VDOT Awards TransCore $34 Million Contract to Design and Build I-66 Active Traffic Management System

RICHMOND, Va.--(BUSINESS WIRE)--After a competitive procurement, the Virginia Department of Transportation selected TransCore, a unit of Roper Industries (NYSE: ROP), to design and build its I-66 Active Traffic Management system on Northern Virginia’s main highway into the District of Columbia. The $34 million contract is 90 percent federally funded and will support 34 miles of highway from the District of Columbia to Gainesville US-29 in Prince William County. The project is scheduled to be operational by the fall of 2014.

The I-66 corridor is one of the most congested interstates in Virginia and throughout the country. Because of limited right-of-way and construction funding, employing active traffic management technology can optimize mobility along the corridor by more effectively managing the congested conditions and increase safety, and reduce fuel consumption.

“TransCore remains at the forefront of providing the most innovative intelligent transportation systems to improve trip reliability and maximize roadway capacity across our nation’s infrastructure,” commented Tim Fischer, TransCore’s senior vice president. “We’re pleased to support VDOT as it undertakes such a signature ITS project in the country.”

The active traffic management system will continuously monitor traffic and roadway conditions around the clock, collecting data using roadway monitoring equipment such as vehicle detection sensors and closed-circuit television cameras. The system will use such

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Here is a summary of some of the main components of the transportation funding package:

► Eliminates the current 17.5 cents per gallon motor fuels tax and replaces it with a 3.5% wholesale tax on gaso-line and a 6% wholesale tax on diesel fuel.

► Establishes the titling tax at 4% as of FY 2014, and phases in an additional 0.15% over three years for a total of 4.15%.

► Raises the sales tax on all goods by 0.3% from 5% to 5.3%.

► Imposes a $64 per year additional annual registration fee on “alternative fuel” vehicles, including hybrids.

► Enacts regional funding plans for Northern Virginia and Hampton Roads to be raised through imposition of an additional 0.7% sales tax in each region, an additional 2.1% wholesale motor fuels tax in Hampton Roads, a grantor’s tax increase of 15 cents per $100 value in Northern Virginia, and an additional 2% hotel/motel tax in Northern Virginia.

► Prohibits the installation of tolls south of Fredericksburg on I-95.

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techniques as lane control signal systems, adaptive ramp metering, enhanced detection and camera systems, lane management systems, and queue warning systems. Active traffic management systems have been used throughout Europe for the last decade, but this is a relatively new concept in the United States.

**Benefits of the I-66 ATM system for motorists include:**

- Dynamic message and lane control signing advising motorists on incidents and delays by providing direction on lanes that are usable, and guidance on merging traffic;
- Expanded use of shoulder lanes regardless of time of day in response to incidents and to manage traffic;
- Improved monitoring of the roadway to provide quicker response by transportation, safety and law enforcement personnel.

TransCore, serving as prime contractor, will provide turnkey ITS design, construction, integration and testing services for the program. Once complete, operation of the system will be managed by the Virginia DOT Public Safety Transportation Operations Center.
FCC Ruling Could Set Connected Cars and Wi-Fi on Collision Course

by Doug Newcomb

The U.S. government, automakers and safety institutions have poured hundreds of millions of dollars into getting cars talking to each other through an ad hoc Wi-Fi network. It’s a large piece of a puzzle that could nearly eliminate car crashes, but an initiative from the FCC could put it in jeopardy.

The FCC recently announced plans to open up previously restricted frequency spectra to general Wi-Fi use, although it was originally set aside for vehicle-to-vehicle (V2V) communications, along with use by government entities such as the FAA. The Intelligent Transportation Society of America (ITS America) is concerned that the federal agency is setting up a collision between competing interests.

The FCC is acting in part because of pressure from the Obama administration to open up more of the air waves for data-hungry devices. In 2010 President Obama signed a memorandum designed to increase the sharing of airwaves to alleviate a shortage of frequencies, due in part to the public’s increased appetite for Wi-Fi. FCC Chairman Julius Genachowski announced at the Consumer Like 58 S$ilhaaareee 36 Electronics Show in January his agency’s plan to clear 195 MHz of spectrum in the 5 GHz band for Wi-Fi use.

“As this spectrum comes on line, we expect it to relieve congested Wi-Fi networks at major hubs like convention centers and airports,” Genachowski said in e-mailed remarks in preparation for an FCC meeting on the proposal on February 20. But the frequencies the FCC wants to open to new Wi-Fi applications overlap with the 5.9 GHz band set aside for future V2V communication.

ITS America recently sent a letter to the FCC signed by automakers and others, including the AAA and state DOT officials, warning the FCC that the new Wi-Fi networks could interfere with wireless communication between connected cars. The brewing spectrum battle brings to mind the tragic tale of LightSquared. The star-crossed company had ambitious plans to build a large-scale wireless broadband network that was initially approved by the FCC. But later the agency ruled that LightSquared’s plans would interfere with GPS transmissions, and that the airwaves weren’t big enough for both technologies.

“We don’t oppose spectrum sharing,” ITS America president and CEO Scott Belcher told Wired.

“There is a shortage in this country. Our position is, between the private and public sectors, hundreds of millions of dollars have been invested in connected vehicles.” A decade ago ITS America successfully petitioned the FCC to set aside this spectrum, Belcher added. “Opening the spectrum to unlicensed usage is a change,” he says. “We’re at a point where [connected cars are] finally about to become real.”

ITS America has another federal agency on its side: the National Highway Transportation Safety Administration. NHTSA along with ITS America, automakers and others are currently conducting a connected car field trial in and around Ann Arbor, Michigan that involves 3,000 vehicles. The goal of the test is to see how vehicles communicate with each other and traffic infrastructure to share information such as speed and location to reduce collisions by warning drivers of road hazards and dangerous highway conditions.

Based on the results of the field trial, NHTSA will decide by the end of this year whether to mandate the V2V technology in new cars and implement it in the years to come.

“‘We’re talking about technology that can help reduce non-impaired vehicles crashes by over 80 percent Belcher contends.

“There’s bigger than safety belts, bigger than electronic stability control and bigger than airbags. Do you really want to put that kind of safety at risk for unlicensed Wi-Fi applications? The answer has to be no.”

But there are ways to share spectrum, and enough time to figure out how to do it, according Egil Julissen, an analyst with IHS Automotive. He acknowledges that tests need to be conducted to determine that the frequencies are not close enough to cause interference.

“There needs to be a guard band between them, an adjacent frequency that’s not used,” he adds. Julissen also says that he doesn’t expect connected cars to hit the road until until around 2019. “So there’s time to test it,” he says. “There’ll be a way to make this work; they’ll find a solution.” But he adds that an unfavorable FCC ruling has the potential to squish hundreds of millions of dollars of investment into a promising technology. Just ask LightSquared.

“U.S. DOT is aware of the FCC’s proposed action to open up the 5 GHz wireless spectrum band,” NHTSA told Wired in a statement. “Our connected vehicle research is ongoing and we look forward to working with our federal partners, including the National Telecommunications and Information Administration [NTIA] and the FCC, to evaluate the impact of spectrum sharing on vehicle-to-vehicle and vehicle-to-infrastructure communication.”

The FCC did not respond to our request for comment. At its meeting on February 20 the agency decided to move ahead with its spectrum sharing plan for the 5 GHz band. But it too will take awhile since the FCC will be collecting comments before proceeding with rule making, and it could take at least a year or more for NTIA to sort out potential interference issues. And while opening up the spectrum could eventually mean faster Wi-Fi, it may also mean you’ll need a new router in addition to being a speed bump on the road to the connected car.

“The last thing the V2V initiative needs is a cloud being cast from potential interference from unlicensed use of the same spectrum,” Roger Lanctot, an automotive electronics analyst with Strategy Analytics, says. “The NHTSA-driven effort is already up against [automakers’] resistance to adding cost and weight and the even bigger barrier of chicken-and-egg-deployment – along with the lack of a business model.”

The future of transportation lies increasingly in the continued investment and use of real-time information to make our infrastructure smarter, including enabling vehicles to communicate with each other and with the world around them. It is estimated that by 2050, the number of vehicles around the world is set to double to two billion, placing enormous demands on the global transportation infrastructure and on the networks designed to support them.

Here in the United States, the U.S. Department of Transportation (U.S. DOT), in coordination with other federal and state agencies, private industry and the nation’s leading universities, is working to advance life-saving connected vehicle technology and real-time data to help prevent traffic fatalities and injuries, while reducing traffic congestion, improving environmental performance and making our transportation system more user friendly. According to U.S. DOT, nine out of 10 drivers would like to have vehicle-to-vehicle safety features in their own vehicles and believe the technology would be useful in improving driver safety overall.

Connected vehicle technology – consisting of vehicle-to-vehicle and vehicle-to-infrastructure communications – will make our transportation system smarter by embedding connected sensors that would enable cars, trucks, buses and trains to “talk” to each other, as well as to traffic signals, school and work zones, toll booths, and other types of infrastructure. This technology could also alert drivers through in-vehicle warnings of a potential hazardous roadway condition or impending collision.

The massive amount of data that will be created through the millions of real-time interactions between vehicles, and between vehicles and the infrastructure will enable transportation managers to use data analytics to optimize the transportation systems that they operate in ways that have not yet been imagined.

While the needs for vehicle connectivity could be met to some degree with cellular and other “wide-area” technologies, localized vehicle safety applications that demand drivers’ immediate attention while navigating in heavy traffic requires a fast “local-area,” short-range connection.

In an effort to support intelligent transportation systems (ITS) deployment, the Federal Communications Commission (FCC) established licensing and service rules in 2003 for the Dedicated Short Range Communications (DSRC) Service, specifically in the 5.9 GHz band. The U.S. DOT is committed to leveraging DSRC as the foundation and future of connected vehicle technologies. As a Wi-Fi based technology, DSRC allows for fast, secure, and reliable communications at highway speeds among vehicles and between vehicles, roadside infrastructure and mobile devices.

The 5.9 GHz band of spectrum is a critical component to the deployment of connected vehicle technology. The National Highway Traffic Safety Administration has conducted research on connected vehicle technology that relies on DSRC in the 5.9 GHz band and concluded that a connected vehicle network could address approximately 80 percent of all unimpaired vehicle crash scenarios, saving many thousands of lives each year.
Beginning in 2011, U.S. DOT contracted with the University of Michigan’s Transportation Research Institute (UMTRI) to conduct a large-scale model deployment examination of connected vehicle technology and real-world applications. The Connected Vehicle Safety Pilot program is being undertaken in Ann Arbor, Michigan, where a highly concentrated environment of approximately 3,000 vehicles, has been equipped with vehicle-to-vehicle communications devices. The Safety Pilot is studying the real-world effectiveness of connected vehicle technology at reducing crashes without causing unnecessary driver distraction or having other unintended consequences. NHTSA will use the results as part of their determination, expected by the end of 2013, on whether and how to proceed with a formal action to require or encourage DSRC-enabled safety technologies on new vehicles.

While this potentially life-saving innovation is finally nearing the finish line, concerns have arisen from comments made by FCC Chairman Julius Genachowski during an onstage interview at the 2013 International CES, where he announced the FCC’s intention to open up a substantial amount of additional spectrum to unlicensed users in the 5 GHz band. Coupled with the FCC’s formal notice of proposed rulemaking to allocate spectrum within the 5.9 GHz band to unlicensed users, it would appear policymakers are rushing to judgment in their attempt to free up space for new Wi-Fi applications. Consideration needs to be given to the impact on the deployment of life-saving vehicle technologies that depend on maintaining the 5.9 GHz band free from interference.

ITS America represents a broad cross section of the transportation and technology communities, and we understand and support efforts to identify spectrum that may be utilized to ease the predicted spectrum shortage resulting from the proliferation of wireless broadband services and devices. However, we also recognize that government and private industry must work together to develop solutions to the spectrum shortage without stifling the investments made to date within the 5.9 GHz band. It is the development and deployment of innovative technologies such as connected vehicles that will successfully harness big data to advance our nation’s economic future and improve safety on America’s roadways.

Since our country’s inception, the ability to move people and goods safely, quickly, and efficiently from point A to point B, has had a direct influence on our economic advantage and quality of life. Today we stand on the cusp of the next stage in roadway safety and mobility. The deployment of a modern transportation-based wireless network that utilizes real-time data and analysis is key to keeping our people safe and our economy moving.

*Scott F. Belcher is the President and CEO of the Intelligent Transportation Society of America. Follow him on Twitter @scottbelcher3 and join the conversation @ITS_America.*
Tech, Telecom Giants Take Sides as FCC Proposes Large Public WiFi Networks
by Cecilia Kang

The federal government wants to create super WiFi networks across the nation, so powerful and broad in reach that consumers could use them to make calls or surf the Internet without paying a cellphone bill every month.

The proposal from the Federal Communications Commission has rattled the $178 billion wireless industry, which has launched a fierce lobbying effort to persuade policymakers to reconsider the idea, analysts say. That has been countered by an equally intense campaign from Google, Microsoft and other tech giants who say a free-for-all WiFi service would spark an explosion of innovations and devices that would benefit most Americans, especially the poor.

The airwaves that FCC officials want to hand over to the public would be much more powerful than existing WiFi networks that have become common in households. They could penetrate thick concrete walls and travel over hills and around trees. If all goes as planned, free access to the Web would be available in just about every metropolitan area and in many rural areas.

The new WiFi networks would also have much farther reach, allowing for a driverless car to communicate with another vehicle a mile away or a patient’s heart monitor to connect to a hospital on the other side of town.

If approved by the FCC, the free networks would still take several years to set up. And, with no one actively managing them, connections could easily become jammed in major cities. But public WiFi could allow many consumers to make free calls from their mobile phones via the Internet. The frugal-minded could even use the service in their homes, allowing them to cut off expensive Internet bills.

“For a casual user of the Web, perhaps this could replace carrier service,” said Jeffrey Silva, an analyst at the Medley Global Advisors research firm. “Because it is more plentiful and there is no price tag, it could have a real appeal to some people.”

The major wireless carriers own much more spectrum than what is being proposed for public WiFi, making their networks more robust, experts say.

Designed by FCC Chairman Julius Genachowski, the plan would be a global first. When the U.S. government made a limited amount of unlicensed airwaves available in 1985, an unexpected explosion in innovation followed. Baby monitors, garage door openers and wireless stage microphones were created. Millions of homes now run their own wireless networks, connecting tablets, game consoles, kitchen appliances and security systems to the Internet.

“Freeing up unlicensed spectrum is a vibrantly free-market approach that offers low barriers to entry to innovators developing the technologies of the future and benefits consumers,” Genachowski said in an e-mailed statement.

Some companies and cities are already moving in this direction. Google is providing free WiFi to the public in the Chelsea neighborhood of Manhattan and parts of Silicon Valley.

Cities support the idea because the networks would lower costs for schools and businesses or help vacationers easily find tourist spots. Consumer advocates note the benefits to the poor, who often cannot afford high cellphone and Internet bills.

The proposal would require local television stations and other broadcasters to sell a chunk of airwaves to the government that would be used for the public WiFi networks. It is not clear whether these companies would be willing to do so.

The FCC’s plan is part of a broader strategy to repurpose entire swaths of the nation’s airwaves to accomplish a number of goals, including bolstering cellular networks and creating a dedicated channel for emergency responders.

Some Republican lawmakers have criticized Genachowski for his idea of creating free WiFi networks, noting that an auction of the airwaves would raise billions for the U.S. Treasury.

That sentiment echoes arguments made by companies such as AT&T, T-Mobile, Verizon Wireless, Intel and Qualcomm, in a letter to the FCC staff late last month, that the government should focus its attention on selling the airwaves to businesses.

Some of these companies also cautioned that a free WiFi service could interfere with existing cellular networks and television broadcasts.

Intel, whose chips are used in many of the devices that operate on cellular networks, fears that the new WiFi service would crowd the airwaves. The company said it would rather the FCC use the airwaves from television stations to bolster high-speed cellular networks, known as 4G.

“We think that that spectrum would be most useful to the larger society and to broadband deployment if it were licensed,” said Peter Pitsch, the executive director of communications for Intel. “As unlicensed, there would be a disincentive to invest in
expensive networking equipment and provide users with optimal quality of service.”

Cisco and other telecommunications equipment firms told the FCC that it needs to test the airwaves more for potential interference.

“Cisco strongly urges the commission to firmly retreat from the notion that it can predict, or should predict … how the unlicensed guard bands might be used,” the networking giant wrote.

Supporters of the free-WiFi plan say telecom equipment firms have long enjoyed lucrative relationships with cellular carriers and may not want to disrupt that model.

An FCC official added that there is little proof so far that the spectrum that could be used for public WiFi systems would knock out broadcast and 4G wireless signals.

“We want our policy to be more end-user-centric and not carrier-centric. That’s where there is a difference in opinion” with carriers and their partners, said a senior FCC official who spoke on the condition of anonymity because the proposal is still being considered by the five-member panel.

The lobbying from the cellular industry motivated longtime rivals Google and Microsoft to join forces to support the FCC’s proposal. Both companies would benefit from a boom in new devices that could access the free WiFi networks.

These companies want corporations to multiply the number of computers, robots, devices and other machines that are able to connect to the Internet, analysts said. They want cars that drive themselves to have more robust Internet access.

More public WiFi, they say, will spur the use of “millions of devices that will compose the coming Internet of things,” the firms wrote in their comment to the FCC last week.

“What this does for the first time is bring the prospect of cheap broadband, but like any proposal it has to get through a political process first,” said Harold Feld, a vice president at the public interest group Public Knowledge.

Article courtesy of Cecilia Kang from The Washington Post.
in pictures | 2013 legislative reception
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upcoming calendar of events

ITS America 23rd Annual Meeting & Exposition
April 22-24, 2013
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ITE Mid-Colonial District Annual
April 24-26, 2013
Annapolis, Maryland

2013 AASHTO Spring Meeting
May 3 - May 7, 2013
Providence, Rhode Island

2013 Global Symposium on Connected Vehicles and Infrastructure
May 14 - 16, 2013
University of Michigan

19th Annual ITS Virginia Annual Meeting
May 16-17, 2013
Richmond Marriott, Richmond, Virginia

VASITE 2013 Annual Meeting
June 24-28, 2013
Virginia Beach, Virginia

ITE 2013 Annual Meeting and Exhibit
August 4 - 7, 2013
Boston, Massachusetts

10th Annual ITS Pennsylvania Annual Conference
August 12-13, 2013
Harrisburg, Pennsylvania

20th ITS World Congress
October 14-18, 2013
Tokyo, Japan