



Halifax's Bus Maintenance Needs An Overhaul

Halifax's bus maintenance program needs a complete overhaul. Since July 2016, Halifax Transit has reported on its monthly mean distance between failures, which measures the average distance travelled by a bus before a mechanical issue prevents it from completing its route. Halifax has seen some progress – an impressive-sounding 22% increase in reliability, but when we look at other bus fleets, it's clear Halifax's program is not up to the task. Halifax's mean distance between failures is 3,447km, which would be equivalent to the average Nova Scotian's car failing randomly four times per year while on the way to work.

It's More Than Buses searched 15 transit system websites looking for information on their mean distance between failures and was able to find data on four systems: Toronto, Chicago, New York City, and Atlanta. All had a reliability at least double Halifax's, with Toronto coming in at 20,009 km between bus failures, nearly six times better than Halifax. It is clear that Halifax Transit needs an overhaul in the maintenance department to make commutes more reliable.

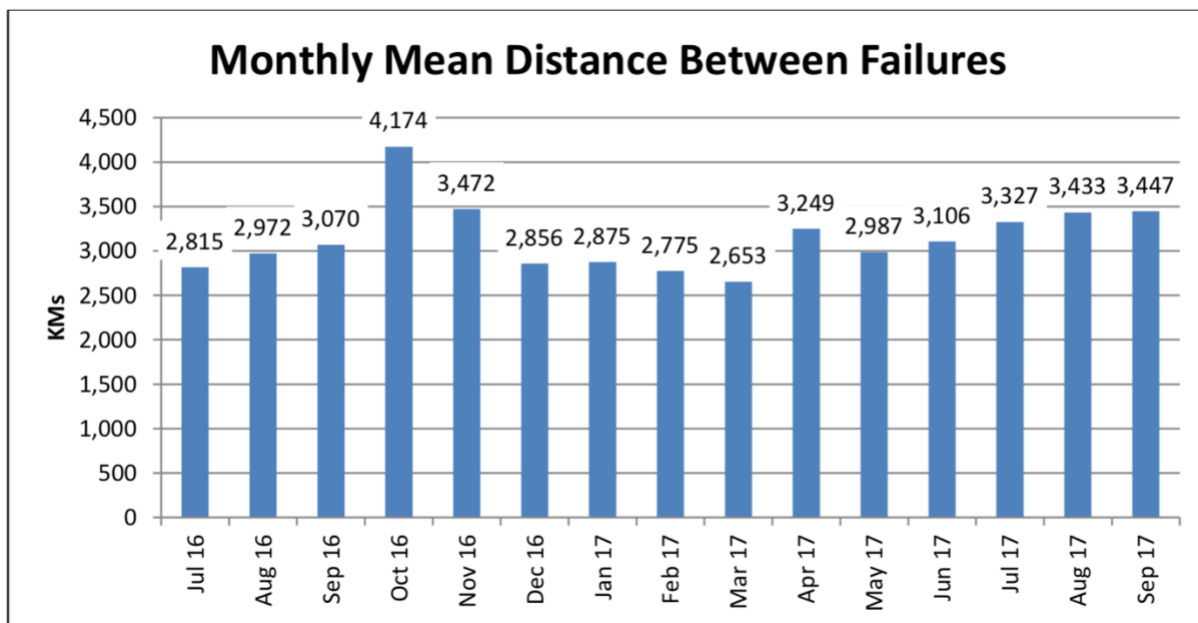


Figure 1 Halifax's monthly mean distance between failures. Source: Halifax Transit Q2 2018 KPI report

Since 2014, Toronto has seen a 400% increase in reliability, and it uses many of the same buses as Halifax. Council needs to be asking tough questions about what is going on at Halifax Transit. Simply put, what are the precise differences between our fleet and Toronto's fleet that make our buses fail six times more often? Every day, 17 buses fail to complete their trips (Halifax Transit, 2018), causing riders to be late for appointments, miss connections, and lose faith in Halifax Transit's ability to do its job. These failures are costly: each failure requires a tow truck



to be dispatched and a spare bus sent to pick up passengers. The failure may dissuade riders from coming back to the system. Riders may decide to take an earlier trip each day to mitigate the risk of being late for work, meaning they spend less time with their family and waste more time near their workplace. These are all preventable issues, with a proper investment in preventive maintenance.

Bus: Mean Distance Between Failures (MDBF)

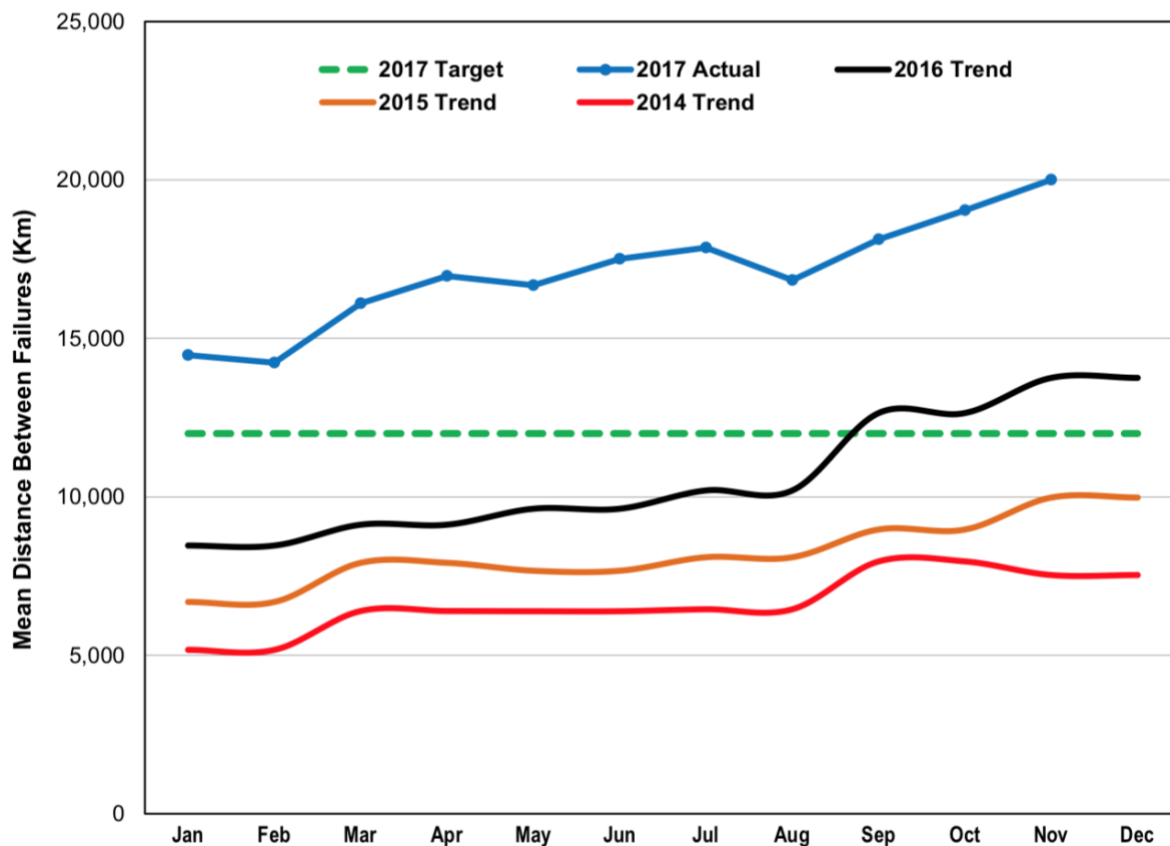


Figure 2 Toronto's mean distance between failures. Source: January 2018 CEO's Report.

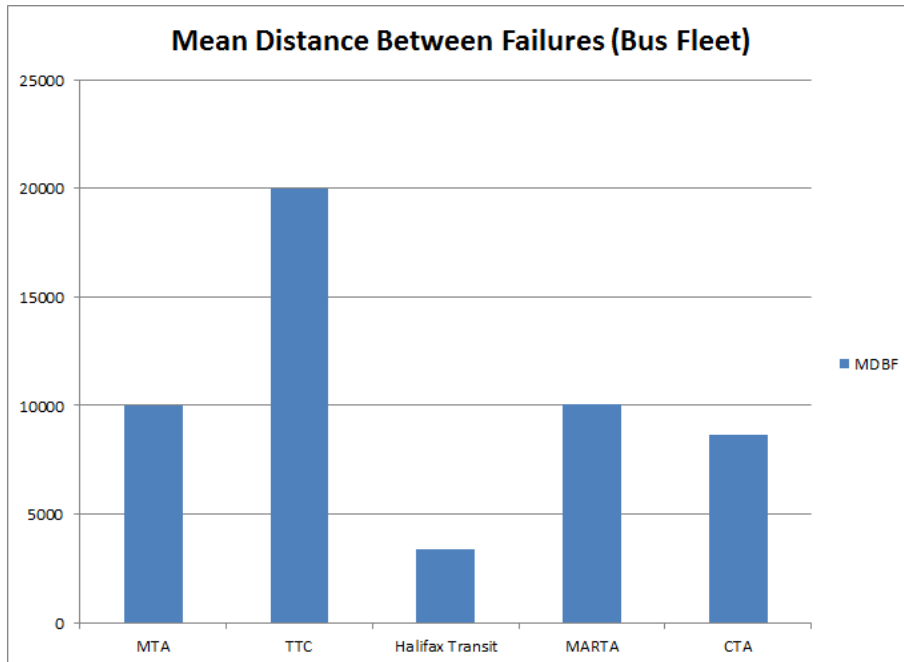


Figure 3 Comparison of mean distance between failures for bus fleets across five North American cities.

Impact

As Sandra, a resident in the Penhorn area, told us, “Being a couple of minutes late for work is okay, being a half hour late means not taking my lunch break.” In early February, she was left waiting on the side of the road when a bus broke down – fifteen minutes after the breakdown the departures line still showed her bus as being on its way to her stop. While we wait to see Halifax Transit’s maintenance improve, the operations centre needs to be removing buses from the departures line the moment a failure is reported so that potential riders can make alternate plans. In Sandra’s case, a fifteen-minute walk would have taken her to another corridor where another bus would have taken her to work on time.

Due to the frequency of breakdowns, Halifax needs to have a high spare ratio, the number of empty, staffed buses that must sit around waiting for breakdowns. This means fewer resources that can be dedicated to relieving pressure on busy routes or sending buses to run partial routes when buses are backed up due to traffic. Seventeen times a day, we pay for two drivers and two buses to do the work of one. This is an obvious waste of our precious transit resources.

Solution

For nearly two years, Halifax Transit has been saying that it is “researching the industry standard for this metric as part of the Bus Maintenance KPI project.” One afternoon of searching the internet led us to show that Halifax Transit lags far behind its peers and is in dire need of reform. Other cities have performance targets that set a benchmark for them to attain over the coming quarter. Halifax does not set a benchmark, meaning management is not held accountable when their maintenance program does not lead to improvements. Clear answers are needed from Halifax Transit management to explain the discrepancy between their numbers and their peers. As a start, the manager of the maintenance program should be sent



to Toronto immediately for a multi-day visit to understand the best practices in the maintenance industry.

Recommendations

Council needs to take swift action to show that this is an issue of concern. The following staff reports would be instructive in improving the reliability of the bus system:

- What it would cost to replicate Toronto's successful program
- Savings associated with fewer tow truck calls, a smaller spare fleet, etc.
- Increased detail in quarterly KPI reports outlining common causes of breakdown
- Copy Toronto's practice of specifying target mean distance between failure in procurement contracts to hold vendors accountable
- Moving to a lifecycle-cost-basis in procurement, with vendors specifying the cost of routine maintenance and replacement parts over the lifecycle of the bus

About

It's More Than Buses, or IMTB, is Halifax Regional Municipality's public transit research, education, and outreach group. IMTB is a registered non-profit organization in the Province of Nova Scotia. We advocate for a fast, frequent, and reliable transit network in Halifax.

Data Sources

Halifax: <https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/180116rci01.pdf>

MARTA: https://www.itsmarta.com/bsc_bus_ntd_mdbf.aspx

CTA: http://www.transitchicago.com/assets/1/finance_budget/2018_Budget_Book_2017-11-21_FINAL_web_version.pdf

TTC:

http://ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2018/January_18/Reports/1_Chief_ExecutiveOfficers_Report-January_2018_Update_%283%29.pdf

MTA (NYCT bus service): <https://medium.com/cusp-civic-analytics-urban-intelligence/measuring-new-york-city-transit-a-brief-overview-and-critique-of-mta-metrics-5444d7e3d98d>