

Luncheon Remarks
NEXTRANS Summit

Victor L. Lechtenberg
Vice Provost for Engagement, Purdue University

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Good afternoon. I want to join others in welcoming all of you to this NEXTRANS Summit. I know we have stakeholders here from federal, state and local governments, industry, universities and the non-profit sectors. It is our honor to host this event and bring all these important players together.

My congratulations to everyone involved with the NEXTRANS Center. This work is very important to Purdue University, this region and our nation. We are very pleased to have this work taking place on our campus and in what we believe is a very exciting research, learning and engagement complex, our Discovery Park.

The purpose of this summit is to explore mechanisms to collaborate and partner for innovative and integrated solutions to current and emerging challenges in transportation and logistics.

NEXTRANS is providing a new vision for partnerships involving the academia, industry and government. These partnerships are creating new research models that are also opening entrepreneurship opportunities for our faculty and students.

Purdue is a land grant institution established to use its learning, discovery and engagement to serve our state and nation. We take this responsibility very seriously and work very hard to collaborate and partner in many areas of our economy, including information technology, the life sciences, and advanced manufacturing in addition to transportation and logistics.

Indiana has been called the crossroads of America. It is a major transportation hub, and as such, Purdue is very active in supporting and working with our transportation and logistics partners.

Transportation is the backbone and enabler of our global economy. The e-commerce revolution couldn't have happened without innovations in global supply chain.

As U.S. Secretary of Transportation Mary Peters notes, "Transportation lies at the core of the freedom we enjoy as Americans – freedom to go where we want, when we want – freedom to live and work where we choose, and freedom to spend time with our families."

She says: " If we want to keep our economy strong and maintain our high quality of life, we must keep our transportation system vital and viable. First and foremost, we must make travel safer. Second, we must boost the entire network's performance by improving predictability and reliability. And, finally, we must find 21st-century solutions to 21st-century mobility challenges."

Our transportation infrastructure is aging, it is congested, and, as Secretary Peters points out, "robbing our nation of productivity and our citizens of one of their most valuable resources – time."

We must address these issues and it is not the sole responsibility of any one sector. We must all come together to find solutions.

Building partnerships between government, industry, not-for-profits and universities is more important today than at any other time in our nation's history. American innovation today depends upon university research.

Major corporate labs that drove innovation and research in the 20th century such as Bell, Xerox and RCA have virtually disappeared and industry along with government is moving into partnerships with universities to create a new model.

For example, Exxon Mobil has created a ten-year \$100 million research partnership with Stanford University; BP has pledged \$500 million in alternative energy research involving the University of California, Berkeley, a Department of Energy Lab and the University of Illinois; Intel has launched collaborative labs with Berkeley, the University of Washington and Carnegie Mellon.

Universities are well positioned for these partnerships.

In the twentieth century American universities were imprinted with a research mission, a legacy of engineer and policymaker Vannevar Bush, who in 1945 wrote to the president of the United States a report called *Science: the Endless Frontier*. It was the document that galvanized the federal government to invest in university-based scientific research.

This had an incredible impact. The second half of the 20th century was among the greatest periods of technological development in human history. And university research played a key role.

U.S. universities not only supply the basic and applied research so vital to new products and processes, university discovery, development and delivery is also helping to educate the next generation of leaders for our nation.

Today, universities accomplish 54 percent of all U.S. basic research. While this research is not aimed at developing a specific product that can be developed and delivered to the marketplace, basic research is the foundation of new products and processes.

Purdue has a long history of partnership with the Federal government in research. We have partnerships with the U.S. Department of Agriculture, NASA, the National Science Foundation, the National Institutes of Health, the Departments of Energy, Defense and much more.

Purdue also has a long history of partnership with state government for economic development. We also have a great deal of experience working with other Big Ten universities.

But old models are not enough. Purdue is transforming itself as 21st century research university with new models of partnership

At Purdue we have responded to partnership opportunities in many ways, including development of our new research, learning and engagement complex called Discovery Park.

In the past seven years Discovered Park has developed from an idea into a \$375 million interdisciplinary complex. It has 11 centers including nanotechnology, biosciences, e-enterprises, advanced manufacturing, cancer, healthcare delivery and learning as well as NEXTTRANS.

All our Discovery Park Centers and research are connected to a Burton D. Morgan Center for Entrepreneurship to develop ideas into marketable products and deliver them to the economy.

Discovery Park focuses on real-world problems such as climate change, the energy crisis, cancer, transportation and logistics.

Discovery Park is working to accelerate the time it takes to commercialize the university's intellectual property and give rise to new companies and jobs.

The Alfred Mann Institute for Biomedical Development at Purdue University is privately endowed with \$100 million and located within our Discovery Park. The university-based institute is designed to accelerate the commercialization of innovative biomedical technologies that improve human health.

Discovery Park's successes since its inception include:

- Seeding or assisting 21 startup companies, creating 165 jobs.
- 140 licenses or options on intellectual property created within Discovery Park.
- Generating more than \$223 million in external funding, including \$54 million in 2006-07.
- Engaging more than 100 companies in the 10 centers making up Discovery Park.
- Engaging more than 3,000 students, including undergraduates earning a credential in innovation and entrepreneurship. Some students in this program traveled to South Korea to learn about doing business with that large economy. Truly, Discovery Park is generating the innovators of the future!

Discovery with delivery means taking our research in Discovery Park and using it to create new business that can grow and develop in Purdue technology centers running the length of our state.

The Purdue Technology Center of Northwest Indiana in Merrillville opened in December 2004 to strengthen the economy of northern Indiana. It is already home to 19 companies with an average employee wage of \$52,000.

The Purdue Technology Center in our West Lafayette Research Park has nearly 150 companies employing nearly 3,000 people with an average wage of \$58,000 per year.

Construction is beginning on the Purdue Technology Center for Indianapolis, located by I-70 near the entrance to the airport's new midfield terminal. This technology center is part of the Purdue Research Park at AmeriPlex Indianapolis, a 78-acre development.

The Purdue Technology Center of Southeast Indiana will open this fall with a learning center, a business incubator, four new Purdue bachelor degree offerings and more.

The NEXTRANS Center vision is to foster new models for partnership and a highly qualified workforce that can develop innovative and integrated solutions for mobility, safety, and infrastructure renewal with a special emphasis on intermodal freight transportation to address regional needs and economic opportunities.

Extensive research, education, and technology transfer activities will allow NEXTRANS to:

- Develop methods and use testbeds to analyze integrated solution paradigms for mobility, safety, and infrastructure renewal.
- Develop strategies and collaborations with Region 5 state departments of transportation and the private sector to respond to the strategic regional needs of enabling an effective intermodal freight transportation system.
- Use existing outreach venues at the major university partners and Center-initiated workshops to transfer the knowledge gained through NEXTRANS research to the immediate customers: practitioners from the public and private sectors.
- Build an interdisciplinary and technology-savvy workforce equipped to function with a formal systems outlook.
- Attract underrepresented students into the transportation field in collaboration with existing programs at the major university partners and at our Martin University and IIT partners.

- Foster interdisciplinary transportation research and education collaborations within and across the educational institutions in Region 5.
- Encourage spin-off collaborations and businesses based on the knowledge gained through the Center by putting in place formal procedures and leveraging existing institutional resources in commercialization.

The Center's institutional partnering is a deliberate strategy for ensuring the successful realization of the NEXTRANS vision in terms of the research, education, and technology transfer goals of the University Transportation Centers Program.

Each major partner offers unique strengths to accomplish the NEXTRANS vision.

Purdue's transportation and infrastructure systems program, centered primarily in the School of Civil Engineering, is one of the nation's largest and includes active participation by faculty in computer science, electrical and computer engineering, mechanical engineering, industrial engineering, management, statistics, liberal arts and education, and economics.

Similarly, OSU and University of Illinois have sustained research and educational programs in transportation.

Purdue's transportation program is broad-based, OSU's program has a strong technology slant, and the University of Illinois has a sustained program on the infrastructure side. The NEXTRANS theme seeks to exploit the particular strengths at each institution.

The partnership also benefits from the strong relationship that all three universities have with their state DOTs and the currently funded research programs that address state needs.

Given the commonality of regional needs across the Midwest, NEXTRANS is uniquely poised to collaborate in research that

ultimately develops region-wide solutions and strengthens the national transportation system.

NEXTRANS sustainability is aided by the requirement of actual cash match for research projects and the proposed mix of research approaches. The cash match increases the potential for long-term funding from new public and private sectors, as the Center theme has key strategic research components.

Research by undergraduate and graduate students, research associates hired by NEXTRANS, and faculty will be instrumental to expanding the funding source pool through competitive research proposals.

In addition to a vast research infrastructure, NEXTRANS will leverage existing educational and technology transfer programs at the three major partner universities. The interdisciplinary research resources, the large pool of students, the flagship technology transfer programs and transportation conferences, and the existing commercialization infrastructure greatly increase the likelihood of long-term success and sustainability.

Purdue's Discovery Park provides NEXTRANS with a framework for interdisciplinary synergy. The Discover Park infrastructure catalyzes teams of researchers and educators to break down barriers between traditional academic disciplines and between institutions and increases technology transfer.

Discovery Park units such as the Center for Advanced Manufacturing (CAM), the e-Enterprise Center serve as large-scale, central points of contact between researchers and Midwest industry representatives and can address the Midwest regional manufacturing emphasis on freight innovations.

NEXTRANS will also draw on Discovery Learning Center resources, where sophisticated learning research laboratories can conduct learning research to inform University Transportation

Centers educational efforts and provide insights on transportation learning.

The Purdue interdisciplinary infrastructure provides access to the Center for Regional Development, which researches the role of transportation in economic development and nurtures partnerships that cut across jurisdictional boundaries of economic development agencies, chambers of commerce and governmental units.

NEXTRANS will apply regional development resources and also pursue additional collaborative opportunities with the Purdue Homeland Security Institute.

The NEXTRANS theme is synergistic with technology transfer opportunities, especially through technology-enabled innovations and public-private partnerships.

We will exploit available resources for university-based entrepreneurship and commercialization of research to generate private sector incubators and increase the private sector pool of transportation entities while providing clear pathways for technology transfer.

The Purdue Office of Technology and Commercialization (OTC) and Discovery Park represent specialized resources in this context. The Center will provide opportunities for developing technology incubators for research results across Region 5 University Transportation Centers by encouraging the use of its vast existing commercialization resources.

Once again, we welcome you to Purdue and look forward to the impact of this important effort.

Thank you.