Integrated Master Plan

Water, Wastewater and Transportation

City of Burlington Pipeline to Permit Committee

November 7, 2024

Agenda and Meeting Objective

HDLC Agenda

1. Integrated Master Plan Project Introduction
2. Process for Development of the Infrastructure Strategy
3. Integrated Master Plan Study Status
4. Water and Wastewater Preliminary Potential Opportunities and Strategies
5. Transportation Preliminary Potential Opportunities and Strategies
6. Next Steps

Today's Objective

- To provide a project status update and present preliminary potential opportunities and strategies

Project Introduction

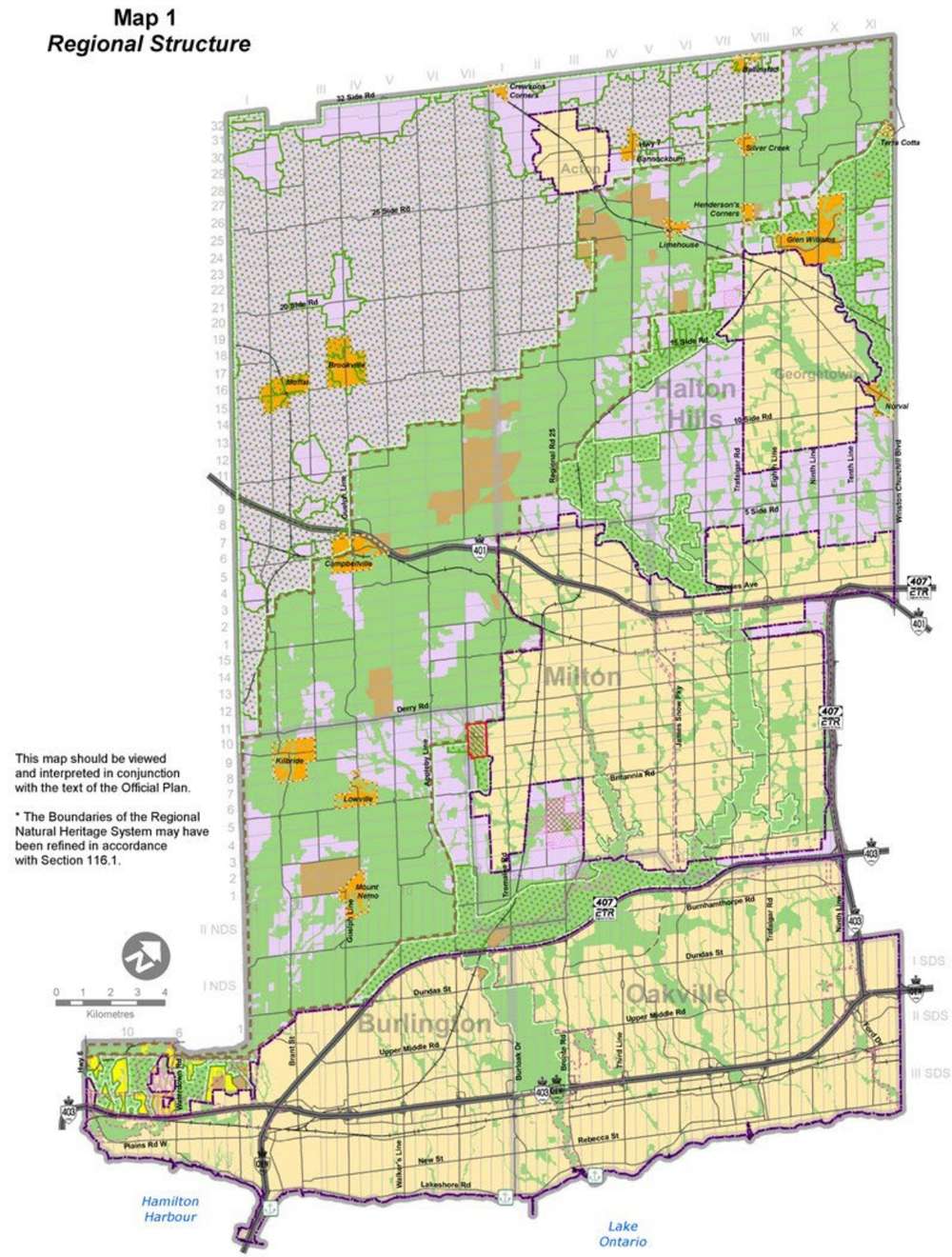
Infrastructure to support growth to 2031 is being implemented now through the Allocation Programs.

Halton Region is conducting the **Integrated Master Plan (IMP)** to complete the next region-wide Water, Wastewater and Multi-Modal Transportation Master Plans to support growth to 2051. The Integrated Master Plan will:

- provide the strategies, policies and tools required to meet the water, wastewater and transportation infrastructure needs of the Local Municipalities (per Joint Best Planning Estimates) to 2051;
- guide the management and development of the Region's water, wastewater and transportation (including the active transportation network) systems; and
- maximize capacity, system flexibility and life expectancy of Regional water, wastewater and transportation infrastructure.

The IMP Study Area includes Halton's four Local Municipalities: the City of Burlington, and the Towns of Halton Hills, Milton and Oakville.

Map 1
Regional Structure



Source: Map 1 Regional Structure, Halton Region Regional Official Plan Amendment 49 (ROPA 49)

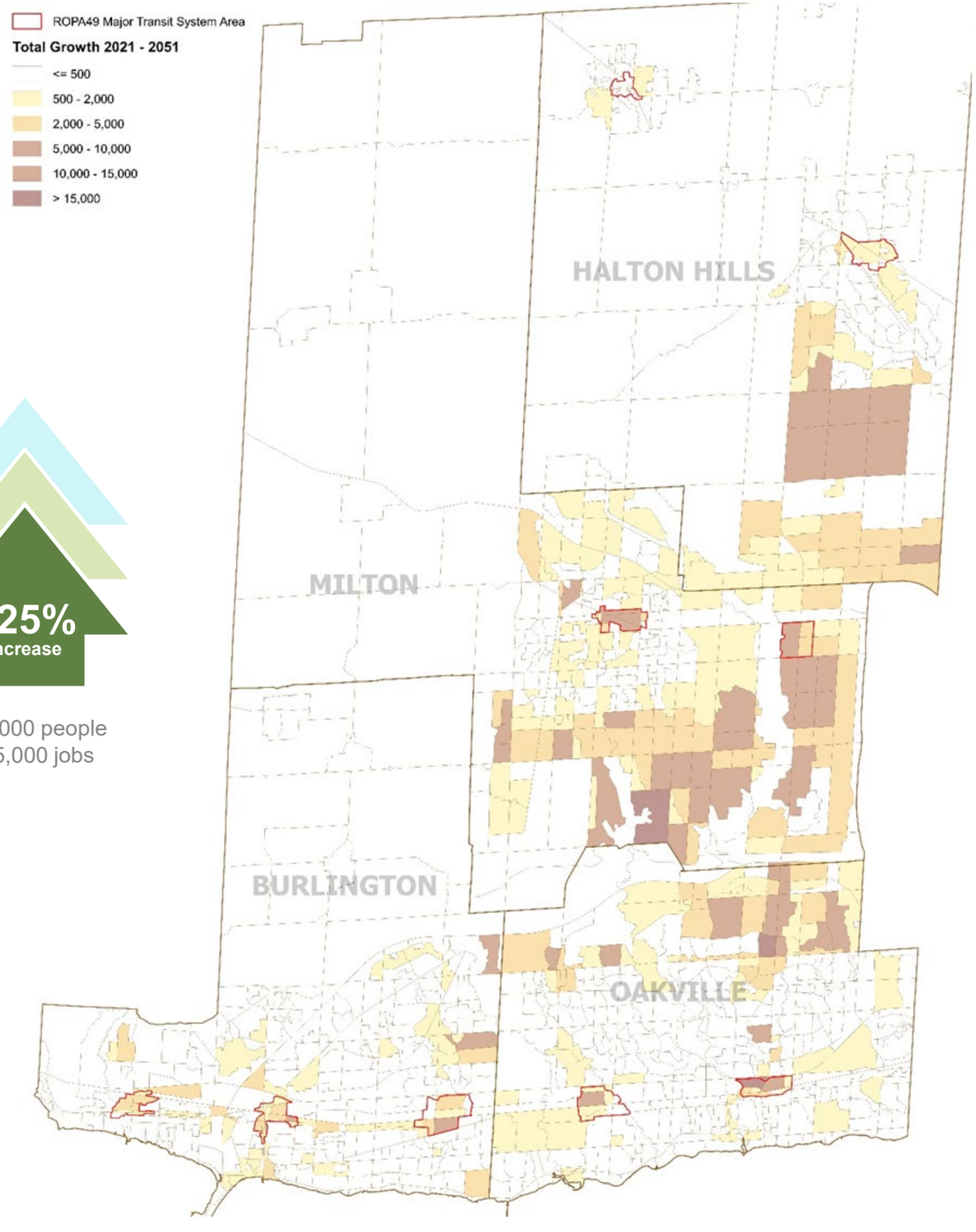
Planning for Growth

	2021	2051*
	895,405	**2,013,000**
	616,643 people 278,762 jobs	1,389,000 people 624,000 jobs
People		
Burlington	193,141	324,000
Halton Hills	64,991	167,000
Milton	138,368	455,000
Oakville	220,143	443,000
Jobs		
Burlington	98,473	150,000
Halton Hills	24,617	87,000
Milton	44,833	175,000
Oakville	110,839	212,000

125%
increase

+772,000 people
+345,000 jobs

*the 2051 projections are estimates and are subject to change



Integrated Master Plan Study Status

What has Been Completed

The IMP study has completed the following:

- Collaboration with Local municipalities
- Vision and Considerations
- Existing conditions, opportunities and constraints
- Water, wastewater and transportation models
- Public Information Centre 1 – November 2023
- Analysis and Evaluation Criteria
- Potential opportunities for Preliminary Servicing Strategies
- Frameworks and Considerations for Guideline Updates

In Process

The IMP study is in the process of completing:

- Continued collaboration with Local municipalities
- Early engagement with the development community
- Analysis and Evaluation
- Refinements of strategies
- Development of Costing and Phasing to 2051
- Council Workshop January 2025
- Public Information Centre 2 – Q1 2025

Final

The final step in the Integrated Master Plan study will be the completion of the Master Plan document.

Continued engagement with the community and key stakeholders




Integrated Master Plan

Water and Wastewater

Halton Region

Water & Wastewater – Key Inputs and Themes

- Ensure increased resiliency throughout systems
- Develop strategies that can be adaptive to growth priorities
- Balance demands on groundwater and lake-based systems

- Continue to maintain level of service and minimize risk of basement flooding / station bypassing
- Develop solutions that are energy efficient and minimize impact to the environment and residents

Capacity Expansion - 2051

Water Treatment

Lake-Based

- **Burlington** → **Currently Planned Capacity Regain (2026)**
- **Burloak** → **Currently Planned Capacity Expansion (2029)** → **Future Capacity Expansion (2033-2036)**
- **Oakville** → No Planned or Future Capacity Expansions

Groundwater-Based

- **Acton** → No Planned or Future Capacity Expansions
- **Georgetown** → No Planned or Future Capacity Expansions
- **Milton** → No Planned or Future Capacity Expansions

Wastewater Treatment

- **Acton** → No Planned or Future Capacity Expansions
- **Georgetown** → No Planned or Future Capacity Expansions
- **Mid-Halton** → **Currently Planned Capacity Expansion (2030)** → **Future Capacity Expansion (Post-2051)**
- **Oakville SE** → No Planned or Future Capacity Expansions
- **Oakville SW** → **Future Capacity Expansion (2041)**
- **Skyway** → **Future Capacity Expansion (2041)**

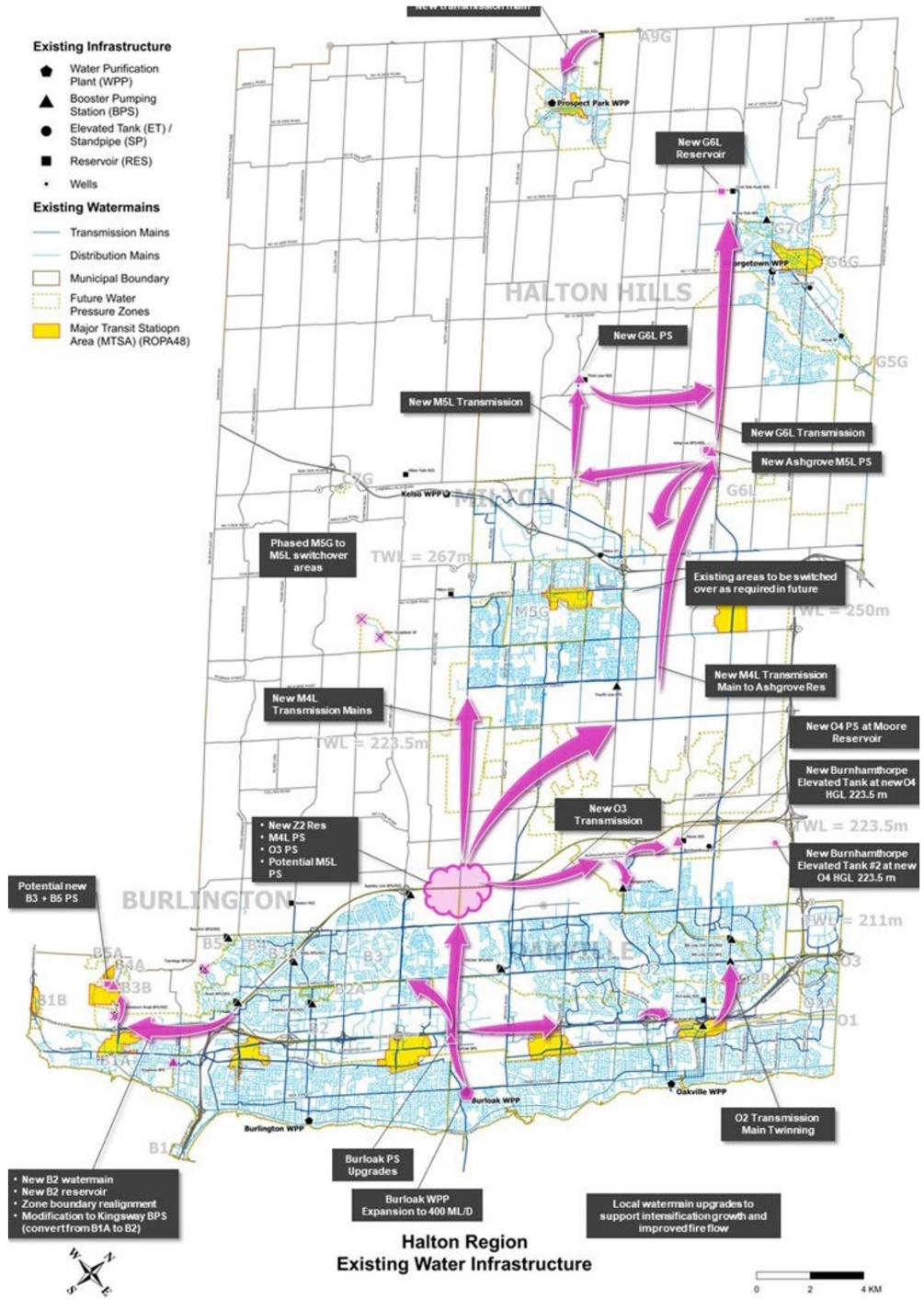
Preliminary Proposed Strategies – South Water

Oakville

- Lake-based treatment expansion at Burloak
- Additional pumping from new Central pumping station through new west to east transmission main
- Additional pumping and storage

Burlington

- Additional pumping and storage in North Aldershot
- New east to west transmission main to support upper pressure zones
- Pressure Zone adjustments for improved level of service and resiliency
- Reviewing Hamilton water agreement to service growth



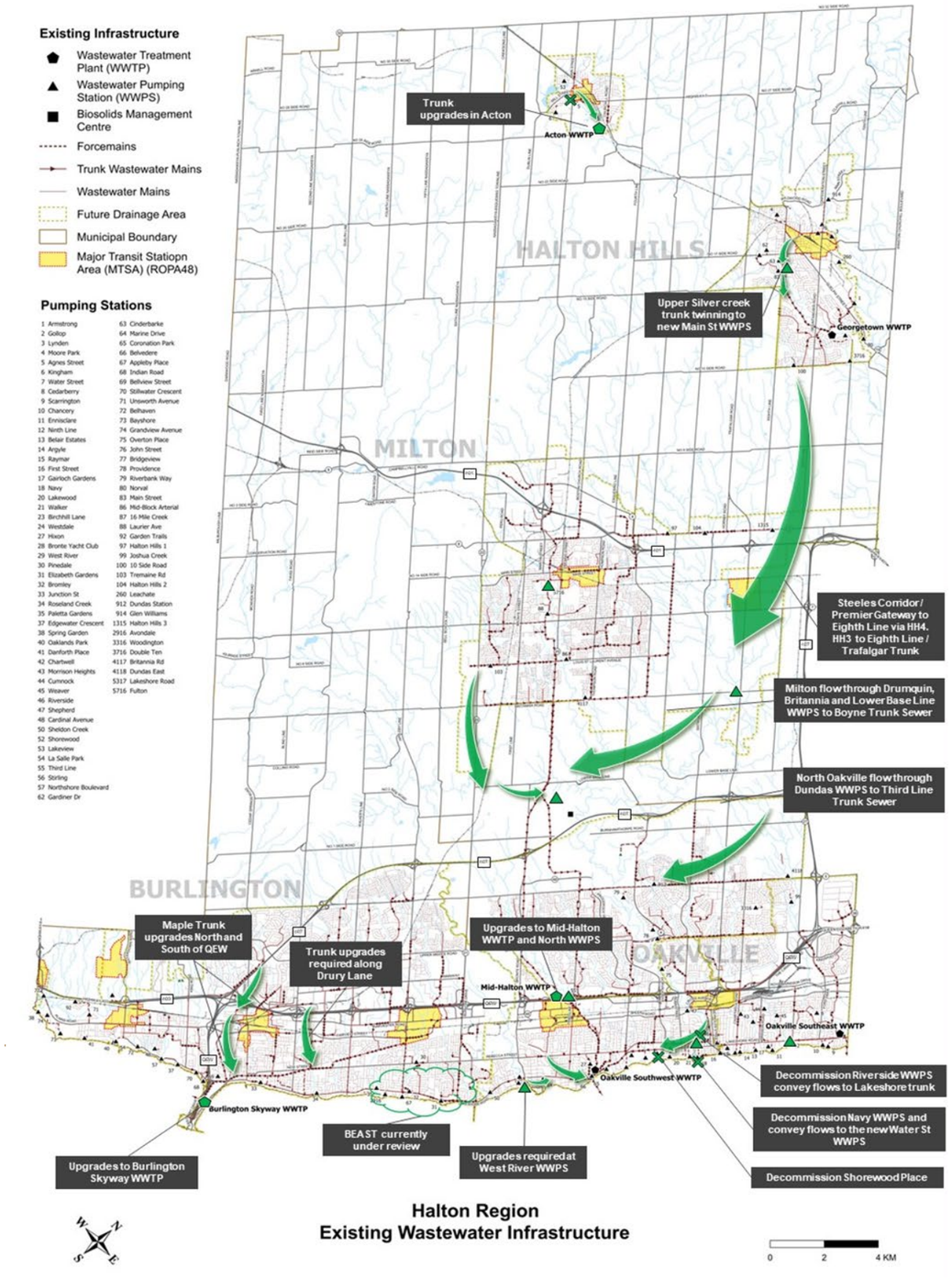
Preliminary Proposed Strategies – South Wastewater

Oakville

- Expand treatment capacity at Mid-Halton wastewater treatment plant
- Dundas pumping station capacity upgrades to support growth in North Oakville East
- Review local pumping stations and consolidate/decommission where applicable (lower risk of basement flooding)

Burlington

- Expand treatment capacity at Skyway wastewater treatment plant
- Increase conveyance capacity (upsizing/twinning existing trunk sewers)
- Review strategy for pumping stations along the Lake consolidate/decommission where applicable (lower risk of basement flooding)






Integrated Master Plan

Transportation

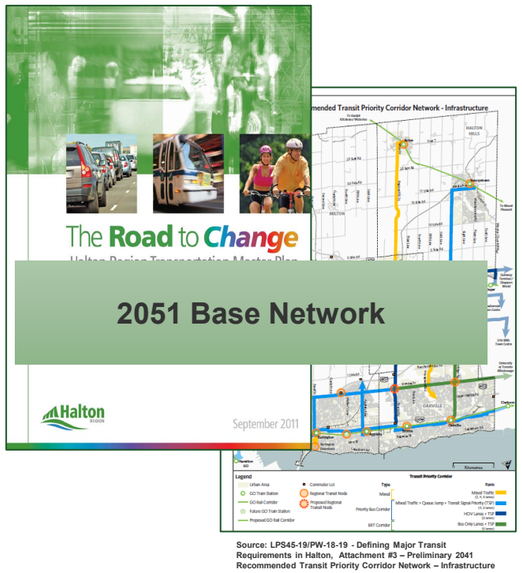
Transportation Strategy Key Inputs

- Optimize the network to support travel demand to 2051, as most Regional roads are at 6 lanes
- Transit Priority Corridor infrastructure improvements to build on the 2019 Defining Major Transit Requirements (DMTR) Study.
- Active transportation network improvements to be based on guidance from Updated Ontario Traffic Manual (OTM) Book 18.
- Other plans and improvements to be considered from, for example Local municipalities, Ministry of Transportation, Metrolinx.

2051 Alternative Solutions

Increasing Priority For Transit Through Infrastructure

2051 Alternative Solutions



Source: LPS45-19/PW-18-19 - Defining Major Transit Requirements in Halton, Attachment #3 – Preliminary 2041 Recommended Transit Priority Corridor Network – Infrastructure

2051 BRT Infrastructure/Core Spine Network

2051 Enhanced Transit Priority Corridor Infrastructure Network

Opportunities and Considerations For Further Evaluation

- Core Bus Rapid Transit Network: Regional Road 25, Dundas Street, and Trafalgar Road (including "Trafalgar BRT" through Midtown Oakville).
- Additional east-west capacity in Milton with possible Bus Rapid Transit (BRT) connection. Candidate(s) include Britannia Road, Derry Road, Steeles Avenue.
- Need for additional north-south capacity for transit in Burlington. Possible candidate(s) include Appleby Line, Brant Street.
- Need for additional north-south lane capacity in Halton Hills north of Steeles Avenue. Candidates include Trafalgar Road, Ninth Line.
- Range of transit priority infrastructure: Transit Signal Priority, Queue Jump lanes, High Occupancy Vehicle lanes.
- Localized improvements, for example widening at intersections such as Upper Middle Road at Ninth Line.
- Other supporting strategies and technologies.

Active Transportation Network Development

- Create a clear and convenient environment for pedestrians/cyclists and meet user expectation
- Provide Active Transportation facilities on the Regional road network:
  - Cycling facility where feasible (example, cycle track, Multi Use Path)
  - Pedestrian facilities on both sides of all urban area roads, where feasible (sidewalks, Multi Use Path)
  - Paved shoulders on rural roads with potential opportunities for separated facilities where appropriate and feasible
- Ensure facility recommendations align with current guidelines and best practices for level of protection
- Enable Regional intersections to facilitate crossings, simplify transitions, and “set up for success” via design recommendations
- Develop a phasing and implementation plan, including standalone Active Transportation projects.

Transportation – Preliminary Proposed Strategy

- Plan for a resilient and adaptable transportation system that supports continued growth and travel demand:
  - Optimize planned infrastructure
  - Focus on alternative mode infrastructure (Transit Priority Corridor and Active Transportation networks)
  - Identify select road improvements
  - Identify supporting strategies and technologies
  - Plan for transit-related infrastructure to be in place to allow the network to evolve when the Transit Priority Corridors are operationalized

Integrated Master Plan Study - Next Steps

- Development of the Preferred Strategies for Water, Wastewater and Transportation through Fall 2024, including:
  - Analysis and Evaluation of Alternative Solutions
  - Refinements of Preferred Solution and Strategies
  - Development of Costing and Phasing to 2051
- Council Workshop January 2025
- Public Information Centre 2 – Q1 2025
- Preparation of IMP Study Documentation
- Input into subsequent studies such as Development Charge Background and Technical Studies and Roads Rationalization Study