SUMMARY REPORT

Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?

A Department of Commerce
and
Department of Transportation
Joint Conference on Infrastructure Strategies

May 11, 2009

America's economic competitiveness is clearly linked to the health of its infrastructure. Restoring America's manufacturing and service jobs depends on our ability to restore a world-class transportation network. Outdated roads and bridges, missing intermodal links, and rail and marine capacity gaps are threatening our economic recovery and our long-term economic growth.

To address these crucial issues, the Department of Commerce's International Trade Administration and the Department of Transportation, with support from the Council on Competitiveness and the International Gateway at the Ronald Reagan Building, held this summit. Our aim was to give stakeholders an opportunity to have frank discussions with senior Administration leaders and provide recommendations on what our supply chain infrastructure must look like to promote economic growth; how America's supply chain infrastructure growth should be financed; and what the Federal Government must do to achieve these goals. This meeting will help shape the development of a holistic, comprehensive national freight policy that promotes our supply chains and assures America's competitive advantage in the 21st Century.

The Secretary of Commerce discussed how a healthy supply chain infrastructure leads to job growth, economic recovery, and global competitiveness. The Secretary of Transportation discussed the Federal Government's role in the Nation's supply chain infrastructure and in the creation of a national freight policy. Senior executives from the Council on Competitiveness, Deloitte , Cisco, and Caterpillar shared their expertise on how to improve various components of the supply chain infrastructure and discussed the impacts of inaction. In concurrent breakout sessions, panelist experts discussed capacity constraints and chokepoints, innovative information technologies, security and resilience, environmental concerns, and sources of revenue to finance the supply chain infrastructure. Throughout the conference, participants had the opportunity to share their expertise on the key problems and concerns facing America's supply chains, and their suggestions on how to improve our national supply chain infrastructure.

This forum encouraged supply chain stakeholders and the Administration to take a holistic view of what is needed to develop an American supply chain infrastructure equal to the needs of the 21st Century. Maximizing supply chain competitiveness ensures that both U.S. supply chains and the U.S. Government can meet the needs of industries that demand timely, safe, and environmentally-friendly products and services. The ultimate goal of the forum is a national freight policy that leads to a fully integrated, resilient, and environmentally sound supply chain infrastructure.

Secretary of Commerce Gary Locke

Secretary of Transportation Ray LaHood

Gary Locke,
Secretary of Commerce

Secretary Locke's remarks from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference
May 11, 2009

Thank you, Michelle. Good morning everyone. Transportation Secretary Ray LaHood and I are pleased to welcome you to today's Supply Chain Infrastructure Competitiveness Conference.

I want to thank the Council on Competitiveness and the International Trade Center for their help in putting together this program.

We're also honored to have Senator Mark Warner here with us this morning.

We've invited you here to discuss an issue critical to nearly every facet of our economy: the health of America's domestic supply chain infrastructure.

To be competitive in today's global economy, U.S. companies need to be able to move products and goods securely, quickly and efficiently within our borders and beyond. America cannot compete successfully in the 21st century with a 20th century infrastructure.

Secretary LaHood and I are committed to working together with stakeholders to develop new national policies and a comprehensive approach to addressing this complex issue. This conference is the first step toward that goal.

At its most basic, a competitive domestic supply chain infrastructure represents our ability as an economy—as a nation—to move products and goods.

As governor of Washington state, I saw first-hand the importance of a strong supply chain infrastructure. The exports and imports that flowed through the supply chains in Washington supported more than 10 percent of our private sector jobs. And 90 percent of Washington's exporting companies were small and medium-sized enterprises, with fewer than 500 employees.

While much of the debate over supply chain infrastructure focuses on international trade, the fact is that domestic commerce is responsible for more than 85 percent of what passes through U.S. rail, trucking, air, and marine systems.

What this means is that America's supply chain infrastructure deficiencies don't only impact the competitiveness of our foreign trade. They affect the strength of the entire American economy.

The logistics sector today represents about 10 percent of U.S. GDP by itself. By international standards, that is relatively low and suggests a high degree of efficiency, especially in comparison with other important economies that spend as much as 20 percent or more of GDP on logistics and transport.

However, America's job prospects depend on the health of the infrastructure that supports our domestic and international supply chains.

Of five major industry sectors that represent over 80 percent of the U.S. economy, four—manufacturing, retail, services, and agriculture and natural resources—are critically dependent on transportation. The fifth sector is the transportation and distribution sector itself.

Last year, the U.S. Chamber of Commerce reported that employment in these four transportation-dependent sectors accounted for some 99 million U.S. jobs, or nearly 71 percent of the U.S. workforce.

The transportation and distribution sector—including direct transportation, warehousing, and wholesale trade—account for an additional 7.5 percent of our workforce, nearly 11 million jobs.

Our nation has long enjoyed a world-class transport infrastructure. But we are placing rapidly growing demands on aging infrastructure systems.

We need to find new methods to move products more efficiently if we are to keep pace with the rest of the world.

That means viewing the relationship between trade and transportation more broadly, in interconnected and interrelated ways that are much more complex.

Old solutions are not enough. Supply chains today are being changed dramatically by forces that go beyond traditional transportation remedies.

At every level of a supply chain, one sees more advanced information technology applications, more sophisticated equipment, more integrated business processes. These developments require higher levels of education and training—plus some means to fund them.

In Washington, we made investments in our ports in Seattle and Tacoma, while at the same time forging partnerships with the great companies and universities in our region to provide the educated workforce that can compete at the top in today's global economy.

Our challenge is to explore supply chain issues in an interconnected, intermodal way that cuts across the broad range of national priorities and sets the path to future success.

So thank you for sharing your time and expertise with us today.

I conclude with this: It is my pleasure to announce with Secretary LaHood that we plan to reach an agreement between our two departments to further address the challenges and opportunities identified during this conference.

Once again, let me express our joint commitment to working with all of you here today – and with the broad spectrum of America's businesses and consumers—to achieve a faster, safer, more environmentally sound, more efficient national supply chain network that will meet our needs for the 21st century.

Thank you.

Ray LaHood,
Secretary of Transportation

Secretary LaHood's remarks from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference
May 11, 2009

The DOT is delighted to co-sponsor this important and timely conference with the Department of Commerce, and we look forward to collaborating with Secretary Locke and his excellent staff.

I want to thank all of you here today for your dedication and expertise in the field of transportation and supply chain logistics.

To those of you who participate in helping to move over 50 million tons of freight a day throughout the United States and beyond – your contribution to our economy cannot be overstated.

From the construction of the Erie Canal to the freight railways that criss-cross the nation, our ability to move goods efficiently and effectively has accounted for much of our success over the last 200 years.

I can assure you that the Obama Administration is committed to building on that legacy. We'll see to it that our national transportation infrastructure remains strong and healthy, and gets the resources it deserves to keep us globally competitive.

To accomplish that goal, we're setting a new course for transportation policy in the United States.

For too long, we have operated and funded our transportation systems in a piecemeal fashion – with highways, freight railroads, seaports, and aviation operating in parallel, yet never fully synchronized.

That's going to change.

We need policies that treat these transportation assets holistically -- as a highly sophisticated network that ensures commerce can flow freely.

That's how the people and businesses that need to move goods look at it.

For all this to happen, we need the right technologies, funding mechanisms, and the cooperation of congress, industry, and state and local officials.

As a first step, we're working closely with all stakeholders to make this concept a reality.

For example, last month I received a report from the Marine Transportation System National Advisory Council, addressing key issues about freight data, infrastructure, and related concerns.

We're going to study those recommendations very carefully, and act on them accordingly.

The bottom line is, we must find solutions to the congested and inefficient movement of freight through major metropolitan regions.

We can do better – and we will do better.

As we develop national freight transportation systems, we should think in terms of corridors, multi-state coalitions, and regional transportation priorities, as a way to establish effective multi-modal networks.

This makes sense economically and environmentally.

So in the coming months, we'll work closely with Congress to craft a new surface transportation bill that gives us the opportunity to think beyond our current view of freight and passenger movement.

As part of this effort, we need to ensure that Congress provides sufficient resources to improve freight system performance, freight mobility, energy efficiency, and environmental stewardship.

Jim Oberstar, the chairman of the House Transportation and Infrastructure Committee that's writing this bill, is very interested in getting this done as quickly as possible.

We must also continue to encourage new and innovative financing methods that make use of public and private resources to generate the levels of investment we need to improve our national freight transportation systems.

But meanwhile, we're not waiting for Congress to act.

Under the American Recovery and Reinvestment Act, we're investing 48 billion dollars in targeted transportation infrastructure projects that rehabilitate highways, bridges, tunnels, seaports, airports, and transit systems.

The Recovery Act will not, by itself, revitalize our supply chain infrastructure. But it is an important – and historic – step forward.

If we do not begin to fix our roads, strengthen our bridges, re-pave our runways, and upgrade our seaports, then we'll never get where we need to go.

At this point, we have made nearly all of the DOT's Recovery Act funds available to the states and territories. More than 2,800 projects are under way – and there's much more to come.

Later this summer, you'll see thousands of men and women at work on these projects – helping our economy, and setting the stage for additional investments in critical infrastructure.

We're preparing to announce the availability of an additional 1.5 billion dollars in recovery grants.

We're expecting hundreds of proposals for new surface and maritime projects that will continue the rehabilitation process.

As you can tell, we're serious about finding new ways to engage all the critical supply chain players in a concerted effort to find out what works, how to fund it, and then implement as soon as possible.

In closing, I want to emphasize that the DOT is your full partner in preparing our infrastructure to compete effectively in the 21st century.

Working together, we'll protect and enhance the commercial freight transportation networks that are so vital to our economic health.

Thank you – and we look forward to collaborating in the future.

Senator Mark R. Warner, Commonwealth of Virginia

Summary of Senator Warner's remarks from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference
May 11, 2009

Highlights from the speech include:

An efficient and educated workforce would contribute to the development of intellectual capital and innovation; a national plan should include increase resources dedicated to education elevating research and development.

A national competitiveness plan would address national security concerns, climate change, and foreign oil dependency in order to compete in a global economy.

Government accountability is important in bringing effectiveness to government as part of a national competitiveness plan.

Photo by: Foto Briceno,
Ronald Reagan Building

"No matter how creative we get with supply chain management, unless we've got a standing infrastructure that can support that supply chain management, we're not going to get the job done,"

Senator Mark Warner began by affirming his long held interest in competitiveness before his career in the public sector through his 20 years experience in the telecommunications and IT business sector. In order for American to compete and win in a global economy, Senator Warner advocates for a clearly articulated national competitiveness strategy. This strategy would be a national business game plan to improve America's competitiveness; Congress could debate how America achieves this goal, but the components of a national plan would be agreed upon. Supply chain management and infrastructure should be framed within this national plan with a long term strategic view to improve America's overall economic competitiveness.

Senator Warner outlined a national competitiveness strategy with eight components that apply to all industry sectors, as well as public sector management and supply chain infrastructure. Senator Warner identified an educated, innovative, and entrepreneurial workforce as a driver of competitiveness. A national plan would include increase resources dedicated to education from K-12 through graduate school, which is related to another priority, elevating research and development. An efficient and educated workforce would contribute to the development of intellectual capital and innovation, which Warner describes as, America's leading asset historically. Furthermore, enhancing research and development efforts would ideally place an emphasis on science.

In terms of, a national competitiveness plan would address healthcare costs and attempt to drive them down. Senator Warner estimates that U.S. businesses pay $3,000 to $5,000 more per employee for healthcare costs than any of their competitors around the world. In addition to rising healthcare costs, Senator Warner identified rising energy costs as a barrier to economic success. National security concerns, climate change, and a dependency on foreign oil serve as valid concerns to change America's energy mix, moreover, Senator Warner estimates that more jobs and wealth will be created in the energy sector, over the next 25 years, than any other industry sector. Industry competitiveness is an important part a national business plan, especially in the realm of international trade. Senator Warner acknowledged that there is no such thing as an "American only" economy or an "American only" financial structure and that America should be an active partner in trade in order to succeed in a global economy.

Lastly, as part of a national competitiveness plan, Senator Warner stressed the importance of public sector management. Government accountability, especially in supply chain infrastructure policy and development, is important in bringing effectiveness to government spend patterns and will ensure those investments are well managed and spent out appropriately. Senator Warner applauded the administration's creation of the Chief Performance Officer, Chief Technology Officer, and Chief Information Officer positions to help to find efficiencies within public spending, not in programmatic elimination, but in procurement, technology, and human resources.

Senator Warner affirmed that supply chain management is part of the national competitiveness strategy and addressing supply infrastructure is integral for America to compete and win in the global economy. Senator Warner began his discussion of supply chain infrastructure by identifying that the U.S. is spending about 50 percent less as percentage of GDP today than it was 30 years ago in the 70's.

Additionally, he mentioned that funding mechanisms for infrastructure are 20th century models that won't fund a 21st century infrastructure. The political debate should now include dialogue on how the U.S.

puts in place the kind of resources needed to build up infrastructure.

In terms of remedies for supply chain infrastructure challenges, Senator Warner stated that the U.S. Department of Transportation (DOT) is somewhere where progress could be made. DOT could be reorganized to prevent a stovepipe approach in infrastructure funding to help consolidate more than 108 different federal transportation programs and funding cycles. In a similar fashion, Congressional oversight that stovepipes the supply chain infrastructure development process must be addressed. Congressional jurisdiction in terms of oversight in funding chops everything up between roads, rails, ports, and airports so that the ability to employ a macro approach that effective supply chain management demands, is very challenging. For example, Senator Warner highlighted an innovative piece of the stimulus program, which included $1.5 billion in multi-modal funding, the kind of discretionary spending that could jumpstart multi-modal projects and that Secretary LaHood is hoping to get hundreds of proposals on. Senator Warner stated that the importance of multi-modalism should be elevated to address transportation system concerns, and the $1.5 billion in discretionary spending is a good start. Senator Warner also mentioned the potential of new approaches to funding like public-private transportation initiatives, such as the Dulles Toll Road in Virginia. Though public public-private partnerships must be carefully examined, they could potentially improve the way the U.S. develops, funds, and maintains a modern supply chain infrastructure.

Senator Warner also emphasized the importance of 21st century supply chains capable of moving ideas and information, as they are capable of moving goods. For example, during the construction of a new road, the project could include the installation of dark fiber to lay a broadband conduit in place to provide internet or telecommunication services. Senator Warner regretfully recognized America as 15th in the world in broadband development and reaffirmed that supply chain infrastructure must move goods efficiently; however the U.S. must be capable of moving information and providing infrastructure for those information flows.

Compete: What America Needs to Succeed in the Global Marketplace

Plenary Panel summary from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference

May 11, 2009

Moderator and Panelists:

Deborah Wince-Smith, President, Council on Competitiveness

Craig Giffi, Vice Chairman, Deloitte

Angel Mendez, Sr. VP of Global Supply Management, Cisco

Douglas Oberhelman, Group President, Caterpillar

Ron Lewis, Vice President, Supply Chain, Coca Cola Enterprises

Rapporteur:

Russell Adise, U.S. Department of Commerce

The main points of the breakout session included:

- **The United States needs to develop a top-to-bottom, nationally-led supply chain competitiveness strategy and agenda.**
- **To improve U.S. supply chain competitiveness, the U.S. must make national improvements to its physical infrastructure (transport, telecommunications, etc.), and in education, health care, energy, and tax and regulatory policy.**
- **The U.S. must take a systematic, prioritized, comprehensive approach to supply chain infrastructure investment and improvement.**
- **Panel members called for a national dialogue on competitiveness, involving collaboration across Federal, state, local, labor, and private sector silos.**

Global Challenges and Opportunities

The panelists included Deborah Wince-Smith, President, Council on Competitiveness; Craig Giffi, Vice Chairman, Deloitte; Angel Mendez, Senior Vice President of Global Supply Management, Cisco; Douglas Oberhelman, Group President, Caterpillar; and Ron Lewis, Vice President - Supply Chain, Coca Cola Enterprises.

The panel members discussed U.S. supply chain infrastructure requirements in the broadest sense. They called for nationally-led improvements in a wide range of fields and capacities in order to strengthen U.S. competitiveness, ensure U.S. leadership in the global marketplace, and support job creation, business creation, and prosperity at home. Topics covered included infrastructure, education, health care, energy, and tax, regulatory and trade policy.

Ms. Wince-Smith (Council on Competitiveness), as panel moderator, set the tone for the panel by describing global challenges and opportunities that must be considered in deciding how to improve U.S. supply chains' global competitiveness and ability to create value. These included:

- The digital revolution in global networks and communications that make it possible to have borderless flows of capital, talent, information, and labor, and a global working environment.
- The rapid advance of low-wage, high-skill emerging economies into global supply chains that make these nations innovative competitors for direct investment and market share.
- Demographic shifts that will put the world's largest youth and middle-class consumer markets in less-developed nations, shaping supply chains' demand and consumer patterns. "One of the U.S.' advantages is that we're the only developed nation in the world that, in addition to an aging workforce, has a very dynamic young workforce entering into our economy," Ms. Wince-Smith noted.
- The emergence of the integrated global enterprise, in which companies choose to locate their facilities wherever the local knowledge base, labor rates and availability, tax structure, local management, and regulatory environment are optimal. "We like to say at the Council that multinationals do not really exist. What we see emerging are companies that determine that the global environment is their playing field," and where these firms locate "depends on being near their customers and looking at the world in terms of where their value is created," Ms. Wince-Smith stated.
- The U.S.' relatively high tax rate is "not a competitive advantage for us," Ms. Wince-Smith noted. In addition, she noted regulatory issues that delay permitting for U.S. facilities. "One of our Fortune 100 CEOs recently told us of a huge manufacturing operation in China, for which it took them two weeks to get all the permits, but for the U.S. it would take over two years, and they decided they had to move out," she stated.
- The effective availability of a global labor supply. "For the first time in human history, we have a global trade in tasks and 24-7 global labor arbitrage," Ms. Wince-Smith said. "It's easier every day to ship work around the world in bits and bytes. If work is routine, rule-based, digitized, there's going to be a low-cost source of labor to do that work."
- The rapid advance of biotechnology and nanotechnology, which will alter industrial sectors and create new business and market opportunities.

- The merger of manufacturing and services and the growing value of intangible assets, as services become embedded in manufacturing and as products become reliant on complementary services.
- The transformation of the U.S. and global economy into an innovation economy, in which "ideas matter" and a company's ability to use these ideas and technology determines its ability to create value.

Responding to these challenges, and others facing U.S. supply chains, requires global consensus, innovation, and collaboration, Ms. Wince-Smith added.

"Back in 2004, the Council's National Innovation Initiative identified three platforms – talent, investment, and infrastructure – for anything you really want to talk about in terms of competitiveness. Today, we're talking about infrastructure in the broadest sense, and we need to understand that this country has to move beyond the 20th century infrastructure and create the most dynamic in the world, that's integrated and holistic and propels our companies as well as our government to ensure the prosperity for all Americans," Ms. Wince-Smith concluded.

Relationship Between Infrastructure and Competitiveness

Craig Giffi (Deloitte) discussed the relationship between America's global competitiveness and the state of its infrastructure, and the need for a comprehensive, forward-thinking U.S. competitiveness strategy.

- The United States is rated as the world's most competitive nation, but the World Economic Forum ranking study places the U.S. in ninth-place for infrastructure quality, "so we have some gaps relative to other key players when it comes to logistics and infrastructure performance," Mr. Giffi noted.
- A recent Deloitte survey found that about a third of leading executives in the U.S., Canada and Mexico believe that infrastructure problems represent a "significant or extensive barrier" to their competitiveness, Mr. Giffi reported. Two-thirds of the U.S. executives in the survey (and eighty percent of U.S. manufacturing executives) expect their logistics problems to worsen or stay the same by 2012.
- The significance of these problems is that executives believe that supply chain infrastructure and capabilities "really matter." Over sixty percent of the executives at top-performing companies believe they have a supply chain management and infrastructure advantage over their closest global rivals, compared with less than thirty percent of the executives at underperforming companies, Mr. Giffi reported.
- "It's important to look" at America's supply chain infrastructure from a "systems perspective," Mr. Giffi stated. Business executives consider a nation's transport and basic infrastructure quality as part of an "interlocking system" of the competitive conditions for supply chains in that country. The quality of this system is a crucial factor when these executives decide where to invest in new manufacturing and distribution facilities, Mr. Giffi explained.
- To "intercept the trajectory" of those decisions, the Federal Government needs to do "a lot of work ahead of time, years of planning and execution" on policy development and program investment, so that executives will decide to invest in U.S. operations rather than elsewhere, Mr. Giffi stated.

- Deloitte has found that executives' "must-have" requirements for target nations include high-quality road, air, port, water, and communication infrastructure; strong capabilities in science and technology, talent, and educational infrastructure; strong research and development capabilities; a low economic and political risk profile; a relatively low tax burden; and investment incentives.
- Mr. Giffi recommended that the Federal Government focus its attention on future industries in which growth is very important for national security and economic development, such as energy. "If we focus (our) lens around what industries, what sectors do we expect to compete in, what do we really want to be good in, and bring together a public-private view of how we can make ourselves more competitive, the elements of infrastructure will start to fall in place," Mr. Giffi stated.
- Mr. Giffi recommended that the public and private sector coordinate around a competitiveness strategy that "drives the type of infrastructure and the development that's necessary," given our huge deficits in infrastructure spending, and to maximize investments.

Mr. Giffi praised Secretary Locke, Secretary LaHood, and Senator Warner's support for a holistic view of value chains, cooperation across Federal, State, and private sector silos, and the development of a comprehensive national competitiveness policy. The Secretaries and Senator Warner "are certainly moving in the right direction," Mr. Giffi stated, but added that "the big challenge, for the Federal Government in particular, is dealing with the execution challenges" of such an approach.

Critical Infrastructure Needs

Angel Mendez (Cisco) cited three national qualities – education, communications, and transport infrastructure – that are critical to the competitiveness of supply chains, particularly those of high-technology goods and service providers.

- For companies such as Cisco, where ability to innovate is a key global differentiator and sales asset, an effective, efficient educational system at the national level (primary, secondary, and postsecondary) and the availability to attract and retain globally-adept talent and skilled labor are "extraordinarily critical" both in the United States and globally, Mr. Mendez reported.
- "As a country we've fallen behind in primary and secondary education relative to math and science, and that becomes a really important "do differently" for this country in terms of generating talent," Mr. Mendez reported. America's educational system needs to turn out engineers that are not only technically superior but also globally adept, "so that when we hire that skill set he can lead global teams, understand business in a broad scale, and deal with the complexity that we're facing."
- A second critical ingredient is broadband penetration, which will increasingly play a big role in facilitating collaboration within the supply chain and the movement of information and goods through supply chains.
- "Supply chains are getting extraordinarily more complex, and far more global than they've ever been. It's important for us to find a way to release capacity, have people work better together, collaborate better across the supply chain in order to deal with that complexity. I think that what we have to do as a nation is continue to drive broadband penetration, because it's absolutely critical to what happens competitively across the supply chain if we're going to be moving information as well

as goods effectively across the chain."

- The last ingredient is an efficient, effective transport infrastructure, which must be considered as an end-to-end system, Mr. Mendez stated.
- "It's difficult to get your head around a multimillion dollar investment to improve, for example, the throughput of the Port of Long Beach, when that same cargo that is now moving far more effectively through the Port is going to sit on I-5 for three hours on a Saturday afternoon, bottlenecked in traffic," Mr. Mendez commented.
- By establishing standards for transport technologies in which industry can invest to monitor and secure cargo movement, the Federal Government can play a "very strong policy role" in implementing such technologies, Mr. Mendez added.

Mr. Mendez called the conference an "extraordinary meeting." "I hope we can do this again in maybe twelve or eighteen months, to have a look at all of what's going on" in supply chain management and competitiveness, Mr. Mendez stated. "Supply chain management has probably never been more complex and difficult."

Top-to-Bottom Strategy

Douglas Oberhelman (Caterpillar) described supply chain competitiveness from the viewpoint of a global manufacturer and exporter. To improve our manufacturing competitiveness, he said, we need major investments in our transport infrastructure; a comprehensive, systematic approach to improving U.S. goods movement and transport infrastructure; greater awareness of manufacturing's role in the U.S. economy; better education; and reductions in the cost of health care to businesses. In the U.S., he said, "all of us need to wake up to our internationally competitive situation," and quickly.

- Mr. Oberhelman supported both Secretaries' call for an integrated, "all-encompassing" approach to supply chain competitiveness issues. Such a discussion must look at modernizing and improving the efficiency of supply chain infrastructure to boost our manufacturing competitiveness, Mr. Oberhelman stated.
- Caterpillar has a "very deliberate strategy" of siting its production plants near its biggest markets, as Caterpillar has found that it can take between three to five weeks to move product through ports and congested land infrastructure between its U.S. and China plants, Mr. Oberhelman noted. "We've found that the shorter the supply chain when siting plants, the better off we're going to be," he added.
- Competing nations "are more aggressive apparently than we are" in finding way to move products, Mr. Oberhelman remarked. "We have to plan for rail delays around Chicago, traffic delays around Los Angeles, Long Beach delays which we see continually, and all the way back" in the supply chain to meet shipping date commitments, while in manufacturing and export-led China, they "get their product out the door, moved out of the port and across the ocean as fast as it can go."
- Mr. Oberhelman said that the U.S. needs to consider its supply chain infrastructure competitiveness systematically, and that the review must be "top-to-bottom."
- The U.S. needs to get back to having the world's most efficient internal transportation structure "in

a big way, very quickly," he stated, adding that the U.S. must "step up" its investment in supply chain infrastructure as competing nations are "taking away from us the efficiencies that we used to have." "Every billion dollars of investment is about fifty thousand jobs when we look at infrastructure," Mr. Oberhelman noted.

- Mr. Oberhelman noted that "cities, states, governments compete" worldwide for manufacturing plants and the jobs they offer. In many places in the United States, he believes, our manufacturing capabilities and jobs seem to be either unimportant or "taken for granted."
- He recommended that a U.S. competitiveness review should consider infrastructure, education, and health care. Caterpillar's biggest competition comes from Japanese and Swedish companies that "don't have one dollar" of employee health costs on their profit/loss statements, he remarked. "When we have to provide around $12,000 a year per head of health case costs, and our competitors in these other countries don't, it makes it very difficult for us to compete," Mr. Oberhelman stated.
- The U.S.' high tax rates compared with other nations "don't help our competitive situation around the world," particularly at a time when other nations are reducing their taxes, he added.
- Caterpillar recently chose to site a plant in the U.S., over a slightly more advantageous foreign location, due to political risk. The United States' low political risk is a "critical" competitiveness factor, an area in which the U.S. has a "clear, clean advantage," Mr. Oberhelman stated. "And this is something that we should use as well as we're talking about supply chain infrastructure and competitiveness overall," he added.

Impact of Inefficiencies

Ron Lewis (Coca-Cola Enterprises) focused on domestic goods movement and described the impact of infrastructure inefficiencies on urban congestion, the environment, and Coca-Cola's operations. He called for a national approach to supply chain infrastructure improvement, and a public-private partnership towards that goal.

- Mr. Lewis commented that the U.S. has a transport infrastructure "that needs to be not only maintained, but certainly improved," citing the financial and environmental costs of increased idling time and repeated shipments that Coca-Cola encounters due to local and urban road congestion and bottlenecks.
- Coca-Cola is "doing its fair share" as a private company to reduce congestion problems by using state-of-the-art routing software technology and using the largest fleet of hybrid-electric delivery vehicles in the United States, Mr. Lewis stated.
- He added that anything the Federal Government can do to help accelerate and develop clean and efficient vehicle technologies "would certainly be welcomed."
- He called for a partnership between private industry and the public sector to "drive the vision and the priorities" of where we need our supply chain infrastructure to go.
- The national vision should center on customer needs first, and then look back into the supply chain to identify how to make product flows smoother and more effective, Mr. Lewis stated.
- The public-private partnership should consider how to build more intelligent roadways; take trucks

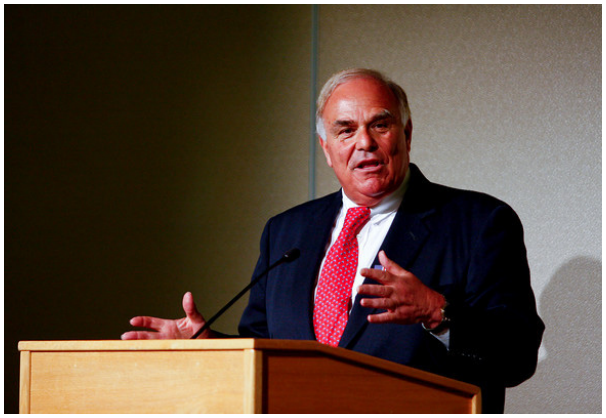
off urban roads; stabilize energy policy and accelerate "green" transportation technology; and determine "what can we do together better than apart, as a public-private partnership that begins with the dialogue that we're having today but ends with solutions that will help drive the priorities and the vision for the future that we need."

During the question and answer period, in response to questions asked by Ms. Wince-Smith and the audience, the panelists called for the development of a top-to-bottom national vision on U.S. competitiveness, aligning public sector, labor, and private sector interests; the establishment of performance goals and national standards in regulation and for supply chain technology; investment incentives; and a focused, systematic, prioritized approach to national investments in infrastructure.

Governor Edward G. Rendell, Commonwealth of Pennsylvania

Summary of Governor Rendell's remarks from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference
May 11, 2009

Governor Rendell spoke to guests about the magnitude of the infrastructure problem, the solutions, and the challenges of funding them. Though the stimulus package carries a hefty price tag, and will be running a deficit for years to come. The Governor said it is not a question of whether the country can afford to address infrastructure. "We can't afford not to do it," he said.



Meeting the Challenges of the 21st Century

Rendell said that the United States must rebuild its infrastructure or the nation's quality of life will suffer and so will its competitiveness. He said that the United States is losing out to other countries, such as China, that are making the necessary investments in infrastructure. Without these investments it will not be possible to remain competitive in an increasingly global economy. He added that failure to address these problems now will have a severe impact on future generations. "If we don't change the way we structure spending and the amount of spending with this highway bill we're going to miss an opportunity that we won't get again for a decade."

Closing the Funding Gap

The Governor said that in order to meet funding needs, there is an imperative "to take every potential means of funding and put it in play." This includes a national infrastructure bank, public-private partnerships, and looking at new sources of revenue. "The restriction on states placing tolls on federal interstates has to end." Last year the Pennsylvania Turnpike Commission attempted to place tolls on portions of Interstate 80 but was rejected by the Federal Highway Administration. The Governor has continued to fight this saying that current methods of raising revenue, such as the gas tax, are not sustainable.

The Governor stressed the importance of engaging private investment to fund infrastructure projects. "This is the time to change the whole concept and the way we do it. Let's look at the tax code and make changes to it to make investment in infrastructure more attractive." Another solution the governor mentioned was a capital budget for the Federal Government. This would allow better planning, and the infrastructure bank could finance its projects directly. The Governor praised the Treasury for its Build America Bonds program. This program provides federal payments to subsidize interest expenses for state and local governments to issue bonds. This means that these governments will be able to borrow money for infrastructure projects that they would not have been able to afford because of the current high cost of borrowing and smaller market for municipal debt.

Public Support

Americans are willing to pay more taxes for infrastructure projects provided they are implemented in a non-political way, according to a poll by Building America's Future, a coalition co-chaired by the Governor. The poll found that 94 percent of Americans are worried about the future of the country's infrastructure and that 81 percent are willing to pay one percent more in taxes to finance the necessary improvements, provided that there is accountability and transparency.

General Duncan J. McNabb, U.S. Transportation Command

Summary of General McNabb's remarks from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference
May 11, 2009

General Duncan McNabb, the Commanding General of United States Transportation Command (USTRANSCOM), discussed the importance of the supply chain in the responsiveness and flexibility of Department of Defense operations.

The General addressed TRANSCOM's mandate to move personnel, equipment, and supplies anywhere in the world with short notice, and often working in austere conditions. With 87 ships, 1,269 aircraft, 2,150 railcars and assorted equipment, and $1.4 billion in infrastructure, this mandate requires detailed planning an execution. "If it's all going well, you don't even worry about it," he said, "and if you don't have it, it is the only thing that you can think about."

Flexibility

The unpredictability of military operations and contingencies requires TRANSCOM to be nimble and responsive, and this requires a holistic approach to supply chain management. "It's a lot more than moving an airplane or moving a ship; it's about the distribution of those goods all the way to that person that is in need," he said, adding that "The ability to mix and manage that in a very effective way" is what gives TRANSCOM tremendous flexibility.

Private sector carriers are an important for the supply chain network to maintain the flexibility it has. "What a game-changer commercial industry has been for us," he said of the 1,001 aircraft and 360 vessels in the Civil Reserve Air Fleet (CRAF) and Voluntary Intermodal Sealift Agreement (VISA). In fact the General said that most of the ships in the Military Sealift Command are surge capacity in case the commercial fleet is unable to meet TRANSCOM's needs. Private companies make up the majority of sealift capacity.

Having these civilian commercial partners is an integral part of the Defense Department's supply chain plan. TRANSCOM manages the process, but these civilian partners expand the potential assets at their disposal to meet the needs of commanders around the world in a responsive and timely manner.

The Need for Intermodal Solutions

McNabb told guests he thought future improvements will come from intermodal solutions, and from integrating military, civilian, and commercial assets to better distribute personnel, equipment, and supplies. He said the question is, "How do we take best advantage of air to land or sea, and back to air?"

Rota Spain is a facility that provides the military with such a capability. McNabb said that having a port collocated with an airfield, and having the resources to transfer shipments rapidly between the two make Rota the "very best intermodal port" in DOD inventory.

Not all of the shipments are military cargo either. TRANSCOM is responsible for transporting people and household goods as well. Moving forces in and out of theater, as well as moving personnel to new duty stations with their families or those transitioning out of active service are all TRANSCOM responsibilities.

National Freight Policy
Meeting Tomorrow's Demands

Breakout session summary from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference

May 11, 2009

Moderator and Panelists:

Fran Inman, Chair, Los Angeles Chamber of Commerce and Sr. VP, Majestic Realty

Rick Gabrielson, Director of Import Transportation, Target

Jim Butts, Senior Vice President, C.H. Robinson

Hiroko Kawai, Principal, Rocky Mountain Institute

Mike Payette, Assistant VP for Government Affairs, Union Pacific (CREATE)

Rapporteur:

John Miller, U.S. Department of Commerce

The main points of the breakout session included:

- The issue of freight transportation should be an urgent priority for the Government; future freight policy discussions should also include the Department of Energy, and the Department of Transportation should re-establish the Office of Intermodalism
- It is important that the Government increase the development of accurate and timely data to assist private industries in transportation decisions, and recognize the interdependency of passenger and freight transportation.
- An advisory council for the development of freight policy should be a vital part of the information gathering and dissemination process and will help increase the role of the private sector and encourage growth
- Training and technology are vital to future efficiency gains, and industry growth
- The Federal Government must have appropriate jurisdiction to develop clear and consistent rules and regulations that apply to freight transportation nationwide to avoid widely varying local regulations throughout the country

Introduction

On May 11, 2009 The Department of Commerce and the Department of Transportation held a joint conference on infrastructure strategies. One of the breakout sessions at the conference, The National Freight Policy – Meeting Tomorrow's Demands breakout session gave experts the opportunity to discuss critical supply chain infrastructure needs and chokepoints from the perspective of small, medium and large companies as well as insight gained through public-private partnerships. The breakout was effective in expressing concerns and suggestions elemental to the development of a national freight policy.

Hidden Costs and the Government's Role

The session was moderated by Fran Inman, Chair of the Los Angeles Chamber of Commerce and Senior Vice President of Majestic Realty. Ms. Inman emphasized the need for a national freight policy in the United States by describing the chokepoints and congestion within the country as hidden taxes that cost Americans billions of dollars each year. Each of the panelists agreed that a freight policy was sorely needed, and along with feedback from attendees pointed out some of the important aspects that a policy must address.

The panelists were extremely happy that the Department of Commerce was coordinating with the Department of Transportation on supply chain infrastructure, and stressed the importance of focusing on competition and commerce when developing a freight policy. Rick Gabrielson, Director of Import Transportation for Target suggested that the Office of Intermodalism should be reinstated in the Department of Transportation. Further, the panel seemed to agree that more involvement in freight policy should come from different departments in the Federal Government, most notably the Department of Energy.

Jim Butts, Senior Vice President of C.H. Robinson stated that new regulations should not create a disadvantage to small businesses, and that as laws are updated, and as the country goes green, small businesses will need assistance. The panel suggested that an advisory council be established that encompasses input from all stakeholders, both public and private, including small and large companies, to make sure that the country develops the most efficient and effective freight movement system that takes into account the impact on the competitiveness of businesses. The panel pointed out that 28% of the country's GDP is dependent on freight movement. Fundamental to an advisory council would be accurate and timely data, something that is severely lacking in the current transportation scheme. Data is needed so that stakeholders know where the nation is going in terms of transportation, and where investments can be made within the transportation system.

The Federal Government needs to assert its role in the regulation of interstate commerce to assure continuity of rules and regulations across the country, and prevent the need for shippers to adjust to different sets of regulations in each state or region that they do business. Hiroko Kawai, Principal from the Rocky Mountain Institute stated that many businesses don't want to invest in the supply chain system today, because they don't know what rules or regulations may be enacted tomorrow. This lack of information and stability inhibits investment in potential technologies, such as more fuel efficient trucks, which require high levels of investment. Ms. Kawai pointed out that technology could have already taken greater leaps in increasing the efficiencies of transportation, but companies are afraid to take the lead in creating and implementing these technologies out of fear that regulations will change and they will be left out in the cold. Technology was deemed to be vital to the development of a more efficient supply chain, and beyond that, it is essential to train and educate current and future supply chain professional s in the strategies and technologies that will help to advance the efficiency and effectiveness of the system. The panel stressed that it is essential to get guidance and accurate information to, and receive input from, the private sector so they may increase their role in supply chain infrastructure development.

Infrastructure Funding

Mike Payette, Assistant Vice President of Government Affairs for Union Pacific Railroad pointed out the Chicago CREATE program as an example of an effective public private partnership. He said that before the program began, congestion on the freight rail system was often summed up as; it took 48 hours to travel from California to Chicago, and 48 hours to travel through Chicago. The CREATE program has begun to alleviate that congestion, but more must be done, and public-private partnerships will be elemental to funding any national freight policy. Funding mechanisms will look very different for each project in each location, but once the framework has been established, the appropriate funding can be developed.

An attendee brought up the issue of whether a national freight policy should begin development before funds are allocated or secured. The panelists suggested that the policy should be developed along with the development of a funding for the supply chain, but that the lack of current funding should not deter that development of freight policy. The panel also suggested that the development of the policy could help to create funding that is tailored to the needs of infrastructure, thus making it more effective, and reduce the potential for wasteful spending.

It was also point out that the Harbor Maintenance Tax diverted money away from its initial intention, and was a perfect example of what not to do in funding development. The panel agreed that there is an interdependency of passenger and freight transportation, however freight transportation must have its own funding, and the funding must be specific in order to reduce the tendency for funds to be diverted.

Conclusion

The panelists felt that more studies and reports should not be the outcome of this conference. Urgent action has been needed in freight transportation for many years, and the time to create more studies reports, and literature has long past. Short term and long term solutions to problems need to be developed now. It was pointed out that approximately 12% of all shipping vessels are at anchor now. The time to build is now, and the time to develop a freight policy is now, as Ms. Inman put it "The train needs to leave that station."

IT's Role in the Supply Chain Infrastructure

Breakout session summary from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference

May 11, 2009

Moderator and Panelists:

Leanne Viera, Partner, Supply Chain Management, Public Sector, IBM

Chris. J.F. Gutierrez, President, Kansas City SmartPort

Kerry W. Cruze, Director, Supply Chain and Program Management Systems, Boeing

Greg Deabler, Industry Executive, Global Government Industry Group, EDS, an HP Company

Roderick MacKenzie, Vice President for Programs and Chief Technical Officer, ITS America

Rapporteur:

David Rutter, U.S. Department of Commerce

The main points of the breakout session included:

- IT should facilitate the application of commercial best practices to public sector management.
- IT should serve to improve the speed and quality of information between shippers, carriers, and public sector agencies in the supply chain.
- Global and domestic supply chains should be re-examined in the context of logistics networks.
- IT should play an important role in improving infrastructure performance through accountability by linking transportation funding to IT enabled performance metrics.
- Interoperability facilitated by private and public sector standards is an imperative to improve the competitiveness of U.S. supply chain management.

Introduction

The IT panel of the Supply Chain Infrastructure Conference included: Leanne Viera, Partner, Supply Chain Management, Public Sector, IBM; Chris. J.F. Gutierrez, President, Kansas City SmartPort; Kerry W. Cruze, Director, Supply Chain and Program Management Systems, Boeing; Greg Deabler, Industry Executive, Global Government Industry Group, EDS, an HP Company; Roderick MacKenzie, Vice President for Programs and Chief Technical Officer, ITS America.

Summary

Viera opened the discussion by explaining IBM's goal of bringing commercial best practices in IT to public sector operations and policy development. Viera defined the use of IT as turning advanced algorithms and computational power into intelligence to improve system management, specifically through the use of transistors. Viera mentioned that from 2001 to 2010, the amount of transistors per person increased from 60 million to 1 billion, at a cost of 1/10 millionth of a cent each. This increase in accessibility could result in the world containing a trillion networked devices, according to IBM. Viera explored the potential of smart technologies to address systemic problems affecting the supply chain infrastructure, such as traffic and congestion. Viera estimated congested roadways cost $78 billion annually in the form of 4.2 billion hours and 2.9 billion of wasted gas. IBM offers supply chain services to help customers use IT products and applications to improve existing supply chain infrastructure.

Gutierrez joined the conversation and described Kansas City SmartPort's Trade Data Exchange (TDE) and how the portal has improved security and efficiency in Kansas City's supply chain infrastructure. Gutierrez explained that TDE is a global, end-to-end platform for collecting, synchronizing and analyzing logistics transactions that provide actionable intelligence and alerts related to the transit of goods. Gutierrez detailed the five layer architecture of the TDE and how IT hardware sensors can transmit real time data to SmartPort applications and then relay the information symmetrically to shippers, providers, and U.S. and foreign government agencies responsible for regulating and operating the supply chain infrastructure. Ultimately, SmartPort aims to reduce transit times and improve safety and security in Kansas City to grow the Kansas City area's transportation and logistics industry through more advanced and organized communications.

Cruze began by characterizing Boeing's extensive supply chain. On a given day, Boeing Commercial Airplanes is responsible for 57,000 shipments in 84 countries through more than 4,000 suppliers. Cruze explained that Boeing's most important priorities in managing a complex supply chain is managing information and using IT applications to shorten the supply chain, which ultimately shortens the product cycle. Cruze described the need for Boeing to operate a flexible and responsive supply chain, which makes air freight Boeing's preferred mode of transportation to consolidate and accept inputs. IT applications have been attributed with almost $260 million in cost savings for Boeing. Cruze stressed the need for more interoperability between Boeing's suppliers, government agencies, and providers so that IT applications can more effectively utilize existing infrastructure.

Deabler reiterated the importance of the transistor and the possibility of a trillion networked devices. Furthermore, Deabler highlighted the evolution of IT devices, such as radio frequency identification (RFID) from larger and less flexible devices to memory spot technology that measures 1.4mm x 1.4mm. HP continues to progress in IT product development, but shippers and supply chain operators should also consider how to manage the IT tools available. Deabler suggested that utilizing existing IT tools in innovating ways could achieve the speed, security, and synchronization necessary for a 21st century supply chain. For example, Deabler contrasted traditional supply chains with IT enabled logistics networks. Deabler explained that traditional supply chains optimize individual links, however the system is generally closed and stove piped by organization or by function. In contrast, logistics networks are open, service-oriented and enable networked users, which help satisfy a more dynamic demand. Deabler stressed the need for more interoperability in supply networks to more effectively meet dynamic consumer demand.

MacKenzie joined the conversation by stressing that intelligent transportation systems (ITS) have the ability to improve efficiency in existing infrastructure. MacKenzie described ITS America as a trade association representing over 400 public and private sector organizations involved in all aspects of ITS research, planning, development, and deployment. ITS America's mission is to promote collaboration and networking in research, development, and design of ITS technologies to accelerate multimodal deployment and interoperability. MacKenzie highlighted the ability of ITS to wirelessly connect over 7 million commercial vehicles to each other as well as physical infrastructure through programs such as the public-private partnership vehicle infrastructure integration (VII) program, now also known as IntelliDriveSM, which could help reduce congestion, increase safety, improve energy efficiency, and make better use of existing infrastructure. IT applications have the potential to optimize commercial shipments, passenger transportation, and public sector operations within the national transportation system through enhanced communications. Furthermore, MacKenzie stressed the importance of IT's role in improving performance through accountability. He suggested linking transportation funding to performance goals to ensure measurable improvement; ITS has the unique ability to provide effective performance metrics.

A post-panel discussion resulted in several participants and panelists highlighting the need for enabling industry standards for IT applications related to supply chain infrastructure, transportation, and logistics. Standards would effectively link developing IT products through common platforms and facilitate innovation in this important sector, which has the ability to improve existing infrastructure to meet the needs of America's 21st century commercial needs.

Competitive Impact of Safety and Security

Breakout session summary from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference

May 11, 2009

Moderator and Panelists:

Jon Gold, VP Supply Chain and Customs Policy, National Retail Federation

Sue Presti, Sr. Director of Government Affairs, The International Air Cargo Association

Bradd Skinner, US Customs and Border Protection, Customs-Trade Partnership Against Terrorism (C-TPAT)

Martin Rojas, Executive Director, American Trucking Association

Aaron Schulman, Partner, Toffler Associates

Rapporteur:

Russell Adise, U.S. Department of Commerce

The main points of the breakout session included:

- **No new supply chain security programs are needed; existing programs need to be better leveraged and made more efficient**
- **Improved coordination and information-sharing is needed among Federal Departments, national customs administrations, and current security programs, to make better use of currently acquired information**
- **Improve assessment of potential supply chain security risks, in order to more efficiently use private and public sector security resources and programs**

Mr. Jonathan Gold, the National Retail Federation's Vice President for Supply Chain and Customs Policy, moderated the conference's panel on safety and security issues. Panel members discussed the status of Federal cargo and supply chain security programs and the impacts that these measures have had on U.S. supply chain competitiveness. The panel participants included Martin Rojas, Executive Director - Safety & Security Operations, American Trucking Associations; Sue Presti, Senior Director of Government Affairs, The International Air Cargo Association; Aaron Schulman, Partner, Toffler Associates; and Bradd Skinner, Director of C-TPAT - Industry Partnership Programs for the Department of Homeland Security's U.S. Customs and Border Protection Bureau (CBP.)

The panel began with initial comments by the panelists on the status of supply chain security and its potential impacts on the system in the future.

Bradd Skinner opened the discussion by reaffirming that CBP remains committed to a layered, interdependent series of cargo security measures, including CBP's non-regulatory security partnerships with the private sector, of which the Customs-Trade Partnership Against Terrorism (C-TPAT) is a "critical part." As part of C-TPAT membership, U.S. import supply chain entities voluntarily agree to incorporate security measures into their overall organizations and business practices throughout their supply chains, in return for fewer border examinations, faster entry procedures, and other benefits. C-TPAT currently has 9,200 members, including over 4,200 importers and 2,500 transportation providers in all modes of transportation, representing some 48% by value of all merchandise entering the U.S., Skinner reported. C-TPAT remains voluntary because CBP has realized that there cannot be a "one size fits all, cookie-cutter approach" to international cargo security, Skinner added, noting that the most vulnerable supply chain nodes – container stuffing and inland drayage overseas – lie beyond U.S. regulatory authority.

Martin Rojas outlined a number of challenges that safety and security regulations present for the trucking industry, which generates about 80% of U.S. transportation sector revenues and carries about 69% of tonnage. Trucking is a critical component in the intermodal and multimodal transportation environment, intersecting with all other transport modes within the supply chain. This results in the security requirements of each mode impacting trucking operations, Mr. Rojas added. The trucking industry's primary concern, Mr. Rojas explained, is the multiplicity of background checks, security plans and training programs required under the various Federal, state, and local security and safety requirements imposed after the September 11th attacks. Each truck driver, for example, may face as many as five different background checks required by different programs and levels of government, he stated. The "atomization" of the industry also presents challenges from the standpoint of understanding and implementing security measures, as 88% of U.S. trucking firms are small firms with six trucks or fewer, he noted. Lastly, meeting these requirements imposes costs; the average annual profit margin in the trucking industry is 2.5%, Mr. Rojas said.

Aaron Schulman expressed concern that, in looking at security, the U.S. isn't considering issues beyond the next budget cycle, and is addressing security issues mode-by-mode rather than employing a holistic approach. Toffler's work has found that there is a need for a security vision that looks across government bodies and sectors, and that we need to look beyond current threats and adversaries overseas, Mr. Schulman reported. In addition, the interdependencies between transport modes is not well understood, or the implications of a security disruption on upstream industries. The U.S. would do a much better job on addressing security and the implications of disruptions if it tried to understand key critical elements in the supply chain process such as our highest-priority interdependencies, Mr. Schulman concluded.

Sue Presti, of The International Air Cargo Association, explained that from the aviation perspective, the industry's largest challenge will be meeting the 9/11 Act requirement that 100% of all cargo on passenger aircraft must be screened by August 2010. This is a "monumental" challenge, Ms. Presti reported, noting that too few companies participate in the Transportation Security Administration's voluntary Certified Cargo Screening Program (CCSP), and the screening technology for passenger aircraft-carried cargo cannot address consolidated cargoes. She also noted that, like trucking, air cargo firms face a multiplicity of security requirements. The industry would like to engage in dialogue with the Federal Government towards a fundamental integration and coordination of multiple, discrete security programs, particularly towards developing and leveraging common criteria for voluntary partnership program participation, Ms. Presti reported.

Jon Gold, as moderator, asked for panelist comments on whether enough has been done to improve supply chain security, given the multiplicity of security programs in place, or whether there are particular security risks and transportation modes, such as small vessels, for which new programs and requirements are necessary. Bradd Skinner reported that from CBP's perspective, more work must be done to improve and enhance current measures, to make them more efficient and to adjust to new threats and threat technologies, and to address areas such as small vessels and land border crossings in which more security is required. In contrast, both Martin Rojas and Sue Presti stated that enough programs have been put in place. Mr. Rojas stated that existing security programs and measures need to be better coordinated, and that a better approach must be developed to assign threat risk among modes and activities, as neither industry nor government have unlimited resources to implement security measures. Mr. Rojas also called for better government-industry information sharing on credible threats, so that industry can take appropriate protective measures. Ms. Presti added that more should be done to leverage the information available on firms through the various layered security measures, in order to make implementation of existing programs more efficient.

Mr. Gold asked Aaron Schulman to describe Toffler's findings on infrastructure security deficiencies. Mr. Schulman described "desynchronization" and a widening gap between industry and government on how to address supply chain security and infrastructure issues, as well as the interdependencies between transport modes and between supply chain actors. Mr. Schulman also described certain infrastructure-related areas, such as cybersecurity, in which security is not being addressed as effectively as possible and possible threats are not well understood.

Mr. Rojas added that failure to accurately assess the nature and origin of supply chain security threats leads to additional costs imposed on industry in the form of multiple and inefficient security measures, noting that a domestic terrorist such as Timothy McVeigh would be unlikely to obtain a commercial driver's license (which requires a certain level of screening.) Better use of knowledge infrastructure and technology will be critical to this process, Mr. Rojas said, noting the advance information on shipments obtained through CBP's "24 Hour" and "10+2" filing requirements and submitted through CBP's Automated Commercial Environment. "Industry is willing to do our share" to improve security, Mr. Rojas stated. Mr. Skinner added that CBP's efforts to partner and share information with other nations' customs administrations through the World Customs Organization SAFE Framework is "important" to this process, in that it will help the U.S. to more accurately identify and interdict high-risk cargoes.

Mr. Gold concluded the session by asking each of the panelists to provide one piece of advice to the Administration on the importance of security within supply chains, and how the Federal Government should further proceed with supply chain security. The panelists' recommendations were as follows:

- Leverage existing programs
- Look beyond the current budget cycle, in order to take a longer-term approach to security risks, threats, and requirements
- Consider the interdependencies among supply chain actors and transport modes
- Make better use of existing data and cargo reporting requirements
- Consider how to better use advanced technology and improved analytic tools
- Break down the silos among Federal Departments and security programs to better coordinate and leverage existing security programs
- Improve assessment of potential supply chain security risks, in order to more efficiently use private and public sector security resources and programs

Greening the Supply Chain: Challenges and Opportunities

Breakout session summary from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference
May 11, 2009

Moderator and Panelists:

Kurt J. Nagle, President, American Association of Port Authorities

Michael F. McGhee, Acting Deputy Assistant Secretary of the Air Force

Edna Conway, Sr. Director, Manufacturing, Advanced Compliance & Social Responsibility, Cisco

Michael Replogle, Environmental Defense Fund

Mark P. Stehly, Assistant Vice-President Environmental and Research & Development, BNSF

Bruce Harris, Director, Federal Government Relations-Sustainability, Wal-Mart Stores, Inc.

Rapporteur:

Jane Siegel, U.S. Department of Commerce

The main points of the breakout session included:

- **Focus not just on the supply side – new capacity in rail and road – but on the demand side as well, which means economizing the use of the supply chain through congestion pricing, information technologies for better coordination, and "transit equity" that allows greater control by states of federal funds.**
- **Improve the entire value chain to include sources; land, water, and waste management; and greenhouse gas emissions.**
- **Increase the use of rail transport, which is two to three times more efficient than trucking.**
- **Set aspirational goals, such as Wal-Mart's goal to produce products with 100 percent renewable energy, and then drive suppliers to meet those goals.**
- **Focus on the development of synthetic fuels that can be designed to lower emissions of pollutants and carbon dioxide.**

The imperative to build a clean and efficient supply chain infrastructure represents at once a major challenge to the design of the supply chains of the future and an opportunity to create competitive advantage, based on energy efficiency and efficient, socially beneficial environmental stewardship. The panel addressed these key issues from the perspectives of port operators, land transportation experts, leading green supply chain operators, managers of specialized high-tech supply chains, and private environmental organizations.

Five presentations were given by the expert panel on "Greening the Supply Chain." Kurt Nagel, president of the American Association of Port Authorities, moderated. Mr. Nagel introduced the discussion by noting the importance of improving port infrastructure and connecting land routes to water terminals, and that the port authorities were well placed to coordinate trade and transportation policies.

Michael Replogle, Transportation Director of the Environmental Defense Fund asserted that we are in the midst of a profound paradigm shift and that the transportation solutions of the future will not only focus on the supply side, the building of roadway and rail, but will balance supply with demand. Noting the public support for national planning goals including minimization of fuel use supporting advances in the pending SAFETEA-LU legislation, Mr. Replogle enumerated several demand side traffic management techniques such as congestion pricing, the application of new information technologies, and noted Congressman's Oberstar's call for "transit equity," a way of allowing states more control over federal money.

Edna Conway, Senior Director, Advanced Compliance and Social Responsibility for Cisco, explained that she uses five "big impactors," environmental factors that must be considered in a holistic way when considering product development and production. These factors are: sources; water use and quality; greenhouse gas emissions; land use and waste; and hazardous waste management. Further, Cisco looks at suppliers, non-governmental organizations, and universities for information and potential concerns or issues. Cisco also thinks determines whether there are industry standards available and, finally, how it company might educate regulators. All of these impacts, resources and issues must be implemented across the process.

Mark Stehly, Assistant Vice-President for Environmental and Research & Development discussed rail transport of goods. He noted that rail transport is two-three times more fuel efficient than truck transport, and two-four times cleaner (emitting less nitrogen oxides) than trucks. With certain retrofits, now being planned for, rail transport would become more efficient and cleaner in the future. Mr. Stehly noted the particular problems that the Los Angeles ports have in meeting National Ambient Air Quality Standards because the City of Los Angeles cannot control emissions from ships coming into its ports. Mr. Stehly outlined plans for the Southern California International Gateway, which would enlarge the capacity of rail facility for these ports.

Bruce Harris, Director, Federal Government Relations-Sustainability, Wal-Mart Stores, Inc. described Wal-Mart's product development thinking under a sustainability scenario. As with Cisco, Wal-Mart takes a holistic approach. Wal-Mart adopts aspirational goals for meeting its sustainability commitments that apply to its own footprint and that of its supply chain. The company strives to be supplied by 100%

renewable energy, create zero waste and sell products that sustain the environment. For example, Wal-Mart would work with its suppliers to identify sources of organic cotton, cutting down on the use of fertilizers and other chemicals, or, in another example reduce the tin foil and plastic in the packaging of allergy medicines. Suppliers would be required to meet these standards.

Michael F. McGhee, Acting Deputy Assistant Secretary of the Air Force for Energy, Environment, Safety and Occupational noted that due to the purchase of jet fuel, the Air Force is the largest user of aviation fuel among Department of Defense agencies. The Air Force is thus looking at ways to develop synthetic fuels. Under the Energy Independence and Security Act of 2007, the Department of Defense must perform a life cycle analysis to procure alternative or synthetic fuels from raw materials to combustion in jet aircraft transport. The analysis must show that the alternative is equal to or less than the conventional petroleum product.

Financing a Competitive Supply Chain Infrastructure

Breakout session summary from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference

May 11, 2009

Moderator and Panelists:

Dana Levenson, Managing Director and Head of North American Infrastructure Banking, The Royal Bank of Scotland

Regina McElroy, Innovative Program Delivery, DOT

Jeff Holt, Bank of Montreal

Andrew Herrmann, Chairman, American Society of Civil Engineers (ASCE) Report Card & Managing Partner Hardesty & Hanover

John A. Flaherty, Principal, The Carlyle Group

Rapporteur:

Joe Holecko, U.S. Department of Commerce

The main points of the breakout session included:

- **Address necessary funding issues in the highway bill reauthorization bill such as new sources of revenue to augment the gas tax, dedicated "firewalled" funding to projects that will improve the condition of American infrastructure, and a regulatory or oversight body to evaluate and direct transportation funding based on objective and scientific criteria.**
- **State and local governments should evaluate their portfolios of transportation assets and find those that would make attractive investments and sell those to private investors to fund new projects and upgrades.**
- **Provide increased funding and regulatory support for programs that engage private capital such as private activity bonds, TIFIA, and state infrastructure banks.**
- **Focus efforts on developing a regulatory framework that protects the public interest while respecting the need for private investors to generate a return.**
- **Evaluate what has worked and what has not and apply to project selection and the drafting of contracts such that PPPs bring a "marriage of interests" where the project is mutually beneficial and the risks are assumed by the party most capable of mitigating them.**

Introduction

The panel Financing a Competitive Supply Chain Infrastructure convened financing experts from banking, private equity, engineering, and the federal government to tackle the issue of financing for supply chain infrastructure upgrades, improvements, and new capacity. Dana Levenson, the moderator, and Managing Director and Head of North American Infrastructure Banking at The Royal Bank of Scotland, briefly introduced each panelist before beginning the discussion.

The Infrastructure Deficit

Andrew Herrmann, a partner at the engineering and construction consulting firm, Hardesty and Hannover, which specializes in bridge construction, and Advisory Council Chairman for the American Society of Civil Engineers' 2009 Report Card for America's Infrastructure opened with the Report Card's assessment of U.S. infrastructure, which gave U.S. Infrastructure a grade of "D." Specific to transportation, bridges received a "C" and rail received a "C." Aviation, dams, and transit earned "D's," and Roads and Inland waterways both earned a "D-." Herrmann added that the highway system is nearing the end of its 50-year design life and many bridges have exceeded their original lifespans by using stopgap upgrades. In addition, inland waterways that could be used to relieve roadway congestion are in a poor state of repair with a backlog in dredging. Accounting for the stimulus packaged and estimated budget projections, Herrmann estimates about $1.2 trillion in infrastructure investment during the five year period. This amount is far less than the $2.2 trillion in required infrastructure investments needed according to the Report Card.

Levenson suggested that there is currently over $500 billion in private funding available for infrastructure projects. This assumes $255 billion as a call on capital today and two-to-one leverage, which is historically fairly conservative. Improvements in credit markets and lending could grow the potential financing that could be deployed for these projects. Levenson added the caveat that many of these funds are looking for good projects anywhere, and that might include those outside of the US.

Meeting the Financing Needs

Regina McElroy, Director of the Department of Transportation's (DOT) Innovative Program Delivery office outlined a number of DOT programs aimed at accessing private capital to finance transportation infrastructure projects, including the most well known, the Transportation Infrastructure Finance and Innovation Act (TIFIA) program. TIFIA provides loans, loan guarantees, and lines of credit for large projects of regional significance. Also mentioned were Grant Anticipation Revenue Vehicles, or GARVEE bonds. These allow a state to finance a project by issuing bonds backed by approved federal funds dispersed in the future. McElroy said one of the problems with transportation funding is that "freight" as such "doesn't have a seat at the table." Some of these problems could be addressed with a National Infrastructure Bank, which would fund projects that have national or regional significance, with selection based on an objective cost-benefit analysis.

Attracting Private Investors

John Flaherty, a Principal with The Carlyle Group's Infrastructure fund, said most of his investors, primarily large institutional investors such as pension funds, look for investments that provide lower returns over a longer time horizon, but with much less volatility. Flaherty said that three things had changed that made infrastructure a more attractive investment. First, a political change highlighting the importance of infrastructure to the U.S. economy. Second, the stimulus package, which dovetails from the first. And third, the economic crisis has made previously attractive investments less so. A number of panelists mentioned that the days of private equity making a 25 percent Internal Rate of Return (IRR) with an exit after three years are gone – at least for the foreseeable future.

Flaherty closed by saying that there would be four things to look for in transportation finance for the future. The first is the $1.5 billion in discretionary funding as part of the American Recovery and Reinvestment Act, which he called a "beta test" to see what types of projects are funded and what criteria are used. Most of the participants hoped as much of it would go to fund TIFIA as is allowed by law. The second is a second stimulus bill. Though this would be some time in the future, a portion could be expected to go toward infrastructure projects. The third is a national infrastructure bank. Some panelists said that the bank is a good way to allocate funds to projects that are actually beneficial, while others expressed concern that a national organization ignores the different needs of different parts of the country. Levenson added that the current plan is to simply disperse money to projects, in which case "there is nothing 'bank' about it." Lastly Flaherty spoke about the reauthorization of Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). This bill provides funding for highways and public transportation. Flaherty said that important items in the bill will be tax and regulatory changes, and TIFIA funding. "I've been through four reauthorizations [of the highway bill] and this is the most important since 1991," Flaherty said.

The Ports Perspective

Jeff Holt, of the Bank of Montreal, who deals primarily with port financing, spoke briefly about terminal operating firms in the US, stating that private financing of terminal operating firms has always been a superior model, which is why there are few public terminal operating firms in the country. He said that infrastructure funds such as Goldman Sachs and Highstar Capital both recently purchased private family owned terminal operating firms such as Maher Terminals in New Jersey. He added that investors are currently looking for distressed assets and are not interested in new or "greenfield" assets. "I don't think the math works on greenfield," Holt said, explaining that it can take a long time – possibly years – to begin to receive cash flows, and that this destroys the value of the project. He went on to say that, in general, the government is the best at developing new assets because of the resources they bring to the process. But while the skill set for development rested with the public sector, he said that the public sector is generally a poor operator.

Closing

Following the initial remarks members of the audience asked questions about cap and trade and the role of the Department of Commerce in infrastructure finance. In response to Jeff Holt's assertion that private companies are better operators, Levenson pointed to the Chicago Skyway, saying that prior to being privatized, the road operated at about 25 percent capacity using manual tolls, and had "leakage" or missing toll money. Three months after privatization they had automatic tolling and were able to then increase capacity to over 90 percent. Holt asserted that while he believes that private operators are more efficient, it doesn't matter if they actually are because the public's competency is in developing new assets and it simply needs the money to do so. Thus, governments should be constructing new projects, selling them, and using the money to build new projects. He said what they really need is the money to do this. "They've got a AA rating and no money."

Breakout Session Conclusions

Summary of all breakout sessions from the *Game Changers in the Supply Chain Infrastructure: Are We Ready to Play?* Conference

May 11, 2009

Private and public sector leaders engaged in discussions surrounding issues that significantly impact the competitiveness of the U.S. supply chain infrastructure. The objective of focused panel sessions was to develop a set of recommendations for policymakers, public sector managers, and supply chain stakeholders to improve the infrastructure that supports freight mobility and a competitive transportation system to move goods, services, and people. The outlined recommendations do not constitute a consensus, however provide important insights into the development of effective supply chain infrastructure policy, a more competitive business environment, and sustained economic growth and prosperity.

Plenary

- Top-to-bottom, nationally-led competitiveness strategy and agenda.
- Improvements on the national level for transport infrastructure.
- Improvements in education, health care, energy, and tax and regulatory issues.
- Collaboration across Federal, state, local, labor, and private sector silos.
- Systematic approach to investments in infrastructure.
- Establishment of standards and an incentivized approach to investment.

Freight Policy

- Inter-agency cooperation to develop national freight policy.
- Re-establishment of the Office of Intermodalism in the Department of Transportation.
- Development of accurate and timely data.
- Establishment of an advisory council in the development of freight policy.
- Expanding the role of private sector in determining freight policy.
- Introducing new technologies and promoting training.
- Recognition of the links and conflicts between passenger and freight transportation.
- Clearly identifying federal, state, and local jurisdictions for clarity in rules and regulations.

IT

- Facilitate the application of commercial best practices to public sector management.
- Improve the speed and quality of information between shippers, carriers, and public sector.
- Re-examine global and domestic supply chains in the context of logistics networks.
- Link transportation funding to IT enabled performance metrics.
- Establish interoperability facilitated by private and public sector standards.

Finance

- Utilize upcoming surface reauthorization to address necessary changes.
- Explore private sector asset management to raise cash for new and complimentary projects.
- Continued funding of private activity bonds, TIFIA, and state infrastructure banks.
- Recognize public and private sector interests in Public-Private Partnerships (PPP)
- Allocate risk in PPPs to parties most capable of mitigating them.

Safety and Security

- Leverage existing programs and increase efficiency.
- Improved coordination and information-sharing across public sector agencies.
- Improve assessment of potential supply chain security risks to focus resources.

Environment

- Utilize demand side management such as congestion pricing and information technologies.
- Target efficiencies in: land, water, waste management, and greenhouse gas emissions.
- Promote a cost efficient, fast, and reliable mode neutral transportation system.
- Set high goals for renewable energy and environmental compliance.
- Focus on the development of synthetic fuels that can be designed to lower emissions.

The International Trade Administration's mission is to create prosperity by strengthening the competitiveness of U.S. industry, promoting trade and investment, and ensuring fair trade and compliance with trade laws and agreements.

INTERNATIONAL
TRADE
ADMINISTRATION

Manufacturing and Services
Office of Service Industries
1401 Constitution Ave., NW
Washington, DC 20230

T 202-482-3575
F 202-482-2669

www.trade.gov/mas

June 2009