City of Hamilton

Strategic Transportation Network Review

May 29, 2024

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Our Ref:
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Contents

Acronyms and Abbreviations

2019 DC Study	2019 Development Charges Background Study
2024 DC Study	2024 Development Charges Background Study
AEGD	Airport Employment Growth District
AT	Active Transportation
BTE	Benefit to Existing
DCs	Development Charges
DCA	Development Charges Act
EA	Municipal Class Environmental Assessment
GRIDS 2	City of Hamilton Growth Related Development Strategy
HSR	Hamilton Street Railway
LRT	Light Rail Transit
LSP	Local Service Policy
MSF	Transit Maintenance and Storage Facility
MTO	Ontario Ministry of Transportation
PIC	Public Information Centre
PPB	Post-Period Benefit
ROW	Right of Way
STNR	Strategic Transportation Network Review
TMP	City of Hamilton 2018 Transportation Master Plan

1 Introduction

1.1 Study Purpose

This report provides an update to the City of Hamilton's (the City's) planned future multi-modal transportation network to account for new information and needs identified by the City since the completion of the *Transportation Master Plan (TMP)* in 2018. It also provides input to the City's 2024 Development Charges By-Law. This study has been titled as the Strategic Transportation Network Review (STNR). The STNR:

- Draws on the 2018 TMP, other municipal transportation plans and transportation needs identified by the City of Hamilton to review and update the timing of short, medium and long-term planned transportation projects (to 2041 with consideration to 2051) in the context of forecasted population and employment growth;
- Considers the timing of other supporting transportation assets and infrastructure such as buses, transit maintenance facilities and transportation related programs needed to support growth as identified by the City of Hamilton;
- Updates the costs of projects and programs; and
- Identifies transportation projects to include in the 2024 Development Charges Background Study (2024 DC Study), and the proportion of their costs to be funded through the 2024 Development Charges By-Law. While the STNR has a 2041 horizon (with consideration to 2051), the 2024 DC Study uses a service target (2032 for transit, 2031 for all other transportation projects including roads and active transportation). This is further discussed in Appendix D.

Projects identified in this STNR report are intended to meet phases 1 and 2 of the Municipal Class Environmental Assessment (MCEA) process. Phases 1 and 2 develop a recommended alternative solution. Alternative designs would be developed in future class EAs, meeting phases 3 and 4 requirements.

The report is structured as follows:

- **Chapter 2** summarizes the timing of future transportation projects, including roads, transit, active transportation (AT), structures, and programs;
- **Chapter 3** presents the approach to costing future transportation projects;
- **Appendix A** lists the timing evaluation results for future road projects;
- **Appendix B** lists the future AT projects;
- **Appendix C** lists the unit cost values that were used to cost road and AT projects;

- **Appendix D** is a report that outlines the transportation inputs to the 2024 DC Study, including apportioning benefit. It is noted that the City of Hamilton *Local Service Policy* and *Financial Policies* are outside of the scope of the transportation inputs;
- **Appendix E** outlines all the transportation capital projects for inclusion in the 2024 DC Study; and,
- **Appendix F** identifies updates made to the STNR report since the draft was published in December 2023.

1.2 Study Context

The City of Hamilton's 2018 *Transportation Master Plan* (TMP) provides a foundation for short and long-term transportation planning in the city. While the vision and goals of the 2018 TMP remain in effect, the City's planning context, growth projections and growth allocations have been updated since 2018 and a review of the planned future transportation network was warranted to account for these changes. New plans are in progress (such as the City's *Growth Related Integrated Development Strategy* (GRIDS 2)), the City has established a new 2041 planning horizon with consideration to 2051, and the City has conducted a needs assessment to determine required future transportation projects within this new planning horizon. The STNR draws on these sources and builds on this work to date to reconfirm road project timing, provide updated cost estimates, and provide inputs to the 2024 DC Study.

1.3 Study Process

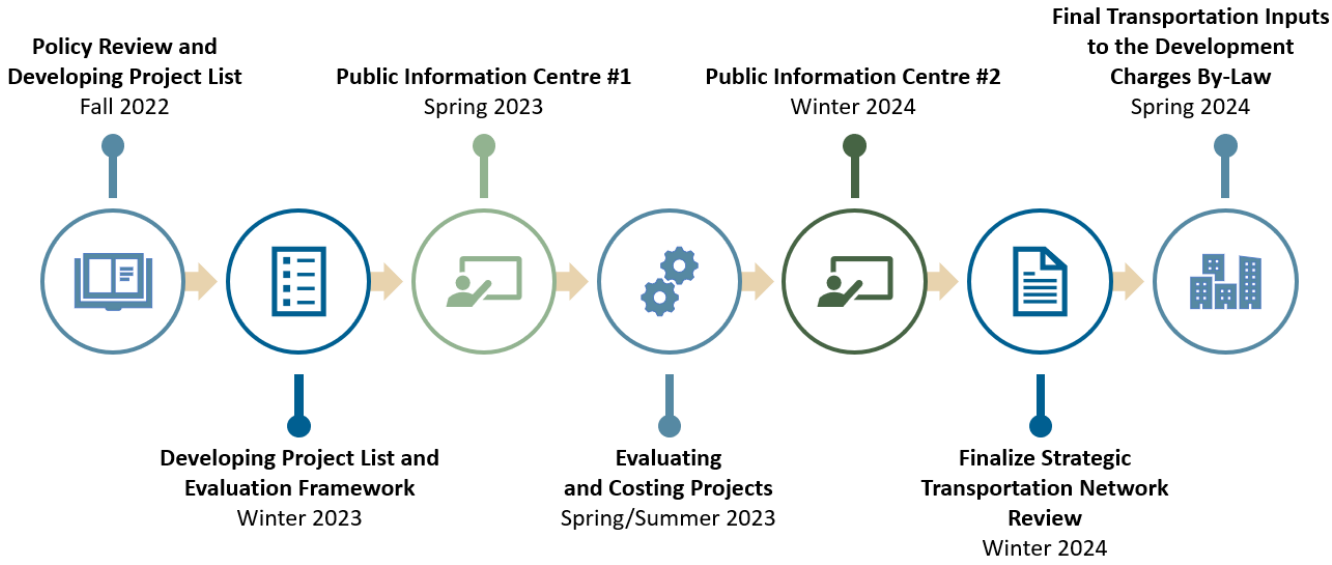
The STNR follows phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process for Master Plans, which develop and recommend alternative solutions. This study included five main steps:

- **Policy Review:** The *2019 Development Charges Background Study* (2019 DC Study) and other applicable City of Hamilton plans and strategies were reviewed to understand existing City policies as well as existing and planned transportation projects. This step also considered broader legislative changes to development charges in Ontario (i.e. Bill 23).
- **Develop Project List and Evaluation Framework:** A long list of potential future transportation projects was consolidated from existing City of Hamilton plans, strategies and needs assessments. An evaluation framework was developed, grounded in the 2018 TMP that is still in effect.
- **Evaluate and Cost Projects:** The long list of projects was evaluated. Updated cost estimates were developed for projects, and the project costs were apportioned based on the project's benefit to different groups (discussed further in Appendix D).

- **Public and Stakeholder Consultation:** Public and stakeholder consultation meetings were conducted to obtain feedback on the evaluation framework and capital list of transportation projects.
- **Final Transportation Inputs to the Development Charges Background Study:** Feedback gained from public and stakeholder consultation efforts were used to confirm the future transportation projects. These future transportation projects will serve as inputs to the 2024 DC Study.

These steps are summarized below in Exhibit 1.1.

Exhibit 1.1: Strategic Transportation Network Review Timeline



2 Future Transportation Projects

Future transportation projects in the City of Hamilton fall within one of five main categories:

- Road projects,
- Transit projects,
- Active transportation projects,
- Structures, and
- Programs.

This chapter describes the approach to confirm future needs, including the process for evaluating and phasing projects in line with the 2018 TMP vision and desired outcomes.[1]

2.1 Developing the Long List of Future Transportation Projects

The first step in determining future transportation projects for all categories was to develop a "long list" of potential projects. The long list was developed by the City of Hamilton based on the following source documents:

- ***Growth Related Integrated Development Strategy (GRIDS 2) (ongoing)* –** Reviews existing conditions in Hamilton and evaluates implications of anticipated growth to 2051 on land use, infrastructure, and other dimensions to identified needed transportation network improvements.
- ***Transportation Master Plan (2018)* –** Builds on the existing transportation conditions in Hamilton to provide an overall vision for the transportation system, alongside policies, actions, and planned cycling, transit, and road networks. The vision of the plan is "To provide a comprehensive and attainable transportation blueprint for Hamilton as a whole that balances all modes of transportation to become a healthier city. The success of the plan will be based on specific, measurable, achievable, relevant and programmed results.". The desired outcomes of the plan include a sustainable and balanced transportation system, healthy and safe communities and economic prosperity and growth.
- ***Development Charges Background Study (2019)* –** Provides transportation projects that were previously funded through municipal development charges.

[1] Before a project is implemented, further study is required as part of the Environmental Assessment process. This includes determining specific alignments, review of property impacts, consideration for archaeology and cultural heritage, coordination with utilities, and consultation.

- ***Cycling Master Plan Update (2018) –*** Focuses on development and operation of Hamilton's cycling infrastructure, including a proposed network, classification of cycling facility types, maintenance, supporting programs, implementation, and assessment/monitoring components.
- ***Airport Employment Growth District (AEGD) Secondary Plan (2022) –*** Sets specific requirements for transportation system design in 1,204 hectares surrounding the John C. Munro Hamilton International Airport.
- ***Rapid Ready (2013) –*** Sets requirements to prepare for rapid transit, including funding needs and proposed implementation timelines for improvements to the rapid transit network.
- ***Ten Year Local Transit Strategy (2015) –*** Builds on *Rapid Ready* by identifying transit actions and projects to accommodate growth over a ten-year horizon.
- ***(Re)envision HSR (ongoing since 2019) –*** Proposes updates to the Hamilton Street Railway (HSR) network to improve transit service and provide better connections to light rail transit (LRT).
- ***City of Hamilton STNR Infrastructure Needs Assessment –*** The City of Hamilton has identified several projects for inclusion in the STNR that are not included in the documents noted above based on various City processes and studies, including development applications and traffic studies.

The following subsections describe the evaluation process and results for each of the five infrastructure project categories.

2.2 Road Projects

This section describes the evaluation of road projects, including new roads, road widenings, and road reconstructions and urbanizations. Road projects can also include highway projects where the costs of such projects are shared between the Ontario Ministry of Transportation (MTO) and the City of Hamilton.

2.2.1 Road Project Evaluation Framework

The evaluation process for road projects includes three steps:

1. **Consolidate the long list of projects** developed by the City of Hamilton as described in Section 2.1;
2. **Evaluate projects** based on a set of evaluation criteria that are consistent with the 2018 TMP's evaluation criteria; and
3. **Phase projects** based on their scores from step 2 and additional considerations where applicable.

These three steps are described in further detail below.

2.2.1.1 Long List

The long list of road projects was drawn from the sources described in Section 2.1. In total, 152 road projects were identified. Twenty road projects were screened out based on input from the City of Hamilton (i.e. projects already constructed) and 132 projects were carried forward in the SNTR.

2.2.1.2 Project Evaluation

The road project evaluation framework was developed to align with the evaluation categories from the 2018 TMP, which are:

- ***Transportation (Sustainable & Balanced)* –** Supports a range of mobility options for all, especially marginalized communities.
- ***Environment (Sustainable & Balanced)* –** Limits impacts on natural areas.
- ***Social (Healthy & Safe Communities)* –** Emphasizes active lifestyles, safe movements of people and reduced dependence on single-occupancy vehicles.
- ***Economic (Economic Prosperity & Growth)* –** Supports local industries and businesses and access to employment centers.
- ***Implementation (Sustainable & Balanced)* –** Considers priorities, implementation strategies and performance measurement.

Based on the TMP, one to three indicators were developed per evaluation category. These categories and criteria were developed by Arcadis with input from City staff and presented to the public for input. Though some categories have different numbers of indicators, each category was weighted equally, with six potential points each. Across all five categories, the maximum potential score for a project was 30 points.

2.2.1.3 Project Phasing

Road projects were phased based on the evaluation scores, with higher scoring projects recommended for earlier implementation. The phases and associated score thresholds are:

- **Short-term** to 2031, for projects scoring 15 or more;
- **Medium-term**, 2031 to 2041, for projects scoring less than 15 and above 10; and,
- **Long-term**, defer beyond 2041, for projects scoring 10 or less.

In addition to the project score, some project timing recommendations were refined based on project-specific conditions as advised by City of Hamilton staff. Examples included the timing of adjacent developments, relationships to other transportation projects, road condition and

other policy considerations. Timing should be reviewed annually to determine if associated development timing has changed.

2.2.2 Long List of Road Projects and Evaluation

A total of ten metrics across the five evaluation categories were identified to assess the 132 road projects to determine alignment with the TMP vision and desired outcomes. Individual metrics were scored from 0 to 2 (not all metrics used the full range of scores), with more positive impacts scoring higher. While the City of Hamilton transportation model results were used in the evaluation framework, the model itself was updated by another party as part of a separate study and was not part of the STNR scope. These are presented below in Exhibit 2.1.

Exhibit 2.1: Road Project Evaluation Framework

Category	Metrics	Data Source	Scoring	Decision Guidelines
Transportation (sustainable and balanced)	2041 Volume/Capacity (VC) Ratio[2]	City of Hamilton Model	2 – 2041 V/C ratio 0.7 or higher. 1 – 2041 V/C ratio between 0.7-0.5. 0 – 2041 V/C ratio less than 0.5.	
	Community Benefit	Public Health Ontario's Marginalization Index[3] by census dissemination area	2 – Serves census dissemination areas with an average marginalization index score of greater than three. 1 – Serves dissemination areas with an average marginalization index score of three or less.	Any projects along or adjacent to areas that score greater than 3 on an average of the marginalization index's four dimensions.

[2] V/C ratios were based on a modelling scenario that included the urban boundary expansion areas. This was the applicable land use scenario used by the City of Hamilton at the time of the road project evaluation.

[3] Public Health Ontario (2016). Retrieved from https://www.publichealthontario.ca/en/Data-and-Analysis/Health-Equity/Ontario-Marginalization-Index

Category	Metrics	Data Source	Scoring	Decision Guidelines
	Indigenous Population	Indigenous population by ward from Hamilton Open Data	2 – Serves wards with above-median proportions of Indigenous peoples. 1 – Serves communities with median or less proportions of Indigenous Peoples.	Any projects along or adjacent to areas with greater than 1.8% Indigenous population (median).
Environment (sustainable and balanced)	Proximity to natural heritage areas	Natural heritage features designated in the City of Hamilton Urban and Rural Official Plans	2 – Neither in nor directly adjacent to a natural heritage feature. 1 – Directly adjacent to a natural heritage feature. 0 – In a natural heritage feature.	
Social (healthy and safe communities)	Promotes transit	Map of rapid transit network based on the ongoing (Re)envision the HSR study.	2 – Along rapid transit network. 1 – Not along rapid transit network.	Any road project on which the rapid transit network operates.
	Promotes active transportation	Map of future AT network provided by the City of Hamilton.	2 – Along existing or future AT network. 1 – Not along existing or future AT network.	Any road project on which the existing or future AT network operates, excluding paved shoulders and standard sidewalks.
Economic (economic prosperity and growth)	Proximity to commercial/mixed-use/employment designations	*Urban Hamilton Official Plan* Schedule E-1, *Rural Hamilton Official Plan* Schedule D.	2 – Adjacent to or in a commercial, mixed use, and/or employment area. 1 – Not adjacent to nor within a commercial, mixed use, and/or employment area.	Any project that is along the edge or within a designated area.

Category	Metrics	Data Source	Scoring	Decision Guidelines
	Increase in Truck Volumes	City of Hamilton Model	2 – 2019-2041 change in A.M. peak hour truck volumes is 20 or more. 1 – 2019-2041 change in A.M. peak hour truck volumes greater than zero and less than 20. 0 – 2019-2041 change in A.M. peak hour truck volumes zero or less.	
Implementation (sustainable and balanced)	EA status	City of Hamilton	2 – No EA needed or complete EA. 1 – EA in progress. 0 – Requires an EA but EA not in progress.	
	Cost effectiveness	Technical points (weighted average) for other metrics and preliminary project cost estimates.	2 – Cost per technical point in the lowest third of projects. 1 – Cost per technical point in middle third of projects. 0 – Cost per technical point in upper third of projects.	Minimal cost for most technical points is preferred.

2.2.3 Road Project Evaluation Results

The road projects were grouped into one of three phases based on the evaluation results:

- **Short-term to 2031:** These projects received the highest scores in the evaluation (at least 15 points out of 30). These projects generally had in progress or approved EAs, were supportive of rapid transit and/or AT routes and were typically not in areas with natural heritage features.

- **Medium-term, 2031 to 2041:** These projects scored less than 15 but more than 10 technical points (out of 30). These projects generally scored high in some metrics and low in others.
- **Long-term, Post-2041:** These projects received the lowest scores in the evaluation (10 or fewer technical points out of 30). These projects generally were located in areas with natural heritage features, lacked an EA, did not serve commercial, mixed-use, or employment areas, or did not experience high goods movement volumes.

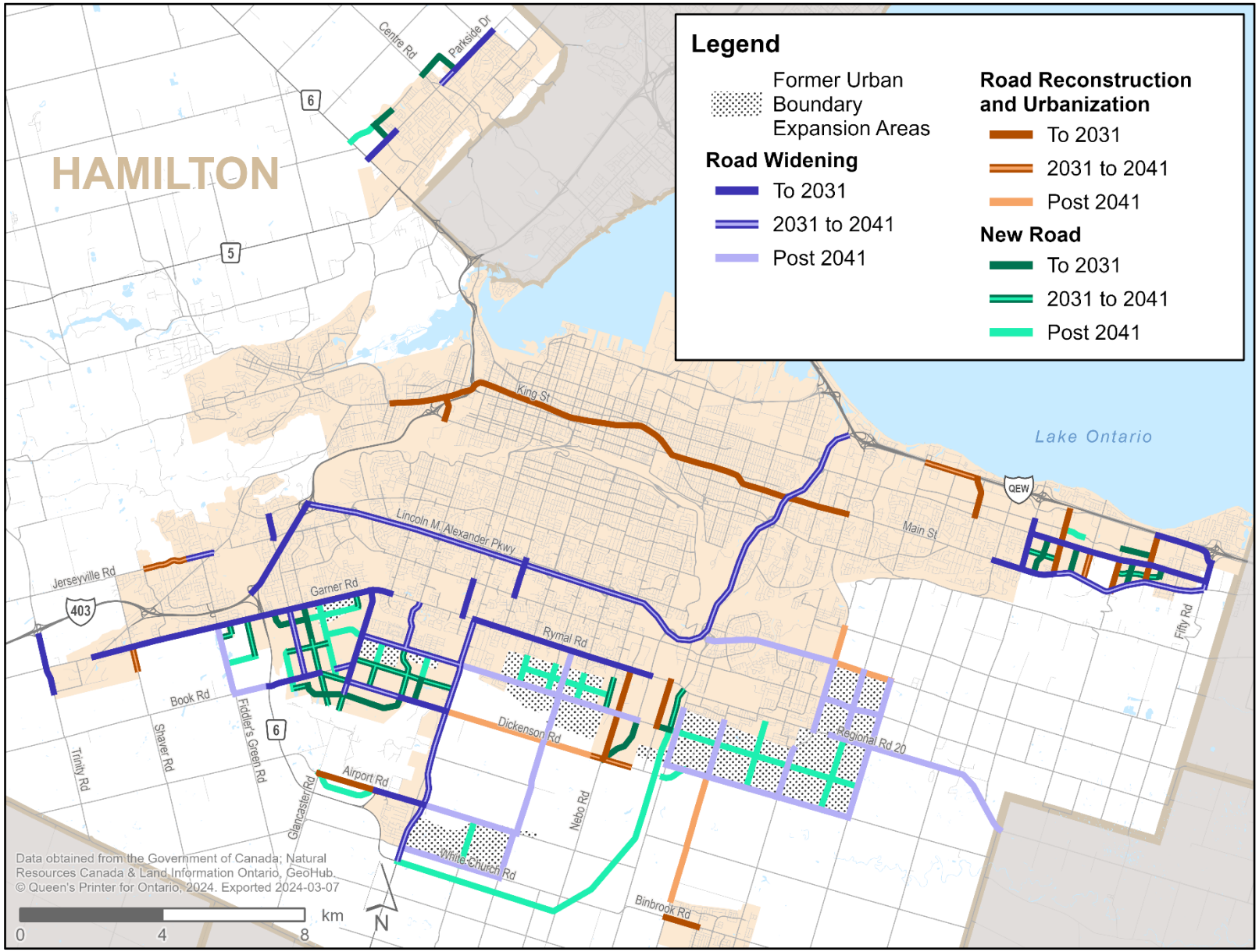
The long-term (Post-2041) group includes road projects located in the former urban boundary expansion areas. At the time of the road project evaluation, the City of Hamilton Official Plans and land use planning scenarios included urban boundary expansion areas as directed by the Province of Ontario. In Fall 2023, after the completion of the project evaluation process, the Province of Ontario reversed its previous decision, and the City of Hamilton determined that the expansion areas should not be included in the city's urban boundary. City of Hamilton staff are currently undertaking analysis to determine the implications of this urban boundary change. The road projects within these former urban boundary expansion areas that have been impacted by the change have been grouped separately in Appendix E. The potential need for these projects, like all projects in the medium and long-term time horizons, will be reviewed during subsequent transportation network reviews.

Of the 132 road projects evaluated, 89 road projects are recommended for implementation by 2041. The remaining projects are recommended for implementation after 2041. Projects recommended for implementation by 2041 include:

- 36 new roads;
- 36 road widenings; and,
- 17 road reconstructions and urbanizations.

These 132 road projects were carried forward in the STNR. Exhibit 2.2 below shows the locations and recommended timing for each of the 132 road projects.

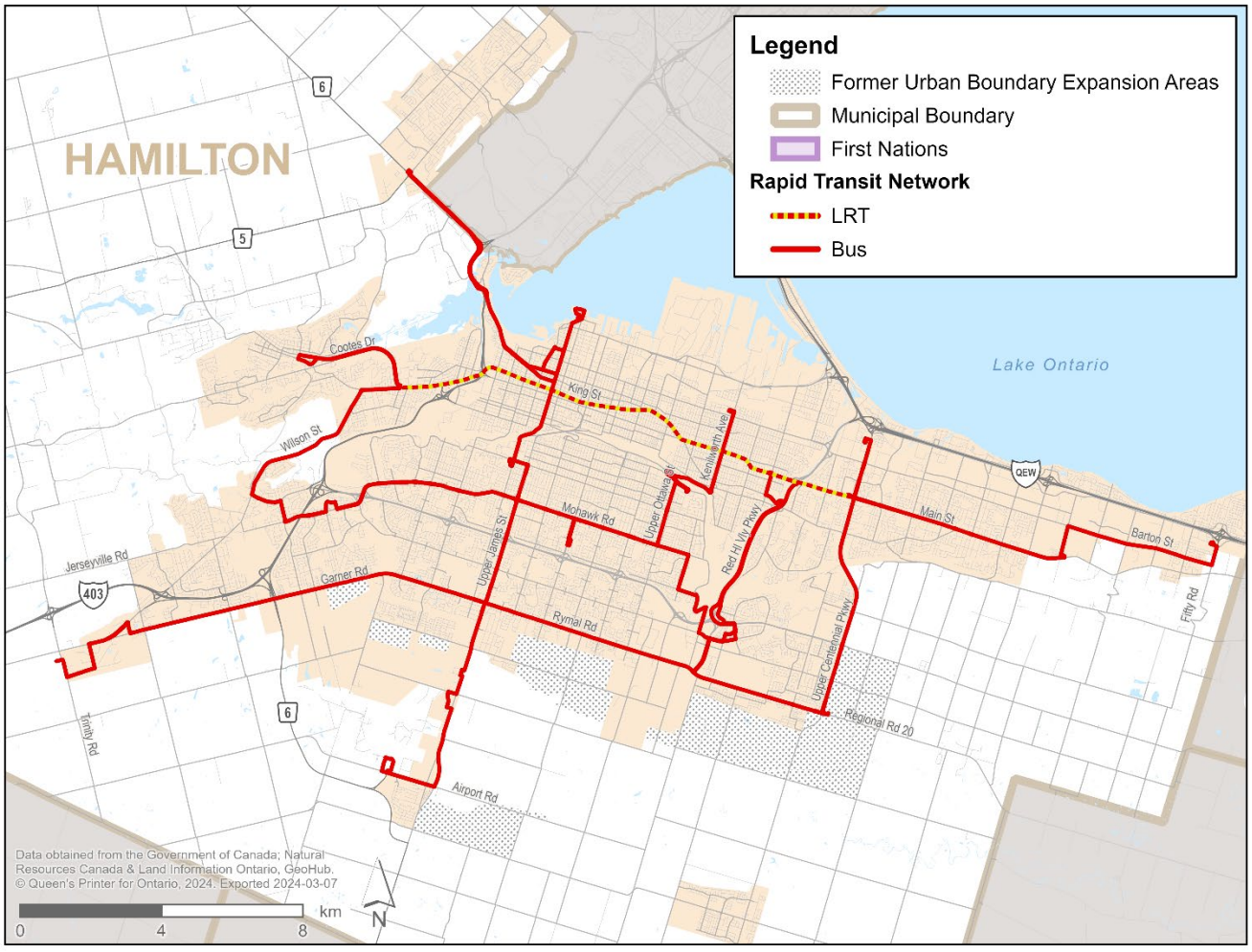
Exhibit 2.2: 2024 DC Study Road Project Evaluation Results



2.3 Transit Projects

The existing five rapid transit network routes (historically referred to as the “BLAST”) and the additional sixth E-line rapid transit route form the main corridor-level transit projects in Hamilton. These routes are part of a transit network designed to increase the attractiveness of transit, manage auto congestion and emissions, and connect Hamiltonians to employment and other important destinations. The City of Hamilton developed preferred routes for these rapid transit lines as part of other transit studies, including *Rapid Ready (2013)*, *Transportation Master Plan (2018)*, *Ten Year Local Transit Strategy*, and ongoing *(Re)envision HSR*.[4] These rapid transit projects have been carried forward for inclusion in the STNR and are shown below in Exhibit 2.3.

Exhibit 2.3: Rapid Transit Projects



[4] The six rapid transit routes and the (Re)envision the HSR (re)Designed HSR Network report were presented to City of Hamilton Public Works Committee on April 3, 2023.

The six rapid transit routes are not being funded through development charges and will therefore not be included in the 2024 DC Study. However, additional supporting transit infrastructure to support the six rapid transit routes and overall transit network will be included in the 2024 DC Study. These were identified by the City of Hamilton and include new vehicles, spanning conventional and specialized services, as well as transit operations and facilities. These are further described in Section 3.2 and Appendix D.

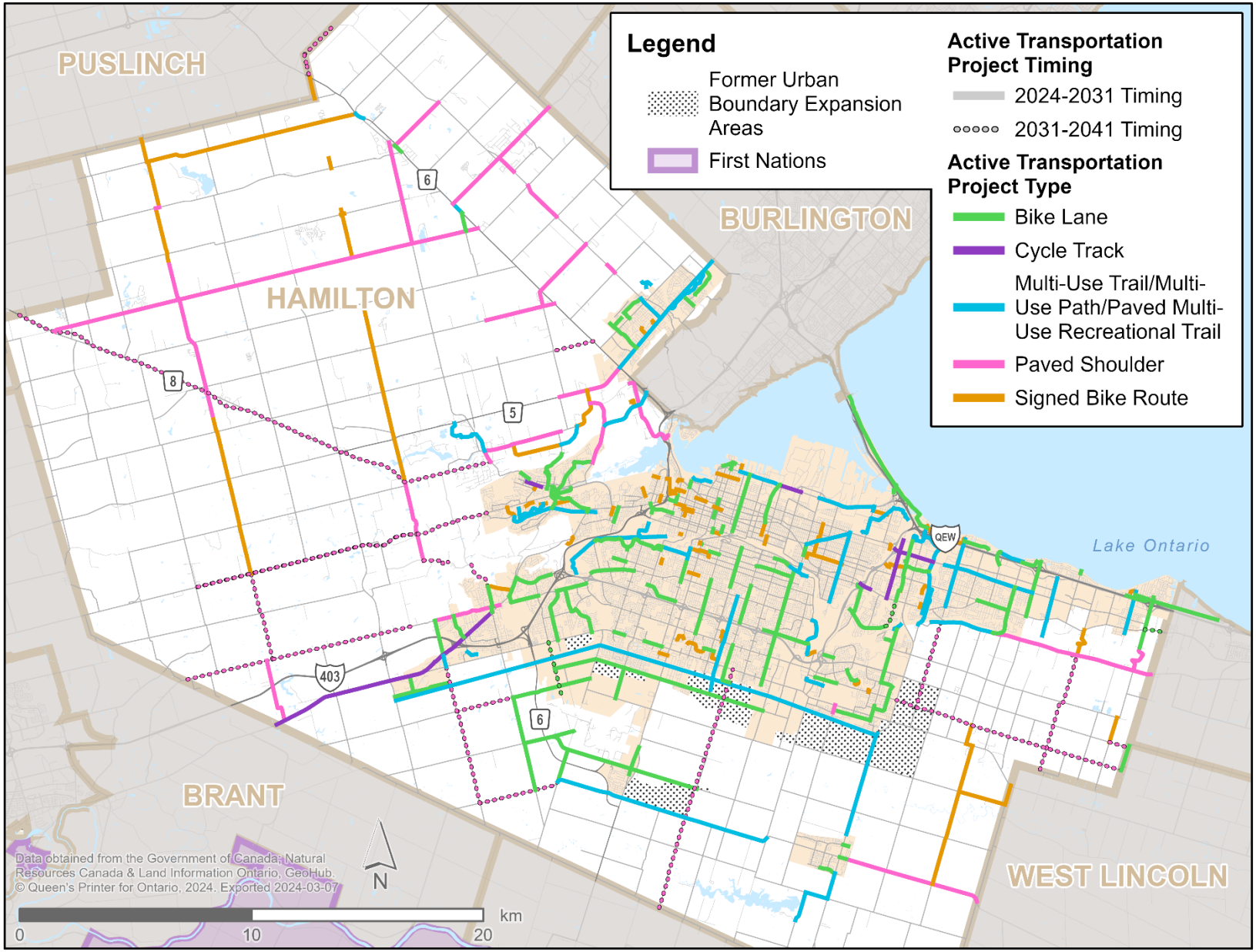
2.4 Active Transportation Projects

The active transportation (AT) projects included in the STNR, listed in Appendix B, were identified by the City of Hamilton in the sources outlined in Section 2.1 including the 2018 TMP and GRIDS 2.

Beyond projects identified in Hamilton's planning documents, additional AT infrastructure will be included in individual road projects in all time horizons based on the City's *Engineering Standard Drawings Update* (in progress) and the *Complete Streets Design Guidelines*. These AT facilities are included in the evaluation and costing of individual road projects. In cases where there is geographic overlap between an individual AT project and a road project that includes AT facilities, the costs of the AT project is reduced based on the length of the overlap. This ensures that costs for AT facilities are not being double counted.

Expanding the viability of AT as a mobility option in Hamilton is an essential component of the 2018 TMP vision and desired outcomes. Identified future AT projects are necessary to fill existing AT gaps and support future growth. Accordingly, all AT projects listed in Appendix B are carried forward as part of the STNR process. Most AT projects are recommended for implementation by the 2018 TMP's horizon year of 2031. Select AT projects, that were identified by the City of Hamilton, are recommended for implementation from 2031-2041 to align with related road resurfacing projects. In total, there are 308 AT projects which are outlined below in Exhibit 2.4.

Exhibit 2.4: STNR Active Transportation Projects



2.5 Structures

The STNR included three types of structures identified by the City of Hamilton as part of the long list of future transportation projects:

- **Active Transportation Bridges** that connect existing AT facilities over physical barriers such as roads, rail tracks and water bodies. This includes the following bridges: Strathcona, Limeridge Mall, Henderson Lift, Hamilton Centre, Margaret St. Park, Sealey Park, Red Hill, and Dundas.
- **Interchange Improvements** including new interchanges, interchange reconfigurations, signalization, and ramp improvements to accommodate increased travel demand. These include the Highway 5/6 interchange, Mohawk Road – Highway 403 interchange ramp, Centennial Parkway at Queen Elizabeth Way (QEW) interchange improvements, and QEW off-ramps at Fifty Road.
- **Grade Separation** to improve traffic flow and safety at intersections between roads and rail tracks by providing physical separation. This includes grade separation at Fifty Road.

These projects are necessary to support the overall road, transit and AT networks. Many of these projects were identified in the 2019 DC Study and other City of Hamilton plans (such as the *Recreational Trails Master Plan (2016)* and the *Cycling Master Plan (2018)*). Accordingly, these structures are carried forward as part of the STNR process. Structures are recommended for implementation in both the short-term (To 2031) and medium-term (2031 to 2041) based on the timelines identified in the 2019 DC Study and other studies as well as input from the City of Hamilton.

2.6 Programs

The City of Hamilton's mobility system includes city-wide programs designed to support the individual road, AT and transit projects described above. These supporting programs were identified by the City of Hamilton, aligned with the vision and desired outcomes of the 2018 TMP, and were carried forward as part of the STNR. These programs are described below:

- **Intersection improvements**, including new traffic signals, and traffic signal upgrades and traffic controller cabinet replacements;
- **Pedestrian experience**, including crossovers, pedestrian signals, new sidewalks, pavement improvements and street lighting enhancements;
- **Bicycle parking** at rapid transit stops, conventional route bus stops, and elsewhere;
- **Transit stop improvements** such as bus stop shelter rehabilitation and transit shelter expansion; and,

- **Network management**, including road urbanization and Advanced Traffic Management Systems.

3 Project Costing

Project costing updates were undertaken for the recommended projects in the STNR (Section 2). This includes the following:

- 132 road projects;
- Transit-supportive infrastructure such as buses and operations vehicles (the rapid transit routes are not funded through DCs and are not included in project costing);
- 308 AT projects;
- 13 structures; and,
- 26 programs.

Updated costs estimates were developed by Arcadis for road and active transportation projects whereas costs for transit related infrastructure, programs, and structures were provided by the City of Hamilton. Costs provide order of magnitude estimates for planning purposes and do not reflect detailed design considerations unless otherwise noted. All costs are presented as 2023 dollars.

3.1 Road Projects

This section describes the costing approach and unit rates used for road projects. Broadly, the costing approach follows seven main steps:

- Consulting **recent tender documents** to develop an understanding of current construction costs;
- Developing **unit rates** for individual components of road projects;
- Aggregating component unit rates to develop **per-kilometre unit costs** for various road project types;
- Multiplying per kilometre unit costs by the **lengths** of individual projects;
- Adding additional costs for projects that include **bridges and/or culverts**;
- Adding additional costs for **property acquisition** requirements; and,
- Considering **Provincial funding** if applicable.

Each step is described below in greater detail.

3.1.1 Recent Tender Documents

The City of Hamilton provided the cost details for construction projects completed between 2016-2021 from the City's State of Good Repair Program and Growth Program. These included tender bids for specific projects as well as average construction costs for roadworks. Both types of documents contained itemized costs for various components of roadwork projects. These were used as the foundation for developing cost estimates that reflect current construction costs.

3.1.2 Component Unit Rates and Inflation

The City of Hamilton provided unit rates (2022) for various components of road projects. The recent tender documents described above were used to reconcile and update these component unit rates to reflect current construction costs.

In some cases, it was determined that the component unit rates did not reasonably reflect the cost of construction. A construction inflation factor (39.39% from 2019 to 2023[5]) was applied where necessary.

The tender documents and historic unit costs contained a wide variety of roadwork components. There was a lack of historical data for some roadwork components. To cost these components in 2023 dollars, a combination of the last known cost of the component and the average increase of all component rates was applied.

The full list of component unit rates derived for use in capital project estimates is in Appendix C.

3.1.3 Road Per Kilometer Costs

Road projects were categorized into various improvement types based on the proposed changes to the road. These improvement types fall under two categories:

- **New Construction**, including new industrial, rural and urban roads; and,
- **Reconstruction and Urbanization**, including road improvements, rural to urban upgrades and road widenings.

For each improvement type, the *Hamilton Engineering Guidelines (update ongoing)* were used to identify the typical cross-section based on the road type. This document draws on the *Complete Streets Design Manual (2022)* to outline the components and design requirements for all road types in the City of Hamilton. The typical cross-sections were used to determine the

[5] Provided by Watson & Associates Economists based on Statistics Canada non-residential building construction price indexes.

required construction components for each road improvement type, such as concrete, excavation, catch basins, active transportation facilities and topsoil among others. The costs for each of the required components (Section 3.1.2) were combined to form a per kilometer cost for each road improvement type.

The full list of road per kilometer costs by improvement type is in Appendix C.

3.1.4 Bridges and Culverts

To increase the accuracy of cost estimates, additional cost resolution was added to individual projects that included bridges and/or culverts.[6] The City of Hamilton's asset database and satellite imagery were used to determine the number of bridges and/or culverts, and their approximate size, for applicable projects. Unit costs for the bridges ($/m^2) and culverts ($/ln.m) were then developed based on the size and perceived project complexity.

3.1.5 Property Acquisition Cost

Determining property acquisition requirements for road projects is a highly complex exercise that is generally undertaken at the environmental assessment and detailed design level. Property acquisition requirements, and associated costs, can vary significantly depending on a wide range of factors, including design, location, land use, developer dedication and cultural heritage among others. For the purposes of this study, high-level property acquisition cost estimates were developed – detailed property acquisition requirements are more appropriately determined at later stages of individual project design.

The formula to calculate property acquisition costs considered the right-of-way (ROW) width required (based on the City of Hamilton Official Plans, City of Hamilton *Road Classification and Right-of-Way Width Review* and City of Hamilton *Complete Streets Design Guidelines*), length of the project, developer dedication of land, and land cost per area.

Each variable is described in detail below.

3.1.5.1 Right-of-Way (ROW) Width Required

The ROW width required can vary significantly between projects and even within a single project. Roadway design can be influenced by a desire to minimize property acquisition, particularly when considering cultural heritage impacts. Exact ROW widths for individual projects are generally determined at the environmental assessment and/or detailed design project stage.

[6] This does not include bridges and/or culverts that are included in other ongoing Master Plan studies.

For the purposes of this study, a high-level approach has been taken to estimate the required ROW width for the various road projects. First, the existing ROW width for each project was determined using City of Hamilton spatial data and standard right-of-way width guidelines. For new roads, it was assumed that the City does not currently own any of required ROW. For road widening and reconstruction/urbanization projects, the existing ROW width was assessed based on the road classification and nature of the existing road (i.e. number of lanes, rural versus urban).

Future ROW width requirements were derived from multiple sources including:

- The *Urban Hamilton Official Plan (2013)* and *Rural Hamilton Official Plan (2012)* identify future ROW dedications in schedules C-2 and C-1, respectively;
- Additional ROW widths required for projects in the airport employment growth district (AEGD), provided by the City of Hamilton;
- The *Road Classification and Right-of-Way Width Review (2023)* draws on the official plans and *Hamilton Complete Streets Design Guidelines (2022)* to identify typical ROW widths for various road classes; and,
- Consideration for the nature of the road project improvement (i.e. number of lanes, urban versus rural).

The additional ROW width required is calculated as the future ROW width required minus the existing ROW width.

3.1.5.2 Length of Road

The length of each road project was determined during the development of the long list of road projects (Section 2.2). These lengths have been carried forward for property acquisition costing.

3.1.5.3 Developer Dedication Percentage

Developers often dedicate land as part of a development application. This land is used to accommodate municipal infrastructure, including road projects. The percentage of land that developers will dedicate often varies on a project-by-project basis.

For the purposes of calculating high-level property acquisition requirements, the following dedication assumptions, based on professional judgement and input from City of Hamilton staff, were used:

- New Road Construction: 90% of the ROW is dedicated directly by developers.
- Road Widening/Reconstruction/Urbanization: 60% of the ROW is dedicated directly by developers.

3.1.5.4 Land Cost

The unit cost for land was estimated at $250/m^2 based on information provided by the City of Hamilton and available environmental assessments to reflect the variety of road contexts in the city (including urban, rural, residential, and non-residential).

3.1.6 Road Project Capital Costs

The capital cost for road projects was calculated using the following formula:

Road Project Capital Cost = (Road Length x Improvement Type Per Kilometer Cost) + (Area of All Bridges x Bridge Unit Cost) + (Area of All Culverts x Culvert Unit Cost) + Property Acquisition Cost

The total capital cost of all road projects is approximately **$2,165,000,000** based on the following timing:

- **To 2031:** approximately **$655,000,000**
- **2031 to 2041:** approximately **$590,000,000**
- **Post-2041:** approximately **$920,000,000**

The full list of all road projects and their capital costs can be found in Appendix E, and a discussion of which costs are eligible for development charges can be found in Appendix D.

3.1.7 Provincial Highway Projects

There are multiple provincial highways that are within the City of Hamiton's boundary. While these highways are within the jurisdiction of the Ontario Ministry of Transportation (MTO), the costs of highway improvements can be shared between the MTO and the City of Hamilton. The project listed below is an MTO highway project that is partially funded by the City. The cost for this project was provided by the MTO and the City of Hamilton.

- Highway 403 Truck Climbing Lane (Mohawk/Lincoln M. Alexander Parkway to Highway 6 South Interchange).

3.2 Transit Projects, Transit Fleet, and Transit Supportive Infrastructure

Section 2.3 outlines the six transit projects that form Hamilton's rapid transit network. These rapid transit projects are not funded through municipal development charges and were not costed as a part of this study. However, the rapid transit network cannot operate alone and needs to be supported conventional and specialized transit networks. Components of the

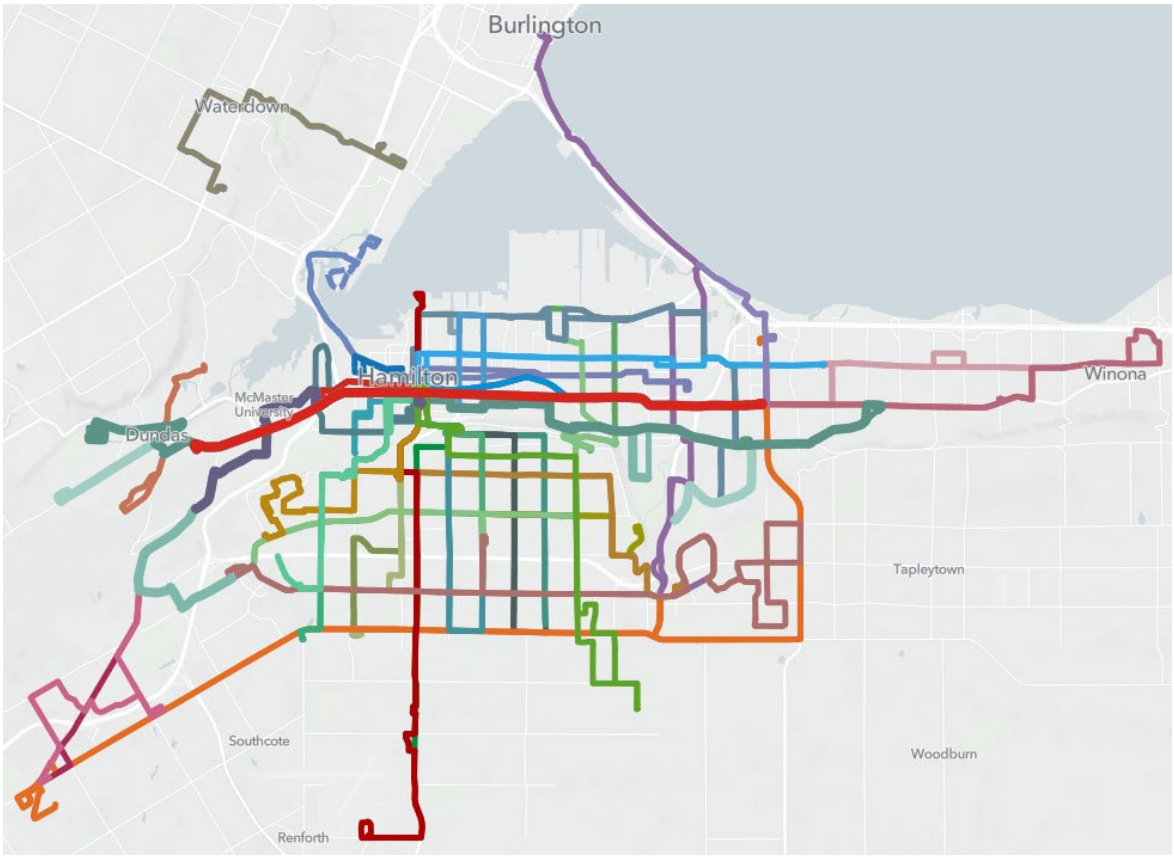
City's transit network including the transit fleet and any required maintenance and storage facilities.

This section describes the future transit vehicle requirements and vehicle costs for both conventional and specialized service over the ten-year transit horizon (2023-2032) and the transit post-period (2033-2035), as identified by the City of Hamilton.

3.2.1 Existing HSR Transit Network (2023)

HSR currently operates 32 regular and three seasonal bus routes throughout the City of Hamilton. Exhibit 3.1 below shows the Fall 2023 HSR network based on the HSR *Ten Year (2015-2024) Local Transit Strategy*. HSR also operates additional services including school extras (unscheduled buses to accommodate school-related demand), on demand (TransCab shared taxi and myRide) and specialized transit service for persons with disabilities that are unable to access conventional transit services.

Exhibit 3.1: HSR Fall 2023 Bus Network



Source: HSR Fall 2023 Network Map (Remix)

Hamilton is also connected to the Greater Toronto Area through inter-municipal routes from Burlington Transit and Metrolinx (GO Bus and GO Rail).

3.2.2 Future HSR Transit Network

HSR is currently in the third to last year of the *Ten Year (2015-2024) Local Transit Strategy.*[7] In 2019, HSR launched the *(Re)envision the HSR* study with the aim of modernizing the transit network and improving customer experience. This ongoing study identifies six rapid transit routes, including five rapid bus routes and one Light Rail Transit (LRT) route, as well as a new maintenance and storage facility. The new transit growth plan (including phasing, and implementation as well as the financial strategy) is scheduled to be presented to City of Hamilton Council in 2024.

3.2.3 Ten-Year Capital Plan

This section describes the ten-year capital plan that was developed for the transit growth period (2023-2032). This capital plan includes the future vehicle requirements for conventional and specialized service as well as associated support vehicles.

3.2.3.1 New Conventional Transit Vehicles

HSR uses the following vehicle types for conventional service:

- 30-foot community bus;
- 40-foot standard bus; and,
- 60-foot articulated bus.

The component and total costs for the various vehicle types are listed below in Exhibit 3.2. These costs were provided by HSR.

Exhibit 3.2: Total Costs (2023$) by Bus Type

	30’ Bus	40’ Bus	60’ Bus
Capital Cost of Bus	$600,400	$890,900	$1,168,600
IT Package	$31,800	$31,800	$31,800
Farebox	$18,000	$18,000	$18,000
PRESTO	$14,552	$14,552	$14,552

[7] The *Ten Year (2015-2024) Local Transit Strategy* was paused in both 2017 and 2020.

	30’ Bus	40’ Bus	60’ Bus
Total Cost:	**$664,752**	**$955,252**	**$1,232,952**

HSR applies the following considerations and level of service metrics to forecast future conventional fleet requirements:

- **Service Levels:** The desired frequency of service is the primary determining factor for future conventional fleet requirements – more buses are required to achieve higher frequencies. Service frequencies are generally highest during weekday peak hours and buses are acquired to meet minimum serve levels for weekday peak hours. The existing minimum service standard is 30-minute frequency during peak hours. Service frequencies may also vary by route type.
- **Route Length and Travel Time:** Transit routes vary in length, resulting in varying travel times. Different numbers of buses can be required for different routes to meet the same service levels.
- **Scheduling:** This considers the number of buses required to operate a service reliably with consideration for the schedule and on-time performance.
- **Demand:** Bus sizes are largely determined by the demand on specific corridors. Increases in demand can be met either with a larger vehicle that operates at a normal frequency or multiple smaller vehicles that operate at a higher frequency.
- **Service Area Coverage:** HSR aims to ensure a standard of 90% of residents and businesses within the urban transit area are within 400m of transit service during peak hours. This standard informs route planning and fleet requirements.
- **Additional Vehicles:** HSR maintains a minimum number of spare vehicles to allow for buses to be serviced, inspected, maintained and fueled. The existing standard of peak service vehicles to spare vehicles is a ratio of approximately 80:20.

Exhibit 3.3 below outlines the total future conventional transit fleet needs, and their associated costs, for the growth period (2023-2032) within the 2024 DC Study horizon and the post-period (2033-2035) beyond the 2024 DC Study horizon. The total cost of the required additional conventional fleet vehicles is approximately **$99,000,000.**

Exhibit 3.3: Total Growth Period and Post-Period Conventional Transit Bus Requirements (2023$)

	Unit Cost	Growth Period (2023-2032)	Post-Period (2033-2035)
New Peak Hour 30' Bus	$664,752	0	2
New Peak Hour 40' Bus	$955,252	48	16
New Peak Hour 60' Bus	$1,232,952	8	2
New Spare 40' Bus	$955,252	12	3
New 40' to 60' Upgrades	$277,700	37	0
Total Cost of Additional Vehicles		**$77,453,636**	**$21,945,196**

3.2.3.2 Specialized Transit

Specialized transit service is provided by DARTS for persons who are unable to access conventional transit service due to disabilities or health conditions. DARTS is a shared-ride service that operates under a contract with HSR.

Specialized transit fleet vehicles have not been included in this DC background study. HSR has identified the need for four new accessible supervisory vehicles to support growing specialized transit operations. Each of these four vehicles costs $153,000 (2023$), resulting in a total cost of **$612,000** for the accessible supervisory vehicles.

3.2.3.3 Maintenance and Storage Facility and Related Vehicles

Transit is growing in Hamilton and a new Maintenance and Storage Facility (MSF) is needed to support this growth. The cost of this facility has been assessed as approximately $396,000,000 by HSR and the City of Hamilton.

This MSF will include the following facility vehicles:

- Service Truck;
- Stock Room Vehicle;

- Garage Equipment Repair Walk Behind Forklift;
- Garage Forklift;
- Garage Tow Mobile; and,
- Garage Equipment Repair Express Van Vehicles.

The number of new facility vehicles and cost per facility vehicle is outlined below in Exhibit 3.4. The total cost of the required additional facility vehicles is **$720,998**.

Exhibit 3.4: Total Growth Period Facility Vehicle Requirements (2023$)

Facility Vehicle Type	Unit Cost (2023$)	Additional Vehicles Required (2023-2032)
Service Truck	$64,999	2
Stock Room Vehicle	$65,000	1
Garage Equipment Repair Walk Behind Forklift	$92,100	2
Garage Forklift	$106,700	1
Garage Tow Mobile	$62,100	1
Garage Equipment Repair Express Van Vehicles	$86,500	2
Total Cost		**$720,998**

3.2.4 Total Future Transit Needs

Exhibit 3.5 below summarizes the future transit requirements (spanning conventional fleet, specialized, facility vehicles and a storage and maintenance facility) and their associated costs. The total cost of all future transit requirements in the transit growth period (2023-2032) is approximately **$475,000,000** and the total cost of all future transit requirements in the transit post-period (2033-2035) is approximately **$22,000,000**. The full list of all transit projects and their capital costs can be found in Appendix E.

Exhibit 3.5: Summary of Growth Period and Post-Period Future Transit Needs (2023$)

Vehicle Type	Quantity	Growth Period (2023-2032)	Post-Period (2033-2035)
New Peak Hour 30’ Bus	2		$1,329,504
New Peak Hour 40’ Bus	48	$45,852,096	
New Peak Hour 40’ Bus	16		$15,284,032
New Peak Hour 60’ Bus	8	$9,863,616	
New Peak Hour 60’ Bus	2		$2,465,904
New Spare 40’ Bus	12	$11,463,024	
New Spare 40’ Bus	3		$2,865,756
New 40’ to 60’ Upgrades	37	$10,274,900	
Accessible Supervisory Vehicles (Specialized Transit)	4	$612,000	
Transit & Maintenance Storage Facility	1	$396,000,000	
Facility: Service Truck	2	$129,998	
Facility: Stock Room Vehicle	1	$65,000	
Facility: Garage Equipment Repair Walk Behind Forklift	2	$184,200	
Facility: Garage Forklift	1	$106,700	
Facility: Garage Tow Mobile	1	$62,100	
Facility: Garage Equipment Repair Express Van Vehicles	2	$173,000	
Approximate Total Cost		**$475,000,000**	**$22,000,000**

3.3 Active Transportation Projects

This section describes the costing approach used to update the capital costs for active transportation projects. The AT costing methodology included updating costs identified in the

2019 DC Study as well as developing unit rates to cost AT projects that were not previously identified in the *2019 DC Study* but are part of Hamilton's future AT network.

3.3.1 Active Transportation Projects from the 2019 DC Background Study

The *2019 DC Study* included approximately 160 AT projects, each with an identified length, facility type, timing and cost. All projects with a post-2023 implementation date were carried forward for updated costing. A 39.39% inflation factor was applied to the costs of these projects to escalate the capital costs from 2019 to 2023.

3.3.2 New Active Transportation Projects

For the new AT projects that were not included in the *2019 DC Study*, a unit costing approach was used. The City of Hamilton provided typical costs for various active transportation components. These were reconciled with industry-standard costs to develop updated unit costs for various AT facility types. These unit costs, by facility type, were then multiplied by the length of each project to determine the cost of the AT project. The updated AT unit costs are in Appendix C.

3.3.3 Active Transportation Project Capital Costs

The total cost of all AT projects is approximately **$144,000,000**. The full list of all AT projects and their capital costs can be found in Appendix E and a discussion of which costs are eligible for development charges can be found in Appendix D.

3.4 Structures

Structures that are eligible for development charge funding include projects such as bridges, grade separations and interchange projects.

The costs for the bridges and grade separation projects were carried forward from the *2019 DC Study* and provided by the City of Hamilton. A 39.39% inflation factor was applied to the costs of the projects carried forward from the *2019 DC Study* to escalate the capital costs from 2019 to 2023.

Interchange projects connect to highways that are within the jurisdiction of the Ontario Ministry of Transportation (MTO). Interchange projects included in the STNR have costs that are shared between the MTO and the City of Hamilton. The costs for the following interchange projects were provided by the MTO and the City of Hamilton.

- Highway 5/6 Interchange;

- Mohawk Road – Highway 403 Interchange Ramp;
- Centennial Parkway at QEW Interchange Reconfiguration; and,
- QEW Off-Ramps at Fifty Road (Signalization and Reconfiguration).

The total capital cost of the major structure projects is approximately **$252,000,000**. The full list of all structures and their capital costs can be found in Appendix E.

3.5 Programs

The City of Hamilton's planned transportation improvements include growth-related programs. These are initiatives, often implemented city-wide, that aim to improve infrastructure associated with the road, active transportation and transit networks. Categories of programs included in the STNR are described in Section 2.6. The costs for the programs were carried forward from the *2019 DC Study* and provided by the City of Hamilton. A 39.39% inflation factor was applied to the costs of the projects carried forward from the *2019 DC Study* to escalate the capital costs from 2019 to 2023.

The total capital cost of the programs is approximately **$100,000,000**. The full list of all programs and their capital costs can be found in Appendix E.

3.6 Transportation Project Costing Summary

The costing process for the STNR provided updated capital cost estimates for future transportation projects in the City of Hamilton spanning road projects, active transportation projects, transit projects, structures and programs. The total capital cost of all future transportation projects within the STNR horizon (to 2051) is approximately **$3,158,000,000** as outlined below in Exhibit 3.6. A discussion of which costs are eligible for development charges funding can be found in Appendix D.

Exhibit 3.6: Summary of STNR Project Capital Costs

Project Type	Approximate Capital Cost (To 2031)	Approximate Capital Cost (2031 to 2041)	Approximate Capital Cost (2041 to 2051)	Approximate Capital Cost (Total)
Road	$655,000,000	$590,000,000	$920,000,000	**$2,165,000,000**
Transit (Vehicles and Facility)	$475,000,000 *(2023-2032)*	$22,000,000 *(2033-2035)*	-	**$497,000,000**

Project Type	Approximate Capital Cost (To 2031)	Approximate Capital Cost (2031 to 2041)	Approximate Capital Cost (2041 to 2051)	Approximate Capital Cost (Total)
Active Transportation	$113,000,000	$31,000,000	-	**$144,000,000**
Structures	$182,000,000	$70,000,000	-	**$252,000,000**
Programs	$100,000,000	-	-	**$100,000,000**
Total				**$3,158,000,000**

4 STNR Summary

This study reviewed the proposed timing and developed updated cost estimates for future transportation projects within the context of forecasted population and employment growth in the City of Hamilton to a 2041 planning horizon with consideration to 2051. This included transportation projects spanning roads, active transportation, transit, structures and programs. An evaluation framework was used to ensure that the future road projects aligned with the 2018 TMP vision and desired outcomes. The results of the evaluation process informed the phasing of individual projects, with highest scoring projects being recommended for earlier implementation. The following projects are being recommended as part of the STNR:

- 132 road projects;
- 16 transit projects (transit fleet, and other transit supportive infrastructure);
- 308 active transportation projects;
- 13 structures; and,
- 26 programs.

These projects represent a total capital cost of approximately **$3,158,000,000**. Consideration for these projects in the 2024 DC Study is discussed in Appendix D.

The following appendices provide supporting documents to this STNR report:

- **Appendix A** lists the evaluation results for future road projects;
- **Appendix B** lists the future active transportation projects;
- **Appendix C** lists the detailed unit cost tables to accompany road and AT project costing in Section 3;

- **Appendix D** is a report that outlines the transportation inputs to the 2024 DC Study, including apportioning benefit;
- **Appendix E** outlines all the transportation capital projects for inclusion in the 2024 DC Study; and,
- **Appendix F** identifies updates made to the STNR report since the draft was published in December 2023.

Appendix A

Strategic Transportation Network Review Project Evaluation Results

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Road Projects										
Airport Road - Terminal Access Road to Provident Way/East Cargo Road	0.32	Road Widening	2	3	6	3	3	17		**To 2031**
Arvin Avenue - Jones Road to 366m west of Glover Road	0.55	New Road	2	6	3	3	3	17	Due to land use constraints and presence of an active factory, the opportunity to connect Arvin Avenue in this block is not available. A longer implementation timeline would be realistic and allow the City to continue discussion with the land owner to dedicate land for road ROW.	**Post 2041**
Barton Street - Fruitland Road to Fifty Road	5.11	Road Widening	4	0	6	6	1.5	17.5		**To 2031**
Arvin Avenue - McNeilly Road to Lewis Road	0.85	New Road	2	0	3	3	1.5	9.5	This project is prioritized to fill in missing links, support new developments, provide servicing, and serve as an alternative to Barton Street for commercial vehicles.	**To 2031**
Binbrook Road - Fletcher Road to Binhaven Road	0.91	Road Reconstruction and Urbanization	2	0	4.5	1.5	6	14	This road is scheduled for completion by developers before 2031.	**To 2031**
Book Road - Southcote Road to Highway 6	1.05	Road Widening	2	0	4.5	3	1.5	11	Book Road implementation is prioritized to enable Airport Employment Growth District (AEGD) area growth.	**To 2031**
Book Road - Highway 6 to Fiddlers Green Road	0.99	Road Widening	4	3	4.5	1.5	1.5	14.5	This project is delayed as it is located outside of the Urban Boundary.	**Post 2041**
Collector 1E - Collector 6N to Dickenson Road	0.67	New Road	2	0	3	3	1.5	9.5	This project is in the existing urban boundary and subject to active development application	**2031 to 2041**
Arterial 1N - Collector 2N to Dickenson Road/Garth Street Extension	2.97	New Road	2	0	4.5	3	0	9.5	This project is prioritized to provide a critical east-west link in the Airport Employment Growth District (AEGD)	**To 2031**
Collector 2N - Collector 5W to Arterial 1N	0.42	New Road	2	0	3	3	3	11		**2031 to 2041**
Collector 5W - Collector 7N to Collector 2N	0.74	New Road	2	0	3	3	1.5	9.5		**Post 2041**
Collector 2W - Garner Road to Dickenson Road Extension	2.16	New Road	2	0	4.5	3	0	9.5		**Post 2041**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Collector 6N - Upper James Street to Collector 6E	0.95	New Road	2	0	3	3	0	8	The Collector 6N is a strategic link in the AEGD. It is within the Upper Westside active development site and abuts the Panettoni Development. The Road will require an EA and could be constructed by 2031 or immediately after.	**2031 to 2041**
Collector 6N - Collector 6E to Garth Street	0.41	New Road	2	0	3	3	3	11	The Collector 6N is a strategic link in the AEGD. It is within the Upper Westside active development site and abuts the Panettoni Development. The Road will require an EA and could be constructed by 2031 or immediately after.	**2031 to 2041**
Collector 6N - Garth Street to Glancaster Road	1.54	New Road	2	0	3	3	0	8	This project is part of an active development application.	**2031 to 2041**
Collector 6E - Collector 6N to Dickenson Road	0.64	New Road	2	0	3	3	1.5	9.5	This project is within an active development site.	**To 2031**
Collector 7N - Collector 5W to Collector 2W	1.19	New Road	2	0	4.5	3	1.5	11		**2031 to 2041**
Collector 5N - Collector 8W to Fiddler's Green	0.83	New Road	2	0	3	1.5	1.5	8		**Post 2041**
Collector 8W - Garner Road to Collector 5N	1.07	New Road	2	0	4.5	3	1.5	11		**2031 to 2041**
Dartnall Road - Twenty Road to Dickenson Road	1.55	New Road	2	0	3	3	3	11	This project is scheduled for 2026/2027 construction.	**To 2031**
Dickenson Road - Glancaster Road to Garth Street Extension	1.53	Road Widening	3	0	4.5	3	1.5	12	This project has been delayed to align with the phasing of development in the AEGD	**2031 to 2041**
Dickenson Road - Garth Street Extension to Upper James Street	1.36	Road Widening	3	0	4.5	3	1.5	12	This project is scheduled for 2027 construction.	**To 2031**
Dickenson Road Extension - Glancaster Road to Smith Road	0.83	New Road	2	0	4.5	3	3	12.5	This project has been delayed to align with the phasing of development in the AEGD	**2031 to 2041**
Book Road - Smith Road to Southcote Road	0.45	Road Widening	4	0	4.5	3	3	14.5	Book Road implementation is prioritized to enable Airport Employment Growth District (AEGD) area growth.	**To 2031**
Fifty Road - Barton Street to South Service Road	0.55	Road Widening	2	0	6	4.5	4.5	17		**To 2031**
Fifty Road - Barton Street to Highway 8	0.24	Road Widening	3	0	4.5	4.5	4.5	16.5	Given that Barton Street will be widened to four lanes and function as the key east-west corridor, Fifty Road improvement south of Barton Street will not be prioritized before 2031	**2031 to 2041**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Garth Street Extension - Twenty Road to Collector 6N	0.81	New Road	2	0	4.5	3	1.5	11		**2031 to 2041**
Garth Street Extension - Collector 6N to Dickenson Road	0.66	New Road	2	0	3	3	1.5	9.5	This project is currently undergoing an EA and is part of an active development. It will be constructed by 2041	**2031 to 2041**
Glancaster Road - Garner Road to Dickenson Road	2.67	Road Widening	2	0	4.5	3	1.5	11		**To 2031**
Glancaster Road - Dickenson Road to Arterial 1N	0.39	Road Widening	2	0	4.5	3	3	12.5		**2031 to 2041**
Gordon Dean Avenue - Barton Street to Highway 8	1.08	New Road	3	6	3	1.5	3	16.5		**To 2031**
North Waterdown Drive - Centre Road to Parkside Drive	2.25	New Road	2	0	3	1.5	3	9.5	Part of North Waterdown Drive is constructed, this project is prioritized to fill in missing sections.	**To 2031**
Parkside Drive - North Waterdown Drive to Avonsyde Boulevard	2.25	Road Widening	2	0	4.5	3	3	12.5	Part of North Waterdown Drive is constructed, this project is prioritized to fill in missing sections.	**To 2031**
North Waterdown Drive - Clappison Avenue Extension to Mosaic Drive	0.59	New Road	2	0	3	1.5	6	12.5	Part of North Waterdown Drive is constructed, this project is prioritized to fill in missing sections.	**To 2031**
North Waterdown Drive - Clappison Avenue Extension to Highway 6 North	0.82	New Road	2	0	3	1.5	4.5	11	This project is delayed since it is outside the urban boundary and the City does not own land to provide for the future right of way. This road is intended to direct traffic from North Waterdown Drive to Highway 6 (through Clappison Avenue and Parkside Drive) until the land can be acquired.	**Post 2041**
Rymal Road - Dartnall Road to Upper James Street	5.17	Road Widening	5	3	4.5	6	1.5	20		**To 2031**
Garner Road - Glancaster Road to Highway 6 South	3.12	Road Widening	3	0	6	4.5	0	13.5	Garner Road Construction is scheduled for 2028 to enable the development of lands south of Garner Road within the AEGD. The road widening is in response to capacity constraints and to improve Multimodal LOS along the corridor.	**To 2031**
Garner Road - Highway 6 South to Wilson Street	4.86	Road Widening	3	0	6	6	1.5	16.5		**To 2031**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Smith Road - Garner Road to Hydro Corridor	0.88	New Road	2	0	3	3	1.5	9.5	The Section of Smith Road from Garner Road to the Hydro corridor is part of an active planning application. The southerly section is required by 2041 to support anticipated developments in the AEGD aligned with the phasing plan of the AEGD secondary plan.	**To 2031**
Southcote Road - Garner Road to Book Road	1.95	Road Widening	3	0	4.5	3	0	10.5	This project has been delayed to align with the phasing of development in the AEGD	**2031 to 2041**
Trinity Road/Highway 52 - Highway 403 Interchange to Cormorant Road	1.79	Road Widening	2	0	4.5	6	0	12.5	This road improvement is required in short term to support the Ancaster Business Park development.	**To 2031**
Twenty Road Extension - Glover Road to Upper Redhill Valley Parkway	0.35	New Road	4	6	4.5	3	4.5	22		**To 2031**
Twenty Road West Extension - Glancaster Road to Collector 2W	1.06	New Road	2	0	4.5	3	1.5	11	This road extension is fronting woodlot to the south and hydro corridor to the north. It provides network connectivity, capacity and redundancy and will not be required in the short term given the slow growth pattern in this part of the business park.	**Post 2041**
Smith Road - Hydro Corridor to Book Road	1.01	New Road	2	0	3	3	1.5	9.5	The Section of Smith Road from Garner Road to the Hydro corridor is part of an active planning application. The southerly section is required by 2041 to support anticipated developments in the AEGD aligned with the phasing plan of the AEGD secondary plan.	**2031 to 2041**
Smith Road - Book Road to Arterial 1N	0.63	New Road	2	6	3	3	3	17	The Section of Smith Road from Garner Road to the Hydro corridor is part of an active planning application. The southerly section is required by 2041 to support anticipated developments in the AEGD aligned with the phasing plan of the AEGD secondary plan.	**2031 to 2041**
Upper Red Hill Valley Parkway - Rymal Road to Twenty Road	1.22	New Road	3	0	3	3	3	12		**2031 to 2041**
LRT corridor - Centennial Parkway/Main Street/King Street to McMaster University	13.77	Road Reconstruction and Urbanization	6	0	6	3	6	21		**To 2031**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Highway 8 - Dewitt Road to Jones Road	1.73	Road Widening	4	6	6	6	4.5	26.5	This project has been prioritized to support Stoney Creek Block Servicing and developments	**To 2031**
Highway 8 - Jones Road to McNeilly Road	1.73	Road Widening	3	3	4.5	4.5	3	18		**2031 to 2041**
Clappison Avenue Extension - Parkside Drive to North Waterdown Drive	0.54	New Road	2	0	3	1.5	3	9.5	This project has been prioritized as per the Waterdown/Aldershot Transportation Master Plan	**To 2031**
Highway 8 - McNeilly Road to Fifty Road	2.67	Road Widening	2	0	4.5	1.5	1.5	9.5	This project has been scheduled to support Block 3 of the SCUBE developments	**2031 to 2041**
Collector B (Block 1) - Fruitland Road to Jones Road	0.89	New Road	3	0	3	1.5	3	10.5		**2031 to 2041**
Collector C (Block 2) - Barton Street to Highway 8	0.74	New Road	3	3	3	1.5	6	16.5		**To 2031**
Collector D (Block 3) - McNeilly Road to Collector F	1.25	New Road	2	3	3	1.5	4.5	14		**2031 to 2041**
Collector E (Block 3) - Barton Street to Highway 8	0.66	New Road	2	3	4.5	1.5	6	17		**To 2031**
Collector F (Block 3) - Barton Street to Collector D	0.22	New Road	2	6	3	1.5	6	18.5		**To 2031**
Longwood Road - Aberdeen Avenue to Main Street	0.64	Road Reconstruction and Urbanization	5	3	4.5	3	6	21.5		**To 2031**
Upper Wellington Street - Limeridge Road to Stone Church Road	1.04	Road Widening	6	3	4.5	1.5	3	18		**To 2031**
Regional Road 56 - Dalgliesh Trail to Golf Club Road	1.44	Road Widening	2	0	3	4.5	1.5	11	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
Garth Street - Rymal Road to Twenty Road West	1.41	Road Widening	3	0	4.5	1.5	0	9	This project supports the Airport Employment Growth District (AEGD)	**2031 to 2041**
South Service Road - Lewis Road to Fifty Road	1.79	Road Widening	2	6	4.5	4.5	1.5	18.5		**To 2031**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Lincoln M. Alexander Parkway-Red Hill Valley Parkway - Highway 403 to Queen Elizabeth Way	17.30	Road Widening	6	0	4.5	3	1.5	15	The Road Widening to 6 lanes is not feasible by 2031. The EA needs to be completed for the two local expressways, which requires robust engagement with Indigenous Nations (Joint Stewardship Board of Haudenosaunee Development Institute). The work also requires coordination with MTO for Highway 403 and QEW interchange improvements.	**2031 to 2041**
Upper James Street - Rymal Road to Highway 6 South	7.22	Road Widening	3	0	4.5	4.5	0	12		**2031 to 2041**
Upper Wentworth Street - End to Twenty Road	0.74	New Road	4	0	3	1.5	1.5	10		**Post 2041**
Upper Sherman Avenue - End to Twenty Road	0.75	New Road	4	0	3	1.5	1.5	10		**Post 2041**
Upper Gage Avenue - End to Twenty Road	0.73	New Road	3	0	3	1.5	1.5	9		**Post 2041**
Upper Ottawa Street - End to Twenty Road	0.95	New Road	3	0	3	3	1.5	10.5		**2031 to 2041**
Miles Road - Rymal Road to Dickenson Road	2.66	Road Widening	4	0	4.5	1.5	0	10		**Post 2041**
East-West Collector - Upper Wentworth Street to Upper Ottawa Street	2.52	New Road	2	0	3	3	0	8		**Post 2041**
Twenty Road East - Upper James Street to Dartnall Road	5.76	Road Widening	2	0	4.5	3	0	9.5		**Post 2041**
Collector Road 6E - Collector 6N to Twenty Road West	0.70	New Road	2	3	3	1.5	1.5	11	This project has been delayed as it is outside of the urban boundary.	**Post 2041**
Collector Road 1E - Collector 6N to Twenty Road West	0.73	New Road	2	0	3	3	1.5	9.5		**Post 2041**
First Road East - Highway 20 to Mud Street	1.97	Road Widening	2	6	4.5	1.5	1.5	15.5	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
First Road East - Highway 20 to Golf Club Road	2.08	New Road	2	0	3	1.5	0	6.5		**Post 2041**
Upper Centennial Parkway - Mud Street to Highway 20	2.00	Road Widening	5	3	4.5	6	1.5	20	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
Arterial N-S - Bellagio Avenue to Golf Club Road	1.88	New Road	2	0	3	1.5	0	6.5		**Post 2041**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Dickenson Extension - Trinity Church to Golf Club Road	0.65	New Road	2	0	3	1.5	1.5	8		**Post 2041**
Mud Street - Red Hill Valley Parkway to Upper Centennial Parkway	3.62	Road Widening	5	0	4.5	6	0	15.5	This project has been delayed as the Mud Street widening is not justified without the Elfrida lands fully developed.	**Post 2041**
Twenty Road - Upper Red Hill Valley Parkway to Hendershot Road	5.60	New Road	2	0	3	1.5	0	6.5		**Post 2041**
Highway 20 - 500m east of Upper Centennial to Hendershot Road	1.17	Road Widening	2	3	3	3	1.5	12.5	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
Highway 20 - Hendershot Road to Hamilton boundary	4.57	Road Widening	3	0	4.5	3	0	10.5	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
White Church Road - Upper James Street to Miles Road	2.88	Road Widening	2	3	4.5	1.5	0	11	This project is to support the development of White Church lands in the urban boundary expansion area. These lands are subject to the completion of the Secondary Planning process and the council's decision to freeze greenfield development until 2041.	**Post 2041**
Airport Road - Upper James Street to Miles Road	2.75	Road Widening	4	0	4.5	1.5	0	10		**Post 2041**
Ferris Road Extension - White Church Road to Airport Road	1.34	New Road	2	3	3	1.5	1.5	11	This project is to support the development of White Church lands in the urban boundary expansion area. These lands are subject to the completion of the Secondary Planning process and the council's decision to freeze greenfield development until 2041.	**Post 2041**
Upper Centennial Parkway - Mud Street to Green Mountain Road	1.00	Road Reconstruction and Urbanization	5	3	4.5	6	3	21.5	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
Miles Road - Dickenson Road to White Church Road	4.13	Road Widening	2	0	4.5	1.5	0	8		**Post 2041**
Fiddler's Green Road - Garner Road to Book Road	1.97	Road Widening	2	0	4.5	3	0	9.5		**Post 2041**
Glancaster Road - Arterial 1N to Airport Boundary	0.48	New Road	2	3	4.5	3	3	15.5	This road urbanization project will be scheduled with the section of Glancaster From Dickenson Road to Arterial 1N which is planned for 2031 - 2041 implementation.	**2031 to 2041**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Collector 9W - Garner Road to Collector 11N	0.33	New Road	2	6	3	3	3	17	Collector 9W is a new road supporting a small enclave of institutional land in the western part of the AEGD. The institutional land is not subject to an active development application. Hence the road implementation could be postponed to post-2031.	**2031 to 2041**
Smith Road - Arterial 1N to Airport Boundary	0.21	New Road	2	6	3	3	3	17	This project has been delayed to align with the phasing of development in the AEGD	**2031 to 2041**
Airport Road - East Cargo Road to Upper James Street	1.08	Road Widening	2	3	6	3	3	17		**To 2031**
Airport Service Road - Glancaster Road to Airport Road	1.78	New Road	2	0	3	1.5	0	6.5		**Post 2041**
Book Road East - Collector 2W to Glancaster Road	0.85	Road Widening	2	3	4.5	3	3	15.5		**2031 to 2041**
Collector 10N - Garner Road to Smith Road	1.17	New Road	4	6	3	3	3	19		**To 2031**
Collector 10N - Smith Road to Collector 1W	1.47	New Road	2	6	3	1.5	1.5	14	This project has been delayed as it is outside of the urban boundary.	**Post 2041**
Airport Access Route - Upper Red Hill Valley Parkway to Highway 6 South	10.92	New Road	2	0	3	3	0	8		**Post 2041**
Rymal Road - Glancaster Road to Upper Paradise Street	0.55	Road Widening	3	0	6	4.5	6	19.5		**To 2031**
Twenty Road - Glancaster Road to Upper James Street	2.90	Road Widening	2	0	4.5	3	0	9.5	This project is needed to support the Twenty Road West developments.	**2031 to 2041**
Airport Road - Glancaster Road to Terminal Access Road	1.71	Road Reconstruction and Urbanization	2	6	6	1.5	1.5	17	This project is required in the short term to support the Airside developments and the KF facility.	**To 2031**
West 5th Street - Rymal Road to Stone Church Road	1.01	Road Widening	3	3	4.5	3	3	16.5		**To 2031**
Fruitland Road - Highway 8 to Barton Street	1.05	Road Widening	3	3	4.5	3	3	16.5		**To 2031**
McNeilly Road - Highway 8 to Barton Street	0.90	Road Reconstruction and Urbanization	3	3	3	1.5	3	13.5	The road will be improved as part of Stoney Creek Block 1 and 2 development which is planned for pre 2031 implementation	**To 2031**
Lewis Road - Highway 8 to Barton Street	0.49	Road Reconstruction and Urbanization	2	3	3	1.5	3	12.5	The road will be improved as part of Stoney Creek Block 1 and 2 development which is planned for pre 2031 implementation	**To 2031**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Glover Road - Highway 8 to Barton Street	0.81	Road Reconstruction and Urbanization	3	0	4.5	1.5	3	12		**2031 to 2041**
Jones Road - Highway 8 to Barton Street	0.92	Road Reconstruction and Urbanization	3	3	4.5	3	3	16.5		**To 2031**
Jerseyville Road - Wilson Street to Lloyminn Avenue	0.79	Road Widening	2	0	4.5	1.5	1.5	9.5	This project has been prioritized to align with the timing of the other Jerseyville Road projects	**2031 to 2041**
Shaver Road - Trustwood to Garner Road	0.74	Road Reconstruction and Urbanization	2	3	4.5	3	3	15.5	This project has been delayed to align with the phasing of development in the AEGD	**2031 to 2041**
McNiven Road - Rousseaux Street/Mohawk Road to Golf Links Road	0.62	Road Widening	4	0	6	1.5	3	14.5	This project has been prioritized based on road condition.	**To 2031**
Dickenson Road - 350 meters west of Nebo to 330m west of Glover Road	1.20	Road Reconstruction and Urbanization	4	3	3	3	1.5	14.5		**2031 to 2041**
Dickenson Road East - Upper James Street to 350 meters west of Nebo Road	4.24	Road Reconstruction and Urbanization	3	0	4.5	1.5	0	9		**Post 2041**
Glover Road - Twenty Road to Rymal Road	1.31	Road Reconstruction and Urbanization	3	0	3	3	1.5	10.5	The road needs upgrade in coordination with servicing which is planned for implementation in the next five years.	**To 2031**
Parkside Drive - Hollybush Drive to Highway 6	1.07	Road Widening	3	0	4.5	3	1.5	12	This project is planned for construction in 2026, associated with the Highway 5/6 interchange works.	**To 2031**
Parkside Drive - Main Street to North Waterdown Drive	0.59	Road Widening	3	0	4.5	3	3	13.5		**2031 to 2041**
Fruitland Road - Arvin Avenue to Barton Street	0.36	Road Widening	3	6	4.5	4.5	3	21		**To 2031**
Fletcher Road - 500m south of Rymal Road to Golf Club Road	1.60	Road Widening	4	0	3	1.5	0	8.5		**Post 2041**
Golf Club Road - Trinity Church Road to Hendershot Road	5.33	Road Widening	4	0	3	1.5	0	8.5	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
Hendershot Road - Highway 20 to Golf Club Road	2.09	Road Widening	3	0	3	1.5	0	7.5	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Highland Road - Upper Centennial Parkway to Second Road East	1.67	Road Widening	3	3	4.5	1.5	1.5	13.5	This project is delayed since the urban boundary expansion will occur post-2041 once the expansion freeze is lifted.	**Post 2041**
Mud Street - Upper Centennial Parkway to Second Road East	1.67	Road Reconstruction and Urbanization	2	3	3	3	1.5	12.5	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
Second Road East - Highway 20 to Mud Street	1.94	Road Widening	2	3	3	1.5	0	9.5	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
Trinity Church Road - Hydro Corridor (470m south of Rymal Road) to Golf Club Road	1.60	Road Widening	4	0	4.5	3	1.5	13	This project is related to the Elfrida developments which will not take place before 2041.	**Post 2041**
Jones Road - Barton Street to South Service Road	0.92	Road Reconstruction and Urbanization	3	6	3	3	3	18		**To 2031**
Lewis Road - Barton Street to South Service Road	0.87	Road Reconstruction and Urbanization	2	3	3	4.5	3	15.5		**To 2031**
Millen Road - Barton Street to South Service Road	1.07	Road Reconstruction and Urbanization	3	6	4.5	3	3	19.5		**To 2031**
Fletcher Road - McWatters Street to Golf Club Road	3.60	Road Reconstruction and Urbanization	2	0	3	1.5	0	6.5		**Post 2041**
South Service Road - Millen Road to Gray Road	1.55	Road Reconstruction and Urbanization	4	3	3	3	1.5	14.5		**2031 to 2041**
Jerseyville Road - Lloyminn Avenue to Meadowbrook Drive	1.25	Road Reconstruction and Urbanization	2	3	4.5	1.5	1.5	12.5		**2031 to 2041**
Nebo Road - Twenty Road to Dickenson Road/Dartnall Road	0.74	Road Reconstruction and Urbanization	2	0	3	3	1.5	9.5	This project has been prioritized as it is in conjunction with the Dartnall Road extension project	**To 2031**
Collector 11N - Fiddler's Green Road to Collector 9W	0.35	New Road	2	6	3	3	3	17	This road is adjacent to lands that are in phase 2 of the Airport Employment Growth District secondary plan.	**2031 to 2041**
Nebo Road - Rymal Road to Twenty Road East	1.30	Road Reconstruction and Urbanization	3	0	4.5	3	1.5	12	This project is scheduled for construction in 2024.	**To 2031**

Project Description			Project Evaluation							
Location	Length (km)	Project Type	Transportation	Environment	Social	Economic	Implementation	Overall Project Score	Additional Considerations	Draft Proposed Implementation Date
Collector 1W - Collector 10N to Garner Road	0.39	New Road	2	0	3	1.5	3	9.5	Collector 1W connects Collector 10N to Garner Road. It provides network redundancy and accessibility to lands south of Garner Road. The implementation of Collector 1W should be the same as the Collector 10N.	**2031 to 2041**
Highway 403 - Mohawk Road/Lincoln M. Alexander Parkway to Highway 6 south interchange	-	Road Widening	4	3	3	6	4.5	20.5	This project is an MTO project	**To 2031**

Appendix B

Strategic Transportation Network Review Active Transportation Projects

Location	Timing (year)	Length (km)	Facility Type
Barton - Brockley to Fruitland	2024-2031	3.95	Multi-Use Trail
Barton - Red Hill Valley to Lake	2024-2031	1.61	Cycle track
Baseline/ Lockport - Winona Road to Niagara border	2024-2031	1.15	Bike Lane
Battlefield Park - Bruce Trail Link - Greenhill to Bruce Trail to Glover Mtn	2024-2031	0.75	Multi-Use Trail
Beach Bike Lane - under QEW	2024-2031	0.24	Bike Lane
Beach Boulevard - lift bridge to Woodward/Eastport	2024-2031	4.52	Bike Lane
Beddoe Drive Link	2024-2031	0.91	Multi-Use Trail
Binbrook Road - Regional Road 56 to Southbrook	2024-2031	0.28	Bike Lane
Binbrook Road - Trinity Church to Royal Winter/Binhaven	2024-2031	2.16	Multi-Use Trail
Birch/ Holton - Burlington St to Cannon/ King/ Delaware	2024-2031	1.40	Bike Lane
Burlington Street East Boulevard Trail - Ottawa to Parkdale to Glow	2024-2031	2.30	Multi-Use Trail
Burlington Street Link - Ferguson/ Dock Service Road to Sherman	2024-2031	1.88	Multi-Use Trail
Burlington/ Industrial - Sherman to Gage	2024-2031	0.86	Cycle track
Centennial Parkway - North Service to GO station/ Kenora	2024-2031	1.20	Multi-Use Trail
Centre - Concession 8 E to Concession 7 E	2024-2031	1.80	Paved Shoulder
Centre - Grindstone Creek to Concession 5 E	2024-2031	0.45	Paved Shoulder
Centre - Warren/ Carlisle Road to Progreston	2024-2031	0.78	Paved Shoulder
Charlton/ John - James to Ferguson & St Joseph's Dr	2024-2031	0.80	Bike Lane
Chedmac - Southridge to Rice	2024-2031	0.53	Bike Lane
Chedoke Rail Trail - Highway 403 to Dundurn	2024-2031	4.68	Multi-Use Trail
Cherry Beach Road Link - Millen to Dewitt	2024-2031	0.91	Multi-Use Trail
Christie-Tews - Christie C.A. to Harvest	2024-2031	2.75	Multi-Use Trail
Delawana - Kenora to Lake	2024-2031	1.02	Bike Lane
Devil's Punchbowl Link - Mountain Ave/ Lake Ave to Ridge Road/ Devil's	2024-2031	0.42	Multi-Use Trail
Dewitt - Barton to Dundee	2024-2031	0.90	Bike Lane
Dewitt - Dundee to Ridge	2024-2031	0.50	Bike Lane
Dundas St - Main to Cootes	2024-2031	0.68	Bike Lane
Dundas St in Waterdown - Highway 6 to Kearns (border)	2024-2031	6.03	Multi-Use Trail
East Townline - Mud to Highland	2024-2031	1.10	Bike Lane
Eastport Drive Lift Bridge Link	2024-2031	0.60	Multi-Use Trail
Edgewood - Safari to Highway 6	2024-2031	0.90	Bike Lane
Emperor - Brigade to Acadia	2024-2031	0.44	Bike Lane
Existing Pipeline Trail - Main to Strathearne	2024-2031	2.20	Multi-Use Trail
Fallsview - Sydenham to Rock Chapel Road	2024-2031	1.40	Multi-Use Trail

Location	Timing (year)	Length (km)	Facility Type
Fennell Avenue Boulevard Trail - Garth/ West 18th to West 5th	2024-2031	1.20	Multi-Use Trail
Ferguson - Young to Charlton	2024-2031	0.21	Bike Lane
Fiddler's Green - Amberly to Carluke	2024-2031	6.77	Bike Lane
Fiddler's Green - Jerseyville to Wilson	2024-2031	0.25	Bike Lane
First Rd W/Whitedeer/Terryberry & Picardy/ Highbury - Glover Mtn Road/ Ridgeview Dr to Rymal/ Bellagio	2024-2031	4.08	Bike Lane
Frances - Grays to Southshore	2024-2031	1.15	Bike Lane
Frid/Chatham - Longwood to Dundurn	2024-2031	1.00	Bike Lane
Golf Links/ Halson - Wilson to Southcote	2024-2031	1.19	Bike Lane
Governor's - Wainwright to Lynden	2031-2041	13.06	Paved Shoulder
Governor's - Ogilvie to Main	2024-2031	0.24	Bike Lane
Grays/ Gray - Confederation Park gate to King	2024-2031	3.00	Multi-Use Trail
Greenhill - Harrisford to Summercrest	2024-2031	1.94	Bike Lane
Greenhill - Summercrest to King	2024-2031	1.20	Bike Lane
Hamilton Drive Link	2024-2031	-	Multi-Use Trail
Hamilton in Waterdown - Centre/Main to Highway 5/Dundas	2024-2031	1.00	Multi-Use Trail
Hamilton-Brantford Rail Ttrail - Bridlewood Dr to Ewen	2024-2031	4.00	Multi-Use Trail
Hatt - Peel to John	2024-2031	0.65	Cycle track
Hollybush - Parkside to Dundas St	2024-2031	1.10	Bike Lane
Hydro Corridor - Barton to Lawrence	2024-2031	1.90	Multi-Use Trail
Hydro Corridor - Lawrence Avenue to Greenhill Avenue	2024-2031	1.15	Multi-Use Trail
Hydro Corridor - Wilson/Highway 52 to Regional Road 56	2024-2031	12.70	Multi-Use Trail
Iroquois Heights to Old Mohawk - Chedoke Rail Trail to Old Mohawk Road	2024-2031	0.85	Multi-Use Trail
Jones Road Link	2024-2031	2.67	Multi-Use Trail
Karst Escarpment Loop - Pritchard to Mount Albion/Winterberry	2024-2031	0.70	Multi-use Trail
Kenora/ Greenford/ Owen - Bancroft to King	2024-2031	2.60	Bike Lane
Kentley - Eugene to Kenora	2024-2031	0.40	Signed Bike Route
Kerns Road,Waterdown South Link	2024-2031	-	Multi-Use Trail
King in Dundas - Bond to Peel	2024-2031	0.80	Bike Lane
King over Red Hill Valley Parkway - Lawrence to Pottruff	2024-2031	0.60	Cycle track
Kitty Murray - Garner to Golf Links	2024-2031	2.26	Bike Lane
Limeridge - Birchview to Mtn Brow	2024-2031	1.98	Bike Lane
Limeridge - Garth/ Bonaventure to West 5th/ Hawkridge	2024-2031	1.37	Bike Lane
Limeridge Mall Hydro Corridor Trail - Mohawk Road to South of Rymal	2024-2031	3.80	Multi-Use Trail
Lovers Lane - Sulpher Springs to Jerseyville	2024-2031	0.90	Bike Lane

Location	Timing (year)	Length (km)	Facility Type
Marston - Paramount to Gordon Drummond	2024-2031	0.40	Bike Lane
Meadowbrook	2024-2031	1.00	Bike Lane
Meadowlands/ Raymond - Golf Links to Garner	2024-2031	2.10	Bike Lane
Millen - Shoreview to Millen/ Seaman	2024-2031	0.50	Bike Lane
Mohawk - Old Mohawk to Upper Paradise	2024-2031	1.83	Bike Lane
Montclair/ Central/ Graham/ Frederick	2024-2031	3.80	Signed Bike Route
Mountain Brow Boulevard Trail - Mohawk to Arbour	2024-2031	1.81	Multi-Use Trail
Mountain Brow East Path - Rendell to Oakcrest	2024-2031	0.81	Multi-Use Trail
Mountain Brow in Waterdown - Mill to Burke to King Road	2024-2031	1.20	Multi-Use Trail
Museum of Steam and Tech Link - Woodward to Red Hill Valley Trail	2024-2031	0.75	Multi-Use Trail
Nash - Bancroft to King	2024-2031	2.58	Cycle track
North Service Road - Bellavista to Baseline	2024-2031	0.98	Bike Lane
North Service Road - Dewitt to Lakeview	2024-2031	0.73	Bike Lane
Northlawn Avenue Link	2024-2031	1.10	Multi-Use Trail
Ogilvie/ Old Ancaster - Hatt/ King to Hamilton-Brantford Rail Trail	2024-2031	0.80	Bike Lane
Old Guelph Road - Paterson to York Bike Lane	2024-2031	3.53	Paved Shoulder
Old Mud - Mt Albion to Winterberry	2024-2031	0.40	Bike Lane
Osler/ Main - Hatt/ King to Main + 125m of Main	2024-2031	2.00	Bike Lane
Ottawa Street South - Bruce Trail Link	2024-2031	0.39	Multi-Use Trail
Proposed Pipeline Trail - Museum of Steam and Technology to Mahoney	2024-2031	2.40	Multi-Use Trail
Queensdale - Upper Sherman to Upper Ottawa	2024-2031	1.56	Bike Lane
Queensdale - Upper Wellington to Skyland	2024-2031	0.39	Bike Lane
Queenston/ Highway 8 - King to Dewitt	2024-2031	1.37	Bike Lane
Regional Road 56 - Swayze Road to Cemetery	2024-2031	4.60	Multi-Use Trail
Regional Road 56 south of Kirk - Windwood to Kirk	2024-2031	1.14	Multi-Use Trail
Ridge Road - Devil Punch Bowl to Dewitt	2024-2031	2.91	Multi-Use Trail
Rousseaux/ Mohawk - Wilson to Filman	2024-2031	1.60	Bike Lane
Scenic - Chedoke Rail Ttrail to Upper Paradise	2024-2031	2.27	Bike Lane
Scenic/ Denlow - Upper Paradise to Garth	2024-2031	0.95	Bike Lane
Shaver - Wilson to Garner	2024-2031	0.52	Multi-Use Trail
Stuart Street Rail Link	2024-2031	0.94	Multi-Use Trail
Upper James - William Connell Park	2024-2031	0.38	Multi-Use Trail
Upper Sherman - Stone Church to Rymal to Miles	2024-2031	1.00	Bike Lane
Upper Wentworth - Concession to Fennell	2024-2031	1.03	Bike Lane
Upper Wentworth - Fennell to East 24th	2024-2031	1.03	Bike Lane
Valley Road - Rock Chapel to York Road	2024-2031	1.40	Paved Shoulder
Van Wagner's - Beach Bike Lane to Centennial Parkway	2024-2031	2.50	Bike Lane
Victoria - Young to Burlington	2024-2031	2.53	Bike Lane

Location	Timing (year)	Length (km)	Facility Type
Walnut Grove & Sanctuary Park - Walnut Grove/ Ogilvie to Highland Park Dr	2024-2031	0.40	Multi-Use Trail
Warrington/ South Service/ Lake - Centennial Parkway to Maple	2024-2031	3.86	Multi-Use Trail
White Church Road West Airport Link	2024-2031	-	Multi-Use Trail
White Church Road West Link	2024-2031	6.55	Multi-Use Trail
Wilson in Ancaster - Rousseaux to Halson	2024-2031	0.85	Bike Lane
Winona - Lido/ shore to Peachtree (Helena)	2024-2031	1.97	Multi-Use Trail
York Road - Olympic to Valley Road	2024-2031	1.70	Paved Shoulder
York Road & York Road at Old Guelph - Valley Road to Highway 6	2024-2031	2.50	Multi-Use Trail
Acadia - Emperor to End	2024-2031	0.54	Signed Bike Route
Airport Road - Butter to Miles	2024-2031	6.66	Bike Lane
Alma - Sydenham to Queen	2024-2031	0.09	Bike Lane
Aquasanta - Dicenzo to Ascoli	2024-2031	0.09	Signed Bike Route
Baker - Breadalbane to Dundurn	2024-2031	0.14	Signed Bike Route
Winston - Hunter to 413m west of Kelson Ave N	2024-2031	2.06	Bike Lane
Bedrock - First Rd W to 300m West of First Rd W	2024-2031	0.33	Bike Lane
Bellagio - Fletcher to Terryberry	2024-2031	1.64	Bike Lane
Binbrook Road - Southbrook to Boundary	2024-2031	6.02	Paved Shoulder
Book Road - Shaver to Fiddler's Green	2031-2041	2.50	Paved Shoulder
Book Road - Fiddler's Green to Glancaster	2024-2031	3.42	Bike Lane
Brantdale - West Fifth Street to Upper James	2024-2031	0.42	Signed Bike Route
Bridlewood - Governor's to Highland Park Drive	2024-2031	0.59	Signed Bike Route
Brigade - Upper Wellington to Emperor	2024-2031	0.82	Signed Bike Route
Brock - Harvest Road to Highway 8	2024-2031	0.55	Paved Shoulder
Brock - Safari to Freelton	2024-2031	4.50	Paved Shoulder
Burke - Great Falls Blvd to McKnight Ave E	2024-2031	0.51	Bike Lane
Butter - Glancaster to Fiddler's Green	2024-2031	2.21	Bike Lane
Canada - Locke to Queen	2024-2031	0.41	Signed Bike Route
Carlisle Trail Loop - Centre Road to Border	2024-2031	3.35	Paved Shoulder
Carlson Street - Highland Road to End	2024-2031	0.11	Signed Bike Route
Carluke - Glancaster to Shaver	2031-2041	3.53	Paved Shoulder
Central - Edgemont to Cochrane	2024-2031	1.54	Signed Bike Route
Concession 10 West - Foreman to Freelton	2024-2031	9.28	Signed Bike Route
Concession 11 E - Centre Road to Freelton	2024-2031	2.65	Paved Shoulder
Concession 4 West - Millgrove Sideroad to Highway 6	2031-2041	1.78	Paved Shoulder
Concession 6 East - Highway 6 to Centre Road	2031-2041	2.79	Paved Shoulder
Concession 7 West - Boundary to Edgewood Road	2024-2031	18.80	Paved Shoulder
Concession 8 West - Middletown to Middletown	2024-2031	0.14	Signed Bike Route
Concession Street - Mountain Park Ave to Mountain Brow Boulevard	2024-2031	0.51	Bike Lane
Confederation Beach Park - Centennial Parkway to West of Gray	2024-2031	1.98	Signed Bike Route

Location	Timing (year)	Length (km)	Facility Type
Cormorant - Trinity to Shaver	2024-2031	2.46	Bike Lane
Culotta - Perrelli to Chudleigh	2024-2031	0.14	Signed Bike Route
Dicenzo Dr - Aquasanta Crescent to South Turn on Dicenzo Drive	2024-2031	0.36	Signed Bike Route
Dicenzo Dr - Upper Wellington to Trieste	2024-2031	0.20	Signed Bike Route
Dundurn - Main to King	2024-2031	0.28	Bike Lane
Edgemont - Montclair to Central	2024-2031	0.18	Signed Bike Route
Eighth Road Link - Ridge to Boundary	2031-2041	5.51	Paved Shoulder
Eleventh - Mud to Green Mountain Road	2024-2031	1.11	Signed Bike Route
Emerson - Whitney to Main	2024-2031	0.65	Bike Lane
Empress - Upper James to East Sixth Street	2024-2031	0.71	Signed Bike Route
Eugene - Pottruff to Nugent	2024-2031	0.18	Signed Bike Route
Fallsview - Harvest Road to Sydenham	2024-2031	2.47	Signed Bike Route
Ferguson - Dock Service Road to Burlington	2024-2031	0.28	Signed Bike Route
Ferguson - Young to North of Young	2024-2031	0.05	Bike Lane
Field - Jerseyville Rd W to Governor's Rd	2031-2041	3.88	Paved Shoulder
Fifty - Ridge to Cokers	2024-2031	1.51	Paved Shoulder
Fifty - Coke to North Service Road	2024-2031	2.24	Bike Lane
Filman - Wilson St E to End	2024-2031	0.40	Signed Bike Route
First Road East - Highland Road to Ridge Road	2031-2041	3.83	Paved Shoulder
First Road West - North End to Highbury Drive	2024-2031	0.10	Bike Lane
Flamborough Puslinch Tlin - Maddaugh Road to Centre	2031-2041	1.81	Paved Shoulder
Fleming - North End to York	2024-2031	0.26	Signed Bike Route
Fletcher - Rymal to Pinehill	2024-2031	0.32	Paved Shoulder
Foreman - Boundary to Regional Road 97	2024-2031	3.08	Signed Bike Route
Franklin - Parkview to Longwood	2024-2031	0.20	Signed Bike Route
Frederick - Barton to Roxborough	2024-2031	0.62	Signed Bike Route
Freelton - Concession 11 E to South of Highway 6	2024-2031	0.38	Bike Lane
Fruitland - Highway 8 to North Service Road	2024-2031	2.42	Bike Lane
Galbraith - Lake Avenue to Galbraith Three-way Intersection	2024-2031	0.52	Signed Bike Route
Garth - Denlow to Fennell	2024-2031	0.14	Paved Multi-Use Recreational Trail
Garth St Extension - 20 Rd W to Dickenson Rd W	2024-2031	1.38	Bike Lane
Glancaster - Carluke to Airport	2024-2031	1.45	Bike Lane
Glenfern - Kent to Kent	2024-2031	0.04	Signed Bike Route
Glover - Watercrest to End	2024-2031	0.11	Bike Lane
Glow - Parkdale to East of Tate	2024-2031	0.63	Signed Bike Route
Golf Club - Woodburn to Westbrook	2024-2031	2.07	Signed Bike Route
Golf Links - Stone Church to Kitty Murray	2024-2031	1.30	Bike Lane
Gordon Drummond - Marston to Nordale	2024-2031	0.04	Signed Bike Route
Graham Ave North - Central to Roxborough	2024-2031	0.78	Signed Bike Route
Guise - Leander to Catharine	2024-2031	0.54	Bike Lane
Gunby - Sadielou to Painter	2024-2031	0.50	Bike Lane

Location	Timing (year)	Length (km)	Facility Type
Harrison - Kirk to Binbrook Conservation Area Road	2024-2031	1.30	Paved Multi-Use Recreational Trail
Harvest - Sydenham to Brock	2024-2031	3.40	Paved Shoulder
Highland Rd E - Upper Red Hill Valley Pkwy to Winterberry	2024-2031	0.94	Bike Lane
Highland Rd E - Upper Centennial Pkwy to E Town Line	2031-2041	10.17	Paved Shoulder
Highway 5 West - Dundas St E to Sydenham	2024-2031	3.02	Paved Shoulder
Highway 8 (Flam) - Boundary to Brock	2031-2041	22.30	Paved Shoulder
Highway 8 (Sc) - Fifty to Boundary	2031-2041	0.81	Bike Lane
Holton - King to Delaware	2024-2031	0.57	Signed Bike Route
Holton - King to Wilson	2024-2031	0.18	Bike Lane
Homestead Dr Path - Upper James to 1200m East of Upper James	2024-2031	1.24	Bike Lane
Hughson - Cannon to Hunter	2024-2031	0.81	Bike Lane
Hunt - Christ the King Elementary School Road to Breadalbane	2024-2031	0.57	Signed Bike Route
Hunter - Locke to Queen	2024-2031	0.41	Signed Bike Route
Inverness - Tanner to East 8th	2024-2031	0.77	Bike Lane
Jackson St W - End to Locke St S	2024-2031	0.38	Signed Bike Route
Jerseyville Rd W - Boundary to East of Paddy Greens	2031-2041	18.45	Paved Shoulder
Jerseyville Rd W - West of Shaver to Wilson	2024-2031	3.49	Paved Shoulder
John - Guise to Burlington	2024-2031	0.29	Bike Lane
Kay Drage Park Link - Hunt to End	2024-2031	0.55	Signed Bike Route
Kay Drage Park Link - Macklin to End	2024-2031	0.14	Signed Bike Route
King William - James St N to Catharine St N	2024-2031	0.34	Signed Bike Route
Kirk - Harrison to Highway 56	2024-2031	0.98	Paved Multi-Use Recreational Trail
Kirkwall - Regional Road 97 to South of Concession 8 W	2024-2031	2.51	Signed Bike Route
Kirkwall - South of Concession 8 W to Woodhill Rd	2024-2031	5.78	Paved Shoulder
Lafarge 2000 (Middletown Rd) - Concession 6 W to Highway 8	2024-2031	7.91	Signed Bike Route
Lafarge 2000 (Middletown Rd/Binkley Rd) - Highway 8 to Mineral Springs Rd	2024-2031	3.57	Paved Shoulder
Lamoreaux - Dundurn t N to Strathcona Ave N	2024-2031	0.23	Signed Bike Route
Leland - Main to North of Ward	2024-2031	0.29	Signed Bike Route
Lido - Riviera to Winona	2024-2031	0.39	Signed Bike Route
Livingstone - Sydenham to Queen	2024-2031	0.11	Bike Lane
Locke - York Blvd to Barton	2024-2031	0.26	Bike Lane
Longwood - Main St W to Frid St	2024-2031	0.40	Bike Lane
Macklin St S - King St W to Main St W	2024-2031	0.24	Signed Bike Route
Maddaugh Road - Gore to Highway 6	2024-2031	0.95	Signed Bike Route

Location	Timing (year)	Length (km)	Facility Type
Maddaugh Road - Highway 6 to Flamborough Puslinch Tlin	2031-2041	1.11	Paved Shoulder
Maggie Johnson - Tanglewood to Highway 56	2024-2031	0.23	Bike Lane
Main St W - Frid to Dundurn St S	2024-2031	0.27	Bike Lane
Malton - Christine to Upper James	2024-2031	0.34	Signed Bike Route
Maple/Mountain Ave Extension - Lake Ave S to Mountain Ave S	2024-2031	0.13	Signed Bike Route
Marion - Dromore to King St W	2024-2031	0.34	Signed Bike Route
Market - Hatt to MacNab	2024-2031	0.09	Bike Lane
Market - MacNab to Creighton	2024-2031	0.09	Signed Bike Route
Mayfair - Creighton to Tally Ho	2024-2031	0.31	Signed Bike Route
McNeilly/8th Road E - Highway 8 to Ridge Road	2024-2031	1.55	Signed Bike Route
Middleton Rd - North of Regional Road 97 to Regional Road 97	2024-2031	0.44	Signed Bike Route
Middleton Rd - North of Concession 8 W to Safari	2024-2031	2.32	Signed Bike Route
Miles - Rymal Rd E to Boundary	2031-2041	10.88	Paved Shoulder
Millgrove Sr - Highway 6 N to Highway 5 W	2024-2031	0.71	Paved Shoulder
Mineral Springs - Binkley to Sulphur Springs	2031-2041	1.27	Paved Shoulder
Mount Albion - Lawrence to South of Glen Castle	2024-2031	1.39	Bike Lane
Mountain Brow - Concession Street to Rendell	2024-2031	0.27	Bike Lane
Mud - Eleventh Road E to Boundary	2031-2041	0.89	Paved Shoulder
Napier - Queen St N to Bay St N	2024-2031	0.55	Signed Bike Route
Nisbet - Centre Road to Wimberly	2024-2031	0.97	Bike Lane
Nordale - Gordon Drummond to End	2024-2031	0.39	Signed Bike Route
Nugent - Kentley to Eugene	2024-2031	0.13	Signed Bike Route
Old Mud - Upper Mount Albion to Cedarville	2024-2031	0.28	Bike Lane
Ottawa - Main to Montclair	2024-2031	0.49	Bike Lane
Parkdale Ave - Nikola Tesla Blvd to Glow	2024-2031	0.18	Paved Multi-Use Recreational Trail
Pearl - Hunter to Tuckett	2024-2031	0.23	Signed Bike Route
Peel St S - King St W to Hatt	2024-2031	0.14	Signed Bike Route
Perrelli - Culotta to Dundas St E	2024-2031	0.11	Signed Bike Route
Picton - Bay St n to Hughson St N	2024-2031	0.39	Signed Bike Route
Picton - John St N to Ferguson Ave N	2024-2031	0.42	Signed Bike Route
Queen - Alma to Livingstone	2024-2031	0.16	Bike Lane
Queen St S - Hunter to Canada	2024-2031	0.08	Signed Bike Route
Redmond - Rushdale to Stone Church Rd E	2024-2031	0.20	Signed Bike Route
Regional Road 20 (Highway 20) - Tapleytown to Woodburn	2024-2031	0.28	Signed Bike Route
Regional Road 97 - Kirkwall to Foreman	2024-2031	0.16	Paved Shoulder
Ridge - Dewitt to Boundary	2024-2031	7.05	Paved Shoulder
Riley - West of Chudleigh to Braeheid	2024-2031	0.21	Signed Bike Route
Riviera Ridge - Bellavista to Lido	2024-2031	0.12	Undefined
Rock Chapel - Highway 5 W to Service Road East of Sydenham	2024-2031	1.91	Signed Bike Route
Roxborough - Frederick to Graham Ave N	2024-2031	0.05	Signed Bike Route

Location	Timing (year)	Length (km)	Facility Type
Rushdale - Southpark to Redmond	2024-2031	0.08	Signed Bike Route
Rymal - Upper Paradise to Spadara	2024-2031	0.44	Bike Lane
Rymal - Hazelton to West Fifth St	2024-2031	0.77	Bike Lane
Sadielou - Hollybush to End	2024-2031	0.42	Bike Lane
Santorium - Scenic to Redfern	2024-2031	0.11	Bike Lane
Scenic - Scenic Dr to Garth St	2024-2031	0.23	Bike Lane
Second St N - King St W to North of Brandow	2024-2031	0.14	Signed Bike Route
Shaver - Wilson to Jerseyville Rd W	2024-2031	1.47	Bike Lane
Shaver - Garner to Carluke	2031-2041	6.11	Paved Shoulder
Sheppard - Sovereign to Fleming	2024-2031	0.10	Signed Bike Route
Sherman - Delaware to CP Rail Line	2024-2031	0.33	Signed Bike Route
Skinner - Dundas St E to East of McKnight Ave E	2024-2031	1.39	Bike Lane
South Bend - W Second St to Terrace	2024-2031	0.42	Signed Bike Route
South St W - Oglivie to Osler	2024-2031	0.70	Signed Bike Route
Southcote - Garner to Airport	2031-2041	2.80	Bike Lane
Southpark - Rushdale Park Trail to Rushdale Dr	2024-2031	0.25	Signed Bike Route
St Joseph's - John St S to End	2024-2031	0.29	Signed Bike Route
Sulphur Springs - Lover's to Mineral Springs Rd	2031-2041	1.47	Paved Shoulder
Sulphur Springs - Lover's to Wilson St E	2024-2031	1.05	Signed Bike Route
Sunnyridge - Wilson St W to Jerseyville Rd W	2024-2031	2.83	Paved Shoulder
Sydenham/Queen/Livingstone/Alma - Hatt to Romar Dr	2024-2031	1.86	Bike Lane
Talbot - Melvin to Barton St E	2024-2031	0.19	Signed Bike Route
Tally Ho - Mayfair to Overfield	2024-2031	0.22	Signed Bike Route
Tanner - Iverness to End	2024-2031	0.05	Signed Bike Route
Tapleytown Rd - Highway 20 E to Highland Rd E	2024-2031	0.83	Signed Bike Route
Tradewind - Wilson St W to Cormorant	2024-2031	0.70	Bike Lane
Twenty Rd - Southcote to West of Nebo	2024-2031	9.36	Bike Lane
Upper Ottawa - Killbride to Mountain Brow Boulevard	2024-2031	5.22	Bike Lane
Upper Sherman - Macassa to Limeridge Rd E	2024-2031	1.65	Bike Lane
Upper Wellington - S Bend Rd E to Stone Church Rd E	2024-2031	2.40	Bike Lane
W 18th St - Bendamere to End	2024-2031	0.17	Signed Bike Route
W 5th St - Brantdale to Governors Blvd	2024-2031	0.62	Multi-Use Trail
W 5th St - Governors Blvd to Marlowe	2024-2031	1.13	Bike Lane
Westbrook - End to Golf Club Rd	2024-2031	0.86	Signed Bike Route
Wilson in Ancaster - Fiddler's Green to Boundary	2024-2031	10.77	Cycle Track
Wimberly - Parkside to Nisbet	2024-2031	0.33	Bike Lane
Windwood Dr - Bradley to Southbrook Dr	2024-2031	0.70	Bike Lane
Woodbine Crescent - Jones to Dundurn St N	2024-2031	0.22	Signed Bike Route
Woodburn - Binbrook Rd E to Highway 20 E	2024-2031	7.56	Signed Bike Route
Woodhill Rd - Governor's to 800m south of Highway 8	2024-2031	7.05	Signed Bike Route
Woodhill Rd - Highway 8 to 800m south of Highway 8	2024-2031	1.04	Paved Shoulder

Location	Timing (year)	Length (km)	Facility Type
Woodward Ave - Beach Blvd to 100m south of Beach Blvd	2024-2031	0.10	Bike Lane
York - Olympic to Baldwin	2024-2031	2.33	Bike Lane
Highway 6 - Concession 10 W to Freelton	2024-2031	0.39	Paved Multi-Use Recreational Trail
Highway 6 N - Carlisle to Edgewood Road	2024-2031	0.55	Paved Multi-Use Recreational Trail
Carlisle Road - Highway 6 to Milborough Townline	2024-2031	5.85	Paved Shoulder
Concession 5 West - Highway 6N to Moffatt Road	2024-2031	3.01	Paved Shoulder
Mosaic Dr - Parkside Dr to Highway 6	2024-2031	1.90	Multi-Use Trail

Appendix C

Strategic Transportation Network Review Costing Tables

Exhibit 4.1: Road Project Component Unit Rate

Item	Quantity	Average Unit Price ($2023)
Removals		
Clearing and Grubbing (Area)	m^2	$4.53
Excavation	m^3	$28.24
Concrete Sidewalk/Drive	m^2	$19.42
Culverts (Including headwalls/sewers)	m	$127.00
Catch basin (Single)	Each	$876.67
Catch basin (Double)	Each	$896.94
Concrete Curb and Gutter	m	$12.01
Maintenance Hole (Full Depth)	Each	$640.12
Maintenance Hole (Partial Depth)	Each	$770.14
Concrete Curb Outlets	Each	$12.01
Cold Plan Existing Asphalt (Milling)	m^2	$29.90
Full Depth Asphalt	m^2	$5.79
New Construction		
20mm CRLS (Crusher Run Limestone)	Tonne	$32.38
50mm CRLS (Crusher Run Limestone)	Tonne	$32.89
Granular A – Roadway	m^3	$78.06
Granular B – Roadway	m^3	$77.43
Tack Coat	m^2	$0.69
Surface Mix (40mm)	Tonne	$158.23
Surface Mix (50mm)	Tonne	$126.12
Binder Mix (80mm)	Tonne	$118.89
Binder Mix (100mm)	Tonne	$113.88

Item	Quantity	Average Unit Price ($2023)
Binder Mix (120mm)	Tonne	$168.35
100mm Diameter Non-Perforated Sub-Drain	m	$40.85
150mm Diameter Non-Perforated Sub-Drain	m	$33.01
Concrete Sidewalk (Ex. Granular/Excavation)	m^2	$72.75
Concrete Sidewalk (Including Granular)	m^2	$98.03
Concrete Curb & Gutter	m	$121.59
Topsoil & Sod (300mm)	m^2	$23.61
Supply/Install Storm/Sewer Pipes	m	$1,322.99
Supply/Install Catch basin Leads (250mm)	m	$500.84
Supply/Install Catch basin (OPSD 705.010)	Each	$4,683.02
Supply/Install Catch basin (OPSD 705.020)	Each	$6,722.25
Supply/Install Manhole (OPSD 701.010)	Each	$19,101.15
Pavement Markings	m	$8.50
Fire Hydrants	Each	$11,347.85
Adjustments		
Double Catch basin	Each	$765.50
Single Catch basin	Each	$763.73
Maintenance Holes	Each	$797.00
Catch basin Manhole	Each	$564.48
Water Valve Boxes	Each	$794.73

Exhibit 4.2: Road Project Per Kilometre Cost by Improvement Type

Improvement Type	Code	Cost Per Kilometre ($2023)
New Construction		
Industrial Collector 2 Lanes	2i	$ 8,502,110.30
Industrial Collector 3 Lanes	3i	$ 9,308,901.69
Collector Rural Residential	2r	$ 5,854,196.86
Rural 3 Lanes	3r	$ 6,279,790.05
Rural 4 Lanes	4r	$ 6,681,294.09
Rural 5 Lanes	5r	$ 7,100,864.99
Rural 6 Lanes	6r	$ 7,520,435.89
Collector Urban Residential	2u	$ 7,044,788.91
Urban 3 Lanes Arterial/Collector	3u	$ 9,107,630.09
Urban 4 Lanes Arterial	4u	$10,004,419.36
Urban 5 Lanes Arterial	5u	$10,624,646.86
Urban 6 Lanes Arterial	6u	$11,244,874.36
Reconstruction and Urbanization		
Collector Rural Residential to Industrial Collector 2 Lanes	2r-2i	$ 8,534,594.64
Collector Rural Residential to Collector Urban Residential	2r-2u	$ 7,731,543.27
Collector Rural Residential to 3 Lane Urban	2r-3u	$ 7,659,304.44
Collector Rural Residential to 3 Lanes Rural Arterial/Collector	2r-3r	$ 6,340,575.66
Collector Rural Residential to 3 Lanes Rural Arterial with Bike Facilities	2r-3r+Bikes	$ 7,790,478.99
Collector Rural Residential to 4 Lanes Rural Arterial	2r-4r	$ 7,367,234.44
Collector Rural Residential to 4 Lanes Rural Arterial with no Base Removal	2r-4r-nbr	$ 7,367,234.44
Collector Rural Residential to 4 Lanes Urban Arterial	2r-4u	$ 9,382,573.73
Collector Rural Residential to 5 Lanes Urban Arterial	2r-5u	$10,093,550.41
Collector Urban Residential to 4 Lanes Urban Arterial	2u-4u	$ 9,556,325.05

Improvement Type	Code	Cost Per Kilometre ($2023)
3 Lanes Rural to 3 Lanes Urban	3r-3u	$ 9,264,853.85
3 Lanes Rural to 5 Lanes Urban	3r-5u	$11,026,843.95
2 Lanes Urban to 5 Lanes Urban	2u-5u	$11,130,934.09
3 Lanes Urban to 5 Lanes Urban	3u-5u	$11,155,773.19
4 Lanes Rural to 6 Lanes Rural	4r-6r	$11,943,397.78
4 Lanes Rural to 4 Lanes Urban	4r-4u	$10,521,444.43
4 Lanes Rural to 5 Lanes Urban	4r-5u	$11,232,421.10
4 Lanes Rural to 6 Lanes Urban	4r-6u	$11,943,397.78
4 Lanes Rural to 5 Lanes Urban with no Base Removal	4r-5u-nbr	$11,232,421.10
4 Lanes Urban to 5 Lanes Urban	4u-5u	$11,387,622.07
4 Lanes Urban to 6 Lanes Urban	4u-6u	$12,098,598.74

Exhibit 4.3: Active Transportation Per Metre Cost by Facility Type

Facility Type	Cost ($/m)
Bike Lane	$140
Cycle track	$500
Paved Shoulder	$300
Signed Bike Route	$40
Commuter Trail	$66
Paved Multi-Use Recreational Trail	$750
Multi-Use Path	$750
Multi-Use Trail	$750

Appendix D

Transportation Inputs to the 2024 Development Charges Background Study

1 Introduction

The City of Hamilton is conducting a 2024 Development Charges Background Study (2024 DC Study) to update the 2024 Development Charges By-Law. One of the goals of the STNR is to provide the transportation inputs to the 2024 DC Study. The 2024 DC By-Law will use the following transportation **service targets**:

- **2031** for roads, active transportation, structures and programs**.**
- **2032** for transit projects.

This means that projects in the STNR recommended for implementation after the service target years are not included in the 2024 DC Study or are included with a 100% deduction for post-period benefit (PPB).

The following report builds on the foundation of the STNR to describe how the identified future transportation projects will be included in the 2024 DC Study. This appendix is structured as follows:

- **Chapter 2** provides a background on the Development Charges (DC) framework in Ontario.
- **Chapter 3** describes how the updated capital costs of transportation projects from the STNR are carried forward to the 2024 DC Study;
- **Chapter 4** explains how the local service policy applies to certain projects as determined by the City of Hamilton. It is noted that the City of Hamilton *Local Service Policy* and *Financial Policies* are outside of the scope of the transportation inputs; and,
- **Chapter 5** explains how the costs of DC-eligible transportation projects are divided among different groups.

2 Development Charges Overview

Development charges (DCs) are a municipal financing tool in the Province of Ontario, governed by the *Development Charges Act* (DCA), intended to ensure that "growth pays for growth". This framework allows municipalities to collect funds from developers to help pay for the costs of hard and soft infrastructure needed to support new growth in the city. These charges are administered through by-law as a cost per unit for new residential development and cost per sq.ft for new non-residential development.

Section 2(4) in the *DCA* lists the types of services that may be funded through development charges, while section 5(1) in the *DCA* outlines the process for determining development charges and the necessary reductions. The *DCA* states that a DC background study must be completed in advance of the passing of a DC by-law.

There have been numerous changes to the provincial *DCA* since the last DC background study was published in 2019. A summary of key changes resulting from new legislation is described below. The transportation inputs to the 2024 DC Study conform to requirements of the *DCA*, including changes since 2019.

- ***COVID-19 Economic Recovery Act* (Bill 197, 2020):** Among other changes, this act removed the 10-year planning horizon limit for all services except for transit.
- ***Planning Act*:** Bills 108 and 138 introduced changes to the *Planning Act* by introducing community benefits charges (CBCs) to replace the former section 37. CBCs are a municipal financing tool intended to be applied in partnership with DCs. CBCs can be used to fund capital costs of public services associated with new growth provided that these costs have not already been funded through DCs or parkland dedication. Transportation-related services cannot be funded through CBCs if they are already being funded through DCs.
- ***More Homes Built Faster Act* (Bill 23, 2022):** This bill introduced significant changes to planning in Ontario. This included changes to DCs such as studies no longer being eligible for DCs, land acquisition costs potentially no longer being eligible for DCs and a longer historical service level (15 years) for determining service ceilings. Municipalities across the province are working to identify the implications of this new bill, including the City of Hamilton.

The City of Hamilton currently implements DCs through By-law 19-142 (as amended by by-law 21-102), supported by the 2019 DC Background Study. The existing DC by-law is set to expire in June 2024. The transportation inputs from this study will be included in the 2024 DC Study that will be used to develop the new 2024 development charges by-law.

3 Development Charges Transportation Project Costs

The STNR included a detailed costing exercise to update the capital costs of all future transportation projects. However, only the costs of the projects within the 2024 DC Study service targets are included in the 2024 DC Study. These costs are summarized below in Exhibit 3.1.

Exhibit 3.1: Summary of STNR Project Capital Costs Included in the 2024 DC Study

Project Type	Approximate Capital Cost
Road	$655,000,000
Transit	$475,000,000
Active Transportation	$113,000,000
Structures	$182,000,000
Programs	$100,000,000
Total	**$1,525,000,000**

These capital costs will be subject to deductions described in the following sections.

4 Local Service Policy

The *Local Service Policy* (LSP) and the financial policies in the City of Hamilton *Comprehensive Development Guidelines and Financial Policies Manual* (*2019)* set the requirements for what is a direct developer responsibility and what is eligible for DC funding. Project costs that are directly funded by the developing landowner (as per the LSP and applicable financial policies) cannot also be included in the DC. For further information, including the treatment of local roads that are a direct developer responsibility, please refer to the LSP.

Developing the LSP and the financial policies are outside of the scope of the STNR study. Direction on how to apply the LSP and the financial policies to the 2024 DC Study calculations was provided by the City of Hamilton. This includes deductions from the DC-eligible costs to reflect the local share of roads (including bridges, culverts, land, and the road) that are a direct developer responsibility. Transportation project costs subject to the LSP were not included in the calculation of DC-recoverable costs. For road projects with a “To 2031” timing, the LSP deductions were applied as follows:

- The City of Hamilton identified projects subject to LSP deductions.
- Benefit to existing (BTE) deductions were applied to the projects (refer to Section 5.1).
- After accounting for the BTE deductions, the capital costs were then subject to LSP deductions. This was applied in two ways: to the road construction cost and to the land cost.
- Road construction cost allocation to the LSP excludes the cost of bridges, culverts, and land. The road construction cost deduction from development charges (allocation to the LSP) was the cost of up to an 11m wide local non-residential road or 8m wide local residential road. Any width beyond the local road width (11m or 8m) was included in development charge net capital costs. This deduction was only applied to new road projects. Road widening and reconstruction projects were assumed to have an existing local share.
- For the land costs, the deduction represents the cost of additional required land up to a 26m wide right-of-way (residential roads) and up to a 32m wide right-of-way (non-residential roads). Land costs beyond this 26m or 32m wide right-of-way were included in development charge net capital costs. For the development of land costs, refer to Section 3.1.5.
- The costs of bridges and culverts were included in the development charges net capital costs, after BTE deductions.

In addition to the above, the City of Hamilton also includes a deduction to reflect the local share of urbanization along existing roads at the time of development.

5 Apportioning Benefit

DC funding for capital projects is intended to reflect the principle that “growth pays for growth”. However, new capital projects can provide benefit to other users beyond the new growth population. Accordingly, the *DCA* requires a development charges by-law to apply deductions to ensure the new growth population only pays for the growth-related benefits of new capital projects. This process is known as apportioning benefit, and involves splitting the costs of the projects among three main groups:

- **Benefit to Existing (BTE):** This group comprises of the existing population that lives in the municipality as of the date a project is identified for inclusion in this study.
- **New Growth Population:** This group comprises of the new population that is added to the municipality during the growth period.
- **Post-Period Benefit (PPB):** This group comprises of the population that will be added to the municipality after the end of the growth period.

The calculation approach to apportioning benefit involves splitting the total cost of projects between the three groups above using percentages. The process of determining these benefit percentages varies by project, however, generally considers the following factors:

- The group that warranted the need for the project;
- The extent that the project benefits specific population groups;
- The geographic location/application of the project; and,
- The amount of excess capacity in the project beyond the growth period horizon.

In addition to the factors above, the process for determining benefit allocation involved a peer review of four comparable municipalities (City of London, City of Ottawa, Niagara Region, Waterloo Region) to confirm best practices and help inform the applicable percentages used in this study. The following sections describe the benefit allocation for various project types.

5.1 Apportioning Benefit: Road Projects

The section describes the BTE and PPB percentages, and their rationale, for road projects within the service target.

5.1.1 Road Project Benefit to Existing

The BTE percentages for road projects largely follow the percentages that were identified in the *2019 DC Study*. Apportioning benefit for road projects is primarily based on which group warrants the need for the road project. Exhibit 5.1 describes the BTE percentages and rationale below.

Exhibit 5.1: Road Project Benefit to Existing Percentages and Rationale

Project Type	BTE Percentage	Rationale
Road Reconstruction with no Capacity Increase	100%	These projects are not warranted by new growth and entirely benefit existing traffic.
Road Widening	15%	This percentage applies to most road widening projects. These projects are primarily intended to increase capacity to support new traffic volumes, however there is a small benefit to existing users due to resurfacing and upgrades to meet new design standards.
	40-50%	These percentages were applied for projects located in long established and/or developed corridors as well as

Project Type	BTE Percentage	Rationale
		mature neighbourhoods that are subject to increased travel demand generated by new growth located elsewhere. Higher BTE rates for these projects were identified by the City in the 2019 DC Study and carried forward for the 2024 DC Study.
	80%	This was applied to one project in Ancaster in a highly developed corridor. The higher BTE rate for this project was identified by the City in the 2019 DC Study and carried forward for the 2024 DC Study.
Road Reconstruction and Urbanization	15%	This percentage applies to most road reconstruction and urbanization projects. These projects are primarily driven by new developments, however there is a small benefit to existing users due to resurfacing and upgrades to meet new design standards.
	40-50%	These percentages were applied to projects in long established and/or developed corridors and those rural corridors linking urban centres. Higher BTE rates for these projects were identified by the City in the 2019 DC Study and carried forward for the 2024 DC Study.
New Road	0%	These projects are entirely warranted by new growth.

5.1.2 Road Project Post-Period Benefit

All road projects scheduled for implementation beyond the 2024 DC Study service target have been assigned 100% PPB.

5.2 Apportioning Benefit: Transit

The process for apportioning benefit for transit is primarily based on the composition of future ridership between existing and new growth populations, in addition to determining the in-period and post-period ridership.

Ridership forecasts are used to assign benefit between the existing population (2022), the transit new growth population (2023-2032) and the post-period population (2033-2035). The

method varies slightly between conventional and specialized transit. The details of the calculations for both conventional and specialized transit are described below.[8]

5.2.1 Transit Mode Share and Ridership Forecasts

5.2.1.1 Conventional Transit

The existing *City of Hamilton Transportation Master Plan* (*TMP)* identifies a transit mode share target of 12% by 2031. This mode share includes both local Hamilton Street Railway ("HSR") transit and GO Transit. Development charges are administered at the municipal level, so the 12% transit mode share needs to be adjusted to exclude GO Transit-only trips. The Transportation Tomorrow Survey (TTS) was used to divide the 12% total mode share between local and GO Transit-only trips as shown below in Exhibit 5.2. The 2031 local transit mode share is 11.3%, while the GO Transit-only transit mode share is 0.7%.[9]

Exhibit 5.2: 2031 A.M. Peak Period Transit Mode Share based on 2016 T.T.S.

	Origin and/or Destination in Hamilton	Distribution of Transit Trips (HSR & GO)	2031 Transit Mode Share
Local Transit Only	19,907	94.2%	**11.3%**
Local Transit + GO	1,218		
GO Only	1,292	5.8%	**0.7%**
Total Transit	**22,417**		**12.0%**

Exhibit 5.3 outlines the total A.M. peak period person trips per year from the City's E.M.M.E. model. The total A.M. peak period person trips are then multiplied by the local transit mode share per year, derived from the 11.3% 2031 local transit mode share target identified in Exhibit 5.2, to determine the total local A.M. peak period transit ridership per year. This

[8] Values in the exhibits have been rounded to the nearest tenth for percentages and to the nearest whole number for all other values.
[9] This transit mode share distribution was used in the previous Development Charges Background Study (2019). The 2016 TTS survey, used in the previous Development Charges Background Study (2019), is the most updated version of the TTS survey, as the 2021 TTS survey was delayed due to the COVID-10 pandemic.

ridership is then split between bus and light rail transit (LRT), with an assumed LRT opening year of 2031.[10]

[10] The 2031 opening assumption is an estimate for the purposes of this project provided by the City of Hamilton.

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Exhibit 5.3: Summary of Projected Local HSR Transit Ridership and Mode Share (2022-2035)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total A.M. Peak Period Person Trips	290,099	293,461	296,822	300,184	303,545	306,906	310,268	313,629	316,991	320,352	324,030	327,751	331,515	335,321
Total Local A.M. Peak Period Ridership	18,981	19,426	19,922	22,519	25,117	27,714	29,836	31,957	34,078	36,200	36,615	37,036	37,461	37,891
A.M. Peak Period HSR Bus Ridership	18,981	19,426	19,922	22,519	25,117	27,714	29,836	31,957	34,078	35,239	34,671	34,086	33,814	33,867
A.M. Peak Period HSR LRT Ridership	-	-	-	-	-	-	-	-	-	961	1,944	2,950	3,647	4,024
A.M. Peak Period Bus Mode Share	-	-	-	7.5%	8.3%	9.0%	9.6%	10.2%	10.8%	11.0%	10.7%	10.4%	10.2%	10.1%
A.M. Peak Period HSR LRT Mode Share	-	-	-	-	-	-	-	-	-	0.3%	0.6%	0.9%	1.1%	1.2%
Local Transit Mode Share	6.5%	6.6%	6.7%	7.5%	8.3%	9.0%	9.6%	10.2%	10.8%	11.3%	11.3%	11.3%	11.3%	11.3%

The TMP is the most recent transportation master plan and identifies a 2031 horizon – the total local transit mode share is assumed to remain constant beyond the TMP horizon between 2031-2035 and apply city-wide. Since the LRT infrastructure is not being funded through municipal development charges, the bus-only mode share is used for the transit DC calculations.

5.2.1.2 Specialized Transit

HSR experienced a significant decrease in specialized transit ridership during the COVID-19 pandemic between 2020 and 2022. Specialized transit ridership has not recovered to 2019 pre-pandemic levels, and it is unclear when this may happen. Accordingly, HSR 2019-2022 ridership data was used to develop the specialized transit ridership forecast.

To address the impacts of the COVID-19 pandemic and limited data, the observed number of active registrants and rides per active registrant from 2019-2022 are used as the foundation of the forecast. The active registrant growth rate of 2.07% from the previous D.C. background study is used to calculate the number of active registrants between 2023-2032. Since specialized transit ridership recovery is unclear, the 2019 trip rate per active registrant is assumed to hold constant from 2023-2032. This is shown below in Exhibit 5.4.

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Exhibit 5.4: Specialized Service Active Registrant and Ridership Forecast (2019-2032)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Active Registrants	9,819	7,650	6,059	7,124	7,271	7,422	7,575	7,732	7,891	8,055	8,221	8,391	8,565	8,742
Rides per Active Registrant	86	42.8	46.4	63.8	86	86	86	86	86	86	86	86	86	86
Total Annual Specialized Transit Ridership	844,434	327,420	281,138	454,511	625,330	638,257	651,451	664,919	678,665	692,694	707,014	721,630	736,549	751,775
Increase in Specialized Transit Trips (Compared to 2022 Baseline Population)	-	-	-	-	170,818	183,746	196,940	210,408	224,153	238,183	252,503	267,119	282,037	297,264

5.2.2 Transit Benefit to Existing

Future growth-related transit infrastructure projects provide benefits to the existing population. This is referred to as benefit to existing (BTE), and development charge calculations need to reflect this existing benefit where appropriate. This section describes how the BTE deductions are calculated for conventional transit vehicles, specialized transit vehicles, and facility and operations vehicles. The growth period is defined as 2023-2032.

5.2.2.1 Conventional Transit Vehicles

New growth-related conventional transit fleet vehicles can be used to add to the fleet to increase service on existing routes (either through increased service frequency or additional service hours) and/or add to the fleet to introduce service on new routes. The benefit of these new conventional transit vehicles is primarily experienced through the increase in transit trips during the growth period (i.e. people making new transit trips). This includes both the existing population who begin taking transit in the growth period (due to increasing transit mode share) and the new growth population.

Accordingly, the conventional transit BTE is calculated using a proportional ridership method. Exhibit 5.5 below uses the ridership and mode share information from Exhibit 5.3 above to outline the proportion of bus trips made by existing 2022 residents who begin taking transit in the growth period versus new growth residents. This information is summarized below:

- 2023-2032 Increase in Bus Trips by 2022 Baseline Population (due to Increasing Transit Mode Share): **72,422**
- 2023-2032 Total Number of Bus Trips (New Growth Population): **18,247**
- 2023-2032 Total Increase in Bus Trips Versus 2022 Baseline Population: **90,669**

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Exhibit 5.5: Allocation of Bus Trips between Existing and New Growth Population (2022-2032)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Sum of 2023-2032
Total A.M. Peak Period Person Trips	290,099	293,461	296,822	300,184	303,545	306,906	310,268	313,629	316,991	320,352	324,030	-
Increase in Bus Trips by 2022 Baseline Population (Due to Increasing Mode Share)												
Increase in A.M. Peak Period Bus Mode Share (versus 2022 Baseline)	-	0.1%	0.2%	1.0%	1.7%	2.5%	3.1%	3.6%	4.2%	4.5%	4.2%	-
Increase in A.M. Peak Period Bus Trips by Existing 2022 Baseline Population (Due to Increasing Mode Share)	-	222	490	2,781	5,023	7,215	8,916	10,578	12,206	12,930	12,060	**72,422**
New Growth Population (Versus 2022 Baseline Population)												
A.M. Peak Period Bus Mode Share	6.5%	6.6%	6.7%	7.5%	8.3%	9.0%	9.6%	10.2%	10.8%	11.0%	10.7%	-
A.M. Peak Period Person Trips by New Growth Population (Versus 2022 Baseline Population)	-	3,362	6,723	10,085	13,446	16,807	20,169	23,530	26,892	30,253	33,931	-
A.M. Peak Period Bus Trips by New Growth Population (Versus 2022 Baseline Population)	-	223	451	757	1,113	1,518	1,939	2,398	2,891	3,328	3,631	**18,247**
Total Increase in Bus Trips (Versus 2022 Baseline Population)												
Total Increase in Bus Trips Versus 2022 Baseline Population (by New Growth and Existing Population)	-	445	941	3,538	6,136	8,733	10,855	12,976	15,097	16,258	15,690	**90,669**

The benefit to existing and benefit to growth shares are calculated on a proportional ridership basis. This is described below:

$$\textbf{Benefit to Existing} = \frac{\text{2023-2032 Increase in Bus Trips by 2022 Baseline Population}}{\text{2023-2032 Total Increase in Bus Trips (Versus 2022 Baseline Population)}}$$

$$= \frac{72{,}422}{90{,}669}$$

$$= \textbf{79.9\%}$$

$$\textbf{Benefit to Growth} = \frac{\text{2023-2032 Total Number of Bus Trips (New Growth Population)}}{\text{2023-2032 Total Increase in Bus Trips (Versus 2022 Baseline Population)}}$$

$$= \frac{18{,}247}{90{,}669}$$

$$= \textbf{20.1\%}$$

As stated above, new conventional transit fleet vehicles can be used to increase service frequency on existing routes. This can result in a small benefit to existing transit users (who used transit in 2022 and years prior) due to increased convenience when taking transit (i.e. more trip options, not needing to consult a schedule depending on service frequency). New conventional transit fleet vehicles can also be used to introduce transit service on new routes. Existing transit users may also experience a small benefit from these new routes (i.e. to access new destinations, transfers as part of a multi-route transit trip).

The BTE calculations above do not capture the small benefits of increased service frequency and new transit routes for existing transit users. Accordingly, an additional 5% BTE is added to the calculations above to reflect this small benefit. This results in the following benefit to existing and benefit to growth shares:

- **Benefit to Existing = 84.9%**
- **Benefit to Growth = 15.1%**

The benefit to existing share is 84.9%. The benefit to growth will be adjusted from 15.1% to 12.9% to account for post-period benefit deductions (described in Section 5.2.3).

5.2.2.2 Specialized Transit Vehicles

Similar to conventional transit vehicles, a proportional ridership approach is used to calculate specialized transit BTE. Growth in specialized transit ridership can be partially attributed to the existing 2022 population, since the 2022 population will age during the growth period and, while individuals of any age can experience a disability, the prevalence of disability[11] is higher among older age cohorts. The new growth population who use specialized transit services will also account for a share of increasing specialized transit ridership in the growth period.

Ontario Ministry of Finance population projections by age cohort[12] and Statistics Canada disability prevalence percentages by age cohort[13] are used to determine the split of specialized transit ridership growth between the existing 2022 population ageing and the new growth population. Exhibit 5.6 outlines the Ontario Ministry of Finance population projections by age cohort from 2022-2032. Exhibit 5.7 multiplies the population projections by age cohort in Exhibit 5.6 by the prevalence of disability per age cohort percentages to project the number of people with a disability per age group by year from 2022-2032.

[11] Statistics Canada uses the International Classification of Functioning, Disability and Health (ICF) definition of disability, which is "the relationship between body structures and functions, daily activities and social participation, while recognizing the role of environmental factors…disability is a social disadvantage that an unsupportive environment imposes on top of an individual's impairment." Statistics Canada (2018). *Canadian Survey on Disability, 2017: Concepts and Methods Guide.* <https://www150.statcan.gc.ca/n1/pub/89-654-x/89-654-x2018001-eng.htm>. Accessed September 2023.

[12] Ontario Ministry of Finance (2021). *Population projections*. < https://data.ontario.ca/dataset/population-projections>. Accessed April 2023.

[13] Statistics Canada (2018). *A demographic, employment and income profile of Canadians with disabilities aged 15 years and over, 2017*. <https://www150.statcan.gc.ca/n1/pub/89-654-x/89-654-x2018002-eng.htm>. Accessed April 2023.

Exhibit 5.6: City-Wide Population Projections by Age Cohort (2022-2032)

Age Group	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
0-14	91,618	92,186	92,906	93,603	94,416	95,334	96,397	97,416	98,478	99,657	100,982
15-24	73,288	75,124	76,085	76,718	77,255	77,698	78,141	78,732	79,436	80,235	80,826
25-44	168,249	172,847	176,357	179,862	183,094	186,571	189,502	192,351	194,983	197,366	199,889
45-64	153,050	152,244	151,412	150,643	149,960	149,485	149,310	149,277	149,717	150,883	152,468
65-74	61,242	62,791	64,631	66,551	68,560	70,467	72,270	73,896	75,003	75,539	75,618
75+	48,839	50,650	52,295	53,891	55,634	57,468	59,444	61,595	64,011	66,465	69,014
Total	**596,286**	**605,842**	**613,686**	**621,268**	**628,919**	**637,023**	**645,064**	**653,267**	**661,628**	**670,145**	**678,797**

Source: Ontario Ministry of Finance Population Projections (2021).

Exhibit 5.7: City-Wide Population with a Disability by Age Cohort (2022-2032)

Age Group	Prevalence of Disability	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
15-24	13.1%	9,601	9,841	9,967	10,050	10,120	10,178	10,236	10,314	10,406	10,511	10,588
25-44	15.3%	25,742	26,446	26,983	27,519	28,013	28,545	28,994	29,430	29,832	30,197	30,583
45-64	24.3%	37,191	36,995	36,793	36,606	36,440	36,325	36,282	36,274	36,381	36,665	37,050
65-74	32.0%	19,597	20,093	20,682	21,296	21,939	22,549	23,126	23,647	24,001	24,172	24,198
75+	47.4%	23,150	24,008	24,788	25,544	26,371	27,240	28,176	29,196	30,341	31,504	32,713
Total Persons with Disabilities		**115,281**	**117,383**	**119,213**	**121,016**	**122,884**	**124,838**	**126,815**	**128,861**	**130,962**	**133,049**	**135,131**

Source: Analysis of Ontario Ministry of Finance Population Projections (2021) and Statistics Canada Prevalence of Disability Percentages (2018).

Exhibit 5.8 below uses the information from Exhibit 5.6 and Exhibit 5.7 to identify the total population (15 years +) and the total population with a disability (15 years +) between 2022-2032. The projected increase in total population with a disability (15 years +) between 2023-2032 is identified and this increase is split between the existing 2022 population ageing and the new growth population. It is assumed that the proportion of the population with a disability grows at the same rate as the overall population.

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Exhibit 5.8: Summary of Population with Disability Growth between Existing Ageing Population and New Growth Population (2022-2032)

Row #		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	Total Population (15 years +)											
1	**Total Population (15 years +)**	**504,668**	**513,656**	**520,780**	**527,665**	**534,503**	**541,689**	**548,667**	**555,851**	**563,150**	**570,488**	**577,815**
2	2022 Existing Population Percentage	-	98.3%	96.9%	95.6%	94.4%	93.2%	92.0%	90.8%	89.6%	88.5%	87.3%
3	New Growth Percentage	-	1.7%	3.1%	4.4%	5.6%	6.8%	8.0%	9.2%	10.4%	11.5%	12.7%
	Total Population with a Disability											
4	**Total Population with a Disability (15 years +)**	**115,281**	**117,383**	**119,213**	**121,016**	**122,884**	**124,838**	**126,815**	**128,861**	**130,962**	**133,049**	**135,131**
5	Existing Ageing Population	-	115,329	115,524	115,742	116,025	116,306	116,646	116,995	117,362	117,699	118,025
6	New Growth Population	-	2,054	3,688	5,274	6,859	8,532	10,170	11,866	13,600	15,351	17,107
7	**Increase in Total Population with a Disability (15 years +) Versus 2022 Baseline Population**	**-**	**2,102**	**3,932**	**5,735**	**7,603**	**9,557**	**11,534**	**13,580**	**15,681**	**17,768**	**19,850**
8	Increase in Total Population with a Disability Due to Existing 2022 Population Ageing	-	48	243	461	744	1,025	1,365	1,714	2,081	2,418	2,744
9	*Percentage of Row 7 Due to Existing 2022 Population Ageing*	-	*2.3%*	*6.2%*	*8.0%*	*9.8%*	*10.7%*	*11.8%*	*12.6%*	*13.3%*	*13.6%*	*13.8%*
10	Increase in Total Population with a Disability Due to New Growth Population	-	2,054	3,688	5,274	6,859	8,532	10,170	11,866	13,600	15,351	17,107
11	*Percentage of Row 7 Due to New Growth Population*	-	*97.7%*	*93.8%*	*92.0%*	*90.2%*	*89.3%*	*88.2%*	*87.4%*	*86.7%*	*86.4%*	*86.2%*

Exhibit 5.4 and Exhibit 5.8 are used to calculate the number of growth period specialized transit trips taken by the current users and ageing 2022 population compared to the new growth population.

The approach for apportioning specialized transit benefit is described below.

- **The total number of specialized transit trips** taken during the growth period can be attributed to two groups. The first group is the existing 2022 population (that will age over the growth period), while the second group is the new growth population.
- **The existing 2022 population group** is comprised of two sub-groups. The first is the 2022 population that used specialized transit in 2022 and will continue to do so throughout the growth period. The second is the 2022 population that did not use specialized transit in 2022 but will begin to use specialized transit during the growth period, largely due to ageing and the associated higher disability prevalence (Exhibit 1.6).
- **The new growth population group** is comprised of people who move to Hamilton during the growth period (2023-2032) and use specialized transit. This population group is not present in Hamilton in the 2022 baseline year.
- **A proportional approach between these two groups**, based on specialized transit ridership during the growth period, is used to allocate benefit for specialized transit.

The calculation for this approach is described in detail below:

Number of Specialized Transit Trips by Existing and Ageing 2022 Population (2023-2032)	=	(2022 Active Registrants x 2023-2032 Riders Per Active Registrant Rate x Number of Years in the Growth Period) + (Sum of the products of Increase in Specialized Transit Ridership from 2022 per year and the Existing 2022 Population Ageing Percentage of Increase in Total Population with a Disability per year)
	=	(7,124 x 86 x 10) + 250,684
	=	**6,377,324**

Number of Specialized Transit Trips by New Growth Population (2023-2032)	=	Sum of the products of Increase in Specialized Transit Ridership from 2022 per year and the New Growth Population percentage of Increase in Total Population with a Disability per year
	=	**2,072,488**

The benefit to existing and benefit to growth shares are calculated on a proportional ridership basis. This is described below:

Benefit to Existing = $\frac{\text{Number of Specialized Transit Trips by Existing and Ageing 2022 Population (2023-2032)}}{\text{Total Number of 2023-2032 Specialized Transit Trips (Existing and Ageing 2022 Population and New Growth Population)}}$

= $\frac{6,377,324}{8,449,812}$

= **75.5%**

Benefit to Growth = $\frac{\text{Number of Specialized Transit Trips by New Growth Population (2023-2032)}}{\text{Total Number of 2023-2032 Specialized Transit Trips (Existing and Ageing 2022 Population and New Growth Population)}}$

= $\frac{2,072,488}{8,449,812}$

= **24.5%**

The benefit to existing share is 75.5% and the benefit to growth share is 24.5% for specialized transit.

5.2.2.3 Operations and Facility Vehicles

Operations vehicles are used to supervise transit operations throughout the service area. Existing operations vehicles can continue to be used in the existing service areas. New operations vehicles are required to supervise transit service in new growth areas. Since these new operations vehicles are solely needed for the new growth areas, they are fully allocated to growth and have a 0% BTE.

Facility vehicles are required to support the operations of the new transit maintenance facility that is required to support growth in the transit fleet. The facility vehicles should have the same benefit allocation as the overall new transit facility. Watson & Associates assessed the new facility and determined the following growth allocations for the facility and facility vehicles:

- Benefit to Existing: **77.6%**
- Benefit to Growth: **22.4%** (will be further adjusted to 15.7% to account for post-period benefit deductions in Section 5.2.3)

5.2.3 Transit Post-Period Benefit

Future growth-related transit projects provide some benefit to users beyond the transit growth period horizon (2023-2032). This is referred to as post-period benefit (PPB), and development charge calculations need to reflect this future benefit where appropriate. This section describes how the PPB deductions are calculated for transit services. The post-period is defined as 2033-2035.

5.2.3.1 Conventional Vehicles

HSR's transit fleet features vehicles of various sizes, including 30-foot, 40-foot and 60-foot buses. The capital plan identifies the number of required new vehicles, of varying sizes, to meet anticipated ridership demand. However, there is limited ability to right-size a bus. If a service level threshold is met to warrant an additional vehicle on a route, the entire bus will be used regardless of whether it is full or not. This results in excess vehicle capacity during the growth period, and this excess capacity will be used in the post-period.

Similar to the BTE approach, a proportional ridership method is used to calculate the PPB deductions for conventional transit vehicles. Exhibit 5.9 below uses the information from Exhibit 1.2, Summary of Projected Local HSR Transit Ridership and Mode Share (2022-2035), to outline the total number of A.M. Peak period transit trips in the post-period and the split of these trips between the 2032 population and the post-period population.

The total number of transit trips and the split between trips made by the growth period baseline population (2032) and the post-period population (2033-2035) is described below:

- 2033-2035 Total Number of Transit Trips (Growth Period and Post-Period Population): **101,768**
- 2033-2035 Total Number of Transit Trips (Growth Period): **99,477**
- 2033-2035 Total Number of Transit Trips (Post-Period Population): **2,291**

Exhibit 5.9: Allocation of Transit Trips between Existing and New Growth Population (2032-2035)

	2032	2033	2034	2035	Sum of 2033-2035
Total A.M. Peak Period Person Trips (Model)	324,030	327,751	331,515	335,321	-
A.M. Peak Period Additional Person Trips (Versus 2032 Baseline Population)	-	3,721	7,484	11,291	-
A.M. Peak Period Bus Mode Share	10.7%	10.4%	10.2%	10.1%	-
A.M. Peak Period HSR Bus Ridership	34,671	34,086	33,814	33,867	**101,768**
A.M. Peak Period Transit Trips made by Growth Period 2032 Population	34,671	33,699	33,051	32,727	**99,477**
A.M. Peak Period Transit Trips by Post-Period Population (Versus 2032 Baseline Population)	-	387	763	1,140	**2,291**

The post-period benefit is calculated using a proportional ridership basis as described below:

$$\textbf{Post-Period Benefit} = \frac{\text{2033-2035 Total Number of Transit Trips (Post-Period Population)}}{\text{2033-2035 Total Number of Transit Trips (Growth Period and Post-Period Population)}}$$

$$= \frac{2,291}{101,768}$$

$$= \textbf{2.2\%}$$

Since the growth period accounts for 2.2% of assumed transit trips beyond 2032, the growth period benefit share outlined in Section 5.2.2 needs to be adjusted:

Adjusted Growth Period Benefit = Original Growth Period Benefit – Post-Period Benefit

= 15.1% - 2.2%

= **12.9%**

The adjusted growth period benefit share is 12.9% and the post-period benefit share is 2.2% for conventional transit.

5.2.3.2 Specialized, Operations and Facility Vehicles

The new accessible supervisory vehicles for specialized transit are needed to support specialized transit operations in the growth period. Similarly, the new operations support vehicles are needed to support conventional transit operations in the growth period. Accordingly, there is no post-period benefit for the purchase of these vehicles.

Additional facility vehicles are needed to support the new transit maintenance facility. The service truck, stock room vehicle and garage equipment repair express van vehicles have an operational life of approximately 10 years. This is within the growth period, and these vehicles have no post-period benefit.

The garage equipment repair walk behind forklift, garage forklift and garage tow mobile have an operational life of approximately 20 years, which extends beyond the growth period into the post-period. These vehicles have been assigned the same post-period benefit as the overall transit maintenance facility.

This post-period benefit share is 6.7% based on an assessment by Watson & Associates.

The growth period share for these vehicles is adjusted to accommodate the post-period benefit share as described below:

Adjusted Growth = Original Growth Period Benefit – Post-Period Benefit

Period Benefit = 22.4% - 6.7%

= **15.7%**

The adjusted growth period benefit share is 15.7% and the post-period benefit share is 6.7% for the garage equipment repair walk behind forklift, garage forklift and garage tow mobile.

5.2.4 Transit Benefit to Existing, Growth Period Benefit and Post-Period Benefit Summary

Exhibit 5.10 below summarizes the benefit allocation for transit services.

Exhibit 5.10: Summary of Transit Benefit Allocation

	Benefit to Existing	Benefit to Growth	Post-Period Benefit
Conventional Transit Vehicles	84.9%	12.9%	2.2%
Specialized Transit Vehicles	75.5%	24.5%	0%
Operations Vehicles	0%	100%	0%
Facility Vehicles – 10-Year Operational Life	77.6%	22.4%	0%
Facility Vehicles – 20-Year Operational Life	77.6%	15.7%	6.7%

5.3 Apportioning Benefit: Active Transportation Projects

The section describes the BTE and PPB percentages, and their rationale, for AT projects within the service target.

5.3.1 Active Transportation Benefit to Existing

The BTE percentages for AT projects vary based on the geographic location and the nature of the upgrade. Describes the BTE percentages and rationale below:

Exhibit 5.11: Active Transportation Benefit to Existing Percentages and Rationale

Project Type	BTE Percentage	Rationale
Infill Active Transportation (Cycling and/or Pedestrian Facilities)	81%	These projects are located within the urban boundary where there is a mix of existing and new growth residents. Existing and new residents benefit from active transportation projects in these infill areas. A population proportion approach is used to calculate the BTE percentage to reflect the 2023 population size relative to the 2041 STNR planning horizon population size.
New Growth Active Transportation (Upgrade Existing Cycling and/or Pedestrian Facilities)	15%	These projects are located outside of the urban boundary and are upgrades to existing facilities. The need for these upgrades is due to the new growth population, however existing users receive small benefits (i.e. repaving). This is consistent with BTE approach for road widenings.
New Growth Active Transportation (New Cycling and/or Pedestrian Facilities)	0%	These projects are located outside of the urban boundary. Since there is no existing facility, the need is driven entirely by new development.

5.3.2 Active Transportation Post-Period Benefit

A 30% PPB has been applied to all AT projects to account for the portion of the projects that would benefit growth beyond the service target – this aligns with the *2019 DC Study*.

5.4 Apportioning Benefit: Structures

This section describes the BTE and PPB percentages and their rationale for structures within the service target.

5.4.1 Structures Benefit to Existing

Structures comprise of three groups of projects: interchanges, active transportation bridges and grade separations. The BTE rates and explanations for each of these groups is outlined below:

- **Interchanges:** These projects increase the capacity of intersections and help to accommodate growing traffic. The nature of these projects can differ based on location and are thus assessed at an individual project level. The BTE rates from the *2019 DC Study* have been carried forward for two projects, with the Highway 5/6 Interchange project receiving 0% BTE and the Mohawk Road-Highway 403 Interchange Ramp project receiving 50% BTE. This study also includes two interchange projects that were not included in the *2019 DC Study*. The Centennial Parkway at QEW Interchange Reconfiguration received 50% BTE (similar to the Mohawk Road-Highway 403 Interchange Ramp project) as it appears to be warranted by both the existing and new growth populations, while the QEW Off-Ramps at Fifty Road (signalization and ramp reconfiguration) received 15% BTE as it appears to be largely growth-driven.
- **Active Transportation Bridges:** These projects are generally located in built-up areas and benefit existing and new growth residents. A population proportion approach is used to calculate the BTE as 81% – this reflects the 2023 population size relative to the 2041 STNR planning horizon population size.
- **Grade Separation:** These projects are designed to accommodate increased traffic flow and are warranted by new growth. It is recognized that these projects provide some benefit to existing users due to increased safety and improved travel time. These projects have been assigned 25% BTE.

5.4.2 Structures Post-Period Benefit

Most structures are scheduled for implementation prior to the service target and accordingly have no PPB. Active transportation bridges scheduled for implementation beyond the service target have been assigned 100% PPB. Grade separation was assigned a 50% PPB in the *2019 DC Study* – this has been carried forward as it was deemed that project benefit will extend to development built beyond the service target.

5.5 Apportioning Benefit: Programs

This section describes the BTE and PPB percentages and their rationale for programs within the service target.

5.5.1 Programs Benefit to Existing

Exhibit 5.12 below outlines the various programs, their BTE level, and the associated rationale.

Exhibit 5.12: Programs Benefit to Existing Percentages and Rationale

Program	BTE Percentage	Rationale
Development Road Urbanization	5%	This program is largely driven by growth in adjacent developments. There is a small benefit to existing users due to resurfacing.
Advanced Traffic Management Systems	75%	This program improves traffic flow throughout the city and primarily benefits existing users. There is a benefit to growth as the systems help to accommodate growth-related traffic increases.
New Traffic Signals	5%	These signals are warranted by growth. There is a small benefit to existing users due to safety improvements.
Traffic Signal Upgrades	5%	These upgrades are primarily conducted to accommodate growth. There is a small benefit to existing users due to safety improvements.
Traffic Signal LED Replacement Program	100%	This program is not growth-related.
Traffic Controller Cabinet Replacements (Capacity Related)	5%	Traffic controller cabinet replacements are generally undertaken to accommodate growth and road network capacity increases. There may be a small benefit to existing users due to improved traffic signal operations.
Unidentified intersection improvements (excluding Traffic Signals)	81%	Improvements can be driven by growth (e.g. new signal phasing, intersection widening requiring signal changes), or could be driven by safety upgrades (i.e. cross-rides for AT users, new signals to address high collision locations) that benefit both existing users and new growth users. A population proportion approach is used to calculate the BTE as 81%. This reflects the 2023 population size relative to the 2041 STNR planning horizon population size.
Miscellaneous Land Acquisitions	5%	Land acquisition is typically used to add road capacity through adding additional lanes. There is a small benefit to existing users due to repaving.
Transit Shelter Expansion Program	50%	Many new transit shelters are located in growth areas, but some transit shelters are replacements in infill areas.

Program	BTE Percentage	Rationale
Bus Stop Shelter Rehabilitation Program	85%	Rehabilitation of bus shelters benefits new growth and existing users. It is assumed that many bus shelters in infill areas with existing users, however there will be some bus shelters that are rehabilitated in new growth areas to accommodate new users.
Annual Bike Parking at B/A Line Stops	81%	Hamilton's rapid transit network is largely located within the urban boundary on intensification corridors. New growth and existing residents both benefit. A population proportion approach is used to calculate the BTE as 81%. This reflects the 2023 population size relative to the 2041 STNR planning horizon population size.
Annual Enhanced Bike Parking at Express Bus/Rapid Transit Stops	81%	New growth and existing residents both benefit. A population proportion approach is used to calculate the BTE as 81%. This reflects the 2023 population size relative to the 2041 STNR planning horizon population size.
Bike Parking	81%	New growth and existing residents both benefit. A population proportion approach is used to calculate the BTE as 81%. This reflects the 2023 population size relative to the 2041 STNR planning horizon population size.
Micromobility	81%	New growth and existing residents both benefit. A population proportion approach is used to calculate the BTE as 81%. This reflects the 2023 population size relative to the 2041 STNR planning horizon population size.
Transportation Demand Management	81%	New growth and existing residents both benefit. A population proportion approach is used to calculate the BTE as 81%. This reflects the 2023 population size relative to the 2041 STNR planning horizon population size.
New Signals (Pedestrian and/or Regular)	5%	New signals are warranted by new development. There is a small benefit to existing users due to improved safety and traffic operations.
Street Lighting Enhancement Program	81%	New growth and existing residents both benefit. A population proportion approach is used to calculate the BTE as 81%. This reflects the 2023 population size relative to the 2041 STNR planning horizon population size.

Program	BTE Percentage	Rationale
Pedestrian Crossovers	81%	New growth and existing residents both benefit. A population proportion approach is used to calculate the BTE as 81%. This reflects the 2023 population size relative to the 2041 STNR planning horizon population size.
New Sidewalk Program	0%	New sidewalks are warranted by new developments.
Durable Pavement Markings – New Installations	15%	These projects are similar to road as they are warranted by growth but provide small benefits (i.e. safety) to existing users.
Sidewalk Missing Link Program	81%	New growth and existing residents both benefit. A population proportion approach is used to calculate the BTE as 81%. This reflects the 2023 population size relative to the 2041 STNR planning horizon population size.

5.5.2 Programs Post-Period Benefit

All programs are scheduled for implementation prior to the service target and accordingly have no PPB.

Appendix E

2024 Development Charges Background Study Transportation Capital Projects List

Prj. No.	Increased Service Needs Attributable to Anticipated Development	2031 Oversizing (To 2031 Road Projects within the Urban Boundary)*	Timing (year)	Length (km)	Capital Improvement	Gross Capital Cost Estimate (2023$)	Other Deductions	Benefit to Existing Development	Post Period Benefit	Net Capital Cost
Road Projects										
AEGD										
1	Airport Road - Terminal Access Road to Provident Way/East Cargo Road	✓	To 2031	0.32	2r-4u	$ 3,789,353	$ -	$ 1,515,741	$ -	$ 2,273,612
2	Book Road - Southcote Road to Highway 6	✓	To 2031	1.05	2r-5u	$ 11,523,989	$ -	$ 1,728,598	$ -	$ 9,795,391
3	Collector 1E - Collector 6N to Dickenson Road		2031 to 2041	0.67	3u	$ 6,558,380	$ -	$ -	$ 6,558,380	$ -
4	Arterial 1N - Collector 2N to Dickenson Road/Garth Street Extension	✓	To 2031	2.97	5u	$ 34,917,248	$ -	$ -	$ -	$ 34,917,248
5	Collector 2N - Collector 5W to Arterial 1N		2031 to 2041	0.42	3u	$ 4,105,309	$ -	$ -	$ 4,105,309	$ -
6	Collector 6N - Upper James Street to Collector 6E		2031 to 2041	0.95	4u	$ 10,307,184	$ -	$ -	$ 10,307,184	$ -
7	Collector 6N - Collector 6E to Garth Street		2031 to 2041	0.41	4u	$ 4,524,353	$ -	$ -	$ 4,524,353	$ -
8	Collector 6N - Garth Street to Glancaster Road		2031 to 2041	1.54	4u	$ 16,775,250	$ -	$ -	$ 16,775,250	$ -
9	Collector 6E - Collector 6N to Dickenson Road	✓	To 2031	0.64	3u	$ 6,342,202	$ -	$ -	$ -	$ 6,342,202
10	Collector 7N - Collector 5W to Collector 2W		2031 to 2041	1.19	3u	$ 11,756,604	$ -	$ -	$ 11,756,604	$ -
11	Collector 8W - Garner Road to Collector 5N		2031 to 2041	1.07	2u	$ 8,301,996	$ -	$ -	$ 8,301,996	$ -
12	Dickenson Road - Glancaster Road to Garth Street Extension		2031 to 2041	1.53	2r-5u	$ 18,044,132	$ -	$ -	$ 18,044,132	$ -
13	Dickenson Road - Garth Street Extension to Upper James Street	✓	To 2031	1.36	2r-5u	$ 16,039,229	$ -	$ 2,405,884	$ -	$ 13,633,344
14	Dickenson Road Extension - Glancaster Road to Smith Road		2031 to 2041	0.83	5u	$ 9,447,229	$ -	$ -	$ 9,447,229	$ -
15	Book Road - Smith Road to Southcote Road	✓	To 2031	0.45	2r-5u	$ 5,343,540	$ -	$ 801,531	$ -	$ 4,542,009
16	Garth Street Extension - Twenty Road to Collector 6N		2031 to 2041	0.81	5u	$ 9,477,970	$ -	$ -	$ 9,477,970	$ -
17	Garth Street Extension - Collector 6N to Dickenson Road		2031 to 2041	0.66	5u	$ 7,709,296	$ -	$ -	$ 7,709,296	$ -
18	Glancaster Road - Garner Road to Dickenson Road	✓	To 2031	2.67	2r-3u	$ 23,144,329	$ -	$ 3,471,649	$ -	$ 19,672,680
19	Glancaster Road - Dickenson Road to Arterial 1N		2031 to 2041	0.39	3u-5u	$ 4,605,603	$ -	$ -	$ 4,605,603	$ -
20	Garner Road - Glancaster Road to Highway 6 South	✓	To 2031	3.12	2r-5u	$ 31,491,877	$ -	$ 4,723,782	$ -	$ 26,768,096
21	Smith Road - Garner Road to Hydro Corridor	✓	To 2031	0.88	3u	$ 8,635,284	$ -	$ -	$ -	$ 8,635,284
22	Smith Road - Hydro Corridor to Book Road		2031 to 2041	1.01	3u	$ 9,946,349	$ -	$ -	$ 9,946,349	$ -
23	Smith Road - Book Road to Arterial 1N		2031 to 2041	0.63	3u	$ 6,166,835	$ -	$ -	$ 6,166,835	$ -
24	Southcote Road - Garner Road to Book Road		2031 to 2041	1.95	2r-5u	$ 23,002,848	$ -	$ -	$ 23,002,848	$ -
25	Upper James Street - Rymal Road to Highway 6 South		2031 to 2041	7.22	4r-6u	$ 96,459,332	$ -	$ -	$ 96,459,332	$ -
26	Glancaster Road - Arterial 1N to Airport Boundary		2031 to 2041	0.48	2u	$ 3,512,806	$ -	$ -	$ 3,512,806	$ -
27	Collector 9W - Garner Road to Collector 11N		2031 to 2041	0.33	2u	$ 2,536,970	$ -	$ -	$ 2,536,970	$ -
28	Smith Road - Arterial 1N to Airport Boundary		2031 to 2041	0.21	3u	$ 2,078,580	$ -	$ -	$ 2,078,580	$ -
29	Airport Road - East Cargo Road to Upper James Street	✓	To 2031	1.08	2r-3u	$ 8,462,899	$ -	$ 3,385,160	$ -	$ 5,077,739
30	Book Road East - Collector 2W to Glancaster Road		2031 to 2041	0.85	2r-3u	$ 6,510,409	$ -	$ -	$ 6,510,409	$ -
31	Collector 10N - Garner Road to Smith Road	✓	To 2031	1.17	3u	$ 11,487,688	$ -	$ -	$ -	$ 11,487,688
32	Twenty Road - Glancaster Road to Upper James Street		2031 to 2041	2.90	2r-4u	$ 32,145,181	$ -	$ -	$ 32,145,181	$ -
33	Airport Road - Glancaster Road to Terminal Access Road		To 2031	1.71	2r-2u	$ 15,971,496	$ -	$ 6,388,598	$ -	$ 9,582,898
34	Collector 11N - Fiddler's Green Road to Collector 9W		2031 to 2041	0.35	2u	$ 2,724,513	$ -	$ -	$ 2,724,513	$ -
35	Collector 1W - Collector 10N to Garner Road		2031 to 2041	0.39	3u	$ 3,819,733	$ -	$ -	$ 3,819,733	$ -
Ancaster										
36	Garner Road - Highway 6 South to Wilson Street	✓	To 2031	4.86	2r-5u	$ 49,311,040	$ -	$ 7,396,656	$ -	$ 41,914,384
37	Jerseyville Road - Wilson Street to Lloyminn Avenue		2031 to 2041	0.79	2r-3u	$ 6,367,167	$ -	$ -	$ 6,367,167	$ -
38	Shaver Road - Trustwood to Garner Road		2031 to 2041	0.74	2r-2i	$ 6,303,822	$ -	$ -	$ 6,303,822	$ -
39	McNiven Road - Rousseaux Street/Mohawk Road to Golf Links Road		To 2031	0.62	2r-3u	$ 4,895,491	$ -	$ 3,916,393	$ -	$ 979,098
40	Jerseyville Road - Lloyminn Avenue to Meadowbrook Drive		2031 to 2041	1.25	2r-2u	$ 10,164,929	$ -	$ -	$ 10,164,929	$ -
Fruitland - Winona										
41	Barton Street - Fruitland Road to Fifty Road	✓	To 2031	5.11	2r-5u	$ 53,873,435	$ -	$ 21,549,374	$ -	$ 32,324,061
42	Fifty Road - Barton Street to South Service Road	✓	To 2031	0.55	2r-4u	$ 5,178,149	$ -	$ 776,722	$ -	$ 4,401,426
43	Fifty Road - Barton Street to Highway 8		2031 to 2041	0.24	2r-3u	$ 1,834,403	$ -	$ -	$ 1,834,403	$ -
44	Gordon Dean Avenue - Barton Street to Highway 8	✓	To 2031	1.08	4u	$ 11,551,567	$ -	$ -	$ -	$ 11,551,567
45	Trinity Road/Highway 52 - Highway 403 Interchange to Cormorant Road		To 2031	1.79	2r-4u	$ 17,792,911	$ -	$ 2,668,937	$ -	$ 15,123,974
46	Highway 8 - Dewitt Road to Jones Road		To 2031	1.73	2r-4u	$ 16,331,501	$ -	$ 6,532,600	$ -	$ 9,798,900

Prj. No.	Increased Service Needs Attributable to Anticipated Development	2031 Oversizing (To 2031 Road Projects within the Urban Boundary)*	Timing (year)	Length (km)	Capital Improvement	Gross Capital Cost Estimate (2023$)	Other Deductions	Benefit to Existing Development	Post Period Benefit	Net Capital Cost
47	Highway 8 - Jones Road to McNeilly Road		2031 to 2041	1.73	2r-4u	$ 17,715,501	$ -	$ -	$ 17,715,501	$ -
48	Highway 8 - McNeilly Road to Fifty Road		2031 to 2041	2.67	2r-3u	$ 20,604,135	$ -	$ -	$ 20,604,135	$ -
49	Collector B (Block 1) - Fruitland Road to Jones Road		2031 to 2041	0.89	2u	$ 6,779,781	$ -	$ -	$ 6,779,781	$ -
50	Collector C (Block 2) - Barton Street to Highway 8	✓	To 2031	0.74	2u	$ 5,642,466	$ -	$ -	$ -	$ 5,642,466
51	Collector D (Block 3) - McNeilly Road to Collector F		2031 to 2041	1.25	2u	$ 9,537,486	$ -	$ -	$ 9,537,486	$ -
52	Collector E (Block 3) - Barton Street to Highway 8	✓	To 2031	0.66	2u	$ 5,060,086	$ -	$ -	$ -	$ 5,060,086
53	Collector F (Block 3) - Barton Street to Collector D	✓	To 2031	0.22	2u	$ 1,713,732	$ -	$ -	$ -	$ 1,713,732
54	Fruitland Road - Highway 8 to Barton Street	✓	To 2031	1.05	2r-3u	$ 8,937,129	$ -	$ 1,340,569	$ -	$ 7,596,559
55	Fruitland Road - Arvin Avenue to Barton Street		To 2031	0.36	2u-5u	$ 4,339,490	$ -	$ 650,923	$ -	$ 3,688,566
MTO										
56	Highway 403 - Mohawk Road/Lincoln M. Alexander Parkway to Highway 6 south interchange		To 2031	0.00	Truck Climbing Lane	$ 4,878,650	$ 2,439,325	$ 365,899	$ -	$ 2,073,426
Red Hill Business Park										
57	Dartnall Road - Twenty Road to Dickenson Road		To 2031	1.55	4u	$ 17,001,938	$ -	$ -	$ -	$ 17,001,938
58	Twenty Road Extension - Glover Road to Upper Redhill Valley Parkway	✓	To 2031	0.35	2i	$ 3,185,739	$ -	$ -	$ -	$ 3,185,739
59	Upper Red Hill Valley Parkway - Rymal Road to Twenty Road		2031 to 2041	1.22	4u	$ 13,103,066	$ -	$ -	$ 13,103,066	$ -
60	Dickenson Road - 350 meters west of Nebo to 330m west of Glover Road		2031 to 2041	1.20	2r-2i	$ 11,285,379	$ -	$ -	$ 11,285,379	$ -
61	Glover Road - Twenty Road to Rymal Road	✓	To 2031	1.31	2r-2i	$ 11,485,019	$ -	$ 1,722,753	$ -	$ 9,762,267
62	Nebo Road - Twenty Road to Dickenson Road/Dartnall Road		To 2031	0.74	2r-2i	$ 6,302,030	$ -	$ 945,305	$ -	$ 5,356,726
63	Nebo Road - Rymal Road to Twenty Road East		To 2031	1.30	2r-2i	$ 11,085,926	$ -	$ 1,662,889	$ -	$ 9,423,037
South Mountain Area										
64	Rymal Road - Dartnall Road to Upper James Street	✓	To 2031	5.17	2r-5u	$ 56,631,794	$ -	$ 8,494,769	$ -	$ 48,137,025
65	Upper Wellington Street - Limeridge Road to Stone Church Road		To 2031	1.04	2r-3u	$ 12,404,686	$ -	$ 4,961,874	$ -	$ 7,442,812
66	Garth Street - Rymal Road to Twenty Road West		2031 to 2041	1.41	2r-5u	$ 15,963,350	$ -	$ -	$ 15,963,350	$ -
67	Rymal Road - Glancaster Road to Upper Paradise Street		To 2031	0.55	2r-5u	$ 5,594,604	$ -	$ 839,191	$ -	$ 4,755,413
68	West 5th Street - Rymal Road to Stone Church Road	✓	To 2031	1.01	2r-3u	$ 7,728,774	$ -	$ 3,091,510	$ -	$ 4,637,265
Stoney Creek										
69	Arvin Avenue - McNeilly Road to Lewis Road		To 2031	0.85	2i	$ 7,736,794	$ -	$ -	$ -	$ 7,736,794
70	South Service Road - Lewis Road to Fifty Road	✓	To 2031	1.79	2r-4r	$ 13,701,195	$ -	$ 2,055,179	$ -	$ 11,646,015
71	McNeilly Road - Highway 8 to Barton Street	✓	To 2031	0.90	2r-2u	$ 7,156,843	$ -	$ 1,073,526	$ -	$ 6,083,317
72	Lewis Road - Highway 8 to Barton Street	✓	To 2031	0.49	2r-2u	$ 3,908,425	$ -	$ 586,264	$ -	$ 3,322,161
73	Glover Road - Highway 8 to Barton Street		2031 to 2041	0.81	2r-2u	$ 6,259,225	$ -	$ -	$ 6,259,225	$ -
74	Jones Road - Highway 8 to Barton Street	✓	To 2031	0.92	2r-2u	$ 7,293,473	$ -	$ 1,094,021	$ -	$ 6,199,452
75	Jones Road - Barton Street to South Service Road		To 2031	0.92	2r-2i	$ 8,035,897	$ -	$ 4,017,949	$ -	$ 4,017,949
76	Lewis Road - Barton Street to South Service Road		To 2031	0.87	2r-2i	$ 7,871,843	$ -	$ 3,935,922	$ -	$ 3,935,922
77	Millen Road - Barton Street to South Service Road		To 2031	1.07	2r-2i	$ 9,092,330	$ -	$ 3,636,932	$ -	$ 5,455,398
78	South Service Road - Millen Road to Gray Road		2031 to 2041	1.55	2r-2u	$ 12,006,082	$ -	$ -	$ 12,006,082	$ -
Twenty Road East										
79	Upper Ottawa Street - End to Twenty Road		2031 to 2041	0.95	4u	$ 10,215,838	$ -	$ -	$ 10,215,838	$ -
Waterdown										
80	North Waterdown Drive - Centre Road to Parkside Drive		To 2031	1.28	3u	$ 12,464,597	$ -	$ -	$ -	$ 12,464,597
81	Parkside Drive - North Waterdown Drive to Avonsyde Boulevard	✓	To 2031	1.47	2r-3u	$ 32,319,655	$ -	$ 4,847,948	$ -	$ 27,471,707
82	North Waterdown Drive - Clappison Avenue Extension to Mosaic Drive		To 2031	0.59	3u	$ 5,726,919	$ -	$ -	$ -	$ 5,726,919
83	Clappison Avenue Extension - Parkside Drive to North Waterdown Drive		To 2031	0.54	2u	$ 4,132,544	$ -	$ -	$ -	$ 4,132,544
84	Parkside Drive - Hollybush Drive to Highway 6	✓	To 2031	1.07	2r-4u	$ 10,266,769	$ -	$ 4,106,708	$ -	$ 6,160,062
85	Parkside Drive - Main Street to North Waterdown Drive		2031 to 2041	0.59	2r-3u	$ 4,533,236	$ -	$ -	$ 4,533,236	$ -
Other										
86	Binbrook Road - Fletcher Road to Binhaven Road	✓	To 2031	0.91	2r-2u	$ 7,297,133	$ -	$ 1,094,570	$ -	$ 6,202,563
87	LRT corridor - Centennial Parkway/Main Street/King Street to McMaster University		To 2031	13.77	Public Realm Improvements	$ 9,990,000	$ -	$ 1,498,500	$ -	$ 8,491,500
88	Longwood Road - Aberdeen Avenue to Main Street		To 2031	0.64	4u	$ 8,192,524	$ -	$ 4,096,262	$ -	$ 4,096,262
89	Lincoln M. Alexander Parkway-Red Hill Valley Parkway - Highway 403 to Queen Elizabeth Way		2031 to 2041	17.30	4r-6u	$ 135,000,000	$ -	$ -	$ 135,000,000	$ -

Prj. No.	Increased Service Needs Attributable to Anticipated Development	2031 Oversizing (To 2031 Road Projects within the Urban Boundary)*	Timing (year)	Length (km)	Capital Improvement	Gross Capital Cost Estimate (2023$)	Other Deductions	Benefit to Existing Development	Post Period Benefit	Net Capital Cost
Local Share Deductions										
90	Provision for Local Share of Urbanization (Urbanization Rate)					$ (4,684,630)				$ (4,684,630)
91	Local Share Deductions					$ (64,082,002)				$ (64,082,002)
Major Structures										
92	Highway 5/6 Interchange		To 2031	-	Structure	$ 60,500,000	$ 45,500,000	$ -	$ -	$ 15,000,000
93	Mohawk Road - Highway 403 Interchange Ramp		To 2031	-	Structure	$ 4,042,310	$ -	$ 2,021,155	$ -	$ 2,021,155
94	Centennial Parkway at QEW		To 2031	-	Interchange Reconfiguration	$ 8,500,000	$ -	$ 4,250,000	$ -	$ 4,250,000
95	QEW Off-Ramps at Fifty Road		To 2031	-	Signalization and Ramp Reconfiguration	$ 4,000,000	$ -	$ 600,000	$ -	$ 3,400,000
96	Strathcona Pedestrian Bridge		2031 to 2041	-	Structure	$ 31,500,000	$ -	$ -	$ 31,500,000	$ -
97	Limeridge Mall Pedestrian Bridge		To 2031	-	Structure	$ 6,500,000	$ 3,500,000	$ 2,430,000	$ -	$ 570,000
98	Henderson Lift Pedestrian and Cyclist Bridge		2031 to 2041	-	Structure	$ 20,000,000	$ -	$ -	$ 20,000,000	$ -
99	Hamilton Centre Pedestrian and Cyclist Bridge		2031 to 2041	-	Structure	$ 9,500,000	$ -	$ -	$ 9,500,000	$ -
100	Red Hill Pedestrian and Cyclist Bridge		To 2031	-	Structure	$ 19,000,000	$ -	$ 15,390,000	$ -	$ 3,610,000
101	Dundas Pedestrian and Cyclist Bridge		2031 to 2041	-	Structure	$ 3,125,000	$ -	$ -	$ 3,125,000	$ -
102	Margaret St. Park Active Transportation Bridge		2031 to 2041	-	Structure	$ 5,900,000	$ -	$ -	$ 5,900,000	$ -
103	Sealey Park Active Transportation Bridge		To 2031	-	Structure	$ 7,500,000	$ -	$ 6,075,000	$ -	$ 1,425,000
104	Grade Separation		To 2031	-	Grade Separation	$ 71,827,667	$ -	$ 17,956,917	$ 26,935,375	$ 26,935,375
Programs										
105	New Signals (Pedestrian and/or Regular)		2024-2031	-	City-Wide Program	$ 32,000,000	$ -	$ 1,600,000	$ -	$ 30,400,000
106	Development Road Urbanization		2024-2031	-	City-Wide Program	$ 6,500,000	$ -	$ 325,000	$ -	$ 6,175,000
107	Street Lighting Enhancement Program		2024-2031	-	City-Wide Program	$ 3,250,000	$ -	$ 2,632,500	$ -	$ 617,500
108	Pedestrian Crossovers		2024-2031	-	City-Wide Program	$ 1,680,000	$ -	$ 1,360,800	$ -	$ 319,200
109	Advanced Traffic Management Systems		2024-2031	-	City-Wide Program	$ 6,000,000	$ -	$ 4,500,000	$ -	$ 1,500,000
110	Transit Shelter Expansion Program		2024-2031	-	City-Wide Program	$ 1,200,000	$ -	$ 600,000	$ -	$ 600,000
111	Bus Stop Shelter Rehabilitation Program		2024-2031	-	City-Wide Program	$ 1,000,000	$ -	$ 850,000	$ -	$ 150,000
112	New Sidewalk Program		2024-2031	-	City-Wide Program	$ 6,500,000	$ -	$ -	$ -	$ 6,500,000
113	New Traffic Signals		2024-2031	-	City-Wide Program	$ 12,000,000	$ -	$ 600,000	$ -	$ 11,400,000
114	New Traffic Signal - Drakes Drive at North Service Road		2024-2031	-	Traffic Signal	$ 350,000	$ -	$ 17,500	$ -	$ 332,500
115	New Traffic Signal - Regional Road 20 at Westbrook Road		2024-2031	-	Traffic Signal	$ 350,000	$ -	$ 17,500	$ -	$ 332,500
116	New Traffic Signal - Regional Road 56 at Kirk Road		2024-2031	-	Traffic Signal	$ 350,000	$ -	$ 17,500	$ -	$ 332,500
117	New Traffic Signal - Fifty Road at North Service Road		2024-2031	-	Traffic Signal	$ 350,000	$ -	$ 17,500	$ -	$ 332,500
118	New Traffic Signal - Fruitland Road at North Service Road		2024-2031	-	Traffic Signal	$ 350,000	$ -	$ 17,500	$ -	$ 332,500
119	Unidentified intersection improvements (excluding Traffic Signals)		2024-2031	-	City-Wide Program	$ 3,250,000	$ -	$ 2,632,500	$ -	$ 617,500
120	Annual Bike Parking at B/A Line Stops		2024-2031	-	City-Wide Program	$ 46,000	$ -	$ 37,260	$ -	$ 8,740
121	Annual Enhanced Bike Parking at Express Bus/Rapid Transit Stops		2024-2031	-	City-Wide Program	$ 275,000	$ -	$ 222,750	$ -	$ 52,250
122	Transportation Demand Management		2024-2031	-	City-Wide Program	$ 4,400,000	$ -	$ 3,564,000	$ -	$ 836,000
123	Durable Pavement Markings – New Installations		2024-2031	-	City-Wide Program	$ 1,600,000	$ -	$ 240,000	$ -	$ 1,360,000
124	Traffic Controller Cabinet Replacements (Capacity Related)		2024-2031	-	City-Wide Program	$ 3,200,000	$ -	$ 160,000	$ -	$ 3,040,000
125	Traffic Signal Upgrades		2024-2031	-	City-Wide Program	$ 2,400,000	$ -	$ 120,000	$ -	$ 2,280,000
126	Traffic Signal LED Replacement Program		2024-2031	-	City-Wide Program	$ 1,760,000	$ -	$ 1,760,000	$ -	$ -
127	Sidewalk Missing Link Program		2024-2031	-	City-Wide Program	$ 2,000,000	$ -	$ 1,620,000	$ -	$ 380,000
128	Bike Parking		2024-2031	-	City-Wide Program	$ 720,000	$ -	$ 583,200	$ -	$ 136,800
129	Micromobility		2024-2031	-	City-Wide Program	$ 1,200,000	$ -	$ 972,000	$ -	$ 228,000
130	Miscellaneous Land Acquisitions		2024-2031	-	City-Wide Program	$ 6,969,500	$ -	$ 348,475	$ -	$ 6,621,025
Active Transportation Projects										
131	Barton - Brockley to Fruitland		2024-2031	3.95	Multi-Use Trail	$ 171,450	$ -	$ 138,874	$ 9,773	$ 22,803
132	Barton - Red Hill Valley to Lake		2024-2031	1.61	Cycle track	$ 326,173	$ -	$ 264,200	$ 18,592	$ 43,381
133	Baseline/ Lockport - Winona Road to Niagara border		2024-2031	1.15	Bike Lane	$ 32,060	$ -	$ 25,968	$ 1,827	$ 4,264
134	Battlefield Park - Bruce Trail Link - Greenhill to Bruce Trail to Glover Mtn		2024-2031	0.75	Multi-Use Trail	$ 742,949	$ -	$ 601,788	$ 42,348	$ 98,812
135	Beach Bike Lane - under QEW		2024-2031	0.24	Bike Lane	$ 9,757	$ -	$ 7,903	$ 556	$ 1,298
136	Beach Boulevard - lift bridge to Woodward/Eastport		2024-2031	4.52	Bike Lane	$ 131,027	$ -	$ 106,132	$ 7,469	$ 17,427
137	Beddoe Drive Link		2024-2031	0.91	Multi-Use Trail	$ 723,434	$ -	$ 585,982	$ 41,236	$ 96,217
138	Binbrook Road - Regional Road 56 to Southbrook		2024-2031	0.28	Bike Lane	$ 9,757	$ -	$ 7,903	$ 556	$ 1,298

Prj. No.	Increased Service Needs Attributable to Anticipated Development	2031 Oversizing (To 2031 Road Projects within the Urban Boundary)*	Timing (year)	Length (km)	Capital Improvement	Gross Capital Cost Estimate (2023$)	Other Deductions	Benefit to Existing Development	Post Period Benefit	Net Capital Cost
139	Binbrook Road - Trinity Church to Royal Winter/Binhaven		2024-2031	2.16	Multi-Use Trail	$ 342,899	$ 146,050	$ -	$ 59,055	$ 137,795
140	Birch/ Holton - Burlington St to Cannon/ King/ Delaware		2024-2031	1.40	Bike Lane	$ 43,211	$ -	$ 35,001	$ 2,463	$ 5,747
141	Burlington Street East Boulevard Trail - Ottawa to Parkdale to Glow		2024-2031	2.30	Multi-Use Trail	$ 1,463,595	$ -	$ 1,185,512	$ 83,425	$ 194,658
142	Burlington Street Link - Ferguson/ Dock Service Road to Sherman		2024-2031	1.88	Multi-Use Trail	$ 144,966	$ -	$ 117,422	$ 8,263	$ 19,280
143	Burlington/ Industrial - Sherman to Gage		2024-2031	0.86	Cycle track	$ 137,996	$ -	$ 111,777	$ 7,866	$ 18,353
144	Centennial Parkway - North Service to GO station/ Kenora		2024-2031	1.20	Multi-Use Trail	$ 217,448	$ -	$ 176,133	$ 12,395	$ 28,921
145	Centre - Concession 8 E to Concession 7 E		2024-2031	1.80	Paved Shoulder	$ 489,259	$ -	$ 73,389	$ 124,761	$ 291,109
146	Centre - Grindstone Creek to Concession 5 E		2024-2031	0.45	Paved Shoulder	$ 122,663	$ -	$ 18,399	$ 31,279	$ 72,985
147	Centre - Warren/ Carlisle Road to Progreston		2024-2031	0.78	Paved Shoulder	$ 210,479	$ -	$ 31,572	$ 53,672	$ 125,235
148	Charlton/ John - James to Ferguson & St Joseph's Dr		2024-2031	0.80	Bike Lane	$ 117,088	$ -	$ 94,841	$ 6,674	$ 15,573
149	Chedmac - Southridge to Rice		2024-2031	0.53	Bike Lane	$ 32,060	$ -	$ 25,968	$ 1,827	$ 4,264
150	Chedoke Rail Trail - Highway 403 to Dundurn		2024-2031	4.68	Multi-Use Trail	$ 2,072,729	$ -	$ 1,678,911	$ 118,146	$ 275,673
151	Cherry Beach Road Link - Millen to Dewitt		2024-2031	0.91	Multi-Use Trail	$ 326,173	$ -	$ 264,200	$ 18,592	$ 43,381
152	Christie-Tews - Christie C.A. to Harvest		2024-2031	2.75	Multi-Use Trail	$ 1,566,744	$ -	$ 235,012	$ 399,520	$ 932,212
153	Delawana - Kenora to Lake		2024-2031	1.02	Bike Lane	$ 12,545	$ -	$ 10,162	$ 715	$ 1,668
154	Devil's Punchbowl Link - Mountain Ave/ Lake Ave to Ridge Road/ Devil's		2024-2031	0.42	Multi-Use Trail	$ 209,085	$ -	$ 169,359	$ 11,918	$ 27,808
155	Dewitt - Barton to Dundee		2024-2031	0.90	Bike Lane	$ 29,272	$ -	$ 23,710	$ 1,668	$ 3,893
156	Dewitt - Dundee to Ridge		2024-2031	0.50	Bike Lane	$ 1,045,425	$ -	$ 846,794	$ 59,589	$ 139,042
157	Dundas St - Main to Cootes		2024-2031	0.68	Bike Lane	$ 22,302	$ -	$ 18,065	$ 1,271	$ 2,966
158	Dundas St in Waterdown - Highway 6 to Kearns (border)		2024-2031	6.03	Multi-Use Trail	$ 179,813	$ -	$ 145,649	$ 10,249	$ 23,915
159	East Townline - Mud to Highland		2024-2031	1.10	Bike Lane	$ 18,121	$ -	$ 2,718	$ 4,621	$ 10,782
160	Eastport Drive Lift Bridge Link		2024-2031	0.60	Multi-Use Trail	$ 2,439,325	$ -	$ 1,975,853	$ 139,042	$ 324,430
161	Edgewood - Safari to Highway 6		2024-2031	0.90	Bike Lane	$ 15,333	$ -	$ -	$ 4,600	$ 10,733
162	Emperor - Brigade to Acadia		2024-2031	0.44	Bike Lane	$ 22,302	$ -	$ 18,065	$ 1,271	$ 2,966
163	Existing Pipeline Trail - Main to Strathearne		2024-2031	2.20	Multi-Use Trail	$ 6,522,058	$ -	$ 5,282,867	$ 371,757	$ 867,434
164	Fallsview - Sydenham to Rock Chapel Road		2024-2031	1.40	Multi-Use Trail	$ 487,865	$ -	$ -	$ 146,360	$ 341,506
165	Fennell Avenue Boulevard Trail - Garth/ West 18th to West 5th		2024-2031	1.20	Multi-Use Trail	$ 574,287	$ -	$ 465,172	$ 32,734	$ 76,380
166	Ferguson - Young to Charlton		2024-2031	0.21	Bike Lane	$ 2,788	$ -	$ 2,258	$ 159	$ 371
167	Fiddler's Green - Amberly to Carluke		2024-2031	6.77	Bike Lane	$ 29,272	$ 8,509	$ -	$ 6,229	$ 14,534
168	Fiddler's Green - Jerseyville to Wilson		2024-2031	0.25	Bike Lane	$ 8,363	$ -	$ 6,774	$ 477	$ 1,112
169	First Rd W/Whitedeer/Terryberry & Picardy/ Highbury - Glover Mtn Road/ Ridgeview Dr to Rymal/ Bellagio		2024-2031	4.08	Bike Lane	$ 66,907	$ -	$ 54,195	$ 3,814	$ 8,899
170	Frances - Grays to Southshore		2024-2031	1.15	Bike Lane	$ 217,448	$ -	$ 176,133	$ 12,395	$ 28,921
171	Frid/Chatham - Longwood to Dundurn		2024-2031	1.00	Bike Lane	$ 8,363	$ -	$ 6,774	$ 477	$ 1,112
172	Golf Links/ Halson - Wilson to Southcote		2024-2031	1.19	Bike Lane	$ 39,029	$ -	$ 31,614	$ 2,225	$ 5,191
173	Governor's - Wainwright to Lynden		2031-2041	13.06	Paved Shoulder	$ 908,823	$ -	$ -	$ 908,823	$ -
174	Governor's - Ogilvie to Main		2024-2031	0.24	Bike Lane	$ 59,938	$ -	$ 48,550	$ 3,416	$ 7,972
175	Grays/ Gray - Confederation Park gate to King		2024-2031	3.00	Multi-Use Trail	$ 163,086	$ -	$ 132,100	$ 9,296	$ 21,690
176	Greenhill - Harrisford to Summercrest		2024-2031	1.94	Bike Lane	$ 105,936	$ -	$ 85,808	$ 6,038	$ 14,090
177	Greenhill - Summercrest to King		2024-2031	1.20	Bike Lane	$ 65,513	$ -	$ 53,066	$ 3,734	$ 8,713
178	Hamilton Drive Link		2024-2031	-	Multi-Use Trail	$ 2,759,922	$ -	$ 2,235,537	$ 157,316	$ 367,070
179	Hamilton in Waterdown - Centre/Main to Highway 5/Dundas		2024-2031	1.00	Multi-Use Trail	$ 86,422	$ -	$ 70,002	$ 4,926	$ 11,494
180	Hamilton-Brantford Rail Ttrail - Bridlewood Dr to Ewen		2024-2031	4.00	Multi-Use Trail	$ 565,923	$ -	$ 458,398	$ 32,258	$ 75,268
181	Hatt - Peel to John		2024-2031	0.65	Cycle track	$ 40,423	$ -	$ 32,743	$ 2,304	$ 5,376
182	Hollybush - Parkside to Dundas St		2024-2031	1.10	Bike Lane	$ 22,302	$ -	$ 18,065	$ 1,271	$ 2,966
183	Hydro Corridor - Barton to Lawrence		2024-2031	1.90	Multi-Use Trail	$ 1,743,769	$ -	$ 1,412,453	$ 99,395	$ 231,921
184	Hydro Corridor - Lawrence Avenue to Greenhill Avenue		2024-2031	1.15	Multi-Use Trail	$ 599,377	$ -	$ 485,495	$ 34,164	$ 79,717
185	Hydro Corridor - Wilson/Highway 52 to Regional Road 56		2024-2031	12.70	Multi-Use Trail	$ 10,617,336	$ 10,617,336	$ -	$ -	$ -
186	Iroquois Heights to Old Mohawk - Chedoke Rail Trail to Old Mohawk Road		2024-2031	0.85	Multi-Use Trail	$ 443,260	$ -	$ 359,041	$ 25,266	$ 58,954
187	Jones Road Link		2024-2031	2.67	Multi-Use Trail	$ 309,446	$ 224,257	$ -	$ 25,557	$ 59,632
188	Karst Escarpment Loop - Pritchard to Mount Albion/Winterberry		2024-2031	0.70	Multi-use Trail	$ 543,621	$ -	$ 440,333	$ 30,986	$ 72,302
189	Kenora/ Greenford/ Owen - Bancroft to King		2024-2031	2.60	Bike Lane	$ 239,751	$ -	$ 194,198	$ 13,666	$ 31,887
190	Kentley - Eugene to Kenora		2024-2031	0.40	Signed Bike Route	$ 5,576	$ -	$ 4,516	$ 318	$ 742

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191	Kerns Road,Waterdown South Link		2024-2031	-	Multi-Use Trail	$ 1,333,962	$ -	$ 1,080,509	$ 76,036	$ 177,417
192	King in Dundas - Bond to Peel		2024-2031	0.80	Bike Lane	$ 43,211	$ -	$ 35,001	$ 2,463	$ 5,747
193	King over Red Hill Valley Parkway - Lawrence to Pottruff		2024-2031	0.60	Cycle track	$ 37,635	$ -	$ 30,485	$ 2,145	$ 5,005
194	Kitty Murray - Garner to Golf Links		2024-2031	2.26	Bike Lane	$ 73,877	$ -	$ 59,840	$ 4,211	$ 9,826
195	Limeridge - Birchview to Mtn Brow		2024-2031	1.98	Bike Lane	$ 97,573	$ -	$ 79,034	$ 5,562	$ 12,977
196	Limeridge - Garth/ Bonaventure to West 5th/ Hawkridge		2024-2031	1.37	Bike Lane	$ 73,877	$ -	$ 59,840	$ 4,211	$ 9,826
197	Limeridge Mall Hydro Corridor Trail - Mohawk Road to South of Rymal		2024-2031	3.80	Multi-Use Trail	$ 1,957,036	$ 1,957,036	$ -	$ -	$ -
198	Lovers Lane - Sulpher Springs to Jerseyville		2024-2031	0.90	Bike Lane	$ 29,272	$ -	$ 23,710	$ 1,668	$ 3,893
199	Marston - Paramount to Gordon Drummond		2024-2031	0.40	Bike Lane	$ 19,515	$ -	$ 15,807	$ 1,112	$ 2,595
200	Meadowbrook		2024-2031	1.00	Bike Lane	$ 22,302	$ -	$ 18,065	$ 1,271	$ 2,966
201	Meadowlands/ Raymond - Golf Links to Garner		2024-2031	2.10	Bike Lane	$ 68,301	$ -	$ 55,324	$ 3,893	$ 9,084
202	Millen - Shoreview to Millen/ Seaman		2024-2031	0.50	Bike Lane	$ 43,211	$ 20,532	$ 18,370	$ 1,293	$ 3,016
203	Mohawk - Old Mohawk to Upper Paradise		2024-2031	1.83	Bike Lane	$ 65,513	$ -	$ 53,066	$ 3,734	$ 8,713
204	Montclair/ Central/ Graham/ Frederick		2024-2031	3.80	Signed Bike Route	$ 26,484	$ -	$ 21,452	$ 1,510	$ 3,522
205	Mountain Brow Boulevard Trail - Mohawk to Arbour		2024-2031	1.81	Multi-Use Trail	$ 521,319	$ -	$ 422,268	$ 29,715	$ 69,335
206	Mountain Brow East Path - Rendell to Oakcrest		2024-2031	0.81	Multi-Use Trail	$ 2,174,484	$ -	$ 1,761,332	$ 123,946	$ 289,206
207	Mountain Brow in Waterdown - Mill to Burke to King Road		2024-2031	1.20	Multi-Use Trail	$ 919,974	$ -	$ 745,179	$ 52,439	$ 122,357
208	Museum of Steam and Tech Link - Woodward to Red Hill Valley Trail		2024-2031	0.75	Multi-Use Trail	$ 846,097	$ -	$ 685,339	$ 48,228	$ 112,531
209	Nash - Bancroft to King		2024-2031	2.58	Cycle track	$ 140,784	$ -	$ 114,035	$ 8,025	$ 18,724
210	North Service Road - Bellavista to Baseline		2024-2031	0.98	Bike Lane	$ 32,060	$ -	$ 25,968	$ 1,827	$ 4,264
211	North Service Road - Dewitt to Lakeview		2024-2031	0.73	Bike Lane	$ 22,302	$ -	$ 18,065	$ 1,271	$ 2,966
212	Northlawn Avenue Link		2024-2031	1.10	Multi-Use Trail	$ 557,560	$ 81,100	$ -	$ 142,938	$ 333,522
213	Ogilvie/ Old Ancaster - Hatt/ King to Hamilton-Brantford Rail Trail		2024-2031	0.80	Bike Lane	$ 19,515	$ -	$ 15,807	$ 1,112	$ 2,595
214	Old Guelph Road - Paterson to York Bike Lane		2024-2031	3.53	Paved Shoulder	$ 1,264,267	$ -	$ 189,640	$ 322,388	$ 752,239
215	Old Mud - Mt Albion to Winterberry		2024-2031	0.40	Bike Lane	$ 12,545	$ -	$ 10,162	$ 715	$ 1,668
216	Osler/ Main - Hatt/ King to Main + 125m of Main		2024-2031	2.00	Bike Lane	$ 122,663	$ -	$ 99,357	$ 6,992	$ 16,314
217	Ottawa Street South - Bruce Trail Link		2024-2031	0.39	Multi-Use Trail	$ 956,215	$ -	$ 774,534	$ 54,504	$ 127,177
218	Proposed Pipeline Trail - Museum of Steam and Technology to Mahoney		2024-2031	2.40	Multi-Use Trail	$ 720,646	$ -	$ 583,724	$ 41,077	$ 95,846
219	Queensdale - Upper Sherman to Upper Ottawa		2024-2031	1.56	Bike Lane	$ 50,180	$ -	$ 40,646	$ 2,860	$ 6,674
220	Queensdale - Upper Wellington to Skyland		2024-2031	0.39	Bike Lane	$ 54,362	$ -	$ 44,033	$ 3,099	$ 7,230
221	Queenston/ Highway 8 - King to Dewitt		2024-2031	1.37	Bike Lane	$ 342,899	$ -	$ 277,749	$ 19,545	$ 45,606
222	Regional Road 56 - Swayze Road to Cemetery		2024-2031	4.60	Multi-Use Trail	$ 4,347,574	$ 1,414,215	$ -	$ 880,008	$ 2,053,351
223	Regional Road 56 south of Kirk - Windwood to Kirk		2024-2031	1.14	Multi-Use Trail	$ 1,087,242	$ -	$ 163,086	$ 277,247	$ 646,909
224	Ridge Road - Devil Punch Bowl to Dewitt		2024-2031	2.91	Multi-Use Trail	$ 1,087,242	$ -	$ 880,666	$ 61,973	$ 144,603
225	Rousseaux/ Mohawk - Wilson to Filman		2024-2031	1.60	Bike Lane	$ 313,628	$ -	$ 254,038	$ 17,877	$ 41,712
226	Scenic - Chedoke Rail Ttrail to Upper Paradise		2024-2031	2.27	Bike Lane	$ 37,635	$ -	$ 30,485	$ 2,145	$ 5,005
227	Scenic/ Denlow - Upper Paradise to Garth		2024-2031	0.95	Bike Lane	$ 15,333	$ -	$ 12,420	$ 874	$ 2,039
228	Shaver - Wilson to Garner		2024-2031	0.52	Multi-Use Trail	$ 16,727	$ -	$ 13,549	$ 953	$ 2,225
229	Stuart Street Rail Link		2024-2031	0.94	Multi-Use Trail	$ 354,051	$ -	$ 286,781	$ 20,181	$ 47,089
230	Upper James - William Connell Park		2024-2031	0.38	Multi-Use Trail	$ 313,628	$ -	$ 254,038	$ 17,877	$ 41,712
231	Upper Sherman - Stone Church to Rymal to Miles		2024-2031	1.00	Bike Lane	$ 249,508	$ 249,508	$ -	$ -	$ -
232	Upper Wentworth - Concession to Fennell		2024-2031	1.03	Bike Lane	$ 55,756	$ -	$ 45,162	$ 3,178	$ 7,416
233	Upper Wentworth - Fennell to East 24th		2024-2031	1.03	Bike Lane	$ 55,756	$ -	$ 45,162	$ 3,178	$ 7,416
234	Valley Road - Rock Chapel to York Road		2024-2031	1.40	Paved Shoulder	$ 434,897	$ -	$ 65,235	$ 110,899	$ 258,764
235	Van Wagner's - Beach Bike Lane to Centennial Parkway		2024-2031	2.50	Bike Lane	$ 108,724	$ -	$ 88,067	$ 6,197	$ 14,460
236	Victoria - Young to Burlington		2024-2031	2.53	Bike Lane	$ 55,756	$ -	$ 45,162	$ 3,178	$ 7,416
237	Walnut Grove & Sanctuary Park - Walnut Grove/ Ogilvie to Highland Park Dr		2024-2031	0.40	Multi-Use Trail	$ 510,167	$ -	$ 413,236	$ 29,080	$ 67,852
238	Warrington/ South Service/ Lake - Centennial Parkway to Maple		2024-2031	3.86	Multi-Use Trail	$ 108,724	$ -	$ 88,067	$ 6,197	$ 14,460
239	White Church Road West Airport Link		2024-2031	-	Multi-Use Trail	$ 938,095	$ -	$ -	$ 281,428	$ 656,666
240	White Church Road West Link		2024-2031	6.55	Multi-Use Trail	$ 1,832,979	$ 798,725	$ -	$ 310,276	$ 723,977
241	Wilson in Ancaster - Rousseaux to Halson		2024-2031	0.85	Bike Lane	$ 27,878	$ -	$ 22,581	$ 1,589	$ 3,708
242	Winona - Lido/ shore to Peachtree (Helena)		2024-2031	1.97	Multi-Use Trail	$ 64,119	$ -	$ 51,937	$ 3,655	$ 8,528
243	York Road - Olympic to Valley Road		2024-2031	1.70	Paved Shoulder	$ 609,134	$ -	$ 91,370	$ 155,329	$ 362,435

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244	York Road & York Road at Old Guelph - Valley Road to Highway 6		2024-2031	2.50	Multi-Use Trail	$ 1,997,459	$ -	$ -	$ 599,238	$ 1,398,221
245	Acadia - Emperor to End		2024-2031	0.54	Signed Bike Route	$ 21,732	$ -	$ 17,603	$ 1,239	$ 2,890
246	Airport Road - Butter to Miles		2024-2031	6.66	Bike Lane	$ 932,965	$ 812,142	$ -	$ 36,247	$ 84,576
247	Alma - Sydenham to Queen		2024-2031	0.09	Bike Lane	$ 12,302	$ -	$ 9,965	$ 701	$ 1,636
248	Aquasanta - Dicenzo to Ascoli		2024-2031	0.09	Signed Bike Route	$ 3,576	$ -	$ 2,897	$ 204	$ 476
249	Baker - Breadalbane to Dundurn		2024-2031	0.14	Signed Bike Route	$ 5,681	$ -	$ 4,602	$ 324	$ 756
250	Winston - Hunter to 413m west of Kelson Ave N		2024-2031	2.06	Bike Lane	$ 288,999	$ -	$ 43,350	$ 73,695	$ 171,955
251	Bedrock - First Rd W to 300m West of First Rd W		2024-2031	0.33	Bike Lane	$ 45,816	$ -	$ 37,111	$ 2,612	$ 6,094
252	Bellagio - Fletcher to Terryberry		2024-2031	1.64	Bike Lane	$ 229,437	$ -	$ 185,844	$ 13,078	$ 30,515
253	Binbrook Road - Southbrook to Boundary		2024-2031	6.02	Paved Shoulder	$ 1,805,365	$ -	$ 270,805	$ 460,368	$ 1,074,192
254	Book Road - Shaver to Fiddler's Green		2031-2041	2.50	Paved Shoulder	$ 751,147	$ -	$ -	$ 751,147	$ -
255	Book Road - Fiddler's Green to Glancaster		2024-2031	3.42	Bike Lane	$ 478,291	$ 417,469	$ 49,266	$ 3,467	$ 8,089
256	Brantdale - West Fifth Street to Upper James		2024-2031	0.42	Signed Bike Route	$ 16,894	$ -	$ 13,684	$ 963	$ 2,247
257	Bridlewood - Governor's to Highland Park Drive		2024-2031	0.59	Signed Bike Route	$ 23,434	$ -	$ 18,982	$ 1,336	$ 3,117
258	Brigade - Upper Wellington to Emperor		2024-2031	0.82	Signed Bike Route	$ 32,712	$ -	$ 26,497	$ 1,865	$ 4,351
259	Brock - Harvest Road to Highway 8		2024-2031	0.55	Paved Shoulder	$ 164,442	$ -	$ 24,666	$ 41,933	$ 97,843
260	Brock - Safari to Freelton		2024-2031	4.50	Paved Shoulder	$ 1,351,337	$ -	$ -	$ 405,401	$ 945,936
261	Burke - Great Falls Blvd to McKnight Ave E		2024-2031	0.51	Bike Lane	$ 71,675	$ -	$ 58,057	$ 4,085	$ 9,533
262	Butter - Glancaster to Fiddler's Green		2024-2031	2.21	Bike Lane	$ 309,163	$ -	$ -	$ 92,749	$ 216,414
263	Canada - Locke to Queen		2024-2031	0.41	Signed Bike Route	$ 16,392	$ -	$ 13,277	$ 934	$ 2,180
264	Carlisle Trail Loop - Centre Road to Border		2024-2031	3.35	Paved Shoulder	$ 1,006,151	$ -	$ 150,923	$ 256,568	$ 598,660
265	Carlson Street - Highland Road to End		2024-2031	0.11	Signed Bike Route	$ 4,410	$ -	$ 3,572	$ 251	$ 586
266	Carluke - Glancaster to Shaver		2031-2041	3.53	Paved Shoulder	$ 1,058,213	$ -	$ -	$ 1,058,213	$ -
267	Central - Edgemont to Cochrane		2024-2031	1.54	Signed Bike Route	$ 61,437	$ -	$ 49,764	$ 3,502	$ 8,171
268	Concession 10 West - Foreman to Freelton		2024-2031	9.28	Signed Bike Route	$ 371,340	$ -	$ -	$ 111,402	$ 259,938
269	Concession 11 E - Centre Road to Freelton		2024-2031	2.65	Paved Shoulder	$ 794,371	$ -	$ -	$ 238,311	$ 556,060
270	Concession 4 West - Millgrove Sideroad to Highway 6		2031-2041	1.78	Paved Shoulder	$ 532,612	$ -	$ -	$ 532,612	$ -
271	Concession 6 East - Highway 6 to Centre Road		2031-2041	2.79	Paved Shoulder	$ 836,846	$ -	$ -	$ 836,846	$ -
272	Concession 7 West - Boundary to Edgewood Road		2024-2031	18.80	Paved Shoulder	$ 5,640,591	$ -	$ -	$ 1,692,177	$ 3,948,414
273	Concession 8 West - Middletown to Middletown		2024-2031	0.14	Signed Bike Route	$ 5,787	$ -	$ 868	$ 1,476	$ 3,443
274	Concession Street - Mountain Park Ave to Mountain Brow Boulevard		2024-2031	0.51	Bike Lane	$ 71,122	$ -	$ 57,609	$ 4,054	$ 9,459
275	Confederation Beach Park - Centennial Parkway to West of Gray		2024-2031	1.98	Signed Bike Route	$ 79,281	$ -	$ 64,218	$ 4,519	$ 10,544
276	Cormorant - Trinity to Shaver		2024-2031	2.46	Bike Lane	$ 344,713	$ -	$ 279,217	$ 19,649	$ 45,847
277	Culotta - Perrelli to Chudleigh		2024-2031	0.14	Signed Bike Route	$ 5,564	$ -	$ 4,507	$ 317	$ 740
278	Dicenzo Dr - Aquasanta Crescent to South Turn on Dicenzo Drive		2024-2031	0.36	Signed Bike Route	$ 14,232	$ -	$ 11,528	$ 811	$ 1,893
279	Dicenzo Dr - Upper Wellington to Trieste		2024-2031	0.20	Signed Bike Route	$ 8,182	$ -	$ 6,628	$ 466	$ 1,088
280	Dundurn - Main to King		2024-2031	0.28	Bike Lane	$ 39,076	$ -	$ 31,651	$ 2,227	$ 5,197
281	Edgemont - Montclair to Central		2024-2031	0.18	Signed Bike Route	$ 7,202	$ -	$ 5,834	$ 411	$ 958
282	Eighth Road Link - Ridge to Boundary		2031-2041	5.51	Paved Shoulder	$ 1,651,643	$ -	$ -	$ 1,651,643	$ -
283	Eleventh - Mud to Green Mountain Road		2024-2031	1.11	Signed Bike Route	$ 44,403	$ -	$ -	$ 13,321	$ 31,082
284	Emerson - Whitney to Main		2024-2031	0.65	Bike Lane	$ 91,299	$ -	$ 73,952	$ 5,204	$ 12,143
285	Empress - Upper James to East Sixth Street		2024-2031	0.71	Signed Bike Route	$ 28,561	$ -	$ 23,135	$ 1,628	$ 3,799
286	Eugene - Pottruff to Nugent		2024-2031	0.18	Signed Bike Route	$ 7,020	$ -	$ 5,687	$ 400	$ 934
287	Fallsview - Harvest Road to Sydenham		2024-2031	2.47	Signed Bike Route	$ 98,780	$ -	$ -	$ 29,634	$ 69,146
288	Ferguson - Dock Service Road to Burlington		2024-2031	0.28	Signed Bike Route	$ 11,143	$ -	$ 9,026	$ 635	$ 1,482
289	Ferguson - Young to North of Young		2024-2031	0.05	Bike Lane	$ 7,238	$ -	$ 5,863	$ 413	$ 963
290	Field - Jerseyville Rd W to Governor's Rd		2031-2041	3.88	Paved Shoulder	$ 1,162,739	$ -	$ -	$ 1,162,739	$ -
291	Fifty - Ridge to Cokers		2024-2031	1.51	Paved Shoulder	$ 452,414	$ -	$ 67,862	$ 115,366	$ 269,186
292	Fifty - Coke to North Service Road		2024-2031	2.24	Bike Lane	$ 313,978	$ 110,740	$ 164,623	$ 11,585	$ 27,031
293	Filman - Wilson St E to End		2024-2031	0.40	Signed Bike Route	$ 15,969	$ -	$ -	$ 4,791	$ 11,178
294	First Road East - Highland Road to Ridge Road		2031-2041	3.83	Paved Shoulder	$ 1,148,959	$ -	$ -	$ 1,148,959	$ -
295	First Road West - North End to Highbury Drive		2024-2031	0.10	Bike Lane	$ 14,156	$ -	$ 11,466	$ 807	$ 1,883
296	Flamborough Puslinch Tlin - Maddaugh Road to Centre		2031-2041	1.81	Paved Shoulder	$ 542,586	$ -	$ -	$ 542,586	$ -
297	Fleming - North End to York		2024-2031	0.26	Signed Bike Route	$ 10,268	$ -	$ -	$ 3,081	$ 7,188
298	Fletcher - Rymal to Pinehill		2024-2031	0.32	Paved Shoulder	$ 96,800	$ -	$ 78,408	$ 5,518	$ 12,874
299	Foreman - Boundary to Regional Road 97		2024-2031	3.08	Signed Bike Route	$ 123,285	$ -	$ -	$ 36,986	$ 86,300
300	Franklin - Parkview to Longwood		2024-2031	0.20	Signed Bike Route	$ 7,980	$ -	$ 6,464	$ 455	$ 1,061
301	Frederick - Barton to Roxborough		2024-2031	0.62	Signed Bike Route	$ 24,851	$ -	$ 20,130	$ 1,417	$ 3,305

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302	Freelton - Concession 11 E to South of Highway 6		2024-2031	0.38	Bike Lane	$ 53,503	$ -	$ -	$ 16,051	$ 37,452
303	Fruitland - Highway 8 to North Service Road		2024-2031	2.42	Bike Lane	$ 339,460	$ 196,897	$ 115,476	$ 8,126	$ 18,961
304	Galbraith - Lake Avenue to Galbraith Three-way Intersection		2024-2031	0.52	Signed Bike Route	$ 20,811	$ -	$ 16,857	$ 1,186	$ 2,768
305	Garth - Denlow to Fennell		2024-2031	0.14	Paved Multi-Use Recreational Trail	$ 106,711	$ -	$ 86,436	$ 6,083	$ 14,193
306	Garth St Extension - 20 Rd W to Dickenson Rd W		2024-2031	1.38	Bike Lane	$ 192,797	$ 32,547	$ 129,802	$ 9,134	$ 21,313
307	Glancaster - Carluke to Airport		2024-2031	1.45	Bike Lane	$ 202,858	$ -	$ 30,429	$ 51,729	$ 120,701
308	Glenfern - Kent to Kent		2024-2031	0.04	Signed Bike Route	$ 1,402	$ -	$ 1,136	$ 80	$ 187
309	Glover - Watercrest to End		2024-2031	0.11	Bike Lane	$ 14,756	$ -	$ 11,952	$ 841	$ 1,963
310	Glow - Parkdale to East of Tate		2024-2031	0.63	Signed Bike Route	$ 25,311	$ -	$ 20,502	$ 1,443	$ 3,366
311	Golf Club - Woodburn to Westbrook		2024-2031	2.07	Signed Bike Route	$ 82,657	$ -	$ -	$ 24,797	$ 57,860
312	Golf Links - Stone Church to Kitty Murray		2024-2031	1.30	Bike Lane	$ 182,341	$ -	$ 147,696	$ 10,393	$ 24,251
313	Gordon Drummond - Marston to Nordale		2024-2031	0.04	Signed Bike Route	$ 1,739	$ -	$ 1,408	$ 99	$ 231
314	Graham Ave North - Central to Roxborough		2024-2031	0.78	Signed Bike Route	$ 31,165	$ -	$ 25,243	$ 1,776	$ 4,145
315	Guise - Leander to Catharine		2024-2031	0.54	Bike Lane	$ 76,112	$ -	$ 61,651	$ 4,338	$ 10,123
316	Gunby - Sadielou to Painter		2024-2031	0.50	Bike Lane	$ 69,518	$ -	$ 56,310	$ 3,963	$ 9,246
317	Harrison - Kirk to Binbrook Conservation Area Road		2024-2031	1.30	Paved Multi-Use Recreational Trail	$ 975,138	$ -	$ 146,271	$ 248,660	$ 580,207
318	Harvest - Sydenham to Brock		2024-2031	3.40	Paved Shoulder	$ 1,020,108	$ -	$ 153,016	$ 260,128	$ 606,964
319	Highland Rd E - Upper Red Hill Valley Pkwy to Winterberry		2024-2031	0.94	Bike Lane	$ 131,512	$ -	$ 106,525	$ 7,496	$ 17,491
320	Highland Rd E - Upper Centennial Pkwy to E Town Line		2031-2041	10.17	Paved Shoulder	$ 3,051,099	$ -	$ -	$ 3,051,099	$ -
321	Highway 5 West - Dundas St E to Sydenham		2024-2031	3.02	Paved Shoulder	$ 905,690	$ -	$ -	$ 271,707	$ 633,983
322	Highway 8 (Flam) - Boundary to Brock		2031-2041	22.30	Paved Shoulder	$ 6,691,317	$ -	$ -	$ 6,691,317	$ -
323	Highway 8 (Sc) - Fifty to Boundary		2031-2041	0.81	Bike Lane	$ 113,390	$ -	$ -	$ 113,390	$ -
324	Holton - King to Delaware		2024-2031	0.57	Signed Bike Route	$ 22,826	$ -	$ 18,489	$ 1,301	$ 3,036
325	Holton - King to Wilson		2024-2031	0.18	Bike Lane	$ 25,738	$ -	$ 20,848	$ 1,467	$ 3,423
326	Homestead Dr Path - Upper James to 1200m East of Upper James		2024-2031	1.24	Bike Lane	$ 173,375	$ -	$ 140,433	$ 9,882	$ 23,059
327	Hughson - Cannon to Hunter		2024-2031	0.81	Bike Lane	$ 113,938	$ -	$ 92,290	$ 6,494	$ 15,154
328	Hunt - Christ the King Elementary School Road to Breadalbane		2024-2031	0.57	Signed Bike Route	$ 22,819	$ -	$ 18,483	$ 1,301	$ 3,035
329	Hunter - Locke to Queen		2024-2031	0.41	Signed Bike Route	$ 16,421	$ -	$ 13,301	$ 936	$ 2,184
330	Inverness - Tanner to East 8th		2024-2031	0.77	Bike Lane	$ 107,800	$ -	$ 87,318	$ 6,145	$ 14,337
331	Jackson St W - End to Locke St S		2024-2031	0.38	Signed Bike Route	$ 15,222	$ -	$ 12,330	$ 868	$ 2,025
332	Jerseyville Rd W - Boundary to East of Paddy Greens		2031-2041	18.45	Paved Shoulder	$ 5,533,950	$ -	$ -	$ 5,533,950	$ -
333	Jerseyville Rd W - West of Shaver to Wilson		2024-2031	3.49	Paved Shoulder	$ 1,046,152	$ 637,152	$ 331,290	$ 23,313	$ 54,397
334	John - Guise to Burlington		2024-2031	0.29	Bike Lane	$ 41,233	$ -	$ 33,399	$ 2,350	$ 5,484
335	Kay Drage Park Link - Hunt to End		2024-2031	0.55	Signed Bike Route	$ 21,874	$ -	$ 17,718	$ 1,247	$ 2,909
336	Kay Drage Park Link - Macklin to End		2024-2031	0.14	Signed Bike Route	$ 5,707	$ -	$ 4,623	$ 325	$ 759
337	King William - James St N to Catharine St N		2024-2031	0.34	Signed Bike Route	$ 13,479	$ -	$ 10,918	$ 768	$ 1,793
338	Kirk - Harrison to Highway 56		2024-2031	0.98	Paved Multi-Use Recreational Trail	$ 731,458	$ -	$ 109,719	$ 186,522	$ 435,217
339	Kirkwall - Regional Road 97 to South of Concession 8 W		2024-2031	2.51	Signed Bike Route	$ 100,255	$ -	$ -	$ 30,077	$ 70,179
340	Kirkwall - South of Concession 8 W to Woodhill Rd		2024-2031	5.78	Paved Shoulder	$ 1,735,196	$ -	$ -	$ 520,559	$ 1,214,637
341	Lafarge 2000 (Middletown Rd) - Concession 6 W to Highway 8		2024-2031	7.91	Signed Bike Route	$ 316,597	$ -	$ 47,489	$ 80,732	$ 188,375
342	Lafarge 2000 (Middletown Rd/Binkley Rd) - Highway 8 to Mineral Springs Rd		2024-2031	3.57	Paved Shoulder	$ 1,071,041	$ -	$ -	$ 321,312	$ 749,728
343	Lamoreaux - Dundurn t N to Strathcona Ave N		2024-2031	0.23	Signed Bike Route	$ 9,074	$ -	$ 7,350	$ 517	$ 1,207
344	Leland - Main to North of Ward		2024-2031	0.29	Signed Bike Route	$ 11,798	$ -	$ 9,557	$ 673	$ 1,569
345	Lido - Riviera to Winona		2024-2031	0.39	Signed Bike Route	$ 15,590	$ -	$ 12,628	$ 889	$ 2,073
346	Livingstone - Sydenham to Queen		2024-2031	0.11	Bike Lane	$ 15,772	$ -	$ 12,775	$ 899	$ 2,098
347	Locke - York Blvd to Barton		2024-2031	0.26	Bike Lane	$ 35,765	$ -	$ 28,970	$ 2,039	$ 4,757
348	Longwood - Main St W to Frid St		2024-2031	0.40	Bike Lane	$ 55,713	$ -	$ 45,128	$ 3,176	$ 7,410
349	Macklin St S - King St W to Main St W		2024-2031	0.24	Signed Bike Route	$ 9,513	$ -	$ 7,706	$ 542	$ 1,265
350	Maddaugh Road - Gore to Highway 6		2024-2031	0.95	Signed Bike Route	$ 37,834	$ -	$ -	$ 11,350	$ 26,484
351	Maddaugh Road - Highway 6 to Flamborough Puslinch Tlin		2031-2041	1.11	Paved Shoulder	$ 334,364	$ -	$ -	$ 334,364	$ -
352	Maggie Johnson - Tanglewood to Highway 56		2024-2031	0.23	Bike Lane	$ 32,107	$ -	$ 26,007	$ 1,830	$ 4,270
353	Main St W - Frid to Dundurn St S		2024-2031	0.27	Bike Lane	$ 37,206	$ -	$ 30,137	$ 2,121	$ 4,948
354	Malton - Christine to Upper James		2024-2031	0.34	Signed Bike Route	$ 13,738	$ -	$ 11,128	$ 783	$ 1,827

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355	Maple/Mountain Ave Extension - Lake Ave S to Mountain Ave S		2024-2031	0.13	Signed Bike Route	$ 5,272	$ -	$ 4,270	$ 301	$ 701
356	Marion - Dromore to King St W		2024-2031	0.34	Signed Bike Route	$ 13,553	$ -	$ 10,978	$ 773	$ 1,803
357	Market - Hatt to MacNab		2024-2031	0.09	Bike Lane	$ 13,000	$ -	$ 10,530	$ 741	$ 1,729
358	Market - MacNab to Creighton		2024-2031	0.09	Signed Bike Route	$ 3,608	$ -	$ 2,922	$ 206	$ 480
359	Mayfair - Creighton to Tally Ho		2024-2031	0.31	Signed Bike Route	$ 12,397	$ -	$ 10,041	$ 707	$ 1,649
360	McNeilly/8th Road E - Highway 8 to Ridge Road		2024-2031	1.55	Signed Bike Route	$ 62,051	$ -	$ -	$ 18,615	$ 43,436
361	Middleton Rd - North of Regional Road 97 to Regional Road 97		2024-2031	0.44	Signed Bike Route	$ 17,734	$ -	$ 2,660	$ 4,522	$ 10,551
362	Middleton Rd - North of Concession 8 W to Safari		2024-2031	2.32	Signed Bike Route	$ 92,626	$ -	$ 13,894	$ 23,620	$ 55,112
363	Miles - Rymal Rd E to Boundary		2031-2041	10.88	Paved Shoulder	$ 3,265,308	$ -	$ -	$ 3,265,308	$ -
364	Millgrove Sr - Highway 6 N to Highway 5 W		2024-2031	0.71	Paved Shoulder	$ 214,008	$ -	$ 32,101	$ 54,572	$ 127,335
365	Mineral Springs - Binkley to Sulphur Springs		2031-2041	1.27	Paved Shoulder	$ 381,791	$ -	$ -	$ 381,791	$ -
366	Mount Albion - Lawrence to South of Glen Castle		2024-2031	1.39	Bike Lane	$ 194,283	$ -	$ 157,369	$ 11,074	$ 25,840
367	Mountain Brow - Concession Street to Rendell		2024-2031	0.27	Bike Lane	$ 37,692	$ -	$ 30,530	$ 2,148	$ 5,013
368	Mud - Eleventh Road E to Boundary		2031-2041	0.89	Paved Shoulder	$ 266,629	$ -	$ -	$ 266,629	$ -
369	Napier - Queen St N to Bay St N		2024-2031	0.55	Signed Bike Route	$ 22,063	$ -	$ 17,871	$ 1,258	$ 2,934
370	Nisbet - Centre Road to Wimberly		2024-2031	0.97	Bike Lane	$ 136,363	$ -	$ 110,454	$ 7,773	$ 18,136
371	Nordale - Gordon Drummond to End		2024-2031	0.39	Signed Bike Route	$ 15,414	$ -	$ 12,485	$ 879	$ 2,050
372	Nugent - Kentley to Eugene		2024-2031	0.13	Signed Bike Route	$ 5,181	$ -	$ 4,197	$ 295	$ 689
373	Old Mud - Upper Mount Albion to Cedarville		2024-2031	0.28	Bike Lane	$ 39,480	$ -	$ 31,979	$ 2,250	$ 5,251
374	Ottawa - Main to Montclair		2024-2031	0.49	Bike Lane	$ 67,977	$ -	$ 55,061	$ 3,875	$ 9,041
375	Parkdale Ave - Nikola Tesla Blvd to Glow		2024-2031	0.18	Paved Multi-Use Recreational Trail	$ 138,334	$ -	$ 112,051	$ 7,885	$ 18,398
376	Pearl - Hunter to Tuckett		2024-2031	0.23	Signed Bike Route	$ 9,364	$ -	$ 7,584	$ 534	$ 1,245
377	Peel St S - King St W to Hatt		2024-2031	0.14	Signed Bike Route	$ 5,774	$ -	$ 4,677	$ 329	$ 768
378	Perrelli - Culotta to Dundas St E		2024-2031	0.11	Signed Bike Route	$ 4,267	$ -	$ 3,456	$ 243	$ 568
379	Picton - Bay St n to Hughson St N		2024-2031	0.39	Signed Bike Route	$ 15,603	$ -	$ 12,639	$ 889	$ 2,075
380	Picton - John St N to Ferguson Ave N		2024-2031	0.42	Signed Bike Route	$ 16,794	$ -	$ 13,603	$ 957	$ 2,234
381	Queen - Alma to Livingstone		2024-2031	0.16	Bike Lane	$ 21,913	$ -	$ 17,749	$ 1,249	$ 2,914
382	Queen St S - Hunter to Canada		2024-2031	0.08	Signed Bike Route	$ 3,096	$ -	$ 2,508	$ 176	$ 412
383	Redmond - Rushdale to Stone Church Rd E		2024-2031	0.20	Signed Bike Route	$ 8,030	$ -	$ 6,505	$ 458	$ 1,068
384	Regional Road 20 (Highway 20) - Tapleytown to Woodburn		2024-2031	0.28	Signed Bike Route	$ 11,371	$ -	$ 1,706	$ 2,900	$ 6,766
385	Regional Road 97 - Kirkwall to Foreman		2024-2031	0.16	Paved Shoulder	$ 47,125	$ -	$ -	$ 14,137	$ 32,987
386	Ridge - Dewitt to Boundary		2024-2031	7.05	Paved Shoulder	$ 2,116,173	$ -	$ 317,426	$ 539,624	$ 1,259,123
387	Riley - West of Chudleigh to Braeheid		2024-2031	0.21	Signed Bike Route	$ 8,245	$ -	$ 6,678	$ 470	$ 1,097
388	Riviera Ridge - Bellavista to Lido		2024-2031	0.12	Undefined	$ 58,441	$ -	$ 47,337	$ 3,331	$ 7,773
389	Rock Chapel - Highway 5 W to Service Road East of Sydenham		2024-2031	1.91	Signed Bike Route	$ 76,420	$ -	$ 11,463	$ 19,487	$ 45,470
390	Roxborough - Frederick to Graham Ave N		2024-2031	0.05	Signed Bike Route	$ 2,031	$ -	$ 1,645	$ 116	$ 270
391	Rushdale - Southpark to Redmond		2024-2031	0.08	Signed Bike Route	$ 3,149	$ -	$ 2,551	$ 180	$ 419
392	Rymal - Upper Paradise to Spadara		2024-2031	0.44	Bike Lane	$ 61,767	$ -	$ 50,031	$ 3,521	$ 8,215
393	Rymal - Hazelton to West Fifth St		2024-2031	0.77	Bike Lane	$ 108,451	$ -	$ 87,845	$ 6,182	$ 14,424
394	Sadielou - Hollybush to End		2024-2031	0.42	Bike Lane	$ 59,415	$ -	$ 48,126	$ 3,387	$ 7,902
395	Santorium - Scenic to Redfern		2024-2031	0.11	Bike Lane	$ 15,366	$ -	$ 12,446	$ 876	$ 2,044
396	Scenic - Scenic Dr to Garth St		2024-2031	0.23	Bike Lane	$ 32,617	$ -	$ 26,420	$ 1,859	$ 4,338
397	Second St N - King St W to North of Brandow		2024-2031	0.14	Signed Bike Route	$ 5,695	$ -	$ 4,613	$ 325	$ 757
398	Shaver - Wilson to Jerseyville Rd W		2024-2031	1.47	Bike Lane	$ 205,195	$ -	$ 166,208	$ 11,696	$ 27,291
399	Shaver - Garner to Carluke		2031-2041	6.11	Paved Shoulder	$ 1,832,582	$ -	$ -	$ 1,832,582	$ -
400	Sheppard - Sovereign to Fleming		2024-2031	0.10	Signed Bike Route	$ 4,020	$ -	$ -	$ 1,206	$ 2,814
401	Sherman - Delaware to CP Rail Line		2024-2031	0.33	Signed Bike Route	$ 13,221	$ -	$ 10,709	$ 754	$ 1,758
402	Skinner - Dundas St E to East of McKnight Ave E		2024-2031	1.39	Bike Lane	$ 195,086	$ -	$ 158,019	$ 11,120	$ 25,946
403	South Bend - W Second St to Terrace		2024-2031	0.42	Signed Bike Route	$ 16,631	$ -	$ 13,471	$ 948	$ 2,212
404	South St W - Oglivie to Osler		2024-2031	0.70	Signed Bike Route	$ 28,124	$ -	$ 22,780	$ 1,603	$ 3,740
405	Southcote - Garner to Airport		2031-2041	2.80	Bike Lane	$ 392,445	$ -	$ -	$ 392,445	$ -
406	Southpark - Rushdale Park Trail to Rushdale Dr		2024-2031	0.25	Signed Bike Route	$ 10,003	$ -	$ 8,103	$ 570	$ 1,330
407	St Joseph's - John St S to End		2024-2031	0.29	Signed Bike Route	$ 11,537	$ -	$ 9,345	$ 658	$ 1,534
408	Sulphur Springs - Lover's to Mineral Springs Rd		2031-2041	1.47	Paved Shoulder	$ 439,812	$ -	$ -	$ 439,812	$ -
409	Sulphur Springs - Lover's to Wilson St E		2024-2031	1.05	Signed Bike Route	$ 42,059	$ -	$ 34,068	$ 2,397	$ 5,594
410	Sunnyridge - Wilson St W to Jerseyville Rd W		2024-2031	2.83	Paved Shoulder	$ 850,184	$ -	$ -	$ 255,055	$ 595,129
411	Sydenham/Queen/Livingstone/Alma - Hatt to Romar Dr		2024-2031	1.86	Bike Lane	$ 261,019	$ -	$ 39,153	$ 66,560	$ 155,306

Prj. No.	Increased Service Needs Attributable to Anticipated Development	2031 Oversizing (To 2031 Road Projects within the Urban Boundary)*	Timing (year)	Length (km)	Capital Improvement	Gross Capital Cost Estimate (2023$)	Other Deductions	Benefit to Existing Development	Post Period Benefit	Net Capital Cost
412	Talbot - Melvin to Barton St E		2024-2031	0.19	Signed Bike Route	$ 7,639	$ -	$ 6,187	$ 435	$ 1,016
413	Tally Ho - Mayfair to Overfield		2024-2031	0.22	Signed Bike Route	$ 8,624	$ -	$ 6,985	$ 492	$ 1,147
414	Tanner - Iverness to End		2024-2031	0.05	Signed Bike Route	$ 1,926	$ -	$ 1,560	$ 110	$ 256
415	Tapleytown Rd - Highway 20 E to Highland Rd E		2024-2031	0.83	Signed Bike Route	$ 33,328	$ -	$ 4,999	$ 8,499	$ 19,830
416	Tradewind - Wilson St W to Cormorant		2024-2031	0.70	Bike Lane	$ 98,586	$ -	$ 79,855	$ 5,619	$ 13,112
417	Twenty Rd - Southcote to West of Nebo		2024-2031	9.36	Bike Lane	$ 1,310,636	$ 1,174,735	$ 110,080	$ 7,746	$ 18,075
418	Upper Ottawa - Killbride to Mountain Brow Boulevard		2024-2031	5.22	Bike Lane	$ 731,426	$ -	$ 592,455	$ 41,691	$ 97,280
419	Upper Sherman - Macassa to Limeridge Rd E		2024-2031	1.65	Bike Lane	$ 231,607	$ -	$ 187,601	$ 13,202	$ 30,804
420	Upper Wellington - S Bend Rd E to Stone Church Rd E		2024-2031	2.40	Bike Lane	$ 336,154	$ 145,193	$ 154,679	$ 10,885	$ 25,398
421	W 18th St - Bendamere to End		2024-2031	0.17	Signed Bike Route	$ 6,741	$ -	$ 5,460	$ 384	$ 897
422	W 5th St - Brantdale to Governors Blvd		2024-2031	0.62	Multi-Use Trail	$ 465,956	$ -	$ 377,424	$ 26,559	$ 61,972
423	W 5th St - Governors Blvd to Marlowe		2024-2031	1.13	Bike Lane	$ 158,200	$ -	$ 128,142	$ 9,017	$ 21,041
424	Westbrook - End to Golf Club Rd		2024-2031	0.86	Signed Bike Route	$ 34,368	$ -	$ -	$ 10,310	$ 24,057
425	Wilson in Ancaster - Fiddler's Green to Boundary		2024-2031	10.77	Cycle Track	$ 5,385,075	$ -	$ -	$ 1,615,523	$ 3,769,553
426	Wimberly - Parkside to Nisbet		2024-2031	0.33	Bike Lane	$ 45,976	$ -	$ 37,240	$ 2,621	$ 6,115
427	Windwood Dr - Bradley to Southbrook Dr		2024-2031	0.70	Bike Lane	$ 97,549	$ -	$ 79,015	$ 5,560	$ 12,974
428	Woodbine Crescent - Jones to Dundurn St N		2024-2031	0.22	Signed Bike Route	$ 8,891	$ -	$ 7,202	$ 507	$ 1,182
429	Woodburn - Binbrook Rd E to Highway 20 E		2024-2031	7.56	Signed Bike Route	$ 302,206	$ -	$ 45,331	$ 77,063	$ 179,813
430	Woodhill Rd - Governor's to 800m south of Highway 8		2024-2031	7.05	Signed Bike Route	$ 282,125	$ -	$ -	$ 84,638	$ 197,488
431	Woodhill Rd - Highway 8 to 800m south of Highway 8		2024-2031	1.04	Paved Shoulder	$ 313,044	$ -	$ -	$ 93,913	$ 219,131
432	Woodward Ave - Beach Blvd to 100m south of Beach Blvd		2024-2031	0.10	Bike Lane	$ 14,099	$ -	$ 11,420	$ 804	$ 1,875
433	York - Olympic to Baldwin		2024-2031	2.33	Bike Lane	$ 326,172	$ -	$ 264,199	$ 18,592	$ 43,381
434	Highway 6 - Concession 10 W to Freelton		2024-2031	0.39	Paved Multi-Use Recreational Trail	$ 293,059	$ -	$ -	$ 87,918	$ 205,141
435	Highway 6 N - Carlisle to Edgewood Road		2024-2031	0.55	Paved Multi-Use Recreational Trail	$ 414,118	$ -	$ -	$ 124,235	$ 289,883
436	Carlisle Road - Highway 6 to Milborough Townline		2024-2031	5.85	Paved Shoulder	$ 1,756,268	$ -	$ 263,440	$ 447,848	$ 1,044,980
437	Concession 5 West - Highway 6N to Moffatt Road		2024-2031	3.01	Paved Shoulder	$ 904,289	$ -	$ 135,643	$ 230,594	$ 538,052
438	Mosaic Dr - Parkside Dr to Highway 6		2024-2031	1.90	Multi-Use Trail	$ 1,425,000	$ -	$ 1,154,250	$ 81,225	$ 189,525
Total						**$ 1,668,517,598**	**$ 70,483,468**	**$ 237,774,589**	**$ 732,079,316**	**$ 628,180,225**

***Road project oversizing and applicable local share/direct developer deductions were applied based on City of Hamilton direction.**

Increased Service Needs Attributable to Anticipated Development	Timing (year)	Length (km)	Capital Improvement	Gross Capital Cost Estimate (2023$)	Other Deductions	Benefit to Existing Development	Post Period Benefit	Net Capital Cost
Post-2041 Road Projects								
AEGD								
Book Road - Highway 6 to Fiddlers Green Road	Post 2041	0.99	2r-5u	$ 10,769,800	$ -	$ -	$ 10,769,800	$ -
Collector 5W - Collector 7N to Collector 2N	Post 2041	0.74	3u	$ 7,294,646	$ -	$ -	$ 7,294,646	$ -
Collector 2W - Garner Road to Dickenson Road Extension	Post 2041	2.16	4u	$ 23,562,706	$ -	$ -	$ 23,562,706	$ -
Collector 5N - Collector 8W to Fiddler's Green	Post 2041	0.83	2r	$ 5,474,417	$ -	$ -	$ 5,474,417	$ -
Twenty Road West Extension - Glancaster Road to Collector 2W	Post 2041	1.06	2u	$ 8,286,718	$ -	$ -	$ 8,286,718	$ -
Collector Road 6E - Collector 6N to Twenty Road West	Post 2041	0.70	3u	$ 6,885,062	$ -	$ -	$ 6,885,062	$ -
Fiddler's Green Road - Garner Road to Book Road	Post 2041	1.97	2r-5u	$ 20,827,238	$ -	$ -	$ 20,827,238	$ -
Airport Service Road - Glancaster Road to Airport Road	Post 2041	1.78	3u	$ 17,237,062	$ -	$ -	$ 17,237,062	$ -
Collector 10N - Smith Road to Collector 1W	Post 2041	1.47	3u	$ 14,498,799	$ -	$ -	$ 14,498,799	$ -
Elfrida								
Upper Centennial Parkway - Mud Street to Highway 20	Post 2041	2.00	4r-5u	$ 22,580,042	$ -	$ -	$ 22,580,042	$ -
Upper Centennial Parkway - Mud Street to Green Mountain Road	Post 2041	1.00	4r-4u	$ 10,579,044	$ -	$ -	$ 10,579,044	$ -
Stoney Creek								
Arvin Avenue - Jones Road to 366m west of Glover Road	Post 2041	0.55	2i	$ 4,960,650	$ -	$ -	$ 4,960,650	$ -
Waterdown								
North Waterdown Drive - Clappison Avenue Extension to Highway 6 North	Post 2041	0.82	3u	$ 8,008,407	$ -	$ -	$ 8,008,407	$ -
White Church Area								
Mud Street - Red Hill Valley Parkway to Upper Centennial Parkway	Post 2041	3.62	4r-6r	$ 67,449,762	$ -	$ -	$ 67,449,762	$ -
Airport Access Route - Upper Red Hill Valley Parkway to Highway 6 South	Post 2041	10.92	2r	$ 71,603,945	$ 71,603,945	$ -	$ -	$ -
Former Urban Boundary Expansion Area Road Projects								
AEGD								
Collector Road 1E - Collector 6N to Twenty Road West	Post 2041	0.73	3u	$ 7,175,665	$ 7,175,665	$ -	$ -	$ -
Elfrida								
Regional Road 56 - Dalgliesh Trail to Golf Club Road	Post 2041	1.44	2r-5u	$ 15,741,403	$ 15,741,403	$ -	$ -	$ -
First Road East - Highway 20 to Mud Street	Post 2041	1.97	2r-3u	$ 15,089,596	$ 15,089,596	$ -	$ -	$ -
First Road East - Highway 20 to Golf Club Road	Post 2041	2.08	3u	$ 20,239,244	$ 20,239,244	$ -	$ -	$ -
Arterial N-S - Bellagio Avenue to Golf Club Road	Post 2041	1.88	4u	$ 20,100,545	$ 20,100,545	$ -	$ -	$ -
Dickenson Extension - Trinity Church to Golf Club Road	Post 2041	0.65	2u	$ 5,177,733	$ 5,177,733	$ -	$ -	$ -
Twenty Road - Upper Red Hill Valley Parkway to Hendershot Road	Post 2041	5.60	4u	$ 59,897,756	$ 59,897,756	$ -	$ -	$ -
Highway 20 - 500m east of Upper Centennial to Hendershot Road	Post 2041	1.17	2r-4u	$ 11,653,263	$ 11,653,263	$ -	$ -	$ -
Fletcher Road - 500m south of Rymal Road to Golf Club Road	Post 2041	1.60	2r-3u	$ 12,245,236	$ 12,245,236	$ -	$ -	$ -
Golf Club Road - Trinity Church Road to Hendershot Road	Post 2041	5.33	2r-3u	$ 40,967,481	$ 40,967,481	$ -	$ -	$ -
Hendershot Road - Highway 20 to Golf Club Road	Post 2041	2.09	2r-3u	$ 16,011,393	$ 16,011,393	$ -	$ -	$ -
Highland Road - Upper Centennial Parkway to Second Road East	Post 2041	1.67	2r-3u	$ 12,799,081	$ 12,799,081	$ -	$ -	$ -
Mud Street - Upper Centennial Parkway to Second Road East	Post 2041	1.67	2r-2u	$ 13,833,585	$ 13,833,585	$ -	$ -	$ -
Second Road East - Highway 20 to Mud Street	Post 2041	1.94	2r-3u	$ 14,841,511	$ 14,841,511	$ -	$ -	$ -
Trinity Church Road - Hydro Corridor (470m south of Rymal Road) to Golf Club R	Post 2041	1.60	2r-3u	$ 12,642,066	$ 12,642,066	$ -	$ -	$ -
Twenty Road East								
Upper Wentworth Street - End to Twenty Road	Post 2041	0.74	4u	$ 7,937,327	$ 7,937,327	$ -	$ -	$ -
Upper Sherman Avenue - End to Twenty Road	Post 2041	0.75	4u	$ 8,078,090	$ 8,078,090	$ -	$ -	$ -
Upper Gage Avenue - End to Twenty Road	Post 2041	0.73	4u	$ 7,832,103	$ 7,832,103	$ -	$ -	$ -
Miles Road - Rymal Road to Dickenson Road	Post 2041	2.66	2r-4u	$ 25,003,996	$ 25,003,996	$ -	$ -	$ -
East-West Collector - Upper Wentworth Street to Upper Ottawa Street	Post 2041	2.52	3u	$ 24,456,044	$ 24,456,044	$ -	$ -	$ -
Twenty Road East - Upper James Street to Dartnall Road	Post 2041	5.76	2r-4u	$ 54,652,726	$ 54,652,726	$ -	$ -	$ -
Dickenson Road East - Upper James Street to 350 meters west of Nebo Road	Post 2041	4.24	2r-2u	$ 37,820,121	$ -	$ -	$ 37,820,121	$ -
White Church Area								
White Church Road - Upper James Street to Miles Road	Post 2041	2.88	2r-4u	$ 27,000,420	$ 27,000,420	$ -	$ -	$ -
Airport Road - Upper James Street to Miles Road	Post 2041	2.75	2r-4u	$ 25,766,424	$ 25,766,424	$ -	$ -	$ -
Ferris Road Extension - White Church Road to Airport Road	Post 2041	1.34	2u	$ 10,252,044	$ 10,252,044	$ -	$ -	$ -
Miles Road - Dickenson Road to White Church Road	Post 2041	4.13	2r-4u	$ 38,893,556	$ 38,893,556	$ -	$ -	$ -
Highway 20 - Hendershot Road to Hamilton boundary	Post 2041	4.57	2r-4u	$ 45,465,162	$ -	$ -	$ 45,465,162	$ -
Fletcher Road - McWatters Street to Golf Club Road	Post 2041	3.60	2r-2u	$ 30,086,056	$ -	$ -	$ 30,086,056	$ -
Total				**$ 921,677,923**	**$ 579,892,231**	**$ -**	**$ 341,785,692**	**$ -**

Prj. No	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2023$)	Benefit to Existing Development	Post Period Benefit	Grants, Subsidies and Other Contributions Attributable to New Development	Net Capital Cost
1	New Peak Hour 30' Bus (2)	2033-2035	$ 1,329,504	$ -	$ 1,329,504	$ -	$ -
2	New Peak Hour 40' Bus (48)	2023-2032	$ 45,852,096	$ 38,928,430	$ 1,031,672	$ -	$ 5,891,994
3	New Peak Hour 40' Bus (16)	2033-2035	$ 15,284,032	$ -	$ 15,284,032	$ -	$ -
4	New Peak Hour 60' Bus (8)	2023-2032	$ 9,863,616	$ 8,374,210	$ 221,931	$ -	$ 1,267,475
5	New Peak Hour 60' Bus (2)	2033-2035	$ 2,465,904	$ -	$ 2,465,904	$ -	$ -
6	New Spare 40' Bus (12)	2023-2032	$ 11,463,024	$ 9,732,107	$ 257,918	$ -	$ 1,472,999
7	New Spare 40' Bus (3)	2033-2035	$ 2,865,756	$ -	$ 2,865,756	$ -	$ -
8	New 40' to 60' Upgrades (37)	2023-2032	$ 10,274,900	$ 8,723,390	$ 231,185	$ -	$ 1,320,325
9	Facility: Service Truck	2023-2032	$ 129,998	$ 100,878	$ -	$ -	$ 29,120
10	Facility: Stock Room Vehicle	2023-2032	$ 65,000	$ 50,440	$ -	$ -	$ 14,560
11	Facility: Garage Equipment Repair Walk Behind Forklift	2023-2032	$ 184,200	$ 142,939	$ 12,341	$ -	$ 28,919
12	Facility: Garage Forklift	2023-2032	$ 106,700	$ 82,799	$ 7,149	$ -	$ 16,752
13	Facility: Garage Tow Mobile	2023-2032	$ 62,100	$ 48,190	$ 4,161	$ -	$ 9,750
14	Facility: Garage Equipment Repair Express Van Vehicles	2023-2032	$ 173,000	$ 134,248	$ -	$ -	$ 38,752
15	Accessible Supervisory Vehicles (Specialized Transit)	2023-2032	$ 612,000	$ 462,060	$ -	$ -	$ 149,940
16	Transit & Maintenance Storage Facility	2023-2026	$ 396,000,000	$ 165,349,200	$ 26,625,000	$ 183,000,000	$ 21,025,800
Total			**$ 496,731,830**	**$ 232,128,891**	**$ 50,336,554**	**$ 183,000,000**	**$ 31,266,385**

Appendix F

Summary of Strategic Transportation Network Review Report Updates

1 Summary of Strategic Transportation Network Review Report Updates

The draft STNR report was published on the City of Hamilton website in December 2023, and the second round of public consultation was conducted in early 2024. Since the draft report was published, numerous updates have been made. These updates are summarized below.

1.1 STNR Report Text

The following report sections were updated to provide additional clarity on the scope of the STNR and inputs/direction provided by the City of Hamilton:

- Section 1 Introduction
- Section 4 STNR Summary
- Appendix D Section 4 Local Service Policy

In addition, Section 2.3 Transit Projects was updated to remove the rapid transit network evaluation and identify that the rapid transit network has been developed and reviewed under multiple separate studies and has been presented to City of Hamilton Public Works Committee.

These text updates **did not** result in changes to the development charges net capital costs.

1.2 Road Projects

The following changes were implemented to the road projects:

1.2.1 Non-Growth Related Road Project

One of the road projects previously included in the draft capital list was determined to be not growth-related and was removed from the capital list.

This resulted in a development charges net capital cost **decrease of approximately $8 million**.

1.2.2 Road Project Timing

The City of Hamilton indicated that the timing of select road projects should be “2031 to 2041” instead of “To 2031” to support development and align with the phasing of development in the Airport Employment Growth District (AEGD).

This resulted in a development charges net capital cost **decrease of approximately $12.5 million**.

1.2.3 Road Project Segmentation

The City of Hamilton indicated that one of the road projects previously included in the draft capital list should be segmented and listed as two separate projects. The timing of one of these segmented projects was delayed to “2031 to 2041” to support development and align with the phasing of development in the AEGD.

This resulted in a development charges net capital cost **decrease of approximately $13 million**.

1.2.4 Road Project Future Pavement Widths

The future pavement widths for some road project improvement types were updated.

This resulted in a development charges net capital cost **decrease of approximately $0.25 million.**

1.2.5 Road Project Right-of-Way Assumptions and Updated Local Service Policy Deductions

The right-of-way width assumptions for some road projects were updated, including to reflect the AEGD Transportation Master Plan. The draft capital list also included local service policy (LSP) deductions to select projects within the urban boundary. Some of these deductions have been updated where necessary. The local service policy deductions were also applied to a greater number of projects within the urban boundary based on direction from the City of Hamilton.

This resulted in a development charges net capital cost **decrease of approximately $12 million**.

1.2.6 Road Project Updated Local Service Policy and Financial Policies

The City of Hamilton provided direction on the application of local share deductions and the financial policies. This includes the following amendment to Section L.2.4. Value of Land for Road Allowance in the Financial Polices for Development:

- “Where a Proponent is required to dedicate more than thirteen (13) metres of land to establish a new road allowance width for a residential road, and more than 16m for a non-residential road, measured from the centerline of the road allowance to one side to its ultimate width, the City shall compensate the Proponent for the value of dedicated land beyond 13 metres in width on that side of the road allowance for a residential road, and 16m for a non-residential road, respectively, for the length of the conveyance. For clarity,

non-residential roads include those roads that are meant to carry mixed traffic and not solely residential traffic."

As a result of this direction and amendment, updated LSP deductions were applied to a significant number of "To 2031" road projects within the urban boundary. These deductions were applied to the capital list of projects as a single line item deduction. This report reflects the amended LSP and financial policies. Changes compared to the draft STNR report published in December 2023 are listed in the tables at the end Appendix F.

This resulted in a development charges net capital cost **decrease of approximately $64 million**.

1.3 Major Structures

The following changes were implemented to the major structures:

1.3.1 Additional Major Structures

Two additional major structures (active transportation bridges) were added to the capital list based on the Waterdown Transportation Management Plan.

This resulted in a development charges net capital cost **increase of approximately $1.5 million**.

1.3.2 Major Structures Timing

The City of Hamilton indicated that the timing of select major structures should be delayed from "To 2031" to "2031 to 2041".

This resulted in a development charges net capital cost **decrease of approximately $6 million**.

1.3.3 Updated Major Structures Cost Estimate

The City of Hamilton provided an updated cost estimate for the gross capital cost, including the allocation of costs between the City and Ontario Ministry of Transportation, for one of the provincial highway interchange projects.

This resulted in a development charges net capital cost **increase of approximately $2.5 million**.

1.4 Active Transportation Projects

The following changes were implemented to the active transportation (AT) projects:

1.4.1 Removing Duplicate Active Transportation Projects

Multiple AT projects were removed or adjusted to eliminate overlap with road and other AT projects.

This resulted in a development charges net capital cost **decrease of approximately $6 million**.

1.4.2 Active Transportation Project Cost Allocation to the Local Service Policy

The City of Hamilton provided updated direction on how to allocate the costs of AT projects within and near the former urban boundary expansion areas to the LSP.

This resulted in a development charges net capital cost **decrease of approximately $0.5 million**.

1.4.3 Active Transportation Project Timing

The timing of select AT projects was delayed from “To 2031” to “2031 to 2041” to align with the timing of nearby and related road resurfacing projects.

This resulted in a development charges net capital cost **decrease of approximately $15 million**.

2 Conclusion

The table below summarizes the changes to the development charges net capital costs:

Capital List Category	Approximate Net Capital Cost Change
Road Projects	($109,750,000)
Major Structures	($2,000,000)
Active Transportation	($21,500,000)
Total	**($133,250,000)**

The new net capital cost for Services Related to a Highway is approximately **$628.25 million**, representing a decrease of approximately $133.25 million compared to the development charges net capital cost previously published in December 2023 (approximately $761.5 million). The cost of Transit Services remains unchanged.

The exhibit on the next pages includes a summary of projects subject to changes, including their gross and net capital cost changes.

2024 Transportation Summary of Changes by Project

2023 Draft Report Prj No.	Project	2023 Draft Gross Capital Cost	2024 Updated Gross Capital Cost	Gross Capital Cost Change	2023 Draft Net Capital Cost	2024 Updated Net Capital Cost	Net Capital Cost Change	Description of Change
Road								
2	Book Road - Southcote Road to Highway 6	$ 10,580,564	$ 11,523,989	$ 943,425	$ 8,993,480	$ 9,795,391	$ 801,911	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
3	Collector 1E - Collector 6N to Dickenson Road	$ 6,458,583	$ 6,558,380	$ 99,797	$ -	$ -	$ -	Updated right-of-way assumptions.
4	Arterial 1N - Collector 2N to Dickenson Road/Garth Street Extension	$ 34,248,600	$ 34,917,248	$ 668,648	$ 34,248,600	$ 34,917,248	$ 668,648	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
5	Collector 2N - Collector 5W to Arterial 1N	$ 4,042,840	$ 4,105,309	$ 62,469	$ -	$ -	$ -	Updated right-of-way assumptions.
9	Collector 6E - Collector 6N to Dickenson Road	$ 6,245,695	$ 6,342,202	$ 96,507	$ 1,831,146	$ 6,342,202	$ 4,511,056	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
10	Collector 7N - Collector 5W to Collector 2W	$ 11,577,708	$ 11,756,604	$ 178,896	$ -	$ -	$ -	Updated right-of-way assumptions.
12	Dickenson Road - Glancaster Road to Garth Street Extension	$ 31,576,263	$ 18,044,132	$ (13,532,131)	$ 26,839,824	$ -	$ (26,839,824)	Project segmented into multiple projects, timing updated to "2031 to 2041".
N/A	Dickenson Road - Garth Street Extension to Upper James Street	$ -	$ 16,039,229	$ 16,039,229	$ -	$ 13,633,344	$ 13,633,344	New project, previously was segment of project above.
13	Dickenson Road Extension - Glancaster Road to Smith Road	$ 6,526,966	$ 9,447,229	$ 2,920,264	$ 6,526,966	$ -	$ (6,526,966)	Project type updated, timing updated to "2031 to 2041".
14	Book Road - Smith Road to Southcote Road	$ 4,935,759	$ 5,343,540	$ 407,781	$ 4,195,395	$ 4,542,009	$ 346,614	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
15	Garth Street Extension - Twenty Road to Collector 6N	$ 9,296,472	$ 9,477,970	$ 181,499	$ -	$ -	$ -	Updated right-of-way assumptions.
16	Garth Street Extension - Collector 6N to Dickenson Road	$ 7,561,667	$ 7,709,296	$ 147,629	$ -	$ -	$ -	Updated right-of-way assumptions.
20	Smith Road - Garner Road to Hydro Corridor	$ 8,503,884	$ 8,635,284	$ 131,400	$ 8,503,884	$ 8,635,284	$ 131,400	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
21	Smith Road - Hydro Corridor to Book Road	$ 9,794,999	$ 9,946,349	$ 151,350	$ -	$ -	$ -	Updated right-of-way assumptions.
22	Smith Road - Book Road to Arterial 1N	$ 6,072,996	$ 6,166,835	$ 93,839	$ -	$ -	$ -	Updated right-of-way assumptions.
23	Southcote Road - Garner Road to Book Road	$ 26,708,722	$ 23,002,848	$ (3,705,874)	$ 22,702,414	$ -	$ (22,702,414)	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
24	Upper James Street - Rymal Road to Highway 6 South	$ 86,351,332	$ 96,459,332	$ 10,108,000	$ -	$ -	$ -	Updated right-of-way assumptions.
27	Smith Road - Arterial 1N to Airport Boundary	$ 2,046,951	$ 2,078,580	$ 31,629	$ 600,136	$ -	$ (600,136)	Timing updated to "2031 to 2041".
28	Airport Road - East Cargo Road to Upper James Street	$ 8,247,539	$ 8,462,899	$ 215,360	$ 4,948,523	$ 5,077,739	$ 129,216	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
30	Collector 10N - Garner Road to Smith Road	$ 11,312,884	$ 11,487,688	$ 174,804	$ 3,316,771	$ 11,487,688	$ 8,170,917	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
34	Collector 1W - Collector 10N to Garner Road	$ 3,761,610	$ 3,819,733	$ 58,124	$ -	$ -	$ -	Updated right-of-way assumptions.
36	Golf Links Road - McNiven Road to Kitty Murray Lane	$ 9,147,781	$ -	$ (9,147,781)	$ 7,775,614	$ -	$ (7,775,614)	Project is not growth-related and was removed from the list.
38	Shaver Road - Trustwood to Garner Road	$ 6,303,822	$ 6,303,822	$ -	$ 5,358,249	$ -	$ (5,358,249)	Timing updated to "2031 to 2041".

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50	Collector C (Block 2) - Barton Street to Highway 8	$ 5,642,466	$ 5,642,466	$ -	$ -	$ 5,642,466	$ 5,642,466	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
52	Collector E (Block 3) - Barton Street to Highway 8	$ 5,060,086	$ 5,060,086	$ -	$ -	$ 5,060,086	$ 5,060,086	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
53	Collector F (Block 3) - Barton Street to Collector D	$ 1,713,732	$ 1,713,732	$ -	$ -	$ 1,713,732	$ 1,713,732	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
64	Rymal Road - Dartnall Road to Upper James Street	$ 71,111,462	$ 56,631,794	$ (14,479,668)	$ 60,444,742	$ 48,137,025	$ (12,307,718)	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
65	Upper Wellington Street - Limeridge Road to Stone Church Road	$ 12,702,186	$ 12,404,686	$ (297,500)	$ 7,621,312	$ 7,442,812	$ (178,500)	Updated right-of-way assumptions.
71	McNeilly Road - Highway 8 to Barton Street	$ 7,156,843	$ 7,156,843	$ -	$ 6,081,941	$ 6,083,317	$ 1,376	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
72	Lewis Road - Highway 8 to Barton Street	$ 3,908,425	$ 3,908,425	$ -	$ 3,321,410	$ 3,322,161	$ 751	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
74	Jones Road - Highway 8 to Barton Street	$ 7,293,473	$ 7,293,473	$ -	$ 6,198,050	$ 6,199,452	$ 1,402	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
81	Parkside Drive - North Waterdown Drive to Avonsyde Boulevard	$ 37,342,355	$ 32,319,655	$ (5,022,700)	$ 31,741,002	$ 27,471,707	$ (4,269,295)	Updated right-of-way assumptions and local service policy deductions updated to be included as part of a single line item deduction.
N/A	Collector 5W - Collector 7N to Collector 2N	$ 7,183,646	$ 7,294,646	$ 111,000	$ -	$ -	$ -	Updated right-of-way assumptions, not included in the capital list because it is a post-2041 project.
N/A	Collector 2W - Garner Road to Dickenson Road Extension	$ 23,130,538	$ 23,562,706	$ 432,168	$ -	$ -	$ -	Updated right-of-way assumptions, not included in the capital list because it is a post-2041 project.
N/A	Collector 10N - Smith Road to Collector 1W	$ 14,278,176	$ 14,498,799	$ 220,623	$ -	$ -	$ -	Updated right-of-way assumptions, not included in the capital list because it is a post-2041 project.
N/A	Collector Road 6E - Collector 6N to Twenty Road West	$ 6,780,294	$ 6,885,062	$ 104,768	$ -	$ -	$ -	Updated right-of-way assumptions, not included in the capital list because it is a post-2041 project.
N/A	Collector Road 1E - Collector 6N to Twenty Road West	$ 7,066,475	$ 7,175,665	$ 109,190	$ -	$ -	$ -	Updated right-of-way assumptions, not included in the capital list because it is a post-2041 project.
N/A	Mud Street - Red Hill Valley Parkway to Upper Centennial Parkway	$ 61,138,512	$ 67,449,762	$ 6,311,250	$ -	$ -	$ -	Updated right-of-way assumptions, not included in the capital list because it is a post-2041 project.
N/A	Dickenson Road East - Upper James Street to 350 meters west of Nebo Road	$ 37,922,121	$ 37,820,121	$ (102,000)	$ -	$ -	$ -	Updated right-of-way assumptions, not included in the capital list because it is a post-2041 project.
N/A	Fletcher Road - McWatters Street to Golf Club Road	$ 30,171,056	$ 30,086,056	$ (85,000)	$ -	$ -	$ -	Updated right-of-way assumptions, not included in the capital list because it is a post-2041 project.
N/A	Local Share Deductions	$ -	$ (64,082,002)	$ (64,082,002)	$ -	$ (64,082,002)	$ (64,082,002)	New single line item deduction added to reflect local share deductions for road projects identified above and select additional road projects.
Major Structures								
91	Highway 5/6 Interchange	$ 49,093,158	$ 60,500,000	$ 11,406,842	$ 12,273,290	$ 15,000,000	$ 2,726,711	Updated cost estimate provided by City of Hamilton.
97	Henderson Lift Bridge	$ 20,000,000	$ 20,000,000	$ -	$ 3,800,000	$ -	$ (3,800,000)	Timing updated to "2031 to 2041".
98	Hamilton Centre Pedestrian and Cyclist Bridge	$ 9,500,000	$ 9,500,000	$ -	$ 1,805,000	$ -	$ (1,805,000)	Timing updated to "2031 to 2041".
100	Dundas Pedestrian and Cyclist Bridge	$ 3,125,000	$ 3,125,000	$ -	$ 593,750	$ -	$ (593,750)	Timing updated to "2031 to 2041".
N/A	Margaret St. Park Active Transportation Bridge	$ -	$ 5,900,000	$ 5,900,000	$ -	$ -		New major structure added.
N/A	Sealey Park Active Transportation Bridge	$ -	$ 7,500,000	$ 7,500,000	$ -	$ 1,425,000	$ 1,425,000	New major structure added.

2023 Draft Report Prj No.	Project	2023 Draft Gross Capital Cost	2024 Updated Gross Capital Cost	Gross Capital Cost Change	2023 Draft Net Capital Cost	2024 Updated Net Capital Cost	Net Capital Cost Change	Description of Change
Active Transportation								
136	Binbrook Road - Trinity Church to Royal Winter/Binhaven	$ 342,899	$ 342,899	$ -	$ 240,030	$ 137,795	$ (102,235)	Project adjusted to prevent overlap with other projects.
170	Governor's - Wainwright to Lynden	$ 908,823	$ 908,823	$ -	$ 636,176	$ -	$ (636,176)	Timing updated to "2031 to 2041".
172	Grays/ Gray - Confederation Park gate to King	$ 163,086	$ 163,086	$ -	$ -	$ 21,690	$ 21,690	LSP cost allocation updated.
180	Hydro Corridor - Barton to Lawrence	$ 1,743,769	$ 1,743,769	$ -	$ -	$ 231,921	$ 231,921	LSP cost allocation updated.
182	Hydro Corridor - Wilson/Highway 52 to Regional Road 56	$ 10,617,336	$ 10,617,336	$ -	$ 1,412,106	$ -	$ (1,412,106)	LSP cost allocation updated.
193	Limeridge - Garth/ Bonaventure to West 5th/ Hawkridge	$ 73,877	$ 73,877	$ -	$ -	$ 9,826	$ 9,826	LSP cost allocation updated.
194	Limeridge Mall Hydro Corridor Trail - Mohawk Road to South of Rymal	$ 1,957,036	$ 1,957,036	$ -	$ 260,286	$ -	$ (260,286)	LSP cost allocation updated.
219	Red Hill Pedestrian Crossing - Eugene Street to Glengrove Avenue	$ 2,439,325	$ -	$ (2,439,325)	$ -	$ -	$ -	Project removed due to overlap.
227	Strachan Street Trail - James to Ferguson	$ 469,744	$ -	$ (469,744)	$ 62,476	$ -	$ (62,476)	Project is existing, removed from capital list.
230	Upper Sherman - Stone Church to Rymal to Miles	$ 249,508	$ 249,508	$ -	$ 33,185	$ -	$ (33,185)	LSP cost allocation updated.
238	White Church Road West Airport Link	$ 938,095	$ 938,095	$ -	$ -	$ 656,666	$ 656,666	LSP cost allocation updated.
245	Airport Road - Butter to Miles	$ 932,965	$ 932,965	$ -	$ -	$ 84,576	$ 84,576	LSP cost allocation updated.
249	Baseline - Lockport to North Service Road	$ 372,805	$ 288,999	$ (83,806)	$ 221,819	$ 171,955	$ (49,865)	Project adjusted to prevent overlap with other projects.
252	Binbrook Road - Fletcher to Binhaven	$ 706,274	$ -	$ (706,274)	$ 93,934	$ -	$ (93,934)	Project removed due to overlap.
254	Book Road - Shaver to Fiddler's Green	$ 751,147	$ 751,147	$ -	$ 446,933	$ -	$ (446,933)	Timing updated to "2031 to 2041".
264	Carlisle - Highway 6 to Wildberry Way	$ 704,824	$ -	$ (704,824)	$ 493,377	$ -	$ (493,377)	Project removed due to overlap.
267	Carluke - Glancaster to Shaver	$ 1,058,213	$ 1,058,213	$ -	$ 629,637	$ -	$ (629,637)	Timing updated to "2031 to 2041".
269	Chatham Street - Dundurn to Frid	$ 37,418	$ -	$ (37,418)	$ 4,977	$ -	$ (4,977)	Project removed due to overlap.
272	Concession 4 West - Millgrove Sideroad to Highway 6	$ 532,612	$ 532,612	$ -	$ 316,904	$ -	$ (316,904)	Timing updated to "2031 to 2041".
273	Concession 6 East - Highway 6 to Centre Road	$ 836,846	$ 836,846	$ -	$ 497,924	$ -	$ (497,924)	Timing updated to "2031 to 2041".
282	Dundas St E (Highway 5) - Highway 6 to Boundary	$ 1,428,830	$ -	$ (1,428,830)	$ 190,034	$ -	$ (190,034)	Project removed due to overlap.
285	Eighth Road Link - Ridge to Boundary	$ 1,651,643	$ 1,651,643	$ -	$ 1,156,150	$ -	$ (1,156,150)	Timing updated to "2031 to 2041".
292	Ferguson - Charlton to North of Young	$ 36,563	$ 7,238	$ (29,325)	$ 4,863	$ 963	$ (3,900)	Project adjusted to prevent overlap with other projects.
293	Field - Jerseyville Rd W to Governor's Rd	$ 1,162,739	$ 1,162,739	$ -	$ 813,917	$ -	$ (813,917)	Timing updated to "2031 to 2041".
297	First Road East - Highland Road to Ridge Road	$ 1,148,959	$ 1,148,959	$ -	$ -	$ -	$ -	LSP cost allocation updated and timing updated to "2021 to 2041".
299	Flamborough Puslinch Tlin - Maddaugh Road to Centre	$ 542,586	$ 542,586	$ -	$ 379,810	$ -	$ (379,810)	Timing updated to "2031 to 2041".
317	Governors - Binkley to Lynden	$ 3,001,131	$ -	$ (3,001,131)	$ 1,785,673	$ -	$ (1,785,673)	Project removed due to overlap.
319	Greenford - Owen Pl to Cromwell	$ 8,209	$ -	$ (8,209)	$ 1,092	$ -	$ (1,092)	Project removed due to overlap.
320	Greenford - Cromwell to Kenora	$ 49,861	$ -	$ (49,861)	$ 6,632	$ -	$ (6,632)	Project removed due to overlap.
323	Hamilton - Nisbet to Dundas St E	$ 169,250	$ -	$ (169,250)	$ 22,510	$ -	$ (22,510)	Project removed due to overlap.
326	Highbury Drive - Highland Road W to Whitedeer	$ 145,424	$ -	$ (145,424)	$ 19,341	$ -	$ (19,341)	Project removed due to overlap.
328	Highland Rd E - Upper Centennial Pkwy to E Town Line	$ 3,051,099	$ 3,051,099	$ -	$ -	$ -	$ -	LSP cost allocation updated and timing updated to "2021 to 2041".
330	Highway 8 (Flam) - Boundary to Brock	$ 6,691,317	$ 6,691,317	$ -	$ 4,683,922	$ -	$ (4,683,922)	Timing updated to "2031 to 2041".
331	Highway 8 (Sc) - King St E to Dewitt	$ 193,404	$ -	$ (193,404)	$ 25,723	$ -	$ (25,723)	Project removed due to overlap.
332	Highway 8 (Sc) - Fifty to Boundary	$ 113,390	$ 113,390	$ -	$ 79,373	$ -	$ (79,373)	Timing updated to "2031 to 2041".
341	Jerseyville Rd W - Boundary to East of Paddy Greens	$ 5,533,950	$ 5,533,950	$ -	$ 3,292,700	$ -	$ (3,292,700)	Timing updated to "2031 to 2041".
344	John - Charlton Ave E to St Joseph's	$ 21,829	$ -	$ (21,829)	$ 2,903	$ -	$ (2,903)	Project removed due to overlap.
359	Lormont - First Rd W to Picardy	$ 75,540	$ -	$ (75,540)	$ 10,047	$ -	$ (10,047)	Project removed due to overlap.

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362	Maddaugh Road - Highway 6 to Flamborough Puslinch Tlin	$ 334,364	$ 334,364	$ -	$ 234,055	$ -	$ (234,055)	Timing updated to "2031 to 2041".
364	Main - Osler to South of Osler	$ 212,336	$ -	$ (212,336)	$ 28,241	$ -	$ (28,241)	Project removed due to overlap.
365	Main - Osler to York	$ 34,421	$ -	$ (34,421)	$ 4,578	$ -	$ (4,578)	Project removed due to overlap.
368	Maple/Mountain Ave Extension - Lake Ave S to End	$ 15,833	$ 5,272	$ (10,561)	$ 2,106	$ 701	$ (1,405)	Project adjusted to prevent overlap with other projects.
376	Miles - Rymal Rd E to Boundary	$ 3,265,308	$ 3,265,308	$ -	$ -	$ -	$ -	LSP cost allocation updated and timing updated to "2021 to 2041".
377	Mill - Dundas St E to Boundary	$ 392,672	$ -	$ (392,672)	$ 52,225	$ -	$ (52,225)	Project removed due to overlap.
379	Mineral Springs - Binkley to Sulphur Springs	$ 381,791	$ 381,791	$ -	$ 227,166	$ -	$ (227,166)	Timing updated to "2031 to 2041".
382	Mountain Brow Blvd - Mohawk Rd E to Mud	$ 85,532	$ -	$ (85,532)	$ 11,376	$ -	$ (11,376)	Project removed due to overlap.
383	Mud - Eleventh Road E to Boundary	$ 266,629	$ 266,629	$ -	$ 186,640	$ -	$ (186,640)	Timing updated to "2031 to 2041".
387	North Service Road Link (Millen) - North Service Road to Shoreview	$ 26,931	$ -	$ (26,931)	$ 3,582	$ -	$ (3,582)	Project removed due to overlap.
389	Old Mud - Paramount to Cedarville	$ 54,469	$ 39,480	$ (14,989)	$ 7,244	$ 5,251	$ (1,993)	Project adjusted to prevent overlap with other projects.
391	Owen Pl - King St E to Greenford	$ 22,046	$ -	$ (22,046)	$ 2,932	$ -	$ (2,932)	Project removed due to overlap.
396	Picardy - Highland Rd W to Lormont	$ 70,680	$ -	$ (70,680)	$ 9,401	$ -	$ (9,401)	Project removed due to overlap.
401	Queensdale - Skyland to Upper Wellington	$ 15,854	$ -	$ (15,854)	$ 2,109	$ -	$ (2,109)	Project removed due to overlap.
402	Raymond - Stonehenge to Garner	$ 183,962	$ -	$ (183,962)	$ 24,467	$ -	$ (24,467)	Project removed due to overlap.
416	Scenic - Angela to West of Chateau	$ 257,015	$ -	$ (257,015)	$ 34,183	$ -	$ (34,183)	Project removed due to overlap.
417	Scenic - Colquhoun to Garth (via Scenic and Denlow)	$ 61,270	$ 32,617	$ (28,653)	$ 8,149	$ 4,338	$ (3,811)	Project adjusted to prevent overlap with other projects.
420	Shaver - Garner to Carluke	$ 1,832,582	$ 1,832,582	$ -	$ 958,543	$ -	$ (958,543)	Timing updated to "2031 to 2041".
426	Southcote - Garner to Airport	$ 392,445	$ 392,445	$ -	$ 48,155	$ -	$ (48,155)	Timing updated to "2031 to 2041".
429	Sulphur Springs - Lover's to Mineral Springs Rd	$ 439,812	$ 439,812	$ -	$ 261,688	$ -	$ (261,688)	Timing updated to "2031 to 2041".
437	Terryberry - Private Rd to Rymal Rd	$ 28,032	$ -	$ (28,032)	$ 3,728	$ -	$ (3,728)	Project removed due to overlap.
439	Twenty Rd - Southcote to West of Nebo	$ 1,310,636	$ 1,310,636	$ -	$ -	$ 18,075	$ 18,075	LSP cost allocation updated.
447	White Church Rd E - Trinity Church Rd to Upper James	$ 1,972,066	$ -	$ (1,972,066)	$ -	$ -	$ -	Project removed due to overlap.
448	Whitedeer - Highbury to Rymal Rd E	$ 48,561	$ -	$ (48,561)	$ 6,459	$ -	$ (6,459)	Project removed due to overlap.
458	York Road Valley Community Centre Park Hydro Corridor Trail - York to Highway 6	$ 3,109,472	$ -	$ (3,109,472)	$ 1,850,136	$ -	$ (1,850,136)	Project removed due to overlap.
461	White Church Rd W Loop - White Church Rd W East of Carluke to White Church Road W West of Highway 6	$ 1,683,731	$ -	$ (1,683,731)	$ 1,178,611	$ -	$ (1,178,611)	Project removed due to overlap.

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