

**NEW YORK STATE**  
**DEPARTMENT OF TRANSPORTATION**  
**Climate & Energy Report**

August 1, 2008

Earlier this year Commissioner Glynn asked me to oversee the Department's effort on climate change and energy issues. I wrote to all Department employees stressing the importance of the work which must be done and promising to keep everyone aware of the work the Department is doing. This progress report is meant to serve that purpose.

Questions, suggestions and input for future reports are welcomed and should be sent to [ClimateandEnergy@dot.state.ny.us](mailto:ClimateandEnergy@dot.state.ny.us) I particularly look forward to learning of the many things individual work units have done to make a difference. The steps you take will not only make a difference, they will set an example for others to follow and demonstrate that the culture of Department is changing with regard to addressing climate and energy issues.

Many activities are underway and with this initial report we wanted to capture some of the positive steps the Department has taken in the past few years. The result is a fairly long report. Therefore the report has been set up to be read electronically. While printing this document may be needed to reach some field employees, in general we hope that an electronic version of the report will suffice. Printing as a general principle is discouraged because of the energy it consumes, the resultant greenhouse gases which will be produced, and the destruction of trees which may be necessary to produce the paper upon which the document is printed.

Each of us can make a positive contribution and I know that you will.

*Stan Gee*

Executive Deputy Commissioner

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## New York State Planning Activities

**State Energy Planning Begun** – Governor Paterson, by Executive Order #2, on April 9, 2008 established a State Energy Planning Board. Commissioner Glynn serves on the Board. John Zamurs has the staff lead and is being assisted by Colleen Smith-Lemmon. The Board is charged with preparing a State Energy Plan by June 30, 2009. A draft plan for public comment will be issued by March 31, 2009.

A website, [www.nysenergyplan.com](http://www.nysenergyplan.com), has been developed for the State Energy Plan. The website is the primary means of providing information and communicating with the public. It includes a scoping document describing the issues the State Energy Plan will cover and the process for developing the plan.

A transportation issue brief will be due in about 2-3 months. Program areas will be asked to contribute to this product.

A major part of the early planning involves stakeholder meetings that began in late May. Numerous meetings will be held over the next few months. The Department is working to ensure the transportation community has an opportunity to provide input.

**Green Procurement & Sustainability Program Established** - Governor Paterson, by Executive Order #4, on April 24, 2008 established a State Green Procurement and Agency Sustainability Program. An Interagency Committee on Sustainability and Green Procurement was created to oversee the program. Commissioner Glynn is a member of the Committee. A person who will be the Department's designated Sustainability and Green Procurement Coordinator will be named shortly.

The Committee will develop and annually update "green procurement lists" and specifications for products that will:

- Reduce or eliminate the health and environmental risks from the use or release of toxic substances;
- Minimize the risks of the discharge of pollutants in the environment;
- Minimize the volume and toxicity of packaging;
- Maximize the use of recycled content and sustainably managed renewable resources; and
- Provide other environmental and health benefits.

The Committee will also establish specific goals to achieve reasonable reductions in the amount of solid waste generated and paper consumed annually by State agencies and authorities.

State agencies are directed to take steps that will:

- Reduce toxic substances, pollution and waste;
- Reduce solid waste, through reuse, recycling and composting;
- Increase energy efficiency and the use of renewable energy resources;
- Conserve water and other natural resources; and
- Maximize the use of environmentally preferable or "green" commodities, services and technologies.

In meeting this directive all agencies are instructed to use 100% post-consumer recycled paper for copying and publications.

**Interagency Sustainability Coordinators Network Established** – The Department of Environmental Conservation (DEC) has twice hosted a meeting of sustainability advocates from several agencies. The meetings and network are a work in progress at this point, but the primary aim is to bring people together in an informal setting to share ideas and learn from each other, as agencies increase their efforts to be better environmental stewards. Joy Chiu, Mary O’Reilly, and Paul Hoole attended the most recent meeting.

**Interagency VMT Reduction Workgroup Created** – Chaired by the Department of Environmental Conservation (DEC), the Department is a member of a new interagency workgroup which will feed recommendations into the State Energy Plan. The workgroup is charged with recommending measures which will lead to a 10% reduction in vehicle miles of travel (VMT) from projected levels in the year 2020. Karen Rae and Mary Ivey have the lead on this workgroup, supported by John Zamurs, Paul Hoole, Patrick Lentlie, Bob Ancar and Steve Munson.

An organizational meeting of the workgroup was held in April, after which a subcommittee reviewed various VMT estimates and selected the forecast from which the reduction will be calculated. In June the workgroup again met and began reviewing specific strategies for VMT reduction. Potential strategies the Department will put on the table for discussion draw heavily from the efforts of the Department’s Climate & Energy Team – Workgroup #1.

In July the interagency workgroup has created four subcommittees: Transportation Demand Management / Alternative Modes / Pricing (Bob Ancar-member); Highway Investments (Paul Hoole-member); Freight (Patrick Lentlie-member); and, Land Use / Smart Growth (Steve Munson-member). The subcommittees and workgroup is slated to meet monthly until its work is done late in the calendar year. The full workgroup also convened in July to hear presentations on land use and transportation.

## **New York State – Action Implemented**

**NYS-Ride Program Offered** – NYS-Ride, New York State's pre-tax transportation program that allows you to pay for transit fare expenses on a pre-tax basis through payroll deduction. The program was announced in May. Use of up to \$115 per month for transit expenses is possible under Internal Revenue Service rules. A number of employee meetings are being held across the state for interested employees.

## **NYSDOT Planning Activities**

**Program Update to Consider Climate & Energy Impacts** – Faced with funding constraints, climate and energy remains a high priority for the next program update. Energy consumption will be considered as projects are selected and programs developed. Failure to do so would mean a missed opportunity for the next five years.

The next program update will reflect investment decisions for the five year period from 2010 – 2015. The MPOs and our Regional Planning and Program Managers (RPPMs) were briefed earlier on our plan for the update of the capital program, and our environmental goal in particular. This goal is: *Support a sustainable environment through improved energy efficiency in the transportation system and the protection and improvement of air and water quality.* Among the objectives for this goal are the following:

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- Lower the transportation sector’s contribution to greenhouse gases and global climate change;
- Develop and adopt sustainability standards for construction and maintenance; and
- Reduce the growth in transportation’s consumption of non-renewable petroleum resources.

The design of all transportation projects should consider methods for attaining these objectives.

**DEC Office of Climate Change meets with NYSDOT** – The Department’s Climate & Energy Team met in late April to hear from the Department of Environmental Conservation’s Office of Climate Change. Lois New and Alan Belenzs described their office and covered the broad issues related to climate change. Commissioner Glynn began the meeting with a presentation titled “Encouraging Energy Efficient Transportation.” Each of the workgroups made a short presentation as well.

The meeting was also attended by Mark Watson from the New York State Energy Research and Development Authority (NYSERDA). He spoke briefly about NYSEDA’s research program. Mike Savonis, from Federal Highway Administration (FHWA) headquarters, also attended the meeting. Mike was the lead FHWA staff person on their Gulf Coast Study on the affects of climate change.

**Climate & Energy Team – Workgroup #1 Status** - Workgroup #1 is charged with recommending actions the Department can take to influence public behavior in the amount of driving they do (reduce VMT), the vehicles they purchase (faster fleet turnover to more efficient vehicles), and a shift in fuel type (use of non-petroleum fuels and fuels that product little or no greenhouse gases). Department actions in some cases may be limited to proposing legislation or changes to state policy. In other cases, the workgroup might recommend actions more directly under the control of the Department, such as an expanded transportation demand management effort. More than forty (40) ideas are under consideration, including some received from employees submitting their suggestions to the [ClimateandEnergy@dot.state.ny.us](mailto:ClimateandEnergy@dot.state.ny.us) e-mail address.

The workgroup is in the process of prioritizing strategies, knowing that with limited resources available to fully develop and implement these strategies, it is important to concentrate on the most effective strategies first. An environmental consultant, on a term agreement with the Department, has provided an assessment of the strategies. This assessment is under review.

**Climate & Energy Team – Workgroup #2 Status** - Workgroup #2 is charged with recommending actions to reduce our ‘carbon footprint’ as an organization. A series of actions are being developed, from a pilot for compressed work schedules (see New Department Actions and Results) to proposed changes to the infrastructure (e.g. signal timing and conversion to LED) which will reduce emissions and the use of petroleum.

As with Workgroup #1, the same environmental consultant has reviewed the ideas of Workgroup #2. The consultant assessment is under review.

**Climate & Energy Team – Workgroup #3 Status** – Workgroup #3 has completed its assignment of reviewing various forecasts for “peak oil” so that the Department can better understand the specific impacts on transportation. They found the impacts will be

significant, but unfortunately predictions of the future cost of oil vary and past predictions have been wrong. Given the importance of the subject in an uncertain world, they recommend that the Department develop plans under different scenarios. Types of actions the Department might take and illustrative examples are given in the report. Their report titled Peak Oil and NYSDOT ... the Rules are Changing, was presented at the June meeting of the Climate & Energy Team. The implications of the report are being digested at this time.

The report is available on the Climate & Energy WebBoard at: <http://wpmoap02/wb/default.asp?action=9&boardid=21&read=2173&fid=357>. It is also available on the Department's P Drive at P:\Temporary Data Exchange\Climate & Energy Team\Workgroup #3 Peak Oil Report 6.24.08.

**Climate & Energy Team – Workgroup #4 Status** – Workgroup #4 was charged with making recommendations on adaptation measures needed to deal with the impacts that climate change will have on our state's transportation infrastructure. The workgroup found several potential changes that could positively or negatively affect the transportation infrastructure in New York State covering all modes of transportation. Those changing conditions include:

- Higher Average Temperatures
- Rising Sea Levels
- Changes in precipitation levels (both rainfall and Snowfall)
- Rising or Falling Water Levels of Inland Water Bodies
- Changes in Storm Intensity and frequency (Wind and Precipitation)
- Changes in Freeze-Thaw Cycles

As a result, the workgroup in late June recommended:

- The Department should examine other studies (list provided) to determine what information is available or is being developed.
- After determining what climate change impact information will be available from existing or proposed studies, the Department should obtain a consultant with demonstrated expertise in climate change science to quantify the expected climate change impacts on the transportation system that cannot be obtained from other studies. This missing information will be needed to develop adaptation strategies. The work group recommends that the Department obtain consultant services to better quantify the climate change impacts so that the Department and other stakeholders can use that information to set their adaptation strategies.

The workgroup noted that we need to especially coordinate with the New York State Energy Research and Development Authority (NYSERDA) because they are proposing a climate change study that would cover all of New York State.

Independently it was learned in late July that the City of New York (Mayor's Office of Long-Term Planning and Sustainability) has hired a consultant to kick-off the NYC Climate Change Adaptation Task Force. This task force will look at the long-term impact of climate change on NYC and develop adaptation strategies to protect the City's vital infrastructure. In preparation for the task force kick-off (to be scheduled for August), NYC is conducting an outreach exploring the extent to which other organization may already be planning for climate change and/or how adaptation could fit within the long term planning process.

Related work by Workgroup #4 includes the preparation of a list of potential climate change impacts that different program areas within the Department will need to address. This list will be

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shared with the program areas to raise their awareness of what type of impacts they will have to deal with and to provide feedback from the program areas. The listing of potential climate change impacts by program area is expected to be completed in August.

**Climate & Energy Team – Workgroup #5 Status** – Workgroup #5 was charged with developing an internal and external outreach plan. They presented their recommendations for internal communication at the June Climate & Energy Team meeting. The recommended plan calls for easy access to climate and energy information from the IntraDOT, using a “green initiatives tab.” Educational material would be provided as well as status information. Tips for saving energy and news about upcoming events would also be provided. The Office of Communications would be responsible for the site with the Office of the Environmental providing the content.

## **NYSDOT Research & Development Activities**

**Center for Energy Research and Sustainable Transportation** – The Department has begun the process of establishing a new research consortium focused on energy and sustainable transportation. Requests for proposals would be offered to this new consortium, which will replace existing consortia administered by Cornell University and the New York State Energy Research and Development Authority (NYSERDA). Those two consortia have contracts which expire within the next several months. Unique to this new consortium will be an emphasis on the new consortium facilitating the exchange of information and sharing of ideas among all transportation stakeholders in New York State. Agencies, authorities, planning organizations would be involved from the public sector and universities, national labs, and private companies would be involved from the private sector.

A Request for Expressions of Interest will be issued later in the summer, leading to the creation of the new consortium by next winter.

**Agreement Reached on \$1,500,000 for VMT Reduction Research** – The Department has formally agreed to provide \$1 million for research on ways to reduce Vehicle Miles of Travel (VMT). The funds will be provided to NYSERDA, who will add another \$500,000 to the effort. The funds will be allocated among three categories of projects:

Policy Research and Feasibility Studies - Analytical research to develop and evaluate new strategies and policies for New York State that have the potential to achieve a reduction in VMT growth. Also eligible are feasibility studies including, but not limited to preliminary studies such as conceptual design, technology and market assessments, that are necessary precursors to the development and commercialization of new products capable of achieving the goal of this solicitation.

Demonstration of Underutilized Strategies and Policies that have the potential to achieve the goal of this solicitation and that require only minor amounts of equipment and/or materials purchased for implementation.

Demonstration of Underutilized Commercial Technologies that have the potential to achieve the goal of this solicitation and that have not been previously deployed in New York State to any significant extent.

The availability of this funding was announced in mid-July. Contracts for the research are expected to be in place by the end of the year.



**511 NY Demonstration** - The key to travel demand management is the flow of information to potential travelers. The gateway to travel information will be greatly enhanced under the brand “511 NY”, which complements the national branding of 511 by USDOT. (The genesis of the name “511” comes from the ability of the public to call 511 and receive travel information.) The system will have a heavy emphasis on promoting modes of travel other than highway. Web and phone access will provide information on all modes and on multiple topics, such as assistance with forming a carpool, access to transit schedules and transit trip itinerary planning, and real time information on transit and highway conditions. E-notification of real time conditions will be one of the services provided. Rollout of 511 NY will occur this fall as a demonstration using research & development funds and be re-branded when the system is deployed.

**Carbon Highway Footprinting Research** – This research is about to begin and will merge the capabilities of TRANSIMS and real-time commercial vehicle data acquisition to identify areas of high commercial vehicle fuel consumption and emissions in New York State. It will produce a model / tool for evaluating the “performance” of new and existing roadway infrastructure. Problem areas can be readily defined and quantified, enabling the potential for improvement in subsequent rehabilitation and/or construction. Significant energy, environmental, and economic benefits would accrue from the identification and correction of “poorly designed” roadways.

**Solar Bus Stop Demonstration** – Available technology used outside New York State is sometimes demonstrated in New York State with research & development funds to increase understand and possibly deployments. Solar-powered street transit amenities will be demonstrated on a 2.5-mile section of a Capital District Transportation Authority (CDTA) bus route in Albany. CDTA strives to improve the safety and security, available customer information, and the appearance of the CDTA bus system, thus improving customer comfort and convenience. This initiative seeks to significantly enhance the transit experience and attract more riders making the service more attractive, safe, and sustainable.

**Energy Research on the Use of Recycled Material** - The objective of this study is to quantify the energy and environment benefits from using recycled asphalt and concrete for highway construction. Specifically, when recycled asphalt pavement is re-used for producing hot mix asphalt or when recycled concrete aggregate is used in concrete, how much energy will be saved and how much greenhouse emission could be reduced.

**Car Share Demonstration** - Car sharing is an innovation in personal transportation that is gaining popularity in urban areas, where 75 percent of Americans now live. Car sharing provides neighborhood-based, cost-effective, and flexible access to a fleet of well-maintained, fuel-efficient vehicles for members to use for periodic short trips. As such, it allows people with an occasional need for a car to fill that need without purchasing a car of their own. Car sharing allows members to reduce their vehicle ownership rates and overall vehicle miles traveled while increasing transit use and walking. A demonstration in Ithaca has been funded.

**Park & Ride Lot Research** – Research has been funded to investigate the key factors which must be considered in selecting park & ride lots in New York City. Lessons for the siting park & ride lots locations in general will be separately captured as a study byproduct and a workshop with statewide participation is planned at the end of the study. Consultant proposals are being evaluated at this time. A firm schedule for completing the study has not yet been set.

**Research on Air Quality / Energy Use of Right-of-Way Practices** - This research will identify and quantify environmental risks (air, water and soil pollution) associated with vegetation management practices, so that the environmental risks of alternative control methods can be compared, along with their benefits.

**Highly Reflective Sign Sheeting Evaluation** – The goal of the research is to identify acceptable highly reflective sign sheeting products to preclude the need for external lighting. Preliminary results indicate the external lighting may not be needed in the future.

### **Past NYSDOT Actions and Results**

There are a number of actions the Department has taken over the last several years to significantly reduced greenhouse gas emissions from the public and the Department.

**Alternative Fuel Vehicles** – The Department operates one of the cleanest alternative fuel fleets in the country. We have more than 700 such vehicles in the Department’s light-duty fleet of automobiles, pickup trucks and vans, primarily compressed natural gas (CNG) models and hybrids. In 2007 the Department displaced more than 750,000 gallons of petroleum by using CNG. Working with the Office of General Services, the Department has helped build 59 CNG stations, with 11 of them open to the public.

The Department is also testing CNG injection into diesel fuel on Long Island. Regarding heavy-duty fleet, there are 30 trucks that run on CNG dual fuel, a method that can displace up to 80% of the diesel fuel normally used by these trucks. The ultimate goal, set by the Office of Fleet Administration and Support, is to use liquefied natural gas (LNG) to displace all diesel used in the Department.

**Transportation Demand Management** - The Department has a major TDM program in effect downstate, aimed at reducing vehicle miles of travel. Promotions are done through a variety of advertisements, such as radio; newspapers; bill boards; posters on buses; and the internet. Incentive programs, such as the federal Commuter Choice Tax Benefit program, have been promoted along with alternative means of travel (transit, vanpools, carpools, bicycle, walking). Consideration is being given to increasing the intensity of these programs and expanding them beyond downstate.

**Traffic Signals Upgraded to Save Energy / Reduce Cost** – The Department operates 6,000 traffic signals. All of these signals have been retrofitted with LED lights (light emitting diodes) for an energy savings of 75%. New “smarter” signal controls are also being introduced and will be used to reduce congestion, thus allowing vehicles to operate more efficiently to achieve additional energy savings and lower greenhouse gas emissions.

**DOT Employee Car Pool Bulletin Board** – The Employee Relations Bureau offers an electronic bulletin board that employees may access to find a ride, accept riders, or join an existing car pool. Information can be found on the Employee Relations Bureau IntraDOT page.

**Green Construction Principles Deployed** - As part of the framework for several large projects (Route 9A Reconstruction, Peace Bridge, LIE Bridge/Interchange Rehabilitation, Kosciuszko Bridge Replacement and the Bruckner-Sheridan Expressway Interchange Reconstruction) NYSDOT has put in place practices to minimize adverse local air quality impacts. These impacts consist of elevated particulate matter, carbon monoxide and hydrocarbon levels during construction work due to diesel fuel consumption and earthmoving activity. These

green construction principals are now being incorporated in contract specification language that includes the following components for all projects in statewide non-attainment and maintenance areas:

- Use of ultra-low sulfur diesel (ULSD) fuel in all non-road diesel construction equipment
- Implementation of three (3) minute limitations on unnecessary idling of diesel powered construction equipment
- Restriction of diesel powered equipment exhaust(s) to locations that do not impact fresh air intakes
- Inclusion of onsite dust control measures in the Soil Erosion Sediment Control Plan for the project (i.e., regular dust suppression application to the project site and aggregate piles, fugitive dust containment, wheel washing of exiting vehicles, etc.)

**Diesel Retrofit Program Underway** – In compliance with the recently enacted Diesel Emission Reduction Act, NYSDOT has developed a three year plan to install diesel retrofit equipment on, or replace approximately 2691 trucks covered under this law. Through the department’s normal vehicle replacement plan we will purchase approximately 150 trucks per year and retrofit the remaining trucks at the 1/3 per year compliance schedule required by law. The retrofit program will be integrated into the regular fleet preventive maintenance program to reduce fleet downtime and continue to provide critical department services to the traveling public.

**Cold In-Place Recycling (CIPR)** – Cold in-place recycling is a pavement rehabilitation treatment that can be used on low traffic volume HMA pavements. The process includes milling the existing pavement to a depth of 3 or 4 inches, mixing the recycled material with additional stone and liquid asphalt emulsion, and paving the mixture back in place with conventional paving equipment. CIPR rejuvenates the existing pavement, extending its service life while using less liquid asphalt and virgin aggregate than a conventional hot mix asphalt overlay. Further, by recycling valuable natural resources on-site, CIPR reduces emissions and energy use associated with processing and hauling these materials. This has been a standard Department practice for low volume roadways for several years.

**Precast Concrete Units** – Precast concrete units, i.e., plant fabricated concrete units, can be used in place of cast-in-place concrete for many applications. Typical applications include: drainage structures, culverts, walls, pipes, and structural beams. Use of precast concrete products reduces the need for placement and curing of concrete at the project site and can reduce project construction times. Reducing project duration and associated traveler delay can also reduce emissions and save fuel. Use of precast units has been standard practice for many years.

**Geosynthetic Reinforced Earth Systems (GRES)** – Steep slopes and walls built with layers of soil and fabric are changing the nature of earthwork. New, steep-sided fills can fit into sensitive areas in ways never before possible. Temporary earthworks, particularly for stage construction, can be built with vertical sides and left in place beneath the final embankment with very little extra expense. The use of GRES can expedite earthwork during construction, reducing project duration and the associated delays to travelers. Reducing traveler delay can reduce emissions and save fuel.

**Use of Recycled Materials in Construction** – The Department routinely uses recycled materials in transportation applications. Our current policy is to allow and advocate the use of recycled materials whenever they perform as well as the virgin materials they are replacing. Asphalt pavement, concrete, glass, plastics, and rubber are recycled materials commonly allowed by NYSDOT. The Department was an early leader in the use of Reclaimed (or Recycled) Asphalt Pavement (RAP).

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**High Early Strength (HES - Accelerated) Concrete** – HES concrete is a mix that has an accelerator added to allow it to set-up and gain required strength more quickly. The use of HES concrete allows the project to open to traffic more quickly and thereby reduce user delays and associated vehicle emissions. Accelerators are now used routinely for pavement and bridge deck concrete repairs.

### New NYSDOT Department-wide Actions and Results

Many potential Department-wide actions are under review. Given limited resources for implementation, time is being taken to ensure the first items implemented are the most effective. A review for “low hanging fruit” – good ideas that can be quickly implemented - is also underway. To date, three actions have been taken:

#### **Compressed Work Week Pilot Approved for Advancement**

Executive Management has approved a plan to move forward with a 12-month pilot compressed work schedule program based on the recommendation of the Climate Change/Energy Team’s Workgroup #2. Supervisors and managers will need to assure coverage and we will be collecting data to determine the success of the program. The Department is reaching out to the unions and will be consulting with Civil Service Department in finalizing the pilot. More details about the pilot will be announced once initial feedback from the unions is received.

#### **Smart Growth Web Site Launched - Community Outreach Initiated**

Commissioner Glynn quickly recognized that land use patterns were a root cause of energy consumed by the transportation sector and the state needed to make smarter choices in the future. Responding to her concern, the Department has greatly enhanced its outreach and training efforts for land use and transportation planning. The Department can and will help local communities make smarter choices through training, community outreach, education materials and hands-on planning assistance.

In June a significant milestone was passed with the posting of land use and transportation planning material. The new initiative’s web site contains information on Smart Growth and is a planning resource for local communities. It can be accessed at:  
<http://www.nysdot.gov/smartplanning>

**Shutdown of Computers at Night** – Commissioner Glynn announced on Earth Day a shift in the Department’s policy regarding the shutdown of computers. With the newer computers all staff now have, it no longer makes sense that they should be left running overnight and needlessly consuming energy. Computers should be shut off. A follow-up IntraDOT announcement will be issued shortly.

### New Actions by NYSDOT Regional Offices and Main Office Divisions

All work areas / units were encouraged to independently take appropriate steps to reduce energy consumption and the production of greenhouse gases. Regional and Division Directors were asked to offer items for this status report, documenting the actions they had independently taken. (Actions under consideration were not reported. They will be reported in the future, once the action has been taken.)

Congratulations to the many organizations taking steps on their own!

## Regional Offices (reporting as of 6/30/08)

### REGION 4 – Rochester

- Genesee-Orleans Residency: In the early spring of 2007, the truck bays seemed cold and drafty and the heaters always seemed to be running. It was decided to add some insulation. Insulating materials costing \$1800 were installed by workers at the residency and in the first year, not taking into consideration any temperature factors, the savings were \$15,420. The heating is natural gas and the cost dropped from \$35,000 in FY 05-06 to \$19,580 in FY 06-07.

### REGION 5 - Buffalo

Region 5 has created a Climate Change/ Energy Team, lead by Sylvia Jones. The team is made up of members from the various program areas. Below is a list of actions Region 5 has already undertaken to decrease energy consumption and improve our environment.

- A link to the Statewide Car Pool database – Ride Share Bulletin Board on the Office of Human Resources IntraDOT page has been added to the Region 5 IntraDOT Home Page. The car icon will help take users directly to the statewide database for easier access. Since the introduction of this icon five employees have placed their names on the list (compared with one prior to initiative).
- The first installment of an Energy and Climate Change Corner column in the bi-monthly 5<sup>th</sup> Dimension newsletter was published in the May-June issue offering Energy/Climate news and energy saving tips (attached PDF).
- Shutting off the “Banner Page” feature on all printers. This should be completed shortly, and will cut down on our use of paper.
- Promoting turning off of all computers and printers at night instead of locking or restarting them. A memo will be distributed to Region 5 employees and listed on the Region 5 IntraDOT Home Page.
- Solicited energy saving ideas from all the Program Areas, more to follow.
- The new Region 5’s facility staff moved into in November 2006 also contains many energy saving features. These include:
  - A roof system with an albedo rating of at least 0.3 and a minimum thermal performance of R25.
  - Insulated hot and cold water lines.
  - Windows designed to maximize natural light, and equipped with horizontal blinds.
  - Bicycle racks are provided for employees who chose not to drive automobiles.
  - Energy Star approved HVAC motors.
  - Integrated Building Management System includes energy conservation program such as optional start/stop, night setback, comparative enthalpy control, chilled water plant optimization, hot water and chilled water reset.
  - High efficiency gas fired hot water.
  - The use of Energy Star approved exterior and interior lighting fixtures.
  - Light in conference rooms and kitchen areas are controlled by motion detectors that will turn off lights after a certain period of time if no movement is detected.

## REGION 7 - Watertown

As part of Region 7's "green" initiatives the Region has partnered with Barrett Paving Materials, Inc. to test "Warm Mix" on three (3) projects this season. This process reduces greenhouse emissions through the use of special additives that reduce the overall production temperature of the asphalt mix. Emissions and energy consumption to produce the mix are the main benefits. The mixes will be tested for durability and performance.

## REGION 8 – Poughkeepsie

Throughout all Region 8 facilities: air conditioner thermostats have been set back; in residencies, air conditioners are turned off every night; copies are printed double-sided when possible; "shrink to fit" feature is used to prevent documents from printing on additional pages; lighting has been reduced during work hours; bulbs have been removed from ceiling fixtures; lights are shut off every evening.

### Region 8 Maintenance

- Residency 8-7 installed a \$2,700 solar system for heating. The unit heats 1500 s.f., reduces 0.75 tons of CO2 greenhouse gases every year and uses no electricity. This is a one-time fixed cost. Residency also purchased 12 solar lights at \$40 each, a one-time fixed cost. They light our sheds and use no electricity. They have upgraded light bulbs in the office as well as in the mechanic's work bays to more energy efficient types. Residency is also expanding its establishment of low-mow and no-mow grasses, which will result in mowing reductions and energy and resource savings in the future.
- Residency 8-2 upgraded windows to be more energy efficient.
- Residency 8-9 shuts down fuel burning motors whenever possible.
- The Bridge Maintenance Group has implemented these technologies:
- Teleconferencing: to help reduce trips to the Poughkeepsie office from the different corners of this large region.
- NetMeeting: Use of this free technology – a real-time communications tool that allows individuals to communicate with one or several individuals at a time over the internet using audio, video and data communication.
- Wireless Communications (Aircard): while in the field Crew Supervisors have been able to send e-mails with digital pictures showing actual field conditions, implementation of designs, etc., to reduce field trips.
- Residencies consider energy expenditures when sighting C&D spoil sites. They are chosen based on proximity and environmental sensitivity.
- Five garages were upgraded recently with installation of T-8 lights for energy savings.

### Region 8 Environmental Management

- Installed ceiling fans throughout main garage. This will result in reducing heating this winter as trapped ceiling heat will be dispersed 30 feet down.
- Office and conference room windows facing west have blinds closed in the PM to reduce A/C load from heat of setting sun.
- A/C is now on programmable thermostat with off-hour setbacks.
- Heaters on main garage floor are all on programmable thermostats with off-hour setbacks.
- Outside security lighting to be reduced by 40 percent through bulb removal.

### Region 8 Planning

- Programmed \$4 million to re-time state traffic signals in Rockland and Westchester Counties.
- Added shuttle from Ulster County to Poughkeepsie Railroad Station

- Increased Trailways bus service between Kingston and New York City
- Operate a network of inter-county transit services, railroad station shuttles and ferries.
- Expanded park and ride lot on NYSTA at New Paltz.
- Developed Regional Bike/Pedestrian web pages for Department website for Region 8 and general format for all Regions. Published second edition of *Hudson Valley Bikeways & Trailways* map.

#### Region 8 Design

- Planted a garden on the Regional office property to help remove carbon.

#### Region 8 Employee Safety and Health

- Consolidate non-emergency field visits to include multiple purposes and normally more than one location.
- When annual DOS building inspections are performed and when possible, travel with Safety Rep. 1 to do building asbestos surveys at same time.
- When making facility and WZ inspections, check for adherence to engine idling policy on all vehicles and ask for compliance.
- When making facility visits, be observant for wasteful energy practices, i.e., extreme heating or cooling, overhead doors left open while heating.

### REGION 9 - Binghamton

#### Region 9 Maintenance

- Recycling programs started at Residencies and outposts.
- Compact Fluorescent Lights (CFL's) installed (9-4)
- Motion sensors installed in offices to control lighting (9-4)
- Tree planting incorporated into many maintenance based projects (9-4/9-7)

#### Region 9 Ongoing

- Hauling equipment and materials in both directions, to ensure efficiency in trucking.
- Double-sided printing to reduce paper use, where applicable.
- Use of “green-cleaning” products at facilities to reduce impact on environment.

### REGION 10 – Hauppauge

#### Region 10 Planning

- Is implementing a commuter choice program for Region 10 staff: An employee survey is being carried out to help determine what will work best to reduce employees’ single-occupancy-vehicle commuting. Survey results will be reported in June and a program will be implemented this summer.

#### Region 10 Design

- Purchased an electric bicycle for use in inspecting bike paths.

#### Region 10 Maintenance Residency 10-6

- Installed a new thermostat to replace the older model. This allows programming of a set temperature for specific hours and days of the week. As a result, system usage is minimized during non-working hours for year round savings.
- Proposed project: Converting residency’s office lighting fixtures to modern ones that are more energy efficient.

- Another proposed project is to install an 'On-Demand' hot water heater for the washing station in the restroom. With this type of heater, only water that is being used would be heated.
- The Residency is considering products (e.g. cleaning supplies, etc.) that have a minimal impact on the environment.

#### Region 10 Bridge Maintenance

- Reaching out to the USCG four years ago, to change BM old practices of on-demand openings of bascule bridges, has resulted in reducing the number of annual openings to less than half. One of the direct outcome results, although not our primary goal at the time, was reducing energy and helping the environment.

#### Region 10 Safety

- Use email whenever possible instead of paper.
- Car pool whenever possible.
- Turn off all non-essential machinery (copiers, printers, faxes, etc.) when not in use.

### **Main Office Divisions** (reporting as of 6/30/08)

#### **Administrative Services Division**

**Electricity Monitoring System Installed** - Here at 50 Wolf Road, with OGS's assistance we recently had a "WEAM" system installed to monitor utilities including electricity. The system gives us a daily, "hour by hour" reading of the energy usage of the building. This will help us better control our energy cost & usage.

#### **From Graphic Arts** (Administrative Services Division)

During the past year, Graphic Arts has done the following related to climate and energy:

- Removed all offset printing presses and related high-VOC cleaning chemicals and solvents.
- Switched off equipment until it is needed for use rather than have it warmed up and ready.
- Use CNG vehicle when possible.
- Switched to minimal levels of office lighting.

#### **Engineering Division**

**Warm Mix Asphalt (WMA)** – In conjunction with several other state agencies and FHWA, the Engineering Division is exploring the benefits of using Warm Mix Asphalt technology. Warm Mix Asphalt is standard Hot Mix Asphalt with additives to allow production at lower temperatures. Potential benefits of utilizing WMA include: reduced emissions during production and laydown, energy savings, faster opening to traffic for deep repairs and shorter lane closures (with an associated reduction in travel delay). The Department has advanced several WMA pilot projects during the past two years.

**Precast PCC Pavement Slabs** – Precast PCC Pavement Slabs are plant fabricated pavement sections developed as an alternative to conventional concrete pavement construction. These precast slabs can be used to address very short lane closure times and restricted work zones. Like other precast products, these slabs can be used to expedite construction and realize the associated environmental benefits. Precast PCC Pavement Panels are relatively new technology that the



Department helped advance through our participation on the AASHTO TIG (Technology Implementation Group).

**From the Office of Structures** (Engineering Division)

- The Office of Structures saved two existing piers on Route 291 over the Erie Canal in Region 2 by using an FRP strengthening rather than removing them which would have used fuel for equipment to demolish them.
- The Office of Structure's official vehicle is a gas/electric Hybrid Ford Escape which is utilized in conjunction with the use of natural gas vehicles from the vehicle pool.
- The Office of Structures has greatly reduced the paper consumption used for printing manuals and standard sheets by posting most of them electrically on the Internet for download for both NYSDOT as well as external customers. This includes the Bridge Manual, Bridge Inspection Manual, Bridge Inventory Manual, Bridge Detail sheets, as well as many others.
- Office of Structures obtained a site license for the AASHTO Bridge Design specifications for electronic distribution of the specs to all designers in MO and Regions, thus saving the printing (and purchase cost) for numerous copies of this approx. 2000 page document.
- The Office of Structures has begun using Net Meeting to reduce travel when practical.
- The Office of Structures works with the Main Office Permit Office in the continued development of the Overweight Permit program, which allows the trucking industry to carry above legal weights, which reduces the number of trips required, reducing fuel consumption, emissions and congestion.

**Policy and Planning Division**

The following message was sent to all Policy and Planning Division staff:

*A Message from Karen Rae*

*The Policy and Planning Division is helping lead the Department's efforts to address climate change and promote energy efficiency. As we consider plans, policies and programs that will advance our objectives, there are many actions we can take as a business unit and individuals.*

- *Turn off your computer at night to save energy. The Information Technology Division endorses this policy.*
- *Take the following steps to save paper at work:*
  - *Do not print electronic documents unless necessary*
  - *Printing documents double sided whenever practical*
  - *When releasing a document, especially large documents, it should be an electronic document when practical and it should include a "Footer" (see below) that discourages unnecessary printing.*
- *Car pooling should be the norm when more than one of us is attending an outside meeting during the work day. Preferably we will be using one of the Department's CNG vehicles*

**In keeping with NYSDOT's commitment to environmental sustainability, please consider carefully whether it is necessary to print this document.**

*because they do not use petroleum and the greenhouse gases emitted per mile are among the lowest of any type of vehicle.*

- *The principles of Reduce, Reuse, and Recycle are important for us to follow at work and at home. Some examples:*
  - *Install a programmable thermostat, shut off lights, and purchase more efficient light bulbs to reduce energy use.*
  - *Purchase products that can be reused. We need to rethink the use of disposable products that are merely for our convenience.*
  - *Recycle paper, glass, and plastic to the extent your community supports recycling at home and the Office of General Services supports recycling at work.*
  
- *I strongly encourage you to take all reasonable steps to reduce the amount of gasoline you personally consume. It will save you money and demonstrate that we are practicing what we preach through small adjustments in our daily lives.*
  - *Walking and bicycling is a healthy alternative for many trips. You may even lose weight and it is a great example to set for young children.*
  - *Combine your auto trips when possible to reduce the total miles driven.*
  - *Operating your car efficiently: keep it tuned-up; properly inflate the tires; drive like you have a “fish tank on the seat” to increase your mileage; and always obey the speed limit.*
  - *If you have more than one car available, use the more efficient model when making a trip.*
  - *Purchase a more efficient vehicle when it is time to replace your vehicle.*
  - *If walking or bicycling is not a viable option, consider transit or car pooling whenever possible.*

*Thank you for your help!*