

June 2024

Benefits of the 401RT Express

The 401RT Express is a concept for a seamless 90-kilometre 50-station rapid transit line through the core of the Greater Toronto Area almost entirely elevated over or alongside existing transportation corridors. It would run from Pickering Town Centre to an Islington station at Highway 401 and, westerly from there, two routes – one southwesterly through Mississauga’s downtown core to the Erindale GO station, and one continuing along the Highway 401 corridor to Derry Road in northwestern Mississauga. The proposed alignment of the 401RT Express is shown at the end of this document.

The 401RT Express is of transformative significance, and would affect other transit expansion decisions in Toronto, Mississauga, and Durham Region. The scale of the 401RT Express reflects the magnitude of the transportation and climate change problems facing the region. The overall traffic congestion problem in Toronto cannot be resolved with constrained approaches. The following list of general benefits is lengthy and significant, and highlights the strategic importance of the 401RT Express in the Toronto area. Purely local benefits are generally not included in this list.

1. The first practical transit alternative to driving across northern Toronto is created, bringing rapid transit much closer to many thousands of today’s car-driving commuters.
2. The first seamless and practical rapid transit connection is created between Toronto and downtown areas of Mississauga and Pickering.
3. Access to the ongoing movement of employment and other destinations from the downtown Toronto core to its northern suburbs becomes less car-dependent.
4. Up to twelve new rapid transit connections are created (Hazel McCallion LRT, Mississauga Transitway, Union-to-Pearson Express, Woodbine GO, Barrie GO, Spadina/York Subway, Yonge Street Subway, Oriole GO, Pickering GO, an extended Ontario Line, the Scarborough Subway extension, and a possibly-relocated Agincourt GO station or additional GO/401RT Express transfer station south of the Agincourt GO station).
5. Gridlock on Highway 401 is avoided as high volumes of transfers from the highway to rapid transit occur.
6. Gridlock and congestion on the Don Valley Parkway is ended as the 401RT Express enables rapid transit access to the Ontario Line.

7. The 401RT Express and Ontario Line reduce or end road congestion in Toronto's downtown core.
8. More than 100 new surface bus route connections to rapid transit are created.
9. North-south bus trips to east-west rapid transit are significantly shorter in time and distance.
10. The 401RT Express enables the GO Rail system to be used for trips across Toronto's suburban North.
11. The seamless 90-kilometre length of the 401RT Express and its 50 stations maximize trip origin-destination opportunities.
12. The extremely high level of congestion on Highway 401 between west of Dixie Road and Highway 400 is eased or ended.
13. Truck transport is improved, and economic costs of transport delays on highway 401 are avoided as car drivers transfer to the highly visible 401RT Express.
14. Plans to widen Highway 401 between Highway 427 and Highway 404 are rendered unnecessary.
15. The trip capacity of the Highway 401 corridor in Toronto is more than doubled.
16. The 401RT Express reduces or ends road congestion on the Don Valley Parkway.
17. The 401RT Express relieves potential over-capacity pressures on the Eglinton LRT.
18. Traffic congestion on city streets throughout Toronto and in parts of Mississauga and Pickering is reduced as major modal shifts to transit occur; all road trips begin and end on local streets.
19. Travel times across the northern half of Toronto are significantly reduced when compared to current transit services. End-to-end travel time on the 401RT Express from Pickering Town Centre to Erindale GO station (69 kilometres) is approximately 80 minutes. This compares well to current travel times by automobile during morning, evening and weekend peak periods.
20. The 401RT Express increases transit ridership by 289 million per year by 2051, including a 52 million annual increase in local non-401RT Express trips on enhanced intersecting bus services and 24 million new 401RT Express trips resulting from new GO Rail intersects. Another 10+ million new trips are estimated to be generated from households wanting to avoid car cost increases and their constraints on household incomes, and other factors.
21. Overcrowding of the Yonge Subway as a result of high 401RT Express ridership is avoided once the Ontario government's plan to extend the Ontario Line to Sheppard Avenue East is completed; this extension should coincide with 401RT Express implementation.
22. The 401RT Express reduces the number of automobiles on Highway 401 and other roads by approximately 15%, a reduction that can enable some streets to have more and safer bicycle lanes, wider sidewalks, and more greenscaping.
23. GO Transit ridership increases by approximately 24 million trips per year beyond current forecasts by 2051 as a result of up to six new Intersect stations with the 401RT Express (Erindale GO, Kitchener Line at Highway 27, Barrie GO Line, Leslie-Oriole GO, the (potentially relocated) Agincourt GO station, and Pickering GO).
24. Overall, the "loose ends" of north-south rapid transit lines are connected to enable rapid access to destinations along the 401RT's east-west axis.
25. The addition of large multi-level garages above the Weston and Jane 401RT Express stations (plus access ramps) may enable the creation of a transfer point for drivers having come into Toronto on Highway 400. This enables people to avoid using city streets to get to downtown Toronto or other destinations.
26. In general, access to services and to employment across Toronto and to/from Mississauga, Pickering and Brampton becomes much faster and easier, especially for people who are economically disadvantaged, or who do not own cars or cannot drive. This is a significant enhancement of quality of life for them.

27. The northwest arm of the 401RT Express brings parts of Milton and Brampton within commuter range of Toronto. Travel time on the NW401RT Express from its Derry Road terminus to Pearson International Airport is 25 minutes.
28. Rapid, affordable, and direct rapid transit access to Pearson International Airport from downtown and from suburban locations across the region is created (Approximately 85% of trips to the airport do not originate from downtown Toronto).
29. Travel costs are reduced for thousands of households as fewer cars need to be owned, or are used less. Money saved can be redirected towards other household priorities. After-tax household savings vary widely, but can range between \$10,000 and \$20,000 per year per vehicle, less the cost of using public transit (approx.. \$1,900/year in 2024). **This is a significant household affordability opportunity.**
30. For many commuters, the 401RT Express becomes an alternative to what is now an expensive forced daily drive on congested highways to and from Toronto.
31. The Greater Toronto Airports Authority's plans for a transit hub are transformed to be much more effective.
32. Rapid direct access to Pearson International Airport via the 401RT Express from locations across Toronto makes the Government of Ontario's planned \$2 billion extension of the Eglinton Crosstown LRT from Renforth to Pearson International Airport unnecessary. A 401RT Express juncture station at Eglinton Avenue east of Renforth Drive would provide the rapid transit link to/from Pearson.
33. Access to the employment areas surrounding Pearson airport is greatly improved; these employment areas in Mississauga and Toronto revitalize as accessibility to them improves, and helps them to become more attractive to business and to workers.
34. Current and forecasted road overcapacity situations in the large employment areas around Pearson International Airport are reduced.
35. Employment opportunities and labour market conditions are enhanced. Fewer people will decline employment opportunities near the airport or elsewhere due to road congestion and travel times. This resolves an important concern of employers, especially at and near Pearson International Airport, regarding workforce access.
36. The 401RT Express's intersect with the Line 2 subway's extension at Scarborough City Centre significantly increases ridership on that extension.
37. A 401RT Express would draw ridership from the Sheppard Subway and its planned \$4.8 billion extension, making them obsolete. The entire lightly-used Sheppard Subway would be closed, and be replaced by the nearby and faster 401RT Express service that would also enable travel to points west of Yonge Street.
38. Enhanced access from across all of Toronto to the University of Toronto Scarborough Campus, Centennial College (Scarborough), York University, and the U of T downtown campus is created. Many students will no longer need to decide on courses of study based on travel time and distances to campuses, nor will need to purchase a car.
39. Improved and rapid access to the University of Toronto's Scarborough campus using the 401RT Express will reduce ridership volumes on the proposed Eglinton Crosstown East LRT extension, rendering it unnecessary. Savings from eliminating the LRT extension range between \$4.0 billion to \$4.4 billion. However, it may be worthwhile to extend the LRT from Kennedy station to Kingston Road only, a cost of approximately \$1.7 billion.
40. The Jane Street LRT proposed by Toronto would become unnecessary as east-west connections provided by the 401RT Express, the Finch West LRT, and the Eglinton Crosstown

LRT at Jane attract Jane bus users and reduce passenger volumes and trip-length crowding on Jane Street buses to Bloor Street. Savings may be \$2.6 billion.

41. Access to employment opportunities and services for residents of disadvantaged communities and for people who do not drive automobiles is significantly improved.
42. Direct rapid transit access to Mississauga's Airport Corporate Centre (at MACC station) from across northern Toronto and from central Mississauga is created.
43. The 401RT Express creates a large economic stimulus as approximately 265,000 job years are created during the 401RT Express's construction – more than any other public job creation project in the GTA has achieved.
44. Canada and Ontario government capital cost contributions would result in an influx of more than \$30 billion into the Toronto area economy during the 401RT Express's construction. Almost all of the 401RT Express's costs would be provincially and federally funded.
45. Hundreds of ongoing transit operating jobs are created, including maintenance, customer contacts, security, administration and more .
46. Economic losses from traffic congestion are reduced; business efficiency is improved.
47. Economic losses from imports of motor vehicle fuels and automobiles are reduced. Most cars and trucks sold in Ontario are imported, as is almost all fuel.
48. The number of deaths and injuries from motor vehicle collisions and the traumas and costs borne by the families and friends of crash victims are reduced, as are the associated daily congestion effects of collisions.
49. The 401RT Express helps enable the transformation of Yonge Street north of Hwy 401 as the Yonge Street subway is extended to Highway 7. The 401RT Express will attract new transit users from north of the Finch subway station, making it easier for them to access employment east and west of Yonge Street.
50. As a public policy option to maximize modal shifts to transit, the leftmost express lane of Highway 401 can be closed to road traffic and reserved for future travel demand, HOV lanes can be created, or missing shoulder lanes can be restored. Other purposes can include many kilometres of photovoltaic panels.
51. Greenhouse gas emissions are reduced by more than 600,000 metric tons per year until electricity-powered vehicles become more prominent. Toxic vehicle emissions and their negative effects on health are also reduced.
52. The operational effectiveness of the Toronto area's pre-existing transit system is improved; for example, more people will use existing buses and new buses for local trips not related to the 401RT Express (approximately 52 million per year by 2051) as service frequencies improve with the addition of more than 600 north-south buses as part of the 401RT Express concept. Frequency of service for these buses may be reduced to five minutes.
53. Suburban sprawl is eased, as development in the central area of the GTA is attracted by the 401RT Express, including construction of buildings near and at 401RT Express stations, and along intersecting arterial roadways.
54. Property tax revenues are increased from new urban development at/near 401RT Express stations, and from increased property values in parts of Toronto, Mississauga, and Pickering, and in some '905' areas served by GO Transit.
55. For owners of real estate near 401RT Express stations, property values will increase significantly. Unfortunately, this also means buyers must spend more money to purchase property.
56. Improved transit access via the 401RT Express supports an increased distribution of work across Toronto outside the downtown core and in Mississauga. Rapid access to/from the

401RT Express improves automobile-free connectivity for businesses, and access for workers who live both downtown and in suburban areas.

57. Rapid transit access to places of work or to home outside the downtown core enables the number of parking spaces downtown and across Toronto to be reduced, even as overall travel demand increases with population growth. Opportunities to transform public downtown parking spaces into affordable housing, open greenspaces and other public uses increase.

58. Overall operating revenues for the 401RT Express are likely to cover 100% or more by 2051, much better than that of Toronto’s overall public transit system. The estimate assumes that 401RT Express users will pay a premium fare averaging 25 cents higher than the standard fare for TTC buses. (No estimate for different fare systems, such as fare by distance, was developed.)

59. Based on new transit ridership generated, the overall capital cost-effectiveness of the 401RT Express would be almost twice that of Ontario’s \$28.5 billion Rapid Transit Plan for Toronto, based on new transit trips generated.

\$28.5 bn Ontario Plan vs. 401RT Express	New Trips (Million/yr)	Gross Infra. Cost (\$Mil)	Cost per New User
Ontario Rapid Transit Plan*	118	28,500	\$242
401RT Express incl NW401RT	265	33,100	\$125
Comparative Ratio	2.25	1.16	1.94
401RT/OLX Cost Effectiveness Advantage			1.94

* Includes the Hazel McCallion LRT, the Ontario Line, the Yonge North Subway extension to Highway 7, the Scarborough Subway, and the Eglinton West LRT extension to Renforth..

60. The capital cost effectiveness of the 401RT Express compared to the proposed High-Speed Rail (HSR) service from Toronto to Windsor is 15 times that of the relatively lightly-used HSR.

61. For Mississauga’s residents, the 401RT Express through Mississauga’s city centre would enable affordable access to destinations to and from the airport area and across Toronto, and generate modal shifts to public transit that would reduce growing congestion on Highway 403 to/from Toronto.

HSR to Windsor	Millions of New Trips/year	Gross Infra. Cost (\$Mil)	Cost per New User
HSR to Windsor	10.0	21,000	\$2,100
401RT Express	289.3	40,400	\$140
Comparative Ratio	28.9	1.9	15.0

401RT Express is 15 times as cost effective as the HSR Toronto to Windsor, based on new transit trips generated.

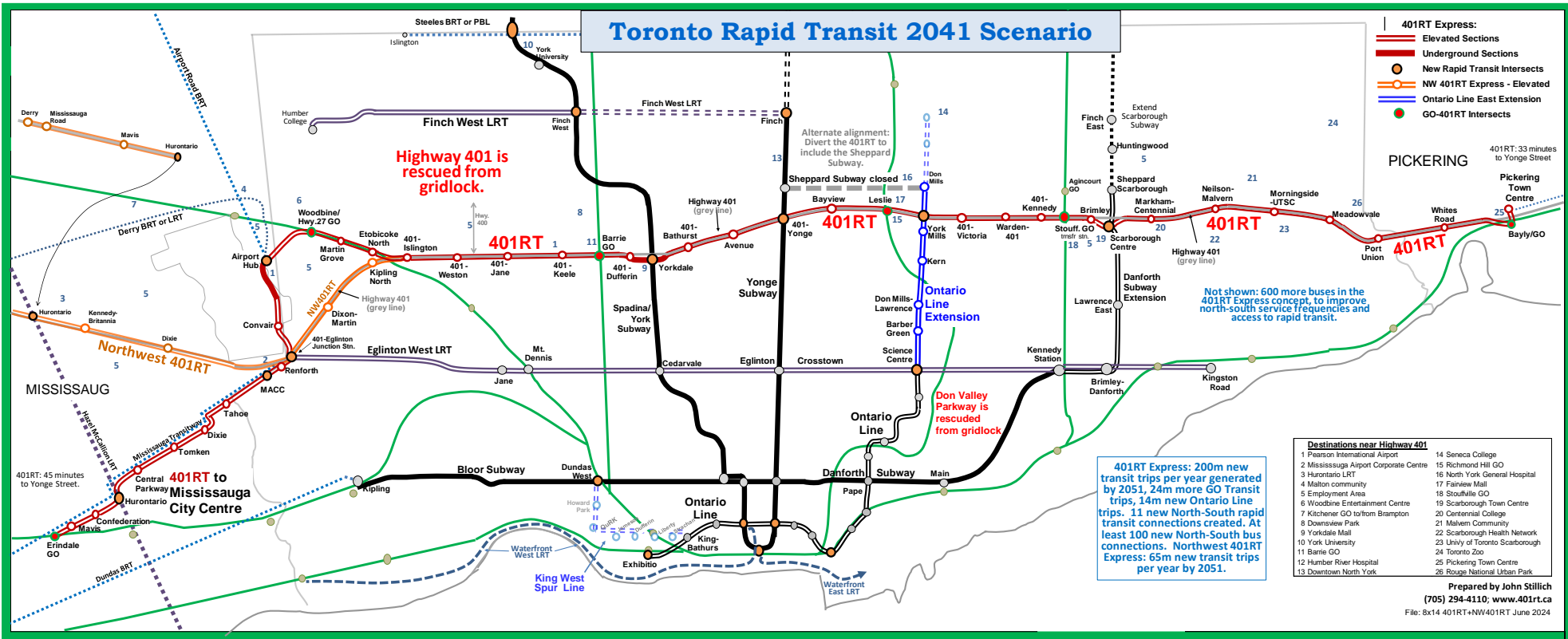
62. The operational revenue-to-cost ratio of the Hazel McCallion (Huronario) light rail transit line in Mississauga is improved as its intersect with the 401RT Express at two points attracts new ridership; additional high-density urban development at and near Hurontario Street is supported.

63. In Durham Region and the city of Pickering, the prospects for mixed use urban intensification in the Pickering Town Centre area at Liverpool Road and along Highway 2 would be enhanced. A future off-highway extension of the 401RT Express above Highway 2 to Brock Road and beyond is possible.

64. The 401RT Express at its Port Union, Whites Road, and Liverpool stations enables transfers between the Durham-Scarborough BRT and 401RT Express to speed travel for many cross-boundary commuters. The Scarborough portion of the BRT would become unnecessary.

65. In York Region, the 401RT Express would ease road congestion to and from Toronto as north-south York Region bus services connecting to the 401RT Express improve.

Toronto Rapid Transit 2041 Scenario



- 401RT Express:**
- Elevated Sections
 - Underground Sections
 - New Rapid Transit Intersects
 - NW 401RT Express - Elevated
 - Ontario Line East Extension
 - GO-401RT Intersects

Destinations near Highway 401

1 Pearson International Airport	14 Seneca College
2 Mississauga Airport Corporate Centre	15 Richmond Hill GO
3 Hurontario LRT	16 North York General Hospital
4 Malton community	17 Fairview Mall
5 Employment Area	18 Stouffville GO
6 Woodbine Entertainment Centre	19 Scarborough Town Centre
7 Kitchener GO train from Brampton	20 Centennial College
8 Downsview Park	21 Malvern Community
9 Yorkdale Mall	22 Scarborough Health Network
10 York University	23 Univ of Toronto Scarborough
11 Barrie GO	24 Toronto Zoo
12 Humber River Hospital	25 Pickering Town Centre
13 Downtown North York	26 Rouge National Urban Park

401RT Express: 200m new transit trips per year generated by 2051, 24m more GO Transit trips, 14m new Ontario Line trips. 11 new North-South rapid transit connections created. At least 100 new North-South bus connections. Northwest 401RT Express: 65m new transit trips per year by 2051.