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Secretary of Transportation Addresses Infrastructure Crisis at Summit; Leaders Promote Innovation and Partnerships as Strategies for Action

By Mark Fitzgerald

The evident decline in U.S. infrastructure has been a growing concern—particularly for ASCE and the civil engineering community—for many years now. The nation’s roads, ports, bridges, and schools and its systems of water, energy, and mass transit have been unable to keep pace with today’s demands, but, according to the Congressional Budget Office, federal investment in public infrastructure has steadily decreased over the past two decades.

In January ASCE established the Civil Engineering Forum for Innovation (CEFI), an organization charged with promoting research and innovation to improve productivity and project performance in the industries of engineering, construction, and design. Expanding on the mission of the former Civil Engineering Research Foundation (CERF), the new forum has been busy developing an agenda aimed at implementing technology and innovation as well as strategic partnerships and unified leadership to establish infrastructure improvement as a national priority.

As a way to launch this agenda, CEFI hosted a summit on infrastructure April 25–26 at the Ronald Reagan Building and International Trade Center in Washington, D.C. Guided by the theme, “Moving from Awareness to Action,” the summit brought together leaders in industry, academia, and government (including Norman Mineta, the U.S. secretary of transportation; Felix G. Rohatyn, the former U.S. ambassador to France; and U.S. Representatives James Oberstar (D–MN) and Thomas Petri (R–WI)) to discuss such topics as the role of the private sector, partnerships, innovation, public opinion, advocacy, and project financing.

“Recognition of the evolving nature of civil engineering practice prompted ASCE to re-charter CERF and focus its efforts more centrally on innovation and its many forms rather than exclusively on research,” ASCE’s president, Dennis Martenson, P.E., DEE, F.ASCE, said on April 25 at the outset of the summit. “I believe very sincerely that without a sound infrastructure our nation cannot continue to compete in the global economy. This summit represents a bold new direction for the civil engineering profession and the industries and organizations in which we work.”

The vice chairman of CH2M HILL, Joseph A. “Bud” Ahearn, P.E., M.ASCE, who served as the summit’s moderator, described it this way: “This summit is not an event—it is a journey,” he said. “The intent is to create a potent human force so significant that the issue of decaying infrastructure becomes a national priority. We anticipate task committees, program management to measure progress, and joint leadership in going to the Hill and to industries to help us move forward.”

During his keynote address, Norman Mineta, the secretary of transportation, recognized the seriousness of the nation’s infrastructure crisis and the need for the public and private sector to work together to find solutions. “With the growing recognition that our transportation trust funds are on an unsustainable course, what we see gathering is the perfect storm,” he warned. “This has prompted some serious thinking and rethinking about the ways that America plans, builds, finances, and maintains our vast and vital transportation network. We face serious challenges in finding a cleaner, more fuel-efficient way to power the transportation system that has made America the most mobile society in the world. But we also face challenges in fighting the traffic that chokes our communities and cities. This troubling phenomenon is not limited to roads and

highways; the pattern is being repeated in crowded airports and in our congested skyways and freight backups that have become the weak link in our supply chain.” The 3.5 billion hours each year that U.S. motorists spend stuck in traffic amounts to over \$63 billion, according to ASCE’s *2005 Report Card for America’s Infrastructure*. Moreover, air travel and traffic is expected to increase by more than 4 percent each year over the next decade.

Mineta also emphasized the importance of establishing public and private partnerships. “I see the embracing of the private sector as the future, not just for highways but for our broader transportation network,” he said. “The expanded freedom that follows the private sector’s evolving role is not a blank check. As of October of last year, nearly 11 billion dollars worth of road projects have been completed using public-private-partnerships. States that adopt the public-private-partnerships are getting far more than an infusion of cash. These partnerships are also bringing more responsiveness and consistent users, helping to direct investment resources, and, in the most critical projects, they are lowering the cost of repairing and maintaining infrastructure over time and even accelerating the deployment of technologies.”

Asked what ASCE could do to improve the current state of the nation’s transportation systems, Mineta said: “There’s no question that ASCE has the capability to culminate new ideas in terms of what can be done. All of you are not only idea people, but you’re also practical in the sense of knowing what has to be done and what works. So ASCE can be part of the innovative discussion and provoke new ideas in policy, and I would say ASCE should continue to do what it has been doing through its committee structures and state societies.”

Afterwards, during an awards luncheon, James Glymph, the winner of CEFI’s 2006 Henry L. Michel Award for Industry Advancement of Research, discussed the benefits of implementing 3-D computer modeling in construction and lauded innovation as an essential factor in improving the nation’s infrastructure. “What we do in the next ten years will be the last of what we do with fossil fuels,” he said. “Our infrastructure is in much worse shape than Europe’s, much worse shape than Japan’s, and China is moving very fast. For us to stay competitive we have to do something about this

problem, but we do not need to design infrastructure for the 20th century, we need to design it for the 21st and that is going to be a hard thing to figure out.”

Felix G. Rohatyn, who served as the U.S. ambassador to France from 1997 to 2000, seconded Glymph’s assessment of Europe: “Whether it’s their high speed trains, whether it’s their airports, whether it’s their roads or the way they run their cities, European infrastructure, which is financed by the European Investment Bank by selling long term bonds to the public, is a perfectly wonderful system,” he said. “And yet we are supposed to be the leaders of the world in terms of technology and wealth, but if tomorrow something goes wrong in Long Beach you’re going to have boats parked halfway across the Pacific Ocean.”

Rohatyn, who managed the negotiations that enabled New York City to resolve its financial crisis in the late seventies when he was chairman of the Municipal Assistance Corporation, said he has been working on developing a legislative proposal that would create a national investment corporation for infrastructure. “We can certainly finance it if we have the political will and it’s properly constructed,” said Rohatyn, who is a trustee of the Center for Strategic and International Studies in Washington, D.C. and the vice chairman of Carnegie Hall in New York City. “If we’re ever going to have the possibility of doing something serious for infrastructure at the national level—to have a large plan, to know what we’re spending money on, to know how it’s controlled and how it’s financed—then we’ll need a political plan that explains to people what this is really about and we’ll have to sell the idea of investment not spending.”

Representatives James Oberstar (D–MN) and Thomas Petri (R–WI) spoke later that afternoon during a panel discussion focused on the political issues and processes involved with advancing infrastructure improvement projects. “Over the last 60 years we’ve invested 114 billion dollars of federal funds in building the Interstate Highway System,” observed Oberstar, who is currently serving his 16th term. “China is about to accomplish the same in 15 years. They’re also making huge investments in ports and in the modernization of their airports. They’re doing all this to make themselves more efficient. The U.S. faces a huge challenge, and we need civil engineers to give this their constructive consideration, analysis, and guidance.” Petri, who serves as the vice chairman of the House Transportation and Infrastructure Committee, acknowledged that

federal investment in infrastructure has been declining for decades. “The federal government over the last sixty years has played a gradually diminishing role in investing in our surface transportation infrastructure,” he said. “The government can’t afford to think of infrastructure as simply a highway or a bridge. It needs to look carefully at the system and find out where the choke points are, where the investment should be to maximize efficiency in the system.”

The following day featured perspectives from infrastructure owners and developers, discussions regarding project financing and the challenges of implementing innovation, and facilitated workshops aimed at setting forth a viable plan for action.

Benedict Schwegler Jr., Ph.D., M.ASCE, a vice president and chief scientist at Walt Disney Imagineering, discussed the capabilities of virtual modeling and simulation as well as the importance of sustainability and ecosystem planning for future development. “Much of the infrastructure that Disney has built is serving to preserve nature rather than to insulate the development from the surrounding nature,” he said. “Engineering should really be about quality of life issues. In the civil engineering world, we build a gigantic freeway and a 5,000-pound vehicle to transport a 150-pound person. You have to ask yourself is that the direction that other innovative industries are going with how they handle their infrastructure and might there be a different model for us?”

Various ideas arose from workshop dialogues concerning how the civil engineering community could implement a plan for action aimed at obtaining funding and support for infrastructure improvement projects. Participants suggested such strategies as influencing public opinion about infrastructure through a more targeted outreach program; promoting infrastructure projects as opportunities to foster employment, improve society, and encourage global competitiveness; redefining the role state and federal governments have in shaping infrastructure initiatives, and generating incentives to reward and penalize the performance of infrastructure on the state level.

“I think the civil engineering community needs to connect better with the average voter who understands the problem but is not engaged in a dialogue about it,” offered Robert Prieto, M.ASCE, the senior vice president of the Fluor Corporation. “We need a broader coalition. Engineers talking to engineers is simply not going to produce the political leverage or the financial capital to solve the problem. Doing the same things as

before is not going to produce the result that we want. We need a step-change in the industry, a paradigm shift—we need a revolution. So I guess the question for ASCE and the rest of us is: are we ready for that? If we're not, maybe we should all go do something else.”