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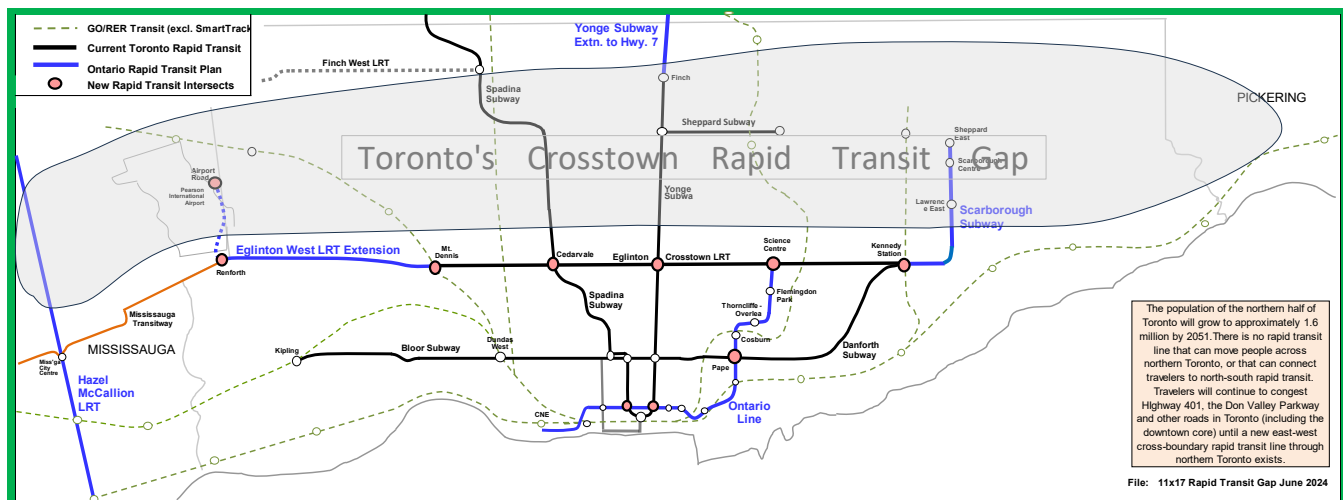
The 401RT Express: Rescuing Transportation in Toronto

By 2051, a million more people will call Toronto home, and many thousands more will commute into the city from neighbouring municipalities. Travel demand growth will offset the expected transit ridership growth of transit initiatives identified in the Ontario Government's Greater Golden Horseshoe Transportation Plan for Toronto.

Achieving a sustainable transportation system in Toronto must recognize that most of Toronto's traffic problems originate in the suburbs, including in the northern half of Toronto, where 1.3 million residents and 300,000 jobs today will increase by approximately 30% or more by 2051. Highway 401 in the core of the Toronto area is at risk of becoming non-functional due to traffic gridlock. The Premier of Ontario has recognized the danger and has proposed to add highway capacity by way of a tunnel under Highway 401. The end result may be better traffic flow on Highway 401; however, congestion will merely be moved onto municipal roads, which will by themselves be facing worsening congestion.

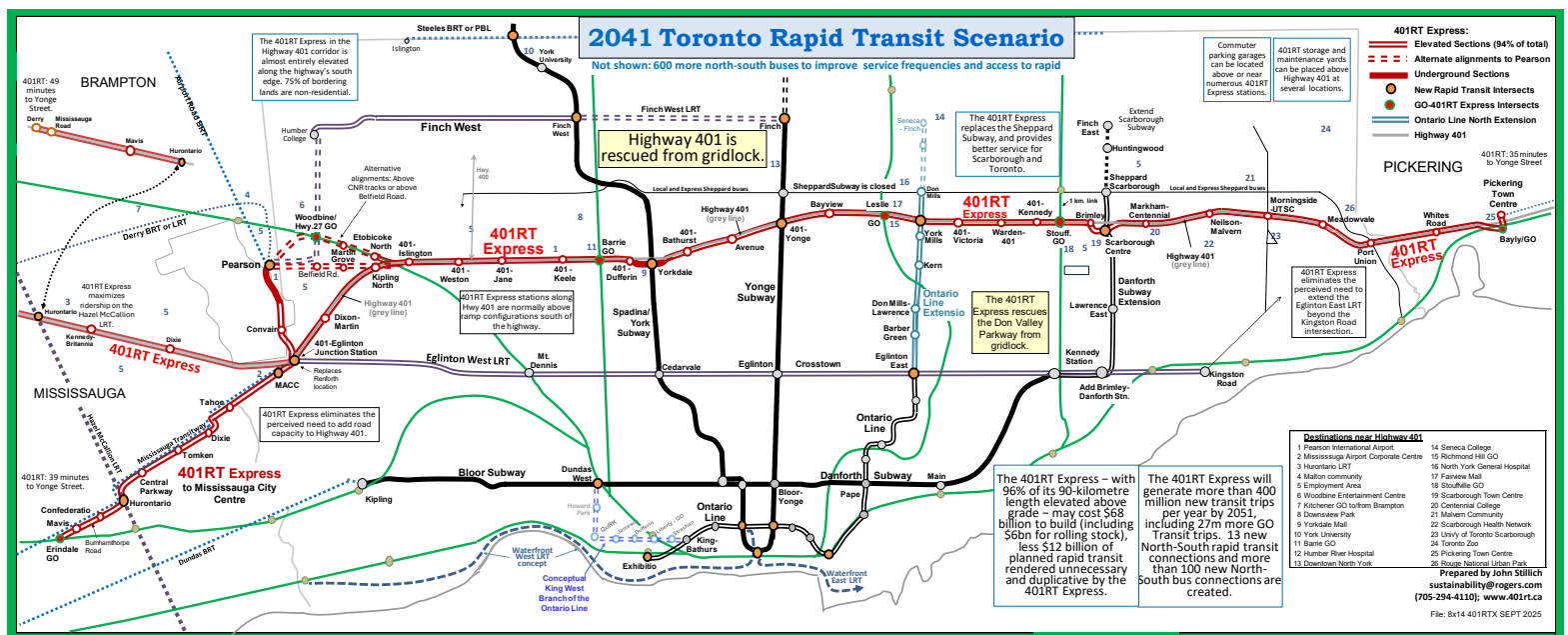
Until there is a practical public transit alternative to driving across northern Toronto or to/from northern Toronto, congestion will worsen on Highway 401, the Don Valley Parkway, and many other roads. Gridlock must not be allowed to happen.

The enormous rapid transit gap across northern Toronto must be resolved.



The most significant piece of public transit infrastructure preventing major modal shifts to public transit is the absence of a continuous east-west rapid transit line from Mississauga to Pickering through the underserved northern half of Toronto.

The rapid transit line illustrated below – the **401RT Express** – is a full-scale rapid transit line with 50 stations that extends 85 kilometres from Pickering Town Centre through northern Toronto to Islington Avenue at Highway 401, and westward from there consisting of two divergences, one to Pearson International Airport and to west of Mississauga's City Centre, and the other continuing along Highway 401 into northwestern Mississauga.



Without this rapid transit line, or something very similar, there is no hope of achieving the level of reductions in automobile traffic necessary to avoid increases in traffic congestion in Toronto. The 401RT Express would connect to up to 13 north-south rapid transit lines and 100+ municipal bus routes. Its impacts would transform transportation in the core of the Toronto area and increase quality of life significantly.

The 401RT Express would ease the financial burdens of many thousands of householders struggling with costs of a second or third automobile. While a car costs between \$11,000 to \$20,000 per year or more to own and use, a TTC transit pass in 2024 cost just \$1,900 per year.

The 401RT Express is likely to be extraordinarily successful. Major shifts from driving to the 401RT Express will occur because travel on Highway 401 and on alternative local roads will often be significantly slower than traveling on the 401RT Express for the east-west segment of most trips. Added to this basic modal shift, other factors will increase transit ridership by 2051:

- GO Transit's six intersects with the 401RT Express will generate approximately 27 million new GO Transit trips and 24 million new 401RT Express trips.
- The Islington-to-Pearson-to-Erindale GO branch of the 401RT Express will generate additional trips to and from downtown Mississauga, the Mississauga Airport Corporate Centre, and other points;
- The transit modal share of trips to and from Pearson International Airport and its adjacent employment area will be multiple times higher than is currently the case;
- Additional buses on north-south routes intersecting with the 401RT Express will carry more travelers whose destinations are not the 401RT Express; an estimate is 52 million new transit trips per year by 2051;
- Some urban development in the form of high density housing and office uses at and near the 401RT Express will have higher than average rates of transit usage;
- High costs of automobile ownership and use will accelerate the movement of trips to the 401RT Express.
- The growth in truck movements will also affect gridlock and encourage shifts to transit for commuters.

Without the 401RT Express, those additional transit trips will not occur. Overall, the 401RT Express will generate more than 400 million new transit trips per year by 2051.

Key destinations directly served by the 401RT would be Pickering Town Centre, Scarborough City Centre, the Line 1 subway and the Ontario Line, Yorkdale, Pearson International Airport and its surrounding employment area, and the Mississauga City Centre area. The northwestern arm of the 401RT Express would reduce dramatically the highly congested portion of Highway 401 between Dixie Road and Highway 400.



The 401RT Express would require an extension of the Ontario Line from Eglinton Avenue East to the 401RT; this extension is already in the Government of Ontario's rapid transit plans.

The 401RT Express is proposed to be almost entirely elevated above ground – 85 kilometres from end to end, including 64 kilometres over the Highway 401 corridor. It would cost an estimated \$62.5 billion to build, plus approximately \$6 billion for rolling stock.

The gross cost of the 401RT Express can be significantly reduced, because it would render most of the Eglinton East LRT extension and the Eglinton West LRT extension from Renforth to Pearson unnecessary and operationally non-viable. Moreover, the 401RT Express would divert most Sheppard Subway users; the Sheppard Subway would not connect well to the 401RT Express, and should be eliminated entirely and replaced by enhanced bus services from Port Union Road to Weston Road. Not building the planned Sheppard Subway extensions and eliminating the Sheppard Subway would save approximately \$6.1 billion, net of subway decommissioning costs. In total, \$11.3 billion can be saved. In this scenario, the 401RT Express would be three times as cost-effective as the recommended offsets, based on cost per new transit user.

Among its many benefits, the 401RT Express will reduce highway and road congestion in Toronto, provide the northern east-west link to up to 13 north-south rapid transit lines, boosting their ridership, and reduce the financial and social costs of dependency on travel by automobile for tens of thousands of households. A list of more than 60 general benefits is available at www.401rt.ca.

When compared to the recent push for a Toronto-to-Quebec City high speed rail service, the 401RT Express can be 16 times as cost effective as the HSR, based on cost per transit user (comparison table below). Importantly, the 401RT Express is an immediate need to maintain the functionality of Highway 401; the HSR is not as critical.

The 401RT Express should be seen as a continuation of current rapid transit expansion activities. Given the rapidity of growth and road congestion in the Toronto area, the construction of the 401RT should begin as current rapid transit projects begin to wind down (by 2030), with advance planning beginning as soon as possible. Construction will be challenging, due to the speed that the 401RT Express must be built to overcome the congesting effect of growth in travel demand.

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Note 1 : Current and planned rapid transit initiatives rendered obsolete by the 401RT Express:

1. The \$5.8 billion Eglinton East LRT to Malvern (+rtn. to McCowan), less a useful \$2 bn extension of the LRT to Kingston Road. Access to Malvern and the University of Toronto Scarborough Campus is faster for many travelers via the 401RT than the LRT.
2. The \$1.4 billion Eglinton West LRT Renforth to Pearson. The Line 1 subway and 401RT combination would deliver most downtown trips to Pearson as fast as the Eglinton West LRT and provide direct transit trips to Pearson from northern Toronto.
3. The \$6.9 billion Sheppard Subway extension to Scarborough Centre station. The Sheppard Subway is closely parallel to the 401RT, which would draw users of the Sheppard Subway, to the point that the subway would be operationally non-viable.

The savings would be partially offset by decommissioning costs of the Sheppard Subway.

401RT Express Cost & Effectiveness Summary	Infra-structure Cost \$m	2051 Trips per Year Millions	Cost per New Trip	Kms. Of Track	Cost per Km. of Track
401RT Express - Pickering to Erindale GO	48,800	303	161	69.0	\$708
401RT Express - Derry to Islington@401	13,500	61	221	16.0	\$844
401RT Express - Rolling Stock	6,100				
; ridership increases (non-401RTX trips)		52			
401RT Express Effect on GO Transit (\$ by GO)		27			
Total Recommended Infrastructure	68,400	443	\$154	85.0	\$805
Recommended Expenditure Offsets:					
Sheppard Subway Extn. to Scarboro Ctr.	6,900	6	} \$626	9.0	\$763
Decommissioning Sheppard Sbwy; net	-800				
Eglinton West LRT - Renforth to Pearson	1,400	4		7.6	\$184
Eglinton E LRT - Kndy to Malvern to McCowan	5,800	11		19.1	\$304
Eglinton E LRT - Kndy to Kingston Rd (build)	-2,000	-3	\$606	-4.5	\$444
Total Expenditure Offsets*	11,300	18	\$630	31.2	\$362
Net New Cost Commitment	57,100		} \$129		
Potential Gain in New Trips per Year		443			

* The 401RT draws ridership from these higher-order transit routes, rendering them operationally non-viable. Overall, these trips are not lost; they would be served by existing bus services or trips are diverted to the 401RT Express.

N.B. The 401RTX requires an extn of the Ontario Line N from Eglinton; already in MTO's Greater Golden Horseshoe Transportation Plan.

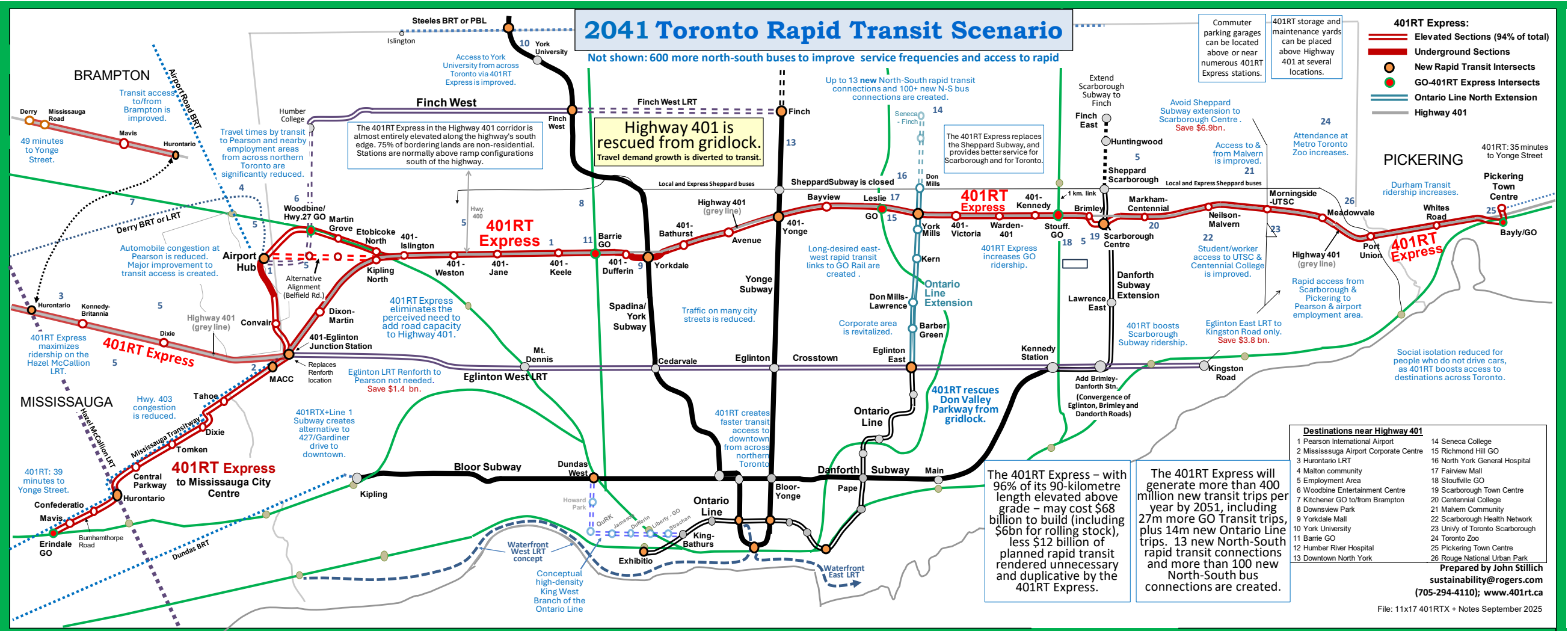
Excludes shortening of the planned Durham-Scarborough BRT to east of Liverpool Rd. (not itemized)

N.B. Based on cost per new transit trip, the 401RT Express is almost four times as cost-effective as the recommended expenditure offsets (\$579/\$154).

Comparing Rapid Rail Concepts	Millions of Trips/yr by 2051	Gross Infra. Cost (\$Mil)	Cost per New User	Kms.
HSR Toronto to Quebec City (Recent Cost Estimate)	40	\$90,000	\$2,250	1,000
401RT Express*	443	\$62,300	\$141	85
Cost effectiveness advantage of 401RT Express:			16.0	

* Excluding rolling stock

40 million trips/year = 109,589 trips per day



30+ years from now, there will be a million more people living in Toronto. The **401RT Express** is essential if highways and local streets in Toronto are to be decongested. Currently-planned rapid transit expansions will struggle to keep up with travel demand growth, and will not reduce overall use of motor vehicles on city streets. Adding road capacity to Highway 401 is not a solution; its impact will be to encourage driving and to increase congestion on local roads.

The **401RT Express** should be recognized as inevitable and urgent. The 401RT Express's seamless length, speed of service, connectivity, and high visibility will make it a success. It will render numerous current rapid transit initiatives unnecessary and operationally nonviable: the Eglinton West LRT Phase 2 extension to Pearson International Airport, the Sheppard Subway extn (and the Sheppard Subway itself), most of the Eglinton East LRT, and the Jane Street LRT. Spending on these will waste an estimated \$12 billion.

The \$54 billion **401RT Express** (including \$5bn rolling stock) is highly affordable, and is estimated to be three times as cost-effective as rapid transit initiatives currently being implemented, based on new transit trips generated. Its net cost to build would be as low as \$42 billion (after cost avoidances of aforementioned initiatives). Federal cost sharing can be 40%. The 401RT Express (or similar) would be transformative for transportation in Toronto, and is essential for achieving climate change goals. It is essential for tens of thousands of households that struggle with the high costs of automobile ownership and use. Visit www.401rt.ca for more information. Call John Stillich at 705-294-4110 or visit www.401rt.ca for more information.

