PUBLIC TRANSPORTATION SAFETY BOARD
ABBREVIATED BUS ACCIDENT REPORT

1. CASE#: 9440
2. PROPERTY NAME: MTA NYCT
3a. ACCIDENT TYPE: Motorcycle
3b. Accident Severity Index: 8.50
4a. DATE: August 2, 2007
4b. TIME: 8:00 p.m.
5. ACCIDENT LOCATION: 78th Street at Colonial Road
6. TOWN/CITY/BOROUGH: Brooklyn, NY
7. SUMMONS: No
8. BUS NUMBER: 9314
8a. YEAR: 1998
8b. MAKE: Nova/RTS-06
9. NUMBER OF INJURIES: 1
10. FATALITIES: 1
11. HOURS OF SERVICE: 3 hr 32 min in last 24 hrs/39 hrs 42 min in last 7 days
12. SYNOPSIS:
At approximately 8:00 p.m., MTA NYCT bus #9314 was traveling west on 78th Street, stopped at a stop sign and then traveled through the intersection with Colonial Road when the bus driver heard a bang at the rear of the bus. The bus driver stopped and exited the bus to find a motorcycle lying in the street near the bodies of the two male riders. The bus driver re-entered the bus and called for assistance. The critically injured motorcyclist and his seriously injured passenger were both transported to a local hospital where the motorcyclist was pronounced dead at 8:30 p.m. The motorcycle passenger was admitted to the hospital with serious, but non life threatening, injuries. The bus sustained no damage and the motorcycle sustained moderate damage in the accident.

In the vicinity of the accident site 78th Street is a 30 foot wide one-way one lane westbound roadway. Parking is allowed at both curbs with the exception of the area composing the far side bus stop. Colonial Road is a 46 foot wide two-way north/south roadway divided by solid double yellow pavement markings into one travel lane in each direction. Parking is allowed at both curbs. In addition, there are painted pavement markings for a bicycle lane located to the right side of the northbound travel lane. Both roadways are asphalt paved, straight, level and in good condition. The intersection is controlled by stop signs located at the north and south corners of the eastern side of 78th Street. At the time of the accident it was daylight, the weather was clear and the pavement was dry. The intersection is significantly sight restricted by trees and parked vehicles for all traffic, but especially for vehicles traveling on 78th Street. It is necessary for drivers, after stopping for the stop sign, to slowly move to a point where oncoming traffic can be observed, before the intersection can be safely entered. The area speed limit is 30 mph.

Bus #9314 is a 1998 NOVA/RTS-06 transit type bus housed and maintained at the Ulmer Park Depot with a seating capacity of 40 passengers. A review of the bus records showed that Preventive Maintenance Inspections are performed at regular 4,000 mile intervals.
The most recent was completed on July 16, 2007 and the bus had traveled 1,614 miles since then.

There were no safety or recurring defects noted in the 45 days prior to the accident. Physical inspection of the bus on August 3, 2007 found no defects that could be considered a causative factor in the accident. The inspection found no evidence of the motorcycle having made contact with the bus. However, the inspection did find human hair adhered to the outer sidewall of the right rear tire which were matched to the deceased motorcyclist. Decelerometer tests were performed on the bus’ braking systems and showed stopping distances that met the MTA NYCT adopted standards for passenger vehicles of NYS DOT Regulations (Title 17 of NYCRR, Article 3, Part 720).

The bus driver was hired by the MTA NYCT on July 15, 1991 and completed the New Bus Operator Training Program. A review of the driver's Department of Motor Vehicles records for the past three years showed no violations or convictions. NYS Vehicle & Traffic Law, Article 19-A records were reviewed and found to be complete, in-order and up-to-date. A review of the driver's NYCT accident record for the past three years showed no collision accidents. The New York City Police Department (NYPD) Accident Investigation Squad (AIS) performed an at-scene alcohol test on the bus driver, which was negative (0.00%). Post accident drug and alcohol tests performed on the bus driver upon his release from the accident scene, 3 hours and 54 minutes from the time of the accident, were negative.

The bus driver’s written statement indicates that after stopping for the stop sign on westbound 78th Street at the intersection with Colonial Road, he looked both left and right and slowly entered the intersection where a motorcycle collided with the right side of the bus.

In an interview at the accident scene the bus driver claimed that after stopping at the stop sign on 78th Street he looked left-right then left-right again before slowly starting to enter the intersection with Colonial Road. The bus driver said that after entering the intersection he looked to the right again, seeing nothing, and then concentrated on the bus stop across the intersection looking for intending customers. The bus driver said that he did not observe or hear any vehicular or pedestrian traffic prior to entering or while traveling through the intersection. The driver stated that as the bus was approaching the far side crosswalk he heard a scream followed closely by a bang from somewhere near the right rear of the bus. The driver indicated that he then observed, in the right side travel mirror, a motorcycle lying on its side in the roadway. The bus driver further stated that he stopped and exited the bus to find two helmetless men lying in the roadway near the motorcycle. The bus driver said that he then reentered the bus and called for assistance.

The Public Transportation Safety Board (PTSB) staff was made aware of witnesses to the accident and contacted as many as possible to obtain statements. Their statements, and statements given to the NYPD, AIS and MTA NYCT Office of System Safety (OSS) for those witnesses that the PTSB staff was unable to contact, are as follows:

- A female witness seated in her car parked at the curb by the accident scene said that she saw the bike hit the rear side of the bus, didn’t know if the bike was upright but saw a helmet explode and saw riders bounce off the right side of the bus.
• A male witness about a block away said the bike went past his house going very fast, he heard braking/screech of tires, did not see the collision or exactly what happened.

• (From NYCT OSS) A male pedestrian stated that he was walking west on Colonial Road in the vicinity of the far side bus stop when he heard a bus enter the intersection. He claimed that he turned, observed a bus enter the intersection and resumed walking. He said he then heard a bang, turned and observed two men bounce off the side of the bus and a motorcycle spinning in the intersection. He said that the bus stopped. He indicated that when he first saw the bus it was already in the intersection.

• (From NYPD AIS) A male motorist stated that as he approached the intersection of 76th Street (while traveling south on Colonial Road) he observed a motorcycle a few feet behind his vehicle and that the motorcyclist was revving the engine, making it known that he wanted to pass. The motorist moved to the right, allowed the motorcycle to pass and continued moving south on Colonial Road. The motorist said that between 76th and 77th Streets he observed a bus move into the intersection and that the bus had almost reached the far side of the intersection when the motorcycle, still accelerating, approached it (the bus). The motorist claimed that when the motorcycle was about 100 feet from the bus he observed the brake light go on and claimed that he heard the motorcycle’s horn. The motorist claimed that the motorcycle’s rear tire started to skid and smoke and that the motorcycle slammed into the right side of the bus in the vicinity of the rear tire.

The PTSB staff attempted to contact the surviving motorcycle passenger on several occasions, without success. The NYPD AIS provided the PTSB staff with a copy of the interview with the motorcycle passenger on 11/11/07. Excerpts of the interview are as follows:

The passenger stated that they had left his residence on 73rd Street and turned left onto Colonial Road. He indicated that they had stopped for a red light at 75th Street and as the vehicle in front of them turned right they went around it and continued south on Colonial. The passenger claimed that as they passed 77th Street (approximately ¼ of the way to 78th) he observed a bus roll into the intersection and once he (the bus driver) saw them, “he seemed to accelerate to clear the intersection”. The passenger said that Rob (the motorcycle operator) attempted to slow down but the rear wheel locked up, the bike fishtailed, started to go sideways and projected both of them off. The passenger said that he remembered flying through the air and landing on his stomach and that his helmet was off. He further indicated that the motorcycle operator had tried to move left around the bus but the brakes locked up. In addition, he indicated that the point of impact between the motorcycle and the bus occurred at the “last third of the bus”.

Additional information:

At the time of the accident the motorcycle operator’s Class D driving license was suspended (07/18/07) due to his failure to pay a fine, making his permit to operate a motorcycle invalid. In addition, his DMV Abstract showed that he had been convicted, and paid a $75.00 fine, for Unlicensed Operation of a Motorcycle on 06/18/07.

Both the operator and passenger on the motorcycle lost their helmets during the accident, indicating that the chin strap on both helmets had been unsecured.
This was confirmed by the PTSB staff as when both helmets were examined at the accident scene, the chin straps were in place, in good condition and would certainly have kept the helmets in place on the rider’s heads if the chin straps had been secured.

- The motorcycle was lying on its right side in the middle of the intersection. The motorcycle was in second gear. The damage to the motorcycle was confined to the plastic body parts, windshield, headlights, front brake lever and right side handlebar.

- Using data collected from the accident scene and accepted reconstruction formulas it was calculated that the minimum speed of the motorcycle at the beginning of the rear wheel skid ranged from 27 to 32 mph.

By using the data collected from the bus Electronic Control Module, the final rest position of the bus, accepted reconstruction formulas it was calculated that:

1. The ECM showed that the bus had made a full stop on 78th Street approximately 35 feet before the stop sign at the intersection with Colonial Road, a point where the bus driver would have totally unable to view cross traffic on Colonial Road.
2. The ECM showed that the bus driver then applied full throttle for approximately 5 seconds, giving the bus an approximate speed of 11 mph and placing the bus in the vicinity of the stop sign.
3. The ECM showed that the bus continued to accelerate, meaning that the bus driver did not stop again, as he entered the intersection where the accident occurred.
4. The ECM data showed that the entire event from the full stop east of Colonial Road to the final stop west of Colonial Road took 11 seconds and the bus had traveled approximately 160 feet.

The motorcycle is a 2004 high performance motorcycle. It is equipped with twin disk brakes on the front wheel, a single disk brake on the rear wheel and street legal, high speed/performance tires on both wheels. When the ignition key is in the “on” position, the headlights are illuminated. Inspection of the motorcycle at the accident scene showed that the tires were in good condition, the rear brake was functional and that although the front brakes were inoperable due to damage sustained in the accident, inspection of the disks and calipers showed that the brakes would have been functional at the time of the accident. In addition, inspection of the rear tire showed a freshly scrubbed contact area on the bottom of the tire indicating that the wheel had recently been locked up and tire sliding/skidding on the pavement. The scuffing continued up onto the sidewalk of the tire indicting that a “high side” condition had occurred.

This accident exhibited the signs of a classic “high side” (HS) motorcycle accident. This type of accident occurs most often to inexperienced/untrained riders. The HS always shows a rear wheel skid mark, followed by a gap and then gouge/scrape marks to the final rest of the motorcycle. In this accident, all of these indications were in place, and the witness statements support this type of accident.
When, in an emergency situation, the rear wheel is locked up/skidding the motorcycle’s front wheel continues to roll and track in the direction it is steered, whereas the skidding rear wheel causes the rear of the motorcycle to begin to slide sideways, trying to catch up to the front wheel. If the rear brake is released the “High Side” occurs as a tire sliding sideways cannot roll and causes the top of the motorcycle to snap forward.

Motorcycle riders use both the front and rear brakes when stopping the motorcycle, meaning that the right foot and hand are used simultaneously to slow/stop the motorcycle. This takes a great deal of practice as it is very easy to lock up the rear wheel and most beginning riders are reluctant to apply the front brake with any kind of force due to their being afraid of the front wheel locking up and their ending up flying over the handlebars, like with a bicycle.

The Medical Examiner’s Report of Autopsy indicates that the cause of death for the motorcycle operator was “multiple blunt impact injuries”. Specifically the rider experienced blunt impact to head with skull fractures, subarachnoid hemorrhage and lacerations of brain. Also blunt impact to torso with fracture of left shoulder, rib fractures, and lacerations of left lung and spleen.

A motorcycle helmet is designed to protect the rider/passenger from head injuries in low speed collisions and dismounts such as those that occurred in this accident. The fact that the motorcycle helmet had separated from the operator when his head made contact with the sidewall of the outer right rear tire most probably led to his fatal head injuries.

Although evidence shows that the bus driver did enter the path of the motorcycle, a properly trained and experienced rider most probably would have been able to either bring the motorcycle to a safe stop or been able to safely maneuver away from the bus without a collision.

The MTA NYCT trains all bus drivers in defensive driving techniques for safely approaching and traversing intersections, statistically one of the most hazardous points in a driver’s route. These techniques include, but are not limited to, reducing speed, scanning for hazards, identifying and anticipating potential hazards – particularly those hazards presented by the unanticipated actions of other motorists and pedestrians. Bus drivers are also trained to enter all intersections with the brake covered and to be particular cautious at sight restricted intersections.

Public Transportation Safety Board staff finds that the most probable cause of this accident was the failure of the bus driver to stop for the stop sign, identify and yield the right-of-way to the approaching motorcycle. Contributing to the accident was the actions of the inexperienced motorcycle operator. Contributing to the fatal injuries sustained by the motorcyclist was his failure to secure his helmet.

Immediately after the accident the MTA NYCT Department of Buses removed the bus driver from passenger service and placed him in a non-safety safety sensitive position. After reviewing the facts concerning the accident the MTA NYCT found the accident to be preventable and dismissed the bus driver. The dismissal was appealed and the bus driver will continue to perform non safety sensitive duties as the appeal progresses.
Based on the action taken by the MTA New York City Transit regarding this accident, the Public Transportation Safety Board staff makes no recommendation in this case.

INVESTIGATOR: Harry W. Gerham

CHIEF, ACCIDENT INVESTIGATION SECTION

DATE

DIRECTOR, PCSB, NYSDOT

DATE