Placemaking Bolton
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Abstract

The Town of Bolton, a historical village 20 km north of Toronto, has experienced significant population and employment growth in and around the Town, resulting in tremendous traffic issues such as congestion, safety, air pollution, parking, and truck traffic. The growth brings economic benefits and prosperity, but the consequences of traffic problems deteriorate the businesses and quality of life.

This paper describes the 8-years of collaborative efforts in placemaking Bolton. It demonstrates how a community has been reformed by transportation plans and infrastructure investments. The multimodal "all users" approach was adopted in various projects including a transportation master plan, feasibility studies, environmental assessment studies, and design/construction project. The output was a newly-built bypass road, which allowed for the redesign of truck restriction routes and primary truck routes in and around Bolton. These changes create opportunities for a "Complete Street" design in the downtown core. The pedestrian-friendly downtown vision will extend the pedestrian and cycling network to the rest of Bolton, as well as to the nature trails and a potential train station at the outer skirt of Bolton. These changes will transform Bolton from the current passing-through community to an enhanced destination, with special treatments to harmonize all modes of transportation, resulting in building and shaping a community to sustain future growth.

INTRODUCTION

The Town of Bolton, founded in 1822, is facing a new prospect. Bolton is nested within the natural jewels of the Humber River valleys and the cultural gems of Albion. The road and highway network connects Bolton to a variety of jobs and services in the Greater Toronto Area - Bolton is only 20 km away from Toronto, the largest city in Canada, and 25 km away from the employment lands surrounding the Pearson International Airport in Mississauga, the 6th largest city in Canada. Amenities, shops, and restaurants in Bolton are within walking and cycling distance from the neighbourhood. These multiple geographic advantages will continue to attract newcomers to Bolton, resulting in a predicted population growth from 25,000 today to 45,000 over the next 20 years.

Traffic generated by the current and future Bolton residents, however, only accounts for half of the total traffic on the roads in Bolton with the remaining consisting primarily of outside commuters travelling through Bolton. Congestion, safety, air pollution, parking, and truck traffic have been the challenges facing Bolton, especially at the downtown core. The Town’s historical downtown core is situated at the crossroad of two major arterial roads:
• Queen Street (aka Highway 50): a continuous north-south major arterial connecting Simcoe County and Toronto; and
• King Street: a continuous east-west major arterial connecting the Regions of Peel and York.

Both arterial roads, which are under the jurisdiction of the upper-tier government (Region of Peel) are the core spines supporting the surrounding collectors and local roads that are under the lower-tier municipal jurisdiction of the Town of Caledon. Increasing car and heavy truck traffic has been the major transportation issue that has deteriorated both the business prosperity and the residents’ quality of life in Bolton. **Map 1** illustrates the natural environment and the transportation network in Bolton.

**Map 1 - Town of Bolton, Ontario**
THE MISSION

Since 2008, Peel Region has begun a mission in placemaking Bolton. It has been a collaborative effort with the Town of Caledon, the provincial government, transit agencies, conservation authorities, businesses and residents. The strategy for placemaking Bolton is as follows:

1. **Build a bypass road** – See Figure 1

   - Design and construct a $45-million bypass road, called Emil Kolb Parkway, to alleviate traffic congestion at the downtown core (Queen Street and King Street)

2. **Manage truck traffic** – See Figure 2

   - Designate the bypass road as Primary Truck Route, diverting trucks away from the downtown core
   - Designate truck restrictions on the roads within the downtown core.
   - Implemented by both enactment of a traffic by-law to restrict trucks, and promotional/awareness programs to encourage trucks to cooperatively drive on the designated roads

3. **Monitor the change of travel patterns**

4. **Envision a “Complete Street” solution** – See Figure 3

   - Introduce on-street parking, bike lanes and other “Complete Street” elements within the downtown core.
   - Extend cycling and pedestrian facilities to the key destinations within Bolton such as schools, community centres and shops.
   - Further extend the cycling and pedestrian facilities to the nature trails outside Bolton’s neighbourhoods

5. **Promote other sustainable mode of transportation** – See Figure 4

   - Engage the community to promote usage of the transit/carpool lot

6. **Continuously provide traffic solutions for safety and efficiency purposes**

7. **Continuously work with the businesses on the community improvement plan and heritage district conservation plan.** Monitor parking demands for cars and bikes

8. **Continuously work with land use planners and transit authorities to materialize the potential regional commuter train services that would connect to three universities and downtown Toronto**

9. **Continuously work with the province to materialize the potential new GTA West Corridor highway**

The blueprint of the strategy was laid out by the *Bolton Transportation Master Plan*. Elements of the mission have been implemented except for item 4, which is pending results from the monitoring of traffic patterns. To bring visions into actions, the mission has been carried out by various types of projects including a transportation master plan, feasibility studies, environmental assessments, and design/construction/resurfacing projects. The mission is inclusive to all modes of transportation, and is comprehensive in recognizing the intertwined relationship among them. The desired outcome is to transform Bolton from a passing-through community into an enhanced destination that harmonizes all modes of transportation, resulting in building and shaping a community to sustain future growth.
Figure 1 – Emil Kolb Parkway

Figure 2 – Truck management plan

Figure 3 – Active transportation strategy

Figure 4 – Transit and carpool in Bolton
ALL USERS’ APPROACH

The philosophy of Placemaking Bolton has been centralized around an all users' perspective. Extensive public engagement and stakeholder consultations were involved, including the Bolton Farmers market outreach, the Business Improvement Area’s newsletter, the Peel’s Goods Movement Task Force and Mayor’s Town Hall Meetings (Figure 5). Additionally a project website www.caledon.ca/BTMP was setup to communicate with public and seek feedback.

Figure 5 – Public and stakeholder consultation events and material

A collective of public opinion and transportation experts’ advice helped form a strategy for all modes of transportation as described in the summary below:

Car Drivers

The travel pattern in Bolton and the surround rural area has been predominately by personal vehicles travelling southbound along Queen Street in the morning, towards the employment lands in Toronto, Brampton and Mississauga. The intersection of Queen Street and King Street often experiences significant delays with long queues. This intersection is at the historical downtown core where shops and restaurants are located with constrained road right-of-way. Furthermore, the intersection is situated at the bottom of the Humber Valley, with steep hills approaching the intersection, resulting in safety concerns, speeding and illegal passing at red-light issues. Due to these challenges, the community demanded a bypass to divert the north-south traffic away from the downtown core. This bypass was to be later known as the Emil Kolb Parkway.

The concept of the bypass was developed in the 80’s, while the environmental assessment studies addressing concerns from the conservation authority were
commenced in the 90’s, and public engagement and detailed design works were undertaken in the 2000’s; and the construction was completed in 2015.

The 4.2 km, $46 million Emil Kolb Parkway construction was a huge undertaking. Below are a few highlights (Figure 6):

- Two bridges: one 200m 5-span bridge over the Humber River, and one 35m single-span bridge over a tributary to the Humber River
- One 6m by 6m cast-in-place concrete culvert installed at a depth of 18.5m below finished grade
- Environmentally sensitive measures: Green Slope Retaining Wall at the crossing and culverts, over 2000 trees and 3000 shrubs/perennials were planted, and extra measures taken to protect and restore the watercourses
- A new multi-use trail with a separate bridge structure that connect the urban active transportation network to the natural trail system
- Two 2-lane roundabouts: one of the first in Peel Region with extensive public outreach and education program

Figure 6 – Emil Kolb Parkway

In addition to the bypass, other traffic engineering measures were provided to enhance the safety and circulation of traffic in Bolton. Because the downtown Bolton core is located at the bottom of a valley, with 5-8% grade on Highway 50
from both the north and the south, the concave geography creates speeding issues during summer months and slippery conditions during the winter. To mitigate the challenges, active warning beacons, static and electronic signage, and vehicle and pedestrian actuated traffic calming signs were installed. Moreover, a feasibility analysis was undertaken to review the need and constructability of two rail grade separations due to the traffic patterns and potential new growth areas.

To further enhance the connectivity between Bolton and other urban centres in the Greater Toronto Area, Regional staff have been continuously gauging the need of the GTA West Corridor highway and extension of Highway 427. A sensitivity analysis was conducted to examine the highway alignment and interchange location with respect to community need and future growth. The intertwined planning efforts for land development, future highway network, and other components of the transportation system will continue to be coordinated in the future.

**Truck Drivers**

Truck traffic in Bolton has been consistently heavy (Figure 7). Highway 50 connects the northern communities, including the Honda manufacturing plant in Alliston, and the warehouses, construction material processing plants, distribution centres and rail intermodal terminals in southern Bolton and Brampton/Mississauga area. The downhill slopes north and south of the downtown core has been an accident hotspot. Consequently, following the completion of the Emil Kolb Parkway in summer 2015, cars and trucks have been diverted onto another parallel route. Furthermore, based on the Region’s Strategic Goods Movement Network Study, a truck restriction by-law has been enacted and enforcement has been increased in the downtown core. Additionally, to better understand the truck re-routing traffic pattern throughout the Town, origin-destination license plate surveys were conducted and analysed. A town-wide truck management plan was also prepared, with consultation with businesses and residents, to designate truck routes and truck restriction in a respective, collaborative and harmonized manner. To date, the percentage of truck traffic in the downtown area has decreased from 10% to 2%.

**Figure 7 – Truck traffic in Bolton**
Pedestrian and Cyclists

There is potential within the Bolton community to promote walking and cycling for short distance commutes, recreational and touring related trips. Based on the Region’s Active Transportation (AT) Master Plan\(^3\), a Bolton AT Strategy was developed to outline infrastructure improvements and promotional programs.

The proposed AT network includes facility types and intersection treatment which follow the Ontario Traffic Manual Book 18: Cycling Facilities\(^4\). The network includes Regional roads, local roads, and the conservation authority’s off-road trails, which connects households, shops/schools/amenities, future train station, and the natural/cultural heritage sites. Furthermore, the recommendation at the downtown core, pending the expected change of travel pattern, embraces the “complete street” public realm philosophy. It comprises of bike lanes and bike parking, parallel on-street parking on one side, street furniture, relocation of traffic signals, and the addition of a pedestrian crossover (Figure 8). One of the challenges for the downtown vision was to weigh the benefit of all-day on-street parking with the benefit of cycling facilities, which was addressed through the support of the Business Improvement Area. The implementation of the “Complete Street” is expected to occur next year when the traffic pattern becomes stable.

**Figure 8 – “Complete Street” vision in the downtown core**
Carpoolers

There are a number of existing Transportation Demand Management measures and policies available for Bolton residents. A carpool lot was built 8 years ago at Mayfield Road and Highway 50, and promotional programs such as “Let Your Green Show” and “Smart Commute” were introduced. In 2015, the Region launched an Individualized Social Marketing campaign to increase the awareness of the carpool lot using branding, incentives and motivation tactics. The campaign is ongoing, and the example of activities include a pop up booth at the Farmers’ Market and Home Show, and partnership with transit agencies to install bus stops and shelters. Furthermore, from a network system perspective, the carpool lot triggers the planning of a comprehensive High Occupancy Vehicle (HOV) network that connects the arterial system from multiple municipalities (Peel Region, Brampton, and York Region) and the provincial system (Highway 427 extension and the potential GTA West Corridor).

Transit Riders

Transit has the potential to serve an important role in the transportation network in and around Bolton. Currently there are two bus routes connecting Bolton to the nearest train station in Brampton. In 2012, Metrolinx, an Ontario Government agency responsible for providing a regional transportation strategy including transit services, conducted the Bolton Commuter Rail Feasibility Study. This study identified a new train route with a train station located in Bolton. This new train service would connect Bolton to the central business district in downtown Toronto and to three universities. The train station would help foster an environment for transit-oriented development in the potential new development expansion area in Bolton. Moreover, there are longer term plans to leverage transit services from the neighbouring municipalities such as Brampton and York Region, and a transitway along the GTA West Corridor.

LESSONS LEARNT

The journey of Placemaking Bolton has not been a smooth ride without any hurdles. There was a lack of cooperation at the beginning of a long journey among different agencies, business owners, and even the internal organization. One of the ways to cultivate collaboration was to identify champions from various groups such as elected officials, business groups and community leaders. In addition, the quality of the work was consistently complemented by extra consultation efforts to customize a tailored-fit solution for Bolton. The Farmers’ Market weekend was the example to mingle to with families to get ideas. Furthermore, flexibility was also a key ingredient in leveraging unforeseen opportunities, for example, a bike lane installation was able to incorporate into a newly identified urgent road resurfacing project with adjusted timeline and funding arrangement. In summary, the all-users’ approach requires understanding from various agencies from planning, design, construction and maintenance.
CONCLUSION

Placemaking Bolton has been an inclusive and comprehensive mission. It was inclusive because all major transportation issues from all users' perspectives were contemplated. These considerations focused on road and highway networks, walking and cycling needs, transit demands, truck traffic issues, and rail grade separations. It was comprehensive because the strategy for each transportation mode was intertwined with one another. For example, the plan dealing with truck traffic was collaborated with the active transportation strategy and connected to the transit planning, and vice versa. As a result, the mission was highly integrated, harmonized and complementary. The inclusiveness and comprehensiveness represented a "complete approach" to a "complete street" solution to revitalize Bolton from inception to implementation.

Placemaking Bolton is more than just a transportation mission. A holistic approach has been adopted to reshape Bolton into a thriving community that can be enjoyed by residents and visitors. Considerable research and analysis was undertaken to ensure that the transportation master plan coordinates with land use planning, community improvement plans and heritage conservation.

The mission has brought technical experts and families in Bolton together into one alliance with a single and focused goal – Placemaking Bolton. Overall, the mission demonstrates that reclaiming roads from cars and revising them for people, requires a comprehensive multi-modal strategy with buy-in from multi-disciplinary agencies. This ongoing journey has been focused in connecting lives with communities, economies and the environment, and because of this Bolton will continue to thrive.
REFERENCES


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