

Improving Bus Service Reliability

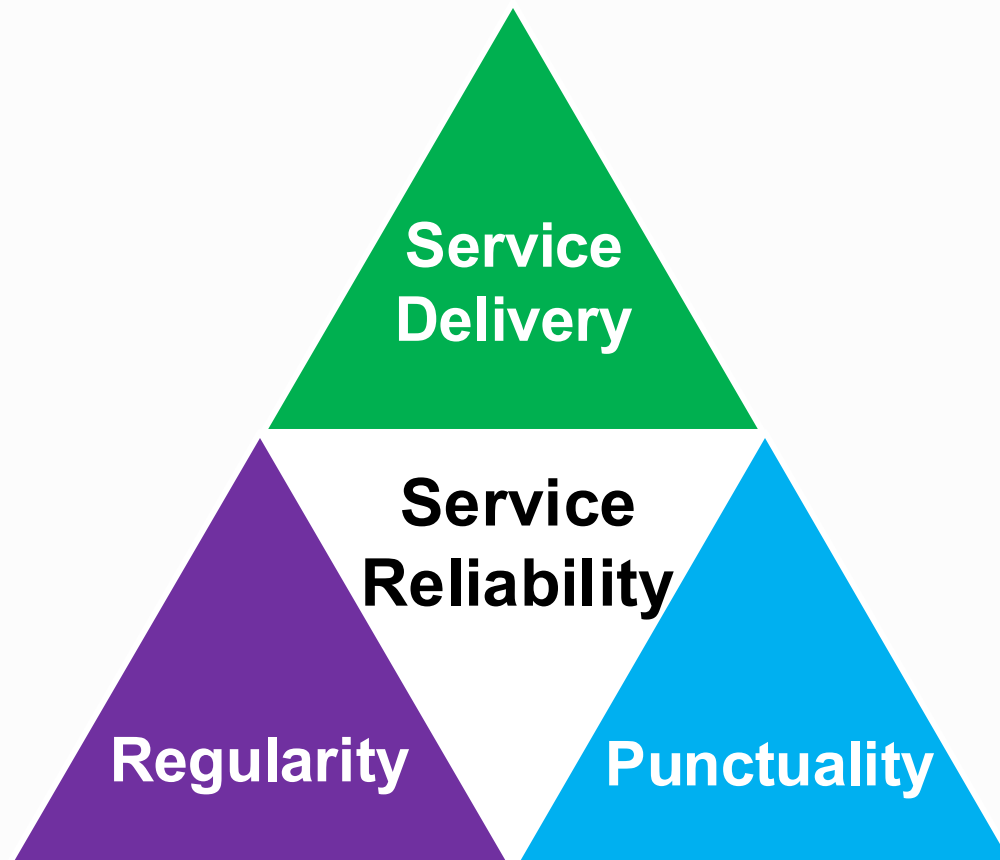
Transit Committee
September 11, 2025



Current policy directions guiding bus service reliability

- OC Transpo Five-Year Roadmap
 - Ultimate target of 99.5% for service delivery prompts continuous improvement
 - ✓ Bus maintenance action plan
 - ✓ Zero-emission bus program
 - ✓ 2023 Bus Route Review
 - ✓ New Ways to Bus implemented in April 2025
- Transportation Master Plan
- Transit service guidelines
- Annual operating and capital budgets

Measures of bus service reliability



Service Delivery

Degree to which planned trips are delivered
Aiming for 99.5% service delivery

Regularity

For frequent routes, measures whether trips are evenly spaced
Aiming for 85% regularity

Punctuality

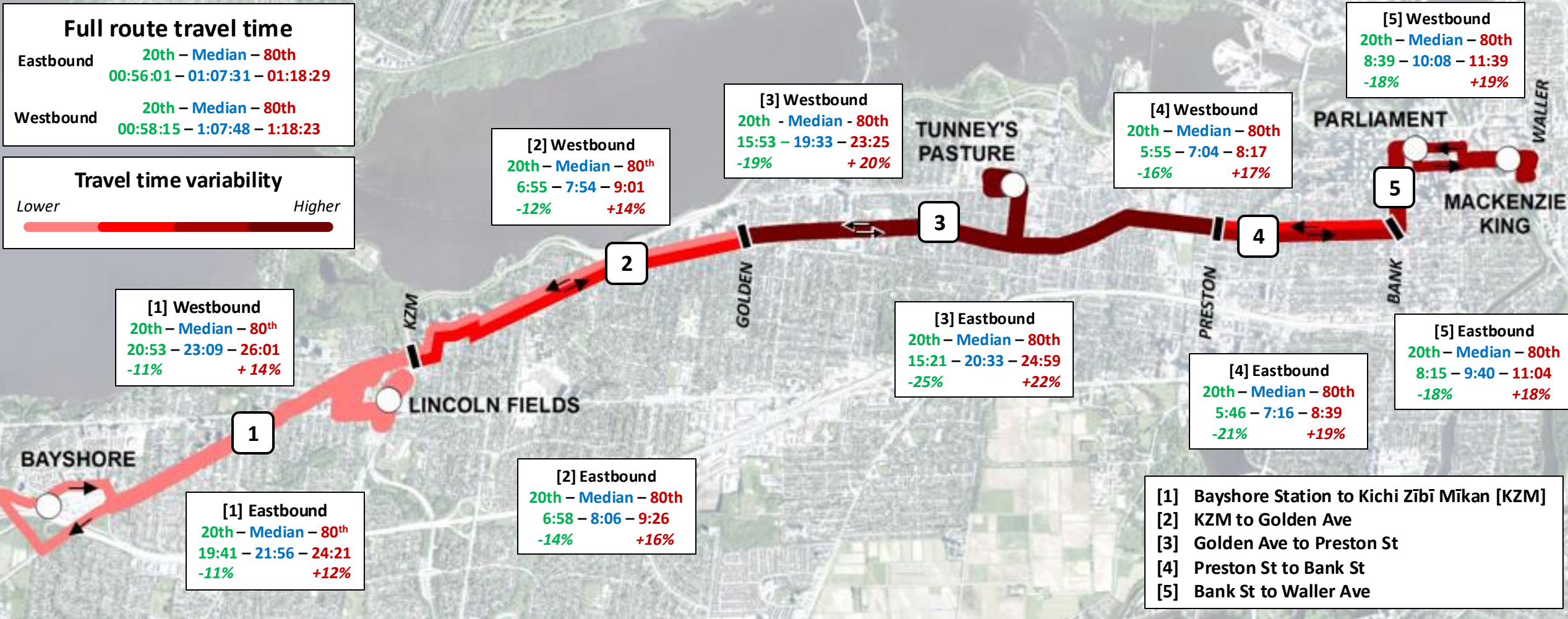
For less-frequent routes, measures whether the trips arrive at the stop no more than 1 minute early or 5 minutes late
Aiming for 85% punctuality

Bus service reliability – Current state

- Report regularly to Transit Committee and on octranspo.com
- High reliability on weekends and during low-traffic weeks
- Weekday bus service delivery affected by:
 - Bus and operational staff availability
 - Auto traffic congestion, detours, construction, weather
- Service delivery figures high but not always at 99.5% target
- Frequent route regularity 85% target met overall
- Less-frequent route punctuality 85% target rarely met; corrective actions as outlined in this report

Detailed service reliability review – Example for Route 11

Travel time variability by route section [Fall 2024; weekday data]



80th percentile represents the trips most impacted by traffic congestion

Median data represents the average travel time for all trips

20th percentile represents the trips with fewer delays

Three primary requirements for bus service reliability

1

Sufficient buses and staff available to deliver service every day

2

Buses ready and able to start every trip on time

3

Conditions to allow consistent travel time over the length of every bus route

Reliability requirement 1 – sufficient buses and staff



Reliability requirement 1 – sufficient buses and staff

Current state

- For the 7,500+ trips every weekday:
 - Need enough buses in good repair and meeting safety standards
 - Need enough technicians available to keep buses in good condition
 - Need enough bus operators available to drive the buses
- More than half of OC Transpo bus fleet is past its expected useful life and is being replaced
- Competitive market for licensed mechanics
- Bus operator pool is stable thanks to recruitment initiatives

Reliability requirement 1 – sufficient buses and staff

Plans for improvement

- 400 new buses on order, with all expected to be delivered by Q3 2027
- Bus maintenance action plan, presented to TC in April 2024
- Resource planning and data/trend analysis for bus maintenance
- Strategies to recruit more licensed mechanics and mechanic apprentice program
- Long-term plan for progressive and continuous bus fleet replacements, avoiding mass purchase/aging/replacement

Reliability requirement 2 – buses able to start every trip on time



Reliability requirement 2 – buses able to start every trip on time

Current state

- Traffic congestion, collisions, construction, weather and detours can affect a trip's start time
- Control centre makes real-time adjustments to service
- Time and resources can be added for long-term predictable but temporary delays
- Standby buses and operators can provide flexibility; currently limited because of low reliability of older buses

Reliability requirement 2 – buses able to start every trip on time

Plans for improvement

- Preventative
 - Scheduling more recovery time at terminals
 - Scheduling more standby buses and operators
 - Both require funding and reliable bus fleet
- Reactive
 - Assigning standby buses and operators
 - Standby buses and bus operators at stations to mitigate CLC breaks
- Watching advances in prediction and control software

Reliability requirement 3 – consistent travel time



Reliability requirement 3 – consistent travel time

Current state

- Travel time can vary widely due to traffic, road configuration, construction, detours, ridership levels, weather, on-board incidents, and more
- Staff from across the organization work to minimize construction impacts, calibrate traffic signals, and manage traffic
- Rapid transit
 - Council has been supporting rapid transit – Transitways and O-Train – continuously since the early 1980s
 - Moves transit vehicles out of mixed traffic and into exclusive grade-separated corridors
 - O-Train extensions move more long-distance travel out of traffic and allow bus routes to be shorter and more self-contained

Reliability requirement 3 – consistent travel time

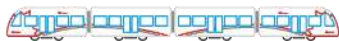
Current state

- Transit priority measures
 - Staff work with Councillors and colleagues to discuss road configuration
 - Council supports transit priority measures through the TMP and annual budgets
- Travel time analysis and scheduling
 - Actual travel times measured continuously and analyzed regularly
 - End-to-end travel time at 85th percentile and recovery time so that next trips start on time at 95th percentile
 - Parameters follow transit best practices
 - Controllers, supervisors, operators collaborate to manage exceptions

Reliability requirement 3 – consistent travel time

Plans for improvement

- Large projects as approved in the TMP
 - New and expanded Transitway corridors and O-Train extensions
 - Continuous bus lane projects
- Smaller projects
 - Transit priority measures and active transportation projects, guided by data and analytics
 - Can include bus stop relocation, adding bus-actuated traffic signals, building separate bicycle lanes, changing parking regulations and traffic signal timing
- Continuous improvement
 - Straighter, shorter bus routes with terminus points at Transitway and O-Train stations
 - Collecting and analyzing data to adjust scheduled travel time end-to-end and between stops



Some variables that can influence the delivery of plans

- Attractiveness of transit jobs in the labour market
- Bus supply chain and bus technical reliability
- Adaptation to battery-electric bus characteristics
- Legislative changes
- Choices among funding priorities
- Increased auto traffic congestion
- Transit priority and road configuration changes require trade-offs among road uses; agreed choices can vary between locations
- Funding availability for major rapid transit projects



Conclusion and considerations

- Council has continuously approved and funded important projects to improve reliability and reduce travel time
- Service reliability is one characteristic among several of a good-quality transit service
- Some influences on bus service reliability are outside the City's control
- All of us at OC Transpo are working every day to continuously deliver a good service and to improve all aspects of the transit system for customers
- We will always follow the policy and budgetary directions of Council
- We continue to deliver all the plans identified in this report
- We will continue to report regularly on service reliability alongside other aspects of the transit service
- We continue to monitor reliability every minute of every day and make service adjustments to keep customers moving on their way to their destinations

Bus service reliability – summary table

Reliability requirement		Plans for improvement
1	Sufficient buses and staff available to deliver service every day	<ul style="list-style-type: none"><input type="checkbox"/> 400 new buses by Q3 2027<input type="checkbox"/> Bus maintenance action plan<input type="checkbox"/> Continuous hiring of operators and maintenance staff
2	Buses ready and able to start every trip on time	<ul style="list-style-type: none"><input type="checkbox"/> Recovery time at terminals<input type="checkbox"/> Standby buses and operators
3	Conditions to allow consistent travel times over the length of every bus route	<ul style="list-style-type: none"><input type="checkbox"/> Transitway, O-Train, and continuous bus lane projects<input type="checkbox"/> Transit priority measures and active transportation projects<input type="checkbox"/> Straighter, shorter bus routes<input type="checkbox"/> Travel time analysis and schedule adjustments

