



# REPORT

## Planning Design and Development Committee

Standing Committee of the Council of the Corporation of the City of Brampton

**Date:** March 12, 2004

**Files:** T00 MP

**Subject:** **Recommendation Report**  
TRANSPORTATION & TRANSIT MASTER PLAN: ROAD &  
TRANSIT SUMMARY

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### OVERVIEW

- **The major work phases of Stage 1 of the TTMP study (transportation analysis and recommendations) are completed. Although the study has been delayed because of technical difficulties concerning the transportation demand model that is being used to generate traffic forecasts, these problems were resolved as of January 2004 and the preferred transportation strategy has been developed.**
- **Based on work completed to-date, the consultant team has prepared a strategic summary report, attached hereto, outlining the preferred road and transit network recommendations that have been developed for the 2011, 2021, and 2031 horizon years.**
- **Staff are seeking endorsement of the balanced road and transit strategy as the preferred strategy to be brought forward for public consultation prior to developing final recommendations for adoption of TTMP study.**
- **It is recommended that the preferred strategy be presented in a 3<sup>rd</sup> Public Information Centre in April, and circulated to relevant agencies.**
- **Concurrently, consultation will be initiated with the development industry on the TTMP Study costing component which will be used as input to the background study for the City's Development Charges By-law review now underway.**
- **Staff are anticipating submission of the final TTMP study for Council adoption by May, 2004.**

## RECOMMENDATIONS

1. THAT the Report entitled “TRANSPORTATION & TRANSIT MASTER PLAN: ROAD & TRANSIT SUMMARY”, dated March 12, 2004 (file T00 MP), be received;
2. THAT Council endorse the road and transit strategy presented in the attached Summary Report to be brought forward for final public consultation;
3. THAT staff be directed to convene a Public Information Centre to present the road and transit strategy to the public, and to refine the TTMP recommendations accordingly;
4. THAT upon completion of public consultation and agency review on the preferred road and transit strategy, staff report to Council with a final recommendations to adopt a Transportation & Transit Master Plan.

## BACKGROUND

Pursuant to City Council direction, a Transportation & Transit Master Plan study was initiated in the summer of 2002 to establish the infrastructure and program needs and supporting policies for Brampton’s transportation system to the year 2031.

The TTMP is intended to provide a framework to ensure a coordinated and comprehensive approach in dealing with transportation issues in Brampton, with particular attention devoted to optimizing the role of transit and establishing an “in-house” transportation modelling capacity that will enable the City to address transportation and growth consistently and on a continuing basis.

The overall TTMP Study is divided into two stages:

**Stage 1** comprises the information, analysis and recommendations that will culminate in a final Master Plan document, which will include:

- a long-term transportation vision for the City;
- road and transit network recommendations for horizon years at 10-year intervals to 2031;
- a strategic implementation (and monitoring) plan for achieving the transportation vision; and
- supporting policies and programs.

**Stage 2** draws on the findings and recommendations of Stage 1 of the Study will provide the necessary transportation infrastructure timing and cost information for the purposes of DC By-law calculations.

The work plan for Stage 1 of the TTMP is divided into four phases:

Phase 1: Data Collection and Issues Identification

Phase 2: Travel Demand Modeling and Road Network Assessment

Phase 3: Comprehensive Transit Strategy

Phase 4: TTMP Recommendations/Implementation Plan

While Phase 1 was completed in January 2003 (with the issuing of the “Assessment of the Existing Transportation System and Short-Term Action Plan”), conclusion of the subsequent phases has been frustrated by delays in developing and running the computerized transportation planning model, which is the analytical foundation of the TTMP. The City (and its consultants) must currently rely on external agencies including the Region of Peel and the University of Toronto Data Management Group for providing inputs and running the model. Issues of access, resource availability, and unforeseen data corruption problems have delayed this important process.

As of January 2004, staff were advised that outstanding concerns with transportation model development had been resolved, in cooperation with Regional staff to complete due diligence with regard to travel demand forecasts, and subsequent update of screen-line level of service information. The City’s TTMP consultant has now developed draft road and transit networks for the 2011, 2021, and 2031 horizon years, and completed the balancing of roads, transit, and policies/programs. This effectively signals the completion of Phases 2 and 3. The recommendations and implementation plan that comprise the final phase of the TTMP Study are now being completed, and the Road and Transit Summary report represents the first key deliverable of this work.

Stage 2 of the TTMP – the Development Charges calculations – is in progress. Unit costs have been updated and draft costing is complete. Work on refining detailed year-by-year costing continues with the assistance of City staff.

## **CURRENT SITUATION**

As noted above, a draft TTMP Road and Transit Summary has been prepared, based on the transportation analysis and findings that have been developed through the course of the study. While it touches on all the aspects of the TTMP, this Summary Report focuses on strategic transportation and transit needs and recommendations for network plans for the 2011, 2021, and 2031 horizon years. It documents the analysis completed and the preferred solutions (as well as available alternative solutions), and estimated costs. Topics such as supporting policies and programs for all modes of transportation, implementation and monitoring, and transportation demand modelling will be addressed more comprehensively in the final TTMP document.

Key items in the TTMP Road and Transit Summary are described below. The full Summary Report is attached hereto as Appendix A.

## **Purpose of the TTMP Study**

The main purpose of the Transportation & Transit Master Plan (TTMP) is to define a long-term transportation vision and integrated road and transit network plan that will support growth in the City of Brampton to the year 2031. The TTMP is intended to provide a framework for guiding all future transportation decisions by setting out the policies and programs to support the long-term multi-modal transportation vision for the City and will include an implementation strategy based on targets established for 10-year horizon intervals, to 2031. The TTMP also defines a Short-Term Action Plan for the next five years, to address current needs and deficiencies, and to begin work towards the long-term vision.

The TTMP is part of a multi-faceted plan to manage the City's development, and complements the City's 2003 Strategic Plan, "Vision Brampton" as well as the Growth Management Program. The goal of "Modern Transportation Systems" – the first of the "Six Pillars" that support Brampton's Strategic Plan – states that:

*Brampton shall implement a master plan to develop a safe and efficient transportation system for moving people and goods within Brampton's central corridors, as well as provide improved and efficient linkages within the Greater Toronto Area.*

In and of itself, the TTMP does not purport to solve the City's present traffic and transit woes. While it does present a short-term action plan for addressing current concerns and defines several key problem areas that need to be addressed forthwith, the TTMP is a strategic planning document that lays out the future transportation direction for the entire City, based on an approved "transportation vision", and provides a broad and comprehensive context within which more detailed work can be initiated. Accordingly, the TTMP will provide the basis for an update to the transportation plans, objectives and policies of the Official Plan. It will also feed into the following more specific and focused activities:

- Development Charges By-law updates;
- The City and Region annual capital budget process and 10-year capital forecasts for roads and transit capital infrastructure;
- Environmental Assessment Studies for roads and transit infrastructure improvements;
- Secondary Plan and Block Plan Transportation Studies;
- Traffic Impact Studies;
- Transit routing and service plans;
- Other specific initiatives (e.g., AcceleRide Bus Rapid Transit Initiative).

## **Planning Process**

The TTMP is set within the context of the City and Regional Official Plans, which provide the appropriate policy foundation for developing a multi-modal transportation system. The TTMP study also reflects recent strategic transportation planning efforts at the GTA and provincial levels, as well as input from adjacent municipalities and transit authorities.

The TTMP study has followed the “master planning process” and meets the requirements of both the Ontario Environmental Assessment (EA) Act and the Ontario Planning Act. One of the prerequisites for meeting this requirement is a consultation program to involve the public. To-date, two public consultation sessions have been held. These two Public Information Centres (and the Mayor’s Town Hall Meetings on Transportation, with which the PICs were coordinated) provided substantial input that was incorporated into the issues identification and evaluation phase of work at the beginning of the study, and the development of the balanced vision for a multi-modal approach to planning for the City’s future transportation needs. A third public consultation session will be held to review the detailed elements of the preferred strategy. Two professionally facilitated focus groups were also employed during the course of the study, to help with the development of transit elements in the TTMP strategy.

## **Current Transportation System and Future Challenges**

Achieving a “balanced” vision for transportation in Brampton faces numerous challenges. The Summary Report discusses the demographic, physical, and operational challenges that will continue to tax the ability to provide adequate capacity to move people and goods on Brampton’s road network, unless certain changes are implemented. Most notably, the City will need to provide adequate transit resources to promote the growth of effective, fast, and reliable services that can offset the demand imposed by the private automobile. The current system and the challenges that need to be addressed are encapsulated below.

### *Existing Travel Patterns*

- Residents of Brampton have a higher tendency than the average GTA resident to travel to work outside their City;
- Jobs per capita ratio in the City is lower than the GTA average;
- Residents rely more on private vehicles for travel (80%);
- Traffic flows are predominantly out of the City during AM Peak period;
- High levels of truck traffic on many Brampton road (up to 20%+).

### *Transportation Network Issues*

- The City's rapid pace of growth has left gaps in road infrastructure in many locations;
- Some provincial highway initiatives previously factored into the City's development have not materialized;
- Natural physical constraints pose a challenge for road network connections (e.g., Credit River Valley, Humber River valleylands);
- Rail lines and existing provincial highway facilities also pose obstacles for municipal transportation linkages;
- Several intersections have major jogs (e.g., Queen Street / Mississauga Road / Embleton Road);
- Intersections of roads at Highway 50 occur at highly skewed angles.

### *Transit*

- Brampton's local transit system is circuitous to some extent;
- Transit system has been under-funded compared to other similar municipalities;
- Transit shares are lower than the GTA average, in its peer range;
- Brampton is not well-served by rapid transit links to the rest of the GTA;
- Presence of constraints to introducing effective, transit supportive development in established areas;
- Ridership has grown steadily;
- Existing Transit System operates at good performance levels;
- Service coverage needs to be expanded in newly developed areas.

### *Road Conditions*

Existing and future transportation conditions in Brampton were assessed by comparing demand versus capacity at a number of screenlines across the City. The Summary Report provides a comparison of volume to capacity ratios based on the 10-year Capital Works Program improvements to the performance expected from all proposed TTMP road improvements.

The analysis indicates that the 10-Year Capital Works program will not address the projected demand. Furthermore, even with additional road improvements, the demand on numerous screenlines will approach or exceed theoretical capacity.

### *Future Challenges: Road Network*

- Coping with projected growth: Brampton's current population and employment are expected to double to 680,000 people and 292,000 jobs by 2031;

- The Four Corners of downtown Brampton is a crossroads for major automobile and transit movements, and opportunities to increase already-limited lane capacity are non-existent;
- Credit River crossings are a major challenge, as development proceeds westward;
- There are limited opportunities for road expansion on north-south links to Mississauga and the Airport, associated with the cost of widening grade-separated structures across Highway 407;
- Accommodating high volumes of truck traffic along an increasingly urban corridor along Steeles Avenue;
- Queen Street at Highway 410 and into downtown, and the ability to provide relief along potential parallel corridors;
- Accommodation of north-south transportation demands in Bram West and Northwest Brampton.

#### *Future Challenges: Transit*

##### Short-Term:

- Expanding service to newly developing areas;
- Improving service level on key routes to accommodate peak demands;
- Improving service levels in off-peak service (esp. evenings) to continue to promote ridership growth;
- Improving transit service levels on an increasingly congested road network;
- Ensuring adequate funding and procurement to accomplish the foregoing.

In the long-term, the key challenge is to improve modal split performance to accommodate anticipated growth:

- More direct corridor routings, supported by transit priority infrastructure;
- Expand services, with higher level of service;
- Supportive policies and land uses.

### **Balanced Transportation Vision**

One of the early TTMP study tasks was to define a “transportation vision” for Brampton, that would set out the strategic direction upon which the study recommendations would be founded. A report entitled “Options for the Strategic Direction” was presented to Council in January 2003. The attached report summarizes the alternative strategies: “road-dominated”, “transit-dominated”, “no-growth” and “balanced”. The “balanced” strategy was recommended as the preferred option.

Public consultation confirmed the recommendation for a Balanced Road and Transit system as the preferred strategy underlying the City’s long-term transportation vision.

The “balanced” approach maintains needed accessibility for commercial, transit and other essential vehicular trips, while providing enhanced transit accessibility for all residents and workers in Brampton, improved air quality, and a healthier, more active community.

### *Realistic Planning for Transit*

The TTMP technical analysis has confirmed that the City’s future transportation needs cannot be accommodated by road improvements alone. A major increase in the percentage of travel by public transit is essential and will require significant service improvements to provide rapid transit into Mississauga and York Region, to link into the GTA transit network. In developing a transportation strategy, the TTMP has focused on realistically achievable goals for transit networks and loadings within the City, and transit “targets” are based on comparisons with similar, mature origin-destination linkages across the GTA.

### *Strategic Framework*

The Summary Report itemizes and illustrates the proposed staging of short and long-term strategic framework elements being recommended to redress the balance between roads and transit (**Figure 1**). While continued expansion of the road system is assumed to be necessary to accommodate new growth, address deficiencies, and facilitate reliable and accessible transit, the strategic framework emphasises greater investment in the transit network and infrastructure, recognizing the limits for road network expansion. A restructuring of the transit concept is also recommended, to support higher-order transit on key corridors of the transportation network, and to provide direct, effective connections to key destinations within and beyond Brampton.

### *Short-Term Strategic Elements*

The following short-term strategic initiatives place a strong emphasis on transit, and are listed in terms of their expected delivery or their priority based on expectation of need:

- Mount Pleasant GO Station
- Reconfiguration of the Brampton Transit network to provide more corridor-based services
- Implementation of Bus Rapid Transit (BRT) service along Queen Street and Main Street, linking to York Region and Mississauga, respectively (i.e., the BY Line and Main Line of the AcceleRide program “first steps”);
- Extension of Highway 410
- Improved connections to Mississauga destinations, including Pearson International Airport, and closer integration with Mississauga Transit;
- Improvement of road links to Halton Region
- Introduction of transit links to the proposed Winston Churchill GO Station;

- Highway 427 extension to Rutherford Road or beyond;
- Establishment of Improved transit connections to York Region (in conjunction with road improvements recommended in the York-Peel Boundary Area Transportation Study);
- Implementation of Bram West Parkway, from Embleton Road to Highway 407 (including a new interchange at Highway 407);
- Implementation of a network of commuter parking lots at gateways to the City;
- Introduction of express transit services on Highway 410 (together with widening);
- Provision of all-day GO Rail service on the Georgetown GO line;
- A bus service to Georgetown;
- Continued expansion of the arterial and collector road network.

#### *Long-Term Strategic Elements*

The longer-term strategy will build on the results of the short-term initiatives over the 10 to 20-year horizon, and will continue to balance transit and road-based mobility. Core strategic initiatives for the long-term include:

- Enhanced transit service in numerous priority corridors across the City, and continued reconfiguration to a grid-based overlay on community services;
- Expansion of the BRT network in other key corridors to enhance high-capacity grid services;
- Transit priority/exclusivity in the Four Corners;
- Increased reliance on transit, walking, and cycling for travel in the core established areas of Brampton;
- Introduction of a multi-modal transportation corridor in west Brampton;
- Express bus to Bolton, to provide an alternative to private vehicles for commuting;
- Bus links to stations, if a Bolton GO Rail service is implemented;
- Continued expansion of the arterial and collector road network.

#### **Road Network and Staging Plans**

On the basis that continued expansion and extension of the road network is essential to provide for new growth areas, intensification of development, and accommodation of high-capacity, reliable transit services, the TTMP study developed a 2031 transportation network, and modelled in detail the interim stages at the 2011 and 2021 horizons. The figures in the Summary Report illustrate the evolution of the recommended transportation network, by showing cumulative road improvements for the three horizon years, with the current 10-Year Capital Plan as a starting point.

**Figure 2** illustrates the sum of the cumulative road network improvements, including the current 10-year Capital Plan, to the year 2031.

Figure 1 – Short- and Long-Term Strategic Framework

**Figure 2 – 2031 Road Network**

## Transit System

The key objective in the development of long-term plans for Brampton Transit was to provide a realistic and attractive alternative to the private automobile for trips within and beyond Brampton, based on the following key elements:

- Create strategic links to adjacent municipalities;
- Establish grid-based services on Brampton corridors to provide direct and effective access;
- Enhance the grid services with local feeder routes to ensure good local access.

The Summary Report examines changes required to transit support systems, an overview of options for rapid transit, planned evolution to Bus Rapid Transit, and the key elements of the 2011 and 2021 system plans. It should be noted that the TTMP does not address specific transit routing – rather, the transit system figures indicate levels of service (i.e., frequency) on the key streets on which transit operates.

### *2011 Transit Network*

- High frequency BRT (AcceleRide) components on Main Street and Queen Street, connecting to Mississauga and York, and the proposed GO BRT system;
- An established grid of major corridor services with headways of 5-7.5min (Bovaird, Steeles, Dixie, Kennedy, Torbram), with HOV lane designations;
- An established grid of secondary corridors with headways from 10-15min in remaining EW and NS corridors where continuity is possible;
- Supporting network of local or “community” services that provide high degree of neighbourhood access;
- Expanded services into the new developing areas;
- Less emphasis on existing terminals as key destinations (though they still play an important role in the network interface and community destinations);
- New focal points at Mount Pleasant GO Station, Mississauga/Steeles, nodal facility at Hurontario/407.

### *2021 Transit Network*

The grid established in the 2011 plan is further evolved in response to demand and service level increases:

- Portions of Bovaird and Steeles are identified as high-frequency BRT corridors;
- Major corridor grid includes most EW and NS corridors;
- HOV lanes converted to Reserved Bus Lanes (RBL), at least during peak periods;
- Transit priority measures are prevalent throughout the network.

**Figure 3** illustrates the transit network proposed by the year 2021.

**Figure 3 – 2021 Transit Network**

## Costs

### *Roads*

Projected costs for the TTMP, based on the preliminary results of the Development Charges Update study, are as follows:

Recommended improvements by 2011	\$282 million
Recommended improvements by 2021	\$268 million
<u>Recommended improvements by 2031</u>	<u>\$101 million</u>
TOTAL	\$651 million

These costs are in addition to the current 10-Year Capital Works Program, which allocates approximately \$500 million for road improvements. This yields a total projected cost for road and transit network development/improvement over the next 30 years of \$1.2 billion.

The majority of the costs are in the earlier horizons (esp. over the next 10 years), which highlights dramatically the urgency in addressing Brampton's growing transportation needs. The traditional method for interpreting and calculating development charges will allow for a partial recovery of the costs of construction, but there will be a shortfall for transit, and monies would have to be sought and secured elsewhere (and would not be sustainable through property taxes).

### *Transit*

The current capital estimates to 2011 for transit vehicles are expected to be sufficient, provided that recommended improvements in transit-related roadway infrastructure are realized within this timeframe. Non-vehicle costs are estimated at \$18 million above the projected \$57 million.

2011 Transit vehicles	\$85 million
<u>2011 Non-vehicle costs</u>	<u>\$75 million</u>
2011 TOTAL	\$160 million
2021 Transit vehicles	\$80 million
<u>2021 Non-vehicle costs</u>	<u>\$20 million</u>
2021 TOTAL	\$100 million

## Recommended Actions for Key Issues

The Summary Report includes discussion of several key challenges, with a more detailed evaluation of the potential to address the evolution of downtown Brampton and the Four Corners. This issue will also be subject to review in greater detail through the Central Area Review, now underway.

## **Policies and Programs**

The full TTMP report will document the comprehensive slate of recommended policies and programs, including Transportation Systems Management (TSM), Intelligent Transportation Systems (ITS), Travel Demand Management (TDM), Bicycle and Pedestrian Access, and Goods Movement. The Summary Report highlights “Transit Supportive Policies in the Four Corners” and “Principles for Road Network Enhancement”.

## **Monitoring**

A monitoring and master plan review process in relation to objectives and targets is an essential element for the successful ongoing implementation of the transportation strategy. Monitoring of land use will be undertaken as part of the Growth Management Program. As a component layer of growth management, the transportation monitoring program will track changes in travel characteristics (trip generation rates, modal splits, trip lengths, auto occupancy, road and transit system performance and utilization) to address vehicle demand at screenlines and key constraint areas. This monitoring will rely in large part on a comprehensive and regular traffic count program.

It is recommended that the TTMP be comprehensively reviewed and updated on a regular basis (every three to five years) to take into account changing trends in demographics, development, and travel patterns.

As part of the mandate to develop an “in-house” modelling capability, the City has recently hired a transportation planner with the modelling expertise that is needed to successfully monitor the evolution of the City’s transportation system, to continually evaluate future needs, and to develop appropriate responses over the long term.

## **NEXT STEPS**

Pursuant to Council’s endorsement of the preferred TTMP strategy, as outlined in the Road and Transit Summary, the next step is to proceed with the final stage of public consultation. A third public information centre (PIC) is proposed to take place in April 2004, and could be coordinated to coincide with the planned Mayor’s Town Hall on Transportation, for which a date is yet to be determined. The preferred strategy, as outlined in the report, will also be posted on the City’s TTMP web page.

Once all public and other external agency input has been received, the report will be refined to incorporate any changes, as appropriate.

A presentation to Council of the final TTMP study is anticipated in late May 2004.

In addition, the road and transit summary is being used to develop the transportation infrastructure costing component of the City's background study for the ongoing Development Charges By-law review. Consultation on the TTMP costing component with the development industry will be carried out concurrently with the public consultation in order to ensure the final recommendations are co-ordinated with the Development Charges update and to ensure the DC by-law review is completed in a timely fashion.

Respectfully submitted,

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**APPENDIX A**      BRAMPTON TRANSPORTATION & TRANSIT MASTER  
PLAN: ROAD AND TRANSIT SUMMARY, MARCH 2004