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Message from the President

Welcome to our Fall/Early Winter newsletter. This issue of the newsletter focuses on commercial vehicle operations and related issues. It includes articles on payment and clearance programs, data collection, safety systems and how external factors are driving investment decisions in technology, as well as a wrap-up of news and events in the region.



I recently returned from the ITS World Congress in San Francisco with a few observations about the next wave of technologies and some of the implications of those. The Congress was a combination of applied science and wide-eyed wonder. The Vehicle Infrastructure Initiative (VII) will provide an entirely new paradigm for communications and vehicle technology, and parts of it are coming sooner than you think. The challenge for the industry is to be able to develop and deploy the new technology with sufficient density and coverage to be of use. The challenge for public agencies will be to help prepare the field communications and infrastructure to support and take advantage of these new safety and information conditions. The tough investment decisions for public agencies will have to be made within the next several years about which direction to go and when. Even the fundamental investment support decisions for DSRC (both vehicle-to-vehicle and vehicle-to-infrastructure) will have to be planned for in the coming years. By the way, if you think you have purchased a great navigation system for your vehicle, just wait!

Plan now for the 2006 National Rural ITS Conference August 13-16, 2006 in Big Sky Montana. It promises to be an informative and enjoyable event hosted by the Western Transportation Institute and the Rocky Mountain Chapter of ITS America. The conference will be sponsored in part by the Federal Highway Administration/US Department of Transportation, ITS America, Institute of Transportation Engineers District 6, the Critical Illness and Trauma Foundation and the Montana Department of Transportation. We will also be holding our annual meeting at the

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conference. Keep an eye out for further sponsorship opportunities and also volunteer opportunities for this event.

The mission of the Rocky Mountain Chapter is to “develop partners for the effective deployment of ITS across all surface transportation modes, thus providing a viable and sustainable system for the Rocky Mountain Region that will benefit all users.”

Finally, we would like all members to become involved in the chapter and help get the word out about the quality of work being done in our region. Please phone, fax or email any comments, suggestions and opportunities to me or to our Chapter web site www.itsrm.org.

- Richard Hodges, Chapter President (RHodges@uta.cog.ut.us)

Submit an Article...



You can submit an article for publication in the ITS Rocky Mountain Newsletter! Articles must be no more than 3 pages in length and must contain contact information for the author. While any article may be submitted, publication priority will be given to articles that match the respective Newsletter’s theme. Graphics and photos are welcome!

2006 submission deadlines are as follows:

January/February/March (Winter) - January 20th. Theme: “Maintenance and Operations”

April/May/June (Spring) - April 21st. Theme: “Traveler Information”

July/August/September (Summer) - July 21st. Theme: “Transportation in the Rockies” (Members are invited to provide topics that they would like to see addressed in this issue. Feedback on Chapter services and activities is also encouraged.)

October/November/December (Fall) - This issue will include a recap of the annual meeting. No articles will be accepted.

Colorado's PrePass Keeps Them Truckin

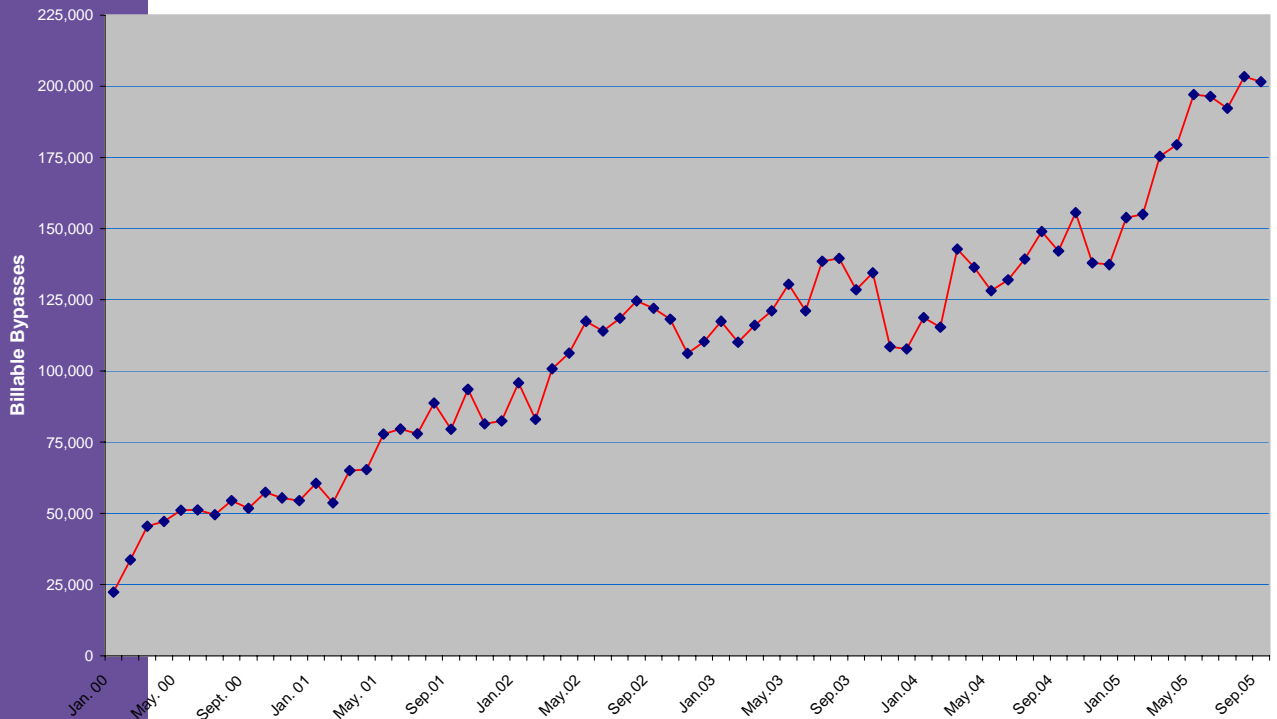
Commercial vehicles are moving through Colorado at a faster rate thanks to PrePass, the Colorado Department of Revenue (CDOR) and the Colorado Department of Transportation (CDOT). This cooperative effort allowed 42% of the truck traffic to bypass the State's ports of entry in September of 2005. That number equals 201,594 vehicles.

The growth in bypassing trucks has been steady and sure. In January 2000 there were a little over 22,000 trucks driving past the scales. The almost ten fold increase over the past six years can be attributed to a number of reasons. The PrePass marketing effort is a major factor. From the PrePass web page, to brochures, to meetings with motor carriers, there is a constant effort to increase the numbers of trucks enrolled into the system. CDOR's Port of Entry Director, Jerry Pierce says the large carriers are finally coming on board. The past year witnessed a jump in growth. "The large carriers are finally seeing the economic advantage." Pierce adds there are very few large warehouse operations and most deliveries are time critical. "The smaller carriers were beginning to outpace the larger ones."



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Colorado PrePass Growth: 2000-2005



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Another factor in PrePass growth is an efficient automation system. CDOT installed 11 load cell weigh-in-motion (WIM) scales across the state. These scales are accurate and dependable. The main benefit of the WIM scales is a lower percentage of vehicles called into the ports to check weights at the static scales. That adds up to more trucks on the road with happier drivers.

Along with time savings, there are a number of other advantages. In 1995 Colorado agencies along with motor carriers and the Federal Highways Administration

(FHWA) worked on a plan to re-engineer the State's commercial vehicle enforcement programs. This report, entitled "Wheels", stated the average time a truck is in a port of entry is 5 minutes. Using September's figures, the commercial carriers saved 16,800 hours by driving past the scales. The report also said one gallon of fuel was saved because trucks were not idling before the scales and accelerating after. At \$3 per gallon, that is a savings of \$604,782 for the month of September. CDOR port of entry personnel are also able to keep up with the steady increase in truck traffic statewide. Before the automation systems, the ports had to be shut



down when there were too many trucks for the facilities to handle. In addition, motor carriers enrolled in PrePass must possess and maintain a good safety rating. This allows truck inspectors to concentrate on a higher percentage of noncompliant trucks. There is also less truck traffic exiting and entering the freeways at the port of entry locations. This results in improved traffic flow and safer traffic conditions.

Colorado installed the PrePass system at 11 port of entry sites. There are two types of systems: WIM with Automatic Vehicle Identification (AVI) and AVI only. WIM with AVI systems identify, weigh and classify the vehicles and the PrePass computers check the vehicles' operating credentials. The AVI only systems do everything but weigh the trucks. Both systems bring in a random number of trucks to double check weights and provide an opportunity for vehicle inspection. The AVI only systems bring in a larger percentage of trucks to check weights. There are WIM scales at most inbound ports of entry and at both directions at ports in the interior portions of the State. The automation was funded by CDOT, CDOR and the FHWA. PrePass provided design help and supplied its computers, readers and truck transponders. CDOT maintains the WIM scales and other pavement sensors. ■

WTI Study Plans to Enhance STARS

Nearly five years ago, Montana activated its high-tech tracking system that was designed to aid the Montana Department of Transportation with a variety of functions such as vehicle weight enforcement, road design, and transportation planning. Since then, valuable information about commercial vehicle activity on the state's highways has been collected from sensors embedded in the roads.

According to a project that measured the effectiveness of the State Truck Activities Reporting System (STARS), the number of vehicles operating overweight was reduced by 20 percent. As

experience with STARS has grown, transportation officials have identified issues that need further investigation to assure that the STARS data is being used to its maximum potential.



WTI will be researching a number of issues that MDT has determined will create more effective weight enforcement activities. These issues include:

- 1) refining the data collection methods to identify permitted overweight vehicles;
- 2) determining how infrastructure damage attributed to overweight vehicles can be quantified to account for changes in traffic volume;
- 3) investigating how level of enforcement effort can be factored in to the STARS database; and
- 4) exploring how STARS-based data on overweight vehicle activity can become a part of the federal weight enforcement plan and certification process. ■

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ATA favors testing of vehicle safety and crash avoidance systems

Barb Kambell
The Trucker Staff
This article was originally published by
TheTrucker.com

WASHINGTON — The American Trucking Associations said it is “vitaly interested in matters affecting the nation’s motor carriers, especially the adoption of regulations effecting the advancement of crash avoidance technologies.”

For that reason, ATA submitted comments in response to the Request for Information and Expression of Interest in Research Programs for Advance Crash Avoidance Systems that was issued by the National Highway Traffic Safety Administration (NHTSA).

ATA stated that it is in favor of continued testing to provide larger quantities of data on the effectiveness of vehicle safety and crash avoidance systems, adding that the effectiveness of these systems in reducing crashes is not well understood at this time. “ATA is aware that there are currently Intelligent Vehicle Initiative (IVI) Field Operational Tests (FOT) ongoing through partnerships of NHTSA with industry and academic organizations,” the comments stated. “As these FOT’s are not yet completed, reports are not yet available. We are interested in reviewing the results of the following ongoing FOT’s:

- Truck Roll Stability Collection and Analysis (Report due Oct./Nov. 2005)
- Collision Warning Systems
- Adaptive Cruise Control Systems
- Lane Departure Warning Systems
- Electronically Controlled Brakes

“Without seeing the results, we can not comment on whether there is a significant amount of data that will come out of these reports. If NHTSA is to move forward with the testing and partnerships proposed in the RFI, these data could be combined or analyzed jointly with passenger vehicle information,” ATA stated. ATA also insisted that financial incentives should be provided to encourage the manufacture and installation of any of the crash avoidance devices; in order to promote the safety aspects of the technologies; and to increase their use in vehicles.

As an example, ATA stated, the current technology for Adaptive Cruise Control using radar is approximately \$3,400 per vehicle. ATA believes the costs would have to be reduced to make them more attractive as options on vehicles.

ATA stated that it would provide assistance to NHTSA in finding fleet operations that would be willing to participate in proposed studies if the RFI results in a decision to move forward by NHTSA.

Technologies that ATA believes are worthy of further study on vehicles include:

- Adaptive Cruise Control
- Electronic Stability Control
- Hydraulic Power Brakes
- Electronically Controlled Braking Systems
- Brake Performance Monitoring
- Tire Pressure Monitoring
- On-Board Weighing
- Lane Departure Warning ■

Short-range radio and satellite telematics closer to offering a one-stop package of services

Fred H. Daly
Transology Associates
This article was originally published by
Light and Medium Truck Magazine

Is land-based, short-range radio, which provides transponder and radio-frequency identification applications, competing against satellite-based, long-range wireless? Or can the two telematics platforms play complementary roles that maximize the strengths of both? Is this the classic duel between “tastes great” and “less filling,” or would a “just right” mix of the two technologies deliver some amazing and revolutionary results?

The roles of ground- and satellite-based communications deserve analysis because of developments in regulatory and supplier activities and the rapidly changing requirements for fast, secure telematics at a low cost. DSRC - dedicated short-range communications - provides highspeed data exchanges between the vehicle and the roadside as well as between vehicles.

In 1999, the Federal Communications Commission gave a boost to DSRC by dedicating the 5.9GHz radio band for intelligent transportation systems (ITS). DSRC has a line-of-sight range of up to 1,000 meters, and numerous applications in public safety, security and fleet and traffic management.

Despite some driver resistance, acceptance of onboard computers seems to be growing as truckers recognize their benefits. But the multiplicity of transponders and e-tags creates its own headaches. These devices generally operate on a “one tag, one-application” basis. For example, gate clearances and other security requirements can be run by one tag for each reader location, while each toll jurisdiction requires a unique tag. The introduction of the multi-protocol “fusion” tag reduces the scope of this problem.

To get a better picture of the versatility of DSRC, let’s take a look at other transportation-related applications, all of which could be served by one fusion tag:

- Vehicle safety inspections. These can be accomplished on the fly or at a stationary facility for all vehicle classes. Sensors monitor everything from engine diagnostics to tire pressure, and download the information for the inspector.
- Transit or emergency vehicle signal priority. Such systems allow an approaching vehicle to change the signals ahead to clear its path.
- Rollover warning. In the event of a load shift or other rollover-causing event, this device takes certain actions automatically, including reduction of engine speed, to reduce vehicle speed, and warns the driver to allow for corrective action.
- Approaching emergency vehicle warning. The warning can be given to the drivers of other vehicles delivered via the standard vehicle radio.
- Vehicle clearance alerts. Alarms sound if overhead or side clearance space is inadequate.
- Probe data collection. Provides advance traffic flow information as to congested areas, and may help provide alternate route information to avoid slowdowns due to construction, heavy traffic, weather, incidents.
- Highway-rail intersection warning. Crossings are outfitted with readers that recognize an approaching train, activate the crossing gate and alert the driver over the cab radio.

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- Intersection collision avoidance. This involves vehicle-to-vehicle and vehicle-to-roadside transmissions to provide warnings before an impact.

With all the possibilities DSRC offers, it might appear a no-brainer to outfit the nations' highway infrastructure with the requisite readers and the truck fleet with electronic tags - fusion or otherwise - to solve all of our safety, efficiency and security problems.

Whoa, not so fast! The cost of seeding the infrastructure is immense, and it takes a long time to solve complicated problems. Investment analysis starts with the question of where we place our early money and how we measure the value of its return.

Some entrepreneurial vendors have taken pre-emptive action by selling onboard voice and data communications devices directly to the user. Others have taken their bright ideas before various governmental agencies, including the military, to offer them as cost-cutting and efficiency-building measures, or in seeking test beds and financial grants. It is the classic "chicken and egg" conundrum of who pays and who goes first.

Keep the faith. Vendors are forging ahead at commendable speed to introduce new applications that have both short- and long-term advantages. As we speak, new, multipurpose services, incorporating both land-based and satellite capabilities in a single box, are reaching the market.

Consider, for instance, the emission-monitoring system, with real-time reporting, recently introduced in an automobile display at the ITS America trade show in Phoenix. It combines the vehicle's onboard computer with DSRC and satellite linkage. The tag is hard wired to the engine monitoring system, with the information being relayed via satellite from a roadside reader to the appropriate state agency or company dispatcher. Talk about interoperability.

Would not this combination benefit light- and medium-truck operators by eliminating that annual, stressful adventure to the state emissions testing facility? Perhaps fleet owners and truck rental companies would realize an economic advantage.

This innovation takes us to the next area of observation, namely local area and long-range wireless technology and the prospects for space-based platforms. Satellite-driven voice and data systems are now widely used for driver routing and scheduling, truck monitoring and status determination. While a wholly satellite-based electronic toll collection system is technologically feasible, it would be costly. Yet, as demand grows and price points come down, could satellite systems come to dominate the telematics market. If so, wither goest DSRC?

From the evidence thus far, it is becoming clear that national and global wireless coverage will have to unite DSRC middleware with cellular and satellite connectivity. Help is on the way through fusion tags, wireless interfaces such as Wi-Fi (802.11 certified networks), and a plethora of land-based readers with both cellular and satellite capabilities. The ITS standards, which thus far have produced broad-based interoperability for transportation-related automated communications, soon will lead to the promised land of "one-tag, many applications." ■



News from around the region...

Utah's Commuterlink Honored

SALT LAKE CITY, UT -- Utah's Commuterlink bested 13 other state programs to win NASCIO's Digital Government: Government to Government Award. Commuterlink improves transportation and safety through the sharing of road condition, weather and incident information with as many transportation and public safety practitioners as possible.

This incredible network is currently comprised of UDOT, the Utah Transit Authority, the Department of Public Safety, dozens of cities and counties, local metropolitan planning organizations (Wasatch Front Regional Council and Mountainland Association of Governments), and local primary and secondary emergency (PSAP) dispatch centers within the Salt Lake Valley. These agencies share information with each other in order to build and operate a system that saves lives and resources.

A study conducted in 2004 by the University of Utah showed that CommuterLink saves Utah approximately \$179 million annually, for a benefit-cost ratio of 16.7 to 1. Superior safety is an important part of these savings, including the prevention of 948 accidents and 3.1 fatalities per year. For more information visit NASCIO's website www.nascio.org/awards/2005awards.

Idaho Launches 511 Website

BOISE, ID -- You already know that 511 are the three simple digits travelers can dial to get winter driving conditions, weather reports, emergency road closures and traffic delays by phone. The same travel information will be available on line at 511.idaho.gov when the service launches in November. The website is designed for easy navigation, and aligns with the overall look and feel of the ITD home page (itd.idaho.gov).

Following are some of the features to be found at 511.idaho.gov:

Clickable maps: Users can point and click to get information about specific events on highways. Icons indicate traffic incidents, road or lane closures, and driving alerts. Sections of a highway can be color-coded based on good, fair or bad driving conditions (green, yellow or red, respectively).

Cameras: Images provide indicators of current road and weather conditions at more than 20 locations throughout the state.

Weather: Reports direct from the National Weather Service offer current and forecasted weather conditions. Icons indicate if a weather watch or warning is in effect. Visitors also can opt to get more detailed information via ITD's Road/Weather Integrated Data System. Mountain passes: Nineteen mountain passes are included in this reporting section. Pass reports keep travelers updated on road and weather conditions, the current temperature and any restrictions.

Featured 511 partners: Links on the right side of the screen take visitors to Web sites of 511 partners, including the Idaho Division of Commerce and Labor for tourism information, Idaho Parks and Recreation and Idaho State Police. Additional links help users find out about scenic byways and ITD's historical marker guide.

Additional menu items: Users will find tips for using the 511 system, links to AMBER alerts, photos and facility information about Idaho rest stops, links to online

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public transit and airport information, as well as links to adjacent states' traveler information services.

Coming Spring 2006: Construction updates will be part of an expanded 511 system beginning next spring. Another enhancement will include information for commercial vehicle operators, including details about width, height and load limits, and more.

Safety Assurance Program to be Evaluated

BOZEMAN, MT -- The effectiveness of a five-year pilot program that provides safety training for new interstate motor carriers in Montana will be evaluated by researchers at the Western Transportation Institute.

The state of Montana implemented its "New Entrant Safety Assurance Program" to teach new interstate motor carriers applicable safety laws and regulations. The program is in response to a federal mandate for states to provide safety training to motor carriers prior to the Department of Transportation's required Safety Audit.

"If Montana's safety training pilot works here, it will be rolled out to other states," according to Michael Cole, WTI's principal investigator for the project. The WTI evaluation is being funded by the Federal Motor Carrier Safety Administration.

Over the course of the five-year program, WTI will assess whether the training program impacts such things as compliance with safety laws and regulations, long-term accident rates and out-of-service rates, and the pass rates for the official Safety Audit. In addition to assessing the impact of the new program on actual highway safety, the evaluation will look at factors such as program costs, which will include the time commitments required of the new carriers who participate in the program by attending training sessions.

For more information, contact Michael Cole at mcole@ie.montana.edu.

Idaho State University announces new Student Chapter

POCATELLO, ID -- Idaho State University has recently joined the growing ranks of universities with ITS Rocky Mountain Student Chapters. The ITS Rocky Mountain Board of Directors approved the student chapter charter during its October 28th Board of Directors meeting.

The ITS Rocky Mountain Chapter continues to look for opportunities to strengthen student transportation programs. "The demand for engineering graduates nationwide is increasing every year, and much of our national engineering capital is aging out of the profession. Our future lies in developing and training, qualified, young professionals," says ITS Rocky Mountain Chapter President Richard Hodges. "It will be in their hands to continue with our current systems and to implement the systems and ideas of the future.



Job Announcements

The affairs and business of the ITS Rocky Mountain Chapter are managed and controlled by its Board of Directors. This Board, made up of representatives or Senators from each of the six member states, delegates to the Chapter Officers the necessary powers to conduct Chapter business.

OFFICERS

President - Richard Hodges,
Utah Transit Authority

Vice President - Mark Owens,
Meridian Environmental Technology

Secretary/Treasurer - Brandi Hamilton,
Montana Dept. of Transportation

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If you would like an ad placed in the ITS Rocky Mountain Newsletter and/or the ITS Rocky Mountain website please email employment@itsrm.org.

Architecture/Engineering Manager II - Regional Operations Manager. VDOT is seeking highly motivated engineering professionals to serve as System Operations Regional Operations Directors in the Richmond, Salem, and Staunton areas. System Operations programs offer dynamic opportunities to enhance VDOT's capabilities to reduce traffic congestion, improve safety, and disseminate up-to-date traveler information by implementing cutting edge programs and initiatives. Regional Operations Directors will manage and direct programs and initiatives to operate and maintain all assets involved in operations, including traffic engineering and Intelligent Transportation Systems. Regional programs and projects include maintenance and operations, congestion management, safety, and emergency and security operations. Direction and oversight also includes financial, budget, procurement, contract, and human resource management to ensure on-time/on-budget, quality, and cost-effective delivery of programs and services. Positions require knowledge of civil engineering principals and practices, particularly related to traffic engineering and transportation system operations, as well as transportation laws, regulations, and policies pertinent to traffic management and operations. Knowledge of principles and applications of ITS and congestion management; knowledge of, and ability to, direct emergency operations and system security related to regional programs and facilities. Considerable abilities to analyze, evaluate, and recommend appropriate and cost-effective solutions relevant to complex system operations initiatives and challenges. Must possess abilities to work and interact diplomatically and effectively with elected and appointed officials, internal and external stakeholders, and a diverse array of staff, customers, and the general public. Abilities to manage professional, technical, and trade positions responsible for managing and/or delivering services in Smart Traffic Centers and specialized regional facilities and/or assets, traffic engineering functions, and various operational areas. Considerable, progressive management skills and abilities in leading and directing programs and multiple work groups in a wide variety of professional technical, program management, and administrative functions, making timely and effective decisions, directing change initiatives, prioritizing, and achieving measurable results driven by department and regional performance measures in a fast-paced environment. Strong written and oral communication skills. Degree in Civil Engineering with emphasis in traffic engineering, transportation systems or operations, system engineering, industrial engineering, urban planning or business administration or equivalent combination of KSAs and competencies to substitute. Master's degree, Professional Engineer license, or program management certification preferred. A total of three positions, one in each geographic region, are available.

To apply, submit a completed **Virginia Application for Employment** (Form 10-012), available online at www.virginiadot.org, and click careers and jobs statewide or from any VA Employment Commission or VDOT HR Office to:

VIRGINIA DEPARTMENT OF TRANSPORTATION

Central Office Human Resources Division
1221 East Broad Street
Richmond, Virginia 23219
FAX: (804) 371-6536
E-Mail: vdot_co_hr@vdot.virginia.gov

Application must be received by 5:00 p.m. on the applicable closing date. Resumes may accompany, **but not substitute for, the required application form** For more information call (804) 786-5011/(TDD) CALLS: 1-800-828-1120
Equal Opportunity Employer