

The Bulletin



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7 TRAIN GETS AUTOMATIC TRAIN OPERATION

The following is from a press release issued by the Metropolitan Transportation Authority:

On May 9, MTA New York City Transit announced that it completed this week the implementation of "Automatic Train Operation," a technology that helps enable faster and more reliable service, on the Flushing 7 Line in Queens. It is the second such line in the system, after the L line. This news comes just months after the introduction of a modern, computerized signaling system called Communication-Based Train Control (CBTC) on the line that has already led to dramatic increases in on-time performance and other metrics associated with good service. Automatic Train Operation (ATO) is expected to further improve customer commutes on the line.

Under manual train operation, individual Train Operators with varying degrees of experience and confidence control the rates of speed including braking and acceleration.

Under ATO, the train is programmed to automatically provide optimal acceleration, braking, and cruising speeds, providing more regular and evenly spaced service and smoother, faster trips. Operators continue to instruct the train to depart a station, make sure that tracks are clear throughout the ride, and control emergency braking in the case of obstacles.

Our notes on ATO: When ATO is unavailable due to the presence of personnel on the track or for technical reasons, full CBTC protection and train spacing is also available under the ATPM (Automatic Train protection Manual) mode if all else is working properly. Under ATPM, the Train Operator is provided a maximum recommended speed which appears on a speed dial. Trains (if both are CBTC-equipped) can still close in to a distance of 25 feet behind the previously sched-

uled train in either ATO or ATPM mode, although the speeds reached under ATO are higher. There are other modes of operation for overcoming problems which space does not permit providing.

And now some comments from ERA member Max Diamond:

This is a momentous occasion. The reliability and resilience of the 7 line has certainly improved, although I will miss the once-ubiquitous US&S style R-2 signals that were used on the Flushing Line. The only location where these signal heads remain in service now is 239th St Yard.

One thing to look out for is the level of ATO availability going forward. I ride the 7 regularly and make a point of looking out the front cab door window to watch the Train Operator's Display to see what mode the train is operating in. I frequently see trains in ATO now, but I also often see instances in which ATO is not available in areas where there are no personnel on the roadbed. For example, on May 9 I observed ATO being unavailable for the entire stretch between Vernon-Jackson Ave and 61st St.

Given the tangible capacity/running time benefits of ATO operation, the goal should be to maximize the rate of ATO availability, ensuring that it is only unavailable in work zones. My hope is that NYCT will be tracking and reporting the rate of ATO availability, along with reasons for unavailability, for each station-to-station segment of all CBTC lines, as an operational metric.

I also think we should be publishing a "speed map" of each segment of the subway system, which would transparently show running times, and associated changes over time. I believe something like this exists internally, although I am not sure of how comprehensive it is.