Context Sensitive Design / Context Sensitive Solutions (CSD/CSS)

Problem: There is a need for road designs tailored to fit the environments for which they are being built.
For many years, planning, design, and construction of highways and streets had been left mostly to the "professionals" – highway and traffic engineers. Selection of routes, the design of the alignment, location of intersections, and the roadway features were based primarily on engineering considerations, with the objective of providing the highest quality service at the lowest construction cost.

Beginning in the 1960s, strong cultural trends emerged. The general public began to have concern and interest in the adverse environmental impacts of man's intrusions on the landscape (including, but certainly not limited to road building).

The public also has begun to generate a renewed interest and concern with the cultural, historic, and other values that define a community. Americans have become more aware of their sense of place and history, both locally and regionally. Any changes to a community, whether to develop open space, tear down a long-standing building with unique architecture, or build a new road are now increasingly viewed as potential threats to that sense of place and the cultural fabric of the community.

Engineers trained to provide a certain quality of design using traditional approaches began running into resistance from the public and community interests. This occurred when highway projects were perceived as having clear, measurable adverse impacts on the communities through which they passed. No longer are the benefits of these "improvements" (faster travel times, greater safety, less delay) widely accepted or perceived as worth the costs in t e ms of right-of-way, community disruption, etc. No longer does the public unquestioningly accept the proposals of engineering professionals, regardless of how well thought-out they are.

Solution: Exercise more flexibility in highway design using Context Sensitive Design / Context Sensitive Solutions (CSD/CSS).
Context Sensitive Design (CSD) is among the most significant concepts to emerge in highway project planning, design, and construction in recent years. Also referred to as "Thinking Beyond the Pavement," CSD reflects the increasingly urgent need for DOTs to consider highway projects as more than transportation. CSD recognizes that a highway or road itself, by the way it is integrated within the community, can have far-reaching impacts (positive and negative) beyond its traffic or transportation function. The term CSD refers to as much an approach or process as it does to an actual outcome.

"Context sensitive design 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 design involves a collaborative, interdisciplinary approach in which citizens are part of the design team."

Successful Applications: States' Results Demonstrate Success
Montana
 SEQ CHAPTER \h \r 1The Montana Department of Transportation's (MDT) project to rebuild US Highway 93 through the Flathead Indian Reservation in Western Montana was the result of unprecedented cooperation between interests in the area. Through a series of negotiations, the two sides ended a 10-year-long stalemate by signing a Memorandum of Agreement (MOA) for the project.

State, tribal, and federal governments collaborated on design decisions for the project, and the design team included transportation engineers, environmental consultants, and landscape architects. Provisions in the design included re-routing portions of the highway around precious habitat, establishing wildlife crossings, and installation of cultural visitor centers. Instead of cutting across the landscape in a straight line, the reconstructed highway is designed to respond to cultural and natural resources and to give the driver a new perspective of the land and its inhabitants.

South Carolina
SEQ CHAPTER \h \r 1In October of 2002, more than 50 professionals involved in the South Carolina Department of Transportation's (SCDOT) preconstruction process came together for a three-day workshop on CSS. The University of Kentucky presented its CSS training course on the first two days of the workshop. SCDOT and FHWA were adamant that this be not "just another training course." As a result, on the third day of the workshop a nationally recognized facilitator was brought in to help put CSS to work on three of South Carolina's most controversial highway projects. Through a collaborative discussion, regulatory agencies and SCDOT were able to agree to certain CSS measures that should be employed on these three projects. The workshop was an important step as South Carolina continues to implement CSS.

Benefits

- Communication with all stakeholders is open, honest, early, and continuous.
- The purposes of the project are clearly defined, and consensus on the scope is forged before proceeding.
- The highway development process is tailored to meet the circumstances.
- The landscape, the community, and valued resources are understood before engineering design is started.

References

A Guide to Best Practices for Achieving Context Sensitive Solutions, NCHRP Report 480

Environmental Streamlining web site;
http://environment.fhwa.dot.gov/strmlng/index.htm.

For more information, contact:
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