

## Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities

A continuing challenge in planning and designing thoroughfares in urban areas is balancing the interests of travelers and community stakeholders. One group may focus on travel time and speed; other interests may be concerned with the character of the community. When freight carriers, emergency service providers, local business people, transit operators and other parties are brought into the picture, it becomes even more complex. In cities and town centers, resolving these multiple demands can be even more difficult because the wide range of objectives for the thoroughfare often is coupled with limited opportunity to expand or alter the public right-of-way.

The publication provides a resource for practitioners working in the challenging practice of urban thoroughfare design. The principles are based on the evolving practice of context sensitive solutions (CSS), which integrates CSS principles into existing processes to facilitate informed decision-making that considers the needs, interests and constraints within a project. CSS provides a foundation for planning and design in urban areas by emphasizing a collaborative and multidisciplinary approach, coupled with an emphasis on the flexible application of design guidance. Use of CSS principles should begin in long-range transportation and land use planning processes, and continue throughout the entire project development process.



**Figure 1** An urban avenue in Denver, CO.

In the publication, the principles of CSS underlie design guidance that draws upon the philosophies and practices of smart growth and new urbanism. These movements emphasize the importance of creating multimodal transportation systems with an emphasis on walkability. The focus is on major urban thoroughfares. “Major” refers to facilities that function as collectors and arterials. “Urban” refers to environments where development intensity, mix of land uses and design features combine to create opportunities for walking, transit and biking to be efficient and attractive transportation choices.

The publication includes design principles and guidelines that practitioners can use to develop context-sensitive plans and designs for major urban thoroughfares.

### Overview

The CSS publication was developed to provide planners and designers with guidance and information for using flexibility in existing American Association of State Highway and Transportation Officials (AASHTO) policy and information for context sensitive solutions (CSS) in design of major urban thoroughfares (arterials and collectors). The report was a joint effort between the Institute of Transportation Engineers and the Congress for the New Urbanism, sponsored by the Federal Highway Administration and the Environmental Protection Agency.

The publication describes:

- The importance of integrating the principles of CSS in urban roadway improvement projects,
- How CSS principles can be used in the transportation planning and project development processes, and
- Specific guidance on thoroughfare cross-section and intersection design.

The publication, published as an ITE Proposed Recommended Practice to supplement existing AASHTO policies and information, provides the user community an opportunity to use the new guidance and information, then to provide suggestions for improvements to be incorporated into the final ITE recommended practice.

The publication also addresses:

- The relationships and tradeoffs involved in balancing mobility needs, adjoining land uses, environment and community interests;
- Approaches to resolving the challenges encountered on an individual thoroughfare by addressing the larger scale of the network or the corridor;
- Guidance to identify and select thoroughfare types and design parameters to best meet the needs of a particular context; and
- Design criteria for roadway elements.



**Figure 2** The roadside supports many urban activities.



**Figure 3 An urban boulevard in Berkeley, CA.**

### Intended Audience

The publication is for practitioners involved in the planning and design of major urban thoroughfares for walkable communities, including traffic and civil engineers, transportation planners, land use planners, urban designers, landscape architects and agency representatives. It also may be useful to those involved in community leadership and advisory roles.

### What are Context-Sensitive Solutions?

CSS provides solutions to transportation problems, issues and challenges reached through a process that balances the competing needs of diverse stakeholders starting in the earliest stages of project development. CSS is also flexibility in the application of design controls, guidelines and standards to design a facility that is safe and useful for all users regardless of the mode of travel they choose. CSS is based on a common set of tenets:

- Balance safety, mobility, community and environmental goals in all projects;
- Involve the public and stakeholders early and continuously;
- Use an interdisciplinary design team tailored to project needs;
- Address all modes of travel;
- Apply flexibility inherent in design standards and guidelines; and
- Incorporate aesthetics as an integral part of good design.

### Characteristics of Walkable Communities

The publication applies CSS principles in urban areas to support and promote the following characteristics:

- Mixed land uses in close proximity;
- Building entries fronting the street;
- Pedestrian-scale building, landscape and thoroughfare design;
- Compact developments;
- Highly connected circulation network; and
- Public spaces that contribute to “placemaking.”

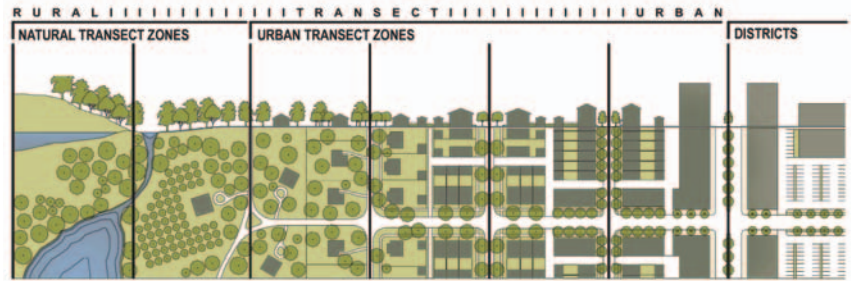
### How CSS Differs from the Conventional Design Process

Fundamental differences in approaches to design can result in different outcomes. Conventional thoroughfare design is frequently driven by traffic demand and level of service objectives. CSS principles applied to a thoroughfare design process address critical factors and issues before establishing design criteria. CSS considers all community objectives resulting

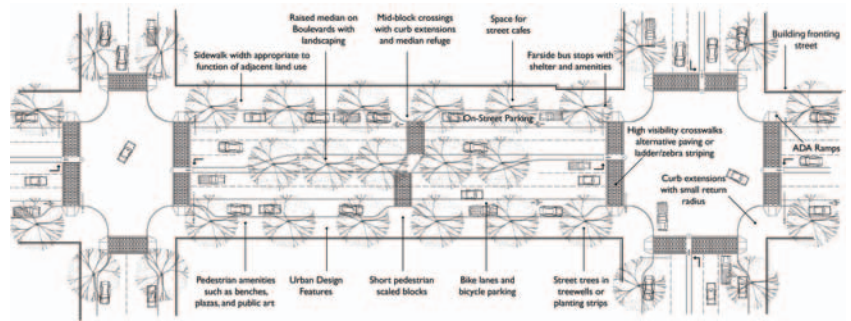
in a well thought-out and rationalized design tradeoff—the fundamental basis of CSS. This broader focus can expedite projects by making the design compatible with its surroundings while addressing community concerns.

### A New Framework for Urban Thoroughfare Design

The publication introduces a design framework based on the concept of context zones and a set of thoroughfare types consistent with characteristics of urban areas. Context zones are used to categorize urban contexts into discrete ranges of density and intensity of development. Thoroughfare types supplement functional classifications to provide more definition for thoroughfare designs. The design of the thoroughfare itself helps to define context as much as adjacent buildings define context, and thoroughfare design may change as context changes.



**Figure 4 The CSS framework uses the concept of "context zones" to categorize urban contexts. Source: Duany Plater-Zyberk and Company.**



**Figure 5 This report provides design guidance for the roadside, traveled way, and intersections. Source: Community Design + Architecture Inc.**

### Contents of the Report

The publication provides guidance on planning and design based on thoroughfares comprising four components: context, roadside, traveled way and intersections. The report’s chapters are organized into three parts:

**Part 1, Introduction:** Foundation and background, principles of CSS, definitions and overview of CSS.

**Part 2, Planning:** CSS in transportation planning and project development processes, CSS in network and corridor planning, design framework, context zones, thoroughfare types and general design parameters.

**Part 3, Design:** Thoroughfare type design parameters; design in constrained rights-of-way; flexibility in design criteria; example thoroughfare designs; design controls, features and guidelines for roadside, traveled way and intersection design; and guidance for mobility priority thoroughfares.

Contact: Institute of Transportation Engineers, Philip Caruso or Lisa Fontana Tierney, 1099 14th Street, NW, Suite 300 West, Washington, DC, 20005. Phone: 202-289-0222; Fax: 202-289-7722; [www.ite.org](http://www.ite.org).

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Additional fact sheets are available.