MOBILITY

"I want my city to have safe, accessible options for movement of people and goods in and around my community."

REQUEST FOR RESULTS

RESULTS SUMMARY:

The purpose of this program is to enable movement of people and goods. We will do this by providing a well planned transportation system that provides for convenient, efficient and safe movement of people and vehicles.

GUIDING PRINCIPLES:

City of Fredericton Municipal Plan Section 2.9 Transportation (2007)
Roads & Streets Master Plan (2009 revised 2013)
Capital City Traffic Study Update (2010)
Fredericton Police Force Traffic Strategy (2014)
Trails and Bikeways Master Plan (2007)
Capital City Pedestrian Crossing Study (2012)
Sidewalk Extension Plan 2011
Parking Presentation to DFI (2013)
Para-transit Implementation Plan (Un-adopted 2010)
Strategic Plan for Transit Services Updated 2014
Main Street Plan 2014
Community Air access Strategy
City Centre Plan 2014

EXECUTIVE SUMMARY

The purpose of this program is to enable the movement of people and goods. We do this by providing a well planned transportation system that provides for convenient, efficient and safe movement of people and vehicles.

This is a program that impacts every resident. The program encompasses the pedestrian and active transportation network of sidewalks, pathways, and trails; vehicular transportation systems; public transit; parking; and taxis. It encompasses our management of the public right of way and how we design and plan for future transportation systems, how we control traffic, and how we coordinate and communicate with stakeholders. There are detailed guiding documents to draw from in consolidating and articulating the community's desired results for Mobility:

- The City of Fredericton Municipal Plan,
- Trails and Bikeways Master Plan,
- Sidewalk Extension Plan,
- Capital City Pedestrian Crossing Study,
- Capital City Traffic Study,
- Main Street and City Centre plans,
- A parking presentation to Downtown Fredericton Inc,
- The Fredericton Police Force Traffic Strategy, and others.

For pedestrian and active transportation systems the primary objectives are to identify and address gaps in connectivity and address safety concerns. The primary goal is to make key connections in the network to provide a comprehensive active transportation network. The network should incorporate environmental and recreation corridors in such a way that parks, trails, pathways, sidewalks, bikeways, and on-street cycling facilities work together to provide a complete and safe network linking residents to destinations.

A safe and complete pedestrian network provides links connecting residential neighborhoods with schools, parks, bus routes and other pedestrian destinations. A key operational objective is to maintain crosswalk facilities, address faded pavement markings, and ensure that views are unobstructed by snow banks or vegetation.

We encourage winter use by providing timely winter maintenance on sidewalks and various forms of winter maintenance on some trails.

For vehicular transportation systems it is important to identify and address links and intersections that cause traffic congestion and have high collision frequencies. A unique and challenging aspect for Fredericton is that several key arterial connectors pass through dense residential and commercial areas and use regular city streets for high volume traffic. As a result we need to establish priorities for intersection improvement and new road construction and enhance key transport corridors and intersections including the Smyth St. extension and the Regent St. upgrade from Prospect St. to downtown.

The roadway infrastructure is one of the most costly and high valued systems that the City owns. Crack sealing, patching and other preventative maintenance on our roadway systems are important to the long-term sustainability of our streets, curbs and sidewalks.

Safe, accessible, convenient options for Mobility include Public Transit. Accommodating diverse populations and making transit accessible to a broad range of users is a priority result for the community. A key focus of Fredericton's public transit system is to increase ridership by improving core area frequency of service. Focusing increased services on core areas that are the most densely populated creates the highest level of services available to the most number of users.

On-street and off-street parking are key elements of our Mobility program and are important to the economic vitality of our downtown core. The key strategic objective for parking is to supply convenient short term, long term and special purpose parking that meet industry standards for occupancy and walking distance. The goal is to provide parking within 370 meters of destinations and have target occupancies of 85% during peak hours. This provides a balance between convenience and land use for urban design.

The City coordinates the activities of various stakeholders who operate in the public right-of-way, and provides enforcement and outreach to improve the safety and function of Mobility systems.

It is important to control access to streets for driveways, street connections and utility right-of-ways.

We illuminate roadways, regulate taxis, and enforce traffic laws. Strategic objectives for traffic enforcement and outreach include using crime analyst and traffic engineers to analyze contributing factors involved with collisions. The police traffic enforcement division targets high pedestrian collision locations for enforcement and education of driver and pedestrian behavior. Specific traffic enforcement strategies focus on speeding, distracted and impaired driving, and targeting prolific driving offenders.

Results for Mobility are measured by:

- the number of traffic, pedestrian and cycling collisions;
- the percentage of residents who use alternative modes of transportation; and
- the condition of our roads.

These measures look at how many of our residents use public transit, bike lanes, sidewalks and trails to get to work, to shop or for recreation. It tells us if our options and alternatives for mobility around the city are safe, accessible and convenient. Measuring the condition of our roads tell us if we are protecting our Mobility infrastructure.

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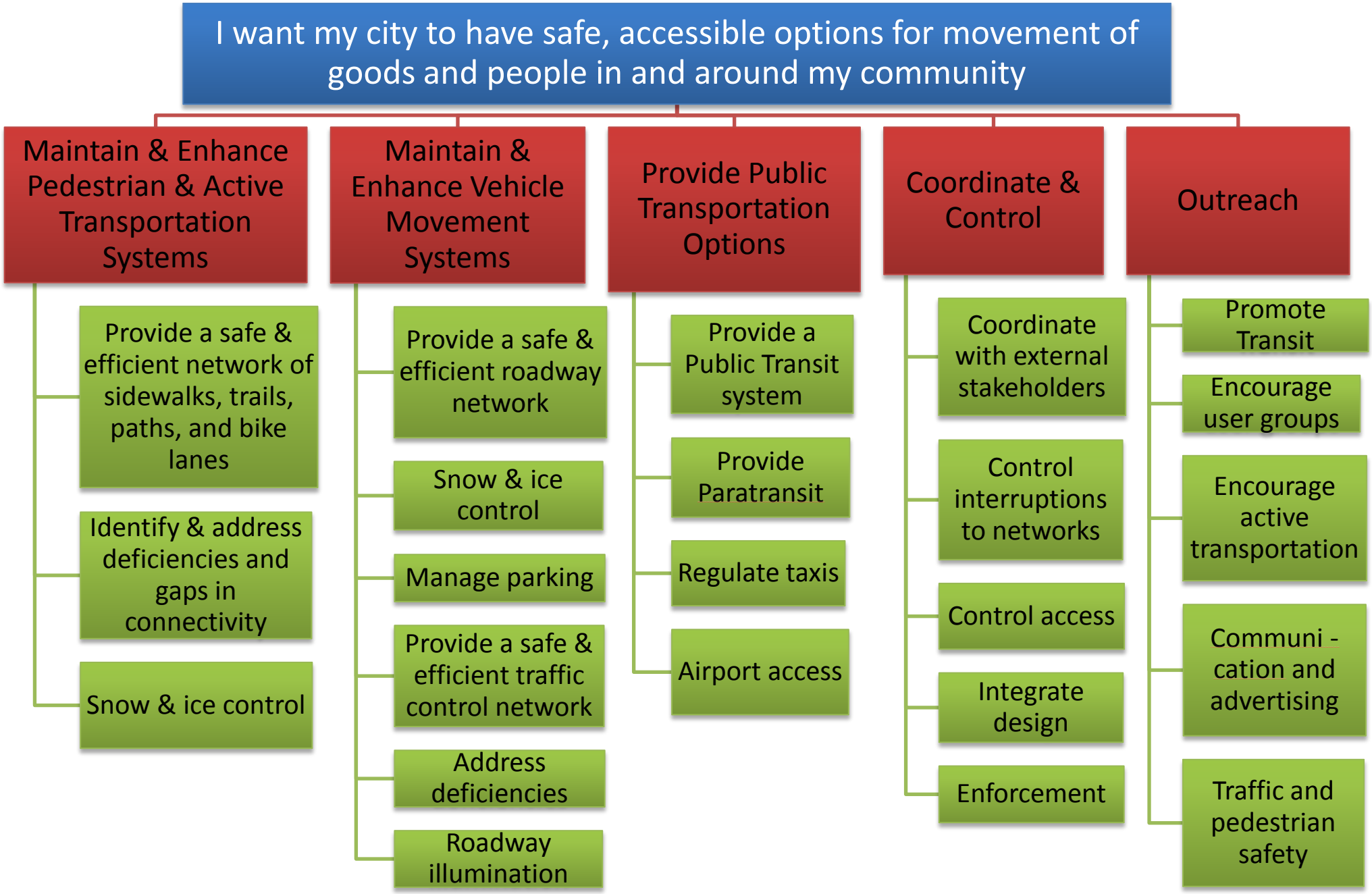
KEY INGREDIENTS – FACTORS THAT PRODUCE THE DESIRED RESULTS



SERVICES WE PROVIDE

Fredericton Transit Fixed Route

Chartered Busing

Dial-A-Bus Transit

Parking Management

Taxi Licensing

Roadway Management

Sidewalk Management

Transportation System Management

Outdoor Sport Recreation and Leisure (Trails)

Incident Prevention and Response (Police)

Program Strategies & Criteria for Developing Services

The following strategies identify priorities for Mobility. They are derived from the Guiding Principles documents. These studies incorporate consultation with the public, input from specialized engineers and consultants, and direction from Council, directors, management and staff.

The purpose of this Request for Results is to solicit services for Mobility. Service will be evaluated on how well they respond to these strategies and how effective they are at impacting the key success factors and performance indicators that have been identified for Mobility.

Maintain & Enhance Pedestrian & Active Transportation Systems

Pedestrian and Active Transportation (AT) is defined as any form of self-propelled (non-motorized) transportation that relies on the use of human energy such as walking, skiing, cycling, inline skating and jogging. These modes can utilize on-road and off-road facilities (sidewalks, bike lanes, multi-use trails) and may also be combined with public transit, especially for trips to and from work, shopping and entertainment areas, school and other community facilities like recreation centres. Mobility challenged users of non-emission mobility assistance devices, such as motorized wheelchairs, are considered pedestrians and the recommended network is designed to accommodate them wherever possible.

City of Fredericton Municipal Plan

Transportation (2.9)
The City's transportation initiatives will include greater emphasis on public transit, bicycle, and pedestrian facilities. Accommodation for these alternative modes of transportation will be integrated with the continued growth of the City's street network.

Objectives (2.9.1)
(1) To create a balanced, multi-modal transportation system that provides the infrastructure necessary for residents to choose their preferred mode of transportation including driving, using public transit, walking, or cycling, and
(5) To provide a network of pedestrian and bicycle facilities throughout the City and to promote their use.

Policies (2.9.2)
Multi-Modal System
(1) Council shall recognize all modes of transportation, including vehicular, bus, bicycle, pedestrian, and air as essential components of the overall transportation system in the City of Fredericton.
Disabled Persons
(3) Council shall require that all aspects of transportation incorporate standards required for disabled persons.

Provide a safe & efficient network of sidewalks, trails, paths, and bike lanes

Provide a sustainable network of off-road paths, trails, and cycling facilities; on-road sidewalks, crosswalks, bike lanes, and cycling facilities that are visibly connected and comprehensive. The network should incorporate environmental corridors and linear parks and make connections from neighborhoods to pedestrian destinations. The network should be free of gaps and deficiencies and link with public transit to provide a viable alternative to vehicles for commuting. It should be accessible to all, attractive to residents and visitors alike, and unique to the natural character and heritage of the City of Fredericton

SIDEWALKS

Policies (2.9.2)

(24) Council shall ensure that a network of sidewalks and pathways is in place to provide safe and convenient pedestrian movement. Particular emphasis shall be placed on the provision of:

(a) Pedestrian facilities in the City Centre;
(b) Sidewalks along arterial and collector roads;
(c) Sidewalks and other pedestrian linkages connecting residential neighborhoods with schools, parks, bus routes and other pedestrian destinations;
(d) Safe pedestrian crosswalks, preferably at intersections;
(e) Pedestrian facilities connecting the universities with residential areas;
(f) Adequately maintained sidewalks and other pedestrian facilities for use in all seasons.

It is proposed that Council consider providing new sidewalk infrastructure in areas where substantial development is taking place including Hanwell Road, Clements Drive, Woodstock Road, and Brookside Drive.

FREDERICTON CITY CENTRE PLAN (EMERGING PLAN)

The City Centre should provide active transportation supportive to make walking, cycling and transit use an easier, more comfortable and appealing experience with obvious visual choices. (Refer to streetscapes for specific upgrades and improvements)

Mid block connections are an important aspect of the City Centre pedestrian network; important objectives are adequate lighting, appealing landscaping, clear signage, unobstructed views, and uses that front onto these connections. Enhance the pedestrian circulation network with signalized crosswalks at mid-block locations where important civic destinations are and/or where significant walking traffic exists.

MAIN STREET PLAN (EMERGING PLAN)

Create an attractive high quality pedestrian environment, expand decorative concrete to accentuate intersections, and strengthen the connections between adjacent neighborhoods by introducing new sidewalks and pathways to complete the circulation network. Introduce pedestrian nodes. The trail network is more preferable than the sidewalk. (Refer to streetscapes for specific upgrades and improvements)

CYCLING

Policies (2.9.2)

(23) Council shall encourage bicycling as a mode of transportation and may facilitate:

(a) The provision of properly designed, safe and convenient facilities for bicycle travel;
(b) The creation of a bicycle network linking all parts of the City and incorporating safe connections between linear open spaces and roadways;
(c) The separation of bicycle and pedestrian traffic on the “Green” and other high traffic trails;
(d) The provision of adequate parking facilities for bicycles, particularly in the City Centre and in other locations where demand warrants including schools, churches, service, health, recreational, shopping and commercial facilities and major employment nodes;
(e) The provision of bicycle lanes or wider paved shoulders on appropriately selected collector and arterial streets;
(f) The identification of deficiencies in the existing trail system that would encourage more bicycle usage.

It is proposed that the City provide convenient and secure short and long-term bicycle storage and parking in appropriate locations in the City Centre.

FREDERICTON CITY CENTRE PLAN (EMERGING PLAN)

Enhance existing recreational cycling opportunities and build a foundation for a commuter cycling culture. On street bicycle infrastructure should be provided throughout the City Centre that facilitates using a bicycle to go to work or school, to run errands, or otherwise enjoy the downtown. Separated, demarcated or on street bike lanes and useful bike parking should be provided.

MAIN STREET PLAN (EMERGING PLAN)

Ensure that the bike route network is continuous and well connected to destinations and adjacent neighborhoods. Use delineated bike lanes where feasible and painted sharrows where width cannot be attained, provide bike parking and storage.

TRAILS

Policies (2.9.2)

(25) It shall be the policy of Council to maintain a system of multi-use trails for non-motorized traffic throughout the City.

(26) Council shall regard the trail system as a component of the City's transportation infrastructure and shall encourage and promote the use of the trails by residents as a healthy transportation choice.

- Study approaches to winter trail maintenance to encourage use of the system in the winter season.
- Consider the feasibility of installing lighting and paving or some other form of hard surfacing on high use sections of trails.
- Consider ways of providing some form of emergency communication infrastructure on isolated sections of the trail system.
- Undertake improvements, where necessary, where trails cross arterial streets to improve crossing safety.

TRAILS AND BIKEWAYS MASTER PLAN GOALS

1. Provide more options for movement by non-polluting, energy efficient travel modes as opposed to motorized transportation such as an automobile. Do this by providing a viable alternative to the car for urban travel.
2. Develop and promote a comprehensive AT network consisting of off-road facilities wherever possible and supported by key on-road links where needed and/or desired.
3. Develop a user-friendly network of on-road and off-road facilities for non-motorized movement within the City. The network will include trails, bikeways, parks, environmental and recreation corridors as well as designated streets that work together to provide alternative and desirable methods for moving around Fredericton with the system working in a cohesive and integrated manner.
4. Enhance choices and opportunities for multi-modal travel and recreational pursuits that promote physical activity and healthy lifestyles, and that meet the needs of all age groups, including those residents and visitors with mobility challenges.

Principals: Attractive, Diverse, Visible, Connected, Accessible, Safe, Accommodating, Integrated, Supported, Distributed.

IDENTIFY & ADDRESS DEFICIENCIES AND GAPS IN CONNECTIVITY

Service Reviews and Budget Offers should include the maintenance of existing networks, and also identify and address safety issues and missing links. Service managers should address capital and operating costs for the network of sidewalks, paths and trails to address deficiencies.

The AT network should be free of gaps and deficiencies and link with public transit to provide a viable alternative to vehicles for commuting. It should enhance citizens' ability to travel safely and reliably and connect to places of importance (e.g. work, recreation, shopping, and health destinations). Become Canada's No.1 Most Walkable City.

Provide the infrastructure necessary for residents to choose their preferred mode of transportation and provide a viable alternative to vehicles for commuting by connecting public transit, walking, and cycling routes.

Enhance existing recreational opportunities and build the foundation for a culture of active transportation commuting. Ensure that the bike route network is continuous and well connected to destinations and adjacent neighborhoods, and that all AT networks are visibly connected and comprehensive.

Pedestrian crossings and safety are key parts of the system.

CAPITAL CITY PEDESTRIAN CROSSING STUDY (2012)

The downtown core is the biggest area of concern with regards to pedestrian safety. Ten of the 15 intersections most commonly cited as "unsafe" in the public survey are located in the downtown area bounded by Brunswick, Regent, Queen, and Smythe Streets. This area has the highest number of collisions in the City.

Almost half of the existing pedestrian crossing issues were related to pedestrian and driver behavior which can be addressed by education and enforcement. Other issues were related to maintaining pedestrian crossings, and upgrading infrastructure. The following actions are recommended:

1. Prioritize investments in infrastructure, education, and enforcement to target high pedestrian collision locations.
2. Establish a formalized program to prioritize maintenance of crosswalk facilities
3. Address faded pavement markings, and views obstructed by snow banks or vegetation.
4. Adopt the warrant methodology contained in TAC's new Pedestrian Crossing Control Guide to guide the installation of various crosswalk types.
5. Select supplemental infrastructure countermeasures for Fredericton and develop in-house policies to guide their use. Potential infrastructure related countermeasures that target the crosswalk safety:
    a) Signal timing;
    b) Pavement markings, and Contrasting Pavement Treatments,;
    c) Signs and beacons;
    d) Pedestrian Oriented Street Lighting; and
    e) Raised Pedestrian Refuge Islands, and Curb Extensions

Snow & ice control

Adequately maintain sidewalks and other pedestrian facilities for use in all seasons.

Study and implement approaches to winter trail maintenance to encourage use of the system in the winter season.

Provide timely removal of snow and ice on sidewalks and paved trails and maintain them in accessible condition to encourage regular use in the winter season.

Strategic Objectives – Maintain & Enhance Pedestrian & Active Transportation Systems

i. Perform pedestrian & active transportation gap study
ii. Make key connections in the network in order to provide a comprehensive active transportation network
iii. Include environmental and recreation corridors with parks, bikeways and on street facilities that work together
iv. Provide pedestrian links connecting residential neighborhoods with schools, parks, bus routes and other pedestrian destinations
v. Create a bike network linking all parts of the City with adequate lanes and facilities
vi. Establish a program to maintain crosswalk facilities, address faded pavement markings and views obstructed by snow banks or vegetation
vii. Address safety concerns that improve pedestrian and cycling routes
viii. Provide winter maintenance on trails and encourage winter use
ix. Maintain a timely winter maintenance on sidewalks

Maintain & Enhance Vehicle Movement Systems

Provide a safe & efficient roadway network

City of Fredericton Municipal Plan

Transportation Objectives (2.9.1)
(2) Manage a well-maintained system of public streets that balances the need for efficient traffic flow with safety, convenient access to existing and future areas of development, and an attractive urban environment.

(7) Encourage convenient surface inter-City transport between Fredericton and other communities.

Policies (2.9.2)
(4) Council shall require that transportation projects be included in the Five Year Capital Budget plan to permit mid-range planning and public consultation, when required, for all aspects of transportation.

Road Network
(5) Provide a system of freeways, arterial and collector roads, and local streets to meet the transportation needs of the City.

Transportation Improvements
(8) Establish and update, in accordance with a five year capital budget, immediate and longer term priorities and strategies with respect to road widening, intersection improvements and new road construction. In the interim, actively pursue road and intersection improvements in areas of highest traffic volumes and congestion and where benefits to the system can be maximized.

(9) Council shall seek the co-operation and assistance of the Provincial Government in upgrading the City's major arterial and collector roads. Particular emphasis shall be placed on roads of regional significance.

(10) Consider providing new arterial or collector roads where such roads will facilitate growth or enhance the existing transportation system.

Proposals (2.9.3)
Third Saint John River Crossing
(2) Council shall recognize the necessity for a third river crossing to be constructed to accommodate vehicle, bicycle and pedestrian traffic in the future. It is proposed that Council work with the Province of New Brunswick to identify the preferred location of the right-of way for the bridge corridor and take measures to protect it.

Arterial and Collector Road Aesthetics
(7) It is proposed that Council improve the aesthetic character of the arterial and collector roads in accordance with the "Runway" Business Parkway Strategy.

Roads & Streets Master Plan 2012

Address Service Issues and capital funding issues:

- Maintain asphalt streets with asphalt patching for minor repairs and asphalt resurfacing where more significant repairs are required in order to prolong the useful life of roadways and reduce the total lifecycle cost of roadway infrastructure.

- Prepare a 1 year, 5 year, and 25 year capital plan to address the lifecycle needs of roadway infrastructure that results in addressing the most critical items in priority order and results in the infrastructure deficit for roadway infrastructure being reduced over the 25 year period.

Snow & ice control

Roads & Streets Master Plan 2012

- Maintain snow control response times during the winter months, timely response is necessary to achieve safe movement of regular traffic and emergency vehicles.
- Increase the liquid de-icer application rates to aid in reducing salt use for winter maintenance operations.

Manage parking

City of Fredericton Municipal Plan

Transportation Objectives (2.9.1)
(3) Provide an adequate parking supply in all areas of the City and to promote the location of parking facilities and their continued use.

(19) Consider, as necessitated by future downtown development and the demand for parking, implementation of the following recommendations of the Downtown Parking Strategy Study:

(a) Encouraging the provision of paid public parking into any redevelopment proposal for property in the City Centre;
(b) Consider adding parking capacity in the central portion of the City Centre;
(c) Consider, with the co-operation of the Province of New Brunswick and other major employers, the implementation of market rate parking charges for long term employee parking in the City Centre;

(20) Council shall, as demand warrants, work to implement the Downtown Parking Strategy Study.
Street Parking

(22) Council shall implement parking regulations that limit street parking, as required. Specifically, Council shall investigate the feasibility of implementing a parking permit policy for streets near the City Centre, and in other locations as may be deemed necessary.

Parking Presentation to Downtown Fredericton Inc. (2013)

Parking exists to support downtown businesses, institutions and tourism attractions.

Principals

1. Provide and maintain an appropriate supply of affordable, secure, accessible, convenient and appealing short term, long term and special purpose parking spaces in the Downtown.
2. Provide a fair and consistent enforcement service that provides the turnover needed and, at the same time, ensures that all revenues are collected from the users of its spaces.
3. Provide care and attention to all the city's parking-related assets
4. Reduce tax payer subsidies for parking

Goals

1. Maintain Industry standard target of 85% occupancy in peak hour, 85% indicates the most efficient use of parking. Spaces are well used but readily available. If occupancy is too high > 85%, there is a perception that there is not enough parking. Low occupancy is equally undesirable (< 60%) because it indicates an inefficient use of land;
2. Maintain acceptable industry standard walking distance of less than 370 meters, or 4 ½ minutes for uses such as general retail, restaurant, employees, entertainment centres, and religious institutions;
3. Work with transit operations, and local business, and streetscape plans;
4. Use pricing to influence behavior; On-street priced higher to encourage long-term parker to park off-street;
5. Use enforcement to ensure turnover and revenue collection;
6. Recover cost of parking through user fees with minimal taxpayer subsidy;
7. Set aside funding for proactive maintenance; and
8. Proactively maintain and upgrade parking structures, lots, and equipment

PROVIDE A SAFE AND EFFICIENT TRAFFIC CONTROL NETWORK

Research best practices in traffic safety and use new technology such as smart traffic controllers and roundabouts to control traffic and reduce collisions. Indentify and address links and intersections that cause traffic congestion and have high collision frequencies

CAPITAL CITY TRAFFIC STUDY UPDATE (2010)

It is important to address increasing traffic congestion. Congestion leads to higher travel times which have negative effects on people and on the business economy, including impacts on air quality, quality of life, and business activity. Traffic congestion impacts where people choose to work and live, which influences how a city develops over the long term.

The transportation network in Fredericton features many core feeder routes passing through the centre of the City. The impact of congestion on the bridges is far reaching, and contributes to delays on Ring Road, Maple Street, Main Street, Union Street, Riverside Drive, Westmorland Street, King Street, Queen Street, and Forest Hill Road.

Moving traffic efficiently through the City has been and continues to be a challenge. Many of the heavily travelled arteries pass through dense residential areas, school zones, or popular pedestrian pathways. As a result, adding additional capacity must be evaluated carefully. Balances need to be sought between traffic movement, safety, pedestrian demands, and neighbourhood quality.

Intelligent Traffic Systems Opportunities:

- Expansion of actuated-coordinated signal systems to Regent Street, Prospect Street, and other major arterials;
- Advanced warning flashers on Ring Road (Route 105) upstream of the Maple Street and Brookside Drive intersections;
- Pilot red-light camera program at a limited number of intersections. Changes to provincial legislation are required;
- Radar speed displays for permanent installation in school zones;
- Pedestrian countdown signal installation and expansion to other intersections if favourably received;

- Transit Signal Priority at candidate intersections (King Street/Carleton Street, Regent Street/Prospect Street); and
- Incorporate the use of traffic signal control, portable CMS, and web-based traveler information initiatives for incident and special event management.

Address deficiencies

Capital City Traffic Study

- Identify links within the network that currently operate at unacceptable levels or are projected to operate at unacceptable levels, due to anticipated growth and development
- Address intersections where Level of Service is below acceptable level
- Identify problematic intersection where collisions are higher than expected
- Use Intelligent Transportation Systems applications to improve efficiency and safety

Use In-Service Safety Reviews to identify intersections that have experienced abnormally high collision frequencies. These locations where the observed collisions outnumbered the expected collisions are candidates where improvements would be the most effective. The City should incorporate specific recommendations for these individual intersections and the general recommendations into overall improvement programmes.

(Refer to Appendix A – Capital City Traffic Study Recommendations, for specific intersection safety recommendations from the In-Service Safety Review.)

Level of service is a common measure of the quality of performance at an intersection and is defined in terms of vehicular delay. LOS is expressed on a scale of A through F, usually LOS D or better is considered acceptable in urban areas before improvements are considered. Establish LOS as a priority indicator of traffic control and use the results of analysis to address deficiencies.

(Refer to Appendix A – Capital City Traffic Study Recommendations, 4.4 Operational Analysis and Deficiencies)

Regent Street Upgrade –upgrade Regent Street through the downtown area. Determine the existing and future operational requirements of Regent Street. A minimum, two northbound through lanes are required from MacLeod Street to Queen Street.

Roadway illumination

Illuminate roadways for safety.

Strategic Objectives – Maintain & Enhance vehicle movement Systems

i. Establish and update immediate and long-term priorities for road widening, intersection improvements and new road construction
ii. Enhance key transport corridors and intersections (Prospect/Regent , Regent to downtown)
iii. Indentify and address links and intersections that cause traffic congestion and have high collision frequencies
iv. Address recommendations from the Capital City Traffic Study
v. Upgrade controller network and use intelligent traffic systems
vi. Coordinate with land use planning to propose new arterial or collector roads that facilitate growth or enhance the transportation system
vii. Maintain a five-year capital plan, and a twenty five-year capital plan and coordinate with the long-term financial plan

viii. Ensure sufficient, well planned and managed system of right of ways and easements
ix. Maintain and patch asphalt streets and resurface roadways to prolong useful life and improve driving conditions
x. Provide roadway snow control to achieve safe movement of regular traffic and emergency vehicles
xi. Increase application of liquid de-icer and reduce salt use
xii. Supply convenient short term, long term and special purpose parking downtown
xiii. Maintain parking supply to industry standard target of 85% occupancy in peak hour with a walking distance of less than 370 meters
xiv. Use parking enforcement to ensure turnover and revenue collection
xv. Recover cost of parking through user fees with minimal taxpayer subsidy

Provide Public Transportation Options

Provide a public transit system

Provide a sustainable and usable fixed route transit system:

- Provide predictable and reasonable frequency
- Increase transit ridership by improving core area frequency of service to make it more convenient
- Make the fixed route transit system accessible to broad range of users
- Provide safe service with appropriate bus shelters and snow clearing at bus stops
- The system should be accommodating to diverse populations and make it easy for vulnerable citizens to access fixed route transit services. (Low income, visually impaired, elderly, children, the disabled, and others)
- Build a sustainable business model with a defined target for the rate of tax base subsidy

Fredericton City Centre Plan (Emerging plan)

Relocate bus terminal from the front of Kings Place to a better location.

Provide paratransit

Para-transit Plan 2010 (Un-adopted)

There are four main areas of recommendation from the 2010 para-transit plan. The plan was not adopted by Council.

Recommendations include:

1. Increase performance targets:
    a) Increase market share to 0.33 percent by 2016, and
    b) Increase trip productivity from 1.1 to 2.0 passenger trips per vehicle hour by 2016
2. Service adjustments:
    a) Make equivalent to conventional service hours
    b) Freeze Dial-A-Bus fares at current level until the same as conventional
    c) Sunday service for Dial-A-Bus if implemented on conventional system
    d) Track unmet demand
    e) Add new scheduling
    f) Double hours of service to 12,600 (vans)
    g) Explore opportunities to utilize resources from other community agencies
    h) Explore contracting passenger overflow to another accessible service provider
3. Review and adjust booking policies:
    a) Draft policy and procedure for booking practice
    b) Eliminate potential discriminatory policies
    c) Permit daily trip bookings in all time periods
    d) Allow Dial-A-Bus use for all Fredericton residents who due to disability cannot board or use conventional transit
    e) Assess ambulatory applicants in person
    f) Annual vetting of registrant list
    g) All riders must be registered
    h) Continue to utilize Easter Seals staff
4. Changes to accessibility
    a) Conduct accessibility audit and implement recommendations
    b) Provide more customer options in fully accessible format
    c) Develop policy for driver use of wheelchair lifts for ambulatory passengers
    d) Draft scooter transportation policy and procedure

e) Provide paratransit accessibility options on convention transit routes:
    i. Retrofit low-floor vehicles with restraint systems; utilize ramp feature; train staff
    ii. Carry mobility disabled passengers on one route (short-term) to reduce Dial-A-Bus demand
    iii. Retrofit all vehicles (by 2014) and make all routes fully accessible (long-term)
    iv. Draft policy to identify and define requirements for fully accessible routes
    v. Future vehicle purchases low-floor with wheelchair restraint system
    vi. Draft formal conventional system accessibility policy
    vii. Travel training program
    viii. Diverted 3,000 trips to fixed route

REGULATE TAXIS

Facilitate safe, fair, equitable taxi options for all segments of Fredericton population

AIRPORT ACCESS

The Fredericton International Airport connects the community to the outside world.

The Capital City Municipal Plan and Vision 20/20 both highlight the importance of the Fredericton International Airport and high quality passenger air service to connect Fredericton to the world. Having convenient access to communities across Canada and the world is important to residents as it contributes to quality of life. It is also an essential pre-requisite to developing a robust economy that provides jobs for our residents. The Fredericton International Airport is self-funded and is not a City agency but its success is critical for the community. The City is an active partner with the Airport in gaining the cooperation of the other levels of government to ensure that the infrastructure components of the facility are properly maintained and invested in. The City also works closely in partnership with the Airport to ensure that the community's need for high quality passenger service is advanced with air carriers.

Support a sustainable airport.

STRATEGIC OBJECTIVES – PROVIDE PUBLIC TRANSPORTATION OPTIONS

i. Increase transit ridership by improving core area frequency of service
ii. Accommodate diverse populations and make transit accessible to a broad range of users
iii. Increase trip productivity for para transit and review service level and booking policies
iv. Coordinate with stakeholders and partners for improved airport access

Coordinate & Control

Coordinate with external stakeholders

The City's mobility infrastructure needs to connect the city to the world and ensure that our transportation system is not designed or operated as a bubble in isolation. This includes trail networks, roads, highways, and air travel.

Build partnerships with provincial and federal governments and the Fredericton International Airport Authority., and lobby stakeholders for adequate funding and interconnected resources.

Coordinate with utilities and other users of the public right of way to facilitate work on shared roads or roads within our city.

Control access

Ensure sufficient, well planned and a managed system of right of ways/easements. Proactively determine what utilizes have the right to work and be active in our roadway network. Control the road network and manage where utilities are allowed to be located in the street. Control layouts relative to City infrastructure systems.

Enforcement winter bylaws for controlling for snow removal.

Integrate design

Control interruptions to networks

Maintain safe and convenient access to roads and streets, control interruptions and disruptions to vehicle and pedestrian traffic.

Enforcement

Fredericton Police Force Traffic Enforcement Strategy

The Fredericton Police Traffic Safety Section is responsible for the reduction of traffic related incidents through education, enforcement, and strategic partnerships.

- Increase usage of police motorcycles during May to October 2014.
- Incorporate the use of the Traffic Counter to assist in addressing identified issues.
- Utilize NAT Volunteers to assist in monitoring traffic complaints.
- Utilize Crime Analyst to analyze the contributing factors involved with accidents and compare progress against a three year base line.
- Undercover initiatives utilizing plain clothes officers at high risk intersections based on statistical analysis from the Crime Analyst and reports from Traffic Watch Volunteers.
- Conduct initiatives on:
    - Distracted Driving
    - Impaired Driving
    - Intersection Infractions/Red lights
- Continue participation in National Traffic Strategies:
    - Canada Road Safety Week
    - Operation Impact
    - National Driving Safety Week
- Continue regular enforcement such as unsafe vehicles, seat belts, speeding.

- Investigate and execute where possible the potential for Collaborative Initiatives with other agencies including RCMP/Woodstock/Rothesay/Saint John/Commercial Vehicle Enforcement.
- Design a Suspended Driver Enforcement Strategy targeting prolific driving offenders.
- Continue to advocate for changes to the Provincial Motor Vehicle Act.
    - Red Light Cameras
    - Photo Radar

STRATEGIC OBJECTIVES – COORDINATE AND CONTROL

i. Use traffic enforcement to keep streets safe for pedestrians, cyclists and motorist.
ii. Target high pedestrian collision locations in the downtown core for enforcement and education of driver and pedestrian behavior
iii. Conduct traffic enforcement initiatives on:
    a) Distracted Driving
    b) Impaired Driving
    c) Intersection infractions
    d) Speeding
    e) Target prolific driving offenders
iv. Use crime analyst and engineering technicians to analyze contributing factors involved with collisions

Outreach

Promote Transit

Develop community outreach, use advertising, marketing and social media to promote transit. Make schedules user-friendly and easier to read and understand. Improve accuracy of google map transit information and use social media to increase awareness of transit apps.

Encourage user groups

Legitimize advocacy groups for cycling and transit.

Encourage active transportation

City of Fredericton Municipal Plan

Transportation Policies Cycling (2.9.2)
(23) Council shall encourage bicycling as a mode of transportation
(26) Council shall regard the trail system as a component of the City's transportation infrastructure and shall encourage and promote the use of the trails by residents as a healthy transportation choice.

Communication and advertising

Identify problems and prepare communication outreach in response to problems. Implement communications strategies for active transportation informing and advising motorist, cycling and pedestrians to obey traffic rules.

Promote cycling and alternate transportation. Ensure that active transportation networks are visible connected and increase use of way finding signage.

Capital City Traffic Study

Use Intelligent Traffic Systems Opportunities:

- Enhanced web-based traveler information, with additional information displayed on an interactive map, including expansion of web cameras, and increased sharing of information with the Province;
- Use of portable Changeable Message Signs in work zones, road closures, and special events

Capital City Pedestrian Crossing Study

Heighten overall public awareness of crosswalk safety within the City by initiating a comprehensive public education campaign targeting non-compliant *driver and* Increase enforcement of safe driver and pedestrian behavior.

Roads & Streets Master Plan

Use Social Media for Engineering & Operations to keep Council and residents informed.

Fredericton City Centre Plan / Main Street Pan (emerging plans)

Provide way-finding signage for pedestrians and cyclist, and use "sharrows" to indentify shared bike lanes and other obvious visual choices for pedestrians and cyclists

Traffic and pedestrian safety

Fredericton Police Force Traffic Enforcement Strategy

- Reduce traffic related incidents through education
- The Traffic Safety Section will implement programs and initiatives to increase cycling safety and awareness.

- Create a Traffic Complaint form for the Internet similar to the Report a Drug House form.

STRATEGIC OBJECTIVES – OUTREACH

v. Use Social Media to keep Council and residents informed
vi. Provide way-finding signage for pedestrians and cyclists
vii. Use “sharrows” to identify shared bike lanes and other obvious visual choices for pedestrians and cyclists
viii. Implement programs to increase cycling and pedestrian safety and awareness

CORPORATE-WIDE ENABLING STRATEGIES AND PRIORITIES

Sustainability is a corporate wide priority for every program and service. All services should seek to engage employees, engage the public, have an impact on our community, close the gap in the operating budget, and foster an atmosphere of mutual respect between staff, City Council and the public.

STRATEGIC ALIGNMENT

i. Services should be aligned with the Program Results, dashboard indicators, and strategic priorities;
ii. Demonstrate the ability to address multiple Program Results concurrently;
iii. Advance existing or emerging strategic plans adopted by Council including enhancement plans, operational plans, or neighborhood plans; and
iv. Look for opportunities for service "pairing" that leverages or combines functions across and within the organization with efforts to "de-silo" departments and capitalize on limited resources (e.g., two departments cooperate and communicate to provide a service at a reduced cost, to improve service, and create efficiency).

VALUE

i. Services should demonstrate good value by describing what can be expected to be delivered per dollar spent. Value is a measure of both efficiency and the effectiveness of a service.

EFFICIENCY & INNOVATION

i. Demonstrate application of Lean 6 Sigma methodologies for process improvement, efficiencies, and financial savings.
ii. Streamline services to be more nimble and responsive to citizen needs and concerns.
iii. Focus on providing high quality customer service and "value-added" initiatives.
iv. Remove and eliminate waste through a culture of continuous improvement

EMPLOYEE ENGAGEMENT

i. Proposals should demonstrate the ability to engage employees and to improve and develop their leadership capabilities.
ii. Service managers should promote employee productivity through strong attendance management practices, flexible work arrangements that meet operational requirements and that promote respect for employees and increase morale.

WORKFORCE REDUCTION

i. Effective service managers will combine employee engagement and innovation initiatives with succession planning in order to meet workforce reduction targets.

BUDGET COMPLIANCE

i. Proposals should demonstrate actual expenditures and revenues that are in-line with budget projections. Services should diversify revenue streams and reduce the reliance on general fund tax dollars where possible. Service strategies should maximize audience and citizen use, and increase capacity utilization.

DASHBOARD KEY PERFORMANCE INDICATORS

These key performance indicators will be provided to Council, the Chief Administrative Officer, and the Public.

What indicates that we are being successful at creating safe, accessible options for movement of goods and people and making progress towards these outcomes?

Indicator #1: Number of traffic, pedestrian and cycling collisions

This measures how safe our transportation system is. An important measure is the number of accidents involving pedestrians and cyclist as well as motor vehicle only accidents.

CALCULATION METHOD AND DATA SOURCE:

The Fredericton Police Force Crime Analyst and the City of Fredericton Traffic Engineering GIS Analyst prepare regular traffic safety reports outlining the number of accidents and identifying the contributing factors involved with collisions.

REPORTING:

The data will be presented by the Fredericton Police Force to the Public Safety Standing Committee of Council as part of the Semi-annual Statistical Report, and to the Transportation Standing Committee.

HISTORICAL:

Pedestrian collisions in the City were reviewed for a 56-month period between January 1, 2007 and September 30, 2011. During this span, there were at total of 127 collisions involving pedestrians – of which 116 resulted in personal injury and 3 were fatal. (Capital City Pedestrian Crossing Study (2012))

Motor Vehicle Accidents involving Pedestrians and Cyclists

Year	Pedestrian	Cyclists	Total MVAs
2013	18	10	945
2012	22	8	804
2011	33	15	907
2010	31	10	768
2009	27	13	833

Indicator #2: Percentage of residents who use alternate modes of transportation

This measure looks at how many of our residents use public transit, bike lanes, sidewalks and trails to get to work, to shop or for recreation. It tells us if our options and alternatives for mobility around the city are accessible and convenient. It is measured by the percentage of afternoon peak hour commuter trips that are made by car, by walking, transit, and cycling. Alternatively it may be measured by the percentage of residents who have travelled by transit, street, and trail within a survey period.

CALCULATION METHOD AND DATA SOURCE:

Engineering, transit and community planning will collaborate on collecting relevant data. Potential sources are transit ridership surveys, traffic volume counts, or Use Miovision cameras for pedestrian and cycling counts on trails

and trail intersections. . Data collection might focus on trips arriving and departing from the Downtown City Centre, and Main Street as a way of measuring progress toward implementing the Mobility goals of these master plans.

REPORTING:

Quarterly reporting to the Transportation Standing and Community Services Committee of Council

HISTORICAL:

Fredericton, New Brunswick is ranked the sixth most walkable city in Canada in 2009. It's also one of the safest, with only 25 pedestrian-vehicle accidents recorded in 2007

INDICATOR #3: CONDITION OF OUR ROADS

This measure will check the condition of our roads and streets infrastructure including pavement, sidewalks and curbs.

CALCULATION METHOD AND DATA SOURCE:

A Pavement Management System that measures and tracks the Pavement Condition Index. Data could be collected either through pavement condition survey contacts outsourced to contractors with pavement evaluation vehicles equipped with sophisticated onboard systems and instrumentation, or by roads and streets use of automated pavement evaluation equipment or other manual in-situ visual inspection, data gathering and evaluation techniques.

REPORTING:

Reported semi-annually to the Transportation Standing Committee of Council

HISTORICAL:

INDICATOR #4: PROGRESS ON REDUCING ACTIVE TRANSPORTATION NETWORK GAPS

Once gaps are identified measure reductions in key gaps per year.

4.3 In-Service Safety Review

10 intersections have experienced abnormally high collision frequencies (at least 10 collisions over 2006 and 2007). These locations where the observed collisions outnumbered the expected collisions are candidates where improvements would be the most effective:

1. Regent Street/Prospect Street;
2. Regent Street/Priestman Street;
3. Prospect Street/Smythe Street;
4. Regent Street/Albert Street;
5. Forest Hill Road/Ramp to PM Bridge northbound;
6. Prospect Street/Hanwell Road;
7. Hanwell Road/Bishop Drive;
8. Ring Road/Brookside Drive;
9. Main Street/Brookside Drive; and
10. Ring Road/Maple Street.

.

Table 3 – Intersection Collision Performance

Collision Frequency Rank	Location	Observed Annual Collisions (f2006 & 07)	Expected Annual Collisions (f calibrated CPMs)	Difference* (accid/yr)	Difference* (percent)	
1	Regent/Prospect	31.0	16.2	14.8	47.7	
2	Regent/Priestman	18.5	12.5	6.0	32.2	
4	Prospect/Smythe	10.0	4.0	6.0	59.5	
10	Regent/King's College	8.5	2.9	5.6	66.0	
14	Regent/Charlotte	7.0	2.3	4.7	66.9	Worse than Expected
13	Regent/Albert	7.5	3.3	4.2	56.3	
17	Forest Hill/Ramp to PM Bridge	6.5	2.5	4.0	61.4	
3	Prospect/Hanwell	13.5	12.0	1.5	11.4	
12	Hanwell/Bishop	8.0	7.5	0.5	6.0	
5	Regent/Brunswick	10.0	9.6	0.4	3.6	
7	Regent/Arnold	9.5	9.4	0.1	0.5	

The City should incorporate specific recommendations for these individual intersections and the general recommendations into overall improvement programmes.

The following general remedial measures were identified:

1. Provide yellow backboards and retro-reflective tape on traffic signal heads to increase signal conspicuity
2. Provide an additional primary signal head at busy intersections
3. Provide protected-only left turn phases at intersections with a high occurrence of left turn collision or where through speeds are higher
4. Increase all left-turn clearance intervals to a minimum of 4 seconds
5. Increase the size of street name blades, particularly at major intersections

6. Make signage at channelized right-turn islands consistent, using a single WA-36 object marker to reduce sign clutter,
7. Provide design features at channelized right-turn islands to improve pedestrian safety. Such features include a) reducing the width of the channelized lane by expanding the size of the island with a mountable curb or with cross hatching; and b0 paint the crosswalk with a continental striping pattern (wide transverse lines similar to a zebra pattern) to better delineate the presence of the crosswalk to motorists.

Table 4 – Summary of Site-Specific Remedial Safety Measures

Location	Site-Specific Remedial Measures (for consideration)
Regent @ Prospect	- All General Remedial Measures - Extend the Regent Street median barrier across the Irving driveway to prevent left turn movements into or out of the property - Remove non-essential signs on the WB shoulder - Mount full size prohibited left turn sings facing SB traffic
Regent @ Priestman	- All General Remedial Measures
Prospect @ Smythe	- General Remedial Measures 1, 5, & 7 - Install auxiliary signal heads - Improve access control at adjacent driveways
Regent @ Albert	- Move the Crosswalk Ahead sign further south - Install a stop line upstream of Albert Street - Install another flashing amber beacon at a lower level on the RA-5 pole - Better delineate crosswalk with zebra, continental or ladder pavement markings - Install small yellow backboards behind the flashing amber beacons - Extend the Regent Street median barrier through the intersection to prohibit through movements from Albert Street
Forest Hill @ Ramp to PM Bridge eastbound	- Clear vegetation and post a second YIELD sign on the left side of the ramp opposite the existing sign - Double-post STOP AHEAD and STOP signs on PM Bridge on-ramp
Prospect @ Hanwell	- General Remedial Measures 1, 3, & 5 - Re-position the leftmost signal head for the westbound approach to improve sightlines - Relocate or increase the mounting height of the large guide sign in the northwest corner to provide better sightlines. - Remove Entry Prohibited signs where not required to reduce clutter
Hanwell @ Bishop	- General Remedial Measures 1, 3, 5, & 6 - Straighten the northbound through alignment - Remove Entry Prohibited signs where not required to reduce clutter - Relocate signal ahead sign further upstream on Bishop Drive
Ring Road @ Brookside	- All General Remedial Measures - Remove or cover pedestrian heads on the east side of the intersection - Increase the mast arm length to position the primary signal head in a more central position for eastbound traffic - Relocate Entry Prohibited sign in northeast corner to increase visibility
Main @ Brookside	- General Remedial Measures 1, 6, & 7 - Post an Entry Prohibited sign at the throat of the Irving driveway near the northwest corner of the intersection, facing eastbound traffic
Ring Road @ Maple	- General Remedial Measures 1, 2, 3, 4, & 7 - Consider speed reduction strategies on Ring Road, including increased enforcement, speed radar displays, over-sized speed reduction signs, rumble strips (sparingly), or lateral pavement markings

4.4 Operational Analysis and Deficiencies

The results of the Level of Service analysis indicate that 5 intersections in the AM peak hour and 8 intersections in the PM peak hour operate at LOS D or worse. The AM peak generally exhibits better traffic conditions than the PM peak, with more intersections operating at LOS A or B and fewer intersections operating at LOS C or D.

The AM peak features an intersection that operates at LOS F. This is the Riverside Drive/Barkers Point Bypass intersection, which is impacted by the poor traffic operations at the Princess Margaret Bridge on-ramp.

The most heavily congested intersections during the AM peak hour are the Riverside Drive/Barkers Point Bypass intersection and the Ring Road/Maple Street intersection. Both of these intersections act as primary entry points to the bridges and experience very high volumes of commuter traffic travelling from the north side to the south side. Other congested intersections during the AM peak hour include the Hanwell Road/Woodstock Road intersection, the Smythe Street/Dundonald Street intersection, and the Regent Street/Prospect Street intersection. Each of these intersections operates at LOS D.

During the PM peak hour, the most congested signalized intersection is the Regent Street/Prospect Street intersection, which operates at LOS E and experiences an average delay of 57 seconds per vehicle.

The Union Street/Watters Drive intersection also features very high delays due to commuter traffic on Union Street and operates at LOS D. Six other intersections operate at LOS D, including Ring Road/Maple Street; Smythe Street/King Street; Smythe Street /Dundonald Street; Regent Street/Regent Mall Entrance; York Street/Dundonald Street; and Regent Street/Beaverbrook Street.

In many cases, intersections that operate at LOS D or worse have a specific movement that operates under poor conditions, which reduces the overall level of service.

Table 7 – Summary of Key Deficiencies at Signalized Intersections

Location	Peak Period	Intersection Operations	Heaviest Movement(s)	Performance Measures
Riverside Drive @ Barkers Point Bypass	AM	LOS F, 121 sec	EBT SB L	LOS F; V/C > 1.0 LOS F; V/C > 1.0
Ring Road @ Maple Street	AM	LOS E, 79 sec	EB R SB T	LOS F; V/C > 1.0 LOS D; V/C = 0.91
	PM	LOS D, 46 sec	EB L EB T WB L NB T NB L	LOS E; V/C = 0.81 LOS E; V/C = 0.74 LOS E; V/C = 0.97 LOS D; V/C = 0.91 LOS D; V/C = 0.90
Regent Street @ Prospect Street	AM	LOS D, 36 sec	WB R	LOS E; V/C = 0.99
	PM	LOS E, 57 sec	NB L SB T EB R WB L	LOS F; V/C = 0.97 LOS E; V/C = 1.0 LOS F; V/C > 1.0 LOS E; V/C = 0.99
Hanwell Road @ Woodstock Road	AM	LOS D, 38 sec	EB T-R WB L	LOS D; V/C = 1.0 LOS D;V/C = 0.87
Smythe Street @ Dundonald Street	AM	LOS D, 38 sec	EB T SB T	LOS E; V/C = 0.98 LOS D; V/C = 0.77
	PM	LOS D, 40 sec	EB T WB T SBT NBT	LOS E; V/C = 0.91 LOS D; V/C = 0.78 LOS D; V/C = 0.78 LOS D; V/C = 0.75
Smythe Street @ Brunswick Street	PM	LOS D, 45 sec	EB L WB T WBL SB T	LOS E; V/C = 0.92 LOS E; V/C = 0.89 LOS E; V/C = 0.77 LOS E; V/C = 0.80
Union Street @ Watters Drive	PM	LOS D, 53 sec	NB T	LOS F; V/C > 1.0
Regent Street @ Regent Mall	PM	LOS D, 39 sec	SB T	LOS E; V/C = 1.0
York Street @ Dundonald Street	PM	LOS D, 39 sec	SB T EB T	LOS D; V/C = 0.85 LOSD; V/C = 0.84
Regent Street @ Beaverbrook Street	PM	LOS D, 35 sec	WB T	LOS E; V/C = 0.90

In addition to the deficiencies noted above:

- Queuing along Main Street between Devonshire Drive and Brookside Drive, particularly during the PM peak period and peak shopping periods (i.e. Saturday, Sunday afternoons) - queues ranging from 100 to 200 m in the eastbound direction during the AM peak and in the westbound direction during the PM peak
- Significant queuing at the new traffic signal at the Union Street/Cliffe Street intersection
- Highest delays are the Maple Street/Douglas Avenue intersection and the Wilsey/Vanier Highway Overpass intersection. Critical movements for these intersections operate at LOS F during one or both peak periods
- At the Forest Hill Road/Princess Margaret Bridge SB Ramps intersection, critical movements operate at LOS F during both peak hours
- At the Waggoners Lane/Superstore Driveway intersection, the southbound left turn at the Superstore Driveway operates at LOS F during the PM peak hour;
- At the Lincoln Road/Vanier Industrial Drive intersection, the northbound left turn movement on Vanier Industrial Drive operates at LOS F during the PM peak hour.
- The movement from Forest Hill Road to Waterloo Row operates at LOS F during both the AM and PM peak hours

- The movement from Beaverbrook Street to Waterloo Row operates at LOS E during both the AM and PM peak hours
- The movement from Lincoln Road to Forest Hill Road operates at LOS E during the PM peak hour

4.4.2 Recommended Short Term Operational Improvements

The Short Term Improvements Report submitted to the City during this Study identified potential short term improvement options to address existing deficiencies. These are summarized as follows:

1. It is recommended that the City consider implementing a two-way left turn lane on Main Street, from Brookside Drive to Sunset Drive. Sight distance on the vertical and horizontal curves should be confirmed prior to implementation. Also, a public education program should be initiated to promote proper use.

2. The City, in conjunction with the Province, should consider extending the median barrier on Regent Street to permit right turns only to and from Albert Street. The timing of this improvement should coincide with the closure of the Albert Street Middle School.

3. The City, in conjunction with the Province, should consider extending the median barrier on Regent Street to prohibit left turns at the northernmost access to the Irving property.

4. The City, in conjunction with the Province, should pursue a traffic signal installation at the intersection of Forest Hill Road and the Princess Margaret Bridge southbound ramps in the immediate term. Any geometric constraints should be investigated first and addressed in the design. Consideration should also be given to increasing winter maintenance activities on Forest Hill Road as vehicles will be stopping on the grade.

5. NBDOT should install an actuated traffic signal at the intersection of Wilsey Road and the Vanier Highway overpass.

6. The City, in conjunction with the Province, should consider installing a traffic signal at the Regent Street/Kings College intersection (installed in 2009).

7. The City, in conjunction with the Province, should investigate the opportunity to construct an eastbound right turn lane at the intersection of Woodstock Road and Hanwell Road (mid-term implementation).

8. The City should explore opportunities to rationalize the accesses along Union Street at Devon Plaza, with consideration to future development plans. Consolidating access points to a single signalized intersection may be possible. Discussions should begin with affected property owners to identify an overall traffic flow plan for the local area.

9. The City should actuated traffic signal at the intersection of Smythe Street and the Canadian Tire access.

In addition to the above improvements, the implementation of fully protected left turn phases was recommended for several intersections in the In-Service Safety Review. An operational analysis revealed that these phases could be implemented at the following intersection movements without significant adverse impacts to traffic operations:

- Hanwell Road @ Bishop Drive – Southbound left turn; and
- Ring Road @ Brookside Drive – Eastbound/Westbound left turns.

The City and NBDOT should investigate the potential for installing the additional signal poles required to accommodate fully protected left turn phases at these locations.