



Integrating CSS in Planning and Project Development



CSS Quick Facts – Benefits of CSS

Agencies that have institutionalized CSS confirm that real, measurable benefits accrue to the agency, and ultimately to taxpayers and constituents of their states. Agencies can derive multiple benefits by integrating CSS into their day-to-day decisions and operations.

Benefits of Implementing CSS	
Benefit	Explanation
Design features appropriate to context	Obtaining a facility that matches the context of the area in which it is placed is a fundamental benefit of CSS. Using CSS, agencies can align project requirements with the community, environment and topography in which a project exists.
Improved project scoping and budgeting	CSS principles call for early and complete identification of project context. Understanding the community and environmental context of a project during planning and/or pre-programming enables identification of transportation, community and environmental issues and allows appropriate actions and estimated costs to be effectively incorporated into project costs and schedules.
Improved predictability of project delivery	Because of its emphasis on working with stakeholders from the beginning planning, the CSS process can effectively reduce opposition/concerns about specific projects; thus allowing project development to proceed within predictable time limits. This improves the ability of a transportation agency to reliably program and deliver projects within set time limits.
Decreased time for overall project delivery	CSS promotes meaningful stakeholder involvement and the early identification and resolution of project issues and barriers. Specific benefits include reduced total agency time for transportation project development; time savings achieved by avoidance actions (reducing an environmental clearance from an EIS to an EA/FONSI); and avoidance of delays resulting from opposition to a project, and litigation.
Decreased costs for overall project delivery	Using a CSS approach can lead to reduced total costs for transportation project development compared to conventional non-CSS approaches. 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.
Improved liability and risk management protection	CSS requires careful consideration of design standards and criteria to balance transportation, community, and environmental goals. This may be accomplished within design criteria included in the Green Book, or may require design exceptions. In either case, the designer develops a thoughtful rationale based on the specific project needs and context. When design choices are not within accepted design standards, CSS practice promotes the development of a written design exception. This written information provides justification internally and externally (including tort liability claims).
Minimized disruption	Including construction representatives in a CSS multi-disciplinary team results in early communication and coordination between planners, designer and construction so that issues are identified early in the process, and potentially avoided. Careful planning up front can help to minimize traffic delays, detours and closures; and impacts related to noise, light, dust and visual amenities. Other benefits may include storm water runoff/ground water protection, proper disposal of organic waste, and minimizing impacts to endangered species habitats.
Improved safety for vehicles	A CSS planning process identifies and addresses safety issues for all travel modes. Considering safety for users and the community through planning and design can result in improved safety for vehicles as well as other travel modes.
Improved safety for pedestrians	The CSS emphasis on multimodal planning helps to ensure that pedestrian needs are addressed in the early stages of planning. This can improve the overall environment for pedestrians, the safety of pedestrians using the facility, and better connectivity to other pedestrian facilities. CSS, with its focus on design context, can reduce potential vehicle-pedestrian conflicts resulting in fewer accidents.
Improved safety for bicycles	The CSS emphasis on multi-modal planning helps to ensure that bicycle needs are addressed in the early stages of planning. Directly addressing bicycling needs in the early stages of planning can improve the overall environment for bicyclists, and the safety of bicyclists using the facility, as well as connectivity to other bicycle facilities. As with pedestrians, CSS design solutions reduce vehicle-bicycle conflicts, which will result in fewer accidents.
Improved safety for transit	The CSS emphasis on multi-modal planning helps to ensure that transit opportunities and needs are addressed in the early stages of planning. Explicitly considering transit needs and opportunities as part of the initial planning process will lead to better transit service; and to improvements in the operating environment for transit, including the safety of transit operations. In addition, safety for transit patrons will be enhanced through the provision of improved pedestrian facilities.
Improved mobility for vehicles	Applying CSS principles in the early stages of project development will lead to the development and evaluation of a broad range of alternatives to enhance overall mobility for vehicles. Approaching planning from a multimodal perspective helps to assure that all travel modes work well together since all modes are considered simultaneously and are integrated as projects are planned and developed.

Benefits of Implementing CSS

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Improved mobility for pedestrians	The CSS emphasis on multimodal planning helps to ensure that improvements for pedestrians are directly addressed during planning and design. Pedestrian improvements, including better connectivity of pedestrian facilities may improve the livability of a community and contribute to improved safety for pedestrians.
Improved mobility for bicycles	The CSS emphasis on multimodal planning helps to ensure that improvements for bicycles are directly addressed during planning and design, including better connectivity of bicycle facilities. Such improvements may also improve the livability of a community and contribute to improved safety for bicyclists.
Improved mobility for transit	Transit operations benefit from CSS' explicit consideration of transit needs as well as bicycle and pedestrian modes which provide access to transit. CSS may also enhance sustainability by reducing travel by private automobile, thus reducing fuel usage and air pollution. Improving transit also improves mobility for transit-dependent populations.
Optimized maintenance and operations	A CSS multidisciplinary team ensures that maintenance and operations issues are considered early in the project development process. Proper consideration of maintenance and operational issues during project development can provide significant cumulative benefits once a facility is complete and in service. Agencies realize lower maintenance costs, fewer environmental complications, and improved operational efficiency.
Avoided or minimized impacts to human and natural environments	The CSS emphasis on identifying environmental constraints early in the planning process can result in avoiding or minimizing a project's impact on the natural and built environment. CSS calls for an interdisciplinary project team focused on transportation solutions that address community/social issues and maintain environmental harmony.
Improved and enhanced environmental outcomes	CSS projects identify environmental resources and incorporate environmental goals, starting in the planning stage. This promotes ecologically sound outcomes that minimize negative impacts while promoting long term environmental benefits.
Supports broad, integrated planning and community objectives	CSS encourages broad based planning that integrates transportation decisions with land use, economic development, open space, capital improvements and other community planning processes to ensure that transportation improvements are consistent with and supportive of the overall community vision, goals and plans.
Increased partnering opportunities	Early and meaningful involvement of partners and stakeholders is a core principle of CSS. This involvement creates the opportunity to identify possible areas where other public or private funds could contribute, or be jointly pursued, to enhance the project or the area around it.
Improved stakeholder feedback and participation	Using a CSS process will improve the extent and quality of stakeholder/public input, which will provide agencies with better information about specific transportation needs, community values, and the suitability of proposed transportation project details. This information will enable a transportation agency to make more informed project decisions that yield facilities that improve transportation networks and fit well in communities and the natural environment.
Increased stakeholder ownership, trust and satisfaction	One of the foundations of CSS is involving stakeholders throughout the entire planning and project development process. Using many feedback loops will increase stakeholder engagement, involvement and participation; improve the trust of stakeholders in the planning and decision-making process; and enhance ownership of the project.
Improved long term decisions and investments	CSS promotes project outcomes that provide benefits to the transportation system, the community and the environment through actions that promote the environment, the economy and social equity in the short and long term.

Adapted from NCHRP 15-32, Context Sensitive Solutions: "Quantification of the Benefits in Transportation, Preliminary Draft Final Report", December 2008