

MassDOT Secretary Jeff Mullan
Report to the MassDOT Board of Directors
Tunnel Safety
Ceiling Light Fixture Update
April 6, 2011

As you all know, on February 8th, a light fixture fell from the ceiling of the Thomas P. O'Neill, Jr. Tunnel. I have provided the Board with pertinent material on the status of the inspections, which are complete, and the design of interim and permanent solutions, which are underway. A weekly meeting between DOT staff and FHWA staff has been established, work is ongoing, and I am receiving a weekly report on the status of the effort. I want to publicly thank and acknowledge the electricians who worked many hours over the last two months to inspect the light fixtures in our tunnel system.

Following the incident, MassDOT electricians performed hands-on inspections of all 25,071 tunnel light fixtures -- including pry tests on 250,710 light fixture clips, an effort that was completed on Saturday, March 26. Their inspections found a total of 4,270 clips, or 1.7%, had failed or were failing due to corrosion issues. The failed clips were moved and secured as necessary. We are now continuing our annual tunnel inspections as required per previous policy directives, which have been enhanced to include a more detailed, hands-on inspection of the components of the light fixture itself, as well as the overall condition ranking of the fixture and connection to the ceiling. The revised policy has been forwarded to FHWA for review.

Our protocol during this inspection process requires that when critical or "immediate action" items are identified, they are immediately reviewed and forwarded to the appropriate MassDOT personnel for action or repair.

We have also received a preliminary analysis of the failed light fixture wire way completed by Massachusetts Materials Research, Inc. The initial analysis indicates that the fixture failure was due to severe corrosion of the aluminum wire way at the locations where the light assembly was attached with stainless steel clips. The chloride (salt) environment caused the corrosion -- likely the result of roadway snow and ice treatment and removal efforts. In the process of attaching the light body to the wire way, the stainless clips also may have breached the protective coating covering the aluminum wire way. This may have started the corrosion, which was then accelerated by the environment.

Beginning this week, we have begun washing all lighting fixtures and performing field reviews of the extent and severity of the protective coating and corrosion throughout the tunnel system. We have an on-call consultant, Transystems, working on interim steps by engineering a redundant or backup support system for the light fixtures. Selection and engineering of this redundant system should be completed in 30 to 45 days. MassDOT will use an expedited process to gather the materials needed and begin installation of the redundant support system immediately. This interim repair is intended to be reliable for up to 5 years. Longer term, MassDOT will begin the process of selecting a consultant to

evaluate permanent light fixture repair or replacement. We are working to identify and preserve all of our cost recovery options – including those against design, construction, manufacture and installation contractors. We are also, as a contingency, discussing with FHWA the potential use of Central Artery/Tunnel Trust Funds to address immediate and interim inspections and repairs. This is a contingency, not a formal application.

We pledge to keep the Board and public informed on a regular basis as we have more information to share.