

Peterborough Comprehensive Transportation Plan

EXECUTIVE SUMMARY

Prepared For:
The City of Peterborough

Prepared By:
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With
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PART 1: EXISTING SYSTEM ANALYSIS

Project Direction - Peterborough's new Comprehensive Transportation Plan is an update of the 1990 plan. While it was appropriate for its time, a broader consideration of issues and new transportation planning approach was needed. The new project was directed by a Steering Committee of six City Council members plus the County Warden, and a Technical Committee of City and County staff plus consultants from Stantec Consulting, Earth Tech Canada and Paradigm Transportation Solutions.

The Plan was prepared to satisfy Phases 1 and 2 of the Municipal Class Environmental Assessment process, with more detailed environmental inventories and assessments required for proposed specific major roadway projects. The Project Area involved three areas of analysis: 1) Primary Area including the City plus portions of abutting Townships, 2) Secondary Area including adjacent communities that interact with the City and 3) Tertiary Area extending into Durham Region and the GTA.

Public Consultation - Public involvement in this project was invited in four main ways:

- 3 formal public meeting/open house sessions
- advise provided by a Public Advisory Group
- Public Attitude Survey of 454 area households by SirSandfordFlemingCollege, and
- Continuous Public Outreach during the project to and from local groups and organizations.

Existing Transportation System - Transportation Tomorrow Survey data from 1996 shows Peterborough as a typically auto-dominated community, with 86% of daily trips by private automobile (66% driver, 20% passenger), 5% by public transit, 7% by cycling and walking and 3% by other modes. The type of trips being made in the Peterborough area are also typical of a large daytime workforce, with 24% involving work and 45% involving other purposes.

Trip origin/destination data from the Transportation Tomorrow Survey shows that about 53% of all traffic generated in the study area starts and ends in the City, and that 84% of all traffic has either an origin or destination in the City, so area travel is very strongly focused within the City. Only 11% of all trips in the PM peak hour are through trips. This leaves about 90% of the trips located within the City's roadway network. The conclusion here is that any network solutions outside the City will likely not address internal local transportation needs.

PART 2: FUTURE DIRECTION

Population Growth - This Plan was prepared based on an established City population forecast from the current 76,000 to 90,000 by 2021. The total forecasting area (Primary and Secondary Study Area) population is forecast to increase to over 100,000 beyond the year 2021.

Population Demographics – Based on Provincial data, 65-plus will be one of the higher growth groups in the area, and with reduced trip-making rates. However, these forecasts also show the highest growth in the 45-64 age group, and continued growth in the 35-44 group up to year 2021. These are typically the highest auto user groups, with the lowest use of transit and cycling. Similarly, the 15-24 age group is typically the highest transit user groups, but this passenger base is expected to significantly decline in the Peterborough area over the next 20 years.

Existing System Deficiencies – Major project findings include 14 sections of arterial and collector roadways presently operating as deficiency in the PM peak hour. Peterborough Transit operates well above the average performance of other similar sized systems in most categories. The use of cycling and walking is also similar to other smaller Ontario cities.

Future Transportation System Performance – The travel forecasting methodology used in this project, with the TransCAD forecasting model and current demographic, travel and roadway network data, concluded that roadway network capacity deficiencies will increase from 14 sections now, to 23 sections by year 2021. This is expected primarily because of population growth in the north and east quadrants of the City, and employment growth in the south quadrant and beyond the City.

PART 3: FUTURE SYSTEM NEEDS

This project evaluated two main ways of addressing forecasted transportation system needs; 1) using selected Demand Management techniques determined to be achievable in Peterborough (see next page), and 2) using structural improvements to increase transportation capacity through selected roadway widenings, lane additions and extensions.

Alternative roadway networks were then developed comprising selected 1990 recommendations, committed projects and various combinations of other capacity improvements. These alternatives were evaluated using a consistent series of natural, social and economic criteria, and concluded that the best strategic approach for Peterborough should include travel demand reductions in association with selected roadway capacity improvements, including selected arterial widenings, collector extensions and partial Parkway, and long term east and west bypass corridor protection.

PART 4: TRANSPORTATION MASTER PLAN

TRANSPORTATION PLANNING STRATEGY

Transportation Planning Approach – as recommended in the December 2000 Transportation Plan Review:

- Follow An Overall Quality-of-Life Vision
- Use A Holistic Approach
- Address A Broad Transportation Market

Guiding Transportation Planning Principles – established for the 4 following planning elements, based largely on a wide range of public input:

- Mobility
- Economic Vitality
- Environment
- Affordability

Strategic Transportation Objectives:

1. Integrate Land Use/Transportation Planning
2. Apply Selective Transportation Demand Management (TDM) Measure to reach the following travel mode share targets:

<u>Mode</u>	<u>1996</u>	<u>2021 Target</u>
Auto Driver/ Passenger	86%	82%
Transit	5%	6%
Walk/Cycle	7%	9%
Other	2%	3%
Average Auto Occupancy	1.15	1.20_

3. Adjust Level-Of-Service (LOS) to a maximum peak hour LOS “D” to optimize existing transportation infrastructure capacity.
4. Increase the system’s carrying capacity, by strategically widening roads, extending roads, providing additional transit service and cycling capacity, and improving key traffic operations.

The Transportation Plan success is primarily dependent on; 1) maintaining Level-Of-Service, 2) increasing use of auto alternatives, and 3) improving the roadway system capacity where required. Land use management over the next 20 years represents additional ways of managing future transportation needs.

TRANSPORTATION DEMAND MANAGEMENT

Transit - Support the direct and indirect transit-supportive measures to increase the mode share of transit from 5% to 6% of all daily trips by 2021, through investment in service, marketing and use of transit-priority systems within the City’s roadway network.

Long-Term Parking - Manage the supply and cost of “Long-Term” parking (more than 2 hours) in the City core, both public and private, to reduce the competition between long-term (i.e. employee) parking vs. transit use.

Flexible Work Hours - Support employer programs, including those of the City and other larger employers, in setting more flexible work hours to extend the peak travel periods and reduce peak travel volumes.

Ride Sharing – Support ride-sharing programs to reach the goal of an average 1.2 occupants per vehicle by 2021.

Alternative Work Formats – Support telecommuting and other work-at-home formats.

Intensification - Continue to provide Official Plan policies and Zoning By-Law provisions with opportunities for more mixed use development forms, higher residential densities and infilling/redevelopment of land in appropriate locations within the City.

Alternative Modes - Require subdivision and site plan designs that are pedestrian, cycling and transit-supportive to achieve the mode share targets by 2021.

Since auto trip-making will still increase in Peterborough in response to City growth, Demand Management measures are NOT expected to eliminate the need for corresponding structural capacity enhancements (i.e. road widenings, extensions) to the transportation system.

If the Demand Management targets are not met in Peterborough by 2021, additional structural enhancements and related expenditures may be needed to maintain the maximum LOS “D” target for the City.

PEDESTRIAN SYSTEM

The main role of walking in the transportation system is to serve the first mobility level, namely Local Mobility. In Peterborough, walking can take on a more significant role in mobility around the City if pedestrian environments are well-designed and have an invitational quality. Land use planning of growth areas and “infill” areas can reflect an organization and mix of uses to encourage more walking with:

- greater housing densities with more residents living closer to neighbourhood destinations;
- mixed-use zones for services such as stores and professional buildings to be closer to residential areas, making it easier to access these facilities on foot;
- multiple-use zoning to allow residence/ business sharing of the same structure, reducing travel demands;
- buildings located close to the street for easier access by pedestrians, and parking areas with less walking in vehicle circulation areas;
- neighbourhood street management, including traffic calming techniques, making streets more inviting to walkers.

The design of basic transportation and related land uses can also be used to encourage walking. The following elements of the pedestrian environment should be designed carefully into the transportation system with respect to safety, security and comfort in order to encourage use:

- Sidewalks both sides of arterial and collector streets and at least one side of local streets.
- Pedestrian crossings.
- Active and Safe Routes to Schools (ASRTS).
- Pedestrians with Special Needs (sidewalks, street furniture, curb cuts and ramps, boulevards, drainage, route information).

BICYCLING SYSTEM

Urban cycling systems must serve two types of short and medium distance travel within and between areas of the community:

- **Recreational Cycling** - that attracts all types of cyclists for casual, health-oriented travel anytime during the week on continuous, linear off-road and on-road cycling routes.
- **Utilitarian Cycling** – is used mainly by experienced cyclists as a legitimate form of urban transportation, usually for work and school related trips, on a combination of off and on-road routes.

The City's Bikeway Plan, and Official Plan Schedule B (a) Bicycle Routes should be amended to update the planned system of on and off-road cycling routes planned in the City. For many reasons, sharing the roadway surface with vehicular and cycling traffic is actually the safest form of urban cycling.

Bikeway System Policies

- Formalize the existing Bicycle Transportation Advisory Committee to provide on-going input, monitoring and involvement on cycling-related matters in the City.
- Recognize the principle that, while every public roadway is available for cyclists, except Highway 7/115, only those routes shown on Peterborough Official Plan Schedule B(a) – Bicycle Routes are intended, promoted and maintained as “Designated” bikeways;
- Further bikeway and trail route development should be planned by combining and updating Official Plan Schedule B (a) – Bicycle Routes, with the 1999 Peterborough Bikeways Map to differentiate between off-road routes and the four types of on-road routes - Signed Route, Bike Lanes, Widened Shared Lanes and Paved Shoulders.
- Regardless of the type of bikeway, route design must consider that a bicycle is a vehicle and is governed by the rules of the road set out in the *Highway Traffic Act*.
- Take ordinary, reasonable care to ensure the design and maintenance of all “Designated” bikeways meet acceptable, current engineering criteria, standards and guidelines;
- Consider the needs of cyclists at semi-actuated and fully-actuated traffic signals.
- Support the Bicycle Transportation Advisory Committee in developing, facilitating and administering safe-cycling skills programs and “Share the Road” campaigns for both cyclists and motorists.
- Work with the Peterborough Police Department and OPP to address cycling issues in the area with a “selective traffic enforcement program” and share-the-road enforcement campaigns to make motorists and cyclists more aware of the Highway Traffic Act as it applies to cycling.
- Provide bicycle access and storage facilities at all City-owned buildings and facilities, and require similar facilities at all sports and recreation facilities;
- Provide for adequate on-street bicycle parking in the Downtown and Hunter Street BIA areas, and ensure that the parking does not obstruct transit loading areas, pedestrian movement and building access;
- Publish an up-to-date cycling and trails route map, and support community events that encourage cycling, such as “Bike Week” or “Clean-Air Commute Day”;
- Conduct surveys and research, or support such research by the Bicycle Transportation Advisory Committee and/or community groups on cycling activity in the City.
- Continue to negotiate the transfer to the City those abandoned rail lines required for rail-to-trail use as per Schedule B (a) of the Peterborough Official Plan, and rail-to-trail use in the neighbouring Townships as per their Official Plan policies;
- Work with the Bicycle Transportation Advisory Committee to develop a short term implementation priority plan of those cycling route improvements and/or additions required to 2006, including identification of partners and stakeholders;
- Develop a cycling system improvement and expansion master plan, and a short term implementation budget.

TRANSIT SYSTEM

Transit Supportive Measures - consist of policies and actions by the City to ensure that public transit service will continue to be an effective mode of travel within Peterborough, and will carry the targeted 6% of peak period trips by 2021. Key measures include:

- Plan new developments with an appropriate mix of land use and density in close proximity to public transit services, and street layouts and pedestrian circulation facilities to integrate with existing and future transit services.
- Encourage development of high quality pedestrian facilities to provide safe and convenient access to transit services.
- Provide priority in the maintenance of roads and sidewalks used by transit.
- Encourage the use of public transit to the downtown and other major activity centres by giving transit services and operations a high priority in the ongoing management of street facilities and the allocation of space in the available street rights-of-way.
- Develop and maintain parking policies, particularly in the downtown area, that encourage transit use and support efficient transit operations.
- Maintain adequate funding to ensure that affordable, reliable and convenient public transit services can continue to be provided.

Transit Service Development - to maintain and improve serviced, in response to City growth and changing customer needs, by:

- maintaining the desired level of coverage or walking distance to and from the service.
- providing reasonably direct travel to major activity centres.
- minimizing the need for transfers between routes for completion of desired trips.

Achieve these objectives as far as possible with the following recommended general strategies:

- Make only incremental changes to transit routes, as opposed to major network changes that impact many routes, and where there is a clear advantage to be realized in terms of service provision or increased efficiency.
- The Transcab service should continue to be used in areas with low ridership and for newly developing areas. As ridership develops, it may be replaced with fixed route service.
- Transit routes should be planned to avoid large, less flexible one way loops.
- Consideration should be given to interlining some routes through the downtown area to enable more travel between different areas of the City without the requirement to transfer between routes at the downtown terminal.
- Potential cross town routes between major activity centres should be investigated where sufficient customer demand exists, with consideration of possible disruption of current downtown oriented travel patterns, and the amount of additional transfer activity created.

Ongoing development of transit routes will require additional buses to be added periodically to the service to maintain regular 30 minute frequency of service, but this can be minimized by:

- use of Transcab to serve a small area beyond the end of a route.
- minor extensions that may be accommodated through other route changes that enable the overall route travel time to be maintained.
- interlining of a route with insufficient running time, with a route that has extra time, may enable the extension to be implemented with the same number of buses.
- in some situations where it will be necessary to add a bus to the service to enable a route expansion, options to ensure high utilization of the extra bus should be carefully reviewed.

Transit Route Planning - should provide a reasonable amount of recovery time within the schedule, to catch up to the schedule when unexpected incidents disrupt the normal bus running time. The current 30 and 60 minute headways are relatively easy for customers to remember, and enable transfers between bus routes to enable connections to all City areas.

For these reasons, the current service headways should be continued for the foreseeable future. If transit ridership increases significantly on some routes, 15 minute service or overload buses could be considered to provide sufficient capacity. Alternatively, if ridership drops significantly, 60 minute service could be considered, as this would still enable transfer connections. For the shorter routes (i.e. routes with 30 minute travel times), this would require interlining with another low ridership route to enable a saving of one bus.

Transit Service Times – should only be adjusted based on a guideline for core service hours, and then consider additional service where a specified level of ridership per unit of service can be achieved. The provision of express service to Trent University is an example where service is provided outside the normal hours of service due to a higher ridership response. In response to some of the concerns expressed by the customers, the following service improvement options are identified for further consideration:

- Provide Sunday service starting with Dial-A-Bus from 9:00 AM to 5:00 PM using 4 buses, with an increase in annual operating costs of \$60,000 to \$70,000.
- Extended Saturday dial-a-bus service to 11:15 PM to match weekday service would increase annual operating costs by \$8,000 to \$10,000.
- Extend regular weekday scheduled service to 10:00 PM.
- If the evening dial-a-bus service was replaced with the same level of service (i.e. 60 minute frequency) using the fixed route scheduled service, the 7 required buses would increase annual operating costs by \$140,000 to \$150,000. This would be a significant financial challenge for Peterborough Transit, and illustrates one reason for using dial-a-bus during these low demand periods. As a short-term measure, it is suggested that further efforts be made to help customers understand and better use the dial-a-bus service.

Public Input Into Transit Planning – There is a high level of community interest in maintaining and improving transit services in the community. Continuing customer input in transit service development should be encouraged by systematically monitoring customer complaints, suggestions and comments, and establishing a forum for regular customer discussion of improvements and proposals.

Community Transit Service - The overall demand for transit service to outlying communities is not high, but the current lack of any service significantly restricts access to a variety of services and economic opportunities for the County residences of these areas. If funding from an appropriate body were available to support community transit service, Peterborough Transit is the agency best positioned to deliver this service in an efficient and sustainable manner using a variety of service delivery options, such as contracting for a Transcab service similar to Peterborough's current Transcab service.

Coordination of School Services - Overall efficiencies may be achieved through coordination of yellow school bus and Peterborough Transit services. As an alternative to operating yellow school bus service, the School Boards could consider providing students with transit tickets or passes. The Boards and Peterborough Transit should investigate yellow bus services provided within the transit service areas to determine where greater overall efficiencies could be achieved. The main criteria in these investigations should be to achieve an overall efficiency for public taxpayers.

Service Guidelines & Performance Targets

Routes:

1. Plan bus routes and Transcab service within a 500 metres walking distance of over 95 % of the developed areas of the City.
2. Provide travel between most City areas with no more than one transfer between routes.

Frequency of Service:

3. Provide service at least every 30 minutes during weekday peak periods (7:15 AM - 9:00 AM and 3:30 PM - 6:00 PM) and at least every 60 minutes during other service hours.
4. Increase frequency only on routes where ridership levels create on-bus crowding.
5. Consider reduced frequency of service during peak periods on routes where the minimum performance target of 10 passenger trips per revenue hour is consistently not achieved.

Hours of Service:

6. Provide core hours of service on all scheduled routes from 7:15 AM - 10:00 PM on weekdays and from 7:45 AM - 9:00 PM on Saturdays.
7. Only provide service outside these core hours on routes where it will consistently achieve a ridership level in excess of 10 passenger trips per revenue hour, and the overall revenue cost ratio is maintained above the 58% target.

Performance Targets:

8. The overall transit system should be operated such that the ratio of transit revenues to operating costs exceeds 58%.
9. On routes where the productivity consistently is below 10 trips per revenue hour, consideration should be given to reducing the frequency of service or the hours of service.
10. New services or service expansion should only be considered where the minimum productivity of 10 trips per revenue hour is likely to be met and overall system revenue/cost does not fall below 58 %.
11. New services or significant service expansions should be implemented for at least 9 months and then evaluated to assess ridership performance. Where the minimum performance targets are not met after 12 months, consider discontinuing the service.
12. An evaluation of the transit services should be conducted annually to assess the ridership performance of each service component.

Transit Priority Measures – should be considered in Peterborough to give buses preferential treatment over other vehicles on public roadways, thereby allowing transit to compete more favourably with private auto use, including:

- transit priority features incorporated at signalized intersections.
- traffic signage or geometric improvements at critical congested locations to enable buses to bypass traffic queues.
- adequate provisions to enable buses to operate efficiently into and out of bus stops.

Transit Fleet & Facility Investment – To serve a 100,000 person service area with the targeted 6% mode share for transit, the increased service would have an additional net cost to the City of \$1.4 million per year. Higher mode splits of say 10% or 15% would cost an additional \$3.9 or \$4.2 million per year respectively. Also, part of this additional cost to reach the 6% target would be the purchase of 17 new buses over the next 20 years, requiring the City's annual fleet replacement fund to be increased by %635,000. :

Specialized Transit Services - are provided to enable persons with disabilities and mobility restrictions to have similar levels of mobility as are provided by the conventional transit service. Currently, the demand for Peterborough's parallel service (i.e., Handi-Van service) for persons unable to use the regular transit services is relatively high in comparison to other similar sized cities, reflecting the City's population characteristics, the various services available within the City and a relatively high level of service provided. The demand for these services can be expected to grow at a faster rate than the population at large in the future.

This will require a continuing service strategy and parallel service summarized as follows:

- Specialized Transit Service Strategy is to continue the current directions of Peterborough Transit with regular service being upgraded over time to full accessibility, while a parallel service is maintained for those persons unable to utilize the regular services.
- Parallel Service - with the continuation and refinement of a parallel service to supplement the fully accessible regular services. The coordination of operations and vehicles between the regular service and the parallel service should also be continued.

ROADWAY NETWORK

Network Planning Objectives

- address existing roadway capacity and operational deficiency needs, including associated socio-environmental impacts;
- accommodate increased traffic volumes due to area growth to the 100,000 population level (City and neighbouring Townships);
- accommodate increased public transit and non-motorized transportation within the roadway network;
- retain an effective Level-Of-Service for regional and local mobility, and;
- address the public's need for the safe and efficient movement of people and goods.

Network Planning Principles

1. Maximize Use of the Existing Infrastructure through adjustment of roadway classifications, plus selected capacity and operational improvements.
2. Maintain LOS & TDM Performance Targets – with structural roadway widenings, extensions and other capacity enhancements. If these targets cannot be met, further structural improvements may be needed.
3. Implement A Package Of Improvements - to address an area, link or site-specific deficiency. Any decision to not implement any single component of this Plan's "package" of recommendations should be studied in terms of resulting impacts on the entire network.

Roadway Network Development Plan – 2021

The preferred roadway network development plan for this Transportation Plan is shown on Figure 4.3 based on three sources:

Revised Roadway Classification System – by expanding Arterials into High, Medium and Low Capacity Arterials, and Collectors into High and Low Capacity Collectors to better define the actual functional roles of City streets based on their physical capabilities and limitations;

Base Future Network – formed by committed roadway projects included in the City's capital budget and approved Draft Plans of Subdivision, plus selected components of the 1990 Transportation Plan that have been determined to be still required and reflect the new Transportation Planning Principles, and;

Preferred Alternative Network – resulting from the alternative network evaluation process, owing to the preferred network's ability to maximize transportation LOS, while minimizing socio-cultural and natural environmental impacts compared to the other network alternatives.

The Long-Term Roadway Network Development Plan on Figure 4.3 includes the strategic network development projects listed here:

Note #1 – Parkhill Road Bridge: The Class EA conducted for the Parkhill Road Bridge reconstruction in 1999 forecast that the two-lane bridge would require widening at or after 2008.

Note #2 – Partial Parkway Concept: Traffic data analysis has concluded that needed roadway capacity and operations can technically be achieved to 2021 with a partial Parkway concept, with

no new roadway extension across Jackson Park, or major extension south of Sherbrooke Street to Clonsilla Avenue. However, selecting the preferred design solution requires more detailed evaluation, as part of the Municipal Class Environmental Assessment process, of potential:

- roadway widenings up to 6/7 lanes on Chemong, Parkhill and/or Clonsilla;
- Existing JacksonCreek bridge widening;
- Double left turn lanes
- Capital costs, property acquisition costs, and;
- Socio-Environmental impacts.

Phases:

C – Current Term to 2005 (76,000 people)

S - Short Term to 2011 (to 80,000 population)

M - Medium Term to 2021 (to 90,000 population)

L - Long Term >2021 (>90,000 population)

Note #1 – Park hill Road Bridge:
The Class EA conducted for the Park hill Road Bridge reconstruction in 1999 forecast that the two-lane bridge would require widening at or after 2008 .

Note #2 – Partial Parkway Concept :
Traffic data analysis has concluded that needed roadway capacity

PHASE

CAPACITY ENHANCEMENTS:	C	S	M	L
1. 3 lane Charlotte/Sherbrooke, Monaghan to Water	X			
2. Reconstruct Armour Rd to: a) 4 lane Medium Capacity Arterial from Parkhill Rd. to Rotary Trail; b) realign as 2 lane High Capacity Arterial from Rotary Trail to Nassau Mills Rd, and; c) widen to 4 lane High Capacity Arterial from Rotary Trail to Nassau Mills Rd		X X		X
3. Widen Chemong Rd to 5 lane High Capacity Arterial: a) The Parkway to Parkhill Rd. b) Milroy Dr to proposed Parkway c) 3 rd Line (CR 19) to Lindsay Rd (CR 1)	X	X X		
4. Widen Water St to 4 lane High Capacity Arterial from Nassau Mills Rd to north of Woodland Dr.			X	
5. Widen Parkhill Rd. to 4 lane Low/Medium Capacity Arterial from Park St. to Television Rd. (Note #1)				X
6. Widen Lansdowne Rd W. 5 lane High Capacity Arterial: a) Spillsbury to Brealey b) Brealey to west City Limit		X	X	
7. Widen Lansdowne Rd as High Capacity Arterial: a) 5 lanes Park St. to River Rd. S. b) 6 lanes River Rd. S. to Ashburnham Dr c) 7 lanes Ashburnham Dr. to Television Rd.			X	X X
8. Widen River Rd/Bensfort Rd to 4 lane Low/Medium Capacity Arterial – Neal Dr to Lansdowne Rd E			X	
9. Widen Nassau Mills Rd to 4 lane High Capacity Arterial Water St to Armour Rd, improve as 2 lane High Capacity Arterial Armour to University Rd.				X
10. Widen Television Rd. to 4 lane High Capacity Arterial from Lansdowne St to Parkhill Rd.				X
11. Improve University Rd. to 2 lane High Capacity Arterial from Warsaw Rd to Nassau Mills Rd.				X
12. Improve Fairbairn St and 3 rd Line as 2 lane Low/Medium Capacity Arterials from Towerhill Rd to Cumberland Ave.			X	
13. Widen The Parkway to 6 lane High Capacity Arterial from Clonsilla south to Highway 7/115				X
MAJOR OPERATION IMPROVEMENT (see Note #2):				
14. At The Parkway/Parkhill and Parkhill Rd/Monaghan Rd intersections		X		
15. At The Parkway/Sherbrooke/Clonsilla intersections		X		
NEW ROAD EXTENSIONS:				
16. Extend The Parkway: a) as 2 lane Medium/High Capacity Arterial from Water St. to Fairbairn St. b) widen to 4 lane Medium/High Capacity Arterial from Water St. to Chemong Rd.	X			X
17 Extend The Parkway as 2 to 4 lane High Capacity Arterial - Parkhill Rd. to Sherbrooke St. (Note #2)	X			
18 Extend Ashburnham Dr. a) as 2 lane High Capacity Collector McFarlane Ave. to Parkhill Road East b) widen Ashburnham Dr to 4 lane Medium Capacity Arterial from Lansdowne St to Maria St		X X		
19. Extend Maria St. a) as 2 lane High Capacity Collector from Walker Ave. to Television Rd. b) improve to 2 lane High Capacity Arterial from Ashburnham to Television Rd		X		X
20. Extend Television Rd to University Rd as 4 lane High Capacity Arterial				X
21. Extend 3 rd Line 2 lane High Capacity Arterial from Hilliard St to Water St (alignment to be determined)				X
22. Widen CountyRoad 28 (Lakefield Rd) as 4 lane Medium Capacity Arterial from City Limit to Lakefield				X

Capital Cost Estimates

The preceding list of recommended capital roadway development projects in the Peterborough area is estimated to cost a total of \$54.93 million over the twenty years to 2021, or an annual investment of \$2.75 million.

Downtown Roadway Network

The challenge of downtown transportation planning is to balance and blend vehicular and pedestrian traffic and streetscape. Traffic operating at the right speed and volume can add the

vibrancy, excitement and “hustle-bustle” needed in the downtown. Conversely, if a downtown roadway system cannot accommodate traffic demands at an acceptable LOS, this needed vibrancy and excitement can be replaced with congestion and frustration.

Forecasts and analyses conducted in this study clearly show that the poor peak period traffic conditions on Water and Aylmer Streets today will worsen, and expand to George and Bethune Street by the long term. This Plan concludes that even with the recommended short and long term roadway network improvements and TDM initiatives in Peterborough, the Water/George couplet provides the only reasonable through and local traffic routes in the core. Therefore, this one-way couplet should be maintained to serve growing north-south traffic needs in the central city, and avoid traffic congestion conditions that would hamper downtown business vitality.

One-way streets should also be matched with traffic operations measures to control vehicle speeds through the core, ranging from signal synchronization through to speed-oriented traffic calming. In the longer term, development of recommended north-south arterial roadways to the east and west of the downtown will provide alternative through routes around the core.

TRUCK MOVEMENT MANAGEMENT

According to a commercial goods movement survey conducted as part of the Transportation Plan Update, the south industrial areas and the downtown currently generate the most truck movement (45% and 17% respectively). Of the remaining non-residential areas of the City, the suburban institutions tend to generate the least amount of commercial goods traffic.

Continued use of Vehicle Restrictions with Time Restrictions of truck movements is recommended in the City, with commercial vehicle movement available on all designated arterial and major collector roadways unless specifically restricted, plus time restriction during night hours on selected routes in proximity to sensitive land uses.

Where chronic problems arise with undesirable truck movements on non-truck routes (i.e minor collector and local residential streets and/or during night hours), then a phased two-step action approach is also recommended:

1. Initiate an active and visible enforcement of fines during an extended period of time, and use of a public complaint reporting system to the Police Department.
2. If chronic problems cannot be solved by the first action, more intrusive, restrictive traffic calming techniques along the affected non-truck route may be recommended.

NEIGHBOURHOOD TRAFFIC MANAGEMENT

Recommended traffic calming guidelines:

1. Consider a Traffic Calming Review Process where 3 traffic criteria are met:
 - a) an unreasonable portion of daily traffic on the street is through traffic (50% +);
 - b) an 85th percentile speed of 10 to 15 km/hr over the posted limit;
 - c) collision history demonstrates a driver behaviour problem.
2. No traffic calming should be used on designated highways, arterial roads and major collector roads planned and designed to carry higher volumes of through traffic at higher speeds. Exceptions may be considered;
3. Traffic calming should be considered only in response to resident request(s) (i.e. petition), or at the initiation of the City;
4. Any potential traffic calming application should first consider peripheral arterial roadway network conditions (LOS) in either causing neighbourhood traffic problems, or solving such problems, and;
5. Traffic calming should be applied within the context of a comprehensive neighbourhood traffic management plan.

PARKING MANAGEMENT

A relationship exists between higher than average transit ridership to a downtown, and the amount and cost of long term downtown parking. This can influence the use of public transit and other auto alternatives in a city. In the case of Peterborough, the following parking related recommendations are made for the supply, management and pricing primarily of employee long-term parking, or “all-day storage”, in the downtown (designated Central Area), as well as other employment-related nodes and major institutional traffic attractions throughout the City:

Control On-Street Parking Supply - where a roadway needs added capacity during peak hours and/or in peak directions, consider restricting on-street parking in the critical direction or period;

Revise Off-Street Parking Supply Standards – by continuing to offer reduced off-street parking requirements and cash-in-lieu-of parking where redevelopment is encouraged and/or parking space is physically limited, and consider applying “maximum” off-street parking standards in the Zoning Bylaw for specific areas of the City;

Use Flexible Parking Requirements - that reduce on-site parking supply in return for development-specific TDM actions;

Central Area Parking Pricing - should treat public and private parking as a limited resource. Parking revenue should be used primarily for parking management to control how the public and permit parking supply is used. Consider providing a maximum 2-hour on-street parking limit using Parking Duration Parking Equipment. The first ½ hours of parking in a public lot may also be free for short term parkers, but the price of all day storage may be increased. Also consider increasing fines in line with other cities.

REGIONAL CONNECTIVITY

At a 100,000 area population, The Parkway (full or partial) will be more beneficial and justifiable for the urban area than a west bypass arterial along 3rd Line to Brealey Drive.

The Television Road/University Road alignment is the most effective long term north-south arterial alignment east of the river, with the Ministry of Transportation’s (MTO) planned east bypass highway serving primarily through traffic, not local traffic needs.

Planning flexibility for MTO’s east bypass highway and a west bypass should be designated through Long Term Roadway Corridor Protection Areas.

CH 28 (Lakefield Rd) should be planned for widening to 4 lanes from the City to Lakefield in the 10-20 year timeframe, and included in a regional transportation plan for the County.

These conclusions were reached based on established City and area growth patterns, and associated travel demands showing that the vast majority of Peterborough area travel is focused on the urban area using internal travel routes. The conclusion is that insufficient traffic can be diverted to peripheral routes to address internal traffic problems within the urban area.

PART 5:IMPLEMENTATION PLAN

OFFICIAL PLAN INTEGRATION

Sections 2.1 and 5.1 of the City’s Official Plan should be amended, plus the County and neighbouring Township Plans as required, with new transportation goals, objectives, roadway classification system, LOS standards, transit targets, bicycle system provisions and traffic impact study requirements recommended in this Plan.

PLAN MONITORING & REVIEW

This Transportation Plan must be regularly reviewed to ensure it meets the transportation needs of the City and surrounding municipalities by:

- Preparing an annual coordinated report on “The State of the Transportation System” by all involved departments and jurisdictions;

- Coordinate all City and County annual transportation system improvement budgets for all modes to maximize effectiveness;
- Use the 2000 Transportation Tomorrow Survey travel data to confirm study data;
- At 5 year intervals, starting with approval of the next City of Peterborough Official Plan update, conduct a statistically valid household travel survey, and;
- Update this Transportation Plan in conjunction with each Official Plan update.

CURRENT TERM ACTION PLAN TO 2005

Some important examples of current term Plan recommendations to 2005 include:

- Complete the Official Plan amendments
- Prepare a Bicycling & Trails Master Plan
- Initial Sunday Dial-A-Bus service and extend Saturday scheduled service time
- Conduct a Transit Route Review
- Initiate Class Environmental Assessments for The Parkway and 3-lane Charlotte St. and Sherbrooke St. from Monaghan to Water
- Revise/expand the City's Traffic Calming Guidelines
- Update parking violation fines
- Support and participate in a regional transportation plan prepared by the County.