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The Regional Municipality of Durham Report

To: Committee of the Whole
From: Commissioner of Works, General Manager of Durham Region Transit
and Commissioner of Community Growth and Economic Development
Report: #2025-COW-3
Date: January 15, 2025

Subject:

Simcoe Street Rapid Transit Update

Recommendation:

That the Committee of the Whole recommends to Regional Council:

- A) That Aerial Cable Car Transit be examined further as the technology to advance the Simcoe Street Rapid Transit project through an Impact Assessment and Transit Project Assessment Process, with the capital implementation, financing, and procurement strategies to be explored in the later phases of the project; and
 - B) That a copy of this report be circulated to the City of Oshawa.
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Report:

1. Purpose

1.1 The purpose of this report is to:

- Provide a summary and status update on the Simcoe Street Rapid Transit Project, including a summary of consultations completed to date; and
- Seek Regional Municipality of Durham (Region) Council endorsement to advance the Aerial Cable Car Transit (ACCT) option for further study through an Impact Assessment (IA) and Transit Project Assessment Process (TPAP).

2. Process and Timing

- 2.1 Following Regional Council endorsement of the ACCT technology option, Regional staff will advance the Simcoe Street Rapid Transit Project through an IA and TPAP, anticipated to begin in Q2 2025 and estimated to be completed by Q4 2027.
- 2.2 The Region will continue to collaborate with City of Oshawa staff and refine design features, as required. Public, agency and stakeholder consultation will continue throughout the IA and TPAP through Public Information Centres (PICs) and steering committees to align with key milestones.
- 2.3 Upon completing the IA and TPAP, Regional staff will evaluate the study findings against the Region's strategic priorities. Staff will then make a "go/no-go" decision to determine whether advancing the project is appropriate.
- 2.4 If appropriate, updates will be provided to Regional and Oshawa Councils to report on study findings and seek Regional Council endorsement.
- 2.5 Upon the completing the IA and TPAP, the Region will be in a position to finalize the preliminary business case and seek external project funding opportunities to advance the project through the design and construction phases.

3. Background

- 3.1 In 2017, the Durham Transportation Master Plan (TMP) identified the need to implement rapid transit on Simcoe Street. The proposal repurposed an existing traffic lane in each direction for exclusive transit use south of Conlin Road.
- 3.2 In 2018, Metrolinx completed the 2041 Regional Transportation Plan to improve mobility throughout the Greater Toronto and Hamilton Area, which set out a 25-year vision for supporting growth in the Region. A new rapid transit line was identified between Highway 407 and the future Central Oshawa GO station along the Simcoe Street corridor.
- 3.3 The Region's new Official Plan, *Envision Durham*, approved by the province (with modifications) on September 3, designates Simcoe Street as a Rapid Transit Spine within the transportation network. Lands along Simcoe Street have been identified as "Rapid Transit Corridor" connecting the Downtown Oshawa Urban Growth Centre (UGC), Central Oshawa Major Transit Station Area (MTSA), and the Windfields Regional Centre. These strategic growth areas are supported by

policies targeting a density of 200 people and jobs per hectare in the Downtown Oshawa UGC and 150 people and jobs per hectare in the Rapid Transit Corridor and Windfields Regional Centre.

- 3.4 Simcoe Street is a major north-south transportation spine that runs centrally through the City of Oshawa, extending from Highway 407 to Lakeview Park. It connects numerous residents and businesses to key destinations, including the Windfields Regional Centre, Ontario Tech University, Durham College, Lakeridge Health Oshawa, Trent University, Downtown Oshawa, the future Central Oshawa GO Station, and the Lake Ontario waterfront.
- 3.5 Today, Simcoe Street remains the busiest corridor for Durham Region Transit (DRT). In addition to the numerous local neighbourhoods and major destinations, Simcoe Street rapid transit will connect to four other higher-order transit corridors: the Lakeshore East GO Extension at the future Central Oshawa GO station, Durham-Scarborough Bus Rapid Transit (DSBRT), Highway 407 Frequent Regional Express Bus, and the Taunton Road priority bus corridor.
- 3.6 To further advance the work completed in the RTP and TMP, the Region received funding in 2021 through the Investing in Canada Infrastructure Program to study rapid transit on Simcoe Street.

4. Previous Reporting

- 4.1 On December 18, 2019, Durham Region Transit Commission Committee adopted minutes, including a Transit Executive Committee (TEC) report from the General Manager of DRT summarizing the project applications submitted by the Region for ICIP funding ([#2019-DRT-20](#)). The report identified fourteen (14) projects involving rapid transit advancement, fleet renewal, safety and accessibility improvements and modernization and innovation initiatives.
- 4.2 On December 16, 2020, Durham Region Transit Commission Committee adopted minutes including a TEC report ([#2020-DRT-20](#)) from the General Manager of DRT updating the project applications submitted by the Region for ICIP funding.
- 4.3 On October 28, 2020, Regional Council adopted the October 13, 2020, Finance and Administration Committee Minutes, including report ([#2020-F-19](#)), which provided an update on the funding applications submitted by the Region and Durham Region Transit under the ICIP – Public Transit Stream and sought 2021 pre-budget approval for the financing required for the Region’s 2021 share of the project costs.

4.4 On May 8, 2024, Regional staff presented an update on the Simcoe Street Rapid Transit project to the Transit Executive Committee. The presentation outlined the benefits of rapid transit along the Simcoe Street corridor, the rapid transit technologies under evaluation, and the identification of BRT and ACCT as options to advance to a feasibility study.

5. Visioning Study

5.1 The Region commenced a Visioning Study for the corridor in 2022 to understand residents' values and vision for Simcoe Street, establish criteria to evaluate rapid transit technology options and identify a rapid transit technology along the Simcoe Street corridor. The results of the Visioning Study recommended carrying forward the Bus Rapid Transit (BRT) and Aerial Cable Car Transit (ACCT) options to a Feasibility Study and Initial Business Case (IBC) Study. The Visioning study is available at [Simcoe Street RT Visioning Study](#).

6. Public Information Centres and Revisions to the Technical Options

6.1 The Region completed extensive public consultations regarding the Simcoe Street Rapid Transit Project, including four rounds of Public Information Centres (PICs) held in central and south Oshawa. Summary reports from the PICs are available at www.durham.ca/SimcoeStreetRT.

6.2 PIC #1 - At PIC #1 (September 2022), the Study was introduced, and residents were asked about the Simcoe Street corridor's characteristics and the potential impacts of rapid transit. There was considerable support for the study and recognition of transit priority on Simcoe Street, along with active transportation as a strategic priority. A summary of the feedback received during PIC #1 included:

- Current issues with transit reliability, frequency and carrying capacity along Simcoe Street;
- Concerns with property impacts, particularly for heritage properties;
- Concerns about disruptions due to rapid transit construction; and
- Request for the proposed rapid transit corridor to extend south of Highway 401.

- 6.3 Based on conversions and comments at the PIC, the study limits were extended on Simcoe Street from the future Central Oshawa GO station to Lakeview Park.
- 6.4 PIC #2 - At PIC #2 (November 2022), residents were asked about their future vision for transit along Simcoe Street, and the Region introduced various rapid transit technologies used in other municipal jurisdictions. Public feedback demonstrated varying levels of support for different rapid transit technologies. A summary of the feedback received during PIC #2 included:
- Need to accommodate population growth, attract new development, and strengthen Oshawa's core;
 - A desire for improved transit service with frequent service, enhanced shelters and real-time service information;
 - Opportunities for improved and affordable housing along Simcoe Street;
 - Potential for transit to improve the local economy by attracting new businesses and jobs opportunities;
 - The opportunity to make Simcoe Street transit more accessible;
 - Concerns for a potential increase in noise;
 - Concerns for property impacts.
- 6.5 PIC #3 - At PIC #3 (March 2023), the Region presented the draft vision statement and guiding principles for evaluating alternative rapid transit technologies. Public feedback was gathered on the ability of different options, including BRT, Light Rail Transit (LRT), ACCT, Monorail, Subway and No Rapid Transit to meet the 2051 vision for Simcoe Street. A summary of the feedback received during PIC #3 included:
- Excitement about the economic opportunities a rapid transit investment could bring to Downtown Oshawa;
 - Support for efficient, reliable, and safe rapid transit with improved north-south connectivity;
 - Concerns that rapid transit construction could negatively impact businesses and properties along Simcoe Street;

- Concerns about traffic congestion resulting from the removal of a lane of vehicular traffic for rapid transit;
- Property impacts, particularly for heritage properties;
- Privacy concerns stemming from aerial options;
- Favoured at-grade and aerial technology options compared to underground and No Rapid Transit options; and
- General agreement that No Rapid Transit would not meet the guiding principles or the future vision for Simcoe Street and downtown Oshawa.

6.6 PIC #4 - At PIC#4 (October 2023), the Region presented an analysis of rapid transit technologies, including BRT, ACCT, LRT and monorail. Public feedback was also sought regarding BRT and ACCT, the two emerging rapid transit technologies. A summary of the feedback received during PIC #4 included:

Bus Rapid Transit

Public's Perceived Advantages

- Familiarity and flexibility for future route expansion.
- Lower construction costs.
- No visual impacts on landscape aesthetics and public spaces.
- Improved accessibility to key destinations and transit priority using dedicated lanes.

Public's Perceived Impediments

- Concern about property impacts.
- Potential for traffic congestion due to repurposing a lane of vehicular traffic for BRT only, requiring redirection of traffic to adjacent north/south corridors.
- Speed and efficiency concern due to buses stopping and accelerating at intersections.
- Concerns about restricted left turn traffic movements and ingress/egress to properties.

Aerial Cable Car Transit

Public's Perceived Advantages

- Minimal traffic impact as fewer changes are required to the existing road infrastructure, and no lane repurposing is required.
- Low or minimal property impacts.
- Excitement for a unique, visually appealing transit system that sets Oshawa apart.
- Minimal operational noise in residential areas.

Public's Perceived Impediments

- Concerns about ACCT performance during severe weather conditions.
- Concerns about passenger safety during power outages.
- Accessibility concerns for passengers with a fear of heights.
- Concerns about maintenance and reliability.

7. Feasibility Study

- 7.1 Due to the limited right-of-way width along most sections of Simcoe Street, questions arose during the public and stakeholder consultations about whether construction would be feasible and the extent of property impacts for the BRT and ACCT options. Additional ACCT questions focused on technology-related matters, such as cabin capacity, alignment, privacy, security, travel speeds, and clearance. The Region completed a [Simcoe Street Feasibility Study Report](#) for ACCT and [Preliminary Drawings](#) for ACCT and BRT to address these questions.
- 7.2 The Feasibility Study and preliminary design drawings confirmed no significant impediments to constructing an ACCT system along Simcoe Street. The technical findings from the feasibility study have been incorporated into the initial business case study to support selecting the rapid transit technology.
- 7.3 A recurring concern expressed at the PICs was the potential property impacts from the rapid transit technologies. An analysis of the preliminary drawings showed the following property impacts:
- Partial property acquisition: BRT – 271 properties, ACCT – 82 properties.
 - Full property acquisition: BRT – 28 properties, ACCT – 2 properties.

- Heritage properties impacted: BRT – 5 properties, ACCT – none.
- Commercial parking spaces removed: BRT – 253 spaces, ACCT – 33 spaces.

7.4 In addition to direct impacts on commercial development from property acquisition and loss of parking, businesses could be affected by reduced on-street parking. The proposed BRT system would reduce approximately fifty-eight (58) on-street parking spaces along Simcoe Street and Centre Street, while the proposed ACCT would reduce approximately sixteen (16) spaces.

7.5 Traffic congestion on Simcoe Street and infiltration into local neighbourhoods were recurring concerns raised during public consultations. With traffic volumes on Simcoe Street expected to almost double by 2051, these issues are anticipated to worsen. A more significant shift from cars to transit is necessary to address this. Introducing a BRT system would repurpose an existing general-purpose traffic lane into a dedicated BRT lane. Even with a greater modal shift towards transit, this reduction in traffic lanes would exacerbate congestion and infiltration concerns on Simcoe Street, placing additional pressure on the surrounding road network. In contrast, a proposed ACCT system would help alleviate traffic volumes by maintaining the existing road network while attracting more users to transit by providing fast, frequent, and reliable service.

7.6 Estimated construction timelines are based on preliminary design drawings. The proposed BRT would take approximately 10 years to complete, with full road closures required in segments with narrow rights-of-way between Conlin Road and the one-way pairs of Simcoe Street and Centre Street. The proposed ACCT system would take approximately 6-7 years, with isolated road closures during station construction. Outside of station locations, corridor impacts would be minimal during construction. Business As Usual

8. Initial Business Case Study

8.1 The [Initial Business Case Study](#) indicates both the BRT and ACCT options support local and provincial policy goals, including increasing transit ridership, promoting urban regeneration and enhancing Oshawa's connection within the Greater Golden Horseshoe.

8.2 The IBC findings demonstrate that the BRT and ACCT can unlock strategic benefits for Oshawa, the Region and the Province. As this project will require future senior-level government funding, the Metrolinx Business Case Manual was

utilized. The business case key components are the Financial and the Economic cases. The Economic Case assesses society-wide impacts and resource costs, monetizing benefits such as reduced travel time and pollution. The Financial Case focuses on the financial resources and cash flow required for implementation. Economic and Financial Case analysis has been completed to compare the BRT and ACCT options to a Business as Usual (BAU) scenario whereby bus service is improved to high-frequency service, with buses continuing to operate in mixed traffic along the Simcoe Street corridor.

- 8.3 As part of the Economic Case, a Benefit-Cost Ratio (BCR) was calculated following the methodology described within Metrolinx's Business Case Manual. As per the Metrolinx Business Case Manual, a BCR greater than one (1) indicates that an initiative's benefits (not including financial benefits) exceed its costs and the investment should be considered economically viable. Early analysis suggests that the BCR for the BRT option is 0.35, while the ACCT option is 0.85. The BCR for the ACCT option is comparable to or exceeds that of other recently completed transit projects evaluated under the Metrolinx Business Case Manual. Through value engineering and service optimization, the ACCT option is anticipated to exceed 1.0 as the project progresses to the Preliminary Design Business Case.
- 8.4 While the costs associated with the two options are the same (\$780 million, relative to business as usual), the benefits of AACT (\$660 million) are more significant compared to BRT (\$270 million). The Metrolinx Business Case Manual establishes the benefits that should be monetized and considered when evaluating transit options. These include benefits to transit and auto users and external societal benefits such as the health benefits of walking to access transit, reductions in accidents and fatalities, and environmental impacts. Table 1 below provides a breakdown of the monetized benefits, which are distributed differently under the two options. Under both options, the greatest benefits are those experienced by transit users (\$180 million for BRT and \$240 million for ACCT) and the health benefits associated with more walking (\$60 million for BRT and \$210 million for ACCT). Broader economic impacts stemming from the investment options, such as those related to productivity or changes in consumer spending, are not captured in the BCRs.

Table 1. Economic case summary (\$ millions)

Category	Option 1 – BRT	Option 2 – ACCT
Costs	\$780	\$780
Capital Costs	\$580	\$840
Renewal Costs	\$70	\$90
Operating and Maintenance Costs:	\$130	-\$150
Rapid Transit	\$530	\$300
Business As Usual	-\$400	-\$450
Benefits	\$270	\$660
Transit User Impacts	\$180	\$240
Auto User Impacts	\$20	\$130
External Impacts	\$70	\$290
Walking	\$60	\$210
Road safety - Deaths	\$10	\$70
Environmental Impacts	\$2	\$9
Benefit Cost Ratio (BCR)	0.35	0.84
Net Present Value (NPV)	-\$510	-\$120

- 8.5 While the BCR is an important metric, it is not the only consideration for investment decision-making. Transit projects are often advanced without economic viability due to other strategic considerations, including those that may prioritize maximizing transit ridership, GHG emission reduction or other outcomes.
- 8.6 The IBC Financial Case suggests that delivering an ACCT system could cost an additional \$840 million (discounted) in capital costs compared to the BAU scenario of operating buses in mixed traffic. A proposed BRT system could cost an additional \$580 million (discounted) in capital costs.
- 8.7 According to the IBC Financial Case, an ACCT system could generate an additional \$18.8 million in annual revenue and achieve operational savings of \$6.7 million per year compared to the BAU scenario of operating buses in mixed traffic, resulting in a favourable \$25.5 million annual operating budget impact, over the BAU.
- 8.8 It is estimated that a BRT system would generate an additional \$14.2 million in annual revenue and would increase operational costs by \$6.9 million per year compared to the BAU scenario of operating buses in mixed traffic, resulting in a favourable \$7.3 million annual operating budget impact, over the BAU.

9. Financial Implications

- 9.1 For a project of this scope and magnitude, external funding from senior levels of government would be essential. Without senior-level government or other funding, the annual costs to service the implied debenture financing could range between

approximately \$35 to \$50 million for BRT or \$50 to \$70 million for ACCT, depending on interest rates and amortization length. After accounting for net operating costs and net fare revenue forecasts, a one-time property tax increase of approximately three per cent to five per cent on the current property tax base would be necessary to accommodate the implementation of a Simcoe Street rapid transit initiative. This pressure would require consideration through the Regional Business Planning and Budget process within a context of competing Regional priorities and considerations of property taxpayer affordability. It is fair to conclude that a project of this magnitude will not be feasible without significant external funding.

- 9.2 To date, there have been no discussions with senior levels of government regarding funding for the Simcoe Street rapid transit project. Upon completion of the IA and TPAP, subject to Regional staff support and Council endorsement of the project, Regional staff may engage with senior levels of government to explore funding opportunities, considering the Region's various transit and capital priorities.
- 9.3 Several assumptions were necessary to complete the Initial Business Case Study and to estimate costs, ridership, fare revenues, and other outcomes. These assumptions include but are not limited to, fare costs, system reliability, perceived reliability, headways, crowding, system speed, distance travelled to access rapid transit, future corridor densities and zoning, and connections to other higher-order transit routes. All these factors are incorporated into the demand model to generate ridership projections for each rapid transit option. While the speed of a BRT system is higher than that of ACCT, the increased headways, combined with the criteria above, result in slightly higher ridership for the ACCT option compared to BRT. Ridership outcomes are one of several key factors used to establish benefits within the BCR.
- 9.4 Increases in ridership have been estimated to be 17 per cent greater under the AACT option compared to the BRT. Although average transit travel times would be the same under the two options (and shorter under BRT specifically for riders accessing Go Rail service), it has been assumed that a greater share of travellers would choose transit under ACCT due to greater certainty with regarding their travel time. Various assumptions of the initial business case are subject to refinement through further study, as the ACCT option poses risks as a less-tested technology.

9.5 Based on comparable rapid transit systems, every dollar invested in a rapid transit system typically yields a return of \$2.08. A project of this magnitude is expected to generate economic returns of more than \$2 billion for the City of Oshawa and the Region of Durham.

10. Procurement

10.1 The IBC discusses procurement and operating models but notes that the procurement model chosen for this project will be established at the next stage in the business case development process.

10.2 The IBC study notes that only one manufacturer currently provides the TRI-Line technology assumed under the ACCT option. However, given the lead time before this project proceeds to construction, there is sufficient time for other manufacturers to advance their technology. Currently, limited market competition for ACCT technology has been factored into the overall capital cost estimates.

10.3 The IA and TPAP proposed as the next steps for this initiative are estimated not to exceed \$3 million (Region's share is \$810,000) and are to be financed using the Investing in Canada Infrastructure Program (ICIP) and reserve funding, already approved through the 2021 Business Plans and Budget as part of a broader Simcoe Street project (\$6.4 million).

10.4 Upon approval of this report's recommendations, only the ACCT option will advance to an IA and TPAP. Should the Region reconsider a BRT option in the future, additional studies and costs are implied.

11. Recommended Technical Option and Project Benefits

11.1 The IBC projects significant benefits from implementing an ACCT system, including 5.4 million additional transit rides per year and a reduction of 35.4 million vehicle kilometres travelled per year, contributing to a greenhouse gas GHG reduction of 81,400 tonnes annually.

11.2 A future BRT system is forecasted to see 4.6 million additional transit rides per year and a reduction of 6.8 million vehicle kilometres travelled, contributing to a greenhouse gas GHG reduction of 15,700 tonnes annually.

11.3 Regional RTO and Finance staff will re-assess the benefits in an updated Preliminary Design Business Case after completing the IA and TPAP, to determine if the revised design derives value for money. The primary goal of the

Simcoe Street Rapid Transit project is to achieve maximum transit priority along the Simcoe corridor, thereby delivering a favourable benefit-cost ratio. However, competing priorities and financial realities should be carefully weighed, with input from technical analysis and stakeholder engagement as the project progresses through the IA and TPAP stages.

- 11.4 As a significant transit priority measure, the ACCT technology option would provide 14 kilometres of grade-separated rapid transit infrastructure in Oshawa, significantly improving travel times and reliability for transit users and supporting planned growth in Durham. Additionally, this technology option would advance the Region's and Oshawa's active transportation goals by connecting the existing multi-use path south of Niagara Drive to Taunton Road as envisioned in the Region's Cycling Plan and allow for east-west cycling routes to connect to the rapid transit stations.
- 11.5 The Simcoe Street rapid transit project would also offer opportunities to enhance the public realm and liveability features through the heritage areas and downtown locations along the corridor. These will be further explored through public consultation.
- 11.6 An ACCT system could also boost tourism in the City of Oshawa. In addition to the potential large draw of tourists the technology would bring, the IBC estimated that approximately 370,000 tourists per year would use the ACCT. The total annual tourist visits to the City of Oshawa are estimated to be 1.7 million by 2051.
- 11.7 To this end, Regional staff recommend that Regional Council endorse ACCT as the basis for advancing the Simcoe Street Rapid Transit Project for further study through an IA and TPAP.

12. Relationship to Strategic Plan

- 12.1 This report aligns with the following strategic goals and priorities in the Durham Region Strategic Plan:
 - a. Environmental Sustainability.
 - 1.5 - Expands higher order transit and active transportation options, connection housing to jobs and key destinations along Simcoe Street. Reductions in vehicle kilometres travelled translate to reduced CO₂ emissions and carbon footprint.

b. Community Vitality.

- 2.1 - Rapid transit revitalizes neighbourhoods and builds complete communities by improving accessibility, fostering mixed-use development, and enhancing connectivity. With efficient, affordable transportation, rapid transit reduces car dependency, making communities more walkable and encouraging active lifestyles.

c. Goal 3: Economic Prosperity.

- 3.3 - Rapid transit enhances transportation networks by creating efficient, reliable connections that link people, goods, and services across urban and regional areas. By reducing traffic congestion and providing alternative transit options, rapid transit improves travel times and makes it easier for people to access jobs, education, and essential services.

d. Goal 4 Social Investment

- 4.1 – Rapid transit has a proven history of revitalizing community housing and improving housing choice, affordability, and sustainability.

13. Conclusion and Next Steps

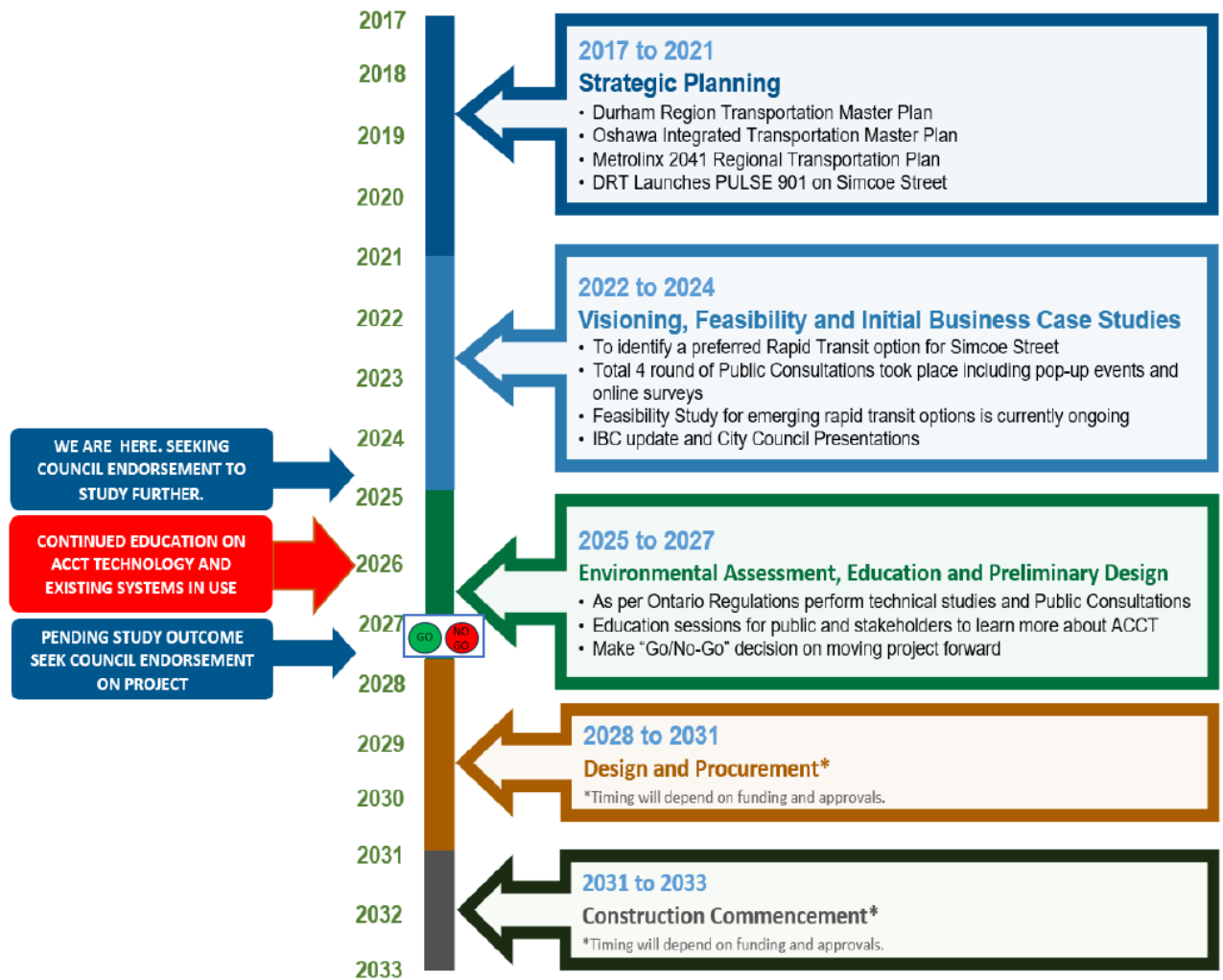
- 13.1 It is recommended that Regional Council endorse Aerial Cable Car Transit as the technology to further study through an IA and TPAP, and that the Region continue to work with the City of Oshawa, stakeholders, residents and businesses.
- 13.2 The IA and TPAP for the Simcoe Street Rapid Transit Project are anticipated to commence in Q2 2025 and are estimated to be completed by Q4 2027. Public consultation will continue during the IA, TPAP and detailed design stages.
- 13.3 Upon completing the IA and TPAP, Regional staff will evaluate the study findings against the Region's strategic priorities. Accordingly, staff will then report back to

Council with a “go/no-go” recommendation on whether to advance the project, and if so, outline next steps including pursuit of external funding opportunities.

13.4 This report was prepared with input from DRT, Finance and Planning and Economic Development Departments.

13.5 A full breakdown of the project schedule can be found in Figure 1.0.

13.6 Figure 1.0 Project Schedule



13.7 For inquiries, please contact:

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Respectfully submitted,

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