

VDOT Northern Region Operations Meeting Highlights ITS Management

At its first-ever facilitated Planning Workshop on October 24th and 25th, the Virginia Department of Transportation's Northern Region Operations (NRO) Directorate discussed ways to improve ITS management in the region.

The workshop launched the Planning and Programming Process for the FY-2009 Strategic Investment Program Plan (SIPP) by building consensus and understanding of the region's strategic focus.

"The SIPP provides a framework for the effective management and operation of Northern Virginia's transportation systems," said Amy Tang McElwain, NRO's Planning and Programming Manager. "A strategic guiding framework is absolutely necessary to successfully meet the complex challenges in VDOT's diverse and expansive Northern Region."

NRO's first- and second-line managers agreed that expanding ITS asset coverage and functionality and improving regional coordination and efficiency will be key goals in the upcoming fiscal year. All of NRO's goals will utilize strategic operations to provide a safer and less congested transportation network.

"We are well into a robust planning process to identify, plan, and replace or expand ITS assets," added NRO Director Dick Steeg. He said that ITS assets in Northern Virginia have historically been grouped with traditional highway assets – which he referred to as a "kiss of death" for highway applications.

"Going forward, we will have a lifecycle replacement process in place to ensure we don't travel the wrong path," Steeg said.

NRO Planner J.D. Schneeberger said one of the biggest accomplishments from the Planning Workshop was reaching an

early consensus on the goals and objectives for the upcoming fiscal year.

"People are starting to understand the process and wanting to do things the right way," Schneeberger said.

NRO has identified the "right way" as a step-by-step Planning and Programming Process that guides the entire Operations planning lifecycle and includes planning, fiscal programming, delivery, evaluation, and plan updates.

"The Planning and Programming Process is a tool to help NRO achieve its vision in a responsible manner," said James Witherspoon, NRO planner. "I was excited to see the evolution and further institutionalization of that process."

Witherspoon said one of the biggest conclusions drawn from the Planning Workshop was NRO's intention to move forward with Active Traffic Management (ATM), a practice that utilizes new technol-

ogy to dynamically manage congestion.

Catherine McGhee, acting associate director of the Virginia Transportation Institute, presented a study at the workshop concerning ATM Practices in Europe and how they can be applied in the United States.

"Like the United States, European nations have limited resources to expand their systems and have environmental protection, community development and other goals that limit roadway expansion opportunities," McGhee said. "This has led to a practical policy that calls for getting the most use of the existing infrastructure as possible."

ATM initiatives such as a Freeway System Optimization and Next Generation Traffic Management are among the 50 strategic projects NRO leaders agreed to

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Legislative Reception Set for February 21



ITSVA members are encouraged to take advantage of the association's upcoming Legislative Reception to discuss the role of ITS to better address current transportation issues with elected officials. This year's elections resulted in many new faces in Virginia's legislature, many of them elected by constituents concerned about congestion and other transportation issues.

The ITSVA reception will again be held at Old City Hall in Richmond from 6 to 8 pm on Thursday,

February 21. This event is complimentary for our members. Exhibitors will have the opportunity to showcase their company's products and sponsorship opportunities are also available.

For more information, visit www.itsva.org. Members should e-mail amy.shaw@easterassociates.com if you are interested in sponsoring or exhibiting and to RSVP if you plan to attend. ♦

By Jeremy Siviter



Capitalizing on Our Momentum

Your Board recently met to discuss implementation of ITSVA strategies for the coming year. We are making good progress on what is shaping up to be a great 2008 conference. Look for a call for papers before the end of the year if you would like to participate.

As you may be aware, it is ITSVA's responsibility to host the Tri-Chapter Information Exchange Summit in 2008. Based on feedback and much consideration by the conference planning committee, we have decided that this Summit will be held separately from our Annual Meeting and sometime in July. For accessibility to Maryland and Pennsylvania participants, it will likely be somewhere in the Northern Virginia area. Sharmila Samarasinghe of Virginia DRPT is chairing the Tri-Chapter committee if you would like to provide input.

The next event on the ITSVA calendar is our legislative reception on February 21 in Richmond. This event is a free benefit to our members and is the perfect opportunity to visit with legislators in a more casual atmosphere and discuss the importance of technology in transportation. We have always had good turnout from legislators, including members of the House and Senate Transportation & Finance committees as well as legislative aides and senior officials from VDOT, DMV, and other state agencies.

As always, there will be opportunities to exhibit and sponsor, which always get snapped up quickly. Look for further announcements in your e-mail in-box very soon.

I also encourage you to personally invite your state senators and delegates to the reception and help them learn about ITS and how it can benefit Virginia's transportation and funding challenges before they get up their necks in bills.

On a very different note, I recently attended a presentation given by Larry Burns, Vice President of R&D and Strategic Planning at General Motors. He covered practical uses of vehicle technologies embodied in the VII program and blended this with their strategy for developing and delivering alternative energy source vehicles. Mr. Burns headed off many of the popular roadblocks brought up by the media and presented a number of facts not be widely known except by those close to the subject areas. The entire audience felt uplifted by his positive tone and the clear vision he described. If you have the opportunity to catch this speaker, I thoroughly recommend you take the opportunity. As VII is becoming more important at the local level, we will feature this area more prominently at our Annual Meeting.

Jeremy Siviter is an associate with the IBI Group, based in their Arlington, VA office. ♦

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NRO Meeting

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pursue at the Planning Workshop. Participants volunteered to take the lead in developing proposals for each project, and any available FY-09 discretionary funding will be utilized to initiate the projects that best align with the region's strategic focus.

NRO's next steps will be to identify core items such as labor, maintenance, and utilities, and prioritize the project proposals based on the goals identified at the workshop.

NRO Fiscal Programmer Joe Langley said having the staff take ownership during project development will increase the likelihood that projects will be executed as planned. He added that the teamwork and collaboration fostered by the Planning Workshop will benefit NRO at each step of the Planning and Programming Process.

"When I first came on board, we were an assortment of components that hadn't assembled into a unit," Langley said. "Now we have unity of purpose, unity of vision, and unity of goals."

McElwain said the workshop could not have been successfully planned and executed without the leadership of Operations Investment Program Developer Teresa Butler.

"Teresa persevered in spite of multiple obstacles such as budget limitations, travel restrictions, and the need to coordinate with multiple internal and external parties," McElwain said. "Her attention to details and can-do attitude were essential to our success."

The planners and programmers agreed that Steeg's support was equally critical.

"I am proud of what we have accomplished in a relatively short timeframe," Steeg said. "I believe that we have set the standard for how a transportation operations framework and organization should be developed."

NRO released its FY-2007 Year End Report in late October. The Year End Report summarizes the successes and challenges for the previous year and demonstrates NRO's commitment to upholding the goals and objectives set forth in the SIPP. Steeg said that since the creation of NRO, the region has focused on developing and adhering to a strategic approach to operations.

"This Year End Report represents the next step,"

he explained. "Accountability to our stakeholders within VDOT, within our local and State governments, and, most importantly, to the citizens, taxpayers, and travelers of the Commonwealth." ♦



The Advance of Electronic Tolling

As noted in a recent *Wall Street Journal* article by Reason Foundation director of transportation studies Robert Poole, electronic tolling is moving through clearly defined steps. First came windshield-mounted transponders, like the Northeast's E-ZPass, Florida's SunPass and California's FasTrak. Although these transponders were initially introduced merely to speed up passage through toll booths, once it became clear that they worked fine at highway speeds, booth-free "open-road" tolling of vehicles was introduced.

The next step is "cashless" systems, in which the driver calls and registers his license-plate number. Video cameras pick out the plate number at check points, and a bill is then sent out. This system is now operating on the Melbourne, Australia CityLink and in Santiago, Chile.

The ultimate system is now in place in Toronto, where the driver can enter Highway 407 with no transponder or reservation. The system videos license plates and sends a bill. This system has been working smoothly since 1997.

Today there are only a handful of no-cash toll roads in the U.S. High-occupancy toll lanes now operating in California, Colorado, Minnesota, Texas and Utah are all cashless, as they must be to make use of market pricing, with changing rates to reflect periods of higher and lower demand. New toll roads in Texas are being planned as cashless, and so are planned HOT lanes in Northern Virginia and Miami.

Poole argues it is no coincidence that leaders in cashless tolling have been investor-owned toll road companies operating under long-term public-private concession agreements. ♦



The Monastery and the Stud Farm

Munich and Stuttgart sit 200 km apart in the hills of southern Germany, cities of somewhat different character, but light-years apart in the minds of many automobile buffs.

Munich, named for a medieval monastery, prides itself on its historic beauty, cuisine and quality of life. It is the home of the Bavarian Motor Works, better known to Americans as BMW.

Stuttgart (named for a royal stud farm) is an industrial giant that is home to BMW's larger, more diversified arch-rival, Daimler, which is better known as the maker of Mercedes-Benz cars and infamously for buying and selling Chrysler.

Ironically, some company called Porsche makes its home there too, but we'll ignore them for now, they're too busy investing in (ahem) Volkswagen.

BMW and Mercedes sedans and coupes have their passionate supporters amongst yuppies, poseurs, and auto buffs. But Daimler is a diversified corporate entity who builds everything from fuel efficient phone booths-on-wheels (the Smart car) to taxicabs (many of which are also sold in the US as \$50,000-plus luxury cars), heavy trucks and buses.

Meanwhile, BMW remains a relatively small and undiversified (for the auto industry) family-owned business, but their new

vehicles, no matter how exciting, complex or weird-looking, send designers and engineers the world over tearfully back to their drawing boards.

With technology, the same thing happens. Ask Apple, whose neat but proprietary Macintosh operating software has fallen well behind Microsoft sales for years, but which is as beloved by the trendiest folks as Windows is reviled. When it comes to portable music players, Apple's iPod has become ubiquitous, to the point that they can sell them and their high-margin accessories in funky-looking vending machines in both airports and small towns. In the meantime, how many people can even name Microsoft's music player? (It rhymes with "dune".)

So, the biggest is not always the biggest. In this case, it's the "Little Blanket" (Cupertino, CA, home of Apple) versus the "Psychiatric Hospital" (Bellevue, WA, home of Microsoft, a town name which means "beautiful view" in French but which very often refers to the famous New York public hospital).

Where would you rather be? and what does all this have to do with ITS?

Some 15 years ago, ITS (or the old acronym, IVHS) was being driven by a combination of federal government initiatives and efforts (often government-funded) from an array of giant defense contractors trying to invest their peace dividend, seeing as we had won the Cold War and also a much smaller war in some place called Iraq.

Anyone remember Hughes Aircraft, Loral, Rockwell and Westinghouse? They were the original four contractors for the National ITS Architecture. Firms like Lockheed Martin, TRW, SAIC and ITT were also getting into the business as well, and GM was especially interested in something called "Automated Highways",

All those guys proposed things like centralized control and command systems, elaborate vehicle-roadside communications schemes, custom personal tablets which allowed you to arrange shared rides in real time (goodbye slug lines!), and deviant uses for forward-looking radar.

At this point, the transportation experts were not even thinking about this strange underground grid of computer networks (called "the Internet") that mysterious government employees (allegedly including Al Gore) and science geeks from Illinois and Scandinavia were busy using to first send cryptic messages, and then, suddenly, graphics and text and content that could be accessed by computer illiterates over something called the World Wide Web.

The average person might have never thought the Internet to be necessary in 1992 (Bill Gates barely even acknowledged it

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The Last Word

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well have been willed into being if the original IVHS proponents had gotten the resources to implement their vision. That the real Internet eventually provided the mechanism needed to access and exchange data and information in a cost-effective fashion has probably saved the government and the public billions of dollars that would have otherwise been invested in customized, unwieldy and expensive services.

So, despite many people's allergic reactions to giant taxpayer-funded programs, here was one public sector effort that really changed the world. But not without the help of both big and small companies and most importantly, individuals with a monitor, CPU, keyboard and mouse. In the end, the market was driven from the bottom up, not the other way around.

And now anyone can have their mansion in cyberspace. Billy Idol was right – he could be one just by calling himself one. That philosophy has now expanded to journalism, reporting, filmmaking, and unfortunately, terrorism. Call it the blogging, MySpacing, or Facebooking (take your pick) of the world.

With the peace dividend not being matched by the level of government and market investment in the 90's, most of the big defense firms slowly moved away from ITS (spinning off people and subsidiaries in some cases), with the more recent "War on Terror" further changing priorities.

In general, transportation technology investment has moved back toward the specialist companies (but often with staff that

may have a defense or high-tech background) and even the traditional professional civil and traffic engineering firms, many of which have embraced ITS as a core area of their practices.

Now, with the move toward vehicle-roadside communications, firms like BMW and Daimler have jumped in along with the other auto manufacturers, and suddenly ITS is becoming the big business we all thought it could be.

But of even more interest is the consumer electronics angle to all this. ITS is finally being driven not by government programs or initiatives – but by the market!

For years, it was said traveler information did not have a viable business model without government involvement. Now, companies can't act quickly enough to jump in with both feet.

Certainly the smartphones and auto navigation systems on the market today were not done because of a government agency-funded regional ITS master plan or national architecture effort. They were done because the developers saw a business opportunity and people interested in getting information no matter where they were. That traffic is a mess and people want to know how to get around it is common sense, and now the business models are developing. The software that allows many of these services to be provided is as likely to be developed by a small firm as a large firm. Very often both the small firm and the large firm work together because it is more profitable for both to do so.

What is resulting from this is the development of a great, international vertically-integrated ITS market. Where electronic map vendors like Navteq and Tele-Atlas are lined up to become prized possessions of communications companies like Nokia (in Navteq's case) or are being hotly pursued by productmakers (in Tele Atlas' case, by both TomTom and Garmin, competing navigation systems firms).

Each of these firms may also own or have partnerships with suppliers of data, and may work with states, toll authorities, or others with data to provide or who are willing to have the private companies collect the data on their roads.

It was perhaps 4 to 5 years ago that decision-makers caught onto the idea that while the public sector certainly is the key enabler and policy-driver in transportation management and operations activities, data can come from anywhere provided it meets certain standards of quality, timeliness and reliability.

While FHWA laid out some national guidelines for that in the SAFETEA-LU program, the private ITS industry still seems some ways away from those. But the market (either the productmakers or the customers) may demand the same or better quality than even the government proposes. So the standards may well develop themselves.

Many still question the extent of government involvement in ITS and vehicle communications efforts – but now it's because others want to provide these services and think they can better serve the market.

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ODU Researcher Receives Grant to Study Secondary Accidents

Asad J. Khattak of Old Dominion University's Civil and Environmental Engineering Department has been awarded a \$169,000 grant from VDOT to research the occurrence of secondary traffic incidents along the highways of Hampton Roads.

Secondary incidents, or accidents happening within a certain time and distance of a major traffic accident, can cause more stoppage and even endanger the lives of rescue workers.

Khattak, who also serves as editor for the Journal of Intelligent Transportation Systems, is one of the Batten College's pre-eminent researchers in the field of transportation systems and planning. During the next two years, he plans to define secondary incidents, analyze the factors and causation behind the incidents, and devise ways to predict and ultimately minimize traffic delays.

"The research will provide a tool that allows VDOT to predict primary incident durations and the probable occurrence of secondary incidents in real-time," Khattak said. "This tool can be used to more effectively manage incidents and disseminate better information to the public."

Partnerships with this study include VDOT, the Smart Traffic Center, the Hampton Roads Planning District Commission, and the Virginia Transportation Research Council.

Khattak's research in other studies have already shown that:

- Roadway and other accidents cause 30 to 50 percent of the congestion in U.S. urban areas.

* Up to 20 percent of primary traffic incidents result in second-

ary incidents, both in same-direction and opposite-direction lanes because of rubber-necking.

- Reducing the time it takes to clear a primary incident is likely to reduce the chance of a secondary incident. In Hampton Roads, incidents requiring emergency response usually last 20 to 35 minutes before traffic flow in normalized.

A study in California found primary incident duration was reduced from 41

to 29 minutes after an incident management program was initiated. By using the analysis of certain "hot spots" along Interstates 64, 264 and 664, Khattak hopes his groundbreaking research will be the cornerstone of future traffic studies in a region that has a rapidly growing population. ♦



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The Last Word

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At the ITS World Congress in Beijing, as with other Congresses I have attended, one quickly gets hit by a jolt of “program overload”. Despite everyone’s best efforts, there are some competing activities in both the public and private sectors throughout the world to do many of the same things: namely, improve communications between vehicles (as well as between vehicles and roads) to provide immediate and localized collision avoidance messages, as well as specific real-time travel information -- all to help commuters travel more quickly and safely.

Clearly, 2008 will be a pivotal year in our industry. The ITS World Congress in New York will demonstrate both the big centralized development effort (the Vehicle Infrastructure Integration program) with its new dedicated short-range communications (DSRC) standard, running in the 5.9 GHz range, while dozens of companies will be presenting their approaches for getting information to and from vehicles and individuals.

The USDOT is scheduled to make a decision by the end of 2008 on whether to deploy VII on a wide scale. If that happens (to the potential chagrin of many firms who believe they have their own products and tools that can provide these services), undoubtedly the private sector will adopt. But it may also take tens of billions that the Government may want to spend elsewhere (or not at all). If VII is not built as a government program, it should be to no one’s surprise if something similar erupts from the private sector. And the electronic tolling industry is busy mov-



ing toward national / international compatibility using the same DSRC that the Federal government has promoted for VII.

You may see messy, incompatible, non-standardized products. But you will also see the market leading the way. All of which means we may have more ITS America and ITS Virginia members, even as many others merge into monster firms. All this may bring more resources and tools that the public sector (and increasingly, their private sector partners) can use to better manage the transportation system. Always a welcome holiday gift, whether it comes from a monastery or stud farm, or is wrapped in a little blanket. Now, about that new BMW M3....

Glenn Havinoviski is Associate Vice President and ITS Group Director for HNTB Corporation in Arlington. ♦

New Safety System Shows Early Promise

The U.S. Department of Transportation has just released a preliminary study showing that “a significant number of crashes can be reduced” by widespread deployment of a so-called “integrated crash warning system.” The system addresses potential rear-end collisions, lateral drift, and lane change problems. Information from sensors is collected and analyzed by on-board equipment, and an appropriate warning is given to drivers in case of emergency. The study was carried out by an industry team led by the Michigan Transportation Research Institute. ♦



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ITS Virginia Well-Represented at ITS World Congress

A number of ITS Virginia members, including ITS America board members Connie Sorrell of VDOT and Ray Pethel of Virginia Tech's Transportation Institute, attended the 14th World Congress on Intelligent Transport Systems, held October 9th through 13th in Beijing, China.

Other ITSVA attendees included Glenn Havinovski of HNTB Corporation, Patrick McGowan from Telvent Farradyne, Brien Benson from George Mason University and Richard and Sharon Easley from E-Squared Engineering.

Each of these members contributed to the World Congress program:

- Richard Easley chaired a special session on "Weigh Stations – Virtual and Otherwise"
- Connie Sorrell chaired a technical session on "Evaluation of Payment"
- Brien Benson spoke on "Motorist Attitudes towards Travel Time Information"
- Glenn Havinovski chaired a special session on "Sustainability of the Transportation System: Business Practices for the 21st Century." He also spoke about public-private partnership approaches, focusing on U.S. partnering initiatives, including some examples from Virginia.

The ITS World Congress drew over 3500 attendees, along with 150 exhibitors. About 150 attendees came from the United States. While in Beijing, attendees also took time to scale the Great Wall of China and visit the Forbidden City, Tiananmin Square, the Summer Palace, the Ming Tombs, and the Temple of Heaven. ♦



Glenn Havinovski was one of several ITSVA members who attended the 14th ITS World Congress, held in Beijing. Here, he is shown on the Great Wall of China.

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