STATE OF COLORADO

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Date: October 31, 2005

To: Region Transportation Directors, Professional Engineer II's and III's, Region
Environmental & Planning Managers, Maintenance Superintendents

From: Craig Siracusa, Chief Engineer   *Craig Siracusa*

Subject: Chief Engineer's Policy Memo 26, Context Sensitive Solutions (CSS) Vision for
CDOT

The philosophy and structure of *Context Sensitive Solutions* (CSS) made their way into state
Departments of Transportation in the early- to mid-1990s. At first my reaction was: 'what's new
about this, we have been doing this for years - planning, designing, building, and maintaining our
projects to fit within the context of the communities we work in'. Take a look at Glenwood
Canyon, for example!

But as I learned more, I realized that the principles of CSS did represent a new way of thinking
and a good model for doing our business.

CDOT has embraced many of the CSS principles in our Environmental Stewardship Guide -
early, collaborative public involvement in project planning and design. We have not, however,
adopted the full scope and intent of CSS as a business model for CDOT.

The purpose of this Policy Memo is to take a first step in that direction by explaining CSS to
you, offering my vision for implementation of CSS, and giving you some examples of CSS
practices already going on at CDOT. Finally, I will outline plans for upcoming training on CSS.

What is CSS?
According to the Maryland Department of Transportation, "*Context Sensitive Solutions* asks
questions first about the need and purpose of the transportation project, and then equally
addresses safety, mobility, and the preservation of scenic, aesthetic, historic, environmental, and
other community values. Context sensitive solutions involves a collaborative, interdisciplinary
approach in which citizens are part of the design team." Florida DOT states that CSS "seeks
transportation solutions that improve mobility and safety while complementing and enhancing
community values and objectives. Context sensitive solutions are reached through joint effort
involving all stakeholders."

CSS principles should also be applied to our day-to-day operations and maintenance activities.
You may be able to recognize that Context Sensitive Solutions concepts fit in closely with
CDOT's Vision, Mission and Values – our philosophy for conducting business. I encourage you
to review these again on page 6 of the booklet at:
http://www.dot.state.co.us/TopContent/FactBook2005.pdf

Key Elements of CSS (from NCHRP Report 480):
- The project satisfies the purpose and needs as agreed to by a full range of stakeholders. This agreement is forged in the earliest phase of the project and amended as warranted as the project develops.
- The project is a safe facility both for the user and the community.
- The project is in harmony with the community and preserves environmental, scenic, aesthetic, historic, and natural resource values of the area.
- The project exceeds the expectations of both designers and stakeholders and achieves a level of excellence in people's minds.
- The project involves efficient and effective use of resources (such as time, budget, and community) of all involved parties.
- The project is designed and built with minimal disruption to the community.
- The project is seen as having added lasting value to the community.

CSS is not just an aesthetic treatment; rather, CSS involves developing a transportation solution to fit into its context. The purpose of the CSS approach is to identify and address both transportation and project area needs during project development. CSS requires the flexibility to consider alternative solutions that can benefit a broad range of stakeholders, while recognizing the fiscal constraints and the limits of CDOT's mission as a transportation agency. Effective transportation solutions that fit the project's context, rather than project enhancements, are the purpose of CSS.

CSS maintains safety and mobility as priorities, yet recognizes that these are achieved in varying degrees with alternative solutions. Utilizing the CSS philosophy, CDOT design professionals determine which safe solution best fits, given the site's conditions and context. CSS is about making good engineering decisions.

CSS can affect all design elements; therefore project costs may increase, decrease or be unchanged when compared to the traditional design approach. Cost issues must still be addressed during project development, as is the case with all technical and environmental constraints. CSS adds value to the process by helping the Department identify and work with stakeholders to develop projects that are sensitive to their context. The CSS approach does not imply that there will always be unanimity among stakeholders, nor does it eliminate the Department's responsibility to exercise engineering judgment in balancing trade-offs.

At the recent AASHTO Annual meeting in Nashville, our Berthoud Pass Mountain Access Project was recognized as a "Notable Practice" in CSS. We were able to submit several projects to AASHTO that were excellent examples of applications of CSS principles.

However, while we have embraced CSS principles on many levels in CDOT, there has never been an Executive Management statement of our agency's vision for implementing CSS. That vision needs to be grounded in our basic understanding of community.

What makes the community you live in special? What is it about where you live that gives you a sense of place, or is a source of local pride for you and your neighbors? You might answer that my community is scenic, it has a unique history, it has many cultural resources, it has physical characteristics I like, et cetera. These community values are important, and you probably feel that they should be preserved and enhanced if possible.

Our state highways traverse virtually every community in Colorado. Our day-to-day work on these roadways, and our projects to improve them, should respect community values and should be sensitive to the unique context of each community. *By partnering and collaborating on a multi-disciplinary basis with each community, we will find ways to achieve our transportation objectives while at the same time respecting local values. We will often enhance what makes that community special for the people who live there. Our projects should be seen as having added lasting value to the community. Our end result should exceed our expectations and those of community members, and should achieve a level of excellence in people's minds.* In the very broadest sense that's my vision of CSS, and our success in following this vision, in my view, will be what sustains lasting support by our customers for achievement of our Vision and Mission.

These few examples may help better define *Context Sensitive Solutions* for you:

Day-to-day CDOT Operations
When we do shoulder sweeping on miles of various state highways to accommodate the thousands of bicyclists participating in the annual Ride the Rockies event, we are helping to enhance the values of those communities and groups involved. When our Maintenance crews painted the Colorado Boulevard bridge over Cherry Creek, we worked with the City of Glendale to make sure our efforts meshed with their desire to improve the area. We are being context sensitive when we add a crosswalk near a school and make it safer for children in that community. I'm sure that you can think of many of our other day-to-day activities that are similar to these, which support or enhance community values.

In order to be sensitive to community values as operators and maintainers of Colorado's highways, you have to first know them. That means those responsible for daily operations must spend some time learning what's important to the communities they work in.

CDOT Projects
As we scope, design and construct our projects we need to continue our history of finding *Context Sensitive Solutions.* For example, town and city leaders in our downtowns often feel that wider pavements limit pedestrian circulation. They fear that one side of the community may feel cut off from the other. Intersection "bump-outs" that bring sidewalks out to the edge of parking lanes, and color contrasting cross walks shorten and better define pedestrian movements, and may even allow better Americans with Disabilities (ADA) access. Decoratively paved and landscaped medians often can add aesthetic value to the community. Our designers and construction personnel worked closely with community groups on the US 6 bridge reconstruction and rehabilitation project near the gaming areas to make sure traffic delays were minimized. We worked closely with concerned groups on the Snowmass Canyon project to fit the road in, while preserving the natural beauty of the area to the largest extent possible. Our sensitivity to individual community visions is further evidenced along the Transportation Expansion (T-REX) project, where several local agencies requested different sound wall aesthetics that best fit into their respective communities. The examples go on and on.

Advancing capital projects that provide safe transportation solutions designed in harmony with the community is a bit complex. The first step is the need to identify a range of community stakeholders who can help us quickly understand the community's character before engineering work begins. We need to communicate with them in an open and honest way, early and

continuously throughout the development of each project in order to join our objectives with theirs.

We have a cadre of dedicated professionals experienced in many varied disciplines. Whether you are a designer, maintenance worker, planner, traffic engineer, real estate specialist, environmental manager, or in another discipline, please be assured that your knowledge is vital to what we do at CDOT. Your skills and ingenuity, together with the input received from our customers, helps us make outstanding and lasting contributions to Colorado's quality of life. Let's continue to make *Context Sensitive Solutions* our posture for all of our work.

Training
For the future, training will be set up for CDOT personnel, where much more detail will be provided regarding the CSS process and principles. The National Highway Institute (NHI) offers a three-day long Context Sensitive Solutions training session. CDOT may consider hiring a consultant to prepare and provide a CDOT-specific CSS training course. Our Center for Training and Organizational Development will be soliciting interest, setting up training sessions, and signing people up to attend. The expectation is that CDOT's Resident Engineers and Program Engineers will be the first group to be trained, followed by other planning, design, construction, and maintenance professionals.

Additional information relating to Context Sensitive Solutions is available at: **http://trb.org/news/blurb_detail.asp?id=1373** (National Cooperative Highway Research Program (NCHRP) Report 480: A Guide to Best Practices for Achieving Context-Sensitive Solutions) **http://www.sha.state.md.us/events/oce/thinkingBeyondPavement/tbtp.pdf** (Maryland DOT)