

Kentucky Transportation Center Context-Sensitive Solutions State-of-Practice Survey of State Highway Agencies

Background

This survey was conducted in 2006 by the Kentucky Transportation Center (KTC) at the University of Kentucky as a requirement for a Federal Highway Administration study addressing Context-Sensitive Solutions (CSS) issues with an emphasis on CSS in construction. The survey was intended to determine the extent of implementation of CSS by states and examine specific CSS practices they employed.

A survey questionnaire was prepared in March 2006 by KTC researchers. It consisted of 50 yes/no and open-ended questions. While this appeared to require significant effort from SHAs for response, most of the questions were of the yes/no type and did not require extensive SHA input. The survey could be completed within two hours by a person knowledgeable in all aspects of a SHA activities related to CSS. If various parties within different SHA departments needed to provide input, the survey would take longer to complete and require some effort for identification of responders and transmittal of the survey.

The survey was to be submitted to all 50 states and the District of Columbia. Key contacts were sought in the various SHAs to receive the survey, complete it, or, if necessary, oversee its completion. Past KTC training provided to some 20 SHAs enabled KTC researchers to identify some appropriate SHA contacts. Other contacts were established through telephone enquiries to the remaining SHAs. The survey was distributed to the SHA contacts by e-mailings in February 2006.

Response to the survey was slow, perhaps because KTC researchers had not mandated a due date. In July 2006, after receiving few completed surveys, KTC researchers attempted to contact SHA officials receiving the survey for responses. In several cases, new SHA contacts were required. In others, the survey was being passed to various departments within SHAs to obtain the proper responses. Some SHA officials could not be contacted or did not respond to repeated KTC inquiries. Several SHA officials stated they were currently too busy to complete the survey, but would try to provide it in the “near future”. KTC researchers delayed completing the survey in the hopes that a greater number of responses would be obtained. By November 2006, KTC had received 35 completed SHA surveys—a 69 percent response rate (Table 1). The decision was made to close the survey and compile the available responses. Those are presented below.

This is a general (non-attributable) summary of state responses to the KTC questionnaire. For some questions, fewer than 35 responses are indicated as some SHA officials did not respond to every question. For questions where multiple-choice answers were provided, there may be more than 35 total responses as some SHAs selected multiple responses. After Question 5, there were no further questions for SHAs that had not yet adopted CSS. Those SHAs were asked to submit their responses for only the first five questions.

Survey Summary

CSS History/Experience

Most (29) of the 35 responding agencies indicated that they were moving towards or had formally adopted CSS. About two-thirds of the agencies responding indicated that they had adopted CSS within the past 5 years.

Policies/Procedures

Several agencies that had not yet adopted CSS stated that they already had effective public involvement or were employing flexible design. About three-quarters of the agencies that had adopted CSS did so as a consequence of internal decision-making while the remaining quarter had done so due to executive or legislative mandates. The agencies were split as to whether they had effective policies in place to employ CSS.

Most agencies investigated multi-modal options prior to project development and more than half responding said that their agency made travel mode decisions prior to project development. Over half of those developed projects employing other transportation modes in place of roads or to limit road size increases.

About 40 percent of the agencies had a sustainability policy derived by executive or legislative mandates. Most of those had developed a policy addressing sustainability. Some agencies employed sustainability actions on CSS projects.

Most agencies take public/stakeholder involvement/input into account in preparing purpose and need statements. Most use the purpose and need statements to guide project solutions and evaluate options.

Nearly all responding agencies require a public involvement plan for CSS projects to insure effective public participation.

About three-quarters of all agencies have working relationships with local governments and planning organizations (e.g. MPOs) that impact CSS implementation. More agencies cited relationships with resource agencies and stakeholder groups as impacting their CSS implementation.

Over half of the responding agencies said that the adoption of CSS had resulted in changes in their project development processes.

Most agencies had encountered difficulties related to internal revisions to agency project commitments made by other departments. Responses indicated that part of the problem might be attributed to some agencies' lack of a mechanism to track those commitments. However, most agencies involved their construction and maintenance divisions with project commitments in some manner.

Most of the agencies were using CSS in conjunction with other practices to expedite overall project delivery. Many of those actions were supported by agency policies.

Most agencies stated that they did not cap project costs or work to specific cost figures based upon unit costs (e.g. \$/lane mile). Over half of the responding agencies stated that they did not cap the cost of enhancements. Most agencies stated that they managed public expectations related to projects (a possible cost-containment measure).

Most responding agencies used visual aids to inform the public about projects/features (e.g. visualization, renderings, etc.). All of them found visual aids to be effective in promoting public understanding of projects.

Most the responding agencies worked in multi-disciplinary teams. More than half of them applied CSS to all projects.

About half of the responding agencies have a program or set of practices to support CSS in construction.

Most of the agencies track both environmental and project commitments. Most inform contractors of those in the letting process with the majority doing so in pre-bid meetings.

To inform contractors of commitments they use plans, special notes, specifications, permits, pre-construction conferences and field oversight. Only a few agencies have CSS qualification requirements for contractors.

Over three-fourths of the agencies involved their maintenance/operations officials in project decision-making. They varied on when and how this was done during project development.

Most agencies seek to involve local governments with maintenance of CSS features along roads. About half of the agencies perform special/more attentive maintenance of CSS features they employ on projects.

Only a few agencies have established CSS performance measures. About one-third of the agencies perform post-project audits of CSS commitments. Of those doing so, all of them conducted audits on a project-specific basis with over half of those evaluating the results statewide.

More than half of the responding agencies used continuous improvement to enhance their CSS processes/practices.

Manuals/Training/Technology Exchange

Less than half of the agencies had comprehensive CSS manuals. The responding agencies were split on their potential benefits. Over half of the agencies provided CSS training for agency personnel, stakeholders, consultants and contractors. About the same number of agencies

provided training for contractors/agency personnel related to compliance with environmental/project commitments.

Over half of the agencies share CSS information/experiences with sister agencies. Typically, those exchanges take place through AASHTO.

About one-third of the agencies worked with universities to promote CSS training to engineering students.

Problems/Concerns

Most of the agencies provided concerns/problems they were addressing related to CSS. Those included: stakeholder demands, concerns over cooperation with stakeholders, and a lack of effective CSS training for agency personnel.

Over half of the responding agencies had liability concerns in employing CSS. Most indicated that their personnel understood potential liability issues. Only one agency indicated that it had experienced legal issues for using CSS principles or flexible design.

Benefits

Most of the responding agencies stated that they had benefited from employing CSS while few saw no benefits. The benefits included early problem resolution, better relationships with stakeholders/public, reduced project development time and the ability to complete projects. Over half of the responding agencies indicated that using CSS had not increased project costs. Those indicating cost increases cited public involvement as the source of increased costs.

The questions and agency responses are presented in the Appendix in edited form.

Appendix: Response Summary by Questions

CSS Status

1. Characterize your agencies position regarding the implementation of Context-Sensitive Solutions on a 1-10 scale with 1 indicating not interested/involved, with 6 indicating you're your agency is planning to adopt CSS in the future, and 10 indicating your agency has used CSS for at least one year with policies and training for employees firmly in place. **33 SHAs Responding**

<i>Rating</i>	<i>No. of SHAs Responding</i>
3	1
6	1
7	6
8	9
9	7
10	7

2. How many years has your agency fully implemented CSS? **29 SHAs Responding**

- 1 Yrs – 5 agencies
- 2 Yrs – 4 agencies
- 3 Yrs – 5 agencies
- 4 Yrs – 1 agency
- 5 Yrs – 7 agencies
- 7 Yrs – 2 agencies
- 10 Yrs – 1 agency
- 14 Yrs – 1 agency
- 20 Yrs – 1 agency
- 24 Yrs - 1 agency
- For Many Yrs – 1 agency

Policies/Procedures

3. If your agency is planning to adopt CSS, do you have any CSS-related activities currently in place (e.g. public involvement, flexible design, etc.)? **8 SHAs Responding**

Responses *Yes – 7 No – 1*

Activities Currently in Place: Public Involvement (2)
Flexible Design (1)

4. If your agency has implemented CSS or plans to implement it, is that in response to an executive order or legislative mandate? **29 SHAs Responding**

Responses *Yes – 7 No – 22*

5. If your agency has implemented CSS, are the necessary policies and procedures in place or are additional ones needed?

Responses *Yes (Current ones are sufficient) – 12* *No (Additional ones are needed) - 14*

If yes, what further policies/procedures are needed, what issues would they impact?

- *We will know better once we get further into it.*
- *Some are in place, but more direction and guidance are needed.*
- *Procedures for implementations/guidance on appropriateness & feasibility.*
- *Policies are constantly reviewed to meet changing laws, updated practices, and cost considerations. This includes refining/updating ADA requirements, to meet revised national policies and reviewing cost participation on certain items of work (i.e. pedestrian lighting).*
- *Upper management "buy - in" and advocacy statewide is a question or concern that can affect lower level parishioners we could use more top on down directives.*
- *Need the final supporting Policy Statement which gives teeth to the CSS effort and allows for further integration of CSS philosophy. We have a CSS guidance document, but no formal policy statement.*
- *At _DOT, we have added sustainability to CSS to create CS3: "Context Sensitive and Sustainable Solutions".*
- *_DOT's Guide to Context Sensitive Solutions" is under development.*
- *Policies may be needed if CSS was not being addressed adequately.*
- *_DOT may typically begin with a standard design, but as public involvement begins and concerns are heard, decisions are made based on B/C to the landowners and traveling public.*
- *Any CSS commitments are documented in the scope or design process.*
- *Multidisciplinary teams.*
- *Current _DOT strategic direction is sufficient for _DOT to implement the CSS philosophy on most projects. High level (Legislators and Transportation Commissioners) political acceptance thru mandate may be necessary to get 100% completely in support of _DOT's CSS philosophy.*

6. Does your agency choose among travel modes prior to project development?

Responses *Yes – 16 No – 10*

7. Does your agency investigate multimodal options prior to project development?

Responses *Yes – 24 No – 4*

If no, when are such decisions made? **10 SHAs Responding**

- *Usually early in the design process after project development has started.*

- *During development.*
- *Bike/Pedestrian needs are considered in agency design phase. Transit is generally considered at Planning (MPO/RPO) phase.*
- *We have just restructured our early planning process to make this a more common practice.*

8. Has your agency developed projects where other modes were employed in place of roadways or to limit their size?

Responses *Yes – 10 No – 16*

9. Does your state government have a general policy on sustainability resulting from an executive order or state mandate?

Responses *Yes – 11 No – 15*

10. Does your agency have a policy addressing sustainability?

Responses *Yes – 10 No – 16*

If yes, what is that policy and how is it applied to project development? **7 SHAs Responding**

- *Our agency has many sustainability policies, here's a quote from one: "The Department advocates community design (e.g., urban infill, mixed use, transit oriented development) that promotes an efficient transportation system and healthy communities."*
- *Project Development & Environmental Guidelines and Plan Preparation Manual.*
- *CSS must be used on all projects whenever feasible if given by executive order from the Governor.*
- *Sustainable resources.*
- *New policy language addressing sustainable is included in the agency's Transportation Plan (high-level multi-modal policy and planning document). This has not yet filtered down into modal plans and transportation system plans, so is not yet directly applied to project development. __DOT is currently developing a holistic and integrated sustainability program for the department, and in the coming years the department will more formally and comprehensibly integrate sustainability into project development decisions.*
- *Included in the introduction of agency's guide.*
- *__DOT's Design Policy Memo addresses sustainability of a 20- year life cycle for highway projects.*

If yes, are sustainability decisions incorporated with those involving CSS? **8 SHAs Responding**

- *It is the Department's goal to implement CSS on every project, so yes, so when sustainability decisions are an issue they are part of the CSS process.*

- *Yes (2)*
- *Not at the moment but that is an initiative with the guidance documents we have under development and which should be available by the end of May this year.*
- *Rarely, it really only applies to more traditional sustainability practices (recycling, energy, etc.).*
- *Yes, __DOT's CS3 (Context Sensitive and Sustainable Solutions) approach to the OTIA III State Bridge Repair Program integrates sustainability and context-sensitive solutions. This approach will be transferred from the bridge program and folded into the regular STIP cycle in the coming years.*
- *CSS is also a Design Policy Memo.*
- *Even though we do not have a policy, sustainability concerns are usually addressed in our project development process.*

11. Does your agency prepare a purpose and need statement that takes into account public and stakeholder involvement/

Responses Yes – 23 No – 3

12. Does your agency use the purpose and need statement to actually guide project solutions and compare options?

Responses Yes – 23 No – 4

13. Does your agency require a public involvement plan for CSS projects to ensure effective stakeholder participation?

Responses Yes – 23 No – 2

14a. Do your agency's working relationships with local governments and MPOs related to project programming have an impact on CSS implementation?

Responses Yes – 21 No – 6

b. Do your agency's working relationships with resource agencies/stakeholder groups impact the implementation of CSS?

Responses Yes – 24 No – 3

15. Have there been any changes in your agency in the project development process to accommodate CSS? (Include creating new positions/hiring new personnel)

Responses Yes – 16 No – 11

16a. Has your agency encountered internal difficulties related to project revisions between planning and design or design and construction that impact CSS-related commitments?"

Responses *Yes – 18 No – 9*

b. Does your agency have formal procedures to track CSS-related commitments made in planning and design through the construction phase?

Responses *Yes – 9 No – 16*

17. Does your agency involve the construction division with CSS-related commitments?

Responses *Yes – 23 No – 3*

18. Does your agency involve the maintenance division with CSS-related commitments?

Responses *Yes – 20 No – 6*

19. Is your agency using CSS in conjunction with other practices (e.g. environmental streamlining) in a proactive manner to expedite project delivery?

Responses *Yes – 19 No – 6*

If yes, what environmental initiatives is your agency employing? **16 SHAs Responding**

- *Context sensitive solutions are part of the environmental process. Environmental streamlining processes have been (and continue to be) developed in conjunction with the FHWA to expedite project delivery.*
- *Agency has an on-line resource to help state and local agency staff plan, prepare, submit, and evaluate environmental documents for transportation projects and following them expedites the review and approval processes and concurrence by reviewing agencies.*
- *MATE Process- Mid Atlantic Transportation Environmental Streamlining Process*
- *Efficient Transportation Decision Making Process (EDTM)*
- *SHA has a streamlining process agreement which allows SHA to perform certain planning and preliminary engineering functions provided the proposed actions are one of a list of pre-approved activities.*
- *Early permitting processes. Partnering with the environmental agencies*
- *CSS is an environmental and project development streamlining tool.*
- *Literally hundreds. We have database of initiatives that are employed throughout the Department. Most notably, we have an Environmental Stewardship Policy and an Environmental initiative Inventory database, Division Environmental Officers, New Office of Environmental Quality, etc.*
- *Environmental programmatic permitting; mitigation banking.*
- *Linking Planning and NEPA, Project Delivery Streamlining, Restructure agency coordination meeting process.*

- *Scope and public involvement would be done typically along with the NEPA process which may or may not include CSS with a project.*
- *Restructured early project development process and interagency agreements and more involvement with locals through MPOs and RPOs early in process.*
- *Environmental stewardship, Environmental streamlining, and beginning linking NEPA to planning.*
- *Integrated natural resources and other community concerns.*
- *Environmental Management Systems, Green Highways Initiative.*
- *Programmatic agreement with outside agencies. Also the use of agency liaisons.*

If yes, what policies/actions are in place to support those? **12 SHAs Responding**

- *Environmental processes established and implemented through both Preconstruction Manual guidance and Environmental Manual guidance.*
- *_____ has many policies related to the environment. One is our Environmental Policy, which states, among other things: "The Department evaluates the environmental benefits and consequences of its activities and implements practices that minimize environmental impacts."*
- *Efficient Transportation Decision Making Process (EDTM)*
- *Our highway project develop process guidance (hpdp)*
- *Environmental Design Directive*
- *Environmental Stewardship Policy. Development of an Environmental Management Plan (strategic plan for the environment)*
- *Policies/guidelines in the OTIA III Bridge Program*
- *Community Impact Assessment policy, Project Delivery Process Handbooks*
- *We follow the NEPA process.*
- *Public involvement process policy.*
- *By executive order*
- *A policy entitled "Context Sensitive Design"*

20. Does your agency limit/cap project costs?

Responses *Yes – 12 No – 16*

21. Do you have a cost figure that your agency works to (in terms of \$ per lane mile, etc.)

Responses *Yes – 4 No – 25*

If yes, give an example. **6 SHAs Responding**

- *The costs are determined throughout the project development phase, there is a 5% limit on esthetic features. The other elements of CSD may add project cost.*

- *Depends on facility whether Interstate, NHS, or State and scope of work- (recon, rehab, or new, or maintenance).*
- *We have an average cost per mile, but we don't typically scope projects to stay within a certain dollar amount. Scope of work is depended on Purpose and Need. If funding is not available for the recommended scope of work, improvement types may be sequenced to do minimal improvement (i.e. pavement overlay) now and the major improvement (i.e. reconstruction) later when funding is available based on other needs in the state.*
- *This explanation is for Question 20. Of course, we have a Project Cost Budget. All projects have a budget! (nothing to do with CSS - just good Project Management and any DOT that does not have project budgets should be dissolved!!)*
- *We have planning/construction estimate guidelines, but they are not values that arbitrarily limit project cost.*
- *On average paving costs run \$x/mile. That gives us a ballpark number. When we get significantly higher or lower costs, we look at why. \$400,000 per lane mile which means a two lane roadway would cost \$800,000 per lane mile.*

22. Does your agency have a cap on enhancement costs or have a policy to determine acceptable enhancement costs?

Responses Yes – 11 No – 15

23. Does your agency try to manage public expectations related to projects?

Responses Yes – 25 No – 3

24a. Does your agency use visualization, simulations or models on a routine basis to promote public understanding/support of projects?

Responses Yes – 21 No – 6

b. Have these tools proved to be effective?

Responses Yes – 24 No – 0

25. Does your agency work in teams on CSS projects?

Responses Yes – 24 No – 3

If yes, are the teams multi-disciplinary?

Responses Yes – 24 No – 0

26. Does your agency use CSS on all projects?

Responses *Yes – 15 No – 12*

27. Does your agency have a program or a set of practices to promote context-sensitive construction?

Responses *Yes – 13 No – 14*

28 Has your agency established a method for tacking environmental commitments and other project commitments made to the public/stakeholders?

Responses *Yes – 18 No – 9*

29. Has your agency established a method of informing contractors of those commitments during the letting process?

Responses *Yes – 20 No – 6*

In pre-bid meetings?

Responses *Yes – 14 No – 6*

30. How does your agency familiarize construction contractors/personnel with environmental/project commitments? **20 SHAs Responding**

- *Through the project plans and specifications (3)*
- *Prior to beginning construction, the resident engineer is to review all permit requirements & environmental commitments with the district's environmental office and these are to be discussed with the construction contractor at the preconstruction conference and reviewed in the field.*
- *___ DOT lists those commitments in the contract.*
- *Through Notice to Contractors in the specifications and conditions in permits.*
- *Our Construction personnel are involved in the design reviews and decisions. They direct the contractor accordingly.*
- *Through the permitting process. Permit requirements are placed within the contract documents.*
- *In the Plans, Special Provisions, Permits and Pre-Construction Conferences (and in workshops).*
- *Through environmental documentation in which the construction oversight personnel would have participated/been aware and through personal contacts during plan development.*
- *Special provisions in the plans package and discussions at Pre-Construction meetings.*
- *Through plan documents, field visits and environmental oversight during construction.*

- *Preconstruction meetings in the field with environmental officers, and "green sheets" in plans.*
- *Special provisions are added to the contracts, plans and specifications to outline what is expected of the contractors.*
- *Mandatory pre-bid meetings & follow up training for CS3 Certification (OTIA III Bridge Program).*
- *Contract Special Provisions developed from Mitigation Reports, pre-bid meetings.*
- *Pre-bid meetings and supplemental specifications to the contract*
- *Plan notes.*
- *Usually through the contract documents themselves and specific environmental permits. Some training in executive storm water management/erosion control activities is also provided.*
- *Each of our regions has specific staff that is responsible for this.*
- *Through training.*
- *Through pre-construction meetings.*

31. Does your agency have contractor qualification requirements that address context-sensitive construction issues?

Responses *Yes – 3 No – 23*

32. Does your agency involve its maintenance/operations officials in project decision-making?

Responses *Yes – 20 No – 5*

If yes, when are they brought into the process? **17 SHAs Responding**

- *That depends on the project. Maintenance is involved throughout preventive maintenance projects. New construction/reconstruction/rehabilitation, typically involve maintenance at startup and various review stages. If it is a very simple signing type project they may not be involved at all.*
- *The agency guidance states that maintenance and operations personnel involvement from conception through construction in the project development process is essential.*
- *At various stages of project development (2).*
- *Through design reviews and pre-design meetings.*
- *During the design process; they are included in the plans reviews (30%, 60%, 90% & Final).*
- *They are a member of the design team and are encouraged to participate in all milestone reviews.*
- *Part of scoping team and part of project reviews.*
- *Not consistently-it depends largely upon the district project manager and personnel. Limited amount and depends on particular circumstance of the project; projects are discussed during development with personnel having*

overlapping areas of responsibility between planning, construction, & maintenance even though there is not a formal process.

- *District Maintenance personnel are involved in project nomination and they participate in plan reviews throughout the project development.*
- *As a member of the Project Development Team.*
- *Scoping, Design Field View stage, Final Design Office meeting, other project specific special meetings.*
- *During the initial phase of the project development process by way of a multi-disciplinary scoping meeting to "kick -off" the project.*
- *During the Scope process field personnel are included in the decision making as projects are added to the STIP so the correct improvement is done based on identified needs.*
- *Late in the (project development) process though this is something we want to change.*
- *We have multi-disciplinary teams on all or our projects. Depending on the project, Maintenance is brought in during the Environmental Phase sometimes, Plan-In-Hand Phase sometimes, PS & E Phase sometimes. Maintenance is actively involved in Project Development on a project by project basis.*
- *Usually at project scoping. They become a member of the project development team.*
- *They are on automatic player at the decision making table.*

33. Does your agency seek to involve local governments in routine maintenance of context-sensitive features along roadways or in maintaining specific project enhancements (e.g. via MOUs)

Responses Yes – 24 No – 4

34. Does your agency employ special maintenance procedures on projects employing context-sensitive features (or more attentive maintenance)?

Responses Yes – 14 No – 13

35. Has your agency established performance measures for evaluating the implementation/benefits of context-sensitive initiatives on projects?

Responses Yes – 4 No – 22

If yes, what procedures/guidelines are used? **8 SHAs Responding**

- *The agency is currently conducting a study to quantify how design factors promote traffic calming and other safety-related changes in driver and pedestrian behavior, add economic value to areas adjacent to highways, affect safety, utilizing accident data and the associated economic factors.*
- *Through out Project Evaluation Team projects are reviewed.*

- *We do customer service surveys in local jurisdictions to assess project success. SHA business plan also addresses components of CSS.*
- *Working on them.*
- *We have recommended them but they were not adopted due to concerns regarding time commitments for measurement.*
- *We are just now beginning to develop (would love any thoughts on it).*
- *CS3 guidebook, CS3 Framework (OTIA III Bridge program).*
- *Public Involvement Plans for each and every project, Project Managers, Region Directors, and many others have CSS commitments in their personal Performance Plans.*

36. Is post-project auditing of CSS commitments performed by your agency?

Responses *Yes – 8 No – 20*

If yes, who performs it? **8 SHAs Responding**

- *Design, construction, and maintenance staff perform several types of reviews on projects during construction for streamlining future projects, this includes review of commitments made with internal & external stakeholders during planning and project development.*
- *In-house personnel within our engineering office. The project evaluation Team (PET) performs the evaluations which include stakeholder questionnaires.*
- *Performed by design and construction personnel.*
- *Only informally and inconsistently if it is done it is done by a project manager or project landscape architect.*
- *We have consultants monitor our wetland mitigation sites. Other commitments are audited more informally by the designers or district personnel. Local stakeholders also perform follow-up audits and give us feedback (positive and negative).*
- *Consultants and __DOT program management staff.*
- *Independent Oversight Program performed in cooperation with FHWA and Bureau of Design.*
- *Project Managers, Resident Engineers, Public Involvement Coordinators (PIC's) and Environmental Supervisors ensure all commitments, including CSS commitments are performed.*

If yes, are those evaluations considered on a project specific basis?

Responses *Yes – 8 No – 0*

If yes, is there an attempt to evaluate them on a program (state-wide basis)?

Responses *Yes – 5 No – 4*

37. Does your agency hold internal meetings or other formalized processes to discuss CSS activities/potential improvements (i.e. continuous improvement)?

Responses *Yes – 18 No – 9*

Training/Information Exchange

38a. Does your agency have a comprehensive CSS guidance manual?

Responses *Yes – 7 No – 19*

If no, would your agency benefit from a comprehensive guidance manual?

Responses *Yes – 9 No – 9*

b. If a CSS guidance manual would be beneficial, which of the content areas would be of interest? **15 SHAs Responding**

1. *Project development process – 15*
2. *Public and stakeholder involvement – 15*
3. *Design and solutions – 14*
4. *Safety and liability – 13*
5. *Addressing environmental issues – 14*
6. *Involving agency construction and maintenance – 14*
7. *List others/comments*
 - *Tools for stakeholder ID & involvement at all phases of planning and project development; development of complete & cross functional multi-disciplinary projects; development teams in planning & project development; connecting planning & project development processes more effectively.*
 - *Building context for the project area - we are currently working with a university that is developing guidelines for our use in this area under the CSS Bureau Chiefs guidance in Planning, Development/Design, Construction, Maintenance and feedback and marketing of CSS.*
 - *Planning and NEPA*

39. Does your agency offer context-sensitive training (introductory or advanced) for agency personnel, consultants or stakeholders?

Responses *Yes – 18 No – 10*

40. Does your agency train/involve consultants and contractors with CSS-related practices?

Responses *Yes – 17 No – 8*

41. Has your agency developed training for contractors/agency personnel related to compliance with environmental/project commitments?

Responses *Yes – 18 No – 10*

42. Does your agency partner with other state highway agencies to share information/experiences about CSS?

Responses *Yes – 17 No – 10*

If yes, what types of forums are used for information exchange? **14 SHAs Responding**

- *E-mail, websites, phone calls, awards programs, conferences, trainings, magazine articles.*
- *Surveys such as this one.*
- *University of _____ Outreach - Thinking Beyond the Pavement*
- *AASHTO*
- *We share case study examples on specific projects. We receive survey requests. We respond to specific information requests regarding both process and product related items.*
- *Training, Workshops, Peer Exchange, Functional Group Meetings and forums.*
- *Most common form of exchange is the various AASHTO meetings. We also held the 2005 WASHTO conference which included presentations on CSS. We held a "Thinking Beyond the Pavement" Workshop in conjunction with a CSD conference in 2001 that was open to all interested parties, including other states.*
- *AASHTO Environmental Design Committee and other personal contacts.*
- *We are partnered with the Center for _____ at _____ University. We work with them regularly to provide recognition and assistance to others.*
- *AASHTO Regional Meetings, ad-hoc meetings/requests for information.*
- *AASHTO, NASTO*
- *Conferences, Peer Exchanges*
- *Local and national conferences. Recently partnered with state transit authority and provided a CSS panel discussion and Presentations at RAIL VOLITION.*
- *AASHTO, Green Highways Initiative*

43. Is your agency working with in-state universities to promote the instruction of CSS to engineering students?

Responses *Yes – 11 No – 17*

Problems/Concerns

44. If your agency has implemented or is implementing CSS, what are the major concerns/problems you are addressing? Check appropriate categories and add any others that you feel apply. **31 SHAs Responding**

<i>Issue</i>	<i>No. of SHAs Responding</i>
<i>a. Manpower to perform CSS project development</i>	<i>10</i>
<i>b. Adequate funding for projects</i>	<i>11</i>
<i>c. Guidance related to liability issues</i>	<i>10</i>
<i>d. Procedures/techniques to address CSS issues</i>	<i>11</i>
<i>e. Effective training for staff and consultants</i>	<i>16</i>
<i>f. Extra time necessary to develop projects using CSS</i>	<i>10</i>
<i>g. Cooperation with other stakeholders including local governments and planning organizations</i>	<i>15</i>
<i>h. Concern over stakeholder demands/expectations</i>	<i>18</i>
<i>i. Others (List)</i>	
• <i>Management support for CSS principles/processes (2)</i>	
• <i>Different opinions by stakeholders & DOT on success</i>	
• <i>Creating buy-in across the DOT</i>	
• <i>Adequate performance measures for CSS</i>	
• <i>No concerns</i>	

45a. Does your agency have liability concerns due to/as a result of implementing CSS?

Responses *Yes – 15 No – 10*

b. Do the relevant personnel in your agency possess a reasonable degree of understanding of issues related to liability and flexible design?

Responses *Yes – 18 No – 7*

c. Has any legal action been taken as a result of using CSS principles or flexible design?

Responses *Yes – 1 No – 23*

Benefits

46. Have there been any benefits experienced? (e.g. less public opposition to projects, reduced project development time....)

Responses *Yes – 23 No – 3*

If yes, give an example. **18 SHAs Responding**

- *Many project managers/designers have given testimony that early public involvement in their projects actually makes project delivery more efficient by solving the problems early before they become bigger issues later.*
- *More aesthetically pleasing projects, better buy-in from affected parties. CSS promotes stake holders and earlier involvement which makes the process easier.*
- *By involving all the stakeholders and making them a part of the process we get better buy in for the project and process.*
- *Stronger working relationships. More community pride in the projects. Community commitment to maintain amenities.*
- *Increased trust and improved relationships, more projects with balanced success resulting from applying more flexibility in design, avoidance of rework cycles and rework costs.*
- *The ability to make commitments during the environmental clearance phase that are valid through design/construction/maintenance has gained trust & promotes positive collaborations with the stakeholders which enhances a successful project development effort.*
- *The most prominent set of projects with CSS could not have been constructed without incorporating CSS.*
- *The projects were opposed by Tribal leaders and were held up in the NEPA process until DOT coordinated and cooperated using CSS techniques. Projects that were stalled went to construction after we restated the development process using CSS techniques and methodology.*
- *But the benefits are difficult to measure because of the lack of good data (including performance measures)*
- *The public seems to be more in tune with a project if they are involved and seem to have a say in what goes into a final project. Programmatic environmental permitting - worked with all natural resource agencies to streamline permitting process for entire _____ bridge program.*
- *Significantly reduced length of project development; project bundling also reduces length of project development; increased public involvement (tier assessment process) has reduced public opposition to projects - received early buy - program goals such as hydraulic opening and fluvial performance standards.*
- *Less public opposition when the typical section has been modified to utilize narrower lanes, narrower medians, and landscaping thru residential/developed corridors.*
- *Less public opposition.*
- *Overall improvement in public trust and satisfaction measured by statewide customer surveys.*
- *The ___ project is one project where public support for the project improved and grew thru the implementation of the CSS philosophy during planning (environmental document), design and construction.*

- *On some high profile projects there has been less public opposition because of more demonstrable opportunities for public input to create value for the projects.*
- *Reduced project development time, smoother transition from planning to design and construction.*
- *It has required less energy to arrive at an agreeable solution. There is a spirit of cooperation versus the spirit to do battle.*

47. Has there been a change to your agency's overall CSS project costs?

Responses Yes – 9 No – 15

If yes, give an example. **4 SHAs Responding**

- *Public involvement cost*
- *_DOT's basic approach to finding a 'solution' during a transportation study involves a great deal of public involvement and search for ways to avoid/minimize impacts. We often include flexible design, design treatments, and such as a part of a 'Commitment Sheet' linked to use of Federal funds.*
- *Planning studies: Transportation System Plans, Transportation Growth Management Studies, Refinement Studies, Access Management Plans, Traffic Mobility/Traffic Control Plans, Project Teams with multi-disciplinary and local government members, Flexible design.*
- *_DOT has a Public Involvement Plan created for significant projects. This plan involves identifying public involvement team members and the tools we use to outreach to the public. This plan could involve project initiation ads, project if brochures, survey flags, 800 numbers, internet webpage, mailing lists, newsletters progress bulletins, fliers, project posters, public service announcements, radio spots/interviews, press releases, church contacts, CAD visualizations, or other project videos.*

General/Survey Comments

48. Please provide any other comments you feel would be beneficial to share with other states implementing or considering implementation of CSS. **10 SHAs Responding**

- *Building context for the project area - we are currently working with a university that is developing guidelines for our use in this area under the CSS Bureau Chiefs guidance in planning, development/design, construction, maintenance and feedback and marketing of CSS.*
- *How do other states resource planning and project development processes to ensure adequate stakeholder involvement? How much or how little stakeholder involvement is enough? How do other states develop effective cross-functional project development teams?*
- *Communication and training of stakeholders would inform them that CSS does not mean the designers will do whatever the public wants.*

- *Implementing CSS involves an organization culture change. It takes time and commitment. It requires a multi-disciplinary approach and needs to include stakeholders at the earliest stage. Measurement will be the key to success. If measurements are only done by the end result then CSS will be difficult.*
- *Comprehensive training is the most important thing you can develop, deploy and continually build upon to make a difference. It must be comprehensive and interactive to apply lessons learned.*
- *Adequate training and documentation in design manuals is essential to full implementation of CSS. Although we have a policy in place to implement CSS, not all designers are aware of the many nuances of CSS.*
- *Before CSS or CS3 can be fully successful, it has to be embedded into the project decision making process at every level for every discipline.*
- *Formalize and maintain a communication bridge between Planning agencies and Design*
- *Meet with interested parties of the project early and get their input on purpose and need BEFORE scoping. Then, CSS is natural and can be negotiated better.*
- *You must have multi-disciplinary teams on projects in order to implement CSS. You must involve the public. They are a cornerstone of the CSS philosophy. CSS is NOT a line item on a project. It is NOT an aesthetic add on.*

49. Please provide any additional comments or questions you may have. **8 SHAs Responding**

- *Context Sensitive Solutions have been required on all FHWA projects since 1970 as part of the required environmental/public involvement processes. Environmental training that includes public involvement is offered for our agency personnel as well as private consultants and contractors. Nearly all of our projects are federally funded and our few non-federal projects typically follow the environmental/public involvement requirements of federally funded projects, so all projects are CSS.*
- *Some question alluded to CSS as an add-on or not applicable to all projects (e.g. # 33 & 34: "CSS features"). CSS is stakeholder involvement, it applies to all projects, it isn't a synonym for enhancements that "cost more" - it is a process, which if done correctly, can save money by addressing stakeholder issues early thereby avoiding costly rework later. # 45 is misleading, CSS doesn't lead to liability-bad engineering judgment does.*
- *Questions 11 and 12 are both yes, but this yes really applies to major types of projects, such as capacity improvements, that go through a higher degree of project development. The yes probably does not apply to most 3R projects.*
- *As a point of information not included in the survey, ____ DOT has utilized portions of what's considered CSD/CSS for some time now. We are in the process of "formalizing" these practices with the creation of a web-based CSD/CSS guidance manual and website. We are in the final stages of the*

effort and it should be up and running within the next month or so. Please feel free to contact me if you have any questions.

- *The __ DOT adopted its CSS Policy on August 1, 2005. The Department has completed the implementing procedures for the division of highways and is working on procedures for the Division of Aeronautics, the Division of Intermodal and Public Transportation, and the Office of Planning and Programming. We have developed three training course over the past year, a half-day Awareness Class for supervisors, a two day Approach Class for staff that work on CSS projects, and a half-day class for local agencies. The local agency class begins this month, the Awareness class begins in May, and the Approach class in July. Communication and outreach are continuing with two state wide general stakeholder meetings in May. Our __DOT CSS website is being updated continually also.*
- *Comment to # 38: We don't have a comprehensive CSS guidance manual, but guidance materials and policies are in place, see: www.sha.state.md.us/businessWithSHA/projects/ohd/Mainstreet/MainStreet.pdf. Comment to # 40 we don't have formal training for consultants and contractors. However, they conduct 85% of our work and through SHA management of its program they receive on-the-job training, including CSS training. Comment to # 43: Numerous internship opportunities are available for students.*
- *Some questions are difficult to answer. __DOT does not have legislation or Executive Order, however its efforts were initiated as a result of an Executive Directive. We are currently conducting awareness training and have presented to various other municipal agencies and the Consultant Engineers Community. We have trained over 600 department staff and will continue our training programs. A team of 65 stakeholder organizations were directly involved in our policy development.*
- *It should be noted that a lot of CSS can be equated to good engineering. Much of what we do daily in designing a reconstruction project involves CSS, but it is not necessarily called CSS. We look at various alignments to avoid or minimize impacts on environmentally sensitive areas, we include sidewalks or bike paths as appropriate, we review our projects in the field with proposed plans in hand to determine how a proposed realignment or new bridge will look, and we involve the public.*
- *We are currently working to transform CS3 knowledge from the OTIA III Bridge Program into __DOT mainstream. Decisions are pending regarding the level of implementation. We have been using the Flexibility in Highway Design manual for CSS for 9 years on __DOT projects. CSS is a basic approach to the transportation planning activities in the State. __DOT partners very closely with local government, the public, the business community, and other stakeholders in planning studies that identify potential transportation solutions before projects are programmed. Once projects are programmed, Project Teams are established with members from various __DOT disciplines and local government.*

- *The survey was pretty good, but it could have provided more "explanations or If Yes" to improve the responses. At times, the questionnaire seemed to treat CSS as a line item.*
- *This survey seems to imply that CSS projects are different in their scope. We believe that CSS is more of a process than an outcome. If the process is applied as a matter of practice, then all projects are CSS.*

Table 1. State Highway Agencies Responding to the Kentucky Transportation Center Context-Sensitive Solutions Survey

Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
Florida
Georgia
Hawaii
Illinois
Indiana
Maryland
Michigan
Minnesota
Mississippi
Montana
New Hampshire
New Mexico
North Carolina
North Dakota
Ohio
Pennsylvania
Rhode Island
South Carolina
South Dakota
Tennessee
Utah
Virginia
Washington
Washington, D.C.
Wyoming