Final Report

Kitchener Integrated Transportation Master Plan

TRANSPORTATION'S ROLE IN A COMPLETE AND HEALTHY KITCHENER

June 2013
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Executive Summary:
Implementation Measures

The following provides a summary of the main recommendations made in the Transportation Master Plan (TMP) to implement strategic-level management and operational improvements to the City of Kitchener transportation system over the next 20 years. Reference should be made to the TMP text for more information on each implementation measure.

1. Travel Safety

1.1 Continue to use collision data maintained by the Region of Waterloo from all Regional roads and signalized intersections, and Regional Police Services Motor Vehicle Collision Incident Reports on all public roadways. Data from collisions on city streets should continue to be used in in-service road safety reviews and road safety audits.

1.2 Use In-service safety reviews and road safety audits to identify factors on city streets that are responsible for excessive collisions or could result in future safety problems. In-service safety reviews can be conducted as part of larger studies such as EAs and Transportation Impact Studies. Road Safety Audits (RSA) can become part of the design process and used to avoid creating or compounding road user safety problems associated with a road being constructed or reconstructed.

1.3 Continue use of the Region’s Safety Countermeasures Program to enhance safety on Regional roads and at signalized intersections through research, pilot studies, collision analysis and application of countermeasures ranging from flashing beacons and roundabouts to pedestrian refuges and adjusted traffic signal timing. The same should be done for unsignalized intersections and City of Kitchener streets where appropriate. It is imperative that where such safety countermeasures are applied on city streets, they must be limited only to those that will impact the roadway environment positively.

2. Active Transportation

2.1 Walking

2.1.1 Implement the Multi-use Pathways and Trails Master Plan and Pedestrian Charter as city-wide pedestrian strategies for the pedestrian network and pedestrian environment to improve connectivity, safety and integration of walking facilities with land use and transportation components.

2.1.2 Develop a new policy for sidewalk infilling in existing urbanized areas and sidewalks in new development areas based on the principle of “Complete Streets”. Complete Streets means that streets are designed to accommodate all modes, including walking and cycling. Therefore, creating Complete Streets mean no gaps are left in the sidewalk network except where physical barriers prevent construction of a sidewalk.
2.1.3 Continue the City's Sidewalk Replacement Program on an annual basis focusing on the creation of new sidewalks and walkways, as well as the improvement of existing ones to expand and improve a pedestrian-friendly environment.

2.1.4 Implement more attractive streetscapes that include higher-order pedestrian amenities such as street furniture, vegetation, lighting and wayfinding. New streets and reconstruction projects should include improvements to pedestrian infrastructure such as wider sidewalks where warranted by pedestrian demand and where right-of-way width is available, safe pedestrian crossing amenities that conform to established warrants and accessibility elements including safer pathway road crossings and on-street connections as detailed in the Multi-use Pathways and Trails Master Plan.

2.1.5 Establish pedestrians as a priority in developments and encourage the highest level of pedestrian-oriented design and amenities through the planning review process of new developments and redeveloped sites. Pedestrian-supportive infrastructure, multi-use pathway and sidewalk design standards from the City's Urban Design Manual and Multi-use Pathways and Trails Master Plan should be implemented where possible, and new developments should require pedestrian circulation plans to ensure connectivity with the surrounding pedestrian network, barrier-free accessibility throughout, and convenient and comfortable amenities that encourage high pedestrian activity.

2.1.6 Encourage active travel to/from schools and continue working with local school, student and neighbourhood groups to identify barriers, safe routes and other opportunities to walk to and from schools while highlighting the broader community benefits of reduced greenhouse gases and active, healthy residents.

2.1.7 Ensure year-round maintenance programs for the pedestrian network and review the City's sidewalk maintenance and snow-clearing practices to ensure sidewalks and primary multi-use pathways are well-maintained and cleared in a timely manner during the winter in order to improve safety for all pedestrians.

2.2 Cycling

2.2.1 Implement the Kitchener Cycling Master Plan (KCMP) and Multi-use Pathways and Trails Master Plan plus the Regional Cycling Master Plan Update, including phased implementation of the bikeway network of signed routes, local bicycle priority streets, shared-use lanes, paved shoulder bikeways, bicycle lanes, and cycle tracks, as well as pathways and trails identified in the Multi-use Pathways and Trails Master Plan. The City will phase implementation of the cycling network over the next 20 years, and will continue to work with Regional partners and the Kitchener Cycling Advisory Committee to identify implementation issues or potential changes to the network to capture changes in travel patterns, key destinations, new opportunities, and barriers or constraints.

2.2.2 Plan for bicycle-friendly communities within Kitchener by developing and updating policies, guidelines and programs to include bicycle parking where people live, work, shop and play. Similar to pedestrian strategies, developments should make cyclists a priority through safe and direct connections to the cycling network, bicycle-friendly site design of right-of-way and building elements, and higher-order bicycle facilities that increase people's willingness to cycle as a mode of transportation and recreation activity.
2.2.3 Integrate cycling into municipal practices and consider the needs of cyclists in transportation projects. New streets and reconstruction/resurfacing projects will follow the preferred cycling infrastructure prescribed in the TMP. As noted in the KCMP, the City will routinely consider, and actively encourage the Region and neighbouring municipalities to consider, the needs of cyclists in all phases of roadway and traffic management projects.

2.2.4 Further integrate cycling with other modes and provide for bicycle facilities at major transit connectors, stations and stops to encourage multi-modal cycling and transit as a viable mode of transportation for longer trips. Cycling in Kitchener will be an integral part of the multimodal transportation system. The KCMP recommends collaboration with the Region of Waterloo to integrate cycling with Grand River Transit and future rapid transit including connectivity of routes, stations and stops; bicycle parking at transit facilities and on transit vehicles, and bikeways along key transit corridors.

2.2.5 Encourage active transportation for school trips by identifying and addressing barriers to cycling to and from schools. The KCMP recommends the City continue to partner with the Region of Waterloo Public Health and School Boards on Active and Safe Routes to School events, curriculum, school travel planning, and traffic and safety improvements in school catchment areas. In addition, guidelines and programs to assist schools in providing more bicycle parking facilities can promote cycling among students, faculty and staff.

2.2.6 Promote and support cycling with partnerships with the Region and other stakeholders through programs that communicate the health and social benefits of cycling, encourage cycling as a means of getting around the City and as a recreational activity, and promote safety for all users – drivers, cyclists and pedestrians alike.

2.2.7 Ensure maintenance and snow clearing of cycling routes through the review and update of street maintenance and snow-clearing practices to better accommodate year round cycling along all bikeways and trails.

3. Transportation Demand Management

3.1 Expand employer TDM programs in Kitchener through existing TDM tools and services including membership in the TravelWise program to adopt carpool ridematching, subsidized transit passes, guaranteed-ride home and outreach programs to encourage City staff to choose sustainable modes of travel to and from work. TDM efforts and outreach should be expanded beyond City staff and beyond the downtown area to encourage major employers throughout the City to adopt these efforts.

3.2 Have the city’s TDM Coordinator continue to work closely with the Region and employers, especially in downtown Kitchener, to adopt TravelWise programs, help implement other TDM strategies such as telework and carbon tracking, and provide guidance on TDM-friendly site design of developments.

3.3 Support carsharing in the City through outreach and promotional events to increase awareness, and provisions for preferred parking for carsharing vehicles to promote these services, facilitate their growth and aid their long-term viability in the City and the Region.
3.4 Integrate TDM strategies into site planning and development approval processes to provide for TDM-supportive measures in developments and encourage sustainable transportation choices. The City should develop a TDM checklist to help review and evaluate development applications, City of Kitchener transportation-related projects and projects of the Region and Province. This TDM checklist can include a requirement to prepare TDM plans as part of transportation impact studies for new developments and major transportation projects.

3.5 Work with Region and local partners to engage residents through individualized marketing to promote and encourage sustainable modes of transportation for all types of trips. As highlighted in the City's 2010 TDM plan, individualized marketing is aimed at targeted populations or groups and tailors the TDM strategies and programs based on the needs, opportunities and willingness to use other modes of travel.

4. Neighbourhood Traffic Management

4.1 Review and update where required the City's Traffic Calming Policy focusing on three areas of possible improvements; 1) the traffic calming review process extending from a request for traffic calming through to study and design completion, 2) confirmation of warrants required to initiate traffic calming studies and 3) the type of traffic calming measures that will be considered for use in the City of Kitchener and where they can be used.

5. Parking Supply and Management

5.1 Parking Enterprise

The following measures are targeted to assist in the implementation by the City's Parking Enterprise.

5.1.1 Assess and facilitate redevelopment opportunities of surface parking lots and continue to develop city-owned parking structures and garages at key locations to meet demand.

5.1.2 Implement parking recommendations from the City's Long-Term Parking Strategy report, including continued annual increases in monthly parking rates, setting monthly parking rates at about three times the cost of a monthly transit pass, monitor long-stay parking demand and explore public-private partnerships in the City Centre for future municipal parking facilities:

5.1.3 Link TDM efforts with economic development to encourage downtown employees to use alternative modes of transportation and encourage business to implement TDM programs for their employees.

5.1.4 Coordinate Parking Enterprise and TDM initiatives together to create maximum benefits and avoid competition between the two programs (i.e. provision of parking supply versus encouraging use of alternative modes.

5.1.5 Regional parking strategies such as the development of a strategy for park-and-ride facilities in conjunction with the planned LRT stations, support of
TravelWise (the regional TDM program), and others as outlined in the Region of Waterloo Parking Management Strategy.

5.2 Zoning Bylaw Parking Provisions

5.2.1 Review and update Zoning By-law to include revised parking standards for both the downtown and the city as a whole that more accurately reflect future modal split targets and encourage alternative modes of travel. Consider the parking policy recommendations in the RTMP both region-wide and rapid transit-related, and recommendations of the city’s Urban Design Manual for reduced parking requirements near rapid transit corridors and stations.

6. Goods Movement

6.1 Plan for an effective and sustainable goods movement network in Kitchener that provides direct, convenient and connected access to existing and future employment lands, industrial and commercial developments, and other major goods and service centres. A strategic goods movement network of designated corridors will also reduce impacts to local residential communities, traffic congestion, noise and air emissions, and improve safety and the efficiency of goods and service delivery.

6.2 Improve connections and access to provincial highways and regional arterials as part of a sustainable goods movement network. As noted in the Region’s TMP, trucking activity on Highway 401 and Highway 8 are significant and improving access “is required to maximize accessibility to existing and future industrial and employment areas and to reduce congestion levels on the freeway system, which impedes overall trucking efficiency.”

6.3 Establish regular communication channels and continue to work with stakeholders such as the goods movement industry and major industries/businesses to direct higher volumes of goods movement to the network, and identify local issues and opportunities to improve the efficiency of the network.

6.4 Support more sustainable and innovative practices for local goods movement to reduce impacts on neighbourhoods and local streets, including alternative modes of transport and vehicle technologies for short-length and local deliveries, restricting delivery times by heavy vehicles outside of peak commuter time periods and exploring alternatives to direct pick-up and drop-off goods movements.

6.5 Improve efficiency of the goods movement network through use of intelligent transportation systems applied mainly to provincial highways and Regional roads that benefits from such systems by providing real-time information to industries and truck drivers to improve traffic flows and reduce travel times, as well as improving goods movement data collection programs used to analyse and improve travel patterns and overall safety.

6.6 Work with the Province and Region on higher-level policies and strategies to improve goods movement within the realm of land use and transportation.
planning. This includes support for MTO's Freight-Supportive Guidelines and the goods movement-related recommendations in the Region of Waterloo TMP.

7. Traffic Control

7.1 Maintain existing traffic control warrants as it is not recommended that the City of Kitchener pursue the development of formal warrants beyond those that are already in place.

8. Master Plan Implementation

8.1 Phase these Implementation Measures over the 0-5-, 5-10 and 10-20 year time horizons based on the phasing plan included as Exhibit 6.1 in the TMP in response to the City's established Community Strategic Plan values, and in consideration of implementation partners.

8.2 Apply a Performance Measures Framework described in Section 6.3 of the TMP with indicators to gauge the effectiveness of the city's transportation policies, programs and infrastructure improvements in achieving its transportation goal, objectives and vision.

8.2 Budget required capital investments for roadway capacity enhancement projects (widening, extensions), traffic calming projects, Active Transportation infrastructure, TDM programs and parking infrastructure in the order of an average $5.5M/year to 2017, $4.25M/year to 2022 and $3M/year to 2031.

8.3 Prioritize City roadway capacity enhancements for: 1) new north-south arterial capacity in South Kitchener south of Huron Rd. (Strasburg Road extension) in the planned growth area between Fischer-Hallman Rd. and Homer Watson Blvd., 2) Huron Rd. widening, 3) Strasburg Rd. widening between Block Line Rd. and Bleams Rd., 4) Block Line Rd. widening between Strasburg Rd. and Homer Watson Rd. and 5) Wellington St. N/Shirley Ave. corridor widening along with specific intersection improvements identified in the TMP and implemented by the Ministry of Transportation.

8.4 Implement the TMP through updated Official Plan policies for an integrated transportation system) with active transportation, transit-oriented development, City streets, goods movement, neighbourhood traffic management (traffic calming), Transportation Demand Management (TDM) and parking.
1. Planning Context

1.1 Report Organization

This report is organized into six (6) sections as follows:

Section 1 outlines the study purpose, goals and objectives, planning integration and planning context;

Section 2 summarizes the community input provided to the study from public consultation events;

Section 3 describes the planning background to this Kitchener Integrated Transportation Master Plan (TMP), including the status of the existing transportation system, and how the City is expected to grow to 2031;

Section 4 presents the strategic transportation planning alternatives to 2031, the resulting transportation needs and opportunities;

Section 5 describes the role of transportation in a complete and healthy Kitchener, including:

- Streets;
- Active Transportation;
- Transportation Demand Management;
- Neighbourhood Traffic Management and Calming;
- Parking Supply and Management;
- Goods Movement; and,
- Growth Areas.

Section 6 recommends how to implement the recommendations of the TMP.

1.2 Purpose & Scope of the Integrated Transportation Master Plan

Purpose

The basic directions for transportation planning in the City of Kitchener were initiated with Council's adoption of the city's Strategic Plan in 2007, and Regional Council's adoption of the Regional Transportation Master Plan (Moving Forward 2031) in 2011. The next stage is to agree on an overall plan to achieve these transportation directions over the next 20 years in Kitchener. The need for this plan was identified in the Kitchener Growth Management Strategy (KGMS 2009) under Goal 3 to Ensure Greater Transportation Choice, and Action 2 that states:
“Following the completion of the Regional Transportation Master Plan, the City should identify the specific implications for Kitchener in a City Transportation Master Plan should include TDM, cycling and walkability. Link the plan to the KGMS and new Official Plan.”

Preparing Kitchener’s TMP started from this strategic recommendation and extends to the City’s new Draft Official Plan.

The City of Kitchener has also adopted the following transportation-related master plans to guide decision-making. The purpose of this TMP is to “integrate” these plans with related transportation policies dealing with parking, traffic calming, cycling, multi-use pathways and trails, transportation demand management, strategic street improvements and urban design to create one single city transportation plan.

- Southwest Urban Area Community Master Plan / Rosenberg Secondary Plan – Adopted August 2011, under appeal;
- Transportation Demand Management Plan – Adopted in Principle February 2011;
- Kitchener Cycling Master Plan – Approved August 2010;
- Multi-use Pathways and Trails Master Plan – Approved March 2012;
- Kitchener Pedestrian Charter, April 2005
- Parks Strategic Plan – Adopted October 2010; and
- Parking Strategic Plan – Approved January 2011.

The TMP defines and prioritizes an integrated transportation system that is supportive of all modes of travel under the jurisdiction of the City of Kitchener, partnered with the Region of Waterloo. This includes walking, cycling and public transit. The TMP also directs how to continue maintaining and improving the City’s street network to move people and goods, but with reduced dependence on single occupant vehicles. This will be done in conjunction with Region of Waterloo initiatives that support this balance of transportation modes in the City.

Master Planning Scope

According to the Municipal Class Environmental Assessment (EA) process, master plans are:

“long range plans which integrate infrastructure requirements for existing and future land use with environmental assessment planning principles”.

To do this, the scope of the TMP is:

- strategic system-wide planning, and not focused on specific projects that will undergo further analysis through the Municipal Class EA process;
- providing the need and justification for specific transportation infrastructure projects by satisfying the first two phases of the Municipal
Class EA process by addressing 1) Problems and Opportunities, and 2) Alternative Planning Solutions;

- future-oriented over a 20 year planning timeframe with the Kitchener Official Plan to 2031;
- multi-modal to address all modes of transportation under the jurisdiction and responsibility of the City. In the case of Kitchener this includes sidewalks, trails, bikeways and City roads;
- refers to transportation planning experienced in other cities of similar size and context, but ultimately is a plan custom-made for Kitchener;
- integrates transportation and city planning by recommending how to comply with Provincial, Regional and City growth management strategies;
- provides a set of actions on how the city can meet its transportation needs and vision over the next 20 years. It is not based on any one specific transportation project;
- achievable within the context of the municipality it plans for socially, practically, financially and politically;
- consultative by providing opportunities for agencies, stakeholder groups and the general public to contribute to the plan development; and
- flexible to change over its 20 year planning timeframe through regular reviews and updates to respond to changing conditions and needs.

1.3 Transportation Planning Context

The City of Kitchener is the largest municipality in the Region of Waterloo, a dynamic metropolitan economy and community supporting high levels of research and development. By 2031, Kitchener is expected to have approximately 315,000 residents, an increase of about 90,000 over the population in 2011.

The economy is also rapidly expanding, due largely to the innovative firms emerging in clusters, and dynamic redevelopment and intensification especially in Downtown Kitchener. It is a highly competitive, urban centre that supports a high standard of living with innovation and capital investment.⁷

Changes in the city’s demographics, as well as living, traveling and spending habits will result in new urban travel demands. The aging population will contribute to these transportation changes. These changes represent the geographic and social context for the Kitchener TMP.

This planning context is described in a number of recent strategic and community planning sources with examples provided as follows:

⁷ City of Kitchener 2007-2010 Economic Development Strategy
“Transportation Demand Management – Aspiring to reduce traffic congestion, commuting times, greenhouse gas production and smog, municipalities are beginning to assess new ways of offering transportation services. For Kitchener a potential new rapid transit system would redefine our urban structure...”


“Over the coming years, Kitchener has an opportunity to define itself as a cosmopolitan mid-sized city that combines the best of a small town quality of life with the amenities of an urban centre.”

Source: Compass Kitchener, 2005 community surveys

“Kitchener is always a great place to be and a community that achieves an optimal balance of economic prosperity, environmental sustainability and social vitality, grounded securely in the values and culture of this community.”

Source: A Plan for a Healthy Kitchener 2007 to 2027: Community Strategic Plan

“An aspect of big city transit systems that was consistently noted as beneficial was less catering to and reliance on cars as the primary mode of transportation. Increasing and improving bicycle lanes, paths, and trails were supported by several respondents, as was increasing pedestrian paths and sidewalks.”

Source: Development Analysis Consultation Community Survey input, Environics, 2005

“Many respondents mentioned the benefits of increased walkability of small towns – meaning the ability to walk to most amenities required on a daily basis – as something to continue promoting in Kitchener. Walkable neighbourhoods are critical to a sense of community.”

Source: Development Analysis Consultation Community Survey input, Environics, 2005

Citizens are realizing that there are significant environmental, health and economic benefits to developing a diverse transportation network. As Kitchener grows and concerns increase regarding the effect of air quality, climate change, traffic congestion and shortages of fuel, residents are increasingly turning to other transportation options, such as walking, cycling or taking public transit. They are also demanding that more funding and resources be allocated toward making these options more appealing and available to everyone in our community.

Source: A Plan for a Healthy Kitchener: Strategic Plan for 2011-2014

1.4 Kitchener’s Transportation Goal & Objectives

One of the important steps in developing this TMP was to establish the transportation planning goals, objectives and long-term vision for Kitchener’s transportation system over the next 20 years. Four sources of information were used:

- The project Terms of Reference;
• The City of Kitchener 2009 Citizens Survey conducted by Environics, including the subsequent Who Are You Kitchener?;\(^2\)

• Kitchener: A View Towards the Future prepared by Environics for the City and Compass Kitchener in 2005. Values-based information generally does not change over long periods of time and is a representative sample of Kitchener residents as confirmed by the census profile; and

• Meetings held with City of Kitchener Advisory Groups during November 2010.

Goal

The main goal of this TMP is to:

“plan a transportation system that reduces dependence on the private automobile in Kitchener by 2031.”

To achieve this goal, viable alternatives to continued private auto use must be provided in Kitchener over the next 20 years, in response to local community context and needs. The alternative travel modes must provide levels of service (i.e. travel cost, time, comfort) that compete effectively with auto use.”

This goal still recognizes that the automobile will remain the dominant mode of transportation in the City and Region by the year 2031, but with reduced growth in automobile use and increased use of alternative modes of transportation in Kitchener.

Objectives

To meet this goal, this TMP was developed to address six (6) planning objectives:

1. Develop guiding transportation policies for subjects ranging from traffic control (traffic signals, roundabouts) through to parking requirements;

2. Provide planning direction to the year 2031 with short term, medium term, and long term goals;

3. Provide transportation planning direction for enhanced alternative modes of transportation (walking, cycling, and transit);

4. Develop an integrated transportation system that supports Regional bus and planned rapid transit;

5. Describe how to develop a city that is less reliant on cars; and

6. Support City of Kitchener and Region of Waterloo growth management strategies in a sustainable manner.

\(^2\) Who Are You Kitchener? Is a follow up engagement process that the City undertakes following every Environics survey to solicit additional details and information based on the feedback we receive through Environics. The 6 pillars of information include: Quality of Life, Leadership and Community Engagement, Diversity, Development, Dynamic Downtown, and the Environment. Only Environment, Development and Quality of Life have been referenced for the TMP vision and goals because the others do not have much specific reference to transportation.
1.5 Kitchener’s Transportation Vision 2031

The timeframe of the TMP is 20 years to 2031, the same as the new Draft Official Plan (OP). By 2031 the new Draft OP envisions a city of approximately 315,000 people, an increase of about 90,000 residents since 2011. Growth will be based on a Plan for Healthy Kitchener that is more walkable, more transit supportive and ultimately more “urban” while still striving to keep a high quality of life.

By 2031, the City of Kitchener will have an integrated municipal transportation system with the following features:

- A balanced and efficient transportation system that moves people with a range of modal options including walking, cycling, the Region’s Grand River Transit and automobiles;

- This system is strategically located within and connected to the Region of Waterloo and southern Ontario transportation systems to move people and goods locally, regionally, provincially, nationally and internationally;

- Transportation contributes to the quality of life in Kitchener as a cosmopolitan mid-sized city;

- With a range of modal options, travel in Kitchener is less reliant on gasoline powered autos and contributes more to climate change mitigation and adaptation;

- Infrastructure and services are provided for all modes of travel within and through the City to manage congestion and other traffic problems, and to promote public health and safety;

- The Regional public transit system has enough service options, and operates in transit-supportive land use patterns and Transit-Oriented Development forms so that it competes effectively with private automobile use in the City for those who want or need to use transit;

- The City’s integrated Active Transportation network links walkable/bikeable communities that reduce automobile reliance, and integrates community trails, bikeways and Scenic-Heritage Roads with neighbourhood development;

- Transportation infrastructure and services in Kitchener provides physical mobility for everyone throughout the City, including those with mobility limitations;

- The intensification policies of the City and Region are supported by transportation services as part of more intensified City and Region growth management plans;

- In Kitchener, a well-informed public understands transportation policies, plans and management through effective communications from the City
and Region, and actively participates in a transparent transportation planning process;

- The City supports the economic and social growth of Kitchener in part with a well-funded transportation system that moves people and goods for a wide range of businesses and industries; and

- In Kitchener, local, regional and provincial transportation systems involving walking, cycling, rapid transit, highways, commuter rail and freight rail extend out from a strong, vibrant downtown.

1.6 Kitchener’s Integrated Planning Process

Kitchener’s strategic direction for growth and development starts with the integration of a number of its strategic plans and related policies. Those that reference transportation in Kitchener are noted as follows:

**A Plan for a Healthy Kitchener: Strategic Plan 2011-2014**

The Strategic Plan combines and addresses the following six (6) main community priorities:

1. Quality of Life
2. Leadership & Community Engagement
3. Environment
4. Diversity
5. Development
6. Dynamic Downtown

According to the Strategic Plan, the community context recognizes the significant environmental, health and economic benefits to developing a diverse transportation network. It is expected that as Kitchener grows and concerns increase regarding the effects of air quality, climate change, traffic congestion and shortages of fuel, residents will increasingly turn to other transportation options such as walking, cycling or taking public transit. The Plan then expects that in response to these concerns, residents will demand more funding and resources for alternative forms of transportation.

As a result, the City’s Environment priority includes strategic direction to move forward in implementing the cycling master plan and Transportation Demand Management Plan. Other strategic directions include ensuring new neighbourhoods are walkable communities, and that the City does more to support alternative transportation options that connect neighbourhoods and promote public transit.

The Strategic Plan is implemented through City plans and policies, including this TMP which support the community priorities for transportation wherever applicable.
A Plan for a Healthy Kitchener: 2007-2027

This document forms a basis for the City’s Strategic Plan 2011-2014, and provides a single strategic approach to delivering results that are essential to the health and vitality of the city now and into the future. It is based on the three overlapping healthy community characteristics of social, environmental and economic well-being shown here.

Transportation-related priorities of the Healthy Community plan include:

- physical accessibility improvements in City facilities;
- a balanced approach to replacing and/or expanding infrastructure including roads to support current and anticipated growth;
- develop a Transportation Demand Management strategy to support efficient, environmentally friendly transportation policies and programs for the future.

Kitchener Strategic Plan for the Environment

This living document guides the development of the City’s current and future environmental initiatives, and identifies objectives and priorities for action in key areas of focus. It does not specifically address transportation as an element of the local environment, except in the context of air quality. It provides a high level strategic foundation for all transportation recommendations and contributes to improving environmental conditions.

Kitchener Growth Management Strategy – Planning for a Healthy Kitchener

This is one of a number of strategic documents that support the City’s Strategic Plan by providing a long-term framework on where and how future residential and employment growth will be accommodated. It reflects Ontario’s Places to Grow Growth Plan with a community vision that includes convenient access to public transportation and options for safe, non-motorized travel. One of its specific goals is to ensure greater transportation choice by implementing a Transportation Demand Management plan, transportation master plan and cycling route installation plan.

“Kitchener tomorrow will be more walkable, more transit-supportive and ultimately more ‘urban’ while still striving to keep a high quality of life.” Kitchener Growth Management Strategy, January 2009

City of Kitchener Official Plan (2009)

Policies and schedules are included in the City’s current Official Plan (OP) dealing with transportation, including cycling and pedestrian movement, public transit, the road system, road widening and parking. Each has been reviewed in light of the new strategic directions, policies and plans to ensure that the TMP can be effectively implemented through the OP as updated.
City of Kitchener Draft Official Plan: A Complete and Healthy Kitchener

The City's current Official Plan (OP) is being updated and brought into conformity with provincial and regional legislation that has been introduced or revised in recent years. Provincial legislation includes the Provincial Policy Statement and the Places to Grow Growth Plan for the Greater Golden Horseshoe. Regional policies consist of the new Regional Official Plan (ROP currently under appeal before the OMB) and Regional Transportation Master Plan.

The City's new Draft Official Plan (OP) (2nd Draft, May 27, 2013) was prepared in association with a number of related studies, plans and input, including this TMP to bring it into conformity with Places to Grow and the Regional Official Plan. The TMP, Cycling Master Plan, Multi-use Pathways and Trails Master Plan and Transportation Demand Management Plan are all contributing parts of the new Official Plan. None of these planning documents are statutory in nature, and so are implemented at the direction of City Council. Implementation is required only when the appropriate directions and recommendations of the TMP are included as part of the OP.

1.7 Other Municipal TMPs in Waterloo Region

City of Waterloo Transportation Master Plan

The City of Waterloo approved in principle their Transportation Master Plan (TMP) on April 18, 2011. The Plan provides the context and justification to implement specific minor (Schedule B) transportation EA projects such as intersection improvements, and major (Schedule C) transportation infrastructure EA projects such as road widening and extensions proposed by the City of Waterloo.

The Plan will be used to guide development of those components of the City's transportation system that the City is responsible for, namely City roads, bikeways, trails and sidewalks. It also addressed other transportation-related City responsibilities involving transit-supportive land use planning, transportation demand management, traffic calming, parking and street/sidewalk maintenance.

The Plan combines all of these transportation elements into a new and innovative “Complete Street” approach where all streets in the City of Waterloo are to be planned, designed, operated and maintained to enable safe access for all users.

The Kitchener TMP makes reference to the Waterloo plan for inter-city planning of City road, bikeway and community trails.

City of Cambridge Transportation Plans

The City of Cambridge prepared a comprehensive 20 year Cambridge Area Transportation Study (CATS) in 1994, and this was augmented in 2002 with the Detailed Transportation Network Review. Both were referenced in developing the Kitchener TMP regarding transportation system extensions south from
Kitchener. Cambridge has also developed trail and cycling plans that have been integrated into Kitchener’s Cycling Master Plan and Community Trails Master Plan.

Transportation Planning in the Townships

The City of Kitchener is bordered by the Townships of Wilmot to the west, North Dumfries to the south and Woolwich to the east. None of these rural municipalities currently have a comprehensive transportation master plan, but their Official Plans do include transportation-related policies and schedules of their roadway classifications. Their strategic plans also identify transportation-related priorities involving, for example, local traffic congestion and the future of transit service.

The Kitchener TMP has considered these and other Township transportation strategies and policies as they may relate to the City’s transportation system over the next 20 years.

1.8 Provincial / Regional Planning Context

Provincial Policy Statement

The Provincial Policy Statement (PPS) was issued by the province in 2005. The PPS sets out the policy direction to guide land use planning and development in Ontario that support three key areas: building strong communities, wise use and management of resources, and protecting public health and safety.

The PPS calls for safe, energy efficient transportation systems that facilitate movement of people and goods and support projected needs. It highlights the importance of connectivity of transportation systems, integration of transportation and land use planning to support sustainable transportation choices, and efficient use of existing infrastructure.

The PPS requires that in planning matters, including development of a Transportation Master Plan, decisions “shall be consistent with” policy statements issued under the Act. In the case of the Kitchener TMP, the following Provincial Policies should be supported:

- Policy 1.1: Managing and Directing Land Use to Achieve efficient Development and Land Use Patterns – The TMP should support the growth directions and land use patterns developed for the City’s official Plan. This includes ensuring that necessary transportation infrastructure is and will be available to meet current and projected needs;

- Policy 1.1.4: Rural Areas in Municipalities – The TMP should avoid the planning of unjustified and/or uneconomical transportation infrastructure expansion in rural areas;

- Policy 1.6.5: Transportation Systems – Transportation systems should be planned to “facilitate the movement of people and goods, and which are appropriate to address projected needs”. The strategic planning direction set for the TMP will be based in part by the Growth Management Plan for the efficient use of the City’s existing and planned transportation infrastructure. The TMP should also consider the
connectivity of its transportation infrastructure with adjacent municipalities and the integration of transportation modes where appropriate and necessary. Strategies and plans should also be provided in the TMP to “minimize the length and number of vehicle trips” and to “support the development of viable choices” for public transit and active transportation in the City; and,

- Policy 1.6.6: Transportation and Infrastructure Corridors – Recommendations should be made in the TMP to identify and protect required transportation corridor improvements and additions in the short, medium and long term.

Places to Grow

The Government of Ontario released in 2006 the Places to Grow: Growth Plan for the Greater Golden Horseshoe. It includes the City of Kitchener and the Region of Waterloo as part of the GGH. The plan provides the framework to guide effective planning and better growth management in the area as population increases to 3.7 million in 2031. Places to Grow guides decisions on transportation, infrastructure planning, land-use planning, urban form, housing, natural heritage and resource protection in order to promote a high quality of life, economic development and strong communities.

Places to Grow provides for intensification areas and targets within the built-up area to accommodate future population and employment growth, and build more compact, transit-supportive communities. In addition, the plan identifies 25 urban growth centres as focal areas where more intensified residential and employment growth would take place, and would support major transit infrastructure investments. Downtown Kitchener is one of the designated urban growth centre in Places to Grow. It is expected that this area will achieve a minimum gross density target of 200 residents and jobs per hectare by 2031.

The new emphasis on an intensified urban form and hard urban edges will induce travel pattern changes in the City, especially for home-work trips. The allocation of population and employment growth in the City and Region is now influenced by Places to Grow and has been reflected in the travel demand forecasting model used in the TMP.

More specifically, general transportation infrastructure policies in Places To Grow that are incorporated into the Kitchener TMP to support growth include:

3.2.2.1 The transportation system within the GGH will be planned and managed to:

a) provide connectivity among transportation modes for moving people and for moving goods

b) offer a balance of transportation choices that reduces reliance upon any single mode and promotes transit, cycling and walking

c) be sustainable, by encouraging the most financially and environmentally appropriate mode for trip-making

d) offer multi-modal access to jobs, housing, schools, cultural and recreational opportunities, and goods and services
3.2.2.3 The transportation system within the GGH will be planned and managed to -

a) provide connectivity among transportation modes for moving people and for moving goods

b) offer a balance of transportation choices that reduces reliance upon any single mode and promotes transit, cycling and walking

c) be sustainable, by encouraging the most financially and environmentally appropriate mode for trip-making

d) offer multi-modal access to jobs, housing, schools, cultural and recreational opportunities and goods and services

3.2.2.5 Municipalities will develop and implement transportation demand management policies in official plans or other planning documents, to reduce trip distance and time, and increase the modal share of alternatives to the automobile.

Metrolinx Regional Transportation Plan

Metrolinx, the regional transportation authority for the Greater Toronto and Hamilton Area (GTHA), approved its regional transportation plan, The Big Move, in November 2008. The 25-year plan includes a comprehensive regional transit network, as well as potential rail extensions to regions outside the GTHA. Specifically for the Region of Waterloo, the plan identifies inter-regional rail connections to Kitchener-Waterloo via the Georgetown rail corridor and to Cambridge via the Milton rail corridor. The GO Rail service from Kitchener to Union Station commenced in December 2011.

Regional Transportation Master Plan: Moving Forward 2031 (RTMP)

The RTMP, approved in 2011, provides the Regional policy foundation for many elements of the Kitchener Plan, including:

- Strategic Direction for the regional transportation system;
- Transition to a transit oriented network; and
- Regional road network plans and priorities.

More specifically, the RTMP provides policy support for the following elements of the City’s transportation system that have been incorporated into the Kitchener Plan:

- Integrating land use and transportation planning;
- Parking;
- Transportation Demand Management;
• Active transportation; and
• Funding strategies.

Regional Official Plan (ROP) 2009

The new ROP will direct growth and land use in the Region of Waterloo over the next 20 years, and will influence travel demands across Kitchener in where and how this growth takes place. More specifically, it provides the policy direction for the provision of:

• Transportation System Planning;
• Context-Sensitive Transportation Corridor Design Guidelines;
• Cycling Master Plan;
• Pedestrian Master Plan;
• Traffic Impact Study Guidelines;
• Development application and site plan approval in accordance with the Transit-Oriented Development Policies;
• Use of abandoned rail lines;
• Commuter parking facilities; and
• Regional Transit System.

The ROP also includes policies associated with rail service, the Region of Waterloo Airport and Regional Road network which are not within the jurisdiction of local municipalities including Kitchener. Mapping of the regional transit network, regional road corridors and regional cycling routes are included in the ROP. The Kitchener TMP references and integrates ROP policies on these elements of the City’s transportation system that are the responsibility of Waterloo Region.

Please note: As of June 1, 2012, the ROP in its entirety was under appeal before the Ontario Municipal Board. Until such time as some or all of the appeals have been resolved, the new ROP is not considered approved and reference must be made to the previous September 2006 Consolidated ROPP and subsequent amendments.
Regional Rapid Transit Plan

On June 15, 2011, Region of Waterloo Council approved a Rapid Transit Plan based on Light Rail Transit (LRT) technology. This LRT Plan stems from the earlier 2003 Regional Growth Management Strategy to redirect urban growth in the Region to more intensification especially along a central transit corridor extending from north Waterloo to south Cambridge.

Stage 1 of the LRT plan will extend from the Conestoga Mall in Waterloo to the Fairview Park Mall is south Kitchener. An adapted Bus Rapid transit service (aBRT) will extend further south to the Galt City Centre in Cambridge on Ainslie Street.

The Kitchener TMP recognizes this rapid transit service and the impacts that it is expected to have on transit ridership, auto traffic growth and associated roadway capacity needs.

1.9 Status of the Master Plan under the Environmental Assessment Process

The Municipal Engineers Association Municipal Class Environmental Assessment Process (2007) (Class EA) recognizes that it is sometimes advisable to plan municipal infrastructure as part of an overall system, rather than as specific projects such as a roadway improvement project. The planning provisions of the Class EA describe the scope of a master plan as being broad and comprehensive, usually including analysis of an entire system such as a municipal transportation system, in order to develop a framework for future works and developments. The master plan is not typically prepared to address site-specific problems such as traffic operations at individual intersections or in specific neighbourhoods.

The Kitchener TMP was prepared in conformance to the master planning process of the Class EA. To help expedite these types of transportation projects, the Class EA provides alternative approaches for the preparation of master plans, each designed to address at least Phases 1 and 2 of the Municipal Class EA process.

The Kitchener TMP conforms to the Class EA description of a master plan using Approach #1 from the Class EA document. Following this approach, Phases 1 and 2 of the Municipal Class EA process were concluded by broadly establishing the problems and opportunities associated with the City’s transportation system over the next 20 years, and selecting a preferred transportation planning solution to address these needs and opportunities.

An approved TMP provides the context for the implementation of specific minor Schedule B road and traffic management projects such as intersection improvements recommended in this TMP (see Exhibit 4.5), and major Schedule C transportation infrastructure projects such as the selected widening of those sections of city arterial roads recommended in this TMP (see Exhibit 4.16 and 4.17). In other cases, the TMP either reflects or confirms Schedule C road extensions recommended in related project-specific Schedule C Class EAs or Secondary Plans. As such, the TMP satisfies Phases 1 and 2 of the Class EA
process, once again by establishing the problem or opportunity that such projects address, and selecting the preferred transportation planning solution.

More detailed investigations will be required for specific Schedule C projects recommended in this TMP. Schedule B projects will require the filing of the project file for public review, while Schedule C projects will have to complete Phases 3 and 4 of the Class EA process prior to filing an Environmental Study Report (ESR) for public review.

In both cases, the public review period includes a Part II Order appeal mechanism, where an individual can make a written request to the Minister of the Environment to extend the project to a higher level of EA investigation.

Note: A Part II Order request can only be made on a project-specific Schedule B or C EA, and not on a Transportation Master Plan on which such a project is based.

1.10 Master Plan Implementation Mechanisms

The basic mechanisms to implement the recommendations of this Kitchener TMP are:

- The Kitchener Official Plan which provides the policy basis for transportation system planning and actions;

- The Kitchener 10 Year Capital Forecast for Road Construction, Reconstruction & Rehabilitation. The City’s Development Charges Background Study (Hemson 2009) includes a net capital cost forecast for road construction and related works annually from 2009 to 2018;

- The specific transportation plans for cycling and multi-use pathways developed by the City; and

- Incorporate TMP recommendations where applicable into Secondary Plans and Community Master Plans.

1.11 Project Direction

The technical direction for the preparation of this TMP was provided by a Project Team with the following members:

- John McBride, Director Transportation Services, City (Chair)
- Ken Carmichael, Manager of Transportation Planning, City
- Barry Cronkite, Transportation Planning Project Manager, City
- Brandon Sloan, Manager Long Range Planning, City
- Tina Malone-Wright, Senior Planner, City
• William Seeth, Landscape Architect, City
• Greg McTaggart, Manager Infrastructure Asset Planning, City
• Jeff Wilmer, Deputy CAO – Community Services Department, City
• Pauline Houston, Deputy CAO – Infrastructure Services Department, City
• Councillor Kelly Galloway-Sealock, City
• Paula Sawicki, Manager Transportation Planning, Region of Waterloo

Consulting Team
• Don Drackley, IBI Group (Consulting Team Manager/ Transportation Planner)
• Brian Hollingworth, IBI Group (Transportation Planner)
• Laura Cham, IBI Group (Transportation Planner)
• Scott Johnston, IBI Group (Travel Demand Forecasting)
2. Public and Stakeholder Consultation

The following public and stakeholder consultation was conducted as part of the TMP development, in response to the master planning requirements of the Municipal Class EA Process.

2.1 Mandatory Consultation

1. Notice of Study Commencement, January 29, 2011
2. Public Information Centre #1, February 8, 2011

2.2 Advisory Committee Outreach Consultation

1. Website Initiated, June 2010
2. Safe and Healthy Community Advisory Committee, November 2, 2010 and May 2, 2013
3. Compass Kitchener Advisory Group, November 3, 2010 and June 1, 2013
4. Cycling Advisory Committee, November 9, 2010 and April 9, 2013
5. Mayors Advisory Council for Kitchener Seniors (MACKS), November 15, 2010 and April 15, 2013

The initial November 2010 meetings with these advisory groups provided an introduction to the TMP and opportunity to discuss issues and expectations. The April/May 2013 meetings presented the draft TMP implementation measures and requested feedback and support. In the 2013 meetings, each committee supported the strategic direction of the TMP, and the implementation measures included in the Executive Summary to this report. In addition, the following committee motions were passed in support of the TMP:
“The Downtown Action Advisory Committee support the implementation of Transportation Master Plan (TMP) as presented.” April 25, 2013

“Compass Kitchener finds that the prioritization of walking and cycling, as a desired mode of transportation, within the City of Kitchener Transportation Master Plan, is directly in line with the strategic direction and priorities of the citizens of Kitchener, and Compass Kitchener supports the principles and action items proposed within” May 1, 2013.

“That the Safe and Healthy Community Advisory Committee endorse the draft City of Kitchener Transportation Master Plan as its major components align with the Committee’s Terms of Reference.” May 2, 2013

The main focus of public engagement generated by the project was on subjects such as active transportation and the future of public transit in the City, including the proposed LRT. This input has been valuable in confirming some of the City’s transportation issues and expectations, especially from the stakeholders and City advisory committees who have provided input.

More generalized contact with the public was provided through the study notices, Public Information Centre, advertisements and the project website accessible to all. The level of response to this general project information was low, with most public input being generated on more specific transportation issues such as cycling, trails and public transit.

2.3 Public Information Centre

This informal drop-in Public Information Centre held on February 8, 2011 provided the public with an introduction to the TMP project. Information presented to the public included general transportation conditions for motorists, transit users, cyclists and pedestrians throughout the City, and alternative strategies to manage the City’s existing and future transportation challenges that are becoming increasingly important to all residents, including:

- Rising cost of gas;
- Growing concerns about travel delays, congestion and public safety;
- The ability of transportation to support the City’s economic growth and vitality;
- Demands placed on the transportation system by City and Regional growth; and
- The impacts of all of this on air quality, neighbourhoods and natural areas.

Information on alternative ways that the City can address these and other transportation challenges was also provided focusing on:

- Roads;
- Traffic Management;
• Travel Choices; and/or,
• Travel Costs.

The following information was presented at the PIC, and 55 public responses were received mostly addressing specific locational traffic, pedestrian and cycling issues.

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<thead>
<tr>
<th>1. Welcome Board</th>
<th>9. City of Kitchener Cycling Master Plan cont’d</th>
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<tr>
<td>2. Purpose of the PIC and TMP</td>
<td>10. Key Local Transportation Themes</td>
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<td>3. Transportation Vision, Goals and Objectives</td>
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<tr>
<td>8. City of Kitchener Cycling Master Plan</td>
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A detailed summary of public comments for attendees of the PIC is available in the PIC Summary Report located in the project file. Comments received from the 55 individuals who completed the PIC comment sheet were not intended to provide a random cross-section of the community and are therefore not considered statistically valid. However, it is interesting to note that those who said there are traffic issues in Kitchener identified only Regional roads and provincial highways as the location of these issues.

### 2.4 Advisory Committee Input

#### Safe and Healthy Community Advisory Committee

Safe and Healthy Community Advisory Committee advises council and staff on policies, programs and services offered directly by or in conjunction with the city that relate to the health of the city with a focus on community safety and crime prevention. Highlights of their input include concerns about:

- Access into and out of the City of Kitchener;
- Reliance on the automobile with two-car families;
- Cyclists need safe routes that avoid arterial roads;
- More trail connections and an east-west trail connection are needed.

#### Compass Kitchener Advisory Group

Compass Kitchener is a committee of citizens which have come together to engage the community in developing and achieving a shared vision for the future. This group represents a diverse group of population segments, and their input on the Kitchener transportation system was requested to help develop a
Local transportation concerns of note include:

- Limited option to get in and out of the city and Highway 401 connection;
- Congestion seems to be limited to major arterial (Regional) roads;
- More people will be inclined to use transit if the core areas are infilled with residential development;
- Drivers need to learn to co-exist with cyclists on the road; and
- We need to create walkable communities for the aging population. These communities need to be accessible in all aspects.

**Cycling Advisory Committee**

The Cycling Advisory Committee provides advice to City Council and staff on the design, development and delivery of bicycle policies, programs and facilities to promote and enhance cycling in the city. They noted:

- Annual funding for cycling infrastructure is limited and needs increased investment;
- Create “Complete Streets” in Kitchener that include cycling;
- Road surface deterioration and growing traffic volumes and speed deter on-road cycling; and
- An overall cycling issue into the future is that the bike route network has many gaps, barriers and heavy traffic volumes that discourage use by cyclists.

**Mayors Advisory Council for Kitchener Seniors**

The MACKS provides a link for local seniors to the mayor and council on issues related to adults 50+ in the community. Some highlights of their input include:

- The three main transportation issues facing the city are; 1) growing traffic volumes, 2) transit service and 3) sprawling urban form and the resulting need to travel longer distances in the City;
- The aging population will have changing mobility needs over the next 20 years, for example involving driving and walking; and
- Growth in motorized traffic volumes and speeds will create more pressure for traffic calming, but some traffic calming measures impact emergency response time.

**Downtown Action Advisory Committee**

The Downtown Advisory Committee advises council on matters that impact the downtown, including: environment and physical image; arts, culture, heritage and entertainment; marketing and business development; media and community relations; safety; housing; neighbourhood and community development; transportation and parking. Their input included:

- The three main transportation issues for the city area; 1) growing traffic volumes, 2) lack of bike lanes in the downtown and 3) the capability of
some Regional roads to adequately accommodate existing and future traffic volumes; and

- The downtown needs to be accessible to all users by all modes. For example, more rail-to-trail projects should be planned in the downtown. Bicycle parking in the downtown should be provided in parking hubs strategically located in the core area.

**Economic Development Advisory Committee**

The committee advises council and staff on a broad range of economic development matters. They noted:

- The three main transportation issues facing the city are: 1) growth in traffic volumes including traffic from neighbouring cities, 2) alternatives are needed to the use of the private auto which is especially important for an aging population and 3) provision of an adequate parking supply in the downtown; and

- Surveys conducted of local industries (Corporate Visitation Surveys) show that traffic conditions are an issue for business, as well as transit scheduling to better serve the workforce.

**Kitchener Youth Action Council**

The KYAC is a group of young volunteers between the ages of 14 and 24 who work with the City of Kitchener acting as a voice for Kitchener youth and raising awareness of issues that affect youth. KYAC members work to ensure that Kitchener is a fun, safe place for youth to live, and to recognize the contributions youth make to our community. They noted:

- Transit headways, punctuality and amount of service on busy routes are important to youth;

- Road design, surface conditions and proximity to motor vehicles deter many youth from cycling on roads; and

- Road design in Kitchener often makes it easy to speed.

**2.5 Summary of Main Consultation Messages**

Those members of the public, stakeholder and agency representatives who provided input into the development of this TMP though the PIC, advisory committee meetings, the project web site or by contacting Project Team representatives offered the following main messages for transportation master planning in the City of Kitchener:

- Make Regional Grand River Transit a more viable alternative for more people in and around Kitchener in part by having the City plan for transit supportive development;

- Remove the limitations to cycling throughout the City;

- Enhance infrastructure for alternative modes of travel;
• Manage the impacts of seasonal weather on alternative modes of travel;

• Address the availability of funding to implement the TMP;

• Provide adequate lighting for travelers (all modes);

• Manage the negative and positive impacts of peak period traffic congestions;

• Recognize the impacts of traffic congestion on neighborhoods and the natural, built and socio-economic environments;

• Plan for and address the impacts of LRT in the City;

• Manage land-use implications and impacts on all modes of transportation;

• Find ways to reduce motorist speeds in the City;

• Find ways to maximize the people carrying capacity of the City’s roadway network without road widening;

• Identify and address existing and projected safety concerns;

• Preserve major arterial road corridors for the efficient movement of vehicles; and

• Incorporate transportation demand management incentives into the development application and approval process.

In general, the public and stakeholder response to the TMP project were very positive to the shift towards more transportation choice and the emphasis on active transportation. Some of the outcomes of the consultation process clearly show a desire for:

• An integrated network that allows people to walk, cycle and take transit;

• Ensuring walking and cycling routes connect to other routes in the network;

• Reduced traffic congestion on some key roadway and intersections in the City; and

• Provision of safer crossing opportunities of busy street.
3. The Kitchener Context

3.1 Kitchener Today

Kitchener today is the largest community in Waterloo Region with a population today of approximately 224,000 people. This compares to 190,400 residents in 2001, an increase of 33,600 over the last ten years and growth of about 20%.

As shown on Exhibit 3.1, from a transportation perspective the city is strategically served by a network of provincial highways, urban expressway, regional arterials and city streets shown on Exhibit 3.2, all within close proximity to Highway 401 connecting to the rest of the province, the Trans-Canada Highway and the Niagara and Windsor/Detroit gateways to the USA.

Exhibit 3.1: Kitchener in Waterloo Region

The City is also served by Grand River Transit with conventional and iExpress bus service, and a well developed community trails and bikeways system.
Exhibit 3.2: The Existing Kitchener Major Road Network with Community Trails
Key Challenges

The biggest challenge facing transportation in Kitchener today is the high rate of private auto use and its impact on traffic volumes, speeds, travel times and transportation costs. This auto dependency is shown by transportation characteristics collected by the Transportation Tomorrow Survey (TTS) in 2006 compared to 1996 in Waterloo Region. In Exhibit 3.3, travel characteristics from the 2006 Census are included just for the City of Kitchener.

### Exhibit 3.3: Typical Waterloo Region Household Travel Characteristics

<table>
<thead>
<tr>
<th></th>
<th>1996 TTS</th>
<th>2006 TTS</th>
<th>2006 Census Kitchener</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Household Size</td>
<td>2.7</td>
<td>2.7</td>
<td>-</td>
</tr>
<tr>
<td># of Vehicles per Household</td>
<td>1.5</td>
<td>1.6</td>
<td>-</td>
</tr>
<tr>
<td>Trips per Day</td>
<td>6.6</td>
<td>6.4</td>
<td>-</td>
</tr>
<tr>
<td>Mode of Travel:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto Driver</td>
<td>70%</td>
<td>71%</td>
<td>77%</td>
</tr>
<tr>
<td>Auto Passenger</td>
<td>18%</td>
<td>17%</td>
<td>10%</td>
</tr>
<tr>
<td>Transit</td>
<td>3%</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>Cycling/Walking</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Median Auto Driver Trip Length (km)</td>
<td>3.9</td>
<td>4.3</td>
<td></td>
</tr>
</tbody>
</table>

Source: Transportation Tomorrow Survey, 1996/2006, 2006 Census City of Kitchener Community Profile

These existing Kitchener travel characteristics from the 2006 Census clearly illustrate the auto dominance in the existing transportation system at 87% of all daily trips, followed by 6% by transit and 6% by active transportation. The city’s challenge for the future is to compare these mode splits to the 2031 region-wide targets set by the new RTMP. This includes 70% of PM Peak Hour trips by autos (driver and passenger) across the entire Region which is a significant reduction compared to today, augmented with significant increases in transit and active transportation to 17% and 12% respectively.

From the feedback collected from city committees and the public during the preparation of the TMP, other prevalent transportation challenges that Kitchener is facing today are:

- Growing traffic volume and related traffic congestion on major streets, most notably Victoria Street, Weber Street, King Street and Fairway Road (all Regional roads);
- Neighbourhood traffic intrusion, volume and speed often resulting from congestion on peripheral arterial streets;
- Limited access to Highway 401 (for example, two interchanges serving almost 360,000 people in the Kitchener/Waterloo area north of Highway 401);
- Need for active transportation (cycling, walking) funding support;
- Increased travel distance, time and cost to new suburban neighbourhoods;
- Grand River Transit service and introduction of the Light Rail Transit Corridor;
- Changing travel and mobility needs of the aging population; and
- Need for an adequate parking supply in the downtown.

3.2 Kitchener in 2031

The timeframe of the TMP is 20 years to 2031, the same as the new Draft Official Plan (OP).

By 2031 the new Draft OP envisions a city of approximately 315,000 people, an increase of about 90,000 residents since 2011. Growth will be based on a Plan for Healthy Kitchener that is more walkable, more transit supportive and ultimately more “urban” while still striving to keep a high quality of life. Some of the characteristics of Kitchener in 2031 that will influence transportation in the city include:

- Balanced growth with an emphasis on intensification particularly in the Urban Growth Centre (downtown), major transit station areas, nodes and corridors;
- The use of existing infrastructure including transportation will be maximized;
- Residents will have convenient access by various travel modes;
- New development will be compact, efficient and vibrant, and optimizing the use of existing and new infrastructure; and
- Residents will be provided with an interconnected and continuous natural transportation system.
4. Strategic Transportation Planning

4.1 Alternative Strategies

The forecasting and planning of future transportation system needs in Kitchener over the next 20 years was developed for this TMP using two different transportation scenarios.

Transit-Oriented Future with Strategic Road Improvements (Base)

This Transit-Oriented Future is based on the approved Regional Transportation Master Plan and so is also referred to as the Base scenario. It includes a balanced program of investment in both transit and needed street improvements. These strategic road improvements will be implemented to support transit, for example by providing transit priority at signalized intersections and bus lanes to support people and goods movement and address deficient street capacity where required.

The Transit-Oriented Future includes improvements to conventional transit, iExpress transit and operation of LRT service extending from north Waterloo to the Cambridge City Centre along the central transit corridor. This and other transit service improvements over the next 20 years are intended to shift more local trip-making away from single-occupant autos and increase the transit mode share in Kitchener, particularly for trips to Downtown Kitchener.

The preferred Transit-Oriented Network selected for the RTMP is expected to result in an increase in the Region’s transit mode use from 6% PM Peak Hour trips in 2016 (compared to 6% of overall trips in Kitchener according to the 2006 Census), to 17.3% by 2031. This will require a transition from the basic level of transit service in Kitchener today, to a higher quality service and the adoption of supportive land use, active transportation, parking and Transportation Demand Management (TDM) policies. These policies are integrated into this TMP, have been reflected in the Region’s Official Plan and will be considered as part of the City’s preparation of the new Official Plan.

Business As Usual (BAU) Future

In this alternative scenario, existing travel mode shares and associated local travel characteristics in Kitchener would remain basically unchanged over the next 20 years. Transit would continue to serve about 6% of trips on a typical day for Kitchener households. The private auto would be used for about 87% of these trips, thereby remaining very auto dependent. According to the RTMP, this BAU scenario would result in kilometres of congested roads in the afternoon peak hour across the three urban areas growing from 210 lane kilometres today, to over 500 lane kilometres by 2031. The result would be significant impacts on the movement of people and goods, neighbourhood quality of life, the natural environment (i.e. air quality) and the economic vitality of the city.

According to the RTMP, the implications of the BAU scenario at the Regional urban area level is a need to expand the road network by about 25% including
the need for at least 84 new lanes of road capacity by 2031. The key problem areas would be in the already urbanized west sections of Kitchener and Waterloo where north-south travel demands would require as much as eight (8) additional lanes of new arterial road capacity. Further growth in west Kitchener and Waterloo would also need up to 14 new arterial road lanes of capacity crossing the Westmount Road corridor.

4.2 Existing / Future Kitchener Street Network Performance

Level-of-Service (LOS)

The operational Level-of-Service (LOS) of a street link or intersection is directly related to street performance in the network and therefore travel safety and convenience. LOS is measured using a code system provided by the Highway Capacity Manual 2010.\(^4\) Transportation system planning uses a combination of traffic volume and capacity to determine a volume/capacity or v/c ratio for road links or intersections in a roadway network, which equates to a measurement of Level-of-Service (LOS).

Street LOS

For streets, LOS is measured by the following six levels or grades of generalized traffic conditions to determine the quality of service.

<table>
<thead>
<tr>
<th>LOS</th>
<th>General Condition</th>
<th>LOS</th>
<th>General Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Free Flow</td>
<td>D</td>
<td>Approaching Unstable Flow</td>
</tr>
<tr>
<td>B</td>
<td>Reasonably Free Flow</td>
<td>E</td>
<td>Unstable Flow</td>
</tr>
<tr>
<td>C</td>
<td>Stable Flow</td>
<td>F</td>
<td>Forced or Breakdown Flow</td>
</tr>
</tbody>
</table>

One primary objective of street network performance is to avoid or mitigate any LOS E and F conditions. At LOS E street traffic is nearing capacity, while LOS F is the worst condition with heavily congested flows and traffic demands exceeding the street capacity (V/C >1.0).

Signalized Intersection LOS

For intersections, LOS uses the same six levels but is measured by vehicle delay and queue lengths at the intersection approaches summarized as follows.\(^5\)

<table>
<thead>
<tr>
<th>LOS</th>
<th>Description</th>
<th>V/C Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>No Traffic signal phase is fully utilizes, with the intersection approach appearing open and turning movements made easily.</td>
<td>0 – 0.59</td>
</tr>
<tr>
<td>B</td>
<td>Occasional signal phase is fully utilized and many phases approach full use. Many drivers begin to feel somewhat restricted with platoons of vehicles approaching the intersection.</td>
<td>0.60 – 0.69</td>
</tr>
<tr>
<td>C</td>
<td>Operation is stable though with more frequent fully utilized signal phases, meaning some drivers may have to wait one red signal</td>
<td>0.70 – 0.79</td>
</tr>
</tbody>
</table>

\(^4\) Highway Capacity Manual 2010 (HCM2010), Transportation Research Board
\(^5\) HCM2010
phase and longer queues develop behind turning vehicles. This condition is generally considered normal and acceptable in most urban intersection design.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Motorists experience restriction and instability of traffic flow, with delays to short delays to approaching vehicles in the peak periods. There is still enough signal cycles with lower demand to permit occasional clearance of developing queues to prevent excessive backups.</td>
<td>0.80 – 0.89</td>
</tr>
<tr>
<td>E</td>
<td>Intersection capacity is reached. There are long queues upstream of the intersection, and delays to vehicles may extend to several signal cycles.</td>
<td>0.90 – 0.99</td>
</tr>
<tr>
<td>F</td>
<td>Saturation (gridlock) occurs, with vehicle demand exceeding the available capacity.</td>
<td>1.00 or greater</td>
</tr>
</tbody>
</table>

**Key Intersection and Corridor Review**

Twenty-seven (27) key intersections in Kitchener involving City and City/Region roads were selected for modeling and analysis of future intersection operational problems. Each was selected because it plays a key role on the road network, involves at least one intersecting city street, is on a key city corridor and/or exhibits an existing operational issue. Exhibit 4.1 shows the location of these 27 modelled intersections.

The City’s street network includes many more key intersections and corridors than those identified for this analysis. It is intended that the operational capacity and LOS of all Regional Roads within the network will be maintained by the Region of Waterloo through the road improvement priorities recommended in the Regional Transportation Master Plan: Moving Forward 2031. The Regional Plan includes 31 specific street improvements within the City of Kitchener, mainly on Regional Roads to year 2031 including upgrades, widenings, transit priority improvements and new streets. The Kitchener TMP identifies what additional street capacity and operational improvements will be required on City streets in order to maintain acceptable level of service and safety over the next 20 years.

The following summary of the strategic intersection analysis provides a conceptual indication of expected city road network improvements expected in 2031. Two overall indicators of this network performance were extracted from the Region’s demand model:

1. transit mode share; and
2. congested lane kilometres (lane-km).

**Transit Mode Share**

Transit mode share in the region’s model was based on 2006 Transportation Tomorrow Survey (TTS) data. Exhibit 4.2 and Exhibit 4.3 show transit mode shares extracted for trips within Kitchener and to/from Downtown Kitchener. The matrix details the percentage of trips that uses transit from trip origins to destinations.

As shown in Exhibit 4.2, 7.1% of AM peak hour trips within the City are using transit, which decreases to 3.5% in the PM peak hour (likely
because school trips fall outside of the PM peak hour). The 2009 transit mode share for trips to Downtown Kitchener is 13.8% in the AM peak hour, and the transit mode share for trips leaving Downtown Kitchener is 12.4% in the PM peak hour. Within Downtown Kitchener, trip distances are too short to provide an accurate mode share.

Exhibit 4.1: Key Intersections Analyzed (refer to Exhibit 4.5)
Exhibit 4.3 indicates that strong growth is planned in the transit mode share from 2009 to 2031. Trips to Downtown Kitchener increase to 33.9% transit mode share in the AM peak hour and 49.9% departing Downtown Kitchener in the PM peak hour. Total mode share in the City increases to 11.3% in the AM peak hour and 16.1% in the PM peak hour.

Exhibit 4.2: Transit Mode Share, 2009 Scenario – AM Peak Hour (PM Peak Hour)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchener</td>
<td>Downtown Kitchener</td>
</tr>
<tr>
<td>7.1% (3.5%)</td>
<td>13.8% (4.5%)</td>
</tr>
<tr>
<td>Downtown Kitchener</td>
<td>7.6% (12.4%)</td>
</tr>
</tbody>
</table>

Exhibit 4.3: Transit Mode Share, 2031 Base Scenario – AM Peak Hour (PM Peak Hour)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchener</td>
<td>Downtown Kitchener</td>
</tr>
<tr>
<td>11.3% (16.1%)</td>
<td>33.9% (15.7%)</td>
</tr>
<tr>
<td>Downtown Kitchener</td>
<td>10.0% (49.9%)</td>
</tr>
</tbody>
</table>

Congested Lane-Km

Congested lane-km on arterial roads, both Regional and City of Kitchener, is an indication of city-wide performance and congestion levels. For analysis purposes, congested lane-km was defined as links with volume to capacity (V/C) ratio of 0.9 and greater.

The total arterial lane-km in Kitchener is 958 in 2009, increasing to 1042 under the RTMP plan for 2031. Exhibit 4.4 summarizes lane-km analysis for Base and BAU conditions in 2009 and 2031. The following trends were identified from this analysis:

- Congested lane-km are expected to increase by at least 19% by 2031 for either Base Transit-Oriented or BAU conditions;
- The lower BAU transit mode share would result in higher congested lane-km than the Base Transit-Oriented conditions.
- In all horizons, the PM peak hour experienced more congested lane-km.
- Comparing 2031 Base to BAU scenarios, the PM peak hour had a greater congested lane-km increase than the AM peak hour. The larger increase occurs because the difference between Base and BAU transit mode share is higher in the PM peak hour, a 37.5% increase versus the AM peak hour with a 20.1% increase.
Exhibit 4.4: Lane-km Summary Results

<table>
<thead>
<tr>
<th>Period</th>
<th>Total Lane-km</th>
<th>Congested Lane-km</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
<td>2031</td>
<td>2009</td>
</tr>
<tr>
<td>AM Peak Hour</td>
<td>958</td>
<td>1,042</td>
<td>145</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td>958</td>
<td>1,068</td>
<td>163</td>
</tr>
</tbody>
</table>

Overall, the BAU results in higher traffic flows on the majority of city streets, and a shift in auto trips to provincial Highway 7/8 as congestion on arterial streets in the City causes longer travel times on arterials. A much smaller number of streets could experience decreased traffic flow in the BAU scenario, again due to diversion of trips away from congested links.

The intersection analysis shows that the following analysed intersections currently operate at deficient Level-of-Service E or F conditions on City streets (C) and Regional roads (R) during the AM and PM peak hours in Kitchener based on available traffic counts and existing intersection configurations and signal timing.

Exhibit 4.5: Existing Deficient Intersections (refer to Exhibit 4.1)

<table>
<thead>
<tr>
<th>EXISTING AM PEAK HOUR</th>
<th>EXISTING PM PEAK HOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Queen’s Blvd (C) / Westmount Rd (R)</td>
<td>2. Queen’s Blvd (C) / Fischer-Hallman Rd (R)</td>
</tr>
<tr>
<td>10. Victoria St (R) / Park St (C)</td>
<td>3. Glasgow St (C) / Westmount Rd (R)</td>
</tr>
<tr>
<td>21. Wellington St (C) / Riverbend Dr (C)</td>
<td>7. Block Line Rd (C) / Strasburg Rd (C)</td>
</tr>
<tr>
<td>13. Wabanaki Dr (C) / Manitou Dr (R)</td>
<td>17. Fairway Rd (R) / Wilson Ave (C)</td>
</tr>
<tr>
<td>17. Fairway Rd (R) / Wilson Ave (C)</td>
<td>21. Wellington St (C) / Riverbend Dr (C)</td>
</tr>
<tr>
<td>25. Franklin St (C) / Weber St (R)</td>
<td>26. Greenbrook Dr (C) / Westmount Rd (R)</td>
</tr>
<tr>
<td>27. Pioneer Dr (C) / Doon Village Rd (C)</td>
<td></td>
</tr>
</tbody>
</table>

Major Street Corridors

Currently in Kitchener, no major city street corridors (not including Regional Road corridors such as Fairway Road or Victoria Street) have significant capacity or major operational issues, and congestion is limited mainly to peak hour locations. However, a number of specific intersections in Kitchener listed in Exhibit 4.5 currently experience peak hour operational deficiencies, and others that were analysed now operate at LOS C and D, indicating that further operational deterioration and remediation can be expected by 2031.

Modeling and analysis of 2016 and 2031 conditions illustrates moderate congestion growth in the city under the Base scenario with increased transit mode shares. In general, signal timing changes can maintain LOS through 2016, but by 2031 some geometric changes are required to intersections around the city to maintain level of service.
Three major City of Kitchener street corridors are also forecasted to be deficient under peak hour conditions in 2031, namely Strasburg Road, Block Line Road, and the Wellington Street/Shirley Avenue corridor that will be connected to the new planned Highway 7 Extension. This assumes that the Region’s Base transportation scenario, with increased transit ridership and a decrease in the growth of private auto use, is achieved by 2031. It also reflects forecasted traffic volumes by 2031 under a Do Nothing scenario with no capacity or operational improvements made to these three corridors. City plans to improve and extend Strasburg Road and Block Line Road, discussed further in Section 4.4, are intended to address the forecasted deficiencies. The Regional TMP recommends that the province build the new Highway 7 by 2021 to address expected operational and capacity issues on Highway 7 / Victoria Street.

4.3 Implications of the Business As Usual (BAU) Future

Based on a strategic analysis of major street corridors in Kitchener, no City corridors operate poorly today. By 2016, congestion is still limited to isolated locations, but as shown on Exhibit 4.6, by 2031 in the Base transit-oriented scenario, high congestion levels are expected along the following City corridors:

- Strasburg Road from Ottawa Street S to Huron Road;
- Block Line Road from Strasburg Road to Homer Watson Blvd; and
- Wellington Street / Shirley Avenue corridor from Lancaster Street to east of Riverbend Drive.

Sensitivity analysis conducted for this study on an alternative Business As Usual (BAU) scenario would maintain the 2009 transit mode share through to 2031. It indicates that under this scenario with no change in alternative transportation mode use, the following additional City road corridors would also experience operational and capacity issues:

- Glasgow Street from Fischer-Hallman Road to Belmont Avenue;
- Block Line Road from Strasburg Road to Westmount Road; and
- Downtown Kitchener along Weber Street and King Street.

These findings suggest that under the Base scenario, the current Kitchener road network can generally accommodate forecasted traffic growth up until 2016 with 16 of the modelled intersections operating at LOS D or better, but 11 operating at an unacceptable LOS E/F during one or more peak hours of the day.

By 2031, the number of deficient intersections is expected to remain at 11, but would double to 21 if the BAU scenario was followed with no change in the transit and active transportation mode use.
Exhibit 4.6: Congested Corridors

2031 Forecasted BASE Scenario

2031 Forecasted BAU Scenario
4.4 Transportation Needs & Opportunities

Integrated Transportation System

An integrated approach to land use and transportation planning is essential in building an efficient and effective transportation system that supports a sustainable and vibrant city. It is key in supporting the Kitchener's urban structure and to achieve its intensification and connectivity goals. An integrated transportation system also promotes transportation choices and supports an active, healthy community.

The private automobile is the predominant mode of travel in Kitchener, with about 88% of trips originating in Kitchener made by cars (auto driver and passenger). Transit and cycling/walking mode shares are 3% and 6% respectively, recorded as 6% for each in the 2006 Census (see Exhibit 3.3).

Breaking the cycle of automobile dependence is not an easy task. In addition, travel patterns and needs will grow with the City's expected growth of almost 100,000 new people and 40,000 new jobs by 2031. Where and how this growth is accommodated will have a significant impact on transportation needs.

Directing growth towards the urban growth centre, and the mixed use corridors and nodes will support opportunities to reduce automobile dependence and maximize alternative travel modes.

Despite the emphasis on intensification, some of the City's forecasted growth will be in areas outside the existing built-up area, particularly areas that are not well served by transit. This highlights the need to focus on an integrated approach where the private automobile plays a balanced role (i.e. sustainability does not mean no private vehicles) and the focus is on providing mobility choices and programs to encourage higher-occupancy vehicle trips.

The City's Comprehensive Review of Employment Lands Study forecasts greater growth by 2029 in population-related employment (service) jobs, compared to employment sector industries such as manufacturing and transportation/warehousing. This growth and shift towards more service-related employment will need to be considered as these employment sectors have different locational characteristics and transportation needs. For example, transportation needs for manufacturing and transportation/warehousing employment lands should focus on an efficient goods movement network and higher-occupancy vehicle travel opportunities for employees. On the other hand, transportation needs for retail, educational services and health-related services should emphasize reliable public transit service, multimodal access and travel choices. This again highlights the need for a well-balanced transportation system that is integrated with land-use planning and provides travel options by different planning areas.

Opportunities that further enhance an integrated transportation system for Kitchener also exist with the recent introduction of GO Transit commuter rail service from Kitchener to Union Station in downtown Toronto. Current studies are underway to explore the potential for additional peak period service and potential all-day, two-way service between Kitchener and areas along the GO Transit Kitchener rail line.

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6 2006 Transportation Tomorrow Survey, trips with planning district of trip origin in Kitchener.
City Urban Structure Nodes and Corridors

As support for the development of the new Official Plan and as a recommendation of the Kitchener Growth Management Strategy (KGMS), the City conducted a detailed review of its intensification areas, in particular the Mixed Use Nodes and Corridors that are part of the framework of the City’s urban structure. The Comprehensive Review of Intensification Areas (CRIA) was completed in May 2011, and confirmed that the current nodes and corridors planning model is reliable and effective for achieving intensification.

The CRIA study proposed a revised urban structure based on connectivity between designations via transit corridors which reflects and supports provincial, regional and city policies on growth and intensification. Some of the City’s nodes are intended to have a mix of residential, commercial and institutional land uses and “support transit use and pedestrianism”. However, there are opportunities to further enhance these areas to address all modes of transportation.

A “Complete Streets policy could be developed for these activity nodes to provide a balanced and safe environment for drivers, pedestrians, cyclists and transit-users alike. The City’s corridors will have varying transportation needs to support the planned function and intensification opportunities for these corridors. Transportation strategies in this TMP need to focus on the compact, transit-supportive elements of the corridors and plant the seed to attract higher mode shares of transit users, pedestrians and cyclists. Priority should be given for development in these areas that strengthen linkages between different modes and surrounding residential and employment generators.

The challenge for some nodes and corridors will be the integration of strategies to reduce single occupant vehicle use in these areas that have an automobile-oriented focus, continue to provide a network for the efficient transport of goods movement, all while not undermining the goals for sustainability and mobility choices.

Walking Facilities

Exhibit 4.7 shows the AM peak period (6:00 a.m.-9:00 a.m.) mode share by trip distance (average straight-line) for trips originating in Kitchener (2006 Transportation Tomorrow Survey, TTS). As noted previously, auto trips dominate, except for the shortest trips. Walking trips are common for short trips with 49% mode share for trips less than 1 km, decreasing to 1% for trip lengths of 3-4 km. This highlights the opportunities to increase sustainable transportation mode shares by reducing trip lengths and encouraging non-motorized travel for shorter trips.
Exhibit 4.7: Mode Share by Average Straight-Line Trip Distance, AM Peak, TTS 2006

In 2005, the City adopted its Kitchener Pedestrian Charter, which set out six principles about the value of walking: 1) Accessibility, 2) Equity, 3) Health and Well-Being, 4) Environmental Sustainability, 5) Personal and 6) Community Safety, and Community Cohesion and Vitality. The Charter calls for support of walking environment and infrastructure for pedestrians to feel safe and comfortable, and that provide for convenient access to services and amenities. The TMP provides further opportunities to incorporate pedestrian facilities in transportation planning and enhance the walking environment.

As most trips begin and end by walking, and given the practical limitation of speed and time for longer trips, the pedestrian network needs to be fully and effectively integrated with the broader transportation network including transit.

Provision of sidewalks and pedestrian amenities also need to be integrated wherever possible with roadway design and classification, and assigned appropriate priority levels to support the proposed street type and adjacent land use typologies. For example, where sufficient road right-of-way is available, sidewalks on both sides of the street should be accommodated with higher standard features such as separated boulevards and street furniture along both City and Regional arterials.

Cycling Facilities

The Kitchener Cycling Master Plan (KCMP) identifies a long-term cycling network of routes and corridors that provides cyclists a safe, comfortable and connected environment, and promotes cycling as a viable mode of travel in the City and for recreation. The recommended cycling network will add 114 km of bikeways to the existing 45 km, for a total of 159 km including Regional cycling routes on City streets. In addition, bikeways are complemented with 240 km of primary and secondary multi-use pathways (120 km existing and 120 km proposed) outside of the road right-of-way.

In terms of policies, the KCMP recommends changes to Official Plan cycling policies, road classification policies to consider needs of cyclist and new additional policies. It also recommends a signage strategy, in partnership with
the Region and neighbouring municipalities, to increase visibility of the cycling network.

The Multi-use Pathways and Trails Master Plan also proposes new OP policies to ensure the implementation of an integrated “off-road” network of cycling and pedestrian routes throughout Kitchener. The City has an opportunity to build upon the recommendations of the KCMP and the Multi-use Pathways and Trails Master Plan, and further support cycling and active transportation through enabling OP and TMP policies and strategies.

Exhibit 4.8 shows cycling mode shares are highest among 4-6 km long trips. In the morning peak period, more than half the trips that originate in Kitchener are less than 5 km and about 22% are less than 2 km (Exhibit 4.8). As with pedestrian facilities, opportunities exist to promote cycling as a viable transportation mode for shorter trips and to integrate cycling facilities with transit service to provide cyclists with mobility choices for moderate and longer trips. In addition, students represent a potential market to increase cycling in Kitchener. As shown in Exhibit 4.8, cycling has a low mode share of home-based school trips, even for shorter trips less than 5 km. There are opportunities to encourage cycling through programs that promote the safety and health benefits of cycling to school – reduced auto congestion around schools, active lifestyle for students, etc.

Exhibit 4.8: Cycling Trips and Mode Share by Trip Distance, AM Peak, TTS 2006.

<table>
<thead>
<tr>
<th>Trip Length</th>
<th>Cycle Trips</th>
<th>Total Trips</th>
<th>Cycling Mode Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Trips</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 2 km</td>
<td>580</td>
<td>22,300</td>
<td>2.6%</td>
</tr>
<tr>
<td>2-5 km</td>
<td>1,900</td>
<td>33,100</td>
<td>5.7%</td>
</tr>
<tr>
<td>+ 5 km</td>
<td>1,450</td>
<td>47,750</td>
<td>3.0%</td>
</tr>
<tr>
<td>Total</td>
<td>3,950</td>
<td>103,150</td>
<td>3.8%</td>
</tr>
<tr>
<td>School Trips</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 2 km</td>
<td>110</td>
<td>8,600</td>
<td>1.3%</td>
</tr>
<tr>
<td>2-5 km</td>
<td>175</td>
<td>8,150</td>
<td>2.1%</td>
</tr>
<tr>
<td>+ 5 km</td>
<td>25</td>
<td>4,325</td>
<td>0.6%</td>
</tr>
<tr>
<td>Total</td>
<td>310</td>
<td>21,075</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

Year-round maintenance of Active Transportation facilities, including sidewalks, cycling lanes and routes, primary multi-use pathways and trails, is important to ensure accessibility and safety of users. This is important as reliability can factor into an individual’s choice of travel (e.g. those who would cycle more if they felt the roadway was safer, well-maintained and clear of obstacles such as snow).

Accessibility Standards

The draft June 2011 City Official Plan notes that although there was no one dominating age group in 2006, the City continues to attract younger populations while also being home to a large population of aging adults. This creates the
need to balance transportation priorities to enhance transit, walking and cycling as viable modes of travel for commuters, and to provide services for people with limited mobility, disabilities and special needs.

The City’s principles relating to pedestrian accessibility are contained in three documents, namely the City’s Pedestrian Charter, the City of Kitchener/City of Waterloo Joint Accessibility Plan and the Kitchener Urban Design Manual.

The Pedestrian Charter includes six principles needed by pedestrians to ensure walking is a safe, comfortable and convenient mode of urban transportation:

- Accessibility;
- Equity;
- Health and Well-Being;
- Environmental Sustainability;
- Personal and Community Safety; and
- Community Cohesion and Vitality

Some of the actions recommended by the Pedestrian Charter to create an environment that supports walking that are integrated into this TMP are (refer to Charter for all actions):

- Provide a walking environment within the public right-of-way and in public parks that encourages walking;
- Support and encourage the planning, design and development of a walking environment in public and private spaces;
- Provide and maintain infrastructure that gives pedestrians safe and convenient passage while walking along and crossing streets;
- Set policies that reduce conflicts between pedestrians and other users of the public right-of-way; and
- Advocate for improved provincial and federal regulations and funding to support the City’s ability to improve the pedestrian environment.

The City of Kitchener/City of Waterloo Joint Accessibility Plan was prepared in order to meet the obligations of the Ontarians with Disabilities Act, 2001 (ODA) and the Accessibility for Ontarians with Disabilities Act, 2005 (AODA). The Plan describes the actions each of the participating municipalities is taking to support accessibility for all, and the areas to be reviewed. It reports on the steps that are being taken to identify, prevent and remove barriers to accessibility in these communities.

The Kitchener Urban Design Manual (2010) provides standards to ensure new developments and redeveloped sites are barrier-free and universally accessible to all users. The manual includes standards and requirements for barrier-free parking, pedestrian loading areas, sidewalks, entrances and doorways, and other amenities (e.g. trails, playgrounds, picnic areas, etc.). In addition, the manual includes standards to develop barrier-free environments along
pedestrian- and transit-oriented developments to increase and improve accessibility to transit. Specifically:

- Barrier-free pedestrian access to transit stops and links to transit stops provided in either concrete or asphalt;
- Sidewalks along both sides of transit routes and according to the City Sidewalk Policy;
- Improvements of microclimate amenities: canopies, landscaping, arcades;
- Local road pattern with direct pedestrian access to transit stops and transfer points;
- Adequate lighting and year-round maintenance of pedestrian links to transit stops;
- 95% of residents, jobs and other activities within 450m walking distance to transit stops;
- Integrate neighbourhood features and public spaces with bus stop locations; and,
- Direct, convenient and barrier-free access between sidewalk, shelter/waiting area and loading/unloading zones.

Overall, accessibility is a key factor in people’s choice of a mode of travel. The City’s strategies to reduce automobile dependence and promote sustainable transportation choices will need to build on and reflect these accessible standards. Providing users a universally accessible and barrier-free access to sustainable modes will have a significant impact on people’s willingness to take transit, walk or cycle.

Transit-Oriented Development

The City has an opportunity to build upon transit-supportive policies developed for mixed use corridor and nodes, and implement these for all developments. New development and redeveloped sites should incorporate urban design elements of compact, pedestrian-oriented site design that are conducive to transit, pedestrians and cyclists while accommodating car travel with limited congestion.

Confirmation of Key Street Network Improvements

As previously reported in Section 4.2, currently in Kitchener no major City of Kitchener street corridors have any significant capacity or operational issues, and congestion is limited to peak hour conditions. However, modeling and analysis of 2016 and 2031 traffic volumes and LOS conditions show moderate congestion growth in the city under the Base scenario with increased transit mode shares. While signal timing changes can maintain LOS through to 2016, by 2031 some geometric improvements are required to intersections around the city to maintain level of service.
Note: City of Kitchener Geographic Street Direction

Compass directions used in this TMP are based on the arrangements shown here.

The three types of major roadway/highway travel routes in Kitchener expected to have deficient capacity under peak hour conditions by 2031 are:

1. Routes that are either undergoing study or are approved by the City to address existing or forecasted road deficiencies. This TMP has re-confirmed the need for these projects;

2. Additional capacity enhancements based on analysis conducted as part of this TMP. This is based on achieving the Region’s Base scenario by 2031 with increased transit ridership. Implementation of these recommended capacity and/or operational improvements will be required to address forecasted network deficiencies, and are expected to require Municipal Class Environmental Assessment approval; and

3. Related to Ministry of Transportation projects on provincial highways within Kitchener.

Type 1 Projects – Under Study or Approved

South Kitchener: Strasburg Road Extension from Rush Meadow Street to New Dundee Road with Associated Collector Extensions – Traffic growth assessments conducted as part of this TMP and the Strasburg Road Extension Municipal Class EA (SNC Lavalin) confirm a considerable amount of planned suburban growth in the Rosenberg and Huron South communities in south Kitchener (ultimately 30,000 people and jobs).7 This area is currently served by two north-south Regional arterial roads, Homer Watson Blvd. and Fischer-Hallman Road.

The need to extend additional north-south road capacity south of Huron Road into this designated growth area south to New Dundee Road has already been confirmed in the Strasburg Road EA to serve planned south Kitchener growth and associated travel demand. The technically preferred alignment of this required extension was approved in May 2013 by City Council from north of Stauffer Drive to new Dundee Road, and is shown as Alternative ‘W1’ on Exhibit 4.9. It is planned as a four lane arterial road with multi-use trails on both sides. Most of the south section of Strasburg Road extension will fall outside of the Region’s proposed countryside line. There will also likely be a new alignment of Robert Ferrie Drive proposed in the near future. Approval of the extension EA is expected in the fall of 2013.

The extended Strasburg Road is forecast to carry Average Annual Daily Traffic (AADT) volumes of 8,000 – 11,000 vehicles by 2016 which can be served by one lane of traffic per direction, and 15,000 – 22,000 by 2031 requiring two lanes per direction. The EA also notes that the need for the Strasburg Road extension was first confirmed in the Doon South-Brigadoon Transportation Network and Corridor Study that concluded the existing network would not be able to support the increased traffic demand associated with project growth.

7 Rosenberg Secondary Plan, August 2011
The RTMP also recommends the extension to relieve future demand on Homer Watson Blvd., Huron Road and Fischer-Hallman Road.\(^8\) The cost for a Strasburg Road extension is mostly DC eligible.\(^9\)

The TMP incorporates the need to enhance north-south arterial road capacity in south Kitchener in response to city growth and associated transportation needs in this area. Therefore, is shown as a ‘preferred alignment’ in Exhibit 4.9, and will be subject to approval of the final Municipal Class EA.

Exhibit 4.9: Strasburg Road Extension Technically Preferred Alignment

\(^8\) Draft Environmental Study Report (ESR), Strasburg Road Extension Municipal Class EA, SNC Lavalin, April 2012
\(^9\) 2009-2010 City of Kitchener Growth Management Plan
Huron Road Widening, Strasburg Road to Fischer-Hallman Road – Traffic forecasting generated for this TMP reconfirms the need to enhance the capacity of Huron Road between Strasburg Road and Fischer-Hallman Road, including reconstruction of the deficient Huron/Strasburg intersection as a roundabout, all at an estimated cost of $10 M. This is based on the Municipal Class EA for the project approved by the City in 2010 for the road section shown on Exhibit 4.10. Most of the cost will be DC eligible in response to growth in south Kitchener. Construction will conclude in 2012.

**Exhibit 4.10: Huron Road Widening Class EA Study Area**

Based on the future population and employment growth allocated in the Region’s travel demand forecasting model, as applied to this TMP, the widening of Huron Road from Fischer-Hallman Road west to Trussler Road is not identified as a required undertaking by 2031. However, since almost all roadway and intersection improvement needs in south Kitchener will depend on the pace of development, the City should continue to monitor traffic growth and intersection operations as the area develops. The results will help identify when and where specific traffic analysis and related Municipal Class EA work will be needed to address changing road capacity and operational needs.

**Type 2 Projects – Added by City Transportation Master Plan**

**Strasburg Road Capacity Enhancement from Block Line Road to Bleams Road** – With planned growth in south Kitchener and possible extension of Strasburg Road as a Type 1 project described above, the travel demand forecasting model assigns increased traffic growth to Strasburg Road between Block Line Road and Huron Road in response to this growth. The Block Line/Strasburg intersection has been rebuilt as a roundabout in response to this forecasted traffic growth because the existing intersection would approach capacity in the PM Peak Hour by 2016, and fully deficient (LOS F) by 2031 in both the AM and PM Peak Hours.

This TMP recommends that the City monitor traffic volumes along Strasburg Road at the Block Line and Bleams Road intersections to identify when further
capacity optimization or enhancement and intersection improvements may be required on this two lane section of Strasburg Road. If capacity enhancement is needed by widening this section of Strasburg Road to two lanes per direction (4 lane road), this may be done in one of two ways:

- The on-street parking and bike lanes could be removed and the road restriped with four travel lanes, requiring completion of a Schedule B Class EA. This would require extensive consultation with the surrounding neighbourhood and abutting property owners; or

- Alternatively, the parking and bike lanes could be retained, requiring road widening to provide four travel lanes requiring completion of a Schedule C Class EA depending on the construction cost. Adding one lane per direction to this 1100 m section of Strasburg Road from Block Line Rd. to Bleams Rd. would cost in the order of $3.5 M. It would also involve fronting low density residential property, while to the south Strasburg Road is currently four lanes through the Huron Business Park

Southwest Kitchener Urban Area Study Community Master Plan – Development plans for the southwest urban growth area of Kitchener are presented in Official Plan Amendment (OPA) No. 90 and the Rosenberg Secondary Plan. The Plan includes Fischer-Hallman Road as a future transit corridor, and a proposed new mixed use corridor along Fischer-Hallman Road south of Bleams Road. OPA No. 90 also recommended that the TMP identify the potential for a future east-west collector road that would connect Fischer-Hallman Road with a future extension of Strasburg Road described previously in this section. According to the OPA, this collector road could help offset traffic along Fischer-Hallman Road, enhance the overall transportation network in south Kitchener.

Based on a review of the physical extent of planned urban growth in OPA No. 90, the Rosenberg Secondary Plan and the existing Official Plan (Map 5), the TMP concludes that the preferred location of a new east-west collector road linking a Strasburg Road extension to Fischer-Hallman Road would be along or in close proximity to the existing County Side Line in this area. This alignment would connect to Strasburg Road at a location between Biehn Drive and Robert Ferrie Drive extension as shown in Exhibit 4.11, with a more specific alignment to be determined through a future EA.

Any alignment of this link to the south would be located beyond the Country Side Line, and therefore have no transportation system value as this area is designated Agricultural. Alternatively, an alignment north of the existing Country Side Line would risk natural environment impacts.

West of Fischer-Hallman Road, further urban growth is also being planned in southwest Kitchener as part of the Rosenberg Community Secondary Plan, with a planned transportation network shown on Exhibit 4.12. This includes the Region’s planned road and operational improvements on Fischer-Hallman Road, plus transit service enhancements as a high frequency bus corridor. To the west, new major and minor collector roads are planned as shown in Exhibit 4.12 to provide a direct connection to Fischer-Hallman Road, Huron Road and Bleams Road. This and other internal roadways would be developed as part of the land subdivision approval process.
Exhibit 4.11: South Kitchener Additional Collector Road

Exhibit 4.12: Transportation: Southwest Urban Area Secondary Plan

Source: Rosenberg Secondary Plan, August 2011, City of Kitchener
Block Line Road Capacity Enhancement from Strasburg Road to Homer Watson Blvd. - The Block Line Road Extension now under construction will create a new continuous east-west arterial road corridor across the south part of Kitchener, extending from Westmount Road easterly to Woolwich Township via the new Fairway Road extension and bridge over the Grand River connecting to Regional Road 17/Fountain Street N. This extension will be a primary access route for the Regional Airport, the Breslau area and connection to Guelph. It will also act as an alternative route to Ottawa Street and Bleams Road. For these reasons, the forecasting model is predicting traffic growth along the extended Block Line Road between Strasburg Road and Courtland Avenue that results in deficient route and Block Line/Strasburg intersection LOS.

Under these conditions, the need and justification to provide two lanes per direction (4 lanes) on Block Line Road between Strasburg Road and Homer Watson Blvd. requires further, more specific traffic and design analysis currently being conducted by city staff. Since this road section was originally four lanes and later changed to the two lane configuration, reverting it back to four lanes is not viewed as a change in the original road capacity and therefore the revision would not require completion of a Class EA.

The estimates cost to revert this approximately 800 m length of Block Line Road to four lanes is $2.5 M depending on the design, with restriping being a much less costly option. Also, the travel demand forecasting conducted for this Master Plan shows that if the BAU scenario is followed, the need for further capacity enhancement on Block Line Road could extend west to Westmount Road.

Type 3 Projects – Related to Ministry of Transportation Initiatives

Wellington Street N / Shirley Avenue Capacity Enhancement from Lancaster Street to East of Riverbend Drive - Improvements that the city has made to Bingemans Centre Drive now create an alternative route to Victoria Street/Highway 7 extending from Lancaster Street West to Shirley Drive. This results in the travel demand forecasting model assigning more traffic to Wellington Street North to the point where the Wellington/Riverbend intersection would be deficient in the AM and PM Peak Hours by 2016. This all-way stop controlled intersection already experiences delays during peak periods but since it is controlled by MTO as part of the Highway 7 corridor, the city is limited in what improvements they can make.

The forecasting model also predicts continuing peak period operational issues along Highway 7/Victoria Street that the addition of the new planned Highway 7 does not address. If the Wellington/Shirley corridor continues to be used as a Victoria Street reliever, the City would have to conduct further traffic assessments to determine how to optimize or enhance associated road and intersection capacity.

Highway 401 Access – The Regional TMP conducted a preliminary assessment of alternative ways to improve access to Highway 401 in south Kitchener. The following three alternatives were short-listed:

- Trussler Road at a new interchange;
- Fischer-Hallman Road connection to new Trussler Road interchange; and
- Fischer-Hallman Road connection to Regional Road 97 (Cedar Creek Road) interchange.

All three were recommended to be carried forward for a more detailed evaluation as part of a subsequent Municipal Class EA. However, it should be noted that in the Regional TMP, major capacity and operational improvements to Trussler Road are not required within the plan’s 20 year planning horizon based on the amount and allocation of population and employment growth in south Kitchener by 2031. It is included only as a “mature state” improvement expected beyond the 20 year timeframe.

Since this Kitchener TMP project has used the same travel demand forecasting model as applied to the RTMP, it comes to the same conclusion that new Highway 401 access along any of the above-noted three alignments is not warranted by 2031 purely on the basis of population and employment growth. However, the rationale for such a connection to serve future goods movement in Kitchener and the overall Region may be made based on further goods movement considerations and truck demand forecasting. The RTMP recommends that this possibility be confirmed as part of a subsequent Municipal Class EA study for Highway 401 access improvements. Therefore, this TMP recommends that further route planning of a new Highway 401 connection in south Kitchener should be conducted mainly for long-term corridor protection purposes as the southwest area develops. As shown by Exhibit 4.13, the City is looking to the Regional TMP process to address Highway 401 connection question.

4.13: Southwest Urban Area Studies, Potential Transportation Routes for Consideration

Strategic Intersection Improvements – Previous Exhibit 4.5 of this TMP lists 11 intersections in Kitchener that involve at least one city street link currently operating with deficient conditions. These deficiencies can be addressed with optional treatments ranging from signal timing adjustments through to addition of exclusive turn lanes and roundabouts. These can all be implemented as Schedule A+ pre-approved or Schedule B Municipal Class EA projects depending on the construction cost.

The methodology used to identify future intersections needing improvements in order to maintain level of service D or better employed the Region’s travel demand forecasting model. For the 2016 Base scenario used in the RTMP, all analysed intersections are shown to maintain LOS D or better with signal timing changes.
In the 2031 Base scenario, decreased traffic flows resulting from increased transit mode shares in the Regional model put less demand on several intersections. The City and Region have already implemented intersection improvements, such as the Block Line Road/Homer Watson Blvd. roundabout, and so no further major intersection improvements have been identified under the Base scenario.

However, under the BAU scenario with continued levels of transit and alternative transportation mode use, geometric and capacity improvements would be required to the six (6) key intersections listed in Exhibit 4.14:

### Exhibit 4.14: Key Intersection Improvement Required Under the BAU Scenario (Not Recommended)

<table>
<thead>
<tr>
<th>Location ID</th>
<th>Potential Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Provide eastbound left and westbound left, and eastbound right, westbound right, northbound right and southbound right turn lanes at Glasgow St / Fischer-Hallman Blvd;</td>
</tr>
<tr>
<td>2.</td>
<td>Widen Queen’s Blvd / Fischer-Hallman Rd in the north and southbound directions to accommodate dual northbound left and southbound two through and one shared through-right lanes;</td>
</tr>
<tr>
<td>3.</td>
<td>Widen at Glasgow St / Westmount Rd for southbound movements to accommodate two through and one through-right shared lanes;</td>
</tr>
<tr>
<td>8.</td>
<td>Provide an eastbound right turn lane at Bleams Rd and Strasburg Rd;</td>
</tr>
<tr>
<td>13.</td>
<td>Provide southbound left turn lane, and one through and one through-right shared lane in the southbound direction at Wabanaki Dr / Manitou Dr; and</td>
</tr>
<tr>
<td>14.</td>
<td>Widen at Wellington St / Lancaster St for northbound through movements.</td>
</tr>
</tbody>
</table>

According to the City’s 2010 capital forecast, additional intersection improvements are planned in response to specific locational assessments, and with one exception these have not been identified in the overall TMP. Once again, this stems from decreased growth in traffic volumes because of increased transit mode shares in the Regional model. Therefore this TMP recommends that the need and justification for intersection improvements planned at the following City intersections first be confirmed using traffic volume forecasts provided from the Region’s model in 2016 and 2031:

**Planned for Implementation in 2013:**

- Doon South Dr / Homer Watson Blvd;
- Pioneer Drive / Homer Watson Blvd;
- Pioneer Dr / Doon Village Dr (confirmed by the TMP);
- Battler Rd / Huron Rd; and
- Doon Village Rd / Homer Watson Blvd.

**Planned for Implementation in 2019:**
- Strasburg Rd / New Dundee Rd;
- Conestoga College Blvd / Homer Watson Blvd.

It must be noted that all of these projects would be funded either partially or fully through Development Charges (DC), and so the timing of construction will be largely driven by the pace of development in south Kitchener.

**Implementation Measures – City Street Capacity Improvements**

4.15: Summary of City Street Actions and Proposed Time Horizon

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Time Horizon</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 1 Projects: Approved or Under Study</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>South Kitchener North-South Road Capacity Enhancement (Strasburg Road Extension from Rush Meadow Street to New Dundee Road with Associated Collector Extensions)</td>
<td>0-5 years</td>
</tr>
<tr>
<td>2</td>
<td>Block Line Road Capacity Enhancement from Strasburg Road to Homer Watson Blvd. by reverting to 4 through lanes through restriping</td>
<td>0-5 years</td>
</tr>
<tr>
<td>3</td>
<td>Huron Road Widening, Strasburg Road to Fischer-Hallman Road</td>
<td>0-5 years</td>
</tr>
<tr>
<td><strong>Group 2 Projects: Added by City Transportation Master Plan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Strasburg Road Capacity Enhancement from Block Line Road to Bleams Road through restriping or road widening to 4 through lanes</td>
<td>5-10 years</td>
</tr>
<tr>
<td>5</td>
<td>Implementation of new streets in southwest Kitchener Urban Areas Study Community Master Plan, including extension of Biehn Dr. between Biehn Dr. and Robert Ferrie Dr. extension to Fischer-Hallman Road (timing horizon dependent on development)</td>
<td>5-10 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10-20 years</td>
</tr>
<tr>
<td>6</td>
<td>Wellington Street N / Shirley Avenue widening to 4 through lanes from Lancaster Street to East of Riverbend Drive with improvements to Wellington St./Riverbend Dr. intersection</td>
<td>10-20 years</td>
</tr>
<tr>
<td>7</td>
<td>Strategic city intersection improvements – see Exhibit 4.14 list</td>
<td>5-20 years</td>
</tr>
<tr>
<td>8</td>
<td>Highway 401 access extension corridor identification and protection</td>
<td>10-20 years</td>
</tr>
</tbody>
</table>

**Implementation Measures – Regional Road Capacity Improvements**

Exhibit 4.16 lists road sections in the City of Kitchener that are recommended for capacity improvements in the RTMP (as adjust in the 10 year capital program). These road sections are shown on Exhibit 4.17 in association with Ministry of Transportation highway improvements and selected City street improvements from Exhibit 4.15).
### 4.16: Recommended Strategic Road Network Improvements in the City of Kitchener based on Regional Transportation Master Plan

<table>
<thead>
<tr>
<th>#</th>
<th>Road Name</th>
<th>Section</th>
<th>Road Work</th>
<th>Horizon</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Weber Street (RR#8)</td>
<td>College to Guelph</td>
<td>Widen</td>
<td>0-5 Years</td>
</tr>
<tr>
<td>3</td>
<td>Fairway Road (RR#53)</td>
<td>Zeller to Fountain</td>
<td>New Road</td>
<td>0-5 Years</td>
</tr>
<tr>
<td>4</td>
<td>Highway 8</td>
<td>Fairway Road to Sportsworld</td>
<td>Transit By-Pass Lanes</td>
<td>0-5 Years</td>
</tr>
<tr>
<td>5</td>
<td>Ottawa Street (RR#4)</td>
<td>Keewatin to Otterbein</td>
<td>New Road</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>6</td>
<td>Homer Watson Boulevard (RR#28)</td>
<td>Conestoga College to Doon South</td>
<td>Widen to 6</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>7</td>
<td>River Road Extension (RR#56)</td>
<td>Wilson to King</td>
<td>New Road</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>8</td>
<td>Bleams Road (RR#56)</td>
<td>Manitou to Wilson</td>
<td>New Road</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>9</td>
<td>Fischer Hallman Road (RR#58)</td>
<td>Ottawa to Bleams</td>
<td>Widen</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>10</td>
<td>Fischer Hallman Road (RR#58)</td>
<td>Bleams to Plains</td>
<td>Widen</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>11</td>
<td>Manitou (RR#69)</td>
<td>Webster to Bleams</td>
<td>Widen</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>12</td>
<td>Ira Needles Boulevard (RR#70)</td>
<td>Highview to Erb</td>
<td>Widen</td>
<td>0-5 Years</td>
</tr>
<tr>
<td>13</td>
<td>Highway 7</td>
<td>Kitchener to Guelph</td>
<td>New Road</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>14</td>
<td>Highway 7/8</td>
<td>Hwy 8 to Fischer Hallman</td>
<td>Widen</td>
<td>0-5 Years</td>
</tr>
<tr>
<td>15</td>
<td>Block Line</td>
<td>Courtland to Lennox Lewis</td>
<td>New Road</td>
<td>0-5 Years</td>
</tr>
<tr>
<td>16</td>
<td>Strasburg Road</td>
<td>Huron to New Dundee</td>
<td>New Road</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>17</td>
<td>Ottawa Street (RR#4)</td>
<td>Mill to King</td>
<td>Widen</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>18</td>
<td>Highland Road (RR#6)</td>
<td>Ira Needles to Fischer Hallman</td>
<td>Widen</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>19</td>
<td>Homer Watson Boulevard (RR#28)</td>
<td>Doon South to Pioneer</td>
<td>Widen to 6</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>20</td>
<td>Fairway Road (RR#53)</td>
<td>Old Chicopee to Zeller</td>
<td>Widen</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>21</td>
<td>Victoria Street (RR#55)</td>
<td>Lawrence to Park</td>
<td>Transit Priority</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>22</td>
<td>Bleams Road (RR#56)</td>
<td>Fischer Hallman to Strasburg</td>
<td>Widen</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>23</td>
<td>Fischer Hallman Road (RR#58)</td>
<td>Hwy 7/8 to Columbia</td>
<td>Transit Lanes</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>24</td>
<td>Trussler Road (RR#70)</td>
<td>Hwy 7/8 to Ottawa Street</td>
<td>Widen</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>25</td>
<td>Trussler Road (RR#70)</td>
<td>Ottawa to Bleams</td>
<td>Widen</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>26</td>
<td>Highway 8</td>
<td>Sportsworld to Hwy 401</td>
<td>Widen</td>
<td>10-20 Years</td>
</tr>
<tr>
<td>26</td>
<td>Fischer Hallman Road (RR#28)</td>
<td>New Dundee to Plains</td>
<td>Upgrade</td>
<td>10-20 Years</td>
</tr>
</tbody>
</table>
Exhibit 4.17: Recommended Road Capacity Improvements in the City of Kitchener based on the Regional Transportation Master Plan

Road Improvements
- 0-5 years
- 5-10 years
- 10-20 years
- Transit Priority

Regional Transportation Master Plan
5. Transportation’s Role in a Complete & Healthy Kitchener

5.1 Street Network Classification System

Existing Classification System

A street network classification system establishes a hierarchical structure of street groupings according to their jurisdiction, physical and functional characteristics and the type of service they are intended to provide to the public. Currently, the City of Kitchener OP provides a description of the following eight classification elements for what it refers to as “roads” on Map 4 Transportation:

- Trunk Roads (MTO);
- Primary Arterial Roads (Region);
- Secondary Arterial Roads (City);
- Major Collector Roads;
- Minor Collector Roads;
- Connector Roads (where an Arterial or Major Collector connection is not available);
- Local Streets; and
- Scenic-Heritage Roads.

Some “Proposed” road projects shown on the current Official Plan Map 4: Transportation need to be updated, namely the final approved alignment of the Fairway Road extension across the Grand River, completion of the Wabanaki Road extension from Goodrich Road to Wilson Avenue and extension of Block Line Road east to Courtland Avenue.

The other “Proposed” road projects shown on the current Official Plan Map 4 remain valid, including the Wellington Street Extension to the planned new Highway 7, the Strasburg Road extension and related new streets in south Kitchener and the planned River Road extension from King Street to Wabanaki Drive that is included in the Regional TMP and currently undergoing a Municipal Class EA study by the Region.

Recommended New Road Classification System

The benefits of implementing a new road classification system for the City of Kitchener are to:
• Update geometric design standards for consistent short and long term application to all City roads;\(^{10}\)

• Establish standards for functional characteristics such as land access, traffic flow thresholds, level of service (LOS), speed limits, accommodation of cyclists and pedestrians, and parking provisions;

• Improve coordination and planning of land use and transportation developments;

• Identify the approved alignment of the Light Rail Transit and adapted Bus Rapid Transit routes in the city;

• Include a Proposed Arterial Road Corridor in southwest Kitchener for the long term protection of a future Highway 401 connection;

• Preserve the intended service function of planned roadways and promotion of a safer environment with operational integrity; and

• Bring the street classification system more in line with the City’s Urban Design Manual and related policies.

The recommended classification system includes the role of six (6) classes of streets as described in Exhibit 5.1 and shown on Exhibit 5.2 as the recommended Map 4: Street Network for the OP.

**Provincial Highways**

Provincial Highways are expressways within the City of Kitchener under the jurisdiction of the Province of Ontario. They provide high volume and high speed inter-regional and inter-provincial motorized travel within and through the City. They are constructed to Provincial Highway standards and access to abutting lands is prohibited except at control access interchanges. In the City of Kitchener, Highway 401, 8, 7/8, 7 and 85 are Provincial Highways.

**Regional Arterial Street**

Regional Arterial Streets are primary arterial streets under the jurisdiction of the Regional Municipality of Waterloo. Examples in Kitchener include Bleams Road, Homer Watson Blvd. and Fairway Road. The Region is responsible for the planning, construction and maintenance of these streets. Generally, their function is to distribute large volumes of traffic between other Regional Arterial Streets, City Arterial Streets and Major Community Collector Streets. The primary purpose of these roads is people and goods movement within, through and between municipalities. Access to abutting lands should be regulated.

Based on the Region’s Context-Sensitive Regional Transportation Corridor Design Guidelines, four (4) types of Regional Arterial Streets are located within the City of Kitchener; 1) Urban Community Connector, 2) Urban Neighbourhood Connector/Avenue, 3) Urban Neighbourhood Connector/Main Street and 4) Urban Residential Connector.

\(^{10}\) The main reference source for road classifications in Ontario is the Transportation Association of Canada’s *Geometric Design Guide for Canadian Roads*, and the Ministry of Transportation’s *Geometric Design Standards for Ontario Highways*. 
City Arterial Streets
Generally, City Arterial Streets distribute large volumes of traffic (people and goods) between other Regional Arterial Streets and City Arterial Streets and Major Community Collector Streets. Examples in Kitchener include Huron Road, Strasburg Road and Block Line Road. The primary purpose of these streets is to provide mobility for people and goods through and within the City.

Major Community Collector Streets
Generally, the function of Major Community Collectors Streets is to balance the provision of mobility in the City with land access. They do this by collecting and distributing people and goods between communities from Local Streets and Minor Neighbourhood Collector Streets to City Arterial Streets and Regional Arterial Streets. Direct access to property may be permitted. Kitchener examples include Stirling Avenue, Glasgow Street and Trillium Drive.

Minor Neighbourhood Collector Streets
Generally, Minor Neighbourhood Collector Streets connect Local Streets within individual neighbourhoods to Major Community Collector Streets, and are intended to move people and goods primarily within neighbourhoods. Kitchener examples include Heritage Drive, Laurentian Drive and Kingswood Drive.

Local Streets
Local Streets generally provide access to abutting properties and are not intended to carry through traffic.

Scenic-Heritage Roads (Heritage Corridors)
On the existing OP Map 4: Transportation, Scenic-Heritage Roads are identified as a specific class of road, with examples including Doon Village Road, Mill Park Drive, Pioneer Tower Road and Huron Road between Fischer-Hallman Road and Trussler Road. The existing OP Section 8 describes Scenic-Heritage Roads as:

“…roads which, because of their unique structural, topographic and visual characteristics, as well as abutting vegetation, built environment and cultural landscape, historical significance or location within a Heritage Conservation District are intended to be conserved.”

In the future as Kitchener continues to grow, a designated Scenic-Heritage Road such as the section of Huron Road in southeast Kitchener may be required to play a dual role, operating as an arterial road but with scenic-heritage value to be conserved through City policy. To ensure such dual roles can be achieved where required, this TMP recommends that the character of these roads can be preserved by identifying Scenic-Heritage Roads as an overlay to the street network. For example, Huron Road between Trussler Road and Fischer-Hallman Road is currently classified as a Scenic-Heritage Road in the existing Kitchener OP, and a Secondary Arterial Road to the east. As such, OP policy states that “no widening to the carriage way or changes to the surface treatment or other changes are to be made to such roads”.

If a road such as Huron Road is eventually required to operate as an arterial but with scenic-heritage value, this TMP recommends that the road classification
system be modified through the Official Plan update to include the classification of “Scenic-Heritage Road” or “Heritage Corridor” as a specific road classification. This would provide the city with the opportunity to plan and operate such roads in response to both their role in the road network and their scenic-heritage value. Criteria for designating these Heritage Corridors can remain unchanged from those presented in Section 8.3.3 of the existing Kitchener OP, along with other policies on where and how Scenic-Heritage Roads can be designated.

In summary, the preceding recommended modifications to Official Plan Map 4: Street Network shown on Exhibit 5.2 reflect an updated road classification system which differs from the existing system mainly in:

- Classification terminology;
- Updating of what are Proposed Conditions compared to Existing conditions;
- Removal of the small number of Connector Roads where not required, or where they can be reclassified as Minor Neighbourhood Collector Streets to better reflect their role in the street network;
- Change from the identification of Scenic-Heritage Roads as a specific class of road in Kitchener to the identification of a road class overlay, such as Heritage Corridor for example; and
- Addition of the proposed major street network west of Fischer-Hallman Road from the Southwest Urban Area Community Master Plan.
## Exhibit 5.1: Street Network Classification System

<table>
<thead>
<tr>
<th>ROUTE CHARACTERISTICS</th>
<th>PROVINCIAL HIGHWAY</th>
<th>REGIONAL ARTERIAL STREET</th>
<th>CITY ARTERIAL STREET</th>
<th>MAJOR COMMUNITY COLLECTOR STREET</th>
<th>MINOR NEIGHBOURHOOD COLLECTOR STREET</th>
<th>LOCAL STREET</th>
</tr>
</thead>
<tbody>
<tr>
<td>**ROW Width **</td>
<td>Varies</td>
<td>30m - 40m Ideal.</td>
<td>30m – 35m</td>
<td>20m – 26m</td>
<td>20m – 26m</td>
<td>18m</td>
</tr>
<tr>
<td>Pavement Width ** (curbface to curbface)</td>
<td>Varies</td>
<td>Varies based on road type and context sensitive design</td>
<td>10.6m – 18 m</td>
<td>13.4m – 15.4m</td>
<td>10.4m – 15.4m</td>
<td>9m</td>
</tr>
<tr>
<td>Vehicle Types</td>
<td>Commercial All Types</td>
<td>All vehicles including bicycles and pedestrians</td>
<td>All Types, Truck Route</td>
<td>Residential: Passenger &amp; Service Vehicles</td>
<td>Residential: Passenger &amp; Service Vehicles</td>
<td>Residential: Passenger &amp; Service Vehicles</td>
</tr>
<tr>
<td>Streetscape Features</td>
<td>Limited opportunities</td>
<td>Reflects Primary Function to Move Vehicles and Provide Active Transportation Opportunities</td>
<td>Opportunities for Basic and Enhanced Streetscape Features Involving Sidewalks, Furniture, Lighting, Trees &amp; Landscaping</td>
<td>Opportunities for Basic and Enhanced Streetscape Features Involving Sidewalks, Furniture, Lighting, Trees &amp; Landscaping</td>
<td>Opportunities for Primarily Basic Streetscape Features Involving Boulevard Landscaping &amp; Sidewalks</td>
<td>Opportunities for Primarily Basic Streetscape Features Involving Boulevard Landscaping &amp; Sidewalks</td>
</tr>
<tr>
<td><strong>Existing/Planned Adjacent Land Use</strong></td>
<td>Medium/High Density Mixed use Development &amp; Major Traffic Attractions</td>
<td>Ranges from Oriented to Internal Roads to Street-Oriented Mixed Uses</td>
<td>Medium/High Density, Mixed use Development &amp; Major Traffic Attractions</td>
<td>Mixed Land Uses in Range of Low/Medium Density</td>
<td>Primarily Low/Medium Density Development in Residential Neighbourhoods &amp; Employment Areas</td>
<td>Primarily Low Density Residential Neighbourhoods and Employment Areas</td>
</tr>
<tr>
<td>**User Volume (Typical Motorized Traffic AADT) **</td>
<td>12,000 – 30,000</td>
<td>2,000 – 20,000</td>
<td>8,000 – 20,000</td>
<td>5,000 – 8,000</td>
<td>2,000 – 5,000</td>
<td>&gt; 2,000</td>
</tr>
<tr>
<td><strong>User Volume (Pedestrian)</strong></td>
<td>None</td>
<td>High to Low People Moving Capacity Depending on Road Type</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Mainly Provides Local Access</td>
</tr>
<tr>
<td>**Design Speed **</td>
<td>80-120 km/h Maximum</td>
<td>50 – 80 km/h</td>
<td>60 – 80 km/h</td>
<td>50 – 60 km/h</td>
<td>50 – 60 km/h</td>
<td>50 km/h</td>
</tr>
</tbody>
</table>
## City of Kitchener Transportation Master Plan

### STREET NETWORK CLASSIFICATION SYSTEM

<table>
<thead>
<tr>
<th>ROUTE CHARACTERISTICS</th>
<th>PROVINCIAL HIGHWAY</th>
<th>REGIONAL ARTERIAL STREET</th>
<th>CITY ARTERIAL STREET</th>
<th>MAJOR COMMUNITY COLLECTOR STREET</th>
<th>MINOR NEIGHBOURHOOD COLLECTOR STREET</th>
<th>LOCAL STREET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>depending on type</td>
<td>50 – 70 km/h depending on type</td>
<td>50 - 60 km/h</td>
<td>50 -60 km/h</td>
<td>50 km/h</td>
<td>50 km/h</td>
</tr>
<tr>
<td><strong>Posted Speed</strong></td>
<td>60 – 100 km/h</td>
<td>Prohibited to permitted depending on type and context</td>
<td>Generally None</td>
<td>Generally Permitted One or Both Sides</td>
<td>Generally Permitted One or Both Sides</td>
<td>Generally Permitted One or Both Sides</td>
</tr>
<tr>
<td><strong>On-Street Parking Provisions</strong></td>
<td>None</td>
<td>Primary Function is People and Goods Movement with Restricted Access</td>
<td>Primary Function is People and Goods Movement with Access Control</td>
<td>Property Access and People and Goods Movement of Equal Importance</td>
<td>Property Access and People and Goods Movement of Equal Importance</td>
<td>Primary Function is to Access Individual Properties</td>
</tr>
<tr>
<td>**Pedestrian Facilities *****</td>
<td>None</td>
<td>Sidewalks Both Sides</td>
<td>Sidewalks Both Sides</td>
<td>Sidewalks Both Sides</td>
<td>Sidewalks Both Sides</td>
<td>Sidewalks Both Sides</td>
</tr>
<tr>
<td><strong>Cyclists Facilities (see Kitchener Cycling Master Plan)</strong></td>
<td>None (currently being reviewed by MTO)</td>
<td>Accommodated within Corridor Where Appropriate as per Regional Cycling Master Plan</td>
<td>Dedicated Facilities where Appropriate, Separated Preferred</td>
<td>Dedicated On-Road Facilities Where Appropriate</td>
<td>Accommodate Safely Within Road Right-of-Way, “Share the Road”</td>
<td>Accommodate Safety Within Road Right-Of-Way, “Share the Road”</td>
</tr>
<tr>
<td><strong>Commercial Vehicle Access</strong></td>
<td>Allowed</td>
<td>Generally Allowed – May Be Subject to Time Restrictions</td>
<td>Generally Allowed – May Be Subject to Time Restrictions</td>
<td>Permitted in Employment Areas or as Specified in Truck Route Bylaw</td>
<td>Not Permitted Except as Required by Adjacent Land Use</td>
<td>Not Permitted Except as Required by Adjacent Land Use</td>
</tr>
<tr>
<td><strong>Min. Intersection Separation measured from centreline</strong></td>
<td>400 m</td>
<td>Preferred 215 m – 400 m</td>
<td>200 m – 400m</td>
<td>60 m</td>
<td>60 m</td>
<td>60 m</td>
</tr>
<tr>
<td><strong>Max. Intersection Pedestrian Crossing</strong></td>
<td>400 m</td>
<td>N/A</td>
<td>400 m</td>
<td>200 m</td>
<td>60 m</td>
<td>60 m</td>
</tr>
</tbody>
</table>

* Source: Context-Sensitive Regional Transportation Corridor Design Guidelines, Region of Waterloo

** Source: Subdivision Development Manual, City of Kitchener

*** Source: Urban Design Manual, City of Kitchener
Exhibit 5.2: Recommended Street Network Classification
5.2 Travel Safety

The City of Kitchener is committed to providing, within available resources, for the safe, efficient and convenient movement of people and goods across the city on the local road, sidewalk and trail networks. A number of policies and initiatives are used by the City and its partners in ensuring travel safety, ranging from its Traffic Calming and Transportation Demand Management policies through to initiatives of the Waterloo Regional Police Service and Ontario Provincial Police.

Active & Safe Routes to School in Waterloo Region is coordinated by the Active Transportation to School Workgroup of Together 4 Health and is funded by Together 4 Health through the Ontario Ministry of Health Promotion to inspire, create and celebrate a culture of safety and wellness associated with the trip to and from local schools. The Active and Safe Routes to School Workgroup is comprised of representatives from Region of Waterloo Public Health, Waterloo Region District School Board, Waterloo Catholic District School Board, City of Cambridge, City of Kitchener, City of Waterloo, Ministry of Transportation, and Waterloo Region Police Service.

Implementation Measures

5.2.1 Continue to use collision data maintained by the Region of Waterloo from all Regional roads and signalized intersections, and Regional Police Services Motor Vehicle Collision Incident Reports on all public roadways. Data management is possibly the most important resources that the City and Region have as part of road user safety monitoring and reviews. Data from collisions on city streets should continue to be used in in-service road safety reviews and road safety audits.

5.2.2 Use In-service safety reviews and road safety audits to identify factors on city streets that are responsible for excessive collisions or could result in future safety problems. Generally, in-service safety reviews involve two parts, an office review of data and information, and field investigations of actual conditions. They can also be conducted as part of larger studies such as EAs and Transportation Impact Studies.

Road Safety Audits (RSA) are used to avoid creating or compounding road users safety problems associated with a road being constructed or reconstructed. In these cases, the RSA becomes part of the design process specifically to identify any safety concerns. An official RSA component could be added to the City’s design and approval process without significantly impacting the cost of efficiency of this process.

5.2.3 Continue use of the Region’s Safety Countermeasures Program to enhance safety on Regional roads and at signalized intersections through research, pilot studies, collision analysis and application of countermeasures ranging from flashing beacons and roundabouts to pedestrian refuges and adjusted traffic signal timing. The same should be done for unsignalized intersections and City of Kitchener streets where appropriate. It is imperative that where such safety countermeasures are applied on city streets, including various traffic calming techniques, pedestrian crossing controls, illumination and
signage, they must be limited only to those that will impact the roadway environment positively.

5.3 Active Transportation

The focus on active transportation has gained momentum in Kitchener in recent years with the development of the Multi-use Pathways and Trails Master Plan and Cycling Master Plan.

Walking – Multi-use Pathways and Trails

Walking is the most basic mode of travel, yet it is limited by distance, physical abilities, surrounding environment and other factors. From a larger perspective, it is greatly impacted by land use and transportation planning in creating the pedestrian environment, level of connectivity and competitiveness of other modes by which most people choose a mode of travel.

It is important to implement the City’s new Multi-use Pathways and Trails Master Plan because, according to the City’s Pedestrian Charter:

“An urban environment that encourages and facilitates walking supports community health, vitality and safety. It increases use of public transit; decreases car dependence; reduces conflict between vehicles and pedestrians; leads to cleaner air; green public space; and supports green tourism. Such an environment creates opportunities for the informal social interaction that is one of the main attributes of a vibrant, livable urban community.”

The City’s Pedestrian Charter also includes the six principles needed by pedestrians to ensure walking is a safe, comfortable and convenient mode of urban transportation, as well as recommended actions by the City to create an urban environment that encourages and supports walking. However, greater priority on pedestrians and the pedestrian network is needed to promote walking as a viable mode choice for shorter trips and to increase accessibility and connectivity to all Kitchener residents, employees and visitors.

To do this, the Multi-use Pathways and Trails Master Plan outlines the vision, objectives and policies for off-road multi-use pathways and trails. The plan also outlines a recommended network of Primary and Secondary multi-use pathways through Kitchener that highlights:

- Connections through neighbourhoods, to neighbouring municipalities, and to other modes of travel;
- Active transportation facilities that are highly visible and appeal to a wide range of users;
- Safe, accessible and convenient pathways that provide easy and safe travel for all users;
- Routes that are well-designed, sustainable and sensitive to natural and cultural amenities; and,
- Cost-effective implementation and maintenance.

The proposed Multi-use Pathway Network is illustrated in Exhibit 5.3.
Exhibit 5.3: Existing and Proposed Multi-Use Pathways and Trails
The recommendations and guidelines of the Multi-use Pathways and Trails Master Plan for planning and designing of multi-use pathways and trails shall be adopted as part of the integrated active transportation network and multi-modal transportation system to support an active, healthy and complete Kitchener.

**Walking – Sidewalks**

Streets are public spaces, and streets that are attractive, safe and suitable for walking are a key factor in community liveability. This is recognized by the City’s Pedestrian Charter that supports the principles of accessibility, equity, health and well-being, environmental sustainability, personal and community safety and community cohesion and vitality. Based on these principles, and with sidewalks being part of the public space, they should be provided and maintained for use by all members of the community.

In Kitchener, the provision of sidewalks within road rights-of-way is directed by provisions of the City's Development Manual (2010) which states:

*Concrete sidewalks are required:*

- Along both sides of all roads;
- Along both sides of all roads within the Downtown Districts, with the exception of public lanes;
- Along both sides of a cul-de-sac and the perimeter of the cul-de-sac bulb;
- Sidewalks are not required on designated scenic roads, and
- For roadways contained within a Heritage Conservation District, sidewalks shall be provided in accordance with the respective District approved policies.

The City’s Urban Design Manual (2010) recommends to “provide continuous sidewalks on both sides of roadways to support transit use and walkable communities, and “All streets should provide sidewalk on both sides” (in subdivisions).

However, there are locations in the City where, owing to various reasons, sidewalks were not installed at the time of the initial area development. For these existing urbanized locations without sidewalks, the City has developed a model, referred to as a “sidewalk infilling model”, for use in identifying areas of greatest sidewalk need to assist in the prioritization and budgeting of new sidewalk construction in existing urbanized areas. This prioritization is needed because city staff have estimated that infilling all sidewalk gaps in the city’s sidewalk network could take at least 25 years to complete based on the current rate of funding allocation.

In the staff model, the top three highest factors dictating the greatest demand for sidewalks are 1) within 120 m of schools, 2) within 50 m of special needs facilities such as hospitals, senior’s facilities and child care facilities and 3) within 50 m of streets with high vehicular traffic volumes exceeding 6,000 vehicles per day. Using a four level priority classification system, city staff in 2008 identified the following priorities for sidewalk infilling:

- Priority 1 – 1.5 km (2% of total);
In terms of sidewalk maintenance, the city follows Provincial minimum maintenance standards Ontario Regulation 239/02 for sidewalks under the Municipal Act, 2001. The Act was amended on February 18, 2010 to provide, among other amendments, that the minimum height elevation between sidewalk slabs, or pieces of sidewalk slabs is 2 cm (3/4 of an inch) before liability will be found against a municipality.

City of Kitchener bylaws also require that sidewalks be clear of snow and ice by the abutting property owner(s) within 24 hours of a snow fall. Not clearing sidewalks can result in city crews clearing them at a cost charged to the property owner(s).

Implementation Measures - Walking

5.3.1 Implement the Multi-use Pathways and Trails Master Plan and Pedestrian Charter as city-wide pedestrian strategies for the pedestrian network and pedestrian environment to improve connectivity, safety and integration of walking facilities with land use and transportation components. The strategy should be implemented to improve the walking experience and increase willingness to walk to destination or to connect to other sustainable modes of travel. Implementing the Charter also requires that the city continue to support and participate in Waterloo Region’s walkability initiatives.

5.3.2 Develop a new policy for sidewalk infilling in existing urbanized areas and sidewalks in new development areas based on the principle of “Complete Streets”. Complete Streets means that streets are designed to accommodate all modes, including walking and cycling. Therefore, creating Complete Streets mean no gaps are left in the sidewalk network except where physical barriers prevent construction of a sidewalk. A Complete Streets sidewalk policy may require increasing city funding allocated to new sidewalks in existing urbanized areas in order to ensure all top priority gaps (priority 1 and 2) are infilled within the city’s current 10-year capital forecast.

The new policy for sidewalk infilling should include procedures and priorities that focus on three primary infilling objectives:

1. safe routes to and from school and parkland for children;
2. safe movement for vulnerable pedestrians including seniors and those with mobility disabilities; and
3. safe, convenient and comfortable pedestrian access for transit users to transit routes.

These primary objectives for the public good should take precedent over any opposition to sidewalk infilling. While it is always desirable to have community support for sidewalk infilling projects, in some cases this is not always possible. Some adjacent property owners may have concerns about real or perceived sidewalk infilling impacts on their property, landscaping, privacy and/or street
character. This is why a new sidewalk infilling policy should include provisions for consultation with the surrounding community and adjacent property owners. However, in cases where a proposed infilling project faces public opposition, especially from adjacent property owners, City Council should weight the greatest benefits of the project for the greatest number of residents against any localized opposition.

The decision-making process should also consider the merits of supporting the city’s Pedestrian Charter, Urban Design Manual, City and Region air quality objectives, the Accessibility for Ontarians with Disabilities Act and other relevant legislation. City staff should continue to work with the public to develop more awareness regarding the importance of conforming to and supporting these related policies for the public good. Provision of safe, convenient and comfortable sidewalks within the road right-of-way is made for the public good, and therefore the public good should dictate where, when and how sidewalk infilling is approved within existing urban areas based on applicable municipal and provincial standards.

5.3.3 Implement more attractive streetscapes that include higher-order pedestrian amenities such as street furniture, vegetation, lighting and wayfinding. New streets and reconstruction projects should follow the preferred pedestrian infrastructure prescribed in the Street Network Classification System (Exhibit 5.1), and include improvements to pedestrian infrastructure such as wider sidewalks where warranted by pedestrian demand and where right-of-way width is available, safe pedestrian crossing amenities conformance with established warrants and accessibility elements including safer pathway road crossings and on-street connections as detailed in the Multi-use Pathways and Trails Master Plan.

5.3.4 Establish pedestrians as a priority in developments and encourage the highest level of pedestrian-oriented design and amenities through the planning review process of new developments and redeveloped sites. Pedestrian-supportive infrastructure, multi-use pathway and sidewalk design standards from the City’s Urban Design Manual and Multi-use Pathways and Trails Master Plan should be implemented where possible, and new developments should require pedestrian circulation plans to ensure connectivity with the surrounding pedestrian network, barrier-free accessibility throughout, and convenient and comfortable amenities that encourage high pedestrian activity.

5.3.5 Continue the City’s Sidewalk Replacement Program on an annual basis focusing on the creation of new sidewalks and walkways, as well as the improvement of existing ones to expand and improve a pedestrian-friendly environment (also see Measure 5.3.3).

5.3.6 Encourage active travel to/from schools and continue working with local school, student and neighbourhood groups to identify barriers, safe routes and other opportunities to walk to and from schools while highlighting the broader community benefits of reduced greenhouse gases and active, healthy residents.

5.3.7 Ensure year-round maintenance programs for the pedestrian network and review the City’s sidewalk maintenance and snow-clearing practices to ensure sidewalks and primary multi-use pathways are well-maintained and cleared in a timely manner during the winter in order to improve safety for all pedestrians.
Cycling

Cycling has the potential to be a competitive mode choice in Kitchener. Strategies and recommendations are focused on realising the new vision and objectives for cycling in Kitchener set out in the City’s Cycling Master Plan for the 21st Century (KCMP). This vision and its supporting objectives recognize the social, health, environmental and economic benefits of cycling, and support cycling as a viable means of transportation and recreation through the implementation of safe, comfortable and connected network and facilities, and through policies and programs to encourage use.

The KCMP includes recommended changes to include in the City’s Official Plan, changes to the road classification policy, and additional recommended policies for the City to enhance cycling in Kitchener.

Implementation Measures - Cycling

5.3.8 Implement the Cycling Master Plan and Multi-use Pathways and Trails master Plan (see Exhibit 5.3 and 5.4), plus the Regional Cycling Master Plan Update. This should include phased implementation of the bikeway network of signed routes, local bicycle priority streets, shared-use lanes, paved shoulder bikeways, bicycle lanes, and cycle tracks, as well as pathways and trails identified in the Multi-use Pathways and Trails Master Plan. The City will phase implementation of the cycling network over the next 20 years, and will continue to work with Regional partners and the Kitchener Cycling Advisory Committee to identify implementation issues or potential changes to the network to capture changes in travel patterns, key destinations, new opportunities, and barriers or constraints.

5.3.9 Plan for bicycle-friendly communities within Kitchener by developing and updating policies, guidelines and programs to include bicycle parking where people live, work, shop and play. Similar to pedestrian strategies, developments should make cyclists a priority through safe and direct connections to the cycling network, bicycle-friendly site design of right-of-way and building elements, and higher-order bicycle facilities that increase people’s willingness to cycle as a mode of transportation and recreation activity.

5.3.10 Integrate cycling into municipal practices and consider the needs of cyclists in transportation projects. New streets and reconstruction/resurfacing projects will follow the preferred cycling infrastructure prescribed in the Street Classification System. As noted in the KCMP, the City will routinely consider, and actively encourage the Region and neighbouring municipalities to consider, the needs of cyclists in all phases of roadway and traffic management projects.

5.3.11 Further integrate cycling with other modes and provide for bicycle facilities at major transit connectors, stations and stops to encourage multimodal cycling and transit as a viable mode of transportation for longer trips. Cycling in Kitchener will be an integral part of the multimodal transportation system. The KCMP recommends collaboration with the Region of Waterloo to integrate cycling with Grand River Transit and future rapid transit including connectivity of routes, stations and stops; bicycle parking at transit facilities and on transit vehicles, and bikeways along key transit corridors.
Exhibit 5.4: Kitchener and Region of Waterloo Cycling Master Plans

Kitchener Transportation Master Plan - Cycling

Legend

Kitchener Network
- Existing trail/link
- Existing on-road bikeway
- Proposed trail/link (see Note 1)
- Proposed on-road bikeway

Regional Network (see Note 2)
- Existing trail/link
- Existing on-road bikeway
- Proposed trail/link
- Proposed on-road bikeway

Street Type
- HIGHWAY
- MAJOR
- MINOR
- Local

Other Features
- Waterway
- Rail Corridor
- Municipal Boundary

Note 1: Proposed trails and associated links to be verified in the Multi-use Pathways and Trails Master Plan.

Note 2: Proposed trails, associated links and on-road bikeways for the Regional Network to be verified in the Walk Cycle Waterloo Region Plan.
5.3.12 Encourage active transportation for school trips by identifying and addressing barriers to cycling to and from schools. The KCMP recommends the City continue to partner with the Region of Waterloo Public Health and School Boards on Active and Safe Routes to School events, curriculum, school travel planning, and traffic and safety improvements in school catchment areas. In addition, guidelines and programs to assist schools in providing more bicycle parking facilities can promote cycling among students, faculty and staff.

5.3.13 Promote and support cycling with partnerships with the Region and other stakeholders through programs that communicate the health and social benefits of cycling, encourage cycling as a means of getting around the City and as a recreational activity, and promote safety for all users – drivers, cyclists and pedestrians alike.

5.3.14 Ensure maintenance and snow clearing of cycling routes through the review and update of street maintenance and snow-clearing practices to better accommodate year round cycling along all bikeways and trails.

5.4 Transportation Demand Management

The City developed a Transportation Demand Management (TDM) plan in 2010 that defines the TDM strategy for the City of Kitchener to minimize traffic congestion and parking demand, reduce greenhouse gas (GHG) emissions, and improve air quality and public health. The TDM plan preparation included surveys of employers and employees in and near downtown Kitchener, stakeholder interviews and public outreach.

The TDM plan provides recommendations divided into five phases, with programs that should be implemented by the City in the first four groups and other recommended strategies to be implemented based on available resources included in the fifth phase. Of note, the TDM plan focuses on Downtown Kitchener as an area that offers the greatest initial need and potential for TDM programs, but also recognizes benefits from implementing RDM strategies City wide.

The City of Kitchener supports TDM programs through TravelWise, a transportation management association (TMA) initiated by the Region of Waterloo, with the City as a member, that provides tools and services to encourage employees to reduce the number of single-occupant trips and to try sustainable modes of travel. The program is employer-focused and provides organizations with individualized marketing that target employees to change their commuting travel behaviour through services such as carpool ridematching, Grand River Transit corporate passes, emergency ride home, and employer reporting.

Implementation Measures

This TMP recommends the City build on the TDM strategies from the 2010 TDM plan, expanding the implementation of TDM programs beyond the downtown area and supporting the Regional TDM services already in place.

5.4.1 Expand employer TDM programs in Kitchener through existing TDM tools and services. This can begin with the City’s membership in the TravelWise
TMA to adopt carpool ridematching, subsidized transit passes, guaranteed-ride home and outreach programs to encourage its staff to choose sustainable modes of travel to and from work. Given TravelWise is a well-establish program in the Region, TDM efforts and outreach should be expanded beyond City staff and beyond the downtown area to encourage major employers throughout the City to adopt these services.

5.4.2 **Have the city’s TDM coordinator** work closely with the Region and employers, especially in downtown Kitchener, to adopt TravelWise programs, help implement other TDM strategies such as telework and carbon tracking, and provide guidance on TDM-friendly site design of developments.

5.4.3 **Support carsharing in the City** through outreach and promotional events to increase awareness, and provisions for preferred parking for carsharing vehicles to promote these services, facilitate their growth and aid their long-term viability in the City and the Region.

5.4.4 **Integrate TDM strategies into site planning and development approval processes** to provide for TDM-supportive measures in developments and encourage sustainable transportation choices. The City should develop a TDM checklist to help review and evaluate development applications, City of Kitchener transportation-related projects and projects of the Region and Province. This checklist would assign points and provide a rating, similar to the Region of Waterloo’s Travel Demand Management Implementation Checklist.

Another example of a TDM checklist was developed in the study “TDM Supportive Guidelines for Development Approvals” prepared by the Association for Commuter Transportation in Canada.

Part of this TDM checklist can include a requirement to prepare TDM plans as part of transportation impact studies for new developments and major transportation projects.

5.4.5 **Work with Region and local partners to engage residents** through individualized marketing to promote and encourage sustainable modes of transportation for all types of trips. As highlighted in the 2010 TDM plan, individualized marketing is aimed at targeted populations or groups and tailors the TDM strategies and programs based on the needs, opportunities and willingness to use other modes of travel.

**5.5 Neighbourhood Traffic Management (Traffic Calming)**

The 1998 Canadian Guide to Neighbourhood Traffic Calming by the Canadian Institute of Transportation Engineers (CITE) and the Transportation Association of Canada (TAC) in the Canadian Guide to Neighbourhood Traffic Calming defines traffic calming as “the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users.” Traffic calming measures are not only geometric changes to the roadway, and include signage, awareness and education programs to reduce vehicle speeds, minimize conflicts, and increase safety for all users.
While implementation of traffic calming measures has been around for several decades, the 1998 guidelines validated the approach to manage traffic on neighbourhood streets and adoption of policies for implementation. It is now common for Canadian municipalities to develop and adopt a traffic calming policy in applying measures.

The City of Kitchener’s traffic calming policy was adopted in August 2004. It includes an outline of the process by which traffic calming measures are evaluated and implemented, the type of measures to be considered, and a ranking criteria to evaluate the priority of implementation.

The policy has been working quite well, and measures implemented have had a positive result and support from residents, with a growing list of streets identified by residents for traffic calming reviews. The City is studying the following four streets which includes one major collector road:

- Trussler Rd - Ira Needles Blvd to Highland Rd;
- Heiman St - Highland Rd to Mill St;
- Franklin St N - Weber St to Ottawa St; and
- Pioneer Dr - Doon Village Rd to Homer Watson Blvd

The City’s traffic calming policy has not been updated since its inception eight years ago. In addition, the widespread implementation of traffic calming policies across Canadian municipalities provide a wealth of experience, lessons learned and best practices that would benefit the City’s traffic calming program.

Implementation Measures

**5.5.1 Review and update where required the City’s Traffic Calming Policy** focusing on three areas of possible improvements:

1. The traffic calming review process extending from a request for traffic calming through to study and design completion;
2. Confirmation of warrants required to initiate traffic calming studies; and
3. The type of traffic calming measures that will be considered for use in the City of Kitchener and where they can be used.

There is no single source that provides a comprehensive and complete list of all traffic calming measures, as there is a wide range of tools available to manage traffic on neighbourhood streets.

Emphasize a variety of traffic calming tools in the updated policy of traffic calming, and City staff may implement other tools as part of its evolving traffic calming program to achieve traffic management objectives. The 2004 policy lists 18 traffic calming measures, including a short description and appropriateness to road classification. The updated policy should clearly note there are a wide variety of other measures, tools and techniques, beyond those listed, available for consideration and implementation.
For example, speed humps have been effective in reducing vehicular speeds, but create delays for emergency services vehicles like fire trucks and ambulances. Speed cushions are smaller and installed in intervals across the roadway, encouraging automobiles to slow down while allowing emergency vehicles to straddle the vertical deflection. The City will be experimenting with speed cushions in 2012.

Other measures not currently included in the city’s 2004 policy include:

- Roundabouts are similar to traffic circles, typically applied to major collector roads and arterials with higher volumes.

- Speed tables shown above are a longer form of speed humps with a flat section in the middle. They are generally long enough for an automobile to rest flat in the middle section, and allow vehicles to pass through at slightly higher speeds than speed humps (i.e. without slowing as significantly).

Traffic calming tools should also be categorized by type to help the public better understand the range of traffic measures. Traffic calming measures are generally classified under the following categories:

- Horizontal geometric design: all measures that change the horizontal profile of the roadway and right-of-way, such as medians, curb extensions and chicanes.

- Vertical geometric design or deflections: measures that affect the vertical shift of the vehicle, such as speed humps and speed cushions.

- Surface treatments: measures that involve a change in visual or tactile features of the roadway surface as a means of getting the attention of motorists. Examples include rumble strips, textured crosswalks and different surface colours.

- Markings: measures that define the roadway, convey messages or create the illusion of narrower spaces or higher speeds than actual, without necessarily needing changes to right-of-way. Examples are transverse markings, and “SLOW” or “SCHOOL ZONE” on-lane markings.

- Access control: measures that define allowable and prohibited movement through streets, such as diverters and closures.
• Signage: measures that provide visual cues of lower speeds, advisory of conditions or other traffic calming measures, or that provide real-time feedback to drivers. Examples include speed radar signs, or variable signs.

### 5.6 Parking Supply and Management

Parking is a key element in the transportation system because of its influence on land use development and travel patterns. The provisions for parking affect the built form and can lead to an auto-oriented urban development. However, an adequate supply of parking facilities is also essential to support economic development and residential activities. In addition, the availability and price of parking have a strong influence on a traveler’s decision to drive or take an alternative mode of transportation.

Higher parking space requirements require a significant amount of land, increases development costs, reduces the amount of useable commercial space, and may reduce the attractiveness of a business area from an urban design perspective.

Overall, parking policies and strategies can be effective tools to influence transportation mode choice and urban form, and facilitate economic development and core area vitality.

### Parking Enterprise

The City of Kitchener recently adopted a Parking Enterprise model to manage and operate the City’s parking facilities. Key benefits of this model are:

• Adopts a user-pay system as the onus on parking development, operations and initiatives is shifted from the tax-base to parking users;

• Provides consistent dividends to City and eliminates capital budget impacts, fluctuations and uncertainty;

• Recognizes the interrelationship between parking and other transportation initiatives such as TDM to reduce single-occupant auto trips and encourage transit, walking and cycling modes;

• Provides funding source to support Active Transportation and TDM initiatives;

• Supports more focused development of parking through redevelopment/consolidation of surface lots and through partnership with the private sector; and

• Provides effective management and operations of parking facilities, in line with City policies and programs (e.g. intensification, vibrant downtown).

### Implementation Measures – Parking Enterprise

The following measures are targeted to assist in the implementation by the City’s Parking Enterprise.
5.6.1 Assess and facilitate redevelopment opportunities of surface parking lots and continue to develop city-owned parking structures and garages at key locations to meet demand.

5.6.2 Implement parking recommendations from the City’s Long-Term Parking Strategy report, including:

- Continue with annual increases in monthly parking rates in excess of inflation to reduce parking demand, support TDM and alternative modes of transportation, more closely align parking rates with the true cost of parking, and establish user-pay funding model;

- Maintain the city's existing monthly parking rates at about three times the cost of a monthly transit pass;

- Monitor long-stay parking supply and demand on a bi-annual basis; and

- Anticipate increased intensification and developments within the City Centre, by exploring public-private partnership opportunities for future municipal parking facilities and by reviewing current parking requirements in the zoning by-law.

5.6.3 Link TDM efforts with economic development to encourage downtown employees to use alternative modes of transportation and encourage business to implement TDM programs for their employees.

5.6.4 Coordinate Parking Enterprise and TDM initiatives together to create maximum benefits and avoid competition between the two programs (i.e. provision of parking supply versus encouraging use of alternative modes.

5.6.5 Regional parking strategies such as the development of a strategy for park-and-ride facilities in conjunction with the development of rapid transit in the Region, support of TravelWise (the regional TDM program), and others as outlined in the Region of Waterloo Parking Management Strategy.

Zoning Bylaw Parking Provisions

Like other Canadian municipalities, the City of Kitchener manages the off-street parking supply through parking requirements by land use set forth in Zoning By-law 85-1.

A common strategy for municipalities to address overall parking supply, and in turn influence parking demand, is to include provisions in the zoning or parking-related bylaw that allow for the reduction of parking requirements. A review of the City of Kitchener Zoning By-law 85-1 shows there are currently three types of provisions available to reduce parking requirements and promote more sustainable transportation choices:

- Lower parking requirements for Downtown Zones, particularly for retail and office land uses;

- Opportunities for shared parking; and
• Parking reductions (10-20-30%) for non-residential uses in mixed-use corridor zones;

However, there are other “best practices” parking provisions referenced below that could also be adopted within the Zoning By-law framework to reduce parking supply needs and encourage lower parking demands.

Implementation Measures – Zoning Bylaw

5.6.6 Review and update Zoning By-law to include revised parking standards for both the downtown and the city as a whole that more accurately reflect future modal split targets and encourage alternative modes of travel. Such as update would also consider the parking policy recommendations in the RTMP both region-wide and rapid transit-related and recommendations of the city’s Urban Design Manual for reduced parking requirements near rapid transit corridors and stations. More specific potential changes to Zoning Bylaw provisions for off-street parking may include:

• Adjust as required the schedule of parking space requirements per minimum quantities for downtown and other zones in Section 6.1 of Zoning Bylaw 85-1. Decision on adjusting the minimum quantities should be based on actual experience with their application in Kitchener, and a comparison on parking provisions from comparable cities;

• Consider establishing parking maximums instead of minimums to reduce excessive parking supply and create more compact developments;

• Allow for shared-parking facilities between multiple developments where peak demand occurs at different periods of the day;

• Review alternatives to the current Zoning Bylaw parking reduction provisions for non-residential uses in mixed-use corridors;

• Include requirements and provisions for bicycle parking facilities, particularly at residential, office and retail land uses;

• Allow for reduction in total parking requirements through the inclusion of parking stalls reserved for carpool and/or carsharing vehicles;

• Review the geometric standards for parking spaces to ensure they reflect the trend towards smaller sized vehicles;

• Continue to use the City’s cash-in-lieu of parking provisions within the Zoning By-law11 that clearly defines conditions for paying for required parking spaces that cannot be provided. The review of City parking standards should also consider application of cash-in-lieu outside of Downtown Kitchener, for example in rapid transit station areas. If supported, policies for provision of cash-in-lieu outside of the Downtown should be included in the OP; and

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11 Kitchener has a payment in lieu of parking program which requires developers to pay the City $35,000 for each parking space required in the zoning bylaw that they are unable to provide. This fee is increased annually based on the construction price index.
- Allow for reduced parking requirements, up to a defined maximum reduction, based on the implementation of TDM measures (e.g., carsharing parking as noted earlier, transit passes) or substantiated by a parking study approved by city.

5.7 Goods Movement

Goods movement in and through the City of Kitchener is managed by two types of management approaches:

- **Permissive** - The Region of Waterloo adopts a permissive approach to truck route management by designating truck routes where trucks can operate.

- **Restrictive** - The City of Kitchener uses a restrictive management approach with no designated truck routes, but with the use of No Truck signage to identify where and when trucks are not allowed.

The provincial highways, regional urban arterials and major arterials serve as the primary network for truck movements through and within the City of Kitchener. However, the city's Traffic By-law 2007-138 includes a schedule of restrictions for heavy truck (over 4.6 metric tonne weight, unloaded) on city roads. These types of restrictions are typical among municipalities to restrict truck movements during certain time periods (hours, seasons) or at specific locations to reduce impacts to adjacent land uses (e.g. schools, residential neighbourhood) or to reduce damage to road infrastructure.

The efficient movement of goods and services requires an integrated approach to transportation planning and land use development, to maximize opportunities for economic growth and minimize impacts to residents and the environment. It also needs to encourage sustainability and be balanced with other long-term strategies and initiatives, such as transit corridors.

**Implementation Measures**

The strategies for goods movement in this TMP reflect the principles for freight-supportive land use and transportation planning and, in turn, be in line with the freight-supportive guidelines being developed by the Ministry of Transportation, Ontario. A freight-supportive approach to planning for communities is based on integrating: 1) the needs of the freight industry from the perspectives of development and mobility; and 2) the improved economic position that safe and effective freight movement can bring to a community.

**5.7.1 Plan for an effective and sustainable goods movement network in Kitchener** that provides direct, convenient and connected access to existing and future employment lands, industrial and commercial developments, and other major goods and service centres. A strategic goods movement network of designated corridors will also reduce impacts to local residential communities,

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12 The Ministry of Transportation, Ontario, is preparing Freight-Supportive Guidelines to assist municipalities with ideas, tools and best practices from a freight perspective in land-use and transportation planning. The development of these guidelines is ongoing and are scheduled to be finalized by Fall/Winter 2012.

traffic congestion, noise and air emissions, and improve safety and the efficiency of goods and service delivery.

5.7.2 Improve connections and access to provincial highways and regional arterials as part of a sustainable goods movement network. As noted in the Region’s TMP, trucking activity on Highway 401 and Highway 8 are significant and improving access “is required to maximize accessibility to existing and future industrial and employment areas and to reduce congestion levels on the freeway system, which impedes overall trucking efficiency.”

5.7.3 Establish regular communication channels and continue to work with stakeholders such as the goods movement industry and major industries/businesses to direct higher volumes of goods movement to the network, and identify local issues and opportunities to improve the efficiency of the network.

5.7.4 Support more sustainable and innovative practices for local goods movement to reduce impacts on neighbourhoods and local streets. Opportunities for innovative initiatives to address “last-mile” goods movement include:

- Support alternative modes of transport and vehicle technologies for short-length and local deliveries – e.g. electric-power delivery trucks;
- Restrict delivery times by heavy vehicles outside of peak commuter time periods; and
- Explore alternatives to direct pick-up and drop-off goods movements, such as centralized goods centres known as “Packstations” that serve as focal points where local merchants and residents are able to receive packages. These stations are convenient for recipients (e.g. when strategically place near places of work or residences) and also reduce local (door-to-door) circulation of delivery vehicles.

5.7.5 Improve efficiency of the goods movement network through use of intelligent transportation systems. This measure applies mainly to provincial highways and Regional roads that benefits from such systems by providing real-time information to industries and truck drivers to improve traffic flows and reduce travel times, as well as improving goods movement data collection programs used to analyse and improve travel patterns and overall safety.

5.7.6 Work with the Province and Region on higher-level policies and strategies to improve goods movement within the realm of land use and transportation planning. This includes support for MTO’s Freight-Supportive Guidelines and the goods movement-related recommendations in the Region of Waterloo TMP.

5.8 Traffic Control

Need for Uniform Traffic Control

The control and management of driving, cycling and walking in the City of Kitchener requires constant assessment and reassessment of the travelling
environment and its potential conflicts and conditions. The City must also respond in a uniform manner to public requests and expectations for traffic controls, including installation of stop signs, pedestrian crossings and traffic signals.

For example, many people believe that traffic signals are the best way of controlling the movement of vehicles and pedestrians. However, the Region of Waterloo is responsible for the installation and operation of all traffic signals in the City, and such installation is not supported where traffic control signals are not warranted for a number of reasons. Regional studies indicate that twice as many collisions occur at a signalized intersection compared to a stop controlled intersection with similar traffic volumes. A two-year before / after study of 47 signals in the Region documented a 20% increase in overall collisions after signalization. Excluding angle collisions, injury collision increased by 70%. Studies also indicate that signals generally do not improve pedestrian safety. Installation of unwarranted signals also has a negative impact on the environment. Unnecessary driver delays leads to increased fuel consumption, carbon emissions and noise, as vehicles stop and start more often and idle at red lights. Therefore, it is important to operate appropriate types of traffic control measures only where warranted within the City, and to do this in a uniform, consistent manner.

Another reason that warranted traffic controls are important is that a road user’s reaction to “unexpected” events or situations is generally slower, and thus provides them with less time to recognize the imminent decision and to properly react to it. The uniform application of traffic and pedestrian control devices (hereafter, collectively referred to as traffic control devices) simplifies road user tasks as it aids in the timely recognition and understanding of the situation.

Accordingly, standards and guidelines have been developed to provide uniform implementation and application of traffic control devices. The Manual of Uniform Traffic Control Devices for Canada (Canadian MUTCD) provides standards and guidelines concerning the design and use of traffic control devices, including signs, markings and devices. The use of a “standard” traffic control device or sign does not by itself constitute uniformity or a typical installation. In fact, a standard device used in an inappropriate application or location may cause confusion among the various road users, contribute to poor decisions and increase conflict potential.

For specific devices such as traffic signals, all-way stops, marked and unmarked crosswalks, speed limits signs, and traffic calming devices, warrants have been created on a national, provincial and/or jurisdictional level. Historically, warrants were minimum criteria that needed to be met before a specific traffic control or roadway device would be installed. Today, a warrant provides qualitative and quantitative threshold conditions to transportation professionals to evaluate the potential operational or safety benefits (and disbenefits) of traffic control devices, based on average conditions.

Warrants assist in determining the need for a particular traffic control device to guide:

- Logical and Consistent Application - the best means to achieve effective and safe traffic and pedestrian control is through the uniform application
of realistic policies and standards within a municipality, region and/or province;

- Priority Installations – As with other infrastructure and capital improvements, the available funding for traffic control devices is limited. For more costly devices such as traffic control signals and pedestrian signals, a jurisdiction may need to prioritize their installation based on available capital funds, staff resources and on-going maintenance resources. The City and Region of Waterloo makes use of traffic control warrants to determine potential needs and responsibilities for overall growth. Distinguishing between warranted and unwarranted traffic control devices is an additional tool in these decision processes; and

- Funding Responsibilities – There are many circumstances where changes in land use, access or the area road network will change traffic or pedestrian volumes at a particular location, thus creating a warranted traffic control device. The City and Region of Waterloo can make use of traffic control warrants to determine potential needs and responsibilities. It is important to stress that regardless of the location, the best means to achieve effective and safe traffic control is through the uniform application of realistic policies and standards within a municipality. Warrants for traffic control devices assist in attaining these goals.

It is important to stress that regardless of the location, the best means to achieve effective and safe traffic control is through the uniform application of realistic policies and standards within a municipality. Following warrants for traffic control devices assist in attaining these goals.

Current Roles and Responsibilities

Currently the City of Kitchener applies the following standards of traffic controls:

<table>
<thead>
<tr>
<th>Stop Sign Control</th>
<th>Ontario Traffic Manual (OTM)</th>
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<tbody>
<tr>
<td>Speed Limits</td>
<td>Ontario Traffic Manual (OTM)</td>
</tr>
<tr>
<td>All-Way Stops</td>
<td>City of Kitchener adaptation of the Manual of Uniform Traffic Control Devices (MUTCD), Ontario MTO</td>
</tr>
<tr>
<td>Traffic Signals</td>
<td>Responsibility of the Region of Waterloo</td>
</tr>
</tbody>
</table>

The Region’s current warranting procedure for full traffic signal control at an intersection is based on the current Ontario warrant outlined in Ontario Traffic Manual Book 12 (OTM Book 12) published by the Province of Ontario.

Safety versus Security and Capacity Considerations

In many cases, traffic control devices/changes such as traffic signals, speed limit reductions, all-way stops and pedestrian signals can be viewed by the public and elected officials as the “cure all” for many of the operational and safety concerns on road networks. The reason for most traffic control requests is to improve safety, but if incorrect measures are applied such as unwarranted traffic signals or stop signs, the net safety of the location may be reduced.
The focus of recent research activities has centred on real safety impacts and benefits of a particular traffic control device, to counter the “it will improve safety” type request. An example of this would be the installation of an all-way stop control on a four lane major roadway with a minor residential street in order to improve pedestrian safety. In this case, pedestrian safety is actually decreased due to “multiple threat” of the two vehicle approaches, reduced sight lines and low motorist compliance on the major street due to low side street volume.

Road User Behaviour Considerations

Road users build expectancies about future roadway and traffic control operations and treatments based largely on past experiences. The typical road user has little or no knowledge of the warranting procedures outlined in traffic engineering manuals, but what they do know is based on a relatively constant application of personal expectancies of where traffic signals, stop controls and pedestrian crossing may be encountered.

If an atypical traffic control device is installed at a location, the road user may be ill-prepared to perceive and react to the situation or hazard. One of the primary purposes of traffic control warranting procedures is to provide a relatively consistent approach to traffic control within and among jurisdictions. There are many examples of municipalities and jurisdictions installing supplementary warning and information signs in an attempt to address motorist misunderstanding of poorly designed or placed traffic control devices.

Municipalities essentially have three options available when reviewing their traffic control procedures and warrants. They can add additional warrants where required, modify their existing warrants in response to new or updated research and/or maintain their existing warrants. For the City of Kitchener, this Master Plan recommends that the City and Region maintain their existing traffic control warrants, and update as required in response to new provincial/federal standards and/or recent research findings such as:

- **School crossing/school crossing guard** – The Ontario Traffic Council has recently finalizing a review of school crossings and related warrants, and a school crossing guard guide;

- **Audible pedestrian signals (APS)** – Jurisdictions across Canada and the US have established policies for installing APS, ranging from general guidelines to highly structured rating systems with minimum point systems. Others rely on less “value or numbers based” approaches to prioritize their APS installations through a committee selection process with representatives for the visually impaired community. From current research efforts in the area of APS, it appears that the latter process of guidelines paired with a committee-recommended priority listing, is the preferred method. As such, it is not recommended that an APS device “warrant” be established; and

- **Marked pedestrian crossings** – A number of jurisdictions permit the use of marked pedestrian crossing locations at uncontrolled locations, with the inclusion of pedestrian crossing signs. Currently, the City of Kitchener does not permit these uncontrolled applications. However, recent research (Zegeer at al) indicates there may be situations such as on low volume two-lane roads or in low speed situations such as
downtown areas, where marked crossings at uncontrolled locations may be permitted. In these cases, no net benefit in safety was identified. In light of these findings, the City should maintain their position of no marked crossings at uncontrolled locations.

Implementation Measures

5.8.1 Maintain existing traffic control warrants as it is not recommended that the City of Kitchener pursue the development of formal warrants beyond those that are already in place.

5.9 Growth Areas

Urban Growth Centre

Downtown Kitchener, also called the Urban Growth Centre in the Official Plan, will be the highest priority for development approvals in the City, and the focus of intensification growth. The Region’s planned Rapid Transit (LRT) will serve the Downtown, along with associated LRT station areas and the planned Multi-Modal Transit Hub in the King Street / Victoria Street intersection area.

These planned rapid and other conventional transit services planned for Downtown Kitchener will help achieve the overall transit mode split of about 8.3% in 2031 compared to 4% today according to the RTMP. The RTMP also forecasts that the share of trips made by transit within the Central Transit Corridor, which traverses Downtown Kitchener, will significantly increase with introduction of rapid transit service.

This major change, supported by effective TDM measures targeted at downtown employers plus provision of improved cycling and pedestrian facilities in the downtown all have the potential to enhance more transportation choice in the Urban Growth Centre, thereby slowing growth in downtown auto traffic.

Associated with this will be the Region’s maintenance and enhancement of regional road capacity around the downtown to provide alternative bypass travel routes, most notably from strategic widening on Ottawa Street (10-20 years) and Weber Street (0-5 years), plus MTO’s widening of Highway 7/8 from Highway 8 to Fischer-Hallman Road (0-5 years).

Also supporting improved transportation choice in the Urban Growth Centre is the City’s Preliminary Action Plan for downtown Kitchener. The core areas of focus of this plan are based a series of actions centred around King Street, new downtown neighbourhoods and evolving redevelopment areas.

Primary Corridors

Like the Urban Growth Centre, the City plans Primary Corridors as high service traffic and transit areas, moving high volumes of traffic on Regional and City Arterial Streets while still protecting city neighbourhoods. New cycling routes are planned in these corridors, and Pedestrian Charter principles and TDM initiatives will be a high priority.
Urban Nodes

In addition to the Urban Growth Centre in Downtown Kitchener, the City’s new Draft OP includes Urban Nodes located at or near strategic arterial street intersections (City and Regional). Some of the Urban Nodes are intended to support transit and pedestrianism, so provisions for these modes along the associated streets will need to be available and also include conventional transit service focused on the downtown Kitchener terminal hub, and motorized traffic distributed to the arterial and collector streets. Cycling routes will be provided by the numerous existing and proposed routes presented in the City and Region Cycling Master Plans. The Pedestrian Charter will direct the provision and maintenance of the pedestrian environment. Opportunities for TDM initiatives in these nodes are considered potentially high.

Rapid Transit Corridor Impacts

The Region of Waterloo plans to construct and operate Light Rail Transit (LRT) service in the City of Kitchener along approved routes previously shown in Exhibit 5.2 Recommended Street Network Classification. These routes represent a Central Transit Corridor in Kitchener where growth is planned mainly through intensification near planned LRT stations.

The Stage 1 service is planned to start in 2017 from the Conestoga Mall in Waterloo to the Fairview Park Mall in Kitchener. Where this service operates within existing street rights-of-way, it will have two main impacts. First, it will physically replace existing road surface space, thereby reducing the auto carrying capacity of the street with either a double or single track depending on the location. This will reduce the auto carrying capacity of these affected streets by up to 50%.

Secondly, left-turns and U-turns will be provided only at specific signalized intersections along the LRT alignment, and will be restricted at other unsignalized intersections. However, in the downtowns where there is a curbside rapid transit lane, traffic will be able to cross the LRT to get in and out of driveways.

These changes have been reported by the Region, most recently at public consultation meetings held in January 2012 as part of the Transit Project Assessment Project (TPAP) conducted for the rapid transit project including:

“Permanent changes to some vehicle accesses along the corridor will be required. Some intersections along the corridor may experience greater delays during peak hours”.

Mitigation measures reported by the Region in response to these impacts include “traffic management plans will be developed for temporary road closures and detours during construction. Signalized intersections along the corridor will be assessed and adjusted to provide better signal coordination within the network for all modes”.

In response, the LRT ridership, associated property redevelopment and resulting expected reductions in auto use along the LRT corridor are expected to evolve over time. In the meantime, while this is happening with some reduced auto capacity and turn restrictions along the LRT corridor, there is a risk that auto
travel patterns will adjust by diverting to alternative travel routes. Some of these alternative routes could be parallel streets near the LRT lines. In these cases, the Region and the City of Kitchener must monitor potential neighbourhood traffic volume infiltration along the LRT corridor, and where this may involve neighbourhood streets not intended for such increased traffic volumes, neighbourhood traffic management plans will be needed to mitigate any such infiltration.

The Region also plans on preparing an Impact Monitoring Process and Plan to address any potential traffic pattern and intrusion problems. The City of Kitchener recommends that this plan include the following information regarding potential traffic diversion associated with the LRT operations:

1. City-wide Diversion – Determine the amount of traffic diverted from the LRT corridor and assess the traffic impact to the adjacent corridors;

2. Traffic Circulation – Identify the traffic circulating through the network and estimate the impact caused by the diverting traffic; and

3. Strategies for Displaced Traffic – Identify any problematic locations for diverting traffic and identify remedial measures, where possible.

The two potentially critical LRT routes through Kitchener that could be most susceptible to traffic diversion as the system evolves, and that therefore should be the focus of this monitoring are:

- King Street from Union Street to Victoria Street; and
- Charles Street from Benton St./Frederick St. to and including the planned Ottawa Street/Borden Avenue loop.

The planned LRT alignment from the Ottawa Street/Borden Avenue loop to the hydro corridor north of Fairway Road follows the CN Huron Park rail spur under Highway 7/8, and along the edge of Courtland Avenue while retaining the four lane capacity of Courtland so no reduced street capacity along this section of the Kitchener LRT alignment is expected.

Major Transit Station Areas

At the time of preparing this TMP, the Region of Waterloo had commenced work on the Central Transit Corridor Community Building Strategy to examine the relationship between the Central Transit Corridor and the Region's cities and neighbourhoods. The strategy will also help identify the initiatives and investments needed to support rapid transit, as well as the community benefits that will come with it.

The rapid transit station areas will be important elements of the city and regional multi-modal transportation system, bringing together pedestrians, cyclists and users of both conventional and rapid transit. Station area plans will be prepared for each station, and are expected to include strategies and related guidelines for station area features such as parking and Active Transportation linkages.
Multi-Modal Transit Hub

The Region of Waterloo is planning a new multi-modal Transit Hub on a site at the northeast corner of Victoria Street and King Street in downtown Kitchener. The Transit Hub will be a multi-modal facility to accommodate local and regional traffic (pedestrians, cyclists, drivers, taxis, buses, light rail trains) as well as intra-regional traffic (buses and heavy rail).

For active transportation modes, the Region’s new RTMP identifies them as a critical component of a balanced transportation system that will play a much larger role in urban areas as they build out and begin to achieve higher land use densities. For the City of Kitchener, the active transportation mode share goals for 2031 are 2.7% for cycling and 9.2% for walking. Achieving this increase will require investment in active transportation infrastructure, and the multi-modal transit hub is a key component of this infrastructure.

The Hub is also planned as a mixed-use development incorporating opportunities for office, retail, residential and civic uses and activities coupled with the principal transportation function. The proposed development is intended to be a landmark site within the City and the Region as a whole, with uses and activities in a built scale and form that support the site’s prominence in Waterloo Region and downtown Kitchener.

Exhibit 5.5: Multi-Modal Hub Preliminary Concept

Source: Regional Municipality of Waterloo
6. Master Plan Implementation

6.1 Plan Review & Update

While the Kitchener Transportation Master Plan (TMP) is a long-term strategic planning document, it is not meant to be static. The TMP requires regular review to ensure it continues to meet the transportation planning needs of the City. Changes in growth and development patterns, in community expectations or objectives, as well as changes in the expected timing and implementation of major infrastructure, particularly rapid transit, can result in the need for a re-investigation and review of the TMP. This can happen as part of the City’s 10-year Capital Budget process.

The TMP also requires updates regularly to remain relevant and effective in addressing the City’s objectives and transportation needs. Therefore, it is further recommended that the TMP undergo a full review every five years in conjunction with the mandatory review of the Official Plan.

6.2 Implementation Measures & Phasing

All of the preceding implementation measures included in this TMP are summarized on Exhibit 6.1 along with the time horizon in which each would be implemented in the short, medium and long term. Refer to the appropriate TMP sub-section for more information on each recommended measure.

The summary also relates each implementation measure to the main strategic priorities for social, environmental and economic well-being that is the foundation of A Plan for a Healthy Kitchener: The Strategic Plan for 2011-0214.

Community Strategic Plan Values

<table>
<thead>
<tr>
<th>#</th>
<th>VALUE</th>
<th>MAIN STRATEGIC PRIORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value 1</td>
<td>Quality of Life</td>
<td>Invest in maintaining basic services and amenities</td>
</tr>
<tr>
<td>Value 2</td>
<td>Leadership &amp; Community Engagement</td>
<td>Be a community in which the residents are engaged and active in decision making about local issues</td>
</tr>
<tr>
<td>Value 3</td>
<td>Environment</td>
<td>Focus significant energy and resources on becoming more environmentally friendly (i.e. cycling master plan, TDM plan)</td>
</tr>
<tr>
<td>Value 4</td>
<td>Diversity</td>
<td>All residents have equitable access to, and meaningful inclusion in the social, economic and cultural fabric of civic life</td>
</tr>
<tr>
<td>Value 5</td>
<td>Development</td>
<td>A Community that has carefully planned its neighbourhoods and growth by trying to attract specific types of growth</td>
</tr>
<tr>
<td>Vision 6</td>
<td>Dynamic Downtown</td>
<td>Vital and lively downtown</td>
</tr>
</tbody>
</table>
### Summary of Measures

**Exhibit 6.1: Summary of Implementation Measures**

<table>
<thead>
<tr>
<th>Implementation Measures</th>
<th>Time Horizon</th>
<th>Values</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>0-5</strong></td>
<td><strong>5-10</strong></td>
<td><strong>10-20</strong></td>
<td></td>
</tr>
<tr>
<td><strong>4.4 TRANSPORTATION NEEDS &amp; OPPORTUNITIES - STREETS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4.1 City to implement the City Street Capacity Enhancement Actions recommended on City street segments listed on Exhibit 4.15.</td>
<td>●</td>
<td>●</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>4.4.2 Region of Waterloo to implement the strategic network improvements in the City of Kitchener recommended in the Regional TMP in association with Ministry of Transportation highway improvements and selected City of Kitchener street improvements (Measure 4.4.1).</td>
<td>●</td>
<td>●</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td><strong>5.2 TRANSPORTATION SAFETY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2.1 Continue to use collision data maintained by the Region of Waterloo from all Regional roads and signalized intersections, and Regional Police Services Motor Vehicle Collision Incident Reports on all public roadways.</td>
<td>●</td>
<td>●</td>
<td>1, 3</td>
</tr>
<tr>
<td>5.2.2 Use In-service safety reviews and road safety audits to identify factors on city streets that are responsible for excessive collisions or could result in future safety problems.</td>
<td>●</td>
<td>●</td>
<td>1, 3</td>
</tr>
<tr>
<td>5.2.3 Continue use of the Region’s Safety Countermeasures Program to enhance safety on Regional roads and at signalized intersections through research, pilot studies and collision analysis.</td>
<td>●</td>
<td>●</td>
<td>1, 3</td>
</tr>
<tr>
<td><strong>5.3 ACTIVE TRANSPORTATION – WALKING</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3.1 Implement the Pedestrian Charter and Multi-use Pathways and Trails Master Plan as city-wide pedestrian strategies for the pedestrian network and pedestrian environment.</td>
<td>●</td>
<td>●</td>
<td>1, 3, 5, 6</td>
</tr>
<tr>
<td>5.3.2 Develop new policy for sidewalk infilling in existing urbanized areas and sidewalks in new development areas based on “Complete Streets” principles.</td>
<td>●</td>
<td></td>
<td>1, 3, 5, 6</td>
</tr>
<tr>
<td>5.3.3 Implement more attractive streetscapes with higher-order pedestrian amenities such as street furniture, trees, and wayfinding where required.</td>
<td>●</td>
<td>●</td>
<td>1, 3, 5, 6</td>
</tr>
<tr>
<td>5.3.4 Establish pedestrians as a priority in developments and encourage the highest level of pedestrian-oriented design and amenities through the planning review process.</td>
<td>●</td>
<td>●</td>
<td>1, 3, 5, 6</td>
</tr>
<tr>
<td>5.3.5 Continue the City’s Sidewalk Replacement Program annually (also see Measure 5.3.2).</td>
<td>●</td>
<td>●</td>
<td>1, 3</td>
</tr>
</tbody>
</table>
### Implementation Measures

<table>
<thead>
<tr>
<th>Implementation Measures</th>
<th>Time Horizon Years</th>
<th>Values</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-5</td>
<td>5-10</td>
<td>10-20</td>
</tr>
</tbody>
</table>

5.3.6 Encourage active travel to/from schools.  ● ● ●  1, 3  Schools, Neighbourhoods

5.3.7 Ensure year-round maintenance programs for the pedestrian network and review the City's sidewalk maintenance and snow-clearing practices.  ● ● ●  1, 3, 6  Residents, DKBIA, Employers

#### 5.3 ACTIVE TRANSPORTATION – CYCLING

5.3.8 Implement the Cycling Master Plan and Multi-use Pathways and Trails Master Plan (see Exhibit 5.3 and 5.4), plus the Regional Cycling Master Plan Update.  ● ● ●  1, 3  Region

5.3.9 Plan for bicycle-friendly communities within Kitchener by developing and updating policies, guidelines and programs to include bicycle parking where people live, work, shop and play.  ● ● ●  1, 3

5.3.10 Integrate cycling into municipal practices and consider the needs of cyclists in transportation projects.  ● ● ●  1, 3

5.3.11 Integrate cycling with other modes and provide for bicycle facilities at major transit connectors, stations and stops to encourage multi-modal cycling and transit.  ● ● ●  1, 3  Region

5.3.12 Encourage active transportation for school trips by identifying and addressing barriers to cycling to and from schools.  ● ● ●  1, 3  Schools

5.3.13 Promote and support cycling with partnerships with the Region and other stakeholders.  ● ● ●  1, 3  Region, Schools, Major Employers

5.3.14 Ensure maintenance and snow clearing of cycling routes through the review and update of street maintenance and snow-clearing practices.  ● ● ●  1, 3  Region

#### 5.4 TRANSPORTATION DEMAND MANAGEMENT

5.4.1 Expand employer TDM programs in Kitchener through existing TDM tools and services.  ● ● ●  1, 3, 6  Major Employers, Region

5.4.2 Have the city's TDM coordinator work closely with the Region and employers to adopt TravelWise programs, help implement other TDM and provide guidance on TDM-friendly site design of developments.  ● ● ●  1, 3, 6  Region, DKBIA, Major Employers

5.4.3 Support carsharing in the city through outreach and promotional events to increase awareness, and provisions for preferred parking for carsharing vehicles.  ● ● ●  1, 3, 6  Region

5.4.4 Integrate TDM strategies into site planning and development approval processes to provide for TDM-supportive measures in developments and encourage sustainable transportation choices.  ● ● ●  1, 2, 3, 5  Region, Developers
<table>
<thead>
<tr>
<th>Implementation Measures</th>
<th>Time Horizon Years</th>
<th>Values</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4.5 Work with Region and local partners to engage residents through individualized marketing to promote and encourage sustainable modes of transportation for all types of trips.</td>
<td>0-5</td>
<td>● ●</td>
<td>1, 2, 3, 4, 5, 6 Region, Neighbourhoods, Developers, Major Employers</td>
</tr>
<tr>
<td>5.5 NEIGHBOURHOOD TRAFFIC MANAGEMENT (TRAFFIC CALMING)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.5.1 Review and update where required the City’s Traffic Calming Policy.</td>
<td></td>
<td>● ●</td>
<td>1, 2</td>
</tr>
<tr>
<td>5.6 PARKING SUPPLY &amp; MANAGEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.6.1 Assess and facilitate redevelopment opportunities of surface parking lots and continue to develop city-owned parking structures and garages at key locations to meet demand.</td>
<td>0-5</td>
<td>● ● ●</td>
<td>1, 5, 6 DKBIA Developers</td>
</tr>
<tr>
<td>5.6.2 Implement parking recommendations from the City’s Long-Term Parking Strategy report.</td>
<td></td>
<td>● ●</td>
<td>1, 5, 6 DKBIA</td>
</tr>
<tr>
<td>5.6.3 Link TDM efforts with economic development to encourage downtown employees to use alternative modes of transportation and encourage business to implement TDM programs for their employees.</td>
<td>0-5</td>
<td>● ● ●</td>
<td>1, 5, 6 DKBIA, Major Employers</td>
</tr>
<tr>
<td>5.6.4 Coordinate Parking Enterprise and TDM initiatives together for mutual support and to avoid competition.</td>
<td></td>
<td>● ●</td>
<td>1, 3</td>
</tr>
<tr>
<td>5.6.5 Consider regional parking policies as outlined in the Region of Waterloo Parking Management Strategy.</td>
<td></td>
<td>● ●</td>
<td>1, 2, 5, 6 Region</td>
</tr>
<tr>
<td>5.6.6 Review and update Zoning By-law to include revised parking standards for both the downtown and the city as a whole.</td>
<td></td>
<td>● ●</td>
<td>1, 5, 6</td>
</tr>
<tr>
<td>5.7 GOODS MOVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.7.1 Plan for an effective and sustainable goods movement network in Kitchener.</td>
<td>0-5</td>
<td>● ● ●</td>
<td>1, 3</td>
</tr>
<tr>
<td>5.7.2 Improve connections and access to provincial highways and regional arterials as part of a sustainable goods movement network.</td>
<td></td>
<td>● ●</td>
<td>1, 3 Region, MTO</td>
</tr>
<tr>
<td>5.7.3 Establish regular communication channels and continue to work with stakeholders.</td>
<td></td>
<td>● ●</td>
<td>2 Goods Movement Providers</td>
</tr>
<tr>
<td>5.7.4 Support more sustainable and innovative practices for local goods movement to reduce impacts on neighbourhoods and local streets.</td>
<td></td>
<td>● ●</td>
<td>1, 3 Goods Movement Providers</td>
</tr>
<tr>
<td>5.7.5 Improve efficiency of the goods movement network through use of intelligent transportation systems mainly on provincial highways and regional roads.</td>
<td></td>
<td>● ●</td>
<td>1, 3 Region, MTO</td>
</tr>
</tbody>
</table>
6.3 Performance Measures Framework

Performance measurement is necessary to gauge the effectiveness of the policies, programs and infrastructure improvements in achieving the City’s Transportation Goal and Objectives as defined in Section 1.4, and the 2031 Transportation Vision presented in Section 1.5. The performance measurement program provides a framework for the City to track changes in land use patterns, demographic characteristics, system performance and mode choice over time. This information will allow the City to assess the success of actions taken and provide guidance in further implementation of the TMP.

The following performance measurement framework is structured according to the six strategic planning objectives of this TMP. This list represents a desirable set of indicators for monitoring the implementation of the TMP and resulting transportation performance. It is recognized that many of these indicators require additional data collection and analysis, and all may not be achievable given current data and staffing resources. However, it may also be possible to pool efforts with the Region of Waterloo to maximize joint benefits.

Performance measurement should be conducted every five years in association with the recommended TMP review and updating. Furthermore, corridor, area and intersection-specific monitoring both as recommended in this TMP and on an as-required basis may be warranted to monitor localized conditions and needs.

Exhibit 6.2: Proposed Performance Measurement Framework

<table>
<thead>
<tr>
<th>Strategic Objective</th>
<th>Performance Indicators</th>
</tr>
</thead>
</table>
| 1. Develop guiding transportation policies for subjects ranging from traffic control through to parking requirements. | • Approve the TMP  
• Update Traffic Calming Policy  
• Review Zoning Bylaw parking provisions |
| 2. Provide planning direction to the year 2031 with short, medium and long term goals. | • Incorporate recommended short and medium term city road, active transportation, streetscaping and TDM investments into the City Capital Forecast and Growth Management Plan  
• Number of intersections operating at LOS |
### 3. Provide transportation planning direction for enhanced alternative modes of transportation (walking, cycling and transit).

- Annual funding for the TDM Plan, Cycling Master Plan and Multi-use Pathways and Trails Master Plan recommendations
- Support Regional initiatives to improve conventional transit service and introduce rapid transit service in Kitchener

### 4. Develop an integrated transportation system that supports Regional bus and planned rapid transit.

- AM peak period and all day transit supply (seat-km per capita)
- Average transit commute time (minutes)
- % completion of rapid transit line

### 5. Develop a city that is less reliant on cars.

- Automobile ownership per capita
- AM peak period and all day transit, bicycle and walking mode shares

### 6. Support growth intensification initiatives in a sustainable manner.

- Population density (population per ha)
- Employment density (jobs per ha)
- Average journey to work trip distance
- Report road injuries and fatalities
- Reported cycle and pedestrian collisions
- Neighbourhood traffic complaints received

## 6.4 Funding Requirements

The TMP has identified a number of infrastructure projects, programs and policies that require funding throughout the life of the plan. The following sections provide a breakdown of the estimated financial investment to implement the TMP.

### Capital Investment

Exhibit 6.3 summarizes the estimated annual capital costs of transportation projects and programs (not including resurfacing, reconstruction, maintenance or related utilities) in the City’s Capital Budget and those identified in this TMP.

**Note:** the costs in Exhibit 6.3 do not include road reconstruction projects, associated utility reconstruction costs, street lighting projects except where part of a capacity enhancement (i.e. widening) project

Capital expenditures in 2013 are just over $5 M. Other than this, the largest share of these expenditures is for budgeted roadway capacity enhancement projects (widening, extension), followed by traffic calming projects.
The implementation of this TMP will cost in the order of $5.5 M/year to 2017, then $4.25 M/year to 2022 and then decrease to about $2.7 M/year to 2031. These cost estimates are capital construction and related studies only, and does not include system maintenance such as road resurfacing and rehabilitation.

Exhibit 6.3: Estimated Capital Expenditures by Time Horizon Required for Transportation Master Plan Implementation (all figures in thousands, 2013$)

**Funding Sources:**
GL – General Tax Levy, DC – Development Charges, PE – Parking Enterprise, OT - Other

### Exhibit 6.3: Estimated Capital Expenditures by Time Horizon Required for Transportation Master Plan Implementation (all figures in thousands, 2013$)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Enterprise Capital Costs</td>
<td>PE/OT $220</td>
<td>PE/OT $2,375</td>
<td>PE/OT $3,640</td>
</tr>
<tr>
<td>Traffic Calming</td>
<td>GL $220</td>
<td>GL $934</td>
<td>GL $1,295</td>
</tr>
<tr>
<td>Transportation Demand Mgmt</td>
<td>PE/OT $200</td>
<td>PE/OT $800</td>
<td>PE/OT $1,125</td>
</tr>
<tr>
<td>Active Transportation</td>
<td>PE/OT $200</td>
<td>PE/OT $900</td>
<td>PE/OT $1,640</td>
</tr>
<tr>
<td>Street Capacity Enhancement - Budgeted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strasburg Rd. Extension</td>
<td>DC</td>
<td>$0</td>
<td>DC</td>
</tr>
<tr>
<td>Huron Rd. Widening</td>
<td>DC</td>
<td>$4,300</td>
<td>DC</td>
</tr>
<tr>
<td><strong>Sub-Total By Source</strong></td>
<td>PE/OT $620</td>
<td>PE/OT $4,075</td>
<td>PE/OT $6,405</td>
</tr>
<tr>
<td>GL</td>
<td>$220</td>
<td>GL</td>
<td>$934</td>
</tr>
<tr>
<td>DC</td>
<td>$4,300</td>
<td>DC</td>
<td>$14,200</td>
</tr>
<tr>
<td><strong>Sub-Total Horizon Budget</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Budgeted Expenditure/Year</td>
<td>-</td>
<td>$4,800</td>
<td>$3,240</td>
</tr>
<tr>
<td><strong>PROPOSED NEW CAPITAL FUNDING</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation Studies</td>
<td>DC</td>
<td>$410</td>
<td>DC</td>
</tr>
<tr>
<td>Street Capacity Enhancements – New Funding</td>
<td>DC</td>
<td>$7,000</td>
<td></td>
</tr>
<tr>
<td>Huron Rd. Widening, Fischer-Hallman to Trussler</td>
<td>$0</td>
<td>DC</td>
<td>$7,000</td>
</tr>
<tr>
<td>Strasburg Rd., Widening, Block Line to Bleams</td>
<td>$0</td>
<td>GL</td>
<td>$3,500</td>
</tr>
<tr>
<td>SW Kitchener Collector Streets</td>
<td>$0</td>
<td>DC</td>
<td>TBD</td>
</tr>
<tr>
<td>Block Line Rd., Strasburg to Homer Watson</td>
<td>GL</td>
<td>$2,500</td>
<td>GL</td>
</tr>
<tr>
<td>Wellington St. N/Shirley Ave. Widening</td>
<td>$0</td>
<td>GL</td>
<td>TBD</td>
</tr>
<tr>
<td>Strategic Intersection Improvements</td>
<td>$0</td>
<td>GL</td>
<td>$1,200</td>
</tr>
<tr>
<td><strong>Sub-Total By Source</strong></td>
<td>DC</td>
<td>$410</td>
<td>DC</td>
</tr>
<tr>
<td><strong>Sub-Total Horizon New Capital Funding</strong></td>
<td>GL</td>
<td>$2,910</td>
<td>GL</td>
</tr>
<tr>
<td><strong>Average New Capital/Year</strong></td>
<td>$730</td>
<td>$1,025</td>
<td>$1,050</td>
</tr>
<tr>
<td><strong>TOTAL NEW CAPITAL FUNDING</strong></td>
<td>$22,120</td>
<td>$21,320</td>
<td>$24,300</td>
</tr>
<tr>
<td><strong>AVERAGE CAPITAL EXPENDITURE/YEAR</strong></td>
<td>$5,530</td>
<td>$4,265</td>
<td>$2,700</td>
</tr>
</tbody>
</table>

Notes

1 Expenditures for 2013 from City of Kitchener 10 Year Capital Forecast 2013-2022.
\[ \text{Parking: Parking Enterprise Capital Projects Budget 2013, Structural Garages Monitoring, Lighting and Resurfacing Only. Long-term estimate based on construction of Charles & Water Garage ($7.05M) after 2021.} \]

\[ \text{Traffic Calming: Short- and medium-term estimates based on 2013-2022 capital budget for Traffic Calming in Engineering Capital Projects. Beyond 2022, estimate 3% annual increase in level of expenditure.} \]

\[ \text{TDM: Short- and medium-term estimates based on 2013-2022 capital budget for TDM Initiatives in Engineering Capital Projects. Beyond 2022, estimate 3% annual increase in level of expenditure.} \]

\[ \text{Active Transportation: Short- and medium-term estimates based on 2013-2022 capital budget for Cycling Master Plan Implementation. Beyond 2022, estimate 3% annual increase in level of expenditure. Note City Long-term Network requires $1.44M in funding from Region, developers and Transit Corridor, which are not included in these estimates.} \]

\[ \text{Transportation Studies: estimates $100,000 in 2013, with a 1% annual increase from 2013-2031, for strategic studies and monitoring of TMP.} \]

\[ \text{Roadway Capacity Enhancements - Budgeted: Based on estimated expenditures for:} \]

- Strasburg Rd extension, Rush Meadow to New Dundee ($17M, 5-10 yrs based on 2009-2010 Growth Management Plan and $14.72M in 2011 capital budget for 2016/2017); and
- Huron Rd widening Strasburg to Fischer-Hallman ($10 M, from 2009-2010 Growth Management Plan, 5-10 yrs)

\[ \text{Roadway - Additional Capacity Enhancements: Based on estimated expenditures for:} \]

- Block Line Rd, Strasburg to Homer Watson ($2.5 M, 5-10 yrs)
- Strasburg Rd, Block Line to Bleams (provisional estimate of $3.5M, 5-10 yrs)
- Strategic intersection improvements ($2.4M, 10-20 yrs)

### 6.5 Plan Implementation

**Implementation Through the Official Plan**

The TMP is not a statutory document, and so many of its critical recommendations must be implemented by being incorporated into the Official Plan (OP). In preparing this TMP, Section 8 Transportation of the existing OP was reviewed to identify subjects, objectives and policies that should be; 1) retained, 2) significantly revised, 3) removed and 4) augmented with new policies. A summary of the recommendations made from that review for consideration in the new Draft OP is presented as follows:

**Update Existing Official Plan Section 8 Policies**

**Objective (General)**

- Update with consideration to the 12-point Transportation Vision 2031 developed for this TMP (Section 1.5):
  - Support an integrated transportation system that promotes sustainability, reduced emissions and enhanced health benefits (following “Complete and Healthy Kitchener” theme); and
  - Promote accessibility and barrier-free design in the transportation system.

**8.1 Cycling and Pedestrian Movement**

- Separate pedestrian and cycling modes or present as combined Active Transportation;
• Objectives / Policies – Retain and augment with Pedestrian objectives and policies from the TMP and Multi-Use Pathways and Trails Master Plan, including enhancing the pedestrian environment through measures such as:
  - Width of sidewalk;
  - Conditions for people with disabilities;
  - Street amenities;
  - Traffic signal changes;
  - Weather protection; and
  - Lighting

• Retain and augment with cycling objectives and policies from the Cycling Master Plan to implement policies and programs that facilitate and encourage cycling as a viable mode of transportation, such as:
  - On-street and off-street cycling networks;
  - Roadway design and maintenance;
  - Bike facilities in new developments;
  - Public awareness: convenience, health and economic benefits of cycling;
  - Education programs on safety and responsibilities; and,
  - Integrate cycling and transit.

8.2 Public Transit

• Objectives /Policies – Augment with additional objectives and policies supporting the Region of Waterloo rapid transit planning, operations and system integration, transit–supportive land use planning and transit-oriented design.

• Refer to the Regional Transportation Master Plan mode share targets for transit and Grand River Transit service targets (i.e. 95% of residences, places of work and public facilities, within 450 m of transit stop);

• Locate major trip generators near existing or planned transit routes;

• Lay out new arterial and collector roads to promote efficient and direct transit routes;

• Require sidewalks on both sides of streets served by transit;

• Include transit service requirements in site planning and subdivision planning, including transit stop locations;
• Promote transit in the downtown as an alternative to driving and related parking demand;

• Recognize the planned Multi-Modal Transit Hub; and

• Consider the impact of transit service when applying parking standards.

8.3 Road System

• Objective/Policies – Change objective to reflect Complete Streets rather than focus only on vehicular movement on City streets. The objectives for streets should include all modes of transportation using the public right-of-way; and

• Include new Street Network Classification System (TMP Exhibit 5.2) either with reference to or integration with the Multi-use Pathways and Trails Master Plan and Cycling Master Plan.

8.3.1 General Policies

• Incorporate the new street classifications using the Street Network Classification System from TMP section 5.1; and

• Update and augment Items #2 - #9 involving specific land use/transportation considerations.

8.3.2 Specific Roads

The specific road access policies in Section 8.3.2 of the current Official Plan, namely those for King Street East in the Pioneer Tower East and West area and in the Fairway Road/Wilson Avenue area, are overly specific for OP policies and should be dealt with at the location-specific planning approval stage.

8.3.3 Scenic–Heritage Roads (Heritage Corridors)

This sub-section of the OP transportation section should be maintained and updated including addition of criteria to be used in designating Scenic-Heritage Roads, and their designation as a road classification overlay rather than a distinct class as described in TMP Section 5.1.

8.3.4 Regional Transportation Systems

Update this section to reflect Regional Road recommendations from the Regional TMP for road widening, new roads, access management improvement, intersection improvement and transit priority projects.

8.4 Road Widенийs

Update using a minimum 18.0 m for streets (not including lanes) as included in the TMP Street Network Classification System.

8.5 Parking

• Include opportunities for parking reductions in both the Downtown and throughout the City;

• Consider adding policies that provide more detail on supporting transit and Active Transportation including examples (i.e. limit surface parking,
parking pricing, provision for carpool/shared parking, bicycle parking and other cycling facilities);  

- Include a policy on use of cash-in-lieu of parking and  

- Reference parking requirements in the Zoning By-law, and with more emphasis on how parking is part of the integrated transportation system (e.g. encourage sustainable modes of travel through parking supply and parking pricing).

### Implementation Through the Official Plan – New Policies

In addition to the recommended policy updates for the new Draft OP, this TMP has also identifies the following additional transportation policies that should be included in the new Draft OP and that are not addressed in the existing OP:

**General**

- Emphasis on health benefits, social interaction and economic development for both cycling and walking as a transportation mode, plus environmental benefits of transit;

- Integration of transit with other modes including park-and-ride, multi-use pathways and trails, cycling and commuter rail (GO Transit);

- Integration of the land use and transportation planning processes.

- Role of partners in City of Kitchener transportation planning including the Region, Grand River Transit, Ministry of Transportation and Metrolinx (GO Transit);

**Goods Movement**

- Policy statement on safe and efficient movement of goods as part of an integrated transportation network;

- Add policy direction that supports a sustainable goods movement network with key corridors, potential opportunities to improve efficiency and improved Highway 401 access when required, plus a strategic goods movement network that discourage truck traffic in certain areas or corridors;

**Transportation Demand Management (TDM)**

Include a new OP policy or policies that support the use of TDM in the City of Kitchener, with specific reference to TDM measures and recommendations of the City’s TDM Plan.

**Funding and Implementation**

Include a policy or policies that describe the City’s approach to transportation system funding including access to capital funding opportunities at the local, regional, provincial and federal levels.

The TMP can also include specific recommendations with regards to maintenance of the transportation system, including directing priorities to transit and Active Transportation corridors, discourage deferred maintenance of
important transportation system elements such as sidewalks and coordinate preventive and planned maintenance of the City's transportation system for maximum benefits. Maintenance-related policies could also include support for the use of sustainable practices in the maintenance of streets, pathways and trails and parking areas/facilities including the selection of materials and equipment.

Official Plan Schedule – Street Right-of-Way Widening

Schedule D of the current Kitchener Official Plan presents a list of city streets and their ultimate road right-of-way width. The narrowest public streets are lanes with a 7.62 m width, and this should not be changed since these lanes are provided for rear property access only, and do not require sidewalks and boulevard spaces.

There are other narrow streets listed on Schedule D with an ultimate 16 m right-of-way width, and it is recommended that this be amended in the revised Official Plan to a minimum 18 m as per the Transportation Network Classification System presented on Exhibit 5.1 of this TMP. All local streets in Kitchener should therefore be planned to have a minimum 18 m right-of-way width in order to accommodate sidewalks and shared cycling routes where appropriate. Where this ultimate minimum width is not available, it should be provided through any redevelopment process.

Implementation Through the Development Approval Process

Many of the TDM and sustainable transportation objectives and measures included in this TMP may be implemented through the rezoning, plan of subdivision and official plan amendment process, and to a lesser degree through the application process for site plan approval.

Applications for Official Plan Amendment, Rezoning or Plan of Subdivision

These types of development applications usually represent the best way for a municipality to influence development because the municipality can require or negotiate sustainable transportation-related features. The City of Kitchener has approval authority for rezoning and plan of subdivision applications, so can include conditions in rezoning and plan of subdivision approvals that support sustainable transportation, Complete Streets, TDM and Active Transportation. For Official Plan amendments, the Region is the approval authority and so can potentially include similar approval conditions that reflect their own sustainable transportation policies and those of the City of Kitchener.

One important limitation to using these types of planning applications to implement sustainable transportation measures occurs when the applicant for an Official Plan amendment or rezoning is not the same as the future applicant for site plan approval. In these cases, it is difficult to guarantee that TDM measures such as reduced parking, flex hours and carpooling will actually be implemented if the development applicant is not the eventual end user (i.e. the develop or builder).

In order to effectively implement the sustainable transportation measures in this TMP, the Kitchener Official Plan should include policies supporting the provision
of these measures as part of the rezoning and plan of subdivision application processes focusing on:

- Off-Street Parking including reduction opportunities;
- Site Access and Circulation;
- Transit-Supportive Planning and Transit-Oriented Design;
- Cycling and Walking Supportive Measures; and
- Trip Reduction Measures.

Applications for Site Plan Approval

The City of Kitchener, as the approval authority, can control and encourage many aspects of sustainable transportation including TDM, parking supply (minimum vs. maximum requirements) and the “Complete Streets” approach in what it requires in approving applications for site plan approval. However, if a site plan application complies with the Zoning Bylaw, the municipality has less leverage to require changes, or to pass for example a TDM checklist if the application conforms to the Bylaw. Therefore, it is very important in the site plan approval process that Zoning Bylaw provisions also support certain sustainable transportation objectives, for example in the provision of parking and requirements for bicycle parking and preferred parking for car-share and alternative fuel vehicles.

Also, implementation of transportation objectives at the site plan level is limited to building exteriors, and cannot affect interiors unless, once again, regulations are incorporated into the Zoning Bylaw. Finally, many of the “soft” program-related recommendations of this TMP, for example involving certain TDM initiatives such as carpooling, are not enforceable through the Planning Act.

In conclusion, the City of Kitchener should add more sustainable transportation, TDM and Complete Streets policies into the Official Plan, Zoning Bylaw and Development Manual to ensure there is clarity regarding what the City requires in terms of transportation and circulation features as part of development applications.