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May 10, 2011

Ms. Carmen Maldonado
Office of the State Comptroller
Division of State Government Accountability
110 State Street – 11th floor
Albany, NY 12236

Subject: 90-Day Response – *Region 4 Transportation Maintenance Activities*

Dear Ms. Maldonado:

As required by Section 170 of the Executive Law, the New York State Department of Transportation (NYSDOT) offers the following 90-day update on actions taken to implement the audit's recommendations:

Recommendation 1: Monitor residencies to ensure MAMIS is used to develop work plans. On a regular basis, review the work plans created in MAMIS for quality and completeness.

NYSDOT Report Response: NYSDOT acknowledges that at the time audit work was being completed in June 2009; use of MAMIS for planning purposes was still developing. As mentioned in the audit report, NYSDOT required use of MAMIS for two work categories: drainage work and vendor-placed paving (VPP), but not for other work categories. The requirement to use MAMIS for these two items served as an initial step toward implementing a comprehensive planning process using MAMIS. As stated in NYSDOT's July 2009 response to your preliminary findings report, NYSDOT would monitor the quality and completeness of the required drainage and VPP work plans and continue to improve the reach and detail of the guidelines to include more work types and be more specific regarding what was expected to be included in the plan. Toward that end, NYSDOT issued, in December 2009, instructions requiring all residencies to prepare comprehensive summer work plans using MAMIS. A copy of this instructional memo was sent separately to Office of State Comptroller (OSC) audit staff.

Regional Transportation Maintenance staff have developed and recorded their 2010 work plans in MAMIS. Main Office Transportation Maintenance officials are evaluating the 2010 work plans for adherence to the instructional guidance and determining what

improvements may be warranted for the 2011 work plans. This evaluation will be done annually to continually improve work planning.

90-day Update: The Office of Transportation Maintenance issued Transportation Maintenance Instructions (TMI) on January 7, 2011 (TMI 11-01) for the development of regional comprehensive work plans for summer work in 2011. The 2011 work plans are due to the Office of Transportation Maintenance by the end of May 2011. Based on review of these work plans, Office of Transportation Maintenance will provide feedback and guidance to the Regions.

Recommendation 2: Monitor accomplishments of work plans, noting whether work was completed and comparing actual labor hours with estimates. If there are any variances from the budgets, determine the reasons and compare similar projects to monitor employee productivity.

NYSDOT Report Response: Baseline work plans were created in April 2010 so that work performed during the summer work season could be compared to original plans. NYSDOT is developing analysis procedures and intends to develop standard reports that depict planned and actual data for task hours and units of accomplishment. These reports will be available for Resident Engineers to use for evaluating performance as well as for use in developing the following year's work plan. Fiscal year 2010-11 will be the first year in which this process will be used.

90-day Update: We are in the process of developing these reports to analyze work performed in the 2010-11 SFY. We are evaluating what information is critical to include in these reports. Our intent is to have these reports available for use in the 2011-12 SFY. The reports are projected to support the development the 2012-13 SFY work plan.

Recommendation 3: Develop standard crew size and estimated hour requirements for each typical work type or develop other methods to measure maintenance employee efficiency.

NYSDOT Report Response: As mentioned in NYSDOT's response to the preliminary report, "standard" crew sizes are of limited usefulness to planners due to the tremendous variability of resources needed and available for a specific task. However, to help improve employee efficiency, NYSDOT's Office of Transportation Maintenance has established a Maintenance Communities of Practice (COP) program. This program establishes a cross section of stakeholders who perform or oversee performance of selected functions (e.g. bridge maintenance, snow and ice control, drainage). The COP groups periodically discuss how various Regions perform work assignments with the ultimate intent of adopting best practices as they relate to the means in which assignments are carried out as well as the accuracy of planning estimates.

The Drainage COP is a good example. This COP has taken a two-pronged approach. Maintenance guidance documents, which are organized by task code, have been updated to reflect current practices. Additionally, a Drainage Decision Support Web application has been developed that uses a multi-media approach to help users plan a repair based on the issue to be addressed rather than the specific task code that will eventually be

charged. Both of these tools help the planning engineer estimate required resources which can then be documented in a MAMIS work order.

90-day Update: As previously stated there is little value to producing productivity reports due to the high variability in: mobilization, facility type, facility geometry, traffic volume, weather, soil conditions, traffic speed, variations in available equipment, and other factors. We have found that best practices programs, such as the current Maintenance Communities of Practice (COP), which recommends optimal treatment strategies and types of equipment to use and to pattern, have the greatest impact in the efficiency of maintenance operations.

Recommendation 4: Analyze the scheduling of residency maintenance workers at the start and end of the workday to identify methods to reduce indirect time.

NYSDOT Report Response: NYSDOT's Residency operations, as with any industry, require that various indirect activities, (such as: loading of materials, training and safety meetings) be performed to prepare for and to support direct production work. Nevertheless, NYSDOT intends to reduce time spent on indirect activities at the start and end of the workday. Although some work requires more indirect activities and some less, Region 4 managers have emphasized to Resident Engineers over the past year the goal of getting Residency forces working on direct production work sooner in the morning and longer at the end of the work day. The Region has made progress over the past year since the first audit findings were conveyed to NYSDOT. In addition, during times when some but not all staff are involved with indirect activities, other tasks that need to be done at the Residency facility are being assigned so all staff are performing meaningful, necessary work.

With respect to modifying schedules and staggering shifts, so that a fewer number of staff are involved with indirect activities, the Region will work to identify operations where this would be possible. Some tasks or operations lend themselves to this concept more than others do. However, due to frequent changes in work operations and staff assignments, coupled with union requirements to provide timely notice to switch staff schedules, this may be somewhat difficult to implement routinely.

There are some instances for which productivity could be increased by having some employees report directly to a job site. Regional managers have been encouraged to make this decision when appropriate.

90-day Update: For this 2011 summer season, on several of our larger projects we plan to have some staff members start earlier than others do. This will allow them to load up tools, materials and equipment; get them in position; and set up the required highway work zone. The remainder of the staff will not be involved in that aspect of the work. We will evaluate this change for its effect on productivity.

An example of an activity where we allow staff to report directly to a job site is some of our mowing operations. Frequently, mowing equipment is not returned to a residency

facility at the end of each day: instead, it is parked off of the road at the close of business and the operator reports directly to where the mower is parked. The mower operator's vehicle is moved around as needed during the workday when a supervisor checks in on the operator. We are continuing to look for other operations where this concept makes sense to implement.

Recommendation 5: Develop reporting mechanisms to compare planned infrastructure preservation activities to actual results. If certain preventative maintenance tasks cannot be performed (e.g., demand maintenance takes priority), review the Plan and re-prioritize tasks as necessary so the most critical projects are done.

NYSDOT Report Response: To fully address all maintenance programming including maintenance by contract, NYSDOT uses a Web application known as the Maintenance and Operations Plan (MOP). The MOP does not currently have functionality to compare planned and actual accomplishments; however, the Office of Transportation Maintenance has asked NYSDOT's Information Technology Division to develop an IT project to add this functionality to the MOP.

90-day Update: Not implemented yet. We are awaiting the availability of IT resources in order to develop reports using MOP data to compare the MOP plan to actual work and project accomplishment. The *Information Technology Investment Request* that was submitted to our IT Division in December 2010 has yet to be resourced.

Recommendation 6: Rely more extensively on condition ratings as a basis to allocate non-personal services funds to highway and bridge maintenance.

NYSDOT Report Response: NYSDOT agrees that infrastructure condition should be a consideration in determining funding allocations and recognizes the need to consider infrastructure management practices that optimize the use of available funds. Allocating a higher amount of funds to areas with poorer conditions could amount to a "worst-first" approach. Various studies have concluded that such an approach is an ineffective way of managing infrastructure. For example, a study of the Michigan Department of Transportation, co-authored by Mr. Larry Galehouse, President of the National Center for Pavement Preservation, showed that the cost to maintain an infrastructure asset is about six times lower when using a "best-first" strategy where assets in good condition are maintained using low-cost maintenance treatments contrasted with the high costs of essentially rebuilding assets that have fallen into poor condition.

It is prudent for a maintenance program to have a focus on preventive maintenance and infrastructure preservation because it enables the program to extend the service life of many times the numbers of bridge and lane-miles of pavements and than a "worst-first" strategy would allow. "Worst-first" strategies typically are not sustainable.

Additionally, NYSDOT recognizes the importance of maintaining a safe riding surface, so funding allocations should include allowances for areas with particularly rough pavements or a proliferation of potholes.

90-day Update: The 2011-12 budget allocations to Maintenance for pavements and bridges include condition ratings in determining allocations. For pavements, there are two formulas, one for preservation funds and one for patching potholes and deteriorated pavements. The aim of the preservation formulas is to identify candidate pavements that are in good condition and to keep them in good conditions. For pothole and pavement patch, the formula is focused on lower-rated pavements, as these pavements require more patching to keep them drivable. Bridge condition is also a factor in determining the allocation of bridge maintenance funds.

NYSDOT is also evaluating approaches for allocating capital funds to equalize conditions by functional class or corridor across regions. This is being analyzed by the Statewide Structures Management Committee to determine the best model for doing this, as bridge deterioration and funding strategies in response are a complex undertaking. The Maintenance Program is working with the Pavement Management Program in Technical Services to determine a similar model for funding pavement treatments to level pavement conditions across regions.

Should you need additional information, please contact Roderic Sechrist, Acting Director of the Office of Transportation Maintenance, at (518) 457-6435.

Sincerely,

Stanley Gee
Executive Deputy Commissioner

cc: Honorable Andrew Cuomo, Governor of the State of New York
Honorable Thomas P. DiNapoli, State Comptroller
Honorable Dean G. Skelos, President Pro Tempore
Honorable Dean G. Skelos, Senate Majority Leader
Honorable John Sampson, Senate Minority Leader
Honorable Sheldon Silver, Assembly Speaker
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Honorable Brian M. Kolb, Assembly Minority Leader
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