

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

The marked decline in the state of the nation's infrastructure has been a subject of growing concern—particularly to ASCE and the civil engineering community—for many years now. The nation's roads, ports, bridges, and schools and its water, energy, and mass transit systems are unable to keep pace with demand, but according to the Congressional Budget Office, federal investment in 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 engineering, construction, and design industries. Expanding the mission of the former Civil Engineering Research Foundation (CERF), CEFI has been busy developing an agenda for implementing innovations, forming strategic partnerships, and providing unified leadership to make infrastructure improvements a national priority.

As a way to launch this agenda, CEFI hosted a summit on infrastructure April 25–26 in Washington, D.C., at the Ronald Reagan Building and International Trade Center. With the theme “Moving from Awareness to Action,” the summit brought together leaders in industry, academia, and government—including Norman Y. Mineta, the U.S. secretary of transportation, Felix G. Rohatyn, a former U.S. ambassador to France, and House members James L. Oberstar (D-Minnesota) and Tom Petri (R-Wisconsin)—to discuss such topics as the role of the private sector, the formation of partnerships, the cardinal importance of innovation, means of project financing, and the harnessing of public opinion.

“Recognition of the evolving nature of civil engineering practice prompted ASCE to recharter CERF and focus its efforts more centrally on innovation and its many forms rather than exclusively on research,” said ASCE's president, Dennis R. Martenson, P.E., D.E.E., F.ASCE, at the outset of the conference. “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.”

Joseph A. “Bud” Ahearn, P.E., M.ASCE, who served as the conference's moderator and is the vice-chairman of CH2M HILL, described

the gathering this way: “This summit is not an event—it is a journey. 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.”

In his keynote address, Mineta recognized the seriousness of the nation's infrastructure crisis and the need for the public and private sectors 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 carry a dollar value of more than \$63 billion, according to ASCE's *2005 Report Card for America's Infrastructure*. Moreover, air travel and traffic are expected to increase by more than 4 percent each year over the next decade.

The secretary of transportation also emphasized the importance of establishing partnerships between the public and private sectors. “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 eleven billion dollars' worth of road projects [had] been completed using public/private partnerships. States that adopt public/private partnerships are getting far more than an infusion of cash. These partnerships are also bringing more responsiveness and consistent users [and are] 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 responded as follows: "There's no question that ASCE has the capability to [develop] 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."

During an awards luncheon that day, James Glymph, the winner of CEF's 2006 Henry L. Michel Award for Industry Advancement of Research, discussed the benefits of implementing three-dimensional 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 twentieth century; we need to design it for the twenty-first, and that is going to be a hard thing to figure out."

Rohatyn, who served as the U.S. ambassador to France from 1997 to 2000, seconded Glymph's assessment of infrastructure in 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."

As chairman of the Municipal Assistance Corporation in the late 1970s, Rohatyn managed the negotiations that enabled New York City to weather a financial crisis. In his remarks he described a legislative proposal he has been developing 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 the president of Rohatyn Associates, LLC, of New York City, a cochair of the Center for Strategic and International Studies' Commission on Public Infrastructure, 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."

Oberstar and Petri spoke later that afternoon during a panel discussion that considered the political issues and processes that arise in connection with infrastructure improvement projects. "Over the last sixty years we've invested one hundred fourteen billion dollars of federal funds in building the interstate highway system," observed Oberstar, who is currently serving

his 16th term in the House. "China is about to accomplish the same in fifteen 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 Committee on Transportation and Infrastructure, 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 of project financing and of the challenges encountered in implementing innovation, and workshops designed to help formulate a viable plan of action.

Benedict Schwegler, Jr., Ph.D., M.ASCE, a vice president of Walt Disney Imagineering and the firm's chief scientist, discussed the capabilities of virtual modeling and simulation as well as the importance of sustainable 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 five-thousand-pound vehicle to transport a one-hundred-fifty-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 in the workshop discussions on how the civil engineering community could implement an action plan that would garner funding and support for infrastructure improvement projects. Participants suggested such strategies as influencing public opinion on 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 creating incentives and disincentives 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," suggested 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."

—Mark Fitzgerald