



- Because it is highly likely that a vaccine and improved treatments for COVID-19 will be widely available within a few years, it is assumed that numbers of daily trips and their modal shares will have returned to pre-COVID times before 2030.

### **The lack of a fast, high-volume, rapid and practical transit service across northern Toronto must be resolved.**

- Travel times for transit trips across the northern half of Toronto or to north-south transit take too long; the great majority of commuters and other travelers will continue to use personal automobiles, unless there are major improvements to rapid transit services. An example: The trip time using the TTC, from Jane Street at Wilson Avenue to York Mills Road at Don Mills Road, is 63 minutes.
- Current rapid transit plans do not include a high-volume rapid transit line that will improve east-west travel in northern Toronto.
- The Eglinton Crosstown LRT is in the southern half of Toronto, and will not serve the bulk of travel demand in the northern half of Toronto.
- The Finch West LRT will serve the northwest corner of Toronto, but will be too short and too far removed from the bulk of travel to reduce overall road traffic congestion.
- The 5-kilometre Sheppard subway is too short to be of use to all but a relatively few travelers.
- North of Eglinton Avenue, rapid transit services are oriented north-south, for access to and from downtown Toronto; no rapid transit line links north-south transit to east-west rapid transit (except for the Sheppard subway). This is a key cause of overreliance on travel by automobile.

### **Ridership volumes on the 401RT will be enough to make it operationally viable once it is completed.**

Normally, a subway (Metro) line is not considered operationally viable in areas of low population density. However, the northern half of Toronto is a mix of low and medium density, interspersed with areas of high density in the form of highrise buildings, plus employment areas. Future urban development will be in the form of infill and intensification that will increase densities.

- GO Transit's Lakeshore Line is an example of success in a suburban environment. Unlike GO, which delivers the great majority of its riders to the downtown core of Toronto, the 401RT would deliver travelers to multiple destinations across Toronto, provide more frequent service, and be able to draw ridership from both north and south of its alignment.
- Travel demand growth that will no longer be able to be accommodated on congested city streets and limited access highways (DVP, 427, Allen Road, Gardiner Expressway) beyond 2030 will, for the most part, become 401RT/OLX users.
- It is very likely that a significant portion of Highway 401 users between Hurontario Street and Pickering Town Centre drive because they have no choice; transit options are impractical – east-west travel times on transit buses are too long, even to get to the Line 1 subway. North-south bus services are also unacceptably slow. The 401RT will give them the alternative to driving.
- The Sheppard subway's relatively low ridership is due to its short length. With an operating 401RT, more people whose trip origins and/or destinations are west of Yonge or East of Don Mills will begin to use the Sheppard subway, because it will be a part of the 401RT.
- The 401RT would reduce travel times by public transit very significantly, inducing modal shifts by many highway users. Three examples comparing trip times are shown below.

- The 401RT would link to nine north-south rapid transit lines and at least 25 surface bus services, which will attract travelers whose trip origins and destinations are almost anywhere in Toronto.
- The 401/OLX would give users of Highway 401 and the Don Valley Parkway rapid access to the downtown Toronto core, the Eglinton Crosstown LRT and the Line 2 (Bloor-Danforth) subway.
- High-density urban development will occur at, near, and above 401RT stations. The transit modal share for these developments will be high.
- The 401RT's links to GO Transit (Barrie, Kitchener GO) will generate more trips on both GO and the 401RT.
- Many households will find the cost of automobile ownership and use to be difficult to afford or an expense that they would like to avoid.
- Fears and concerns regarding worsening environmental conditions will convince more people to rely on public transit whenever possible. Public policies may also induce modal shifts.

<b>Comparing Trip Times:</b>	
	<u>Minutes</u>
<b>Commerce Blvd. at Eglinton West to Lawrence at Kingston Rd.</b>	
Using TTC (per TTC Trip Planner)	105
Using 401RT	64
Driving in rush hour	55
<b>Markham Road at Sheppard East to Pearson Airport</b>	
Using TTC (per TTC Trip Planner)	99
Using bus and 401RT	49
Driving in rush hour	28
<b>Jane St. at Wilson to York Mills Rd at Don Mills Rd</b>	
Using TTS trip Planner	63
Using 401RT + bus	44

In addition to the viability of the 401RT/OLX, the overall operating revenue-to-cost ratio of transit services in Toronto, Mississauga and Durham Region will improve.

Behavioral surveys can firm up the degree to which the 401RT can generate modal shifts.

Aside from evidence of usage, the climate crisis demands that the use of automobiles powered by fossil fuels be dramatically reduced – by approximately 80% within 10 to 15 years. More public transit and active transportation infrastructure must exist to enable this to happen.

### **Highway 401 is the least expensive and most affordable option and best location for an east-west rapid transit line across the northern half of Toronto.**

- Tunneling from Pickering Town Centre and Hurontario Street through the northern half of Toronto would cost approximately \$26 billion; in comparison, a mostly-at grade 401RT would cost \$16.3 billion.
- The 401RT/OLX is estimated to be four times as cost-effective as the current Ontario Rapid Transit Plan for Toronto (illustration at right) – an argument for its inclusion in current plans.
- Debt interest costs for the 401RT/OLX would grow to \$700 million per year (@3.5%) once it is completed, and be shared by three levels of government; this should be considered affordable.
- The costs of congestion and household ownership of personal automobiles are much higher than the cost of the 401RT/OLX.
- Space in the Highway 401 corridor is sufficient to accommodate at least a medium-capacity rapid transit line without requiring more than the conversion of the leftmost express lane in each direction (barrier-protected). Stations would require conversion of express shoulder lanes.
- Diversions to key destinations and links are via tunneling (18 km. tunneled vs 36km. at grade), and are the most expensive infrastructure cost component of the 401RT.
- Although infrastructure costs per kilometre for LRTs are much less than for subways, LRT services on city streets will be too slow to attract the volumes of travelers needed to cut congestion, particularly longer-distance trips such as daily commutes to employment.

	New Trips (Millions/yr)	Gross Infra. Cost (\$Mil)
Ontario Rapid Transit Plan	76	28,500
401RT + Ontario Line extn	219	20,100
Comparative Ratio	2.89	0.71

Cost effectiveness ratio: 2.89 / 0.71 = 4.1

- A 401RT would be located in the heart of Toronto's suburban area, where the potential for modal shifts is greatest.

### **We can afford to lose road lanes as population and travel demand grow.**

- Once it becomes operational, the 401RT will not congest the highway: modal shifts of highway traffic will occur to keep road traffic flowing; a modal equilibrium will occur. The 401RT will be able to accommodate all growth in travel demand by automobile in the Highway 401 area for decades to come, which the highway will not be able to do.
- The congestion impact of 401RT construction is temporary, and most construction work will be for underground off-highway segments.
- Not converting a lane to transit will mean that congestion and gridlock is postponed for just a few years, compared to converting it. The gridlock is inevitable. (Note that MTO is already considering reserved HOV lanes for 400-series highways in its long-term transportation planning.)
- Given that a rapid transit 'relief line' for Highway 401 is necessary, not converting a lane to a 401RT will mean either tunneling for 54 kilometres, or constructing it above grade (including over bridges); both of those alternatives are much more expensive than an at-grade 401RT.
- Converting a road lane to the 401RT means enabling truck traffic to continue to move, as passenger traffic shifts to the transit line.
- If keeping a road lane means not building an east-west rapid transit alternative between Pickering Town Centre and Hurontario Street through the northern half of Toronto, travel demand growth means that city streets become far more congested.
- The segment of Highway 401 between east of Dixie Road and Islington Avenue – perhaps the most congested part of the 401, will not lose a road lane, nor will the 401 between east of Avenue Road and west of Victoria Park Avenue (although an option for continuing the 401RT on Highway 401, bypassing the Sheppard Subway, is possible).

### **The climate crisis is here NOW, and will be deadly and expensive, and must – MUST– be fully addressed.**

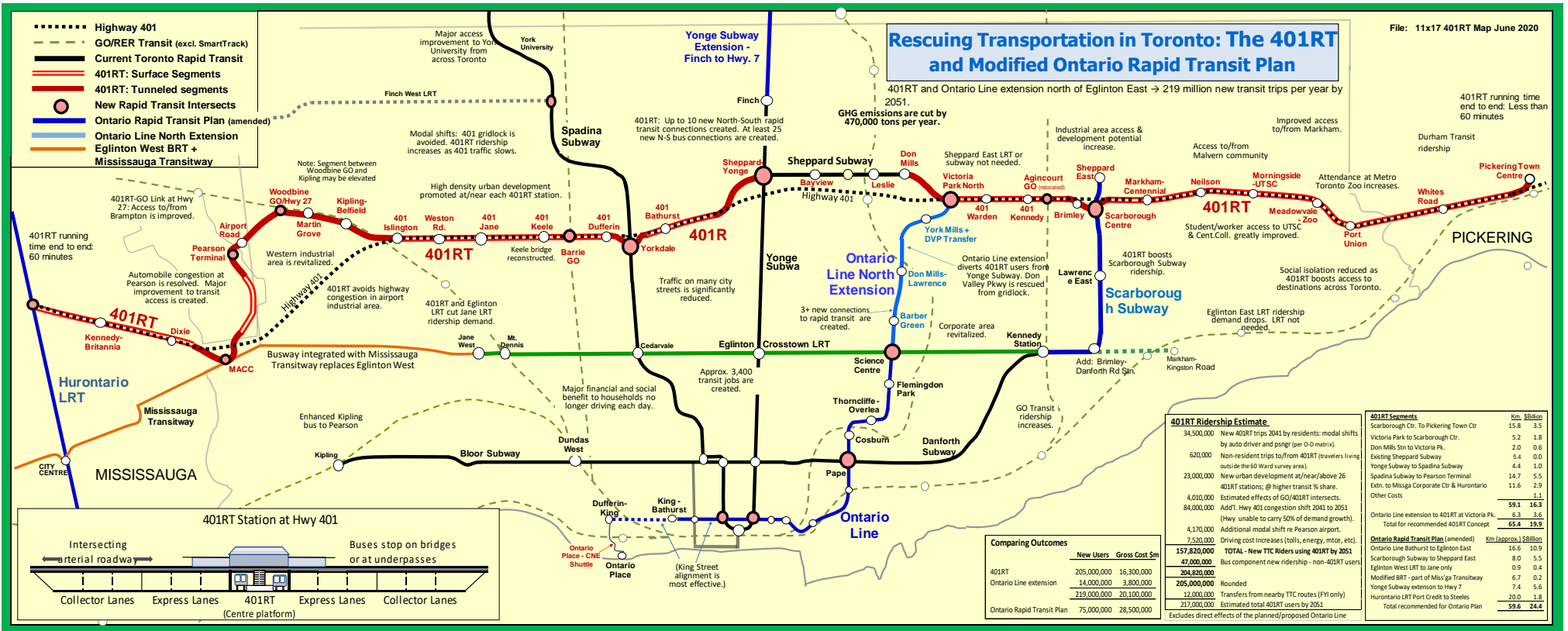
- Rapid climate change means severe damage to, or collapse of, major natural life support systems (e.g. all coral reefs), and means major economic dislocations, serious fiscal challenges, and human misery to Canadians – within the lifetimes of most of us.
- There is a high risk that "life as we know it" will come to an end as average global and Canadian temperatures rise quickly and erratically. By 2100, temperatures in temperate climate zones will have risen by an average of 4 degrees Celsius – much faster than many plant and animal species can adapt. Die-offs of vegetation will occur. Crop yields will become erratic; livestock health will be affected.
- Current plans to combat climate change effects are extremely insufficient.
- Total GHG emission reductions must approach 80% by 2030 in Canada, and 50% globally.
- Modal shifts to transit in far greater numbers than currently assumed to be achievable must be achieved – a doubling of transit services will be necessary in urban areas, and much more for intercity travel.
- Electric or hydrogen-powered vehicles will help to some degree, but are not enough, and will continue to contribute to congestion. Ride services such as UBER use up more kilometres per trip, and generate more GHGs, than trips by personally-owned vehicles.

## **Reducing the volume of cars on Toronto area roads and highways generates many other benefits.**

- The movement of trucks for the delivery of materials and goods would be improved.
- More space on city streets becomes available in selected areas for active transportation as travel by automobile declines.
- The Greater Toronto Airports Authority's concerns about poor transit access to its area from across Toronto would be fully resolved.
- The 401RT, and the Ontario Line extended to intersect with it, rescues Highway 401 in the core of the GTA and the Don Valley Parkway from future gridlock.
- Access to employment opportunities throughout Toronto would be enhanced for people who normally do not travel by automobile.
- Access to places of learning, social contacts, cultural activities and services of all sorts will be enhanced; social isolation would be reduced, especially for people who do not drive cars. Social inequality is reduced.
- Noise, chemical pollution, and injury and death caused by traffic collisions would decrease with relatively fewer automobiles on streets and highways.
- A focus of new urban development would be at and near 401RT stations, generating relatively high transit use among their residents, employees and visitors.
- Light rail lines on Jane Street and Sheppard East, and on Eglinton East to Malvern, will not be needed, nor will the mostly-tunneled Eglinton West LRT extension. Savings of \$7.9 billion can be realized. Enhanced bus services, both express and local, can replace the LRTs.
- Household finances would improve for those that are able to reduce dependency on travel by personal automobile.
- Toronto's reputation and economic prosperity will stand out as its transformative public transit actions resolve urban transportation problems.

For more details, visit [www.401rt.ca](http://www.401rt.ca).

(View illustration on following page)



Note: A 401RT makes four planned LRTs unnecessary: Jane, Sheppard East, Eglinton West extension to Pearson, Eglinton East extension to UTSC and Malvern. Up to \$7.9 billion in capital costs can be saved.

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