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News For Transportation Enthusiasts

More Defense Spending, Less Highway Funding: A Perplexing Conundrum

By Joe McMahon, President

In his recent State of the Union message, President Bush asserted that our country has never been stronger or more united. He noted the need to bolster our defense during the war on terrorism, including our homeland defense needs.

The proposed presidential budget includes expected defense spending increases. Unfortunately, it also proposes a 27 percent cut in highway funding. The $8.6 billion cut next year, along with what appears to be significant uncertainty that the Congress' recessional stimulus package will include funding for needed transportation projects, represents an about-face from recent optimistic outlooks for transportation infrastructure improvement.

Also, transportation funding news from state and local governments is not looking good in the short-term. Recession-driven revenue shortfalls at both levels of government are making transportation improvement projects a convenient high profile target for cost cutting.

Cutting transportation funds is the wrong approach

Never has it been more important that we address critical transportation infrastructure needs in this country. May God forbid any major terrorist incident—biochemical or nuclear—which requires fast response via our transportation system. Also vital to homeland defense is the movement of goods on our transportation systems — almost 90 percent of goods travel via highways.

In a recent *L.A. Times* op-ed column, John Balzar cited the extended time it takes to get highway projects planned, designed, and constructed. He cited motorists' $5.8 billion per year maintenance costs due to inadequately maintained roads, estimated by the American Society of Civil Engineers, and the $78 billion loss to the 1999 economy due to accidents and traffic congestion.

He further noted that the defense budget (continued on page 5)

National News

Defense Mobilization: Ensured through the Strategic Highway Network

By Janine Cocker, Marketing Coordinator

Our nation's highways link U.S. military bases with rail, seaports, and airports, making the 161,000-mile National Highway System (NHS) a key component in national defense mobility. The Federal Highway Administration (FHWA), in association with the U.S. Department of Defense, Homeland Security Council, and the states, is committed to ensuring defense mobilization by improving the condition of the Strategic Highway Network (STRAHNET) and its connectors, a 61,000-mile subset of the NHS.

The Federal Highway Administration leads the way

When the federal government needs to respond to a threat or a natural disaster, our highways must be ready. The FHWA coordinates emergency preparedness meetings with military and state officials to address issues associated with military deployment during national emergencies. The FHWA also coordinates with the Federal Emergency Management Agency (FEMA) and the Office of Emergency Transportation in planning and implementing the hurricane evacuation liaison program, which provides traffic information during major evacuations.

The Strategic Highway Network is in great shape

The condition of (continued on page 2)

Army National Guard Pfc. Latisha Smith helps state police officers direct traffic after a hurricane.

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Our Services:

- Transportation Planning
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- ITS/Traffic Signal Design
- Land Survey
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- Structural Design
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Cooperative Program Connects Students and Professionals

By Danielle Desmarais, Engineer

The New England office of McMahon Associates experienced rapid growth in 2001 and hired five new full-time employees; they expect to bring on three more this year. In addition to their full-time staff, the regional office is proud to incorporate a cooperative (co-op) education program as part of its expansion and development within the region. Company-wide, McMahon has been participating in the co-op program with eight colleges and universities for over five years.

Co-op students bring computer knowledge to McM

The co-op program not only encourages a communal connection between the professional and academic engineering communities, but also provides McMahon — and ultimately our clients — with the most recent technology and research developments. Students from accredited colleges and universities bring current knowledge of computer programs and analysis methodologies learned in the classroom to work in the professional setting.

Training a new generation of engineers

McMahon ensures that co-op students are exposed to both the planning and the design side of transportation engineering during their semester. This multi-disciplined experience allows students to choose an interest, and to focus more specifically on these interests when returning to the classroom.

Students employed by McMahon handle tasks similar to those assigned to recent college graduates; jobs include data collection, data analysis, and computer-aided design. Their development and growth within these areas during their undergraduate studies allows McMahon Associates to train a new generation of engineers in the values, vision, and goals this firm embraces: to provide a caring work environment which delivers responsive and effective transportation solutions.

New Projects: New England Region

- **Opticom System Specification,** five locations, Brockton, MA.
- **Traffic Study,** Portsmouth High School, Portsmouth, NH.
- **Parking Feasibility Study,** Heritage Harbor Museum, Providence, RI.

National Security: Ensured by the Strategic Highway Network

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STRAHNET routes surpasses that of the NHS. Pavement smoothness was much better than NHS levels in 2000, with 96.3 percent of mileage rated acceptable or better. Bridge deficiencies were identical to NHS levels at 21.5 percent. The condition of bridges with 16 or more feet of clearance showed steady improvement.

Surface transportation continues to be an important service facility for civilian and military use. During a threat or a natural disaster, commercial bus carriers and rail lines can move military personnel using the highway and rail transportation system. The FHWA takes the lead by inviting all involved agencies to coordinate with the military base personnel to develop strategic plans and procedures to ensure prompt and efficient military responses.

McMahon Associates continues its progression as a full-service transportation engineering firm by adding three new services:

- Land Survey
- Structural Design
- Construction Inspection

Largely at the requests of its clients, the firm has attained senior key staff and the necessary resources to provide responsive transportation solutions in these service areas.

Florida Makes the Move to Interstate Milepost Exit Numbers

By John DePalma, Associate & General Manager, and Kim D'Aprile, Administrative Assistant

President Eisenhower's Federal Aid Highway Act of 1956 brought the Interstate Highway System into existence. As interstate routes were undergoing construction in the 1960s, exit numbers were assigned beginning at the southern or westernmost border of every state. Two different numbering systems were used for the interstate exits — sequential numbering and milepost numbering.

Milepost numbering is preferable

Sequential numbering makes the first exit north of a state's southern border exit number 1; the next would be exit 2, and so on. The milepost system (recommended by the Federal Department of Transportation) bases exit numbers on mile markers, or an exit's relative distance north of the state's southern border. In milepost numbering, an interstate exit located five miles away from the state line would be designated as exit 5. Milepost numbering makes it easier for travelers to determine their position on the highway as well as the distance they have left to travel, important considerations for those who may be lost or in an emergency situation. This method also simplifies the addition or removal of exits.

Keeping old signage helps smooth transition

In May 2002, Florida's highways will undergo a switch from the sequential to the milepost exit numbering system (Florida's turnpike was converted to the milepost system in 1989). This change will bring Florida's highways into line with those in most other states.

In March 2000, Georgia made the same change in numbering systems. The transition there did not go smoothly because the old exit numbers were removed immediately. In Florida, both the old and new exit numbers will remain on most signs for two years. The old numbers will only be removed once the program is completed in October 2004.

Florida's highway exit signs will soon reflect the preferred milepost method of numbering.

New Projects: Florida Region

- **Citywide Traffic Calming Comprehensive Plan,** Fort Myers, Lee County, FL.
- **FDOT 4 Milling and Resurfacing Project** SR-5/US-1 from 33rd Street to North of County Road 510, Indian River County, FL.
- **Citywide Pavement Conditioning Plan,** Lauderhill, Broward County, FL.

INTERSTATE HIGHWAY SYSTEM FACTS

- **2001 marked the 45th anniversary of the Interstate Highway System (IHS)**
- **The IHS is a 45,400-mile network of highways**
- **The IHS represents only 1 percent of the nation's public road mileage**
- **The IHS carries 25 percent of the nation's highway traffic**
- **The average motorist travels approximately 3,000 miles each year on the Interstate system**

Future City Competition Sparks Interest in Engineering

By Marie A. Pantalone, P.E., Project Manager

The Delaware Valley Engineers Week Council sponsored its Future City Competition at Widener University's University Center on January 26. Open to all public, private, and parochial schools, 34 Philadelphia area schools participated in the competition to nurture interest in math, science, and engineering in seventh- and eighth-grade students. Similar competitions were held in 19 cities across the U.S. to offer students an interesting way to learn about engineering and cities of the future. Our Lady Help of Christians School won first place and will advance to the National Finals in Washington, D.C. The finals winner will earn a trip to the U.S. Space Camp in Huntsville, Alabama.

Computer game inspires planning competition

The competition stems from the popular futuristic city-planning computer game, SimCity 3000, which illustrates the importance of sound land planning and strong infrastructure to developing a thriving community. Students are encouraged to design their cities with future repair and maintenance in mind. The cities are then judged on layout, energy sources, transportation system, and recreation elements.

Students learn respect for engineering as a science and a career

Beginning in October, students work as a team to design a city under the guidance of a teacher, as well as a practicing engineer who guides the students to understand the importance of utilities and transportation systems within the city. The students are challenged to incorporate technological trends into a scale model of a section of their city. The model must also have a moving part related to the city's design or function. By the time of the competition, students have developed a new awareness of, and appreciation for, the engineering profession.

The competition also sparks a lot of creativity. The technological trends showcased included automatic language translators, hover cars, methane hydrate power, and vertical take-off airports. One imaginary city's lucky residents enjoyed "Geodesic Modular Homes" equipped with a "Virtu-Shopping Network" shopping portal.

New Projects: Mid-Atlantic Region

- **Re-time and Optimize Traffic Signals,**
  Lancaster Pike,
  Radnor Township, PA.
- **PennDOT 6-0 Intelligent Transportation System (ITS) Project Management,**
  open-end agreement,
  district-wide PA.
- **Roadway Realignment and Bridge Design,**
  Bustard Road,
  Towamencin Township, PA.

Model of a future city seen at the competition and presented by Cedarbrook Middle School.

2002 Young Engineer of the Year: Casey A. Moore, P.E.

By Janine Cocker, Marketing Coordinator

"Engineers have made significant contributions to America's economy and our overall quality of life. In protecting our citizens, exploring new frontiers, developing our industries, and educating our young people, engineers have been vital to the crowning achievements of this great country. These dedicated men and women continue to lead our nation to a better future, pioneering innovations in fields as vast and diverse as health care, the environment, the space program, and technology of all kinds.

This week's activities will prove invaluable in providing the next generation of engineers' insight into the opportunities available to them and allowing today's professionals to illustrate their energy and passion for engineering."

— President Bush, prior to the observance of this year's National Engineers Week (February 15-23, 2002)

Casey A. Moore, 2002 Young Engineer of the Year, heads McMahon's Mid-Atlantic Region traffic studies and planning group.

Among the more than 1.6 million Americans who work as engineers, McMahon Associates' Professional Engineer Casey A. Moore stands out as one of the best. Moore was recently selected as 2002 Delaware Valley Region Young Engineer of the Year by the Engineers' Club of Philadelphia.

"This well-deserved award recognizes Casey's technical and professional accomplishments over the past 10 years," says Joe DeSantis, P.E., P.T.O.E., Vice President of McMahon Associates. "He has excelled as both an engineer and manager, overseeing some of our most complex traffic engineering and design projects with the highest degree of quality and dedication. The respect and admiration he receives from clients, fellow employees, and associates is a testament to his outstanding engineering and professional capabilities." DeSantis adds, "This award also acknowledges Casey's strong commitment to our profession through his voluntary efforts on numerous technical and professional committees for both ITE and CEC/PA, among others, and his leadership in continuing education efforts for colleagues within our firm."

Moore's experience enhances many roles at McM

Moore is an Associate of McMahon Associates, and heads the Mid-Atlantic Region traffic studies and planning group. He is a registered P.E. in Pennsylvania and Florida, with registration pending in New Jersey and Delaware. Upon graduating from Penn State University in 1989 with a degree in civil engineering, his work initially concentrated on geotechnical engineering and construction services. Moore's more recent experience at McMahon has been focused on transportation engineering, transportation planning, highway engineering, and signal design. Besides acting as department head and assisting in day-to-day business operations, Moore serves as senior project manager for various transportation engineering projects, and acts as township traffic engineer for several Delaware Valley municipalities, working to improve operating conditions of their transportation networks.

Professional engineer finds time for a list of activities

Moore is also actively involved in many professional affiliations, including:

- American Society of Highway Engineers
- National Society of Professional Engineers
- Institute of Transportation Engineers (ending his two-year term as treasurer; beginning as 2nd vice president)
- Pennsylvania Society of Professional Engineers
- Partnership Transportation Management Association
- Pennsylvania Planning Association
- Consulting Engineers Council of Pennsylvania
- International Council of Shopping Centers
- Society of Marketing Professional Services
- Engineers' Club of Philadelphia

Moore also remains very active with Penn State, having served a three-year term as president of the Montgomery County PSU alumni chapter, and serves on committees for the Penn State Engineering Society. Moore resides in the Collegeville area with his wife of 10 years and two beautiful daughters, ages 3 and 2.

McMahon Associates salutes Moore and all engineers as they help build and maintain the systems that protect the country's safety, preserve the environment, and contribute to economic health.

More Defense Spending, Less Highway Funding

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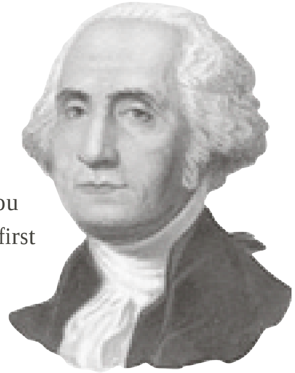
proposes $5.9 billion for bio-terrorism preparations. Last year bio-terrorism killed five people in this country, while 13,000 needless deaths occurred on unsafe roads.

The theme of the Institute of Transportation Engineers' 2002 Spring Conference, in Palm Harbor, Florida, is "Meeting Our Customers' Expectations," with major emphasis on the transportation response to September 11. Our government's response should be to re-emphasize the critical function of our transportation systems through a continuing and increased funding commitment to making needed improvements. We should not fund one area of homeland defense at the expense of another equally vital area.

Did you know?



George Washington has been called, "first in war, first in peace, and first in the hearts of his countrymen," but did you know he was also America's first engineer? In fact, National Engineers Week coincides with Washington's birthday on February 22.

Washington acquired credible surveying skills early in life as a gentleman farmer, but excelled as a manager, strategist, and leader. He directed our nation's advancements in invention and education, and promoted construction of roads, canals, docks, ports, and water works. Washington also supported efforts to extract coal and ores and develop manufacturing resources.

At Valley Forge, Pennsylvania, General Washington issued a call for engineers and engineering education in 1778. This order is considered the genesis of the U.S. Army engineer school, which found its permanent home at Fort Belvoir, Virginia (a place where Washington had practiced surveying). In 1794, President Washington established a Corps of Artillerists and Engineers, who were educated and stationed at West Point, New York. This facility later became the U.S. Military Academy at West Point.

We Answer Your Transportation Questions

McMahon in Motion features one reader's question on transportation in each issue. Our traffic engineers will answer your question in the following issue. Please submit your questions via e-mail to fortwashington@mcmtrans.com .

Question (from previous issue): Which U.S. President signed legislation creating the U.S. Department of Transportation?

Answer: President Lyndon Johnson established the Department of Transportation by an act of Congress on October 15, 1966. The Department's first official day of operation was April 1, 1967. "The Act which I sign today is the most important transportation legislation of our lifetime ... it is one of the essential building blocks in our preparation for the future. ... Transportation has truly emerged as a significant part of our national life. As a basic force in our society, its progress must be accelerated so that the quality of our life can be improved." – *President Johnson*

Next Question: Mobility involves connecting people and vehicles efficiently with their places of work, schools, community services, market-places, and each other. It also means using our highways to ensure connection between air, transit, rail, and port facilities and terminals. What three indicators have been identified by the FHWA to enhance mobility in order to offset the aging of the infrastructure?

Look for the answer in our next issue of *McMahon in Motion*.

Inside This Issue of McMahon in Motion

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