Bell, Tammi [DOT]

From: Bell, Tammi [DOT]
Sent: Tuesday, January 22, 2008 2:36 PM
To: Bell, Tammi [DOT]
Subject: Work Zone Visualization Project Survey

TO: County Engineers, City Representatives, and Consultants
Tammi Bell Iowa DOT - Local Systems tammi.bell@dot.iowa.gov

CC: District Local Systems Engineers, Service Bureau
Kelly Strong, Tom McDonald, and Office of Local Systems

FROM: Office of Local Systems

SUBJECT: Work Zone Visualization Project Survey

DATE: January 22, 2008

Included with this e-mail is a Survey Questionnaire regarding the use of simulation and visualization software to improve work zone safety and mobility for highway reconstruction projects. The survey is a Microsoft Word document that allows you to insert your survey responses directly in the document. Once you have completed the survey, save it to your computer. You can return the completed survey as an attachment to an e-mail to Kelly Strong at kstrong@iastate.edu

If you have problems opening the link to the work zone simulations, or have questions about the survey, please contact Kelly at 515.294.1460 or e-mail kstrong@iastate.edu

Please do not hit the reply option in your e-mail note.

Thanks

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Mailings are available at the Local Systems Weekly Mailing web address
http://www.iowadot.gov/local_systems/mailing/main_mailing.htm

Work Zone Visualization Project Survey

A research team from the Center for Transportation Research and Education at Iowa State University is interested in your opinions regarding the use of simulation and visualization software to improve work zone safety and mobility for highway reconstruction projects. The following survey will take 10-15 minutes to complete, including the time required to watch the short simulations described below. We know that time is your most valuable asset, and we appreciate your assistance in helping us understand the feasibility of using simulation and visualization software in transportation planning, design, and construction.

Prior to completing the survey, please follow the link below to view three work zone simulations, each of which is configured for three hypothetical construction stages. In each stage, roads are closed in different locations due to construction activity. In the Drive Through boxes (top left and right), you can start the simulation simply by clicking the PLAY button. The top left Drive Through represents good weather conditions; the top right shows same work zone in poor weather conditions. The box at the bottom of the page shows a Map View which the user can pan and zoom for different 2D visualizations.

When you have viewed the simulations and visualizations for each of the three stages, close the simulations window and complete the survey below.

Thank you very much for your time and assistance with this project.

Link to simulations: http://manop.public.iastate.edu/vis/

Part 1: Background information

1) What is your title?
   - _____
2) How long have you worked in the highway design and construction industry?
   - _____ years

Part 2: Computer and Software Usage

3) How often do you use a computer as part of your primary job responsibilities?
   - _____Almost never
   - _____2-3 times per week
   - _____4-5 times per week
   - _____Every day

4) How often do you use Internet?
   - _____Almost never
   - _____2-3 times per week
   - _____4-5 times per week
   - _____Every day

5) What is your current computer operating system?
   - _____Windows 2000
   - _____Windows XP
   - _____Windows VISTA
   - _____Macintosh
   - Other_____

6) Do you use Computer Aided Design software as part of your job responsibilities?
   - _____yes (please answer Question 7 below)
   - _____no (please go to Question 11)

7) What kind(s) of Computer Aided Design (CAD) software do you use (check all that apply)?
   - _____Microstation
   - _____AutoCAD
   - _____ArchiCAD
   - _____Revit
   - Other_____
   - Other_____
   - Other_____

8) If you primarily use Microstation, are you familiar with AutoCAD?
   - _____Yes
   - _____No
   - _____Not applicable
9) If you primarily use AutoCAD, are you familiar with Microstation?
   - _____Yes
   - _____No
   - _____Not applicable
10) How often have you encountered file conversion problems with your CAD program?
   - _____Never
   - _____A few times
   - _____Somewhat often
   - _____Frequently
11) Do you use GIS (geographic information system) data in your work?
   - _____Yes
   - _____No
12) Do you use 2D drawings in your day-to-day work?
   - _____Yes
   - _____No (go to Question 16)

13) If yes, approximately what percentage of drawings are produced and distributed in hard copy versus electronic format? (if some documents are produced in both formats, total will exceed 100%)
   - _____% Hard copy
   - _____%Electronic format

14) What percentage of your design and construction documents are produced using 3D drawings or 3D models in your work?
   - _____% 3D

15) Do you use project scheduling software as part of your job responsibilities?

- _____yes (please answer Question 16 below)
- _____no (please go to Question 19)

16) Which of the following scheduling software packages are you familiar with for highway projects (Check all that apply)?

- _____Primavera
- _____SureTrak
- _____Microsoft Project
- _____Microsoft Excel
- Other_____

17) How often does your organization update the schedule on a typical project?

- _____Daily
- _____Weekly
- _____Bi-weekly
- _____Monthly
- _____Never

18) Approximately what percentage of schedule information is distributed in hard copy versus electronic format? (if some information is produced in both formats, total will exceed 100%)

- _____% Hard copy
- _____%Electronic format

19) What is your preferred method for contacting project partners if there is a schedule conflict? (Check all that apply)

- _____Phone
- _____Email
- _____Regular Mail
- _____Overnight Mail
- Other_____

Part 3: Work Zone Issues

Please rate your agreement with the following statements on a scale of

1 (strongly disagree) to 7 (strongly agree)

20) Drivers in highway work zones are adequately **informed** using existing methods and technologies.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

21) Drivers in highway work zones are adequately **prepared** using existing methods and technologies.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

22) Current methods and technologies provide adequate safety for construction workers in highway work zones.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

23) Current methods and technologies provide adequate safety training for construction workers in highway work zones.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

24) Dynamic message boards on the road increase safety in highway work zone.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

25) If drivers know the exact location and configuration of the work zones along the highway, it will significantly improve **safety** in the workzone.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

26) If drivers know the exact location and configuration of the work zones along the highway, it will significantly improve **mobility** in the work zone.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

27) Three-dimensional drawings of the work zone and road closures can improve highway work zone safety.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

28) Four-dimensional simulations of the work zone and road closures can improve highway work zone safety.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

29) Simulation of work zones used in the planning and design phase would help my organization better prepare for the safe and efficient accommodation of traffic during construction.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

30) My organization would use work zone simulations in our training program.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

31) My organization would use work zone simulations in job safety analysis and evaluation.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

32) My organization would use work zone simulations in internal traffic control.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

33) My organization would use work zone simulations in communicating with the public.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

34) My organization would use work zone simulations to define access points for deliveries.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

35) In the design phase, work zone simulations would improve drainage design.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

36) In the design phase, work zone simulations would improve utility design.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

37) In the design phase, work zone simulations would prevent many construction conflicts.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree

38) Simulation of work zones would be useful in driver education programs.

1	2	3	4	5	6	7
strongly disagree			neither agree nor disagree			strongly agree