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"Steps for Action" — Making Sure ITS Is Ready for the Year 2000

by Pamela Crenshaw

Departments

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Contact Editor

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At the annual meeting of the Intelligent Transportation Society of America on May 5, 1998, Deputy Secretary of Transportation Mortimer L. Downey sounded a call to action, announcing a national summit of the intelligent transportation systems (ITS) community to address Year 2000 (Y2K) computer problems in ITS.



"The problem has its origins in computer systems that store only the last two numbers of years in dates (such as 98 for 1998; the 19 is assumed). This requires less disk storage space, but poses a major problem as we head into the year 2000. Computer systems could interpret 00 as 1900, rather than 2000. This could cause computers to crash, generate bad data, or otherwise malfunction. Transportation systems that depend on computers or vehicles using embedded computer chips could shut down," Downey said.



The national summit was hosted by the U.S. Department of Transportation (USDOT) in partnership with 22 transportation associations and professional groups on July 27. This one-day summit entitled "Partners for ITS Y2K Awareness to Action" served as the kick-off for a 500-day campaign to resolve the Y2K problems in ITS, and a product of the summit is "Steps for Action," a compilation of information for addressing Y2K problems from the educational, management, technical, and institutional perspectives. The participants at the summit represented industry; federal, state, and local governments; and systems operators in all modes of surface transportation, including transit, highway, and rail.

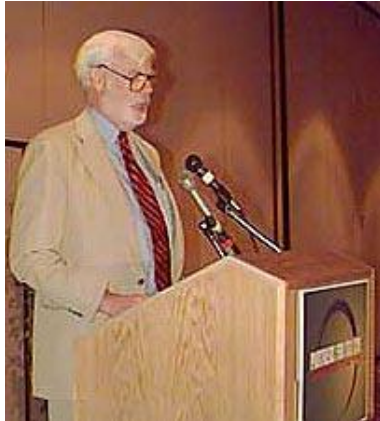
"The challenges of the Year 2000 problem are not limited to the federal government. Today's summit is an important step in our effort to work with partners at the state and local levels to minimize disruptions to transportation systems as we make the transition to the Year 2000," said keynote speaker John A. Koskinen, chair of the President's Council on Year 2000 Conversion.

"Steps for Action" was published as a brochure, which is intended to serve as an organ

izing tool to help all people involved in ITS activities to "map out your Y2K problem-solving activities between now and January 1, 2000." This article is adapted from the brochure. The entire text of the brochure is available on the Internet at www.fhwa.dot.gov/y2k.

Downey pledged that USDOT will take advantage of every opportunity to communicate the importance of dealing promptly with Y2K.

"[The Y2K] pro>We will facilitate a national Y2K dialog and



provide whatever assistance we can to ensure the safe, orderly operation of our transportation system. We will routinely provide information to our public- and private-sector partners to share examples of good practice and to encourage their adoption. We will assist in regional Y2K seminars and provide our ITS Y2K partners with materials that can be used in presentations at local, regional, state, and national conferences. We urge our state and local partners to use their regularly allocated federal highway and transit funds to repair their Y2K problems." he wrote.



The Central Questions

In "Steps for Action," Downey asks everyone in the ITS community to consider the following questions:

- Have you considered how your intelligent transportation system integrates with other systems? Have those other systems been checked? Have you considered the relationships between your system's data, user data, imported data, software application data, the operating system upon which all these applications and databases are running, and how they are affected by the year 2000 problem? Can you identify potential problems with these complex interrelationships?
- Fixing the Y2K problem on one individual computer could take an hour. Who pays for that hour? Multiply that by however many computers you have.
- Have you applied a higher standard to ensure that ITS public safety systems, including emergency management and incident management systems, will work?
- Have you made contingency plans? What if you've done everything possible, but your system fails because of failures in interrelated systems, such as telecommunications or energy systems?
- Will you be ready on Jan. 1?

Characteristics of a Successful Compliance Program

The participants in the summit identified several characteristics of a successful Y2K compliance initiative:

- Active involvement and support of executives and elected officials.
- Assessment of the mission-critical functions most likely affected by the Y2K challenge.
- The most appropriate approach to Y2K assessment of ITS technologies, such as freeway management systems, is to inventory information system assets, assess the level of vulnerability, test alternative scenarios to gauge response, adopt strategies to deal with any Y2K problems, and develop a contingency plan in the event that these strategies do not work. The contingency element of this problem-solving approach is one that is often overlooked, but that could potentially be most important in averting serious disruption.
- An organizational strategy for dealing with myriad problems that cross organizational and jurisdictional boundaries. The most effective approach to organizational ITS Y2K efforts is to find a "champion" who can lead the effort and who has the respect of organizational leaders.
- A structure to facilitate the exchange of information about successes and failures with integrated systems to help others avoid common pitfalls. Because the transportation community is so large and diverse, USDOT has a major role to play in information dissemination.

Recommendations

It is critical to seek out the experiences of others who can provide "lessons learned" about effective strategies and coordination efforts for ITS Y2K. The experts at the summit gave the following advice:

- Get started now. The deadline for resolving the Y2K problem cannot be extended.
- Set priorities. Mission-critical systems should have first call on resources.
- Public-sector agencies should develop and implement an outreach plan to inform their constituents of steps they are taking to address the Y2K problem. Confidence is established by sharing information.
- Share information. Create a central clearinghouse — an authoritative source on ITS Y2K issues — or direct people to existing resources. Provide resources for a speakers bureau on Y2K remediation.
- Network with your peers. Maybe someone else has encountered the same or similar problems with their intelligent transportation systems. Take advantage of opportunities for peer review and support.
- Work with other agencies and organizations that play a role in supporting the safety and productivity of the transportation system: emergency services, public utilities, shippers and carriers, port operators, law enforcement, and others. Also, consult members of technical and professional organizations.
- Meet with emergency management agencies; consider designating a regional agency to lead contingency planning efforts.
- Get legal staff involved as early as possible. Contractual issues and liability questions must be resolved quickly and with the assistance of legal staff.
- Top management support is critical. Keep leadership aware and make a forceful case without being an alarmist.
- Assign a top-flight manager and provide the resources and authority necessary to get the job done.
- Technical support is key. Be willing to pay for the talent and expertise needed to accomplish necessary tasks, whether contract support or in-house staff.
- Have a test plan and follow it. Many estimates of ITS Y2K repairs indicate that testing will take up half of the overall project time line. Some "fixes" may fail, and you must allow enough time to solve the problem and retest.
- Provide information on ITS Y2K compliance through databases and customer advisories. (If all else fails, resort to Y2K "recall notices.")
- Take advantage of the "crisis atmosphere" to leverage awareness and promote deeper understanding of information technology and systems (including embedded systems). This kind of visibility for ITS may not occur again in the near future.
- Federal technology transfer programs should address Y2K issues.
- All agencies and organizations should integrate the Y2K message in training courses, raise the issue at conferences, and identify Y2K compliance as an issue on documents such as purchase orders and invoices.
- To the extent possible, agencies should take advantage of traditional service providers (e.g., accountants). Many of these vendors have developed extensive Y2K capabilities.
- Take advantage of traditional channels for communication (newsletters, association publications, bulletin boards, and Web sites).
- Contact your vendors and request the Y2K compliance status of their products, but have a contingency plan in case an external system or service provided by a vendor, partner, or utility fails.
- Develop or provide links to self-assessment tests for "simple" systems such as personal computers.
- Train all personnel on how to respond to contingencies.

Pitfalls

Summit participants identified several pitfalls to be avoided and some of the barriers to effective management of ITS Y2K repairs:

- Be persistent when reaching out for information or cooperation.
- Try not to be overwhelmed by the magnitude of the problem — cut it into manageable bits.
- On the other hand, do not ignore or trivialize the problem. Do not assume that if there is a problem, someone else will provide a simple solution.
- Maintain a "big picture" perspective — don't focus so narrowly on one aspect that you lose sight of other critical issues.
- Timing is a major potential problem; decision-making cycles may not be in sync for different levels of government or types of organizations.
- Maintain awareness of potential problems with international partners. (Some countries may not be acting quickly enough. The GartnerGroup, a Y2K consulting firm, forecasts that while 15 percent of the companies in the United States, Canada, and the United Kingdom may experience a mission-critical system failure, it is likely that 50 percent of the companies in Germany and Japan will have mission-critical system failures.)
- Recognize that compliance means different things to different people. Be certain that everyone is operating with the same set of definitions.
- Understand that compliance does not equal contingency planning. You still need to ask "what if" questions and account for internal and external failures. (If no one understands how the plan is

to be implemented or what to do if something goes wrong, all of the planning in the world may fail to deliver the goods.)

Resources

The following World Wide Web sites provide information about Y2K solutions. In addition, newspapers, magazines, and television stations are increasing their Y2K coverage.

- www.y2k.gov — President's Council on Year 2000 Conversion. Links to other federal Y2K operations and other resources.
- www.y2ktransport.dot.gov — USDOT's ITS Y2K Web site.
- www.fhwa.dot.gov/y2k — Federal Highway Administration's Y2K site.
- www.nawgits.com/y2kforum — National Associations Working Group for ITS.
- www.itsa.org — Intelligent Transportation Society of America (ITS America).
- pti.nw.dc.us/membership/y2k — Public Technology Inc.'s Y2K site, providing information for local officials and their staffs.
- www.itsa.org/year2000.htm — Information Technology Association of America.
- www.itpolicy.gsa.gov/mks/yr2000/cioy2k.htm — Recommended Year 2000 Contract Language (Final FAR Rule).

(This listing of these Web sites does not imply an endorsement of the information contained on the Web site or of the organizations posting information on those sites.)

Pamela Crenshaw is a transportation specialist in the Office of Traffic Management and ITS Applications for the Federal Highway Administration. She is a member of the Midwest Program Delivery Team, responsible for providing program, policy, and technical assistance to former FHWA Regions Six and Seven. She has been part of the ITS program for two years. Previously, she was a traffic engineer for 10 years with the city of Philadelphia. She has a

bachelor's degree in civil engineering from Howard University and is currently pursuing her master's degree in civil engineering at Howard University on a part-time basis.

