

ACEC Awards 2015

Niagara to GTA Corridor Planning and Environmental Assessment Study, Phase 1



ACEC AWARDS 2015

Niagara to GTA Corridor Planning and Environmental Assessment Study, Phase 1



Burlington Skyway

PROJECT DESCRIPTION

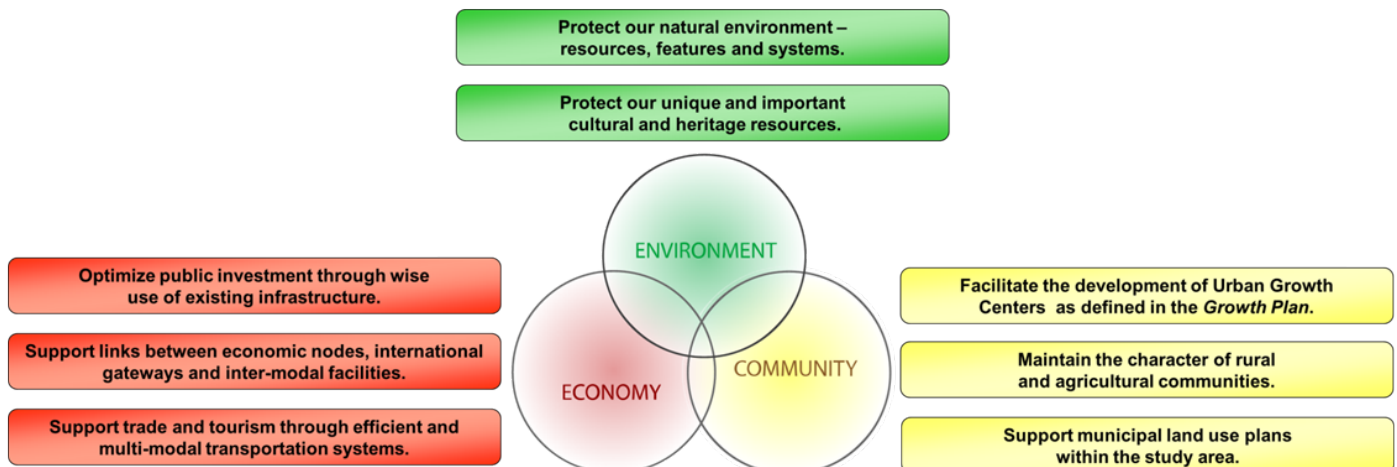
The Greater Golden Horseshoe (GGH) is identified as one of North America's fastest growing regions with population forecasted to grow to 11.5 million with 5.5 million jobs by 2031. The resultant impact on the region's transportation system will be significant.

To accommodate this growth, Ontario released its 2006 Growth Plan for the Greater Golden Horseshoe. This plan provides a framework to build strong and prosperous communities together with a strategic policy framework for the transportation system in the GGH that delivers more transportation choices, promotes public transit and active transportation and gives priority to goods movement on highway corridors.

As part of this broader strategic transportation vision, the Ministry of Transportation initiated Phase 1 of the Niagara to GTA Corridor Planning EA Study. The primary focus was to

identify future transportation needs corresponding to the significant population and employment growth forecasted for the area extending from the Niagara international border crossings, around the western end of Lake Ontario to the vicinity of Oakville. Based on this assessment, the team was tasked with developing a multimodal transportation strategy to support future movement of commuters, recreational travelers and commercial goods, and maximize use of all transportation modes, including rail, road, air, transit and marine.

The Study culminated in a multimodal Transportation Development Strategy that builds upon current provincial plans and policies first looking to optimize the existing highway network, followed by improving/providing new non-roadway infrastructure, widening existing highways, and ultimately a new highway corridor between Highway 406 and QEW in Niagara Region.



RECOMMENDED STRATEGY

Study Area

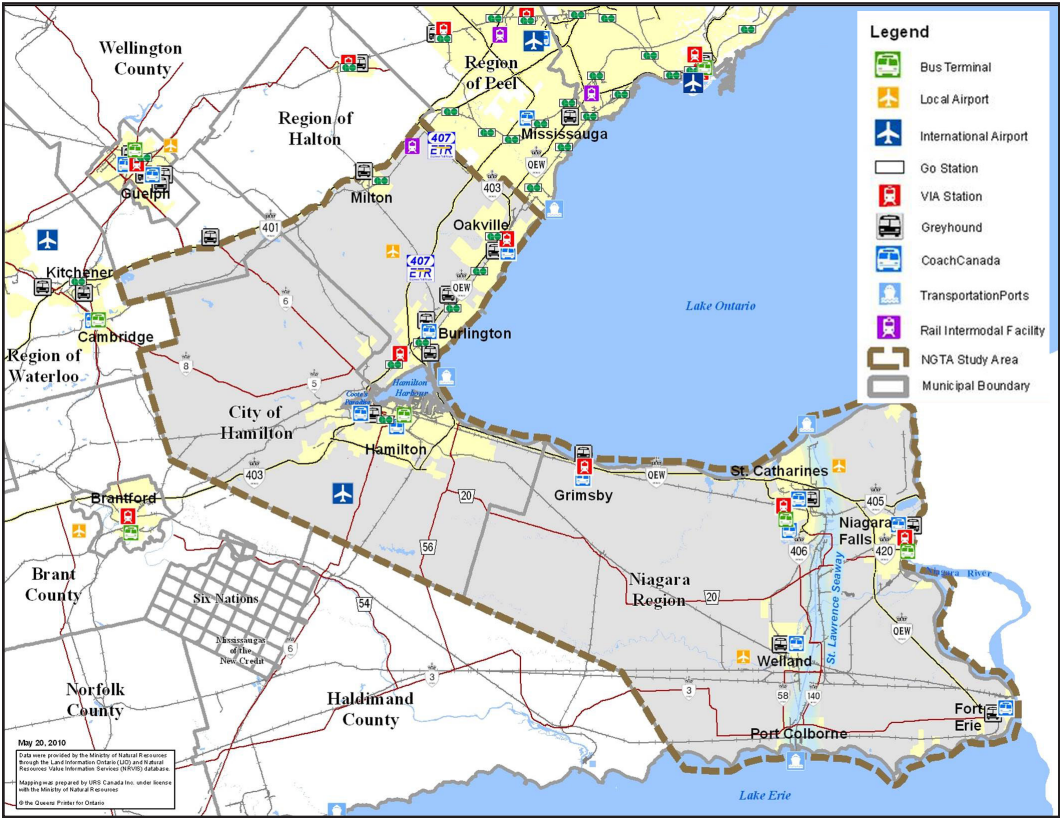


Exhibit 1
Active Traffic
Management Plan



Exhibit 2
New/Expanded
Non-Road
Recommendations

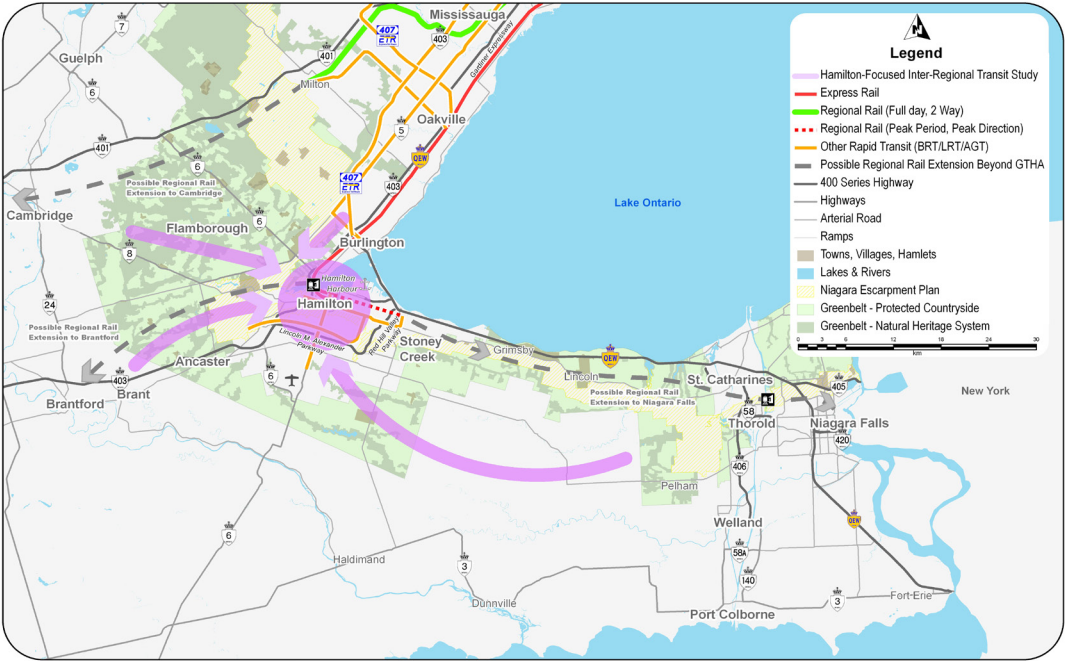
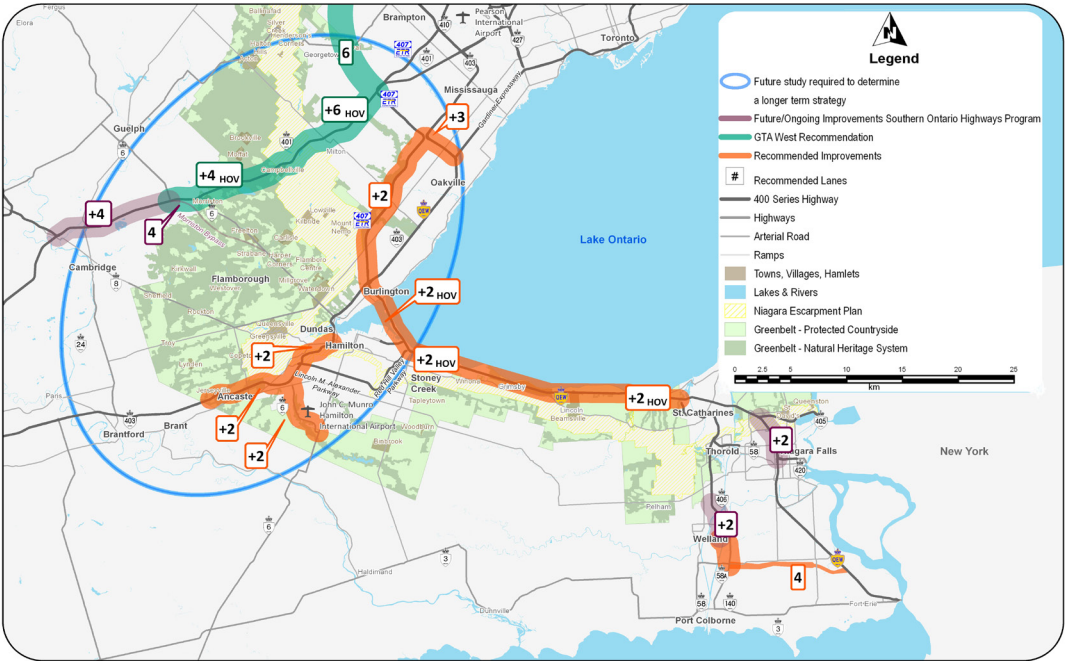


Exhibit 3
Highway Expansion
Recommendations



MEETING THE CLIENT'S NEEDS

At the outset of the study, the consultant team met with the Ministry of Transportation team members to establish the study objectives. It was agreed that of paramount importance was the need to follow a completely traceable and transparent process with no predetermined outcome. The team would need to be regarded by stakeholders as being a genuine and unbiased source of project information throughout the study process. If these objectives were met, the team would consider the project a success regardless of the ultimate recommendations.

With this in mind, and in order to be able to credibly assess the ability of non-roadway modes to contribute toward addressing the future transportation needs, the team included experts in all modes of transportation – freight rail, marine, air, transit (bus and rail), and intermodal. In addition

to providing their own expertise, the transportation experts reached out to industry colleagues and facilitated meetings with agencies such as CN Rail, CP Rail, the Hamilton Airport, the St. Lawrence Seaway, Metrolinx, etc., to develop a solid appreciation of the role each mode could play in addressing future problems and opportunities.

The project concluded with the development of a truly multimodal transportation development strategy - arrived at through a very traceable and transparent process, and recognized by the Ministry of Transportation and project stakeholders as providing a full suite of innovative multimodal solutions to address complex transportation challenges, as well as its ability to leverage exciting future transportation opportunities.



COMPLEXITY

For this highly complex and challenging study the team needed to consider all transportation modes to an equal level of detail. The Ministry of Transportation has well-established forecasting methodologies for future growth of passenger vehicle and truck traffic volumes. The study team needed to develop methodologies to forecast the number of passenger and commercial goods movement trips that could be shifted to non-road based transportation (i.e. by transit, air, marine, rail, etc.). This presented a great challenge in developing the methodology and then communicating the findings to the study stakeholders.

The vast expanse of the study area which encompasses numerous highly sensitive environmental, community and cultural features throughout, also posed significant challenges from the perspective of data collection, as well as

in assessing and trading off the potential impacts associated with the various alternatives. Significant features such as the Niagara Escarpment, Niagara's tender fruitlands, prime agricultural lands, and pristine and untouched wetlands are scattered throughout the study area and needed to be fully assessed and considered in evaluating the various alternatives. These areas were of such importance that environmental interest groups with thousands of members were keenly interested in the study from its inception through to its completion, and actively provided their input and concerns with respect to the study findings. Balancing these interests were groups such as the Southern Ontario Gateway Council and others who saw the corridor as providing a necessary and important economic connection between the GTA and the Niagara border crossings, and supporting future economic growth.



Welland Canal

INNOVATION

One of the key areas of innovation for this project involved the development of a unique “building block” approach for assembling the multimodal transportation alternatives. Unprecedented efforts were expended to fully explore the viability of non-roadway transportation modes in addressing future transportation needs. Transit (bus and rail), freight rail, air, and marine options were all considered.

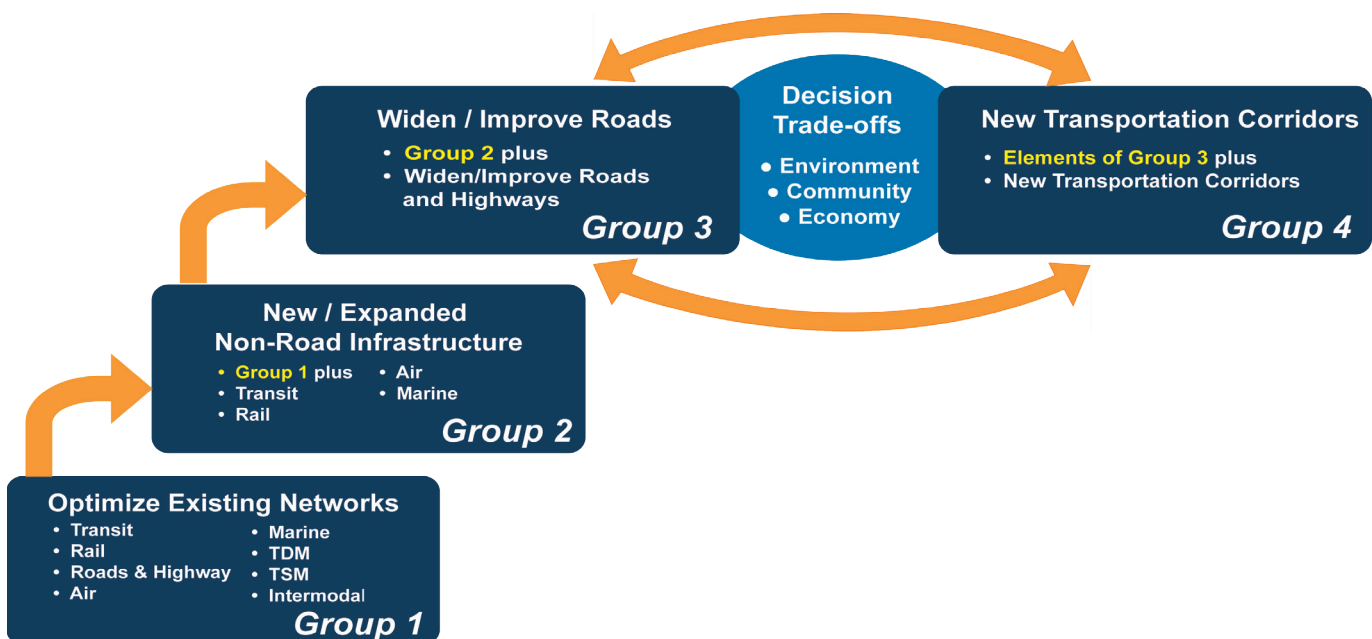
The “building block” approach is founded on the principles of the Growth Plan for the Greater Golden Horseshoe (2006) which involves first seeking to optimize the existing transportation network before considering new infrastructure, and considering opportunities to improve non-roadway infrastructure first before considering roadway based solutions.

In order for the “building block” approach to function effectively, it was necessary to identify a “long list” of transportation alternatives corresponding to all modes of transportation. To develop this list, the team used an innovative approach that involved gathering all of the study team transportation experts to take part in a three-day “Think Tank” session. The “Think Tank” was premised on the concept that all ideas should be considered, and that no idea should be discarded on the basis of policy constraints, or preconceived notions based on past experience.

The long list that was ultimately developed was truly exhaustive, and when presented to stakeholders at the Public Information Centres that were subsequently held, it clearly conveyed the depth of the team’s consideration of each of the transportation modes.

Using the building block approach, ideas involving optimization of the existing multimodal transportation network were assembled by the team and assessed based on their ability to address future transportation problems and opportunities. It was ultimately determined that this could not be achieved, and so the team layered on ideas corresponding to improved or new non-roadway transportation alternatives. A similar assessment was again undertaken, and only after it was determined that this combined set of ideas (i.e. optimization and non-roadway together) could not fully address the transportation problems and opportunities, did the team add the highway widening and new corridor components to the strategy.

This innovative approach to conducting the study ensured that the best possible combination of optimization, non-roadway and roadway components emerged within the recommended strategy, and allowed stakeholders to fully understand the study team’s assessment and the tradeoffs made to arrive at this outcome.



ENVIRONMENTAL BENEFITS

As noted previously, the study area is vast, encompassing many highly sensitive environmental, community and cultural features including the Niagara Escarpment, Niagara's tender fruitlands, prime agricultural lands, and pristine, untouched wetlands such as the Beverly swamp. These significant features were fully assessed and considered in evaluating various transportation alternatives, and opportunities to avoid or mitigate impacts to these features were fully considered.

In order to accomplish this, input on the environmental and cultural features within the study area was obtained from agencies such as the Ministry of Natural Resources, the Ministry of the Environment and Climate Change, and local conservation authorities. In addition, public input, and input from municipal agency staff and First Nations was obtained through a rigorous consultation program that included five rounds of multi-venue Public Information Centres, stakeholder workshops, regular meetings with a broad range of municipal, agency and community groups as well as First Nations and hundreds of individual meetings with property owners and interest groups. This information was incorporated into the study team's assessment of the various transportation alternatives, and was fully considered in the development of the multimodal Transportation Development Strategy.

The multimodal Transportation Development Strategy is premised on protecting the important resources, features and systems that comprise the natural environment within the study area. By seeking to optimize the existing transportation network before implementing any new infrastructure, the multimodal Transportation Development Strategy minimizes its transportation footprint, in turn preserving our most important natural, community and cultural areas.



Input from municipal agency staff, regulatory agencies, members of the public and First Nations was obtained through a rigorous consultation program.

SOCIAL AND/OR ECONOMIC BENEFITS

By its very nature, this project seeks to contribute positively to the economic, social and environmental quality of life for those within the study area, as well as for the broader population within the Greater Golden Horseshoe. All of the alternatives that were considered as part of this study were evaluated on the basis of the Triple Bottom Line - Community, Environment and Economy, as well as transportation considerations and cost. Ultimately those alternatives that would contribute positively within each of these categories were carried forward into the final Strategy.

In summary, the final multimodal Transportation Development Strategy provides a full suite of innovative

opportunities to improve the multimodal transportation system in the corridor linking the Greater Toronto Area to the international border crossings in Niagara Region. When fully implemented, it will contribute toward securing the economic vitality of the region and improving our overall quality of life by reducing commuting times and facilitating the efficient movement of people and goods. It will enhance our communities, improving the interconnections between them and making them more accessible for work and for play.



Hamilton Airport



Niagara Falls GO Station - Photograph courtesy of Queen's Printer for Ontario, Ontario Growth Secretariat, Ministry of Infrastructure.

ACEC AWARDS 2015

About AECOM

AECOM is a premier, fully integrated professional and technical services firm positioned to design, build, finance and operate infrastructure assets around the world for public- and private-sector clients. With nearly 100,000 employees — including architects, engineers, designers, planners, scientists and management and construction services professionals — serving clients in over 150 countries around the world, AECOM is ranked as the #1 engineering design firm by revenue in Engineering News-Record magazine's annual industry rankings, and has been recognized by Fortune magazine as a World's Most Admired Company. The firm is a leader in all of the key markets that it serves, including transportation, facilities, environmental, energy, oil and gas, water, high-rise buildings and government. AECOM provides a blend of global reach, local knowledge, innovation and technical excellence in delivering customized and creative solutions that meet the needs of clients' projects. A Fortune 500 firm, AECOM companies, including URS Corporation and Hunt Construction Group, had revenue of approximately \$19 billion during the 12 months ended Dec. 31, 2014.

More information on AECOM and its services can be found at aecom.com.

