On June 27, 2007, at approximately 8:50 pm, MTA Bus Company (BC) bus #5950 traveling on 133rd Avenue was entering a bus stop at 116th Street when the bus driver heard a “thump” type sound. He stopped the bus, evacuated all passengers and exited to inspect the bus. The bus driver observed that all the lug nuts were missing from the left rear wheel which was about to separate from the axle. No injury claims were reported. The bus sustained slight damage.

In the vicinity of the accident site, 133rd Avenue is a 44 foot wide two-way road divided by a full barrier yellow pavement marking, accommodating one eastbound and one westbound travel lane. The roadway is straight, level and asphalt paved. Parking is permitted at the curbs. At the time of the accident it was dark and cloudy and the roadway was wet. The posted area speed limit is 30 mph.

Bus #5950 is 1997 Orion transit type bus with a seating capacity of 38 passengers. A review of the bus records indicated that Preventive Maintenance Inspections (PMI) at MTA BC are performed at regular 4,000 mile intervals (+/- 500 miles), or 90 days whichever comes first. The most recent PMI was completed on June 12, 2007 and the bus had traveled 1,626 miles at the time of the accident. There were no safety or recurring defects noted in the 45 days prior to the accident. A post accident inspection of bus #5950 was conducted by the Public Transportation Safety Board (PTSB) staff in conjunction with MTA BC staff on June 28, 2007. The inspection revealed that the left rear dual wheel became loose, lost all lug nuts and almost separated from the axle. The accident occurred due to the loss of the clamp load by the wheel set. Further investigation indicated that the mating surfaces of the left rear wheels were not properly cleaned at the last PMI on 05/26/07 and a wheel nut retorque was not performed. Additionally, it was noted that the right rear wheel nut indicators were all melted off. Further investigation discovered an over torque condition of the right rear wheel lug nuts, a loose wheel bearing condition and a shoe dragging the drum causing an over heating of the wheel assembly.

The bus driver was initially hired by Green Bus Lines on December 16, 1981 and completed the company’s new bus operator training program. A review of the bus driver’s Department of Motor Vehicles records for the last three years showed no violations or suspensions. New York State Vehicle & Traffic Law, Article 19-A records were complete and up-to-date.
A review of the driver’s MTA BC record for the last three years showed one minor preventable collision accident on 10/26/04, resulting in no discipline and one non-preventable collision accident on 03/08/07. A post accident drug and alcohol test was not administered to the bus driver due to the nature of the accident.

In an interview with the PTSB staff, the bus driver indicated that while entering the bus stop on 133rd Avenue at 116th Street, he heard a “thump” type sound, likening it to the bus falling slightly. He stopped the bus, exited it for inspection. The bus driver observed all the lug nuts missing from the left rear wheel which was about to separate from the bus. When questioned he claimed to have performed a pre-trip inspection of the bus including all wheels. When informed that the right rear lug nuts indicators were melted he replied that he did not remember seeing them.

The Public Transportation Safety Board staff finds that the most probable cause of the accident was the loss of the frictional capacity of the left rear dual wheel assembly due to the failure of depot maintenance to follow established procedures for wheel preparation, installation and lug nut retorquing.

Contributing to the accident was failure of the bus driver to perform a proper mandatory pre-trip inspection of the bus.

On July 23, 2007 the MTA NYCT Department of Buses rated the accident preventable. MTA BC reviewed the accident and the following was done:

- All line supervisors and Mechanics were retrained regarding MTA policies and procedures.
- The bus driver was retrained regarding the policy for pre-trip inspections and re instructed.
- On August 30, 2007, a bulletin was issued to all bus operators regarding checking wheel nut flags on pre-trip inspections. The Training School is in the process of revising their training program to include checking torque indicators during pre trip and post trip inspections.

INVESTIGATOR: Mikhail Palanker