April 24, 2013 saw an important gathering of experienced professionals from the fields of transportation, planning, municipal sustainability and livability, and clean energy. Representatives from government, non-profit, academic and private sector entities provided a wide variety of viewpoints related to Green Goods Movement and how freight transport and alternative fuels may affect the future of the Capital Region.

**Conference Highlights**

- **Conference Overview and Welcome:** Michael Franchini, Executive Director, CDTC
- **Welcome from Congressman Paul Tonko**
- **Welcome from NYS Assemblyman Paul Steck**
- **Welcome from John O’Donnell, CEO, Albany International Airport Authority**
- **Keynote Address:** The Effect of Post Panamax Shipping on Inland Shipping Networks
  - Dennis Lombardi, Deputy Director, PNYNJ
- **Freight & Fuels Roundtable Workshop:**
  - Evaluating the Present and Envisioning the Future of Freight in the Capital Region: Local Issues and Problems
  - Green Fuels: Developing Alternative Fuel Infrastructure Priority Networks
- **Panel Discussion:** Case Studies from the Private Sector
- **Highlights from Speaker Presentations**

**About the Capital District Transportation Committee (CDTC)**

Michael Franchini, Executive Director

A designated Metropolitan Planning Organization (MPO), CDTC includes four counties (Albany, Rensselaer, Saratoga and Schenectady), seventy-eight municipalities, the Albany International Airport Authority, the Albany Port District Commission, NYSDOT, NYS Thruway, and CDTA. As CDTC celebrates its 50th anniversary, it continues to represent a region with rich history and a wide variety of freight activities and transportation resources. Freight is critical to the nation’s economy and it is projected to grow through 2035. It is therefore imperative that CDTC continues to provide opportunities such as the present Freight and Fuels Conference for sharing information pertaining to potential problems and their solutions.

CDTC is currently engaged in multiple freight-related activities, including updating the Long Range Transportation Plan, New Visions 2035, reinvigorating the Freight Advisory Committee and the Clean Communities Educational Outreach Programs.

For more information regarding the Freight Advisory Committee and/or Clean Communities, please check the CDTC website at: www.cdtcmpo.org, or call CDTC at 518-438-2161.
The Albany International Airport employs 1,000 persons, including those working for the airlines, TSA, and concessions and provides parking to 450 cars daily. The Airport Authority employs 300 of its own staff and manages 50 buildings as well as a small industrial park. Energy and Green initiatives include use of 7 electric tugs and 7 CNG buses and a waste fuel program that uses previously disposed fuel (from mandatory safety testing) to heat several facilities. Although Authority mechanics were initially concerned about safety and maintenance of the Alternate Fuel Vehicles, they now do all of the mechanical work in-house.

The Albany International Airport Authority is an active member of both the Capital District Transportation Committee and Capital District Clean Communities.

Welcome from Congressman Paul Tonko

Speaking from a video greeting while in Washington, DC, Congressman Tonko reminded attendees that the Capital District is well positioned to take full advantage of economic benefits from the continued growth in the transportation sector. Distinct advantages of the Capital District include its strategic location at the intersection of major east-west interstate highways, abundant rail access, a deep water port and a vibrant passenger and freight airport facility. A member of the House Energy and Commerce Committee, Congressman Tonko is committed to creating an innovative, efficient and sustainable energy future for the Capital Region and for the U.S.

Welcome from NYS Assemblyman Phil Steck

Assemblyman Steck represents the municipalities of Niskayuna and Schenectady as well as the Albany International Airport. A member of the Assembly Environmental Committee, Assemblyman Steck believes that environmental initiatives are an impetus for creative change and economic growth including alternative fuel vehicle technologies and the development and manufacturing of alternative fuel products. He encourages constituents to bring to his attention suggestions and ideas for legislative initiatives on the subject.

Welcome from John O'Donnell, CEO

Albany International Airport Authority

The Albany International Airport employs 1,000 persons, including those working for the airlines, TSA, and concessions and provides parking to 450 cars daily. The Airport Authority employs 300 of its own staff and manages 50 buildings as well as a small industrial park. Energy and Green initiatives include use of 7 electric tugs and 7 CNG buses and a waste fuel program that uses previously disposed fuel (from mandatory safety testing) to heat several facilities. Although Authority mechanics were initially concerned about safety and maintenance of the Alternate Fuel Vehicles, they now do all of the mechanical work in-house.

The Albany International Airport Authority is an active member of both the Capital District Transportation Committee and Capital District Clean Communities.
As industrial development increases and brings desired economic benefits, it also brings freight traffic that may create less desirable impacts on the environment and community livability, including increased congestion. At the same time, "local" roads may not be suitable for freight traffic and limit the available routes that may be safely traveled. ARMA is working with NYSERDA to create a route mapping tool that will work to alleviate both such issues by providing optimized alternate routes to freight operators, logistics managers and municipalities through sophisticated decision-making mapping tools.

Norfolk Southern (NSC) has worked hard over the last 10 years to develop an extensive intermodal freight transport network that now services the Eastern Seaboard and beyond. One of its newest facilities is the truck/rail facility in Mechanicville, NY. NSC has worked with the community to minimize its impact on the surrounding neighborhoods by talking to neighbors about the intermodal facility in Mechanicville, including noise reduction and special lighting. As part of the rail network, the Mechanicville facility will help to divert over 2 million long haul truck trips across NYS, offering one of the most energy-and cost-efficient methods for moving freight in the business.

Today's freight decisions are increasingly consumer demand-based. Freight traffic cannot be expected to take the same route every day. As we move to create more community-focused planning within the complete streets design movement, we must remember that "complete" must include all users of the system, including the need for goods movement. Unfortunately, many designs or policies are not truck friendly. Looking holistically at the issues may resolve problems, often before they occur or with a few simple operational changes.
If we want to change freight traffic-related issues, we must change the behavior of the customers, not the truck operators. The most effective method of managing freight-related traffic is to manage demand and enlist the support of the private sector. One such example includes off-hours delivery (OFD), now being successfully implemented in NYC, and named one of the top 10 ideas for the environment by Time Magazine. By shifting delivery times to the hours of midnight and 5 am, deliveries can be made more quickly, more economically, and more safely for the drivers, and divert significant congestion from the roads, including double parking. This program alone is estimated to have saved over 200 million dollars and 100 million tons in carbon emissions since the beginning of the program.

Empire Clean Cities is a standalone non-profit serving Metropolitan NYC, Westchester, Rockland and Putnam counties as a clean communities organization. The Green Fleet program was created as a partnership between the public and private sector with the goals of raising awareness of green goods movement and providing positive marketing opportunities for the companies that participate in the program. Certification, or "Green Apples" are granted to allow operators to participate from an entry level to a fully green designation based on a series of metrics. From an environmental standpoint, this provides a win-win scenario. Retailers may choose to participate and only accept deliveries from "Green Apple" operators. Both retailers and freight operators then are able to market their "Green Apple" designation, providing positive PR for both the businesses and promoting further public awareness of the program.

Operators must spend 11 hours rest time for each 10 hours driven, consuming 1 gallon of fuel for each hour spent idling while waiting. Electrification units provide affordable, efficient hvac, electric, TV and internet, encouraging compliance with anti-idling regulations without requiring enforcement. To date, use of these units (many of which are also partially solar-powered) has displaced the consumption of an estimated 58 million gallons of diesel and thousands of tons of emissions as well as providing significant noise reduction in the areas where the truck stops are located.
The Buffalo-Niagara Region, which includes 5 international bridges, 2 of which are freight-only, an international airport and extensive rail and water access, is considered a promising location for a major logistics center. With adequate capacity, infrastructure, workforce and accessibility, all the needed pieces are available. The first step in defining the plan involved extensive studies over 5 years, including an urban freight area study, 5 technical studies and a final report, including a small container study. Now several years into the development phase, the progress is slowly moving forward to re-establish Buffalo as a bi-national freight center, requiring extensive public-private support to implement the needed changes, including the possible creation of a public Port Authority.
At an organizational level what was the motivation for pursuing alternative fuels?

Matthew Sgambettera (MS) - It was customer-driven - we provide our clients a top-to-bottom turnkey solution. We like being able to bring a complete solution to the customer: providing the right vehicle, (convert or buy), finding the fueling infrastructure to support the vehicles, where do they get the fuel for their fleets, can they return home and refuel or can they get the fuels on the road? How do they handle maintenance, service, parts, support?

Gino Porter (GP) - Frito/Pepsi has a strategic imperative to look at the environment and alternative fuels - it is our mission. As the largest private fleet in the US (with PepsiCo), we are motivated by a desire to provide products to our customers in an environmentally friendly way.

EJ Krans (EK) - The entire mission (of Community Gardens) is sustainability and livability. People assume that the Veggimobile uses vegetable oil... so it provides support to the idea of using alternative fuels even if we have not yet fully managed it with our trucks. When we bought our second vehicle, the Sprout- 2 years ago- all electric options were not available at a manageable cost. At 100k to buy electric vehicle, small delivery agents or non-profits like us cannot afford to actually be in the game.

For Fleets, were you able to recapture any of the funding for the fleets through incentives and grants? Were you able to help your customers to locate the funding?

GP - We do not depend on grants, it just makes good business sense to us to go this way and we are interested in meeting our mission. We INVEST into alternative fuels and electric vehicles. Its nice to get the grants, but not a necessity. We think bigger companies need to allow the smaller companies to get those grants as we can afford to self-fund.

MS - We thought that "free money" would really incentivize folks to use alternative fuel vehicles (AFVs). It does make it available for smaller fleets to get into the game who could not have afforded the capital outlay without assistance. Now they are great ambassadors for alternative fuels - sheriffs departments, taxis, local delivery people, school buses - everyone sees it. Big companies- it doesn't show as much. Seeing smaller groups using AFVs lets others know that its an achievable goal. But we still needed to actually go around and sell the programs at first- alternative fuel suppliers have now seen that capital expenditures are the number one hurdle so they are willing to invest in capital improvements, they will pay for consumers to convert to their fuels. The grants no longer exist. The return on investment now is fantastic; at 6-18 months, outside investors are willing to add funding to the game.
How much more does this Alt fuel vehicle tech cost and is the ROI a positive benefit for the organizations?

EK - Our first vehicle was the Veggimobile, and the second is the "Sprout" - we actually wanted to make it bike-powered, but that was impractical. We looked at the mini golf cart-type options, but found that they are not reliably road-safe. Now we have a TransitConnect vehicle (2010) and intend to retrofit it to electric when warranty runs out later this year. We simply could not justify the original retrofit cost of $78,000 vs. the gas vehicle at $28,000.

GP - There is a 30-40% markup on natural gas and electric vehicles. The price differential has dropped a bit.

MS – Most of our vehicles now are conversions of existing vehicles. Our general retrofit costs range at $5,000 for LPG and $10,000 for CNG. Note, conversion does not void original manufacturer warranty - they are required by law to continue to support it after conversion. Get in touch with your Clean Cities Coordinator to discuss this.

Do the vehicles drive any differently, and what is the vehicle maintenance difference?

GP - There's not a lot to maintain on the electric trucks, although you must have certified techs for CNG, which we had to provide training for to our staff. On the road, CNG vehicles are much quieter and electric trucks are silent. We have actually had to install noise generators on our electric trucks for safety reasons.

EK – B5 may have slightly higher maintenance costs, but there's no need to change anything in the diesel truck.

MS - Maintenance costs are essentially the same, but some training will be necessary. Vendors typically will do any needed training, and most customers are surprised at how easy it is to maintain and implement an AFV program.

What about safety, usage of any other type of fuel?

MS - Anything added to a vehicle must be fully compliant with safety regulations by NYSDOT and US DOT. Most alternative fuels are actually safer than gasoline and CNG vehicles are regularly inspected by certified technicians as part of regulations. We're just not used to the alternative fuels, we've been accustomed to what we've had for years.

GP - We take the drivers through extensive training - and we provide training to local fire department and emergency folks in the localities where we run AFVs.

From a policy level, what can NYS do to support the movement?

MS - Require or encourage rest stops to provide alternative fuels at all locations, including electric charging stations, etc.
Key Note: The Effect of Post Panamax Ships on Inland Shipping Networks

The Port Authority of New York and New Jersey (the Port) is the largest port on the East Coast and the 3rd largest in the country. About 85% of the freight received is moved from the Port by truck, with a reach of over 20% of the nation’s population within 8 hours. A landlord port, it has impressive tenants, including Amazon’s newest just-in-time distribution facility.

Ships have become larger and more energy-efficient as freight is increasingly moved via containers. While in 1988, the Port saw ships of 4500 TEUs* of cargo, today’s ships carry up to 18,000 TEUs. The container terminals in Newark currently cannot accept ships greater than 9,300 TEUs due to infrastructure restrictions, such as limited air draft* under the Bayonne Bridge. The Port expects to receive ships of up to 13,000 TEUs by 2015, when bridge reconstruction is completed.

Shipping must compete on cost, not time, but also must be considered reliable. The Port has signed a labor agreement that ensures the continued access and productivity of the needed workforce to manage cargo so that it may reach similar productivity levels as other international ports. It is also engaged in various “hardening” activities post Hurricane Sandy, which took the Port offline for 1 week and caused damages of over $2B. Over $170M in damages were sustained at the Port of Newark, primarily in support services. One lesson learned: Electric and hybrid vehicles can not tolerate continued exposure to salt water; they must be moved to higher ground to avoid flooding.

Shipping by water is the cheapest, most environmentally-friendly method for freight movement, particularly through the practice of “slow-steaming,” when speed is reduced to accomplish a significant reduction in fuel consumption. The Port pursues green initiatives, including installation of in-port plug-in systems in the cruise ship terminal in Brooklyn; banning older trucks from entering the Newark facility; and the use of hybrid trucks.

Inland ports (such as Albany) are expected to be impacted by the expansion of Panama Canal if they can meet certain criteria, including making shipping through the ports economically viable. Albany has the necessary requirements of deep water, terminals, and excellent road and rail access. 4300-TEU barges could be moved to Albany for distribution. Although the infrastructure exists and was successfully tested through the Albany Express Barge Service, concerns remain regarding the financial viability of such activities. There is a need to increase the export trade in containers and develop private/public sector partnerships to ensure long-term contracts for shipments. Other viable options include movement of goods generally distributed within the region of the Port itself (e.g., bulk commodities such as road salt). Potentially, goods may be moved through Albany, and then through the NYS Canal System following a distributed model similar to that used in the Port of Rotterdam in the Netherlands, but the challenge is to be cost-competitive.
A special interactive Roundtable Workshop was included as part of the Conference activities. Attendees were asked to work together in small groups on various topics related to Freight and Fuels as it relates to Green Goods Movement in the Capital District. Facilitated by Dr. Dimitri Grivas and the Institute for Infrastructure Asset Management (IIAM), the teams worked together for approximately 30 minutes. Each team was asked to address a specific topic. A representative from each team was asked to present their recommendations to the entire conference. A compilation of these presentations are included in the following text.

What are local issues and problems related to freight traffic?

- Respondents believe that local issues are mainly commuter traffic-related, with no major issues at regional freight facilities.

- Permitting is considered to be a concern in general; it can take up to 6 permits for a carrier to move a load from the Port to many local destinations. Overweight/oversize vehicles are also a concern, even on the NYS Thruway, where operators “know how to get around enforcement measures.”

- While some issues and concerns may exist, the team believes that there are no significant freight-related problems in the Capital Region at this time.

Should there be freight priority networks in the Capital District? How should they be defined?

- According to the respondents, all freight routes are ultimately defined and limited by bridges—their geometry, condition, load capacity and overhead clearance.

- Threshold values (a percentage of VDT for freight carriers) exceeding 10% are not considered to be a valuable measure of capacity. For example, Buffalo only reaches 30%, Albany just 15%; at these levels, the capacity of roads has not been reached.
Roundtable Workshop:
Evaluating the Present and Envisioning the Future of Freight in the Capital Region: Local Issues and Problems

**How might development impact freight traffic in the Capital Region in the next 5 years? 20 years?**

- Team members believe that different types of development have different impacts. Information-based development is high-value and does not move many goods, while manufacturing (e.g., the “yogurt boom”) generates heavy shipping needs for raw goods and product delivery.
- There must be sustainable development, not cyclical or boom-and-bust.
- ITS interventions may be able to handle some of the traffic with the co-benefit of more Alternative Fuel Vehicles fleets enabling development of shared infrastructure for Alternative Fuel Networks.

**Are there alternate freight routes in the Capital Region that are currently underutilized?**

- I-88 may be considered an underutilized route, as well as New Karner Rd (after completion of bridge construction)
- The Capital Region has adequate capacity and challenges are seen to be primarily time-sensitive. It is observed that roads remain largely underutilized for large parts of the day and otherwise well below capacity.
- Load balancing may be an answer, and may require better communication with shippers, better ITS, and better data integration.
What is the current demand for alternative fuels in the CDTC Region?

- Demand in the Capital District area for alternative fuel is considered low, but infrastructure availability is also limited. Increased demand can help to drive increased availability.
- A champion fleet can act as a leader with the decision to use alternative fuels, showing that it can be done. Trailblazers should be recognized, with increased education and outreach programs like the Empire Clean Fleets Program.
- The Capital District is noted as being well positioned for the manufacture of alternative fuels, especially biofuels.

How do current regulations, policies and incentives affect the Alternate Fuel Network?

- It is noteworthy that NYS is the only state in the U.S. that does not allow LNG fueling stations, although they are used extensively elsewhere. Passing legislation will help the transport industry nationally and will allow NYS businesses to be more competitive in the long run.
- Cost savings may be passed onto customers, and the use of alternative fuels may become more competitive.
- Tax breaks may need to be addressed as the balance shifts from diesel to alternative fuels to retain highway funding levels.
Roundtable Workshop:
Green Fuels: Developing Alternative Fuel Infrastructure Priority Networks

Which are key factors affecting the expansion and management of local Alternative Fueling Networks?

- Funding and the presence of adequate customer base are believed to be the key factors. Dedicated customers are needed before owners will build or retrofit stations; yet customers need available fuel stations to feel comfortable converting fleets to alternative fuels.
- While the number of public stations is increasing, most stations are passenger vehicle-only and are not set up for trucks. Private support is clearly needed.
- Frito-Lay is committed to funding the retrofit or building of new public stations and guarantees purchase contracts to ensure availability of fuel for their fleets.
- The available infrastructure is inadequate for increasing demand.

Are there safety issues distinctly related to Alternative Fuels?

- The team considers that all fuels have risks, but accidents with alternative fuels are more “theatrical” and tend to get more media attention, although vehicle fires in conventional vehicles are quite common.
- First responders need to be trained, both on fuels and on vehicles, and disaster plans need to be updated to reflect AFV usage.
- Unexpected risks may occur, i.e., electric vehicles operate silently and may require noise generators for public safety.

Thinking Outside The Box: What innovations may increase the use of Alternate Fuel Networks for the CDTC Region?

- Team members believe that widespread adoption of alternative fuel vehicles may not occur until they are mandated; or, until new stations are mandated to provide such fuels.
- There are great successes in the marketplace with biodiesel. Public-private partnerships in which municipalities convert fleets, build their own alternative fuel stations and make them publicly available may be a way to encourage the use of the new fuels and vehicles while the private sector catches up.
- Public/private joint initiatives with split profits may also provide a viable short-term approach.
**NYSERDA: Funding Research and Development**

Patrick Bolton

The NYS Energy Research and Development Authority is charged with funding and supporting research efforts in the areas of energy and the environment throughout New York State. Many programs are specifically targeted at transportation and clean energy and have been highly successful, including the NY Truck Dealer Voucher Program. This program allows the dealer to offer the buyer up to $60,000 off the purchase of an alternative fuel vehicle, which NYSERDA will then reimburse for 100%. Current funding opportunities include: funding to build Biofuel stations (PON2290) or Biofuel Terminals (PON2454), the Clean Air School Bus Program (PON2896) which covers 100% of the incremental cost of new purchase or upgrade to clean fuel technologies in school buses, and a 50/50 cost-share Fleet Studies program to determine if your business will save money by shifting to alternative fuel operations. They also have many educational programs available, including the Guidebooks for Delivery and Garbage Fleets and the upcoming CNG Outreach events in partnership with the Clean Cities Coalition.

**NYSERDA: Innovative Funding for AFV's**

Adam Ruder

NYSERDA has received a $500,000 award as part of a project targeted at the private sector and utilities to promote more interest in financing Alternative Fuel Vehicles. As public monies dwindle, the study is focused on the problem of how to get the public sector more involved in funding alternative fuel vehicles - both their purchase and development of new technologies. Involving multiple states, agencies and organizations, the project is overseen by the National Association of State Energy Officials with the goal of providing compelling evidence of the benefits of funding these programs that is needed to ultimately unlock private sector financing.

**FHWA: Federal Freight Initiatives and Funding**

Tom Kearney, Freight Manager, FHWA

The National Strategic Plan on Freight, under MAP21, taps into every resource available, including into state levels wherever possible. There are 27,000 miles of roadway named in the Plan, with an additional 3,000 to be added, mainly from rural locations. States are strongly encouraged to submit state freight plans, and then may apply additional federal funding to freight projects under the program. Truck parking, under Jason's Law, is a major initiative under MAP21 with funding available to develop programs. With the most stringent weight standards in the world, FHWA is currently conducting a Comprehensive Truck Size and Limit Study and is poised to release an RFI for a major Compilation of Truck Size and Weight Studies to further explore this issue, including Stakeholder Outreach sessions to further define the issue.
After the last conference workshop, several attendees (about 15-20) boarded an Albany Airport bus and toured the Airport runway area, the Airport Freight Facility, and the Airport Control Tower. Steve Iachetta, the Airport Planner, acted as tour guide. As attendees made their way to the “other side” of the airport beyond the passenger terminal, Steve described the operations at the New York State Police hangar, their award-winning de-icer fluid treatment facility, their noise testing facility, and their various plane repair facilities. The bus stopped at the Airport Freight Facility, and Steve described the freight operations, the planes, the normal schedule, and the companies operating there. Attendees then visited the Airport Control Tower, where FAA employees at the tower gave a tour of the radar room inside the tower, and the control room at the top level of the tower. In all, the tour gave participants a great appreciation of all the support operations and all the other operations besides the passenger operations that occur daily at the average mid-size airport.

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