relation to budget and schedule benefits.
  - **Incorporate Lessons into Practice** – Incorporate lessons learned into an agency’s way of doing business by changing internal policies and communicating among agency personnel.
  - **Review Design Standards** – Audit current design standards. Do they hinder implementation of CSS approaches by mandating standards without considering context? The report on “Context Sensitive Solutions in Designing Major Urban Thoroughfares” offers suggestions on improving design standards.
- **Internal Resistance to Change** – Managers can help team members understand how their skills relate to job skills required for CSS approaches, provide a rationale for change that is meaningful to each team member’s work, and tie performance goals to implementation of CSS approaches.
  - **Inflexible Design Standards** – Design standards may sometimes be applied rigidly to avoid liability or simply because it is the “way designs are typically done.” Owner/ agency liability can be managed when context sensitive solutions are well reasoned and comprehensively documented. To implement CSS approaches, opportunities can be provided for design staff to learn from other design practitioners. This helps designers explore strategies for overcoming barriers to flexible application of design standards and help identify design exception policies that can be applied flexibly.
  - **Added Budget for Process** – The stakeholder involvement process and other CSS elements can be scaled to the size and complexity of the project.
  - **Added Time for Process** – The CSS process requires a larger investment of time early in the project. The reward comes later when the design can be advanced relatively quickly with little rework because the team thoroughly understands the context and can design within it.
  - **Lack of Stakeholder Trust** – The CSS process can require new relationships between DOTs and regulatory agencies and other stakeholders. If there is resistance to shifting to collaborative relationships from traditional regulatory relationships, the DOT can provide training in CSS skills or begin with pilot projects or programs to develop a shared understanding of roles and responsibilities.

## strategies for elected officials

- **Adopt Supportive Policies** - Examples include public involvement policies, local planning and design, and other policy statements
- **Promote Success** - Talk to constituencies about the benefits of the CSS process through annual report publications, speeches, and interviews

## CSS at THE FEDERAL LEVEL

The Federal Highway Administration promotes CSS approaches by establishing policy, setting funding priorities, conducting training and technical assistance, and providing financial and other support for guidance documents and demonstration projects.

- **Establishing Policy** – FHWA has depended on CSS approaches to improve environmental sensitivity in transportation decision making by incorporating CSS at the project level across the country.
- **Providing Training and Technical Assistance** – FHWA has provided a 2-day CSS overview course, Webinars, and peer exchanges to federal, state, and local partners. Agency specialists also consult and advise on technical issues for planning and project development processes.
- **Administering Legislation** – The Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) legislation, the current 6-year funding bill, includes a provision authorizing the Secretary of Transportation to consider CSS approaches in establishing National Highway System (NHS) standards.
- **Funding to Enhance Livability** – SAFETEA-LU contains specific programs, such as Transportation Enhancements and Congestion Mitigation and Air Quality, that create eligible categories and funding criteria to advance CSS projects to completion.

- **Funding Pilot Studies** – Following the “Thinking Beyond the Pavement” conference, FHWA selected five pilot states to implement the CSS approach: Connecticut, Kentucky, Maryland, Minnesota, and Utah.

In addition, FHWA partners with federal or national organizations such as American Association of State Highway and Transportation Officials (AASHTO) and Transportation Research Board (TRB) increasingly promote integration of CSS approaches into project development, construction, and maintenance.

- **Organizing Conferences** – Federal agencies and organizations have sponsored many conferences on CSS approaches since 1998.
- **Developing Guidance Documents** – AASHTO, FHWA, EPA, the Institute of Transportation Engineers, and Congress for the New Urbanism are completing guidance on the design of urban thoroughfares.
- **Developing Web Sites** – Project for Public Spaces, FHWA, AASHTO, the Federal Transit Administration, the Institute of Transportation Engineers, the National Association of City Transportation Officials, and the National Park Service have developed a Web site and clearinghouse for context sensitive solutions ([www.fhwa.dot.gov/planning/css/](http://www.fhwa.dot.gov/planning/css/)).



## CSS at THE STATE LEVEL

State DOTs are playing a central role in implementing this approach. Some examples of initiatives at the state level include:

- **Policy** – CSS policies have been adopted by 26 states through executive orders, agency policy changes, or legislative actions. The Utah Department of Transportation (UDOT), a CSS pilot state, adopted an agency policy in 2000 and has since trained more than 400 employees in CSS approaches. UDOT's Web site describes CSS as "a philosophy that guides the Utah Department of Transportation wherein safe transportation solutions are planned, designed, constructed, and maintained in harmony with the community and the environment." ([www.udot.utah.gov](http://www.udot.utah.gov))
- **Training** – North Carolina DOT developed a 3-day CSS training course that was offered at least once a month from 2003 to 2006. ([www.ncdot.gov](http://www.ncdot.gov))
- **Funding Priorities** – Maryland has a transportation enhancement program that focuses on smaller transportation projects that fit the "context of the community." ([www.roads.maryland.gov/Home.aspx](http://www.roads.maryland.gov/Home.aspx))
- **Demonstration Projects** – State-level success stories are numerous. See [www.fhwa.dot.gov/planning/css/](http://www.fhwa.dot.gov/planning/css/).
- **Design Manuals** – Delaware DOT developed a Traffic Calming Design

Manual that includes roadway design standards intended to slow traffic, discourage traffic from cutting through neighborhoods, increase safety for vehicles and pedestrians, and enhance pedestrian environments. ([www.deldot.gov](http://www.deldot.gov))

- **Long-Range Plans** – The Oregon Transportation Plan uses CSS principles to involve stakeholders from different parts of the state as advisors in the plan's development, and obtains substantial public feedback on the draft plan via online survey, online comments, and more than 20 public meetings around the state. ([www.oregon.gov/ODOT/Pages/index.aspx](http://www.oregon.gov/ODOT/Pages/index.aspx))

- **Agency Coordination** – Florida DOT's Environmental Screening Tool is an online resource where resource agencies perform a review of transportation projects after inclusion in a long-range plan and before initiation of design. (<https://etdmpub.fl-a-etat.org/est/>)



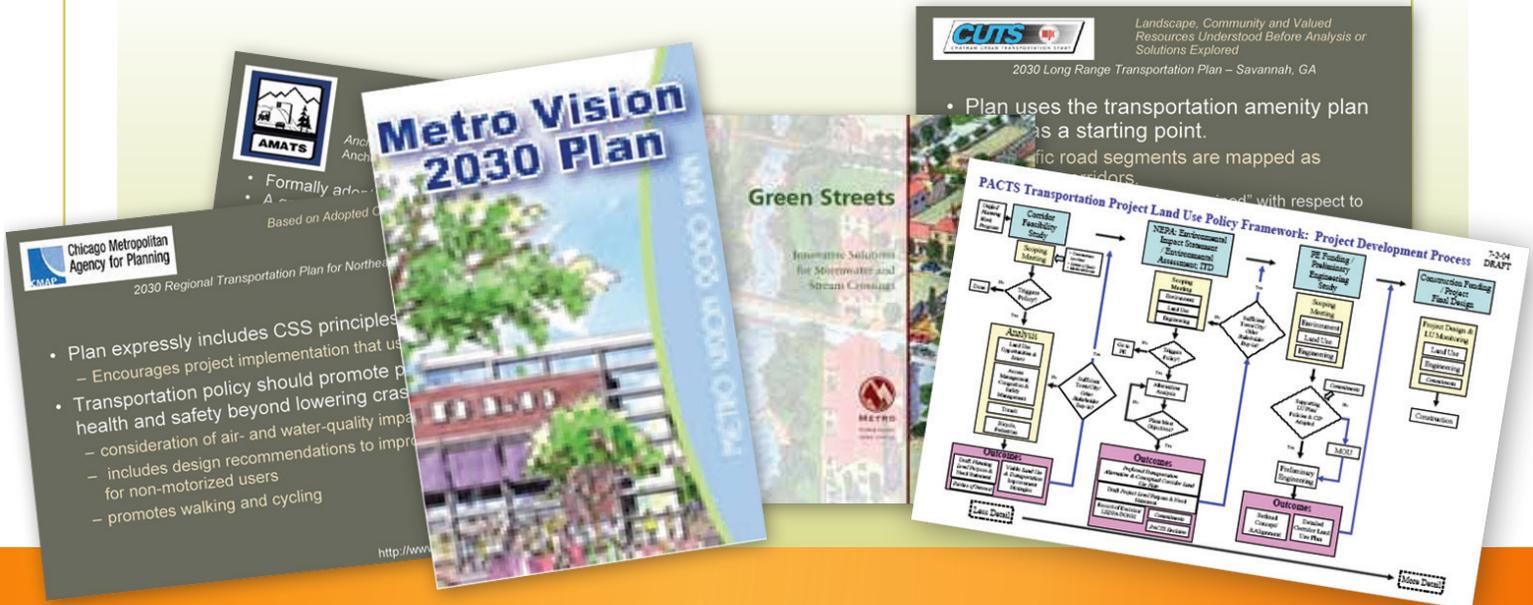
# CSS at THE REGIONAL LEVEL

Implementation of CSS approaches at the regional level is usually done by metropolitan planning organizations (MPOs). Examples include:

- Regional Plans** – Metro Vision 2030 is the long-range transportation plan for the Denver Regional Council of Governments and is the area's comprehensive guide for regional planning. The evaluation criteria reflect a desire to be consistent with the stakeholder vision and goals. For example, projects are given points if they are within or adjacent to an urban center, if they serve a major intermodal facility, or if they support a transit corridor. (<https://drcog.org/>)
- Design Guidelines** – The MPO for Portland, Oregon, (Metro) developed guidelines for designing "Green Streets,"

streets that are designed to incorporate stormwater treatment within the right of way. These guidelines provide a variety of design cross sections that accommodate bio-filtering swales, conveyance swales, detention basins, and/or detention ponds. ([www.oregonmetro.gov](http://www.oregonmetro.gov))

- Corridor Plans** – The Portland (Maine) Area Comprehensive Transportation Committee (PACTS) developed an arterial land use policy that requires a land use plan to preserve arterial capacity, protect mobility and public investments, and minimize sprawl for arterial corridor roadway projects that will reduce commuter travel times between an urbanized and a non-urbanized area. ([www.pactsplan.org](http://www.pactsplan.org))



CSS at  
**THE LOCAL LEVEL**

Local jurisdictions construct a majority of transportation improvement projects, frequently using local design standards. CSS efforts at a local scale are focused on developing these standards as well as on project development, construction, and maintenance. Some examples of how CSS principles have been applied at the local level include:

- **Design Guidelines** – Sacramento, California, updated roadway design standards in response to concerns from residents and business owners regarding inflexible standards. New standards provide minimum and recommended street widths, allow for trade-offs, and include clearer direction on administering standards.
- **Corridor Plans** – Lake Worth, Florida, improved safety and livability downtown by reducing the number of lanes on two downtown streets from three to two. Width from the third lane was used to install parallel parking, paver-block sidewalks and crosswalks, and intersection bump-outs. During construction, the city regularly apprised business owners of progress and assisted with procurement

of economic development grant funds. The improvements stimulated economic development in the downtown and greatly reduced vehicle speed and number of accidents.

**unique issues of urban arterials**

**Complementing Urban Land Uses** –

In urban areas, key aspects of context are often social and economic in nature. How will the improvement impact the way people live and work in the vicinity?



**Urban Network** – Streets in urban areas are part of a network; changes to one street have impacts on adjacent streets. Will planned improvements integrate the surrounding network as part of the solution?



**Accommodating Multiple Modes** – Solutions need to consider all users. This is especially true in urban areas, where non-auto modes are more prevalent. How will the improvement affect cyclists, pedestrians, and transit riders?



The Institute of Transportation Engineers is completing work on an important document, "**Designing Walkable Urban Thoroughfares: A Context Sensitive Approach**," which will contain extensive and specific guidance on how to address the types of questions posed above.

# KEYPOINTS

CSS refers to a process  
and an outcome

---

Every project has a context

---

Solutions should be tailored to the context

---

CSS processes seek consensus

---

CSS approaches are multidisciplinary and  
collaborative

---

CSS projects and methods are  
time-tested and proven, and revolve  
around the people directly affected  
by the project

*Rattlesnake bicycle and pedestrian bridge in Tucson, Arizona*



# ADDITIONAL RESOURCES

## FHWA web sites

- Context Sensitive Solutions. [www.fhwa.dot.gov/planning/css/](http://www.fhwa.dot.gov/planning/css/)
- Resource Center. [www.fhwa.dot.gov/resourcecenter/](http://www.fhwa.dot.gov/resourcecenter/)

## additional web sites

- California State Department of Transportation. "Context Sensitive Solutions." [www.dot.ca.gov/hq/tpp/offices/ocp/css.html](http://www.dot.ca.gov/hq/tpp/offices/ocp/css.html)
- Center for Transportation Studies, University of Minnesota. "Context Sensitive Design." [www.contextsensitive.umn.edu/index.html](http://www.contextsensitive.umn.edu/index.html)
- Context Sensitive Solutions. [www.fhwa.dot.gov/planning/css/](http://www.fhwa.dot.gov/planning/css/)
- Illinois State Department of Transportation. "Context Sensitive Solutions." [www.idot.illinois.gov/transportation-system/transportation-management/context-sensitive-solutions/index](http://www.idot.illinois.gov/transportation-system/transportation-management/context-sensitive-solutions/index)
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