

## Railway accident investigation report

Railway operator	Tobu Railway Company
Accident type	Train derailment
Date and time	About 12:11, May 18, 2016
Location	In the premises of Naka-itabashi station, Tojo Main Line, Itabashi-ku, Tokyo

### SUMMARY

On May 18, 2016, the inbound 750 train, composed of 10 vehicles, started from Narimasu station bound for Ikebukuro station, Tojo Main Line of Tobu Railway Company, departed from Naka-itabashi station on schedule. After the train had operated in powering operation, the driver of the train shifted the notch off at about 30 km/h to operate in coasting operation until the rearmost vehicle passed the No.12 turnout in the premises of Naka-itabashi station, where the speed limit was 35 km/h.

When the train driver accelerated the train in powering operation again, after the train had passed the turnout, he noticed that the emergency button in the cabin was operated, then applied the emergency brake to stop the train.

After that, the conductor checked the status of outside train and found that all two axles in the rear bogie of the 5th vehicle were derailed to right.

There were about 400 passengers, the train driver and the conductor onboard the train, but no one was injured.

### PROBABLE CAUSES

It is probable that the right wheel of the front axle in the rear bogie in the 5th vehicle of the train climbed up the right rail and derailed to right, because the wheel load unbalance had been enlarged as the wheel load of the right wheel of the front axle had decreased due to the crack, existing from the bottom plate to upper part of the side surface of the side beam in right side of the rear bogie, and the lateral force of the right wheel of the front axle had increased when the rear bogie had entered the left curved track of 178 m radius, in the accident.

It is probable that the wheel load of the right wheel of the front axle in the rear bogie had decreased because the wheel could not support the vertical load required to the wheel as the strength of the side beam had decreased due to the crack.

It is somewhat likely that the existence of the welding defects, in the welded portion of the reinforcing plate at inside of the side beam, caused the generation of the crack in the side beam. However, it could not be determined the reason why the side beam was cracked because the precise evaluation by the observation of the broken surface could not be implemented due to the damages etc., of the broken surface of the crack.