IBI GROUP

HALIFAX REGIONAL MUNICIPALITY

MetroTransit

# Five-Year Strategic Operations Plan – *Taking Transit to the Next Level*

**Submitted to Halifax Regional Municipality by IBI Group**

October 7, 2009

# Table of Contents


**1. Introduction ..... 7**

**1.1 Plan Vision 8**

**1.2 Study Methodology 10**

**2. Transit Market Analysis ..... 12**

**2.1 Market Overview 12**

**2.2 Population 12**

2.2.1 Current 12

2.2.2 Projected Growth 13

2.2.3 Student Population 13

2.2.4 Major Communities 13

**2.3 Economic Situation and Employment 15**

**2.4 Trip Generators 16**

2.4.1 Employment Centres and Business Parks 16

2.4.2 Post-Secondary and National Defence 17

2.4.3 Retail Centres 17

2.4.4 Entertainment and Recreational Facilities 17

2.4.5 Housing Developments 17

**2.5 Transit Services 18**

2.5.1 Current Transit Service 18

2.5.2 System Capacity 19

**2.6 Stakeholder Consultation and Web Survey 21**

2.6.1 Survey Methodology 21

2.6.2 Survey Results 24

2.6.3 Preferences for Service Improvements 30

**2.7 Public Open Houses 33**

**2.8 Customer Satisfaction Standards** **33**

**2.9 Summary** **37**

**3. Transit Service Analysis** ..... **39**

**3.1 General Description of Urban Transit Services** **39**

3.1.1 Halifax Peninsula 39

3.1.2 Halifax Mainland 39

3.1.3 Dartmouth 40

3.1.4 Bedford and Sackville 40

3.1.5 Rural Communities 40

**3.2 Service Standards for Analysis Purposes** **40**

3.2.1 Route Coverage 41

3.2.2 Core Route Standards 41

3.2.3 Higher-Order Core Route Standards 42

3.2.4 Local Route Standards 44

3.2.5 Community Route Standards 45

**3.3 Assessment of Existing Routes and Services** **46**

3.3.1 Halifax Peninsula and Lower Mainland Routes 46

3.3.2 Bedford and Sackville Routes 53

3.3.3 Dartmouth 56

**3.4 Summary of Route Deficiencies and Needs** **63**

3.4.1 Core and Express Route Changes 64

3.4.2 Local Route Changes 65

3.4.3 Unmet Demands Needing New or Revised Routes 66

**4. Transit Service Strategy** ..... **68**

**4.1 Service Policy Framework** **68**

4.1.1 Mission Statement 69

4.1.2 Goals and Objectives 69

4.1.3 Service Standard Policies 71

**4.2 Five Year Service Plan** **72**

4.2.1 Halifax and Lower Mainland Routes 72

4.2.2 Bedford and Sackville Routes 76

4.2.3 Dartmouth Routes 78

4.2.4 Ferry Services 81

**4.3 Infrastructure Plan 82**
4.3.1 Vehicle Fleet 82
4.3.2 Vehicle Maintenance 86
4.3.3 Garage 91
4.3.4 Bus Stops and Shelters 91
4.3.5 Terminals 94
4.3.6 Fare Equipment 95
**4.4 Service Planning Process 95**
4.4.1 Transit Service Standards and Route Planning Guidelines 97
4.4.2 Five Year Transit Plan 97
4.4.3 Annual Service Plan 98
4.4.4 Service Evaluation and Measuring Performance 98
4.4.5 Summary 99
**4.5 Marketing and Communications Plan 99**
4.5.1 Communications with Customers 100
4.5.2 Maximize Web Services Potential 101
4.5.3 Customer Satisfaction & Service Design Input 101
4.5.4 Internal Communications 102
4.5.5 Route Names and Signage 103

**5. Transit Operations Strategy ..... 104**
**5.1 Operations Strategies 104**
5.1.1 Bus Operator Pick Process 104
5.1.2 Bus Deployment 107
5.1.3 Service Planning 109
5.1.4 Bus Operator Training Program 109
5.1.5 Review of Operator's Handbook and Daily Planner 112
5.1.6 Bus Operator Attendance Management Program 113

**6. Transit Supportive Strategies ..... 115**
**6.1 Priority Measures 115**
6.1.1 "Yield to Transit" Legislation 115
6.1.2 Transit Priority 116
6.1.3 MetroLink 117
6.1.4 Additional Transit Signal Priority Locations 117
6.1.5 Capital Cost – Transit Priority Measures 121

**6.2 Transit Oriented Land-Use Development (TOD) 122**
6.2.1 Encourage Density 122
6.2.2 Design Communities to be Walkable 123
**6.3 Travel Demand Management 126**
6.3.1 Parking Management 127

**7. Financial Plan ..... 129**
**7.1 Fare Strategy 129**
**7.2 Five-Year Operating and Capital Budget 133**
**7.3 Funding Source Options 136**
7.3.1 Financing Options under HRM Control 136
7.3.2 Financing Means Not Under HRM Control 139
7.3.3 Recommendations 143

**8. Implementation Plan ..... 145**
**8.1 Years 2010, 2011 145**
**8.2 Years 2012, 2013 145**
**8.3 Year 2014 146**

**9. GHG and Climate Change Impact ..... 147**
**9.1 Summary 149**

**10. Conclusions and Recommendations ..... 150**
**10.1 Conclusions 150**
**10.2 Recommendation 151**

# List of Exhibits

Exhibit 2-1: Projected Population for Halifax Regional Municipality ..... 13
Exhibit 2-2: Transit Mode to Work (2006 Census) ..... 15
Exhibit 2-3: HRM Economic Drivers and Employment Potential ..... 16
Exhibit 2-4: Terminal Inbound Aggregate & New Building Forecasts ..... 20
Exhibit 2-5: Survey response rates by area ..... 23
Exhibit 2-6: Gender of survey respondents ..... 23
Exhibit 2-7: Number of trips by day of week ..... 23
Exhibit 2-8: Age of survey respondents ..... 24
Exhibit 2-9: How often do you use public transit? ..... 24
Exhibit 2-10: Mostly Commonly Used Transit Routes ..... 25
Exhibit 2-11: Trip Flow across HRM ..... 26
Exhibit 2-12: Work trip flow across HRM, 2006 Census ..... 27
Exhibit 2-13: Percentage of Survey Trips not using Transit ..... 27
Exhibit 2-14: Most Common Methods of Fare Payment ..... 28
Exhibit 2-15: Average Number of Transfers by Home Area ..... 29
Exhibit 2-16: Average Wait Time for Transit by Trip Origin ..... 29
Exhibit 2-17: Which Would you Like To Do More Frequently (by Age)? ..... 30
Exhibit 2-18: Which Would you Like to do More Frequently (by Area)? ..... 31
Exhibit 2-19: Stated preferences for Transit Service Improvements. ..... 32
Exhibit 2-20: Potential For a More Reliable Schedule to Increase Ridership. ..... 32
Exhibit 2-21: Potential For More Frequent Peak Hour Service to Increase Ridership. ..... 32
Exhibit 2-22: Potential For Fast Ferry Service to Bedford to Increase Ridership. ..... 33
Exhibit 2-23: Potential of Earlier Weekend Service to Increase Ridership ..... 33
Exhibit 2-24: Illustration of How Customer Satisfaction Data can be Displayed ..... 37
Exhibit 4-1 2000-2008 Performance of Metro Transit System ..... 68
Exhibit 4-2: Metro Transit Bus Fleet ..... 83
Exhibit 4-3 Summary of Emissions Standards 1994 to 2010 ..... 85
Exhibit 4-4 Typical Shelter and Landing Pad Accessibility Designs ..... 93
Exhibit 4-5 TransLink (Vancouver) Online Customer Feedback Form ..... 102
Exhibit 6-1 Existing TPM Locations ..... 117
Exhibit 6-2 Akerley Boulevard at Windmill Road ..... 118
Exhibit 6-3 Dedicated Left Turn Phase for Transit Vehicles ..... 119
Exhibit 6-4 Lane Shift for Transit Vehicles ..... 120
Exhibit 6-5 Additional Locations for TPM Implementation ..... 120
Exhibit 6-6 Areas of Potential Transit-Supportive Land Development ..... 123
Exhibit 6-7 Typical vs. Model Site Layout ..... 124
Exhibit 6-8 Contrasting Examples of Site Layout ..... 125
Exhibit 7-1 Metro Transit Fare Structure – August 30, 2009 ..... 129
Exhibit 7-2 Empirically Estimated Values for Price and Cross-Price Elasticities ..... 131
Exhibit 7-3 2010-2014 Metro Transit Operating and Capital Budget ..... 134
Exhibit 7-4 Proposed Transit Vehicle Replacement Plan ..... 136
Exhibit 7-5 Revenue from the Various Potential Funding Sources ..... 142
Exhibit 7-6 Evaluation of Financing Means to Bridge Operating Funding Gap with Metro Transit ..... 144
Exhibit 9-1 GHG Comparison for Buses and Passenger Cars ..... 147
Exhibit 9-2 Input Variables for GHG Calculations ..... 148
Exhibit 9-3 Summary of GHG Impacts of Proposed Transit Improvements ..... 149

# Appendices

A Web Survey Form
B Existing Route Characteristics
C Existing Route Map
D Proposed Route Characteristics
E Proposed Route System Map
F Technical Memo: Service Standards
G Technical Memo: Vehicle Maintenance
H Technical Memo: Pick Procedure
I Technical Memo: Fare Strategy Framework
J Funding Strategy
K Marketing Audit
L Individual Route Maps

# 1. Introduction

***TAKING TRANSIT TO THE NEXT LEVEL***

Halifax Regional Municipality (HRM) is a special and unique area possessing unparalleled beauty, derived from its location and geography, as well as a diversified and exciting social fabric and character.

The region has been experiencing consistent and sustained growth and is an important economic and financial centre for the Maritimes as well as the home to several major universities, Canada's east coast maritime fleet and many other facilities of the Department of National Defence. At the same time, the geography of the region and the Halifax peninsula in particular present significant transportation and mobility challenges for planners, developers and residents. With limited access points to the peninsula and across the harbour and the difficulty in constructing new roadways, the role of public transit in meeting a higher percentage of trips has become increasingly critical to the continued growth and prosperity of the region. For these reasons, Metro Transit, the region's award-winning public transit service needs to ensure that it is positioned, funded and resourced to meet and exceed the HRM's transportation needs.

The last strategic plan was prepared for Metro Transit in 2002 and provided guidance for HRM Council and municipal staff to revitalize public transit and set it on a new course for increasing the transit modal split. To this end, it was highly successful. Through the measures outlined in the report and recommendations implemented, Metro Transit service levels and ridership increased significantly, by over 30% in 5 years. However, this success has also stretched its resources to the limit and demonstrates the need for a broad-based strategy for positioning Metro Transit to meet future needs in a comprehensive way.

Over the past 5 years, the Region has adopted a transportation strategy which further emphasizes the need for increased reliance on transit to accommodate a greater portion of transportation trips by 2031, as high as 26% of overall trips. Without greater emphasis on public transit and the ability to handle a major portion of the future growth in transportation, the alternative may be the need to construct a third harbour crossing. Current estimates place the cost of this project at approximately $1.4 billion, not to mention the impact on the neighbourhoods of the connecting road infrastructure. Clearly, the objective and benefit of ensuring greater use of public transit is to avoid the need for the third crossing.

In order to achieve the transit split targets set for 2031 and to avoid a third crossing, transit must be given greater priority in all areas of HRM's business plan – funding, resources, and physical priority on the street network, setting aside road space for transit vehicles. For example, ***serious consideration must be given to making Barrington Street, from Cogswell to Spring Garden Road, and Spring Garden Road from Barrington Street to Summer Street, a transit-only corridor in the longer term***.

*Example of LRT/Streetcar in Portland, Oregon*

Although beyond the scope of this plan, the consulting team envisions that, in the longer term, within 10 to 15 years, Metro Transit's network of bus routes and ferries will need to be augmented by a network of higher order transit services, specifically, Light Rail Transit, in order to provide the needed capacity to handle higher ridership levels.

## 1.1 Plan Vision

This report sets out the recommended strategic operations and service plan for Metro Transit for the five year period covering fiscal years 2010-11 to 2014-15. It is based on conditions in effect as of August 31, 2009 and therefore does not include service changes and enhancements such as MetroX which were introduced in September 2009 or other on-going internal changes introduced by Metro Transit.

The Strategic Operations Plan defines the key directions and actions Metro Transit and the Halifax Regional Municipality will need to take to achieve higher levels of transit use over the next five years as a continuing step towards the Region's goal of a 26% transit modal split by 2031. Included in this report are action plans for staffing, infrastructure (vehicles, facilities), transit priority measures, corporate image and marketing, and funding.

The vision for this new five year plan is to move Metro Transit up to the next level in terms of building on its past success by further increasing transit ridership so that it can achieve a much higher transit modal split over the next five years. The current transit modal split for work trips is 12% while the Halifax Regional Council long term strategy is to have a transit modal split of at least 26% in the municipality's urban area.

*Example of exclusive bus rapid transit planned for York Region, Ontario*

To accomplish this vision, Metro Transit will have to continue to improve its service levels in terms of improved service coverage, more direct and timely routes, increased frequencies, and faster, more reliable services. It will need to provide a frequent and high quality Bus Rapid Transit (BRT) services in the main corridors in Central Halifax and Dartmouth, MetroLink and Metro X services from the major population concentrations throughout the region, and limited stop express services in the high demand corridors where there are frequent stopping, fixed route services. The objective is to build on the area's strong base of students and commuters, its growing numbers of seniors, immigrants and customers without access to a vehicle, and the population who have a choice of mode particularly to the universities and colleges, the major business parks, the medical facilities, and the main shopping centres in the HRM. The service plan features:

- More limited stop express services and transit priority measures to increase operating speeds in the major corridors, The objective is to have headways and operating speeds that will minimize bus bunching and improve the consistency of the headways in the critical Bayers Road, Robie, Bell/Summer, Gottingen, Barrington, and Portland corridors. Transit priority measures would include bus-only lanes, bus queue jumpers at intersections and bridge heads, and transit signal priorities at traffic intersections

*Bus Rapid Transit could be a catalyst for a revitalized Spring Garden Road*

- A BRT (high quality, high frequency) service in the Barrington/Spring Garden corridor in Halifax and the Portland corridor in Dartmouth by up-grading Route 1 in Halifax and Routes 59/61 in Dartmouth to reduce running times and bus bunching through transit priorities and using articulated buses in the most heavily loaded periods of the day. With BRT, many local routes would not need to serve the downtowns of Halifax and Dartmouth and could feed the BRT system at convenient transfer points.

- Upgrade Woodside ferry to all-day Monday to Sunday service in the next five years. Provide enhanced, more frequent bus connections to the all day ferry service to improve the transit mode share for work and other trips to the Woodside sub-region.

Overall, the recommended service improvements are targeted to increase transit ridership by 18% over the next 5 years and to increase service hours, the transit fleet and staff resources by about 20%. Additional vessels for the ferry service will be required to upgrade the Woodside service to all day and provide suitable resources for vessel maintenance. The introduction of the proposed Fast Ferry service between Bedford and Halifax has not been included in this plan as it is felt to be beyond the five-year timeline.

In support of these strategic service improvements, major steps will be required in the following areas:

- an aggressive program of introducing new transit priority measures;

- an aggressive marketing program building on Metro Transit's existing strong program

- tighter controls on parking supply and pricing to reduce auto use; and

- travel demand management programs including partnering with schools, employers and specific communities to encourage greater use of transit through new pass programs and expanded Metro Pass/U-Pass programs and enhanced transit connections.

The success of these measures will also be dependent on developing more compact, higher density and mixed land use in the downtown, and along the major transit spines consistent with the HRM Regional Plan.

Transit priority measures will need to include major dedication of road space to transit use (bus only lanes, transit only roadways) as well as transit-only signals, queue jump and bypass lanes and transit priority turn lanes.

From a transit capacity standpoint, in addition to more frequent services, a greater portion of the transit fleet will need to emphasize high capacity, articulated buses, a strategy which Metro Transit has plans to pursue over the next five years with the purchase of 45 of these buses.

In addition, other elements of HRM's transit infrastructure will be required including the completion of a second garage (under way), expansion and relocation of several key transit terminals and enhancing the appeal of using transit by upgrading bus stops through the addition of more shelters.

## 1.2 Study Methodology

The process in preparing this new Strategic Operations Plan has been comprehensive, inclusive and collaborative with HRM's stakeholders, from residents (users and non-users alike) to transit employees and political leaders. The work commenced in December 2008 during which time the consulting team meet extensively with Metro Transit staff and other HRM staff from all key functional areas – planning, finance and infrastructure. At the core of the project research was market and demand research, particularly a web-based survey open to all HRM residents which solicited comments and input on travel patterns, preferences and priorities for public transit needs. Over 9,000 surveys were received, far in excess of the anticipated 1,500 responses. This demonstrates the importance of public transit to area residents and their desire to continue to give priority to investment in Metro Transit in the years ahead.

In addition to the web-survey, the consulting team undertook the following tasks:

- Open houses to review the draft plan objectives and service plan for routes;

- Review of all Metro Transit functional areas with emphasis on staffing, organization, reporting relationships and communications;

- Assessment of Metro Transit's infrastructure (fleet, garage, terminals, stops and shelters);

- Review of operational issues which affect service delivery; and

- Regular meetings with HRM/Metro Transit staff to review progress and develop jointly the future vision and service plan.

A series of Technical Memoranda were prepared which addressed a wide range of issues including – service standards, fare policy, marketing and communications and corporate image, organization and staffing, employee training, vehicle maintenance and the pick process.

A draft of the Service Plan was prepared and reviewed extensively with Metro Transit and HRM Planning staff to finalize the service strategy and route network and service level details.

Finally, a draft of this final report was reviewed with Metro Transit and HRM staff with comments received incorporated into this final version which then was presented to the HRM Council. The report contains the following elements:

- Review and assessment of the market for public transit;
- Assessment of the existing Metro Transit services to identify areas for improvement;
- Review and updating of service policies to guide the design, implementation and ongoing planning and management of transit services over the next 5 years;
- Review of operational issues related to employee utilization, vehicle deployment;
- Identification of transit-supportive policies;
- Identification of financing options to fund the Five-Year plan;
- Quantification of the greenhouse gas reduction benefits of the Strategic Operations Plan; and
- Conclusions, recommendations and implementation plan.

# 2. Transit Market Analysis

This section reviews the current market for public transit in the Halifax Regional Municipality within the current Metro Transit service area and identifies the future market for transit as the basis for developing the Five-Year Transit Service Plan in the subsequent sections.

## 2.1 Market Overview

HRM was created in 1996 with the amalgamation of the former municipalities of Halifax, Dartmouth, Bedford and Halifax County. It is made up of 23 municipal districts, over 200 communities and 5,577 square kilometres. The region is the economic and cultural centre of Canada's East Coast and a major tourist destination, injecting $1.3 billion into the regional economy in 2008.

The Port of Halifax is the third largest in the country, generating almost $700 million annually and creating 9,000 jobs. Cruise ship traffic has increased to a record 125 vessels and 228,133 passengers in 2008, generating $25 million in economic activity.

Public transportation in HRM is provided by Metro Transit, a department of the municipality. Metro Transit's scope of services include bus and ferry operations totalling 61 separate routes – 59 bus routes and 2 cross-harbour ferry routes. The overall regional transit mode share is 12% with the mode share to downtown Halifax at approximately 25%.

HRM residents have proven their willingness to support alternative transportation modes to single occupancy vehicles.

According to Statistics Canada, HRM has the highest percentage of residents in Canada who walk to work, the 3rd highest percentage of residents who commute via multi-occupant vehicles and the 5th lowest percentage of residents who drive to work.

## 2.2 Population

### 2.2.1 Current

With a population over 380,000, HRM is the largest Canadian population centre east of Québec City, and the thirteenth largest metropolitan area in the country. Almost 40% of Nova Scotia's population resides in HRM, and more than 15% of Atlantic Canadians. HRM has a young population; over 50% of residents are under the age of 40, and almost 30% are under the age of 25.

Although several other regions of Nova Scotia, eastern Canada, and the north-eastern United States have seen population declines in recent years, HRM has experienced significant growth. Economic and employment opportunities, along with quality of lifestyle are major motivating factors in relocation to HRM.

Population in HRM has grown almost 4% since 2001 and almost 40% since 1975.

### 2.2.2 Projected Growth

The Region's population is expected to continue to grow over the next 10 years to 2021 with the rate of growth declining after 2026. The population will peak at 406,804 in 2026. Substantial growth is anticipated in the 55 and older categories as the baby boomer segment continues to age. This segment will account for 37% of population by 2031 as compared to the current 23%. This will be a significant factor in transportation planning and fleet configuration, with the demand for accessible and customized services likely to reflect segment growth.

**Exhibit 2-1: Projected Population for Halifax Regional Municipality**

| | 2007 | 2011 | 2016 | 2021 | 2026 | 2031 |
|---|---|---|---|---|---|---|
| **Total** | 383,741 | 392,303 | 400,635 | 405,972 | 406,804 | **402,653** |
| **0-24 yrs** | 112,584 | 109,365 | 104,242 | 99,679 | 96,438 | **93,102** |
| **25-54 yrs** | 181,495 | 180,720 | 176,909 | 170,306 | 165,605 | **159,766** |
| **55+ yrs** | 89,664 | 102,217 | 119,484 | 135,986 | 144,762 | **149,782** |
| **% Growth** | **N/A** | **2.3%** | **2.1%** | **1.3%** | **0.2%** | **-1.0%** |

Source: Nova Scotia Community Counts web page - Statistics Canada: Population Projections for Canada, Provinces and Territories; 2005-2031, catalogue number 91-520-XPE.

### 2.2.3 Student Population

HRM is home to six universities and three Nova Scotia Community College campuses, with a combined enrolment of over 41,000 students.

HRM's universities are: Dalhousie, Saint Mary's, Mount Saint Vincent, Kings College, the Nova Scotia College of Art and Design (NSCAD) and the Atlantic School of Theology. HRM's universities are growing and acquiring more students. In the next ten years, the student population is expected to grow six percent from 28,300 to 30,000, with potential enrolment increases of 15-20% over 15-20 years, requiring an increase of faculty and staff of 10-15%.

### 2.2.4 Major Communities

#### Sackville

**LOWER SACKVILLE/COBEQUID**
There are over 27,000 residents in Lower Sackville and Cobequid, a 4.4% decline from 1996. There are more than 8,400 families and 26.4% of residents are under the age of 20. The number of families grew by 1.3% in this timeframe.

Growth in the community is a mix of residential and commercial developments in the Sackville River valley.

**UPPER SACKVILLE**
There are almost 5,000 residents in Upper Sackville, a 38.5% growth from 1996. There are more than 1,500 families and 29.8% of residents are under the age of

20. The number of families grew by 47.6% in this timeframe, the highest family growth rate in HRM. Its proximity and ease of commute to downtown Halifax, Dartmouth and Burnside Industrial Park are factors for the community's rapid residential growth.

Both Upper and Lower Sackville are characterized by urban sprawl, making it difficult to serve by conventional fixed route transit.

### Bedford

There are almost 17,000 residents in Bedford. This is a 22.6% increase since 1996. There are more than 4,800 families with 24.9% of residents under the age of 20. The number of families grew by 25.4% from 1996, the second highest growth rate in HRM.

Bedford has the second highest family income level in the region, at over $91,000, and the second highest percentage of post-secondary graduates at 66.6%.

### Dartmouth

**DARTMOUTH EAST/COLE HARBOUR**
There are over 22,000 residents in Dartmouth East, a 12.2% decline from 1996. There are over 6,600 families and 25.4% of residents are under the age of 20. The number of families declined 10.5% from 1996.

**DARTMOUTH NORTH**
There are over 18,000 residents in Dartmouth North, a 7.4% decline from 1996. There are more than 4,700 families and 18.5% of residents are under the ago of 20. The number of families declined 13.6% in this timeframe.

**DARTMOUTH SOUTH**
There are almost 28,000 residents in Dartmouth South, an 18.3% increase since 1996. There are over 6,800 families and 19.9% of residents are under the age of 20. The number of families grew by 21.2% in this timeframe, making Dartmouth South one of the fastest growing regions in HRM.

### Downtown Halifax

**HALIFAX CHEBUCTO**
There are over 18,500 residents in Halifax Chebucto, a 5.9% decline from 1996. There are over 4,400 families and 19.6% of residents are under the age of 20. The number of families declined 5.9% from 1996.

**HALIFAX CITADEL**
There are over 19,000 residents in Halifax Citadel, a 4.3% growth from 1996. There are almost 4,000 families and 11.9% of residents are under the ago of 20. The number of families grew 8.9% in this timeframe.

Halifax Citadel has the highest family income level in HRM at $91,861 and the highest percentage of residents with post secondary education at 73.6%.

**HALIFAX NEEDHAM**
There are almost 20,000 residents in Halifax Needham, a 1% growth from 1996. There are over 4,300 families and 13.9% of residents are under the age of 20. The number of families grew 1.1% in this timeframe.

**Exhibit 2-2: Transit Mode to Work (2006 Census)**

| Location | Vehicle | Transit | Walk |
|---|---|---|---|
| Upper Sackville | 92% | 6.3% | 0.8% |
| Lower Sackville | 82.2% | 11.8% | 4.2% |
| Bedford | 86.1% | 7.2% | 4.9% |
| Dartmouth East | 80.7% | 12.9% | 3.9% |
| Dartmouth North | 65.3% | 22.9% | 8.7% |
| Dartmouth South | 69.8% | 18.2% | 9.3% |
| Halifax Chebucto | 48.1% | 15.7% | 30.4% |
| Halifax Citadel | 31.5% | 9.7% | 54.6% |
| Halifax Needham | 42.9% | 16.7% | 33.5% |
| Halifax County | 75.8% | 11.9% | 10.1% |

Sackville and Bedford display the level of high vehicle use common to suburban communities. The high walk mode numbers in the Halifax regions reflect the density of population and close proximity to downtown Halifax. Similarly the high vehicle mode split in Dartmouth East reflects the lower density and distance from downtown and business parks. The high transit share numbers in Dartmouth North and South reflect proximity to downtown, Burnside Business Park, a strong bus service network and the Harbour Ferries.

## 2.3 Economic Situation and Employment

HRM is a $10 billion dollar economy, driven by service-sector jobs which constitute almost 85% of all jobs. As of December 2008, the labour force size was 225,000. The HRM is in the top ten in the country for labour force participation, with a 70.6% level in 2008; 1.5% above the national average. The unemployment rate in 2008 was 5.3%. Approximately 56% of the HRM workforce is based in the Capital District or the immediate surrounding areas. Employment growth has remained steady with the national average, and is above the rest of Nova Scotia.

HRM's 2008 average household income was estimated to be $66,325, and current household expenditures were estimated at $65,439. Both this income and expenditure level place Greater Halifax area above the national averages and in the mainstream of mid-sized Canadian cities.

Tourism is a major economic driver in HRM, with 2008 revenues at $1.3 billion and almost 2 million visitors. The cruise ship industry is growing, with a record 125 vessels and 228,133 passengers in 2008, and an estimated $25 million economic impact. Halifax International Airport handles approximately 3 million passengers annually, making it the 8$^{th}$ busiest Canadian airport.

The Port of Halifax is another major economic driver in HRM. In 2009, the Port is expected to generate $670 million in employment income and over 9,000 jobs. Container traffic has almost doubled in the last decade with the result that the Port of Halifax ranks third in Canada in tonnage handled, behind Vancouver and Montreal. Growth in the number and size of berths has enabled the port to compete with every major port along the eastern seaboard.

Other economic drivers for future employment include universities, defence, hospitals, public administration, and banking and insurance.

**Exhibit 2-3: HRM Economic Drivers and Employment Potential**

| | | | Employment potential | | |
|---|---|---|---|---|---|
| **Industry** | **Main Location** | **Planning Issues** | **2001** | **2010** | **2026** |
| **Universities** | Capital District | Land availability<br>Transit/traffic/parking<br>Housing | 5,100 | 5,500 | 6,000 |
| **Defence** | Capital District | Waterfront land<br>traffic/Transit | 9,400 | 9,850 | 10,650 |
| **Hospitals** | Capital District | Land availability<br>Traffic/Transit<br>Parking | 11,000 | 11,500 | 14,000 |
| **Public administration** | Capital District | Urban vs. park location<br>Traffic/Transit/parking | 12,200 | 12,750 | 13,800 |
| **Banking and insurance** | Capital District | Urban vs. park location<br>Traffic/Transit/parking | 14,000 | 17,000 | 19,800 |

As with the region's population, the HRM business community has realized constant growth in the last 30 years. Two major statistics show this growth in both employment and businesses:

1. Overall employment has increased by approximately 65%. New opportunities, changes in the regions demographics and an increasing participation rate have caused this; and

2. In addition to several large companies in the region, there are now over 12,000 small and medium size businesses, many of which are smaller service based companies employing less than 20 workers.

## 2.4 Trip Generators

### 2.4.1 Employment Centres and Business Parks

The top twenty work destinations by census tract account for an average of 160,740 inbound work trips per day. Central Halifax is the dominant work destination however there are also 14 major business parks in HRM; six are owned by HRM, seven are provincially owned and one is private-sector. The Dartmouth Urban Ring and the Burnside Industrial Park area is the second largest destination. Central Halifax and Central Dartmouth sub regions provide more work destinations than work origins.

### 2.4.2 Post-Secondary and National Defence

HRM is home to six universities with an enrolment of over 28,300 students in 2007/2008. Nova Scotia Community College has three campuses in HRM with an enrolment of 13,200 students.

U-Pass is an unlimited transit pass for full-time university and college students. The U-Pass program has been successful in the HRM, with over 25,000 passes in circulation annually. The pass costs $116.95. As in other jurisdictions, the introduction of the U-Pass has led to a sustained increase in ridership.

The HRM is also home to CFB Halifax and CFB Shearwater, which combined forms the largest Canadian Forces population in the country, with over 10,100 military, reserve forces, and civilian workers. The bases form the main administration and support centre for the Maritime Forces Atlantic, as well as house a significant population of active duty personnel in the Navy.

The main facilities of the Forces in the HRM include the HMC Dockyard in the Halifax Harbour, the Shearwater Heliport, with barracks and lodgings located at Willow Park, Stadacona, and Shearwater.

### 2.4.3 Retail Centres

There are eighteen major malls and retail centres throughout HRM. Many are located in the downtown region and are easily accessed by current transit routes, such as Halifax Shopping Centre and Scotia Square. Newer developments – such as Dartmouth Crossing – may require dedicated transit routes due to anticipated visitor numbers. Several smaller retail centres are located in various communities throughout the HRM.

### 2.4.4 Entertainment and Recreational Facilities

Hundreds of restaurants, bars and nightclubs are located in downtown Halifax, the entertainment zone of HRM. Several museums and arts theatres are in HRM, with most located in downtown Halifax. The majority of movie theatres are located at or near major malls and shopping centres.

Due to HRM's ocean-side location and abundance of lakes, there are many provincial parks and beaches while there are also a number of arenas, pools and community centres throughout the residential areas of HRM.

### 2.4.5 Housing Developments

While HRM housing starts dropped in 2008 – consistent with national figures – regional growth has been steady over the last several years.

- 2008 housing starts were 1,987, down from 2,315 in 2007; consistent with national figures.
- 2007 new building permits were 4,403, similar to the previous four years amounts.
- 2007 new dwelling units built were 2,255, down from 3,228 in 2004.

- Subdivision development applications have steadily risen, with 883 applications in 2005.
- 1,925 lots were approved in 2005, consistent with the trend over the previous four years (the exception was 2003 when 2,438 lots were approved).

## 2.5 Transit Services

The HRM Metro Transit system consists of seven service products: Conventional Bus, MetroLink, Community Transit Bus, MetroX rural express, Access-A-Bus, the Harbour Ferries and "FRED". Each service is described below.

### 2.5.1 Current Transit Service

#### Conventional Bus

A total of 52 conventional bus routes run throughout HRM. These routes operate through a network of 15 terminals that act as hubs for the system. Average weekday ridership is 79,373.

The Metro Transit fleet consists of approximately 300 buses, including Access-a-Bus vehicles. In 2008, 15 new buses were added to the fleet along with 10 replacement buses; the largest fleet expansion to date. Metro Transit is fast tracking a purchase of 45 articulated buses for operation on high ridership routes.

There are 13 Park & Ride locations in the HRM, 11 of which are free for transit users. Free Park 'N Ride lots are very popular and capacity has become an issue, with many lots not meeting demand. Proposals for expanding some lots and building new lots are in discussion.

#### MetroLink

MetroLink is a premium bus rapid transit service in the HRM. Featuring limited-stop routes and upgraded buses, this service provides a faster and enhanced commuting option into downtown Halifax. Average weekday ridership is 2,949.

There are three MetroLink routes: Portland Hills, Sackville and Woodside. Success of the MetroLink service has prompted proposals for new routes into two other commuter areas, Clayton Park and Spryfield. Tentative plans would introduce the Clayton Park service by 2011.

#### Community Transit Bus

Community Transit buses run from major transit terminals to smaller communities. Currently, Community Transit services are available in Porter's Lake and Beaver Bank areas. Average daily weekday ridership on these routes is 233.

In August 2009, a pilot project was launched that introduced Community Transit service to the Sambro Loop area.

### MetroX

MetroX is a network of express routes linking the outlying rural areas with key destinations in HRM. The first route, which services Tantallon along the Highway 103 corridor, began service in August 2009. Within the next five years, an additional route will be introduced in the Highway 103 corridor, and routes are also proposed to begin service in the Highway 101, 102 and 107 corridors.

### Access-A-Bus

The Access-A-Bus service is a shared ride, door-to-door bus service for passengers who are unable to use the conventional bus system. People who have physical or cognitive disabilities can apply for eligibility to use the service. The service operates within 610 metres of urban transit routes; users outside this area must travel to the service area for system use. Access-A-Bus is intended to be a supplement to the conventional transit system.

### Harbour Ferries

Halifax Harbour is the second largest ice-free harbour in the world. The Harbour Ferries service consists of three ferries: the Dartmouth III, the Halifax III and the Woodside I. The Halifax and Dartmouth ferries run between downtown Halifax and Dartmouth, from 6:30 a.m. to 11:45 p.m., seven days a week. The Woodside ferry runs between downtown and Woodside, Monday to Friday during peak hours. The ferries transport an average 3,934 daily commuters along the twelve minute crossing and have a maximum capacity of 395 passengers.

A new ferry service, HarbourLink, has been proposed to transport passengers between Bedford and downtown Halifax. The service would consist of two ferries with a capacity of 250-350 passengers. The vessels proposed are high-speed catamarans and would travel at four times the speed of the current Dartmouth-Halifax ferries.

### Free Ride Everywhere Downtown (Fred)

Free Ride Everywhere Downtown, known as “Fred”, is a free shuttle service operating in downtown Halifax introduced in 1996. “Fred” operates seven days a week from July through mid-October, from 10:30 a.m. to 5:00 p.m. The service runs a 40-minute loop through downtown Halifax, stopping at several tourist destinations such as Citadel Hill, Barrington Street and Lower Water Street. The service carried over 60,000 riders during 2007.

## 2.5.2 System Capacity

### Route Capacity

A summary analysis shows that the 56 fixed route services currently operating in HRM have a combined peak hour capacity of just over 5,700 people per hour in the peak direction. Over the three-hour AM peak this represents a capacity equivalent to approximately 12% of the total trip-to-work demand reported in the 2006 Census. *Transit mode split share is reported at 11% suggesting that the system is currently operating at capacity and that additional capacity must be provided in order to increase ridership.*

### Aggregated Inbound Capacity at Terminals

There are fourteen transit terminals in the HRM, ten of which are located in areas where new building units have been approved for construction by the end of 2010. Planned development adjacent to the Lacewood, Mumford and Portland Hills terminals can be expected to have significant impacts on transit demand at these locations.

Table 2-4 summarizes the relation between terminals and new building units within each terminal's service area. The second column presents the Persons per Peak Hour (pph) inbound capacity per terminal for the AM peak based on the bus routes that utilize the terminal during the AM peak. The third column shows the new dwelling units adjacent to the terminals that have been approved and are expected to be built by the end of 2010.

### Exhibit 2-4: Terminal Inbound Aggregate & New Building Forecasts

| Terminal Name | Inbound pph/AM Peak Per Terminal | New Building Units* | Employment Impacts |
|---|---|---|---|
| **Sackville** | 891 | 480 | Downtown Commuters |
| **Cobequid** | 698 | 570 | Downtown Commuters |
| **Lacewood** | 1247 | 2180 | Bayers Lake Business Park |
| **Mumford** | 1554 | 1700 | Halifax Shopping Centre West End Mall |
| **Bayers Rd** | 545 | 500 | Bayers Rd. Shopping Centre |
| **Dalhousie** | 293 | 0 | Universities, Hospitals, Downtown |
| **Water St / Ferry** | 405 | 0 | Ferry from Woodside Downtown Commuters |
| **Highfield** | 752 | 370 | Burnside Industrial Park City of Lakes Business Park |
| **Bridge** | 2358 | 370 | Downtown Shopping Centre Downtown Commuters |
| **Mic Mac** | 585 | 600 | Dartmouth Crossing Mic Mac Mall |
| **Alderney Gate / Ferry** | 1166 | 0 | Ferry to Downtown Downtown Commuters |
| **Woodside Ferry** | 360 | 0 | Ferry to Downtown Downtown Commuters |
| **Penhorn** | 1152 | 600 | Penhorn Mall |
| **Portland Hills** | 972 | 1560 | Downtown Commuters |

*New Building Units within (in proximity of) service area of associated terminal

## 2.6 Stakeholder Consultation and Web Survey

Metro Transit has a continuing dialogue with its stakeholders through its corporate communications department which along with customer service contacts in the Planning and Service Delivery Departments, gathers and analyzes feedback from users and non-users. In addition, over the 2007-2008 periods as part of the development of the Regional plan, extensive consultation sessions were held with groups throughout the HRM area. As a result, for the purposes of developing the Five-Year Plan, the approach taken was to supplement the existing stakeholder knowledge-base about Metro Transit services through an on-line web survey that would solicit input from both transit users and non-users about their views on transit and priority needs. The advantage of the web survey was that it would also permit Metro Transit and the consulting team to identify and quantify the travel demand patterns in the HRM area, information which is not readily available elsewhere.

Following the preparation of the draft Five-Year Service Plan, an information session was held for members of Regional Council followed by an open house with transit staff and public open houses at three locations throughout the HRM area (Halifax, Sackville/Bedford and Dartmouth) to present the key elements of the plan and receive feedback. A second information session was held for members of Regional Council after the public open houses.

### 2.6.1 Survey Methodology

A travel diary survey was developed in order to gain insight on the current travel behaviour and preferences of Halifax Metro Transit users and non-users. In view of the complex nature of the survey, a high-level summary of the survey results are presented below. The full survey database has been provided to HRM for future use for transit and transportation planning or research endeavours.

#### Survey Method

The survey was primarily intended to be administered on-line; however, print versions were made available upon request. Beyond questions related to the basic demographics of survey respondents, the survey requested respondents to comment on their general travel behaviour, such as their most common method of payment for transit. Information was also collected for all trips taken the day prior to completing the survey. Furthermore, the survey concluded with questions related to the potential impacts on the respondents' travel behaviour given certain transit service changes (see Appendix A for a full copy of the survey). Advertisements were posted throughout the transit system to solicit feedback and complete the survey at: www.HRMListens.com.

### Data Cleaning

As with any survey, substantial effort was required to "clean" the raw data, which included standardizing any text fields that were not intended to be open-ended questions such as time of day, address, postal code, intersection, and wait time data. During this data cleaning process, home locations were also extracted from the trip data wherever a "home" trip purpose was indicated. Once address or postal code information was available for as many trips as possible, each trip origin and destination was geocoded and the forward sortation area (FSA) was also determined. Using the FSA's, each origin and destination was assigned to a region according to the following table:

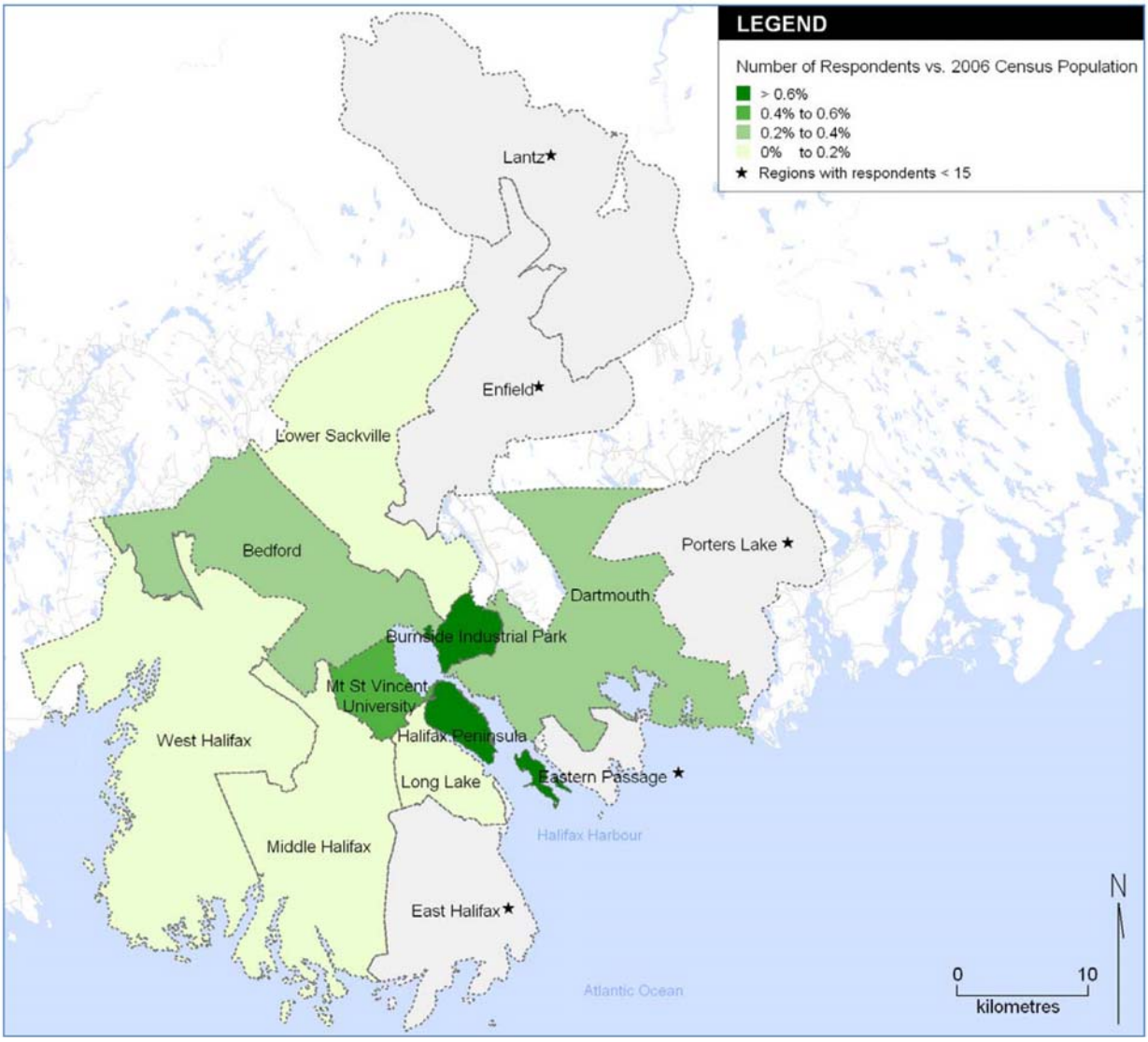
| Forward Sortation Area | Region |
|---|---|
| **B3M, B3N, B3P, B3R, B3S, B3V, B3T, B3Z, B2R, B3H, B3J, B3K, B3L** | Halifax Peninsula |
| **B2V, B2W, B2X, B2Z, B2Y, B3A, B3B** | Dartmouth |
| **B3G** | Eastern Passage |
| **B2S** | Lantz |
| **B3E** | Porters Lake |
| **B2T** | Enfield |
| **B4A, B4B** | Bedford |
| **B4C, B4E, B4G** | Lower Sackville |

### Survey Sample

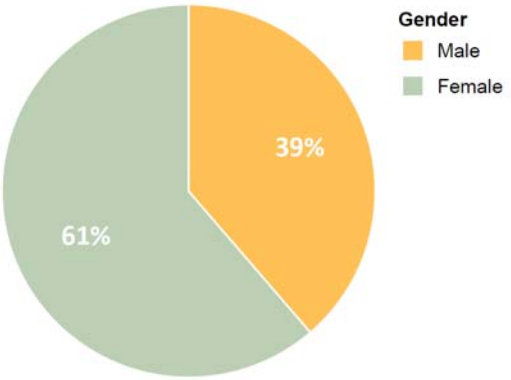
Upon closing the survey six weeks following its launch in late January, 8,497 responses were collected, representing a sample rate for the Halifax Census Metropolitan Area (CMA) of approximately 2.3% which is quite high for such a complex survey. By far the majority of survey respondents live in the Halifax Peninsula (Exhibit 2-5) and the majority have general office or professional/technical jobs, while 11% are in post-secondary studies.

Although the Halifax CMA is 52% female, the responses over-represent women (Exhibit 2-6). Compared against census data, young adults and senior citizens are significantly under-represented while those from 25 to 54 years old are over-represented (Exhibit 2-8). Lastly, the trip data collected primarily pertains to Monday through Wednesday (Exhibit 2-7). At this stage of analysis, no compensation factors were introduced to offset the effects of any of these biases.

### Exhibit 2-5: Survey response rates by area




### Exhibit 2-6: Gender of survey respondents




### Exhibit 2-7: Number of trips by day of week

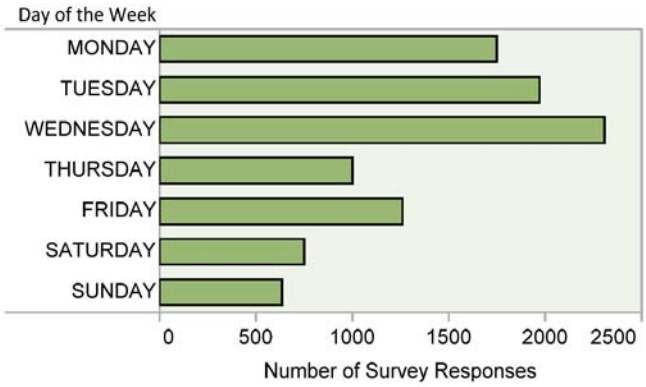
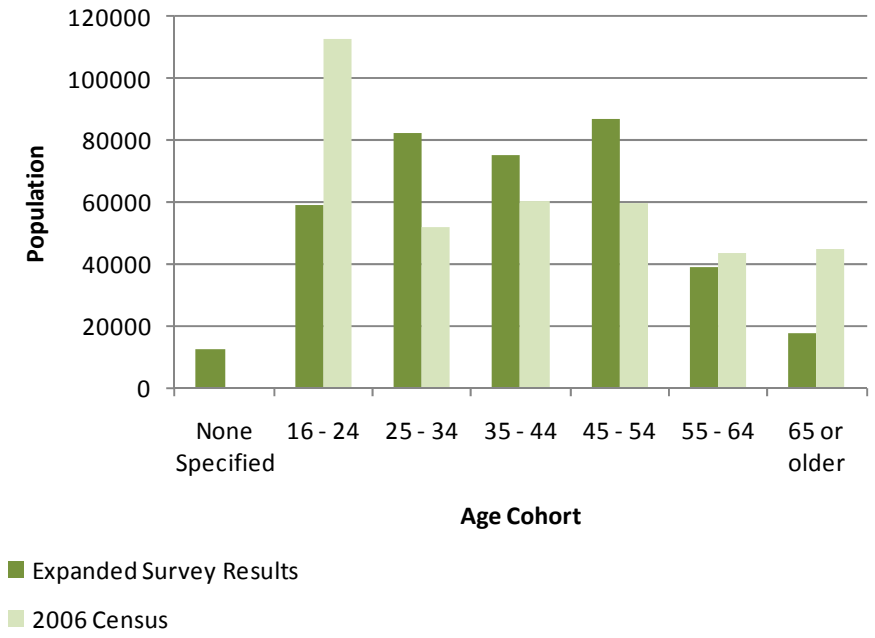


**Exhibit 2-8: Age of survey respondents**

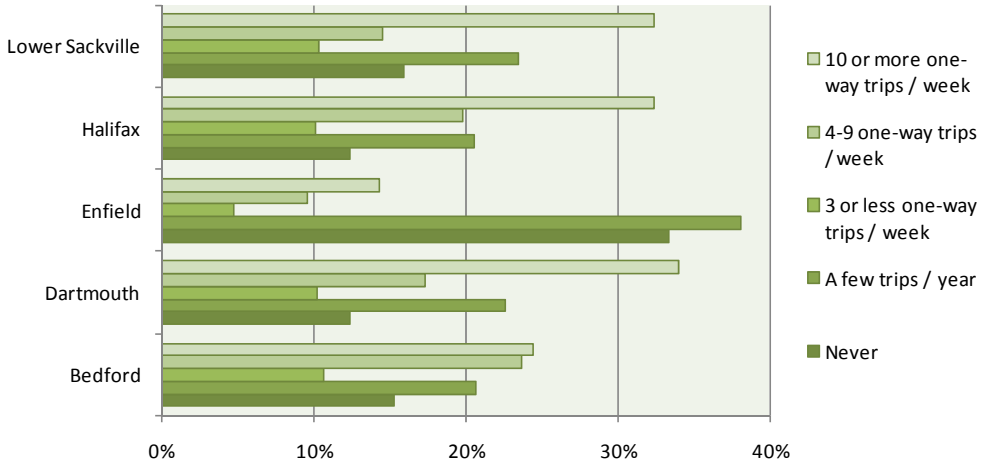



## 2.6.2 Survey Results

### Current Public Transit Demand

Transit use in Halifax is significant with the 2006 Census showing that 12% of the employed labour force commutes by transit. Since the survey was answered primarily by transit users, as many as 52% of the surveyed trips indicated that at least one portion involved using transit. By region, residents in Dartmouth, Halifax, and Lower Sackville appear to be the most frequent transit users (Exhibit 2-9).

**Exhibit 2-9: How often do you use public transit?**




By far the most popular route appears to be the #1 Spring Garden, with twice as many respondents citing it as a route they commonly take compared to any

other transit route (Exhibit 2-10). In contrast, just over 50 respondents indicated that they regularly take the #3 Manors, #83 Springfield, and #88 Duke routes.

**Exhibit 2-10: Mostly Commonly Used Transit Routes**

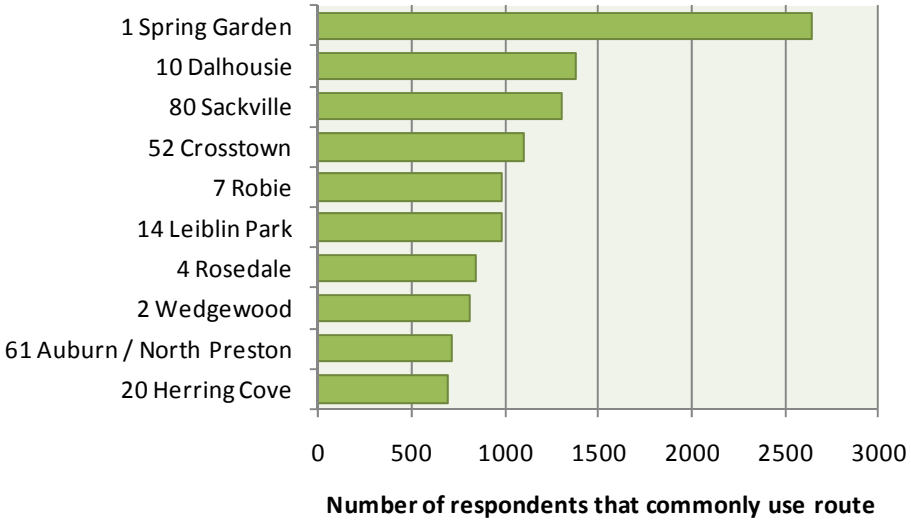


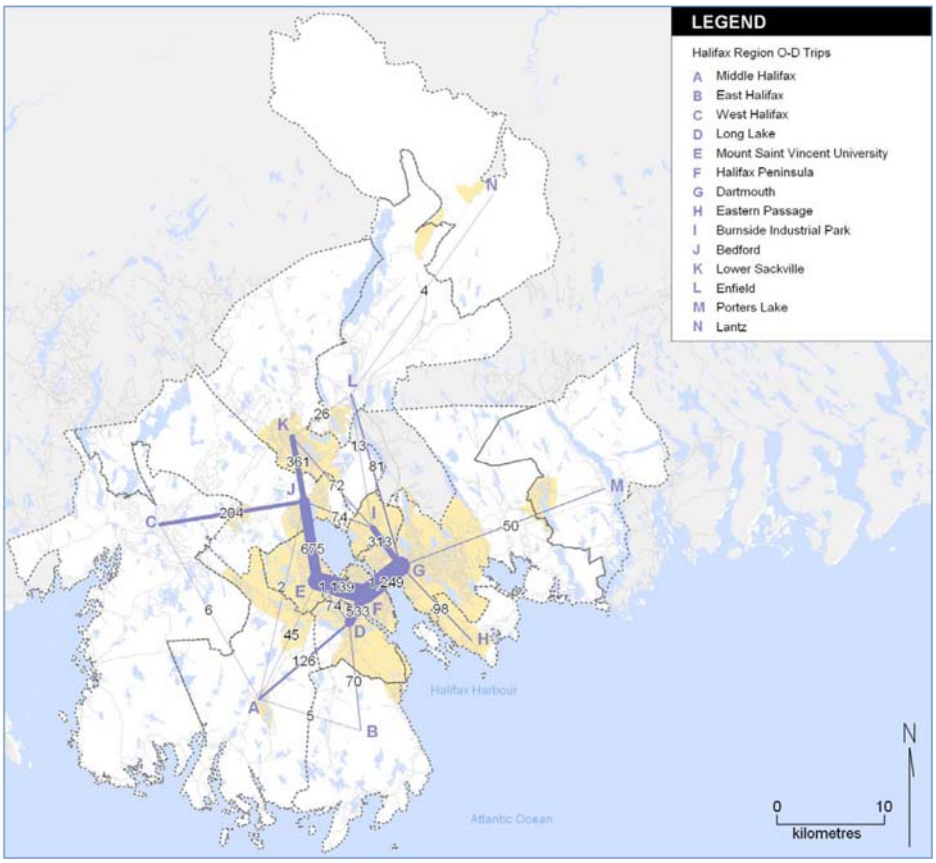

Exhibit 2-11 shows a simplified network indicating the number of trips between the various zones in the Halifax CMA. The fishhook between Dartmouth, Halifax, Mount St. Vincent University (MSVU), Bedford, and Lower Sackville noticeably stands out. There is also significant travel between Halifax and Long Lake, Dartmouth and Burnside Industrial Park, as well as Bedford and West Halifax. By plotting commuter trips based on Census 2006 data, a similar pattern emerges, although three links show considerably more travel than were revealed in the survey: Middle Halifax and Long Lake; Dartmouth and Eastern Passage; and Dartmouth and Porters Lake (Exhibit 2-12). Exhibit 2-13 indicates the transit market penetration proportional to the level of travel along these links except perhaps between Dartmouth and Porters Lake, and Dartmouth and Middle Halifax where there is less transit travel than might be expected. Similarly, given the amount of travel between MSVU and Bedford, their relative proximity and a higher student population, one would expect better market penetration than that revealed by the survey.

By segmenting the trip data one identify important links based on specific demographic criteria. Two important captive markets are low income households and the student population (certainly, these are also related criteria). Both showed higher than expected travel between the Halifax Peninsula and Dartmouth. Furthermore, there are generally more people under 25 years old (student aged) travelling between Lower Sackville and the Burnside Industrial Park; and Lower Sackville and Bedford than elsewhere. On the other hand, the links between Bedford and Mount Saint Vincent University; and Bedford and Lower Sackville tended to serve travel for higher income households and households with higher employment rates. Other than that, segmenting based on various demographics did not produce major variations from other links.

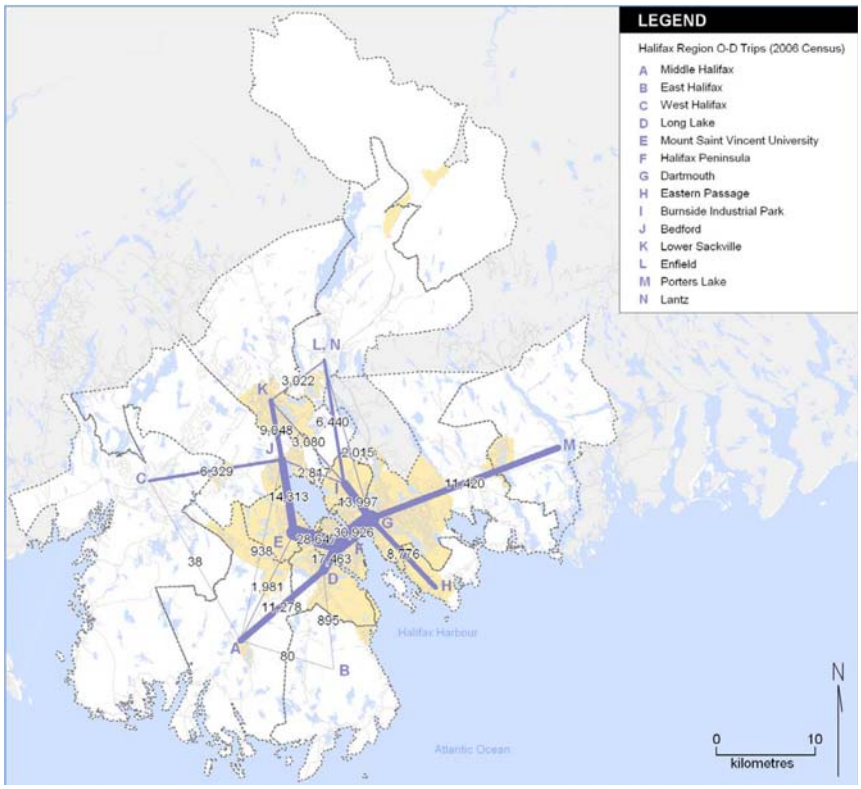
It is important to note that responses to the trip portion of the survey were generally poor as the responses showed that providing details for all trips was either too burdensome for respondents or respondents did not understand how to use the survey. For example, many responses tried to enter all of the

information related to an entire trip chain into a single trip by specifying a long list of trip purposes over a wide time span.

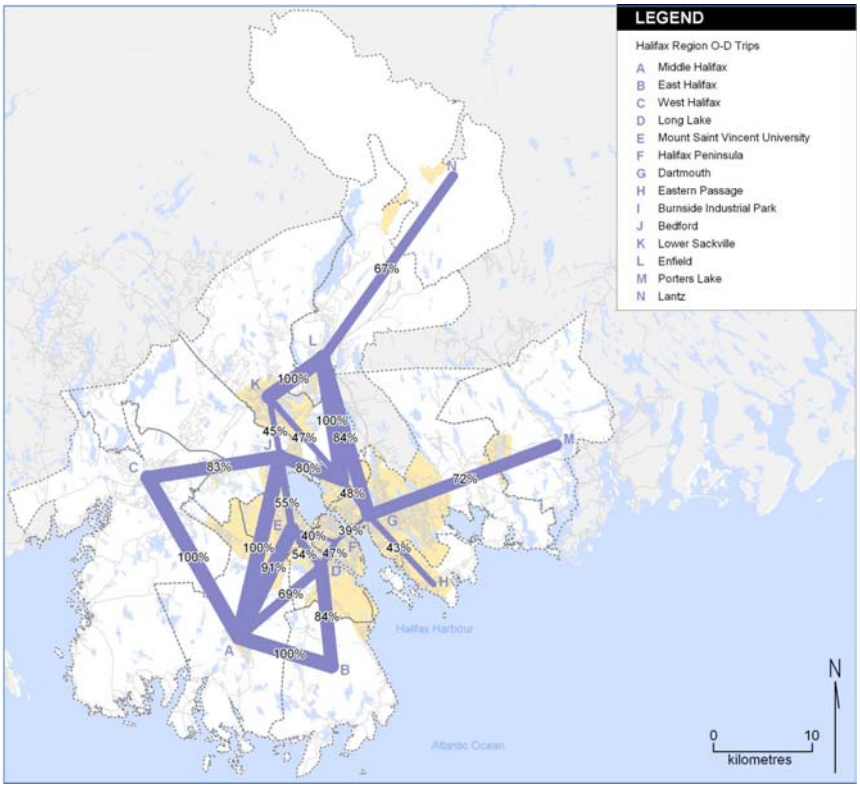
### Exhibit 2-11: Trip Flow across HRM



## Exhibit 2-12: Work trip flow across HRM, 2006 Census



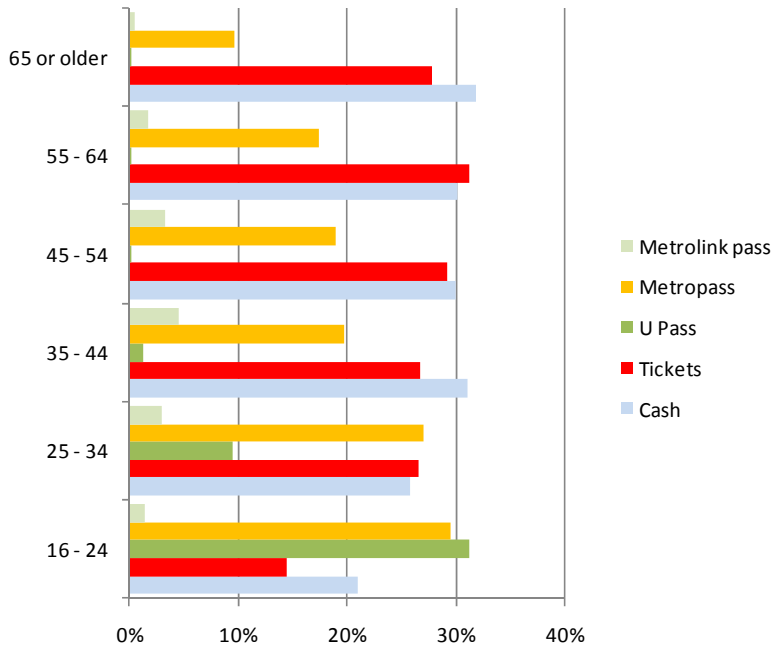

## Exhibit 2-13: Percentage of Survey Trips not using Transit



### Methods of Payment

Across all age groups, paying for transit by cash and or with tickets were tied for being the most popular forms of payment, except for the 16 to 24 year-olds, who use transit much more frequently than other age cohorts and therefore preferred to use either a Metropass or U Pass (Exhibit 2-14). Metropasses also appear to be popular with young adults, 25 to 34 years old. As age increases, so does the popularity of cash and tickets.

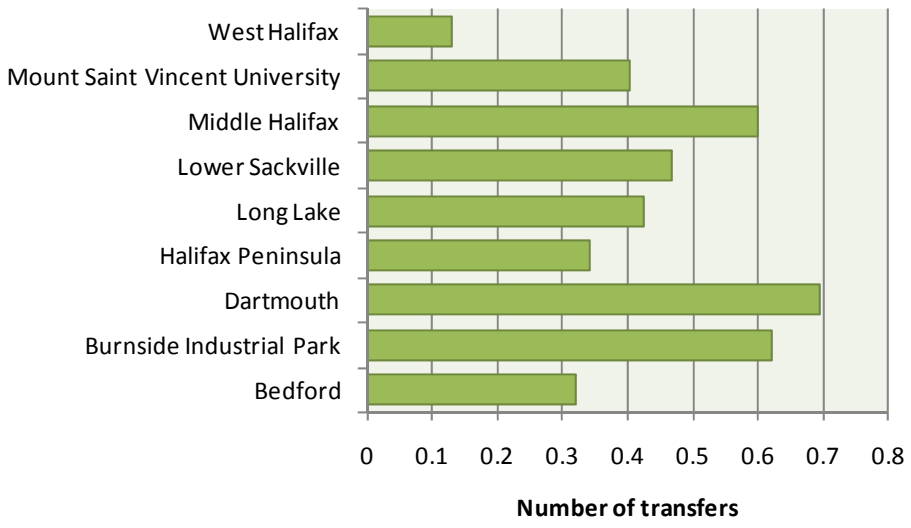
### Exhibit 2-14: Most Common Methods of Fare Payment



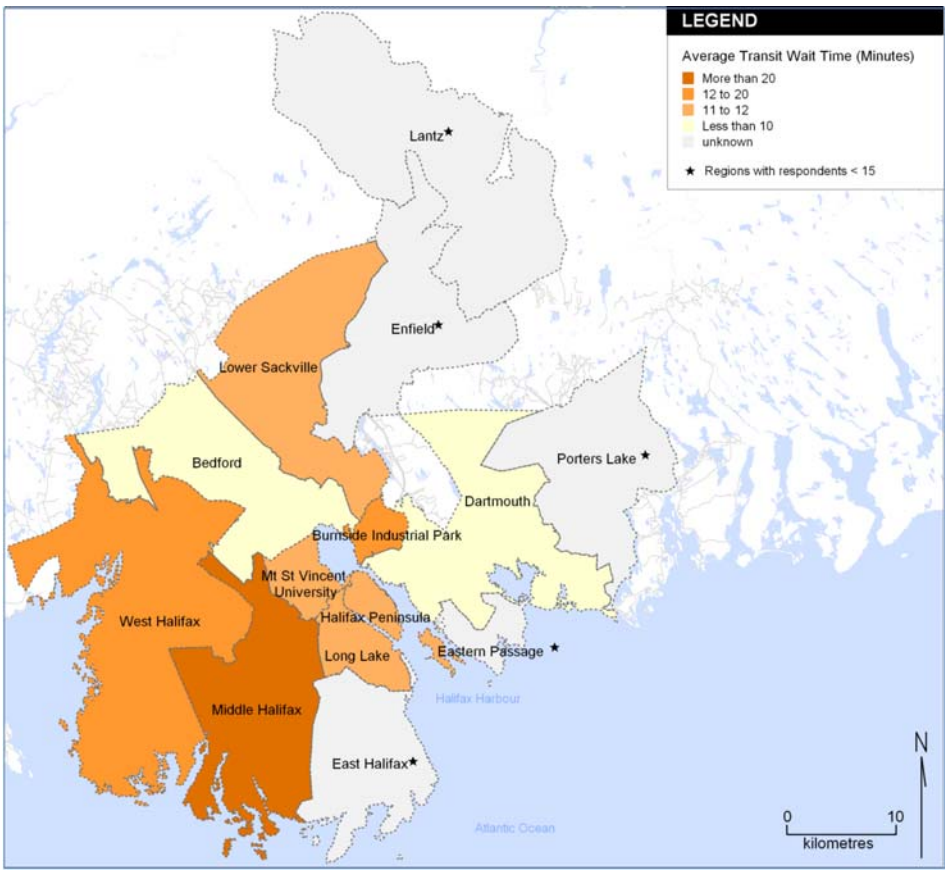

### Level of Service / Network Performance

As many as 41% of respondents indicated that their bus trips usually involve a transfer between routes, but the average number of transfers reported varies significantly by neighbourhood, with those living in Dartmouth citing a very high average number of transfers (Exhibit 2-15). However, the average wait time in Dartmouth, as well as Bedford, is low. Based on these two criteria, Mid-Halifax and, to a lesser extent, Burnside Industrial Park show a high number of transfers as well as long wait times (Exhibit 2-16). At 21 minutes, the average wait time in Mid-Halifax greatly exceeded that in any other area.

### Exhibit 2-15: Average Number of Transfers by Home Area




### Exhibit 2-16: Average Wait Time for Transit by Trip Origin



### 2.6.3 Preferences for Service Improvements

When asked which modes they would like to take more often, those who indicated sustainable alternatives to single occupant vehicle (SOV) travel far outweighed those happy with their status quo, suggesting there is significant latent demand for non-automobile alternatives. *Between walking, cycling, and taking transit, respondents across all age groups indicated that transit was by far the mode they most wished to use more often* (Exhibit 2-17 and Exhibit 2-18).

**Exhibit 2-17: Which Would you Like To Do More Frequently (by Age)?**

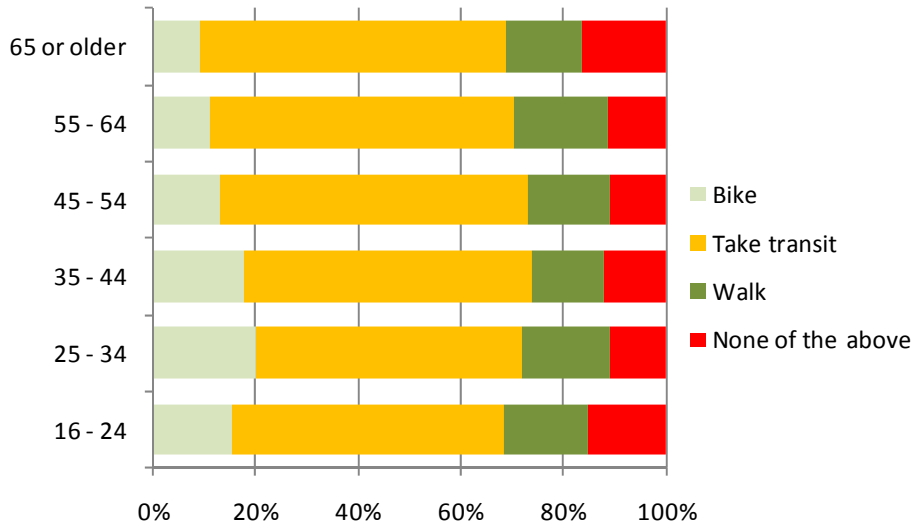
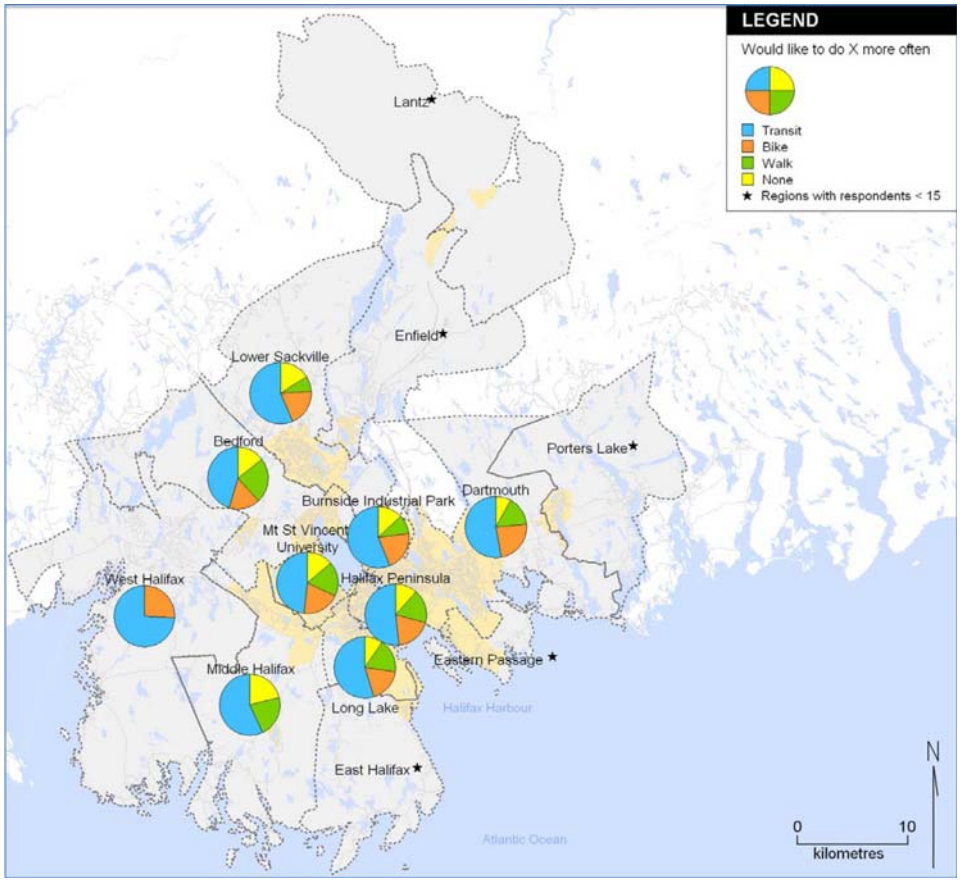


**Exhibit 2-18: Which Would you Like to do More Frequently (by Area)?**




Respondents were also asked to rate the potential of 11 Metro Transit service improvements to increase how often they use public transit. The responses indicate stated preferences, thus their potential to actually increase ridership should be interpreted cautiously. The results do, however, offer insight for prioritizing service improvements. By linearly scaling the response categories and determining averages for each type of improvement (Exhibit 2-19), responses suggest that a more reliable transit schedule has the most potential to increase ridership, except in Enfield (Exhibit 2-20). This priority was followed by three improvements related to the frequency of service, of which more frequent peak service was a priority in all regions of Halifax (Exhibit 2-21). The two lowest priorities related to expanding ferry services, however, respondents residing in Bedford and Lower Sackville naturally had a significantly different opinion than the rest of Halifax (Exhibit 2-22). Interestingly, earlier weekend service appears to only be a significant issue for those under 25 years of age (Exhibit 2-23).

**Exhibit 2-19: Stated preferences for Transit Service Improvements.**

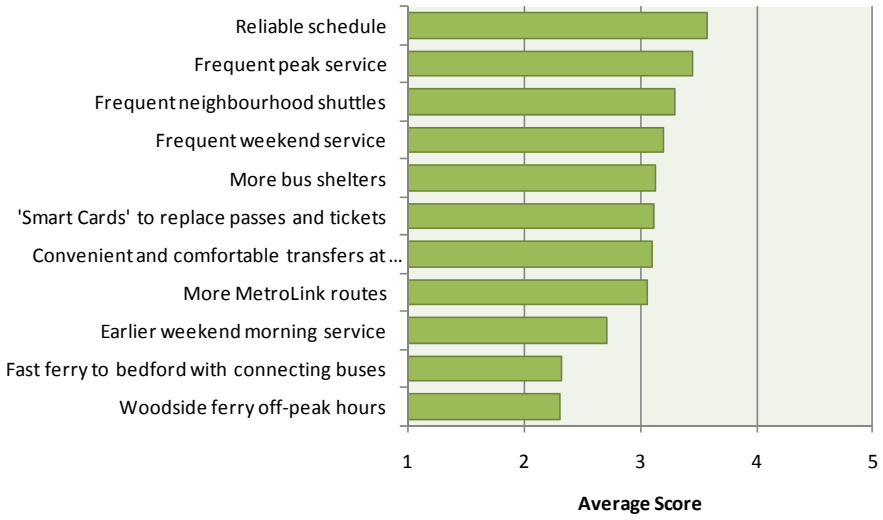



**Exhibit 2-20: Potential For a More Reliable Schedule to Increase Ridership.**

**Exhibit 2-21: Potential For More Frequent Peak Hour Service to Increase Ridership.**

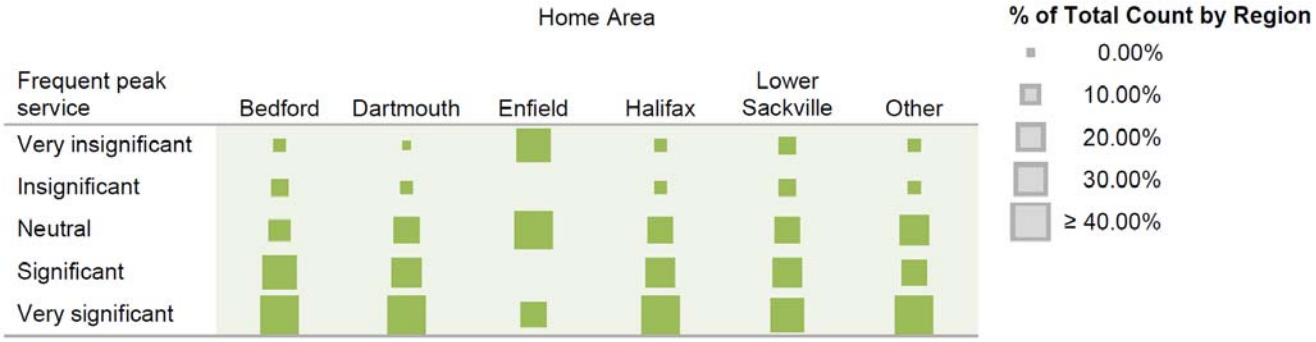


**Exhibit 2-22: Potential For Fast Ferry Service to Bedford to Increase Ridership.**

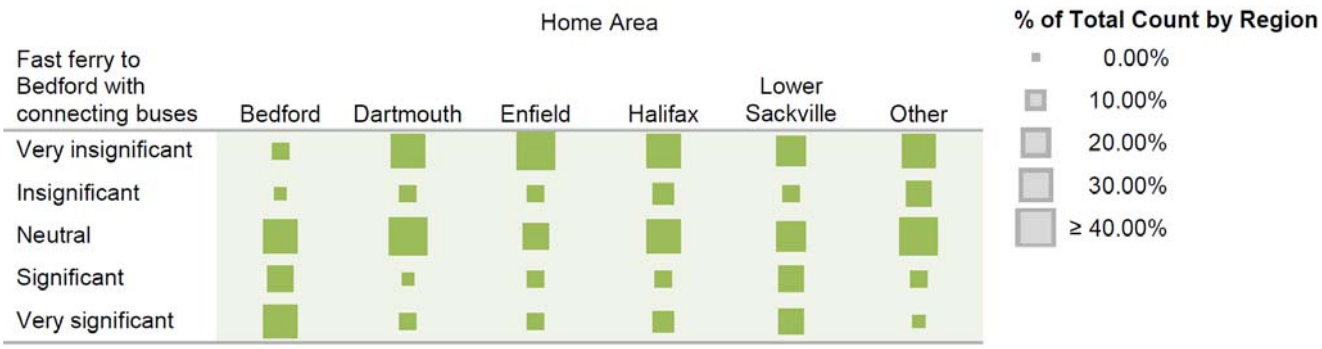
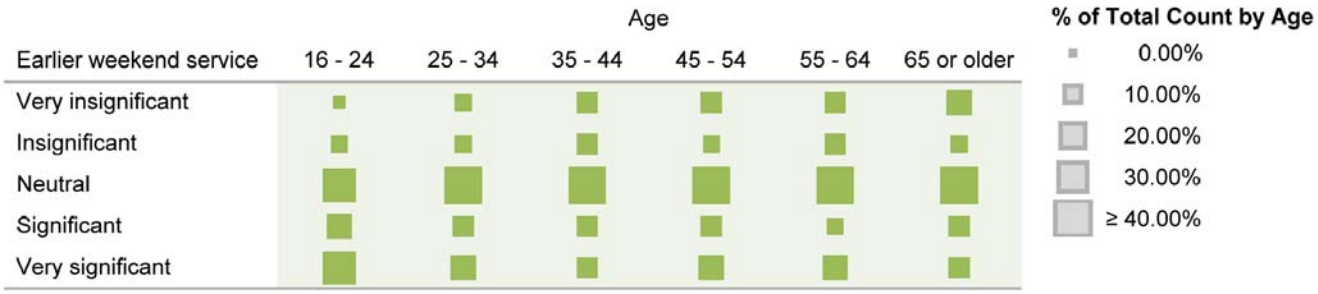



**Exhibit 2-23: Potential of Earlier Weekend Service to Increase Ridership.**




## 2.7 Public Open Houses

The information obtained through the web survey was used as input to the preparation of a draft Five-Year Transit Service Plan. The key elements of the plan were presented to City Council followed by meetings with transit staff and open house sessions in three areas of HRM to solicit feedback on the plan.

Comments received were all supportive of the plan and, in particular, to enhancing public transit use throughout HRM by increasing service levels, route network travel options and by giving transit vehicles greater priority on HRM roads.

## 2.8 Customer Satisfaction Standards

Throughout North America, many transportation and transit systems are currently using a series of customer satisfaction measures as a means of monitoring users' perception of the transit system and how they are reacting to transit service, fare and policy changes over time. As Metro Transit embarks upon the implementation of its new Five-Year Transit Service Plan, it is important to develop a range of customer satisfaction measures for alternative service, fare and policy attributes and to continuously track customer ratings of these attributes.

The results of the customer satisfaction measures can be useful for the following purposes:

- To monitor the success of transit fare, service and policy changes, and to provide guidelines as to what modifications in these areas may be required by Metro Transit;
- For inclusion in quarterly and annual reports to Council on the performance of the transit system and perhaps the need for additional funding from Council; and
- For inclusion on the Metro Transit website as a means of providing accountability and indicating to the customer and general public where the transit system is performing well and where it needs improvements.

The information required for customer satisfaction measures can be collected through web-based customer panels (the sizes of these panels would need to be large enough so that the results are statistically significant but smaller than what is typically needed for cross-sectional studies described below). These panels are normally recruited either by telephone or mail surveys. For example, Metro Halifax could establish three web panels (so that the same customers are not surveyed each time) consisting of transit users with diverse backgrounds and geographical locations to consistently to monitor customer satisfaction. The advantage of this method is that conflicting variables between the different groups of users can be minimized. However, the transit agencies need to find users who are willing to be survey respondents for a longer period of time. To overcome this problem, a financial incentive (e.g., a free one-month transit pass) could be offered to those who commit to the web panel. Alternatively, some transit agencies conduct cross-sectional surveys by randomly calling a sample of citizens every month by telephone and identifying transit users who are willing to complete a customer satisfaction survey. In this case, a larger group of users would need to be sampled. The customer ranking of the measures are usually grouped quarterly in accordance with service changes.

Alternatively, Metro Transit could use focus groups to identify appropriate customer satisfaction measures and the relative weighting of importance of these measures. These groups should have a broad range of demographics so that different ages, income levels, cultures, genders, mobility level, and geographical areas are represented. Members of these focus groups would be asked to describe their ideal transit service or vision, and to list their basic service requirements (starting with their primary requirements and continuing through to the secondary and tertiary components of each of these requirements). These requirements could then be further refined until a final list of quality customer satisfaction measures is developed.

To develop appropriate customer satisfaction measures for the Metro Halifax transit system, it is suggested that Metro Transit initiate a customer satisfaction monitoring system with the variables outlined below. These variables cover a wide variety of service attributes that are drawn from a number of other transit systems. The measures reflect the key components the Halifax transit system identified to be important during the plan consultation sessions; additional measures can also be added in the future.

Customer satisfaction measures can be grouped into a number of key categories, known as "service quality determinants" which can be ranked on a 1 to 10 scale, and weighted and regularly monitored through regular customer telephone surveys or web panels. This will help determine customer satisfaction trends and users' reactions to service, fare and other policy changes that have occurred since the last survey.

The broad range of potential customer satisfaction measure categories and specific areas of measurement in each category are listed below. The nineteen specific measures that may be used by Metro Transit to initiate customer satisfaction monitoring (as they are relatively simple and easy to understand by customers and decision-makers) appear in bold print below. These satisfaction levels and standards could be compared against other transit systems.

1. **Timeliness and Reliability** involves consistency of service in terms of it timeliness, performance, and dependability.
   - **Overall bus service**
   - Providing on-time, reliable bus and ferry service
   - **Trip duration from the time you boarded the bus to the time you got off the bus**
   - Reliable ferries/buses that come/leave on-time

2. **Responsiveness** involves timeliness of service in term of frequency, time of transfers at terminals, and service duration.
   - **Frequency of service in peak periods**
   - **The time it takes to make transfers at transit terminals**
   - **Frequency of service in off-peak periods and weekends**
   - **Convenience of operating hours (i.e., start and end times)**
   - **Reliability of connections at terminals**

3. **Comfort of rides** on different modes in transit system - buses and ferries.
   - Smoothness of rides and stops
   - Temperature on ferry/bus — not too hot/cold
   - Not being overcrowded
   - **Having an operator who drives safely and professionally**
   - The ferry/bus traveling at a safe speed
   - Ferry/buses that are not overcrowded
   - **Cleanliness of vehicle interior, seats, windows**
   - Comfort of seats on ferry/bus
   - Quietness of the vehicles and system

4. **Access** involves approachability and ease of contact and accessibility of the overall transit system.
   - Availability and accessibility (i.e., the stops can be easily reached by foot, bicycle, etc.) of stops
   - **Availability of shelter and benches at stations/stops**
   - Having a direct route

- **Accessibility of buses and bus stops for handicapped and disabled users (i.e., ability of users with disabilities to use the buses and bus stops)**
- Availability of handrails or grab bars on ferries/buses
- Cost of making transfers
- **Cost effectiveness, affordability, and value for money**

5. **Courtesy** involves politeness, respect, consideration, and friendliness of contact personnel.
   - **Friendliness and courtesy of drivers**
   - Friendliness and courtesy of other transit staff (e.g., enforcement officers)

6. **Communication** means keeping customers informed in a language they can understand. It may mean that the company has to adjust its language for different consumers (e.g., increasing the level of sophistication when speaking with a well educated customer and using simple and non-technical language when speaking with others).
   - **Availability of schedule information on website, at stations/stops, and by phone/mail**
   - Ease of contacting transit system for requesting information, filing complaints, providing positive feedback, and getting replies back from the transit agency
   - Visibility of station/stop names from ferry/bus
   - Clear and timely audio and visual announcements of stops
   - Ease of obtaining information on system delays

7. **Safety and Security** looks at users' sense of personal security and safety, as well as actual safety and security risks.
   - Sense of safety from crime at stations/stops
   - **Sense of safety from crime on ferries/buses**
   - Sense of safety from crime on-board bus
   - Any cases of crime witnessed or experienced at the bus stop, transit terminals, and on-board buses

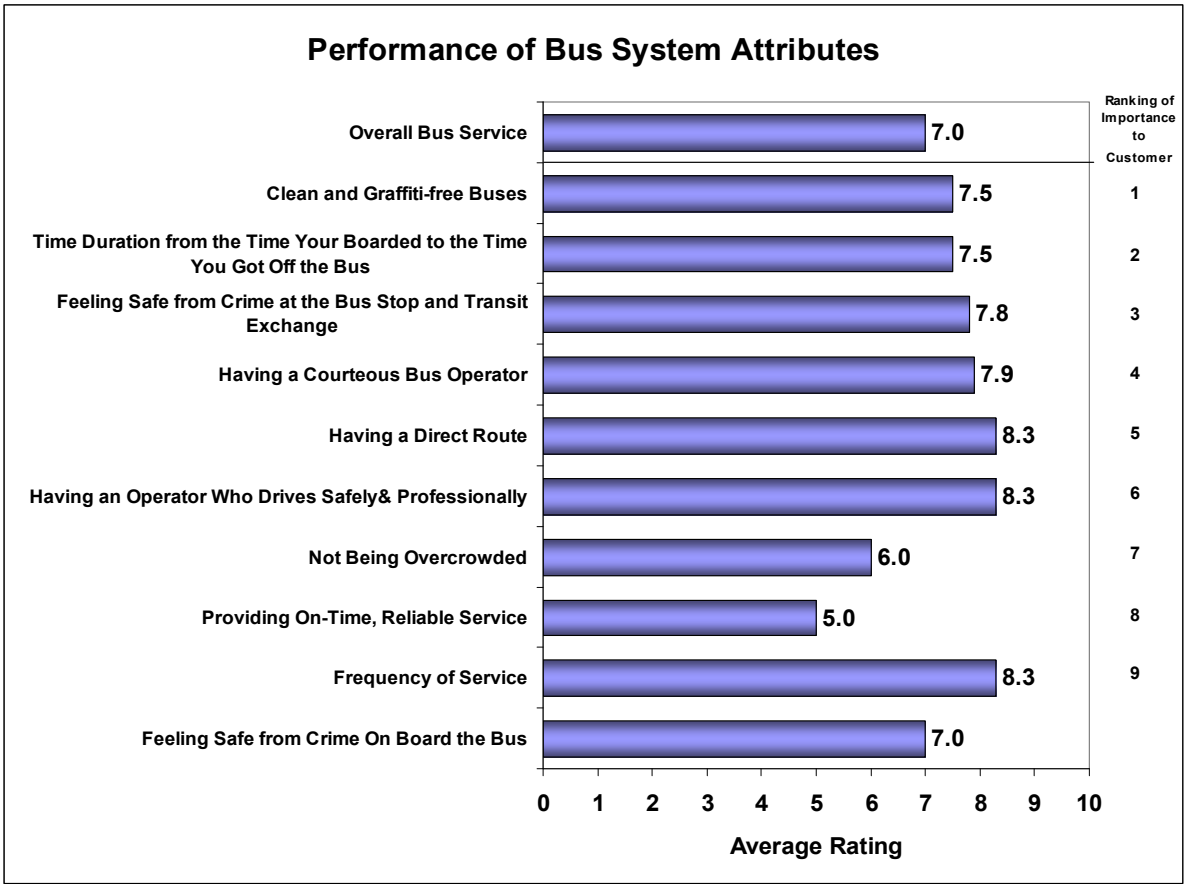
8. **Tangibles** include the physical environment and representations of the service.
   - Cleanliness and physical condition of stations/stops
   - **Clean and graffiti-free buses**
   - Cleanliness of bus exterior
   - Absence of offensive odours
   - **Physical condition of stations/stops**
   - Physical condition of vehicles and infrastructure

9. **Fare**
   - **Fare you pay**
   - Availability of fare media

- Availability of transit ticket vendors
- Fairness/consistency of fare structure

An illustration of how these customer satisfaction measures can be displayed is shown in Exhibit 2-24.

**Exhibit 2-24: Illustration of How Customer Satisfaction Data can be Displayed**




## 2.9 Summary

HRM population has grown by 4% since 2001 – a trend which is expected to continue supported largely by migration based on economic and employment opportunities. While the population is fairly young with more than 50% of residents under the age of 40, and almost 30% under the age of 25, the impact of the aging baby boomers will be of increasing significance to transportation planning.

Current Capacity and ridership share are closely matched suggesting that the system is operating at or near capacity. HRM reports that the incidence of standing loads and passenger pass-ups is increasing on some routes. This likely reflects the impacts of population growth, the location of new employment centres and residential developments, and the introduction of the U-Pass with its attendant impact on student ridership demand. Planned development adjacent

to the Lacewood, Mumford and Portland Hills terminals can be expected to have significant impacts on transit demand at these locations. Increasing congestion and overall trip times coupled with the willingness of area residents to adopt modes other than the private vehicle are positive indicators for a shift to transit if appropriate service can be provided.

There are a significant number of work trips between the Sackville Area to the Dartmouth Urban Ring and from the Rural West/Halifax Urban Ring to the Dartmouth Urban Ring that may be strong candidates for new transit services. Modifications to the service design within the Central Halifax and Central Dartmouth might enable the capture of a higher percentage of work trips occurring within these sub regions. Better serving work trips within the Halifax Urban Ring and Dartmouth Urban Ring may also result in more ridership; these areas have relatively high transit mode share for trips to Central Halifax. Overall, if the services were better oriented towards the work destinations within these sub regions, people might be willing to utilize transit rather than driving.

Further analysis of the trip demand to the census tracts where the largest business parks, retail outlets and education facilities are located may provide additional direction for the location and quantity of new transit services. The high level of success enjoyed by the MetroLink express service in combination with adequate Park and Ride capacity supports the expansion of this service to other suburban areas. HRM should examine the impact of introducing a nominal parking fee at Park and Ride lots as the demographics of the majority of this customer base include a higher proportion of higher income families. With student populations projected to grow by six percent over the next ten years the demand for services to the campuses will continue to increase.

# 3. Transit Service Analysis

This section provides a detailed performance evaluation of the existing urban transit services, which is intended to help determine the priorities for improvement to Metro Transit services as the basis for the preparation of the Five-Year Service plan in Section 4.

## 3.1 General Description of Urban Transit Services

As outlined in section 2.5, Metro Transit services consist of seven service products: Conventional Bus, MetroLink, Community Transit Bus, MetroX rural express, Access-A-Bus, the Harbour Ferries and “Fred”.

The overall routing structure of the conventional urban transit services is in the form of a radial grid network, with the primary focus of most routes on either downtown Halifax or downtown Dartmouth. In the outer parts of the Region, routes tend to meet at local focal points, where passengers can transfer to trunk routes to access the downtown areas. Even though some of these trunk routes travel long distances, most routes make local stops although there are three express routes providing limited-stop services.

### 3.1.1 Halifax Peninsula

The routes on the Peninsula primarily follow a traditional grid-radial pattern, with most routes focused on the downtown and/or the University-Hospital area. Several routes are oriented to the University-Hospital area, with most continuing to Barrington St. and the downtown area via Spring Garden Road. Several routes are oriented directly to the downtown area with most continuing to the University-Hospital area via Spring Garden Road and Summer St.

Most of the suburban routes in Halifax are oriented to the Mumford Terminal and/or the Bayers Road Terminal at the entrance to the peninsula. The Mumford Terminal serves Halifax Routes 1, 2, 3, 4, 5, 6, 9, 14, 15, 19, 20, 23, 52 and 58. The Bayers Road Terminal serves Routes 2, 3, 4, 15, 17, 80, 81. The downtown and University-Hospital areas get direct service from one or both of these terminals, although some routes do not properly serve either Dalhousie or St. Mary's University.

### 3.1.2 Halifax Mainland

Most of the routes in the northern part of the Halifax Mainland (e.g. Fairview, Clayton Park) focus on Mumford Terminal en route to downtown Halifax with some serving Bayers Road in addition (Routes 2, 3, 4) and some serving Bayers Road exclusively (Routes 17, 80, 81). In the peak hours, there are additional services that route directly to downtown Halifax, but they still make local stops.In the southern part of the Mainland (e.g. Cowie Hill, Spryfield). Virtually all routes go to the Mumford Terminal and then to Central Halifax or other destinations.

### 3.1.3 Dartmouth

In Dartmouth, including Cole Harbour, the transit routes tend to be structured around multiple focal points or terminals, typically located at shopping malls. The most important is the Bridge Terminal because of its connections to downtown Halifax and other Halifax destinations (e.g. universities). Virtually all routes in the central part of Dartmouth serve the Bridge Terminal, with some extending into Halifax during peak hours. Service over the bridge to Halifax is provided at all times by the relatively frequent Route 1, along with Route 10, which does local work both in Halifax and Dartmouth, and Routes 41, 52, and 61 in Dartmouth. Several Dartmouth routes also serve the Alderney Ferry Terminal, especially those routes in the southern and southeastern parts of Dartmouth and Cole Harbour. The other main terminals are at the Mic Mac Mall and Penhorn, a former mall. Both facilitate transfers for cross-town trips (Routes 56 and 66 connect the two terminals).

### 3.1.4 Bedford and Sackville

The urban transit services in Bedford and Sackville follow a "focal point" design where local routes meet at a terminal with trunk services that travel into Halifax and with some local routes also extending into Halifax during peak hours where demand warrants. This is specifically the route design of the Lower Sackville area.

In Bedford, the core route from Sackville (Route 80) also serves local needs in Bedford along the Bedford Highway. Only Route 66 (on Dartmouth Road, destined for Dartmouth), and Route 86 during peak periods, and Route 89 provide service to other parts of Bedford.

### 3.1.5 Rural Communities

Service to rural communities inside the urban area of the Region is limited to specific corridors which, typically, have had a tradition of transit service. Most of these are extensions of urban routes to communities on the fringe of the urban area including Purcell's Cove (15), Tantallon (33), and Springfield (83). The only transit route that goes well beyond the urban area is 33 Tantallon although it provides only two trips in the peak period and one trip during the midday.

## 3.2 Service Standards for Analysis Purposes

Service standards are fundamental to the operation of any public transit organization as they provide the rationale for making decisions on the transit services and associated allocation of resources. Formal service standards have been in place since 2002 and were adopted by Halifax Regional Council. The standards apply to the conventional urban transit services and do not include the specialized transit (Access-A-Ride) services or rural transit services.

The standards have been updated to reflect Halifax Regional Council’s vision for higher-order transit services and the changing market in which its conventional transit and ferry services operate. They are intended to guide the design and operation of Metro Transit’s conventional urban transit and ferry services over

the next five years. The evaluation of the Metro Transit's existing routes and services in Section 3.3 is based on the following updated service standards.

### 3.2.1 Route Coverage

Metro Transit will provide conventional fixed route transit services within the urban areas of the former municipalities Halifax, Dartmouth, Bedford and Halifax County. The transit routes will be located so that 90% of all residences, places of work, secondary and post secondary schools, shopping centres, and public facilities in the urban area are within a walking distance of not more than 400 metres of a transit route in residential and commercial areas and 750 metres of a bus stop in industrial areas.

The route coverage standard will be accomplished by a network of core, local, community and higher order fixed routes. Standards for the routes are provided in the following sections.

### 3.2.2 Core Route Standards

Core routes are the primary services of Metro Transit operating in the major travel corridors on the main arterial roads in the urban area. They will form a grid route network that can provide a basic level of mobility to all residents in the urban area. Core routes will have the following standards:

- ***Route Structure*** - straight-line route structures operating primarily on arterial roads, focused on the main transit centres in the urban area including the Halifax and Dartmouth central business districts, and the key activity centres outside the central business districts. 90% of all residents should be within 750 metres of a core route. Core routes need to be direct, relatively fast, and available to all residents. Core routes are the routes that are candidates for higher-order transit services including urban express bus and MetroLink services.

- ***Service Levels*** - maximum clock-face headways and minimum spans of service as per the following:

| | | |
|---|---|---|
| Weekdays | 15 minutes | 6:00 to 9:00 a.m.<br>3:00 to 6:30 p.m. |
| | 30 minutes | 9:00 a.m. to 3:00 p.m.<br>6:30 p.m. to 12 midnight |
| Saturdays | 30 minutes | 6:00 a.m. to 12 midnight |
| Sundays/Holidays | 30 minutes | 7:00 a.m. to 11:00 p.m. |

- ***Vehicle Loadings*** - average maximum peak-point ridership per bus will not exceed the following standards (headways will be reduced if the loading standard is exceeded):

| | |
|---|---|
| During peak periods | 125% of seating capacity over maximum 60 min. period |
| During off-peak periods | 100% of seating capacity over a 60 minute period |

- ***Ridership Performance Targets*** – core routes are expected to equal or exceed the following ridership targets:

| | |
|---|---|
| Weekdays Daytime | 40 passengers per service hour |
| Weekday Evenings/Weekends | 20 passengers per service hour |

- ***Cost Recovery Targets*** – a core route is expected to recover the following minimum percentage of its operating costs from operating revenues attributed to the route (based on boardings). The minimum percentage depends on the financial target established for the system as a whole, which is a minimum 50% cost recovery by 2012 increasing to 55% by 2015.

| | |
|---|---|
| Weekdays Daytime | 55% - 60% |
| Weekday Evenings/Weekends | 35% - 40% |

### 3.2.3 Higher-Order Core Route Standards

Higher-order core routes include MetroLink Routes, Urban and Rural Express Routes and the ferries. They will have the following standards:

- ***Route Structure*** - straight-line route structures operating on a limited or non-stop basis on arterial roads between transit centres in the Region's main population concentrations and the ferry terminals and central business districts.

- ***Service Levels*** - maximum headways and minimum spans as per the following for MetroLink:

| Service | Day | Headways | Service Span |
|---|---|---|---|
| **MetroLink Bus Service** | Weekdays | 10-15 minutes | 6:00 a.m. - 9:00 a.m.<br>3:00 p.m. - 6:30 p.m. |
| | | 30 minutes | 9:00 a.m.- 3:00 p.m<br>6:30 p.m. - Midnight |
| | Weekends | No service | |
| **Urban Express Service** | Weekdays | 10-15 minutes | 6:00 a.m. - 9:00 a.m.<br>3:00 p.m. - 6:30 p.m. |
| | | No off-peak | |
| **MetroX (Rural Express)** | Weekdays | 30-90 minutes | 6:00 a.m. - 6:30 p.m. |
| **Ferry Service** | Weekdays | 15 minutes | 6:30 a.m. - 9:00 a.m.<br>3:00 p.m. - 6:15 p.m. |
| | | 30 minutes | 9:00 a.m. - 3:00 p.m.<br>6:15 p.m. - 11:45 p.m. |
| | Weekends | 30 minutes | 6:30 a.m. - 11:45 p.m. |

- ***Vehicle Loadings*** - average maximum peak-point ridership per vehicle will not exceed the following standards (headways will be reduced if the loading standard is exceeded):

| | |
|---|---|
| During peak periods | Buses -125% of seating capacity over maximum 60 min. period<br>Ferries – 100% of seating capacity over maximum 60-minute period (390 passengers per ferry) |
| During off-peak periods | Buses and Ferries – 75% - 100% of seating capacity over a maximum 60 minute period |

- ***Ridership Performance Targets*** – higher order core routes are expected to equal or exceed the following ridership targets :

| | |
|---|---|
| MetroLink and Urban Express Bus | 50 passengers/service hour in peak direction during daytime on weekdays,<br><br>35 passengers/service hour in peak direction during evenings on weekdays |
| MetroX Rural Express Bus | 40 passengers/service hour in peak direction during daytime on weekdays |
| Ferry Service | 390 passengers/service hour in peak direction during daytime |

290 passengers/service hour in peak direction during evenings and weekends.

- ***Cost Recovery Targets*** – a higher order core route is expected to recover the following minimum percentage of its operating costs from operating revenues attributed to the route (based on boardings). The minimum percentage depends on the financial target established for the system as a whole, which is a minimum 50% cost recovery by 2012 increasing to 55% by 2014:

| | |
|---|---|
| Weekdays Daytime | 50% - 65% |
| Weekday Evenings/Weekends | 30% – 50% |

### 3.2.4 Local Route Standards

Local routes will circulate the various communities in the urban area and will provide a feeder function in the transit system by connecting communities to a transit centre or major local activity centres where transfers can be made to the core network. Local routes operate primarily on collector roads and supplement and feed the core route network to bring most residences within 400 metres of a transit route. Local routes will have the following standards:

- ***Route Structure*** – operate primarily on collector roads, focused on a transit centre or main activity centre. Could include community circulators, routes operating in corridors not served by the core route network, feeder services including shuttles to major activity centres and employment concentrations. Certain routes may have both a core and local route portion.

- ***Service Levels*** - maximum headways and minimum spans as per the following:

| | | |
|---|---|---|
| Weekdays | 30 minutes | 6:00 a.m. to 9:00 a.m. / 3:00 p.m. to 6:30 p.m. |
| | 30 minutes | 9:00 a.m. to 3:00 p.m. |
| | 60 minutes | 6:30 p.m. to 12 midnight |
| Saturdays | 30 minutes | 6:00 a.m. to 6:30 p.m. |
| | 60 minutes | 6:30 p.m. to 12 midnight |
| Sundays/Holidays | 60 minutes | 7:00 a.m. to 11:00 p.m. |

- ***Vehicle Loadings*** - average maximum peak-point ridership per bus will not exceed the following standards (headways will be reduced if the loading standard is exceeded):

| | |
|---|---|
| During peak periods | 125% of seating capacity over maximum 60 minute period |

| | |
|---|---|
| During off-peak periods | 100% of seating capacity over a 60 minute period |

- ***Ridership Performance Targets*** - local routes are expected to equal or exceed the following ridership targets (local routes will not operate if they cannot meet these targets):

| | |
|---|---|
| Weekdays Daytime | 25 passengers per service hour |
| Weekdays Evenings/Weekends | 15 passengers per service hour |

- ***Cost Recovery Targets*** – a local route is expected to recover the following minimum percentage of its operating costs from operating revenues attributed to the route (based on boardings). The minimum percentage depends on the financial target established for the system as a whole, which is a minimum 50% cost recovery by 2012 increasing to 55% by 2015:

| | |
|---|---|
| Weekdays Daytime | 40% - 45% |
| Weekday Evenings/Weekends | 35% - 50% |

### 3.2.5 Community Route Standards

These are routes that serve smaller communities in, or close to, the urban transit service area with population densities over 1,000 persons/square kilometre and where 90% of the population is within a one-kilometre walk of roads on which a community transit route can be operated between the community and a nearby activity centre/transit centre in the urban area. The community transit routes will have the following standards:

- ***Route Structure*** - where population and transit demand is sufficient to justify fixed route services, the community routes will circulate the community on its collector roads and will operate on arterial roads to the nearest transfer point with the core route network (usually at a transit centre or main activity centre).

- ***Service Levels*** - clock face headways and spans of service that will not exceed the following levels, when operating:

| | | |
|---|---|---|
| Community Shuttle - Urban | 30 minutes peak and off-peak | Weekdays and weekends 6:00 a.m. – 12 midnight |
| Community Shuttle - Rural | 60 minutes peak 120 minutes off-peak | Weekdays and weekends 6:00 a.m. to 12 midnight |

- ***Vehicle Loadings*** - average maximum peak-point ridership per vehicle will not exceed the following standards (headways will be reduced if the loading standard is exceeded):

| | |
|---|---|
| During peak periods | 125% of seating capacity over maximum 60 minute period |

| | |
|---|---|
| During off-peak periods | 100% of seating capacity over a 60 minute period |

- ***Ridership Performance Targets*** – community transit services should equal or exceed the following ridership performance levels; if they cannot meet these targets, possible remedies could include route changes, lower service levels or cancellation.

| | |
|---|---|
| Weekday Peak Hours | 20 passengers per service hour (urban community shuttle) |
| | 15 passengers per service hour (rural community shuttle) |
| Other times and days | 10 passengers per service hour (urban and rural shuttle) |

- ***Cost Recovery Targets*** – a community route is expected to recover the following minimum percentage of its operating costs from operating revenues attributed to the route (based on boardings). The minimum percentage depends on the financial target established for the system as a whole, which is a minimum 50% cost recovery by 2012 increasing to 55% by 2015:

| | |
|---|---|
| Weekdays Daytime | 30% - 40% |
| Weekday Evenings/Weekends | 20% - 25% |

## 3.3 Assessment of Existing Routes and Services

The service characteristics of the Metro Transit routes are outlined in Exhibit A (see Appendix B) for a typical weekday in the Fall 2008. Route maps are provided in Appendix C. The service characteristics show operating, ridership and performance data using information from run schedules and passenger on/off counts for the entire Metro Transit system.

Transit routes are reviewed in the following sections according to the service standards established in Section 3.2. Overloads are identified for each route. Overloads are basically heavily loaded routes with more than 50 passengers per bus.

### 3.3.1 Halifax Peninsula and Lower Mainland Routes

The Halifax peninsula and lower mainland are served by 21 routes, including 14 core and express routes, 6 local routes and 1 urban community route.

#### Core and Express Routes

- **Route 1 Spring Garden** – this core route operates between the Mumford Terminal in Halifax and the Bridge Terminal in Dartmouth, serving the Oxford, Cobourg/Spring Garden and Barrington corridors on the Halifax peninsula. It has hours of service and headways

exceeding the standards for core routes with service provided to approximately 1:00 a.m. six days a week, and headways ranging from 10 to 20 minutes during peak periods, to 10 to 30 minutes during off peak periods. The route carries some 9,500 passengers on weekdays and has a performance level of 88 passengers per vehicle service hour, which is significantly above standard and is the best route in the transit system. The route is heavily loaded in most corridors up to 9:00 p.m. with frequent overloading and missed passengers at stops during the afternoon peak period. Consideration needs to be given to providing 10-minute service or better from 6:00 a.m. to 1:00 a.m. on weekdays. Consideration should also be given to turning the route into a Bus Rapid Transit (BRT) service with priority treatment on the streets, higher frequencies and speeds, limited stops, and larger buses. Ridership has been increasing on this route and grew by 7.5% over the 2007-08 period.

- **Route 2 Wedgewood, Route 4 Rosedale** – these are core and local routes. The core routes are the sections of the routes operating on the Halifax peninsula on a common routing in the Barrington and North/Chebucto corridors between the Water Street Ferry Terminal/Scotia Square and the Mumford and Bayers Road Terminals. The local sections of these routes operate from the Bayers Road Terminal on separate routings into the Fairview and Sherwood Park areas in the lower mainland.

The core peninsula section of the two routes, in combination, provide service to 1:00 a.m. six days a week and to midnight on Sundays. On weekdays and Saturdays, combined headways range from 15 minutes during peak periods to 15 to 30 minutes during off peak periods which is close to the standards for core routes. On Sundays, the combined headways are 30 minutes. The two routes carry some 3,100 passengers on weekdays on the peninsula section, and have a performance level of 46 passengers per vehicle service hour which is above standard. Because of the loading, consideration needs to be given to providing 15-minute service from 6:00 a.m. to 10:00 p.m. between the Water Street Terminal and Bayers Road Terminal.

The local mainland section of the two routes operates on separate routings from the Bayers Road Terminal;

- **Route 2** serves the Main/Willett corridor in Fairview/Clayton Park, the Lacewood Terminal and the Dunbrack corridor to Wedgewood and Kearney Lake Road. This section provides 30-minute daytime service and 60-minute evening service to 1:00am six days a week, and 60-minute service on Sundays to midnight. The local section of Route 2 carries 1,300 passengers on weekdays at a performance level of 51 passengers per vehicle service hour which is above standard. Consideration needs to be given to providing 30-minute service from 6:00 a.m. to 10:00 p.m. on this route section on weekdays.

- **Route 4** serves the Rosedale/Willett corridor in Fairview/Clayton Park, the Lacewood Terminal and the Bridgeview and Sherwood Heights areas on a large one-way loop from Lacewood. This section provides 30-minute daytime service and 60-minute evening service to midnight six days a week and 60-minute service on Sundays to

midnight. The local section of Route 4 carries 1,050 passengers on weekdays at a performance level of 48 passengers per vehicle service hour which is above standard. Consideration needs to be given to providing 30-minute service from 6:00 a.m. to 10:00 p.m. on this route section on weekdays. Consideration should also be given to restructuring the route to provide two-way service in the Parkland corridor to increase ridership.

Ridership has been increasing on these routes and grew by 9.2% over the 2007-08 period

- **Route 7 Robie/Gottingen** – this core route serves the Robie and Gottingen/Barrington corridors on the Halifax peninsula between South St. and North Ridge Rd. It provides service to midnight seven days a week, and headways ranging from 20 minutes during peak periods to 30 minutes during off peak periods six days a week. The peak headways are below standard for core routes. The route carries some 4,100 passengers on weekdays and has a performance level of 61 passengers per vehicle service hour, which is above standard. The route is heavily loaded during peak periods with some overloading and with some passengers missed at stops in the Gottingen corridor in the morning peak period. Consideration needs to be given to providing 15-minute service or better during peak periods (6:00 a.m.-9:00 a.m., 3:00 p.m.-6:30 p.m.), and possibly to have limited stop express services in the Gottingen corridor to relieve the overloading and missed passengers. Ridership has been increasing on this route and grew by 3.9% over the 2007-08 period.

- **Route 9 Barrington** – this core route serves the Barrington corridor on the Halifax peninsula between Point Pleasant Park and the Mumford Terminal. It provides service to midnight seven days a week, and headways ranging from 20 to 30 minutes to 6:30 p.m. on weekdays and 60 minutes after 6:30 p.m. on weekdays and all day on Saturdays and Sundays. The route carries 2,400 passengers on weekdays and has a performance level of 50 passengers per vehicle service hour, which is above the standard for core routes. The route is loaded during peak periods suggesting that consideration be given to providing 15-minute service during peak periods and 30-minute service to 10:00 p.m. to be consistent with the standards and the core routes it intersects with. Ridership has been increasing on this route and grew by 4.8% over the 2007-08 period.

- **Route 14 Leiblin Park** – this route provides core service on the peninsula between the Mumford Terminal, the universities in the south end, and the downtown on Barrington Street. The route also provides local service between the Mumford Terminal and Armdale and Leiblin Park on the south mainland. It is interlined with Route 61 for direct service across the bridge into Dartmouth and the Portland corridor. The core and local sections provide 20-minute westbound service and 30-minute eastbound service during peak periods (with additional peak trips to meet specific elevated demand), 30-minute midday service and 60-minute evening service on weekdays and 60-minute service on weekends which is below standard for the core

route section. The core section carries 2,600 passengers on weekdays and has a performance level of 75 passengers per vehicle service hour which is significantly above standard. The core section is heavily loaded in most corridors up to 9:00 p.m. with frequent overloading and missed passengers at stops during the afternoon peak period. The local section carries 1,300 passengers on weekdays and has a performance level of 42 passengers per vehicle service hour which is above the standard for local routes. Because of the loads, consideration needs to be give to providing a consistent 15-minute service during peak periods, and 30-minute off peak service to midnight on the core route. The local route section has adequate service. Ridership has remained relatively stable on this route and grew by 0.4% over the 2007-08 period.

- **Route 17 Saint Mary's, Route 18 Universities** – these core routes serve the Windsor/Robie corridor and the various universities on the peninsula from Lacewood Terminal in Clayton Park. Combined, the routes provide service to midnight seven days a week with 15-minute headways to 6:30 p.m. on weekdays, 30-minute headways from 7:00 p.m. to midnight six days a week and 60-minute headways on Sundays. Between Windsor/Bayers Rd and the Lacewood Terminal, the routes serve different corridors.

- **Route 17** serves the Lacewood corridor and the Lacewood Terminal and provides 30-minute service to 6:35 p.m. on weekdays only. It carries 1,300 passengers on weekdays and has a performance of 41 passengers per vehicle service hour which is close to standard.

- **Route 18** serves the Bedford Highway corridor, Mount St. Vincent University, Rockingham, Sherwood Park and the Lacewood Terminal, and provides 30-minute service to midnight six days a week with 60-minute headways on Sundays. It carries 2,400 passengers on weekdays and has a performance level of 44 passengers per vehicle service hour, which is close to standard.

Both routes are heavily loaded during peak periods with some overloading and missed passengers at stops in the University area on **Route 18**. Consideration needs to be given to discontinuing **Route 17** and decreasing the daytime headways on Route 18 to give the university area 15-minute or better headways all day. Ridership has been increasing on Routes 17/18 and grew by 8.4% over the 2007-08 period.

- **Route 20 Herring Cove/Route 19 Greystone** – this core and local route operate in the Herring Cove corridor on the mainland from the Mumford Terminal. The core Route 20 serves the Herring Cove corridor, South Centre Mall at Dentith, Greystone and Herring Cove. From the Mumford Terminal it operates to downtown Halifax serving Quinpool, Summer, Spring Garden, Barrington and the dockyards. The local Route 19 supplements Route 20 on the mainland between the Mumford Terminal and Greystone, and does not operate on the peninsula to downtown Halifax.

- **Core Route 20** provides service to midnight seven days a week with 30-minute headways during the morning peak period, 20-minute

headways during the afternoon peak period, 30-minute headways during the off-peak periods on weekdays, and 30-minute headways on Saturdays and Sundays. It carries approximately 3,700 passengers on weekdays and has a performance level of 44 passengers per vehicle service hour, which is close to standard performance for a core route. The route has some overloading inbound in the morning and extensive overloading outbound in the afternoon including incidents of passengers left at stops in the afternoon in the Mumford Terminal. While Route 19 serves the Mumford Terminal, the overloading on Route 20 is likely caused by people not knowing that Route 19 is the same as Route 20 between Mumford and Greystone. Also there is a strong demand between Herring Cove and the South Centre Mall at Dentith which is causing heavy midday loads on Route 20. Ridership increased by 3% over the 2007-08 period.

- **Local Route 19** provides service to 10:00 p.m. on weekdays with 12-minute headways during the morning peak period (as compared to 30-minutes on Route 20), and 20-minute headways during the afternoon peak period and 30-minute headways during off-peak periods (which compare to the headways on Route 20). It does not operate on weekends. Route 19 carries 920 passengers and has a performance level of 29 passengers per vehicle service hour which is standard performance for a local route

Consideration needs to be given to providing 15-minute service during the daytime on **Route 20** which should relieve the overloading and bring the frequencies in-line with those provided by the other core routes in the system. **Route 19** is still needed to support Route 20 between Mumford Terminal although 15-minute rather than 12-minute peak period headways should be considered.

- **Express Routes 31 Main, 34 Glenbourne** – these directional peak period express routes operate from the lower mainland and serve downtown Halifax in the Gottingen/Barrington/Spring Garden/Summer corridors. Route 31 starts from the Lacewood Terminal and enters the peninsula via Main Street. Route 34 starts in Glenbourne serves Lacewood Terminal and enters the peninsula via Glenforest. The routes have hours of service and headways below the standards for local routes with 5- to 40-minute service inbound for about one hour and half hours during the morning peak period and 15- to 40-minute service outbound for about two to three hours during the afternoon peak period on weekdays. On the peninsula, the routes have combined peak period headways ranging from 5 to 20 minutes which is well within standard. The two routes carry about 900 passengers on weekdays and have a combined performance level of 49 passengers per vehicle service hour, which is above standard for core routes.

- **Express Route 32 Cowie Hill** – this directional peak period express route operates from the South Centre Mall and serves the Spryfield/Cowie Hill area on the lower mainland and Scotia Square/Spring Garden and Summer in downtown Halifax on the peninsula. It has hours of service and headways close to the

standards for local routes with 10- to 20-minute service inbound for about two hours during the morning peak period and 10- to 30-minute service outbound for about two hours during the afternoon peak period on weekdays. The route carries 460 passengers on weekdays and has a performance level of 58 passengers per vehicle service hour, which is above standard for core routes.

- **Express Route 35 Parkland** – this directional peak period express route operates from the Lacewood Terminal serving the Rockingham area on the lower mainland and downtown Halifax in the Gottingen/Barrington corridor to the train station at Hollis. It has hours of service and headways below the standards for local routes with 30- to 45-minute headways inbound for about two hours during the morning peak period, and 20- to 40-minute headways outbound for two hours during the afternoon peak period. The route carries close to 360 passengers on weekdays and has a performance level of 61 passengers per vehicle service hour, which is significantly above standard for a core route.

### Local Routes

- **Route 3 Manors** – this local community route serves several seniors' manors, shopping centres and hospitals on the Halifax peninsula. It operates only during the midday on weekdays with a below standard 95-minute service. The route carries 110 passengers on weekdays and has a performance level of 14 passengers per vehicle service hour, which is significantly below the standard for local routes. Consideration needs to given to dropping this route as Route 7 serves most of the manors. Ridership on this route dropped by 9% over the 2007-08 period.

- **Route 5 Chebucto** – this local route peak period operates from the Mumford Terminal and serves the Chebucto corridor on the peninsula, and the Fairmount area on the mainland. It has hours of service and headways below the standards for local routes with 30-60-minute service provided for about one and a half hours during the morning and afternoon peak periods on weekdays. The route carries 145 passengers on weekdays and has a performance level of 46 passengers per vehicle service hour, which is well above standard for local routes. Ridership on this route increased by 8% over the 2007-08 period. Consideration needs to given to restructuring this route to increase afternoon peak ridership which is half the morning peak ridership. Consider extending Route 6 into the area which will give the area all day service to midnight. With this change, Route 5 could be discontinued.

- **Route 6 Quinpool** – this local route operates from the Mumford Terminal and serves the Quinpool corridor on the peninsula, and the Armdale area on the mainland. It provides service to midnight on weekdays, and to 11:00 p.m. on weekends. It has 30- to 40-minute headways during peak period and 60-minute headways during the off peak on weekdays and all day on weekends. The route carries 770 passengers on weekdays and has a performance level of 30 passengers per vehicle service hour, which is close to the standard

for local routes. Consideration should be given to having standardized 30-minute headways during the peak and midday periods (currently an average of 34 minutes during the morning peak periods, 60 minutes during the midday and 30 minutes during the afternoon peak period, which are below standard).

- **Route 21 Lakeside/Timberlea & Route 23 Timberlea/Mumford** – these local routes operate in the St. Margarets Bay corridor from Glengarry Gardens in Timberlea to downtown Halifax.

- **Route 21** serves Timberlea, the Chain Lake Dr. Industrial Area and Lacewood Terminal on the mainland all day, and the Scotia Square/Barrington and Spring Garden/Summer corridors on the peninsula during peak periods. It has hours of service and headways close to the standards for core routes with 30-minute headways to 1:00 a.m. six days a week, and 60-minute headways to midnight on Sundays. The route carries over 1,400 passengers on weekdays and has a performance level of 34 passengers per vehicle service hour, which is above the standard for local routes.

- **Route 23** supplements **Route 21** during peak periods along St. Margarets Bay Rd. effectively providing the corridor with 15-minute service between Timberlea and Lakelands during peak periods. It serves Timberlea on the mainland and the Mumford Terminal and the Spring Garden/Summer and Scotia Square/Barrington corridors on the peninsula during peak periods. It has hours of service and headways close to the standards for local routes with 30-minute headways during peak periods on weekdays. The route carries over 500 passengers on weekdays and has a performance level of 30 passengers per vehicle service hour, which exceeds the standard for local routes. The route experiences some overloading eastbound in the morning and westbound in the afternoon, which could be corrected by using extra buses.

Ridership has been increasing on these routes and grew by 22% on **Route 21** and 60% on **Route 23** over the 2007-08 period, which is causing some overloading suggesting that higher frequencies will be required in the near future.

- **Route 42 Dal-Lacewood** – this local route operates from the Lacewood Terminal and serves the Robie corridor to the Dalhousie University at South and Lemarchant during the school term September to May. It has hours of service and headways above the standards for local routes with 20-minute headways to 7:00 p.m. on school days. The route carries 1,150 passengers on school days and has a performance level of 34 passengers per vehicle service hour which is above standard for a local route. Ridership increased on this route by 8% over the 2007-08 period.

### Community Routes

- **Route 15 Purcell Cove** – this urban community route operates from the Mumford Terminal and serves the Purcell Cove corridor on the lower mainland. It has hours of service and headways at the

standards for community routes with 60-minute service provided to 10:00 p.m. seven days a week. The route carries close to 300 passengers on weekdays and has a performance level of 20 passengers per vehicle service hour, which is at the standard for urban community routes.

The route with the highest ridership and the best overall performance is **Route 1**, primarily because of its considerably higher level of service compared to other routes. Other top performing routes are **Routes 2/4, 7, 9, 14, and 17/18** all of which offer 20 minute or better service during peak periods. It is worth noting that all of these routes provide a grid pattern on the Halifax peninsula.

The worst performing route in Halifax is **Route 3.** It has 80- to 90-minute midday service with very low demands.

Several Halifax core routes do not meet minimum service standards. Routes 7, 9 and 14 have 20-minute rather than 15-minute peak service. Routes 20 and 21 have 30-minute rather than 15-minute peak service. Routes 9 and 14 have 60-minute rather than 30-minute evening service.

### 3.3.2 Bedford and Sackville Routes

The Bedford and Sackville areas are served by 12 routes, including 5 core and express routes, 5 local routes, and 2 rural routes.

#### Core and Express Routes

- **Route 80 Sackville** – this core route operates from the Sackville Terminal and serves the Sackville Drive corridor and Cobequid Terminal in Lower Sackville, the Bedford Highway corridor in Bedford, and the Bayers Road Terminal, Robie, Spring Garden and Barrington corridors to Scotia Square in downtown Halifax. It has hours of service and headways close to the standards for base routes with service provided to 1:00 a.m. seven days a week, and headways ranging from 15 to 30 minutes during peak periods (15 minutes northbound from the downtown in the afternoon peak, 30 minutes in other directions during the morning and afternoon peak periods), 30 minutes during the off-peak daytime to 9:00 p.m. and 60 minutes in the late evening. The route carries some 4,800 passengers on weekdays and has a performance level of 45 passengers per vehicle service hour, which exceeds the standard for base routes. The route experiences some overloading southbound from the Sackville Terminal during the morning peak period as a result of the 30-minute headways. Consideration should be given to providing consistent 15-minute headways during peak periods on this core route. Ridership increased by 4% on this route over the 2007-08 period.

- **Route 87 Downsview** – this core route operates from the Sackville Terminal and serves the Glendale Drive corridor and Cobequid Terminal in Lower Sackville, and the Windmill Rd/Victoria corridor and Bridge Terminal in Dartmouth. During peak periods, the route is extended across the Angus l. MacDonald Bridge to downtown Halifax (Barrington, Spring Garden, Summer corridors). It has hours

of service and headways below the standards for core routes with service provided to 11:00 p.m. seven days a week, and headways of 30 minutes all day. The route carries some 1,400 passengers on weekdays and has a performance level of 28 passengers per vehicle service hour, which is below the standard for core routes. Consideration needs to be given to providing consistent 15-minute headways during peak periods and operating the route to midnight as most of the other core routes. The extension to downtown Halifax during peak periods should be dropped because of the low demand. People can transfer to other routes (such as Route 1) at the Bridge Terminal to get access to downtown Halifax, or people can take Route 80 in Sackville which serves downtown Halifax. Ridership increased by 5% on this route over the 2007-08 period.

- **Route 84 Glendale, Route 85 Downsview** – these directional peak period routes operate from the Sackville and Cobequid Terminals and serve the Glendale Drive corridor in Lower Sackville, the Windmill Road corridor in Dartmouth, and the Murray MacKay Bridge to downtown Halifax (Barrington, Spring Garden, Summer corridors). The routes operate only during peak periods on weekdays; southbound in the morning, and northbound in the afternoon. They provide a combined headway of 12 minutes on average, carry 1,400 passengers, and have an overall performance of 41 passengers per vehicle service hour, which is standard for core routes. Ridership on these two routes increased about 6% over the 2007-08 period.

- **Route 185 Sackville MetroLink** – this express route operates on weekdays between the Sackville Terminal and Barrington and Duke in downtown Halifax. It uses the Bedford Bypass, makes one stop at Windmill and Wright in Burnside and travels to downtown Halifax via the Murray MacKay Bridge. It provides 10-minute peak and 30-minute off-peak service to midnight, carries 1,900 passengers and has a performance level of 39 passengers per vehicle service hour which is below standard for a core express route. The route would have standard performance if the late evening service were dropped as it is not needed. Ridership increased significantly, by approximately 20% over the 2007-08 period, suggesting that lower headways may be required in the near future.

### Local Routes

- **Route 81 Hemlock Ravine** – this local route operates from the Hemlock Ravine (Larry Uteck/Starboard Dr. corridor) and serves the Bedford Highway corridor in Bedford, and the Bayers Road Terminal, Robie, Spring Garden and Barrington corridors to Scotia Square in downtown Halifax. It operates on the same alignment as Route 80 south of Larry Uteck and basically double heads the service on Route 80. It provides 30-minute service to 8:00 p.m. on weekdays and no service on weekends. The route carries some 1,400 passengers on weekdays and has a performance level of 26 passengers per vehicle service hour, which is standard performance for a local route. Consideration needs to be given to extending this route north to provide better coverage of the Bedford area. Also consider operating this route just to the Mumford Terminal

to reduce the duplication with Route 80 so that it can handle the loads. Ridership increased by 5% on this route over the 2007-08 period.

- **Route 82 Millwood** – this local route operates between the Sackville and Cobequid Terminals and serves the Millwood Drive/First Lake Drive corridor in Sackville. During peak periods, the route is extended along the Bedford Highway into downtown Halifax. It has hours of service and headways close to the standards for local routes with service provided to midnight on weekdays, to 11:00 p.m. on Saturdays and to 10:00 p.m. on Sundays. Its headways are 30 minutes to 7:00 p.m. and 60 minutes to midnight on weekdays. It has headways of 60-minutes on weekends. The route carries some 1,200 passengers on weekdays and has a performance level of 31 passengers per vehicle service hour, which is close to the standard for local routes.

- **Route 86 Basinview** – this local route is an express route connecting the Rockmanor and Basinview areas of Bedford to downtown Halifax with two morning peak inbound trips and two afternoon peak outbound trips. The route carries some 100 passengers on weekdays and has a performance level of 23 passengers per vehicle service hour, which is standard for local routes. Ridership increased by 3% on this route over the 2007-08 period.

- **Route 88 Duke** – this local route operates from the Sackville Terminal and serves the Glendale Drive corridor to Damascus at the Bedford Common. It provides 60-minute headways to 10:00 p.m. seven days a week. The route carries some 200 passengers and has a performance level of 12 passengers per vehicle service hour, which is well below the standard for local routes. The route is underutilized possibly because of the 60-minute frequencies. Note that ridership doubled on this route over the 2007-08 period.

- **Route 89 Bedford** – this local route operates from the Cobequid Terminal and serves the Hammond Plains, Bluewater and Kearney Lake corridors in Bedford South to Parkland Drive and the Lacewood Terminal on the lower mainland. It has hours of service and headways close to the standards for local routes with 30-minute peak and 60-minute off-peak headways to midnight on weekdays and no service on weekends. The route carries some 370 passengers on weekdays and has a performance level of 8 passengers per vehicle service hour, which is well below the standard for local routes.

### Community Routes

- **Route 33 Tantallon** – this rural community route operates from Tantallon and serves the Hammond Plains/Kearney Lake corridor in Bedford West, the Dunbrack corridor and Lacewood Terminal in Clayton Park and downtown Halifax via Main, Robie, Gottingen, Barrington, Spring Garden and Summers. It provides two trips in the morning peak, one trip in the midday, and two trips in the afternoon

peak between Tantallon and the Lacewood Terminal. The two trips are extended to downtown Halifax in the morning peak and from downtown Halifax outbound in the afternoon peak. The two trips are basically 60 minutes apart. The route carries 340 passengers and has a performance level of 51 passengers per vehicle service hour which is significantly above standard. The two trips inbound in the morning and outbound in the afternoon are overloaded suggesting that 30-minute headways are required during the peak periods. The Tantallon MetroX service was recently implemented, and Metro Transit will be monitoring ridership on the Route 33 for changes in ridership. Notwithstanding, ridership increased by 10% on Route 33 over the 2007-08 period.

- **Route 83 Springfield** – this urban community route operates from the Sackville Terminal and serves the Springfield Estates in Upper Sackville. It has hours of service and headways above the standards for rural routes with 30-minute peak and 60-minute off-peak headways to 10:00 p.m. on weekdays and on weekends. The route carries some 200 passengers on weekdays and has a performance level of 15 passengers per vehicle service hour, which is close to the standard for urban community routes. Consideration needs to be given to increasing the headways as the 20-minute peak period headways are not justified.

**Route 80** has the highest ridership, as it is the core service connecting Bedford - Sackville with Central Halifax. It is also one of the highest performing routes, along with peak-hour route 84.

**Route 88 and 89** are not only the poorest performing routes in the Bedford-Sackville area but are the poorest routes in the entire system. This is likely because of the low demand in the east end of the Glendale corridor and the suburban nature of Route 89's service area. However, it should be noted that these are new services in growing urban areas, and ridership should be monitored for indications of growth.

### 3.3.3 Dartmouth

The Dartmouth area is served by 22 routes, including 9 core and express routes, and 13 local routes.

#### Core and Express Routes

- **Route 10 Dalhousie** – this core route operates from Dalhousie University and serves St. Mary's University and Barrington and Duke in downtown Halifax before crossing the MacDonald Bridge and then proceeding to Mic Mac Mall, Tacoma Centre, and then to Inverary Drive and Strath Lane. The headways are 15 minutes on average during peak periods (with some peak hours having 7- to 8-minute headways), and 30 minutes during off-peak hours, and the service hours for the inbound direction are from 5:45 a.m. to 12:15 a.m. However, service ends at 11:10 p.m. in the outbound direction, which is below the service standard for core routes. This route carries 5,400 passengers on weekdays, and has a performance level of 52 passengers per vehicle service hour, which exceeds the

standard for core routes. Ridership increased by 7% between 2007 and 2008.

- **Route 51 Shannon** – this core route mainly operates from the Bridge Terminal to Princess Margaret and Killkee Gate. During peak hours, it also links the Dockyard in downtown Halifax to the Bridge Terminal (outbound during morning peak hours and inbound during afternoon peak hours). It also links the Bridge Terminal to Burnside via Joseph Zatzman Drive duplicating other routes serving Burnside from the Bridge Terminal. The route has low demands to/from Burnside and should be pulled out of Burnsisde. The route operates at a 30-minute headway throughout the day on weekdays and at 30- or 60-minute headways on weekends, which is below the service standard for core routes. On weekdays, there is a daily boarding of 1,360 passengers, with a performance level of 39 passengers per vehicle service hour, which is close to the standard for core routes. The number of boardings is particularly high during the afternoon in the outbound direction for those buses beginning at the Dockyard or at the Bridge Terminal and ending at Princess Margaret and Killkee Gate, but is low during the evening hours in the inbound direction from Princess Margaret and Killkee Gate to Bridge Terminal. During the 2007-2008 period, ridership rose by 4.5%. Consideration needs to be given to improving the service on the Bridge Terminal – Dockyards section of the route.

- **Route 52 Crosstown** – this core route operates from Chain Lake and serves the Lacewood Terminal, Mumford Terminal, Bridge Terminal, Highfield Terminal, and Wright Ave and MacDonald Ave in Burnside. During the off-peak hours, it also serves the Burnside Industrial Park via Gloria McClusky and Colford. The route has headways of 15 to 20 minutes during the peak periods and 30 minutes during off-peak periods. In the late evening, headways are 60 minutes, which is below the service standard for core routes. On the weekend, headways are 30 or 60 minutes. The route carries approximately 5,400 passengers each day, with a performance level of 49 passengers per vehicle service hour, which is above the standard for core routes. The number of boardings is notably high for the inbound direction from the Bridge Terminal to the Mumford Terminal during the morning peak period, thus creating overloading. Ridership during the 2007-2008 period grew by 13%, with most of the boardings taking place between Chain Lake and the Highfield Terminal, so the headways may need to be reduced to a consistent 15 minutes during peak periods in the future.

- **Route 53 Notting Park** – this core route connects downtown Halifax via Summer Street to the Bridge Terminal and Highfield Terminal. The route operates between approximately 4:10 a.m. to 12:00 a.m., and the frequency is 20-minutes during the peak periods and 30-minutes during off-peak periods. On the weekend, service is every 30 or 60 minutes. On weekdays, the daily passenger boarding is about 1,500, and the performance level is 59 passengers per vehicle service hour, which is much higher than the standard for a core route. The number of boardings is high in the outbound direction between the Bridge Terminal and the Highfield Terminal between

9:00 a.m. to 10:00 p.m., and low in the opposite direction from 3:00 p.m. onwards. Ridership only grew by 1% between 2007 and 2008.

- **Route 59 Colby** – this core route operates from Summer Street at the Queen Elizabeth Hospital and serves the Bridge Terminal. Then it operates along Alderney Street/Portland Street, to the Portland and Portland Hills Terminals, and along Cole Harbour to Ashgrove and Colby Drive. Along the Summer St and Bridge Terminal section in the outbound direction, the service frequency is 15 minutes. For the remaining segments, the frequency is 20 to 30 minutes between the start of service and 7:00 p.m. The headway for evening and weekend service is 60 minutes, which is relatively low for a core route. For a typical weekday, there are approximately 2,100 passenger boardings, and there are about 48 passengers per vehicle service hour which is above standard. Ridership between 2007 and 2008 has decreased by 4.5%.

- **Route 60 Eastern Passage** – this core route, which is the only service in the Eastern Passage/Heritage Hills area and the only service to operate south of Woodside, begins at the Bridge Terminal and serves the Woodside Ferry Terminal and Ocean View Manor. In the morning and afternoon, half of the buses are also diverted from the Ocean View Manor route to the Heritage Hills route. Service operates at 15-minute headways during the peak hours for both directions and during the midday in the inbound direction from the Bridge Terminal to the Woodside Ferry Terminal. For the remainder of the day and for the outbound direction midday, the headway is 30 minutes, which is not enough to address the crowding that the route experiences during the midday periods. Service during the weekend operates at 30- or 60-minute headways. The route carries over 3,100 boardings each weekday and the performance level is 60 passengers per vehicle service hour, which is well above the standard for core routes. While Route 63 supplements the service on Route 60 north of Highway 111, consideration should be given to increasing the frequencies south of the highway during the peak and off-peak periods to reduce the overloading

- **Route 61 Auburn-North Preston** – this core route begins at Barrington and Duke in downtown Halifax and serves the Bridge Terminal, and proceeds along Windmill Road/Alderney Street/Portland Street, to get to Portland Hills Terminal. From there, it continues to Auburn and Serocco, and then to the North Preston Recreational Centre. During peak periods, the frequency of the inbound direction between the Bridge Terminal, Portland Hills Terminal, and Auburn and Serocco is 20 minutes. For the other segments, the frequency is 30 minutes from the start of service to 7:00 p.m. The exception is the Auburn and Serocco to North Preston Recreational Centre segment, where the headways are 60 minutes in the outbound direction during the morning peak period. In the evening and during the weekend, the service frequency is also every 60 minutes. This level of service is below the standard for core routes. On an average weekday, the route carries over 2,700 passenger boardings, with about 38 passengers per vehicle service

hour which is close to the standard. There are a significant number of boardings in both directions between Barrington and Duke and the Bridge Terminal suggesting that higher frequencies are required south of the Bridge Terminal. The majority of the boardings on the east end of the route occur between Auburn/Serocco and the Forest Hills Shopping Centre where the performance is about 32 passengers per vehicle service suggesting that the current level of service north of Auburn to North Preston is not needed. The ridership has increased by over 17% between 2007 and 2008, suggesting there is significant demand at least between Auburn in the east end and downtown Halifax.

- **Route 159 Portland Hills MetroLink** – this express route begins at the Portland Hills Terminal and serves the Penhorn Terminal and Bridge Terminal via Portland Street/Alderney Street/Windmill Road. After crossing the MacDonald Bridge, it heads into downtown and stops at Duke and Barrington. The frequency of service during peak hours is every 10 minutes. The headways are 30 minutes during non-peak periods. There is no service on weekends. On a typical weekday, there are only 1,290 passenger boardings and a performance level of 27 passengers/vehicle service hour, which is below the standard for an express route. This may be due to the competition between this route and the other core and local routes along Portland Street/Alderney Street/Windmill Road, extending the travel time. Over the 2007 and 2008 period, ridership has increased by 16%, suggesting that there is a good market for this service.

- **Route 165 Woodside MetroLink** – this express route operates from the Portland Hills Terminal and then runs along Portland Street before turning onto Highway 111 and terminating at the Woodside Ferry Terminal. The headways are 30 minutes during peak periods to coincide with the ferry schedule which only operates every 30 minutes from 6:37 a.m. to 9:37 a.m. and from 2:52 p.m. to 5:52 p.m. There is no weekend service as the ferry does not operate on weekends. Approximately 210 passengers board this route on an average weekday, and the performance level is about 32 passengers per vehicle service hour, which is below standard for an express route. The relatively low ridership may be due to the competition between Route 165 and other local and core routes that operate along Highway 111 (Routes 65 and 63). Over the 2007-08 period, ridership decreased by 11%, indicating that the competition with the other bus routes may be deterring riders from using the service.

### Local Routes

- **Route 16 Parkland** – this local route begins at the Bridge Terminal and travels to the Highfield Terminal, and then to Mount St. Vincent University and finally to the Lacewood Terminal. From the start of service (6:00 a.m.) and 7:00 p.m., the frequency is every 30 minutes. For the remainder of the day, the frequency is every 60 minutes, which is relatively low for a local route. There is no service on the weekends. The typical daily passenger boarding is 1,100, and the performance level is typically about 30 passengers per vehicle

service hour, which is above the standard for local bus routes. Over the 2007-08 period, ridership increased by about 40% indicating that the service may need to be expanded in the future. Better service to the Burnside area needs to be considered.

- **Route 41 Dartmouth-Dalhousie** – this local route begins at Dalhousie University at South Street and Lemarchant, and serves the downtown area via Barrington and Duke, and then crosses the MacDonald Bridge where it terminates at the Bridge Terminal. This route operates between approximately 6:50 a.m. and 7:20 p.m. on weekdays at headways of 20 minutes. On a typical weekday, there are 1,600 boardings, and the performance level is about 50 passengers per vehicle service hour, which far exceeds the standard for a local route. The ridership rose by 6% between 2007 and 2008.

- **Route 54 Montebello** – the local route operates from the Alderney Ferry Terminal and proceeds to the Mic Mac Terminal and then to Appian and Caledonia. On a typical weekday, the headway is 30 minutes for the morning and afternoon peak periods, and 60 minutes for the midday period and evening service, which is high for a local route. Service begins at 6:10 a.m. and ends at 9:45 p.m., and there is no weekend service. There are approximately 800 boardings each day, and the performance level is about 37 passengers per vehicle service hour, which is above the standard for a local route. The number of boardings is particularly high from the ferry terminal to the Mic Mac Terminal during the midday and afternoon peak periods suggesting that lower headways are required. Ridership has grown by 12% between 2007 and 2008.

- **Route 55 Port Wallace** – this local route operates from the Bridge Terminal and serves the Mic Mac Terminal and proceeds along Braemar Drive, which turns into Waverley Drive, until the Portobello Turning Loop. The headways are 30 minutes during peak hours and 60 minutes for the remainder of the day, which is below the standard for local routes. Service on the weekend is provided at 60-minute intervals. There are approximately 450 passenger boardings on an average weekday, and the performance level is about 21 passengers per vehicle service hour, which is standard for a local route. Over the 2007-08 period, ridership increased by 6%.

  **Route 56 Dartmouth Crossing** – this local bus route operates from Dartmouth Crossing and serves the Mic Mac Terminal, Mic Mac Boulevard, Highway 111,Penhorn Terminal and Portland Street to the Portland Hills Terminal. The headway is 30 minutes on weekdays, and it begins services at approximately 6:30 a.m. and ends just before 11:00 p.m. On a typical weekday, there are about 550 passenger boardings, and the performance level is about 18 passengers per vehicle service hour which is below the standard for local routes.The route is not providing direct enough service to Dartmouth Crossing, and is not serving the employment areas in Burnside. Thus, consideration should be given to changing the alignment of the route particularly in Burnside to increase ridership.

- **Route 58 Woodlawn** – this local route begins at Dorothea Dr and Lucien Dr and serves the Penhorn Terminal and Bridge Terminal. During peak hours, buses also serve downtown Halifax and proceed to the Mumford Terminal. The current headway is 20-30 minutes during the peak periods and 60 minutes during the off-peak periods, which is below the service standard for local routes. On a typical weekday, there are approximately 1,600 boardings, and the performance level is 45 passengers per vehicle service hour which is above standard. The ridership grew by 3.5% between 2007 and 2008. Consideration should be given to increasing the frequencies during off-peak periods to provide better service.

- **Route 62 Wildwood** – this local route starts at the Bridge Terminal and serves various inner local roads and the Penhorn Terminal. From there, it operates along Portland Street and turns onto Woodlawn Road and enters Wildwood. It serves the Cole Harbour area and terminates at Cole Harbour Place. The headways are 30 minutes during peak periods, and 60 minutes during off peak periods to midnight which is high by local route standards. Service during the weekend is at intervals of 60 minutes on Saturday and 75 minutes on Sunday. There are approximately 780 passenger boardings on a typical weekday, and the performance level is about 20 passengers per vehicle service hour which is at the standard for local routes. Ridership has grown by about 0.1% between 2007 and 2008. Consideration should be given to decreasing the headways to 30 minutes during the midday.

- **Route 63 Woodside** – this local route operates from the Bridge Terminal and then runs along the boundary of the Woodside Industrial Park to Pleasant and Everette. From there, there is a limited service that goes to the Penhorn Mall Terminal during the midday. The headway is 30 minutes throughout the day and there is no weekend service. There are approximately 640 passenger boardings on a typical weekday, and the overall performance level is about 43 passengers per vehicle service hour. Over the 2007-08 period, ridership increased by 361% which is due to the significant increase in service during that time period,

- **Route 64 Akerley** – the local route operates from the Bridge Terminal to Highfield Terminal and then to the Burnside Industrial Park via McClusky and Colford. Service is only provided during peak periods, at 30-minute intervals. There is no weekend service. Service begins at 6:25 a.m. and ends before 6:00 p.m. There are approximately 410 boardings each day, and the performance level is about 51 passengers per vehicle service hour, which is above the standard for a local route. Ridership decreased by 2.4% between 2007 and 2008, indicating that the service may not be keeping pace with the development in the Burnside area.

- **Route 65 Astral** – the local route provides 30-minute peak period service between the Woodside Ferry Terminal and the Willowdale area, and 60-minute midday service between the Penhorn Terminal and the Willowdale area. During peak periods, the route operates from the Woodside Ferry Terminal serving the Hwy 111 corridor, the

Penhorn Mall Terminal, Portland Street, Portland Estates via Russell Lake Drive and Portland Estates Blvd., Portland Street to the Portland Hills Terminal and finally to Caldwell and Alothea in Willowdale. During peak periods, the route provides directional service between the Woodside area (Mount Hope and Estates Rd.) and the Woodside Ferry Terminal (outbound from the ferry in the morning, inbound to the ferry in the afternoon). During the midday, the route only operates between the Penhorn Terminal and the Willowdale area every 60 minutes, which is below standard service. Weekend service is also every 60 minutes between the Penhorn Terminal and Willowdale area. For a typical weekday, there are approximately 430 passengers and 18 passengers per vehicle service hour, which is below standard. While ridership has grown by about 10% between 2007 and 2008, there is significant potential for higher ridership by providing 30-minute midday service and expanding service into the evening.

- **Route 66 Penhorn** – this local bus route begins in Sackville at the Cobequid Terminal, operates along the Bedford Bypass and heads into Bedford. It then operates along Dartmouth Road and goes into the Burnside Industrial Park as well as the Commodore Business Park. From there, it goes to the Highfield Terminal, continues along Albro Lake Road, stops at the Mic Mac Terminal and Tacoma Centre, runs along Portland Street, stops at the Penhorn Terminal, and ends at the Gaston Turning Loop. In the peak periods, the frequency is every 30 minutes and in the midday the frequency is every 60 minutes. In the evening to 11:00pm on weekdays and on weekends, the frequency is 60-minutes between the Highfield Terminal and the Gaston turning loop. It does not serve Sackville, Bedford or Burnside in the evening or on weekends which is a deficiency. On a typical weekday, there are about 1,320 passenger boardings, and the performance level is 34 passengers per vehicle service hour which is above standard. Between 2007 and 2008, ridership increased by 8%. It should be noted that in August 2009, peak and midday service was improved to 30-minutes, and the service was extended until 12:30 a.m. on weekdays.

- **Route 68 Cherrybrook** – this local route operates from Summer Street at the Queen Elizabeth Hospital and continues to Barrington and Duke. Then it crosses the MacDonald Bridge, stops at the Bridge Terminal and Alderney Ferry Terminal, runs along Windmill Road/Alderney Street/Portland Street and stops at the Penhorn Terminal and Portland Hills Terminal. From there it goes into Forest Hills and Cherry Brook and terminates at Lake Loon. The Bridge Terminal to downtown Halifax section only operates in the peak direction during peak hours (inbound in the morning, outbound in the afternoon). After 7:00 p.m. on weekdays and on weekends, 60-minute headways are provided. For a typical weekday, there are approximately 1,350 passengers and the performance level is 26 passengers per vehicle service hour which is close to standard. Ridership between 2007 and 2008 decreased by approximately 10% which is indicative of the competition provided by other routes. A significant portion of this route is overlaid by the 159 MetroLink service as well as a number of other core and local routes such as

Routes 58, 59, 61and 65. This may be an indication of the need to alter the alignment of this route.

- **Route 72 Portland Hills** – this local bus route begins at the Portland Hills Terminal and serves Woodlawn and Westphal, stops at the Mic Mac Terminal, Highfield Terminal, and goes into the Burnside Industrial Park as well as the Commodore Business Park. It then loops back to Mic Mac Terminal and to Portland Hills Terminal. In the peak periods the frequency is 30 minutes, and in the midday period the frequency is every 60 minutes, which is below the standard for local routes. Service begins at around 6:00 a.m. and ends at approximately 6:30 p.m. Weekend service is every 60 minutes between 7:00 a.m. and 6:00 p.m. On a typical weekday, there are about 470 passenger boardings, and the performance level is approximately 25 passengers per vehicle service hour which is close to standard. Consideration should be given to changing the alignment of this route as there is a significant overlap with route 66 between the Burnside Industrial Park and Westphal. While ridership increased by 21% between 2007 and 2008, the relatively low performance level suggests that there is considerable potential to increase ridership and the performance of the route by eliminating the competition from Route 66 which overlaps the service between Burnside and Westphal. Also increasing off-peak frequencies may be necessary.

**Route 10** has the highest ridership because of its frequent service and through-routing into Halifax. **Routes 10, 51, 52, 53, and 59** are the top performers in the transit system due to their routing into Halifax. **Route 60** has one of the highest utilizations in the transit system which indicates that more service is required in the Eastern Passage area.

The worst performing route is **Route 56** likely because of its circuitous routing, lack of service into Burnside, and service areas duplicated by competing routes operating in its service area; this route needs to be restructured. **Routes 55, 62 and 65** also perform below average primarily because of the off-peak services that are under-utilized.

Several Dartmouth core routes do not meet minimum service standards. Routes 52 and 53 have 20-minute rather than 15-minute peak service. Routes 52, 59 and 61 have 60-minute rather than 30-minute evening service.

## 3.4 Summary of Route Deficiencies and Needs

This section summarizes the deficiencies with the current transit services. They are based on input gathered through the public surveys and from the findings of the market assessment and route evaluation discussed earlier. In most cases, addressing these deficiencies should provide opportunities to attract new transit markets, although their inclusion in this section does not suggest that there will necessarily be sufficient demand to warrant a change or a new service.

### 3.4.1 Core and Express Route Changes

**Higher Frequencies (due to loading and missed passengers)**

| Route | Service Periods |
|---|---|
| **Route 1** | all day (5-10 minutes), late evening (10-15 minutes) |
| **Routes 2/4** | evening periods (30 minutes) |
| **Route 7** | peak periods (10-15 minutes), off-peak periods (15-30 minutes) |
| **Route 9** | peak periods (15 minutes), early evening (30 minutes) |
| **Route 14** | all day (15 minutes), early evening (30 minutes) |
| **Route 18** | all day (10-15 minutes) |
| **Route 20** | all day (15-30 minutes) |
| **Route 32** | peak periods (15 minutes) |
| **Route 34** | peak periods (15 minutes) |
| **Route 35** | peak periods (30 minutes) |
| **Route 51** | peak periods (15 minutes) |
| **Route 52** | peak periods (15 minutes) |
| **Route 53** | all day (15 minutes) |
| **Route 59** | peak periods (15 minutes), evening (30 minutes) |
| **Route 60** | midday (15 minutes) |
| **Route 80** | peak periods (15 minutes), late evening (30 minutes) |
| **Route 87** | peak periods (15 minutes) |

**Longer Spans (to comply with service standards)**

| Route | Service Periods |
|---|---|
| **Routes 87** | to midnight |

**Restructuring (due to demand)**

| Route | Service Periods |
|---|---|
| **Route 1** | upgrade to BRT |
| **Route 4** | two way service in the Parkland corridor to Kearney Lake Road |
| **Route 17** | combine with 18 |
| **Route 18** | restructure to serve hospitals on Bell/Summers as well as the universities |
| **Route 31, 32, 34, 35, 84, 85, 86** | operate as limited stop express routes |
| **Route 52** | provide more direct service to and in Burnside |
| **Route 59** | upgrade to BRT in the future in conjunction with 14 in Dartmouth |
| **Route 85** | restructure to serve Burnside |
| **Route 87** | restructure in Bedford, truncate the route at the Bridge Terminal |
| **Route 165** | restructure to serve Penhorn Terminal and Woodside Ferry all day |

### 3.4.2 Local Route Changes

**Higher Frequencies (due to loading and service standards)**

| Route | Service Periods |
|---|---|
| **Route 6** | peak and midday (30 minutes) |
| **Route 21** | 15 minutes peak period between Chain Lake & downtown |
| **Route 41** | peak periods (15 minutes) |
| **Route 42** | peak periods (15-30 minutes) |
| **Route 54** | peak and midday (15-30 minutes) |
| **Route 58** | off-peak periods (30 minutes) |
| **Route 62** | midday (30 minutes) |
| **Route 65** | midday (30 minutes) |
| **Route 66** | midday and evening (30 minutes) |
| **Route 72** | off-peak periods (30 minutes) |
| **Route 82** | evenings (30 minutes) |
| **Route 83** | midday (30 minutes) |
| **Route 88** | daytime (30 minutes) |
| **Route 89** | off-peak periods (30 minutes) |

**Longer Spans (to comply with service standards)**

| Route | Service Periods |
|---|---|
| **Route 42** | to 10:00 p.m. |
| **Route 65** | to 10:00 p.m. |

**Restructuring (because of demand)**

| Route | Service Periods |
|---|---|
| **Route 3, 5, 17** | discontinue these routes |
| **Route 5** | discontinue this route, replace with restructured Route 6 |
| **Route 6** | extend to cover Route 5 |
| **Route 16** | restructure to operate to the Highfield Terminal rather than Bridge Terminal. Interline with Route 66 at Highfield Terminal for direct service to Burnside. |
| **Route 21** | restructure to serve Glenforest corridor |
| **Route 56** | discontinue Penhorn/Portland Hills section, extend to Burnside and Gaston Road. |
| **Route 61** | restructure through Forest Hills. Terminate at Portland Hills Terminal |
| **Route 64** | restructure in Burnside |
| **Route 65** | truncate route at Portland Hills Terminal |
| **Route 66** | restructure in Burnside |
| **Route 68** | truncate route at Portland HillsTerminal |

| | |
|---|---|
| **Route 72** | restructure in Burnside |
| **Route 81** | extend 81 to cover Hemlock Ravine, Millview and Glen Moir in Bedford |
| **Route 89** | restructure in Sherwood Park. Interline with 31 at Lacewood Terminal for service to downtown Halifax |

### 3.4.3 Unmet Demands Needing New or Revised Routes

- **South Peninsula** – restructure peninsula routes for better internal circulation in south end (the 8% modal split for the 12,500 people living and working in the south end of the peninsula should be higher).

- **Sherwood Park/Clayton Park** – restructure Sherwood Park/Clayton Park area routes for better internal circulation (the 4% modal split for the 570 people living and working in the area should be higher). Also need a direct route between the Sherwood Park area and Burnside (the 3% modal split for 680 people living in the Sherwood Park area and working in Burnside should be much higher).

- **Bedford** - restructure Bedford routes for better internal circulation (the 3% modal split for the 1,200 people living and working in Bedford should be much higher).

- **Sackville** - restructure Sackville routes for better internal circulation (the 7% modal split for the 2,700 people living and working in Sackville should be higher). Need more routes between Sackville and Bedford (the 7% modal split for the 935 people living in Sackville and working in Bedford should be higher). Restructure Sackville routes serving the North Peninsula (the 6% modal split for the 1,300 people living in Sackville and working in the North Peninsula should be much higher).

- **Dartmouth** – while a significant amount of service exists between Dartmouth and Cole Harbour, the modal split is only 4% for the 750 people living in Dartmouth and working in Cole Harbour.

- **Cole Harbour** - need better service between Cole Harbour and Burnside (the 5% modal split for the 1,900 people living in Cole Harbour and working in Burnside should be much higher).

- **Burnside** – need better service to and within the Burnside industrial and business park, so that people can get to all areas from a central terminal or transfer point in the park.

- **Eastern Passage** - need better service in the Eastern Passage area and between the Eastern Passage area and Burnside (the 6% modal split for the 745 people living and working in the Eastern Passage area should be higher, the 3% modal split for the 630 people living in the Eastern Passage area and working in Burnside should be much higher).

- **Timberlea/Tantallon -** need better service between the Timberlea/Tantallon area and Halifax peninsula (the 2.5% modal

split for the 9,000 people living in the area and working in Halifax should be much higher).

The total unmet demand is estimated to be about 3,000 workers or 6,000 transit work trips daily.

# 4. Transit Service Strategy

Based on the route evaluation and needs assessment described in the foregoing section, a five-year service plan has been prepared for the conventional (regular), MetroLink and ferry services and is summarized below. It is based on the following policy framework. A rural transit service plan is also being developed separately by Metro Transit staff to address how to respond to service requests for areas such as Sambro, Lucasville and other rural areas.

## 4.1 Service Policy Framework

**Exhibit 4-1 2000-2008 Performance of Metro Transit System**

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|---|---|---|
| Population Served | 299,000 | 300,000 | 301,000 | 303,300 | 305,600 | 307,800 | 311,400 | 312,400 | 314,600 |
| Bus & Ferry Fleet | 184 | 188 | 188 | 180 | 193 | 229 | 239 | 242 | 262 |
| Revenue .Hours | 427,870 | 429,126 | 439,003 | 429,763 | 460,368 | 508,158 | 565,912 | 611,497 | 688,800 |
| **Rev.Hrs/Capita** | **1.43** | **1.43** | **1.46** | **1.42** | **1.51** | **1.65** | **1.82** | **1.96** | **2.19** |
| Rev.Passengers | 13,362 | 14,195 | 14,847 | 15,620 | 16,520 | 17,030 | 18,133 | 18,737 | 19,599 |
| **Rev.Pass./Capita** | **44.69** | **47.32** | **49.33** | **51.50** | **54.05** | **55.32** | **58.23** | **59.98** | **62.30** |
| Revenues ('000) | $18,101 | $20,308 | $20,999 | $22,248 | $23,792 | $25,830 | $27,914 | $28,294 | $28,573 |
| Operating Cost | $25,961 | $25,197 | $29,563 | $32,106 | $35,832 | $41,653 | $44,895 | $51,463 | $54,539 |
| Rev/Cost Ratio | 70% | 81% | 71% | 69% | 66% | 62% | 62% | 55% | 52% |
| **Net Cost/Capita** | **$26.29** | **$16.30** | **$28.45** | **$32.50** | **$39.40** | **$51.40** | **$54.53** | **$74.16** | **$82.53** |

As shown in Exhibit 4-1, since 2000, Metro Transit has been following a policy of adjusting its routes and services to increase ridership throughout the urban transit service area. This has resulted in a 53% increase in the level of service from 1.43 revenue hours per capita in 2000 to 2.19 revenue hours per capita in 2008. While the adjustments have increased the net operating cost or the tax burden from $26.29 per capita in 2000 to $82.53 per capita in 2008, they have had a significant positive impact on ridership and the quality of the transit services. Over the 2000 – 2008 period, transit ridership (annual revenue passengers) has increased from 13.4 million in 2000 to 19.6 million in 2008 or a 47% increase as compared to a 5% increase in population in the service area over the period. Clearly, the service adjustments have made conventional transit services more attractive to the population which has resulted in a drop in automobile use and traffic congestion, particularly on the Halifax peninsula. *However, the net operating cost or level of investment in transit of $82.53 per capita is one of the highest in Canada suggesting that fare rates and revenues*

*need to be higher to reduce the municipal contribution to transit to the $70.00 per capita level or a revenue/cost ratio of 55%.*

Halifax continues to experience population and employment growth rates that are the highest in Atlantic Canada. To accommodate the growth, transportation facilities and services will need to be improved to address the traffic congestion which is frustrating residents, commuters, employers and Council. Transit is viewed as the key to accommodating this growth so that increasing the transit modal share to reduce automobile use and congestion is a priority. Since the beginning of the decade, Transit has increased its modal share for work trips from 10% in 2000 to 12% in 2008.

The vision for this new five year transit plan should be to move Metro Transit to the next level in terms of significantly increasing the transit modal share from 12% to 14%, and increase transit ridership by up to 20%. To accomplish this vision, the transit system will have to continue to improve its service levels (i.e. service frequency, coverage and directness of routing), reliability and timeliness, and comfort/convenience. The transit system will have to continue to build ridership with service and fare products from its existing strong base of students and commuters and growing numbers of seniors, immigrants and customers who do not have access to a vehicle. It will need to improve and expand service to its strongest markets – downtown Dartmouth and Halifax, the universities and colleges (students, faculty, staff), the businesses in Burnside and other major business parks, as well as the medical centres and shopping centres in each community.

To realize the new vision for transit, there will need to be a significant shift in policy; a shift from a cost-driven to a market-driven service policy with less emphasis on cost-recovery. The following goals, objectives and service standards address this vision.

### 4.1.1 Mission Statement

The mission for Metro Transit has been developed and adopted as follows:

***To ensure personal mobility and provide an alternative mode of transportation to the single occupant vehicle, Halifax Regional Council Transit Services will provide sustainable, equitable, and affordable public transportation to residents, businesses and visitors within the transit service area regardless of age, income or physical ability.***

### 4.1.2 Goals and Objectives

To realize its mission over the next five years, Metro Transit will need to increase ridership by improving the level and quality of the transit services it provides in the urban and rural areas of the municipality. HRM will need to establish the necessary foundation of service levels, transit infrastructure and customer-first organizational culture in order that Metro Transit can continue to increase ridership and become a significant contributor to the municipality's quality of life and sustainable development. Accordingly, Five-Year goals and objectives have been established for the conventional transit services of Metro Transit.

### Goal 1: To Improve Ridership and Mode Share

Future ridership growth should be in the 4% range annually over the next five years if Metro Transit continues to build ridership by adjusting its routes and services and adding higher-order services to its transit system. There is significant potential for ridership growth of this magnitude as transit's main markets are experiencing growth, including the student, seniors and commuter markets, and higher parking and energy cost over the next five years should cause a switch to transit for the choice markets who are currently auto users. As well, new higher-order BRT and urban express services should be attractive to the choice markets, and improving service levels along the lines suggested in Chapter 3 should increase transit ridership. Also, service reliability and travel times will be improved with the implementation of more targeted transit priority measures in choke/congestion points which should have a positive effect on ridership. To successfully attract these markets and get ridership growth, an aggressive program of service improvements will be required over the next five years.

The objectives of this ridership goal are as follows:

- ***Service Levels*** *– increase annual vehicle service hours from 688,800 in 2008 to 842,000 by 2014.* This translates to a 22% increase in hours, and a 34% increase in net operating costs at 2008 fare rates and dollars.

- ***Ridership*** *– increase annual revenue passengers from 19.6 million in 2008 to 22.8 million by 2014.* This translates to a 16% increase in ridership or 3% per annum from 2008 to 2014.

- ***Modal Split*** *- increase overall regional weekday work trips modal split from 12% in 2008 to 14% by 2014*. This is the equivalent of increasing annual per capita ridership from 60 in 2008 to 70 by 2014.

The objectives are to be accomplished through improved route structures particularly in the suburban areas, higher frequencies particularly on the core routes, faster high order services (BRT, MetroLink, urban express routes) in the main travel corridors, new and better services into underserved areas (expanded local routes, community shuttles), targeted marketing to universities, large employers and the major activity centres, and the use of fare media that can encourage the greater use of transit (university passes for students, staff and faculty, corporate passes, smart cards).

### Goal 2: To Improve Service Quality and Customer Satisfaction

In order to become more competitive with the convenience of the automobile, Metro Transit will need to continually improve the quality of the service it provides customers. This effort will enable it to retain and increase the frequency of use by current riders and attract new riders.

The objectives of a service quality goal are as follows:

- ***Schedule Adherence*** *- improve schedule adherence so that buses are on-time 95% of the time.* Buses should never operate ahead of schedule or be more than 3 minutes behind schedule at identified time points.

- ***Service Reliability*** *- improve bus availability so that 99.9% of the scheduled service is delivered as a minimum.*

- ***Service Interruptions*** *- improve bus maintenance so that on-road service interruptions due to vehicle breakdowns do not exceed a maximum of 2 per 100,000 vehicle kilometres.*

These objectives are to be accomplished by increasing on-road monitoring of schedule adherence, improving route and schedule design, and vehicle maintenance relative to breakdowns.

#### Goal 3: Maintain Good Productivity and Cost-Effectiveness

Maximizing the efficient use of resources including personnel, equipment and vehicles, facilities and systems will enable the Metro Transit to be functionally effective and fiscally prudent.

The objectives of a productivity goal are as follows:

- ***System Financial Policy*** *– attain an overall cost recovery of 55% exclusive of capital and debt costs by 2014.* The current revenue/cost rate for conventional transit services is 52%.

- ***Fare Policy*** *– adjust the fare structure and rates regularly according to the inflationary increases in operating costs and consistent with the 55% system revenue/cost policy.*

- ***Service Utilization*** *– improve overall transit system service utilization to 28 revenue passengers per service hour or 40 boarding passengers per service hour*. The current service utilization is 27 revenue passengers per service hour or 38 boarding passengers per service hours. Boarding passengers include transfers.

With the desire for significantly higher ridership and service levels, there will be changes in the services and costs that, along with the time needed for ridership to respond, will tend to lower overall cost recoveries, especially in the early years of the next five years.

The objectives are to be accomplished by improving route structures, service levels and operations according to the service standards that have been established.

### 4.1.3 Service Standard Policies

Formal transit service standards have been in place since 2002 and were adopted by the Halifax Regional Council. The standards have been updated to reflect Halifax Regional Council's vision, mission, goals and objectives for the transit system. They were used to evaluate Metro Transit's current routes and services, and are intended to guide the design and operation of Metro Transit's conventional urban transit and ferry services over the next five years to 2014.

The updated service standards are provided in Section 3.2. The service policies were used to evaluate Metro Transit's current routes and services, and to guide the development of the five year service plan outlined in the following section.

## 4.2 Five Year Service Plan

Based on the route evaluation and needs assessment in Section 3.3, and policy framework in Section 4.1, a five year service plan for the conventional and MetroLink services to 2014 is presented for consideration. The operating characteristics of the service plan are provided in the exhibits in Appendix D. The proposed system map is attached as Appendix E, and individual route maps in Appendix L. The route and service changes are outlined in this section.

### 4.2.1 Halifax and Lower Mainland Routes

#### Core and Express Routes

- **Route 1 Spring Garden BRT** – while the structure of this main core route would not be changed, it would be converted to a Bus Rapid Transit route operating at high speeds between the Mumford Terminal, downtown Halifax and the Bridge Terminal in Dartmouth. In the future, it could be interlined with a potentially new BRT route in the Portland corridor in Dartmouth at the Bridge Terminal. Headways will be decreased to 7.5 minutes peak, 10 minutes midday and 15 minute evening to 1:00 a.m. This will enable a number of routes which now enter the peninsula to be truncated at the terminus of Route 1 at either the Mumford Terminal in Halifax or the Bridge Terminal in Dartmouth. The BRT service will require priority treatment on the streets, higher speeds in the future, limited stops where there are existing local services, and larger buses. When this is accomplished, the service can be improved to 5 minutes peak with no change in the number of buses.

- **Route 2 Wedgewood, Route 4 Rosedale** – no change to the structure of these two core routes on the peninsula. On the mainland, it is proposed to restructure the two routes north of the Lacewood Terminal. Route 2 would serve the Dunbrack corridor turning at Kearney Lake Rd. and Wedgewood as now. Route 4 would serve the entire length of the Parklands corridor turning at Kearney Lake Rd. and Castle Hill. These route changes would improve the service in Glenbourne as the area only receives one-way service now. The two routes would be combined at the Bayers Road Terminal to effectively give the peninsula 15-minute headways to 10:00 p.m. which is an improvement over the present service, and 30-minute headways to midnight which is the same as the present service.

- **Route 7 Robie/Gottingen** – no change to the structure of this core route. Headways would be decreased from 20/30 minutes to 10/15 minutes all day to 7:00 p.m. This should reduce the overloading. Headways would remain at 30 minutes during the evening to midnight.

- **Route 9 Barrington** – no change to the structure of this core route. Headways will be decreased from 20/30 minutes to a standard 15 minutes during peak periods (which should reduce the overloading), to 30 minutes in the midday and evening to 10:00 p.m., and 60 minutes in the late evening to midnight as now.

- **Route 14 Halifax Leiblin Park** – no change to the structure of this core route in Halifax. It would be extended into the Portland corridor to replace Route 61 in Dartmouth (refer to Dartmouth section). Headways will be decreased from 20/30 minutes to 15 minutes all day to 7:00 p.m. which should reduce the overloading, from 60 minutes to 30-minutes in the evening to 10:00 p.m., and stay at 60 minutes to midnight.

- **Route 18 Universities/Hospitals (including Route 17 St. Mary's)** – these two core routes would be combined and restructured to better meet the demands. On the peninsula, the combined route would serve the Bayers Road Terminal as now, the Windsor, Bell/Summer corridor to University, and looping University, South Park, Inglis, and Robie back to University. On the mainland, the route would start at the Lacewood Terminal and would serve the Dunbrack, Flamingo Drive and Bedford Highway corridors to Mount St. Vincent University and Bayers Road Terminal as now. The Lacewood corridor now served by Route 17 would be served by Route 42. Headways would be decreased from 30 to 15 minutes to 7:00 p.m. north of the Bayers Road Terminal and from 30 to 10 minutes to 7:00 p.m. south of the Bayers Road Terminal which should handle the demands of Routes 17 and 18 and reduce the overloading. Evening headways would remain at 30 minutes to midnight as now.

- **Route 20 Herring Cove** – the structure of this core route would be changed to serve the Halifax Ferry Terminal via George and Duke. Headways would be decreased to 15 minutes in the peak one, and maintained at 30 minutes to Herring Cove. In the off-peak periods to midnight, 30-minute headways would be provided the full length of the route. For these headways to be appropriate, the proposed Spryfield MetroLink service must be implemented (refer to Route 132). If the Spryfield MetroLink is not implemented, headways of 10 minutes will be required on Route 20 to reduce the overloading.

- **Route 31 Main Express** – this directional peak period route would be operated on a limited stop express basis in the corridors it serves. The route would be restructured to serve the Kempt/Robie corridor to Summer and Downtown Halifax. It would supplement the present service on Robie. Headways would be standardized at 30 minutes during peak periods.

- **Route 32 Cowie Hill Express** - this directional peak period route would be operated on a limited stop express basis in the corridors it serves. No change to the structure of the route. Headways would be decreased to 15 minutes during peak periods.

- **Route 34 Glenbourne Express** - this directional peak period route would be operated on a limited stop express basis in the corridors it serves. The route would be restructured to serve the Rosedale/LadyHammond/Duffus/Gottingen corridors to downtown Halifax and the Summer corridor. It would supplement the present service on Gottingen. Headways would be improved from 30 to 15 minutes during peak periods.

- **Route 35 Parkland Express** - this directional peak period route would be operated on a limited stop express basis in the corridors it serves. The route would serve the Parkland, Flamingo, Bedford Highway, Kempt, Gottingen, and Barrington corridors to downtown Halifax and the Hollis Train Station. It would supplement the present service on Barrington. It would provide consistent 30-minute haedways during peak periods.

- **Route 131 Clayton Park MetroLink** – this proposed MetroLink route would operate between Lacewood Terminal, Geizer's Hill Park & Ride, and Scotia Square. Headways would be 10-minute peak and 30-minute off-peak to 10:00 p.m.

- **Route 132 Spryfield MetroLink** – this proposed MetroLink route would operate between a proposed Greystone turning loop, the South Centre Mall Park & Ride, and Scotia Square. Headways would be 10-minute peak and 30-minute off-peak to 10:00 p.m., which offset the need to have lower headways on Route 19 and 20 to accommodate the demands

- **Route 330 Tantallon MetroX –** no change to this MetroX route which operates from the Tantallon Park and Ride at the Hubley Centre to Scotia Square via the 103 freeway. It provides 30-minute peak and 90-minute off-peak service to 7:00 p.m.

### Local Routes

- **Route 3 Manors** – this local community route would be cancelled as the seniors "manors", shopping centres and hospitals are served by other routes some of which have been restructured in favour of the requirements of seniors.

- **Route 5 Chebucto/Fairmount** – this local route would be cancelled as the Fairmount area and the Chebucto corridor would be served by a restructured Route 6 and 23.

- **Route 6 Quinpool** – this local route would be restructured to serve the Fairmont area now served by Route 5. Headways would be standardized at 30 minutes all day to 10:00 p.m. and at 60 minutes to midnight as now.

- **Route 16 Parkland** – this route would operate between the Lacewood Terminal/Parkland corridor in Clayton Park and the Highfield Terminal in Dartmouth via the Murray MacKay Bridge as now. It would not operate to the Bridge Terminal which is served by Routes 53 and 87 both with 15-minute service between the Highfield and Bridge Terminals. In an attempt to improve the low modal split between Sherwood Park and Burnside, Route 16 would be interlined with Route 66 at the Highfield Terminal for service to Burnside. Headways would be improved to 30 minutes to 10:00 p.m. No service after 10:00 p.m.

- **Route 17 Saint Mary's** -– this route would be cancelled in favour of restructuring Route 18 to cover the 17 service area.

- **Route 19 Greystone** – no change to the structure of this supporting route to core Route 20. The headways would be increased to 30 minutes all day to 10:00 p.m. if the 132 Spryfield MetroLink service is implemented. If not, 15-minute peak period service would be required.

- **Route 21 Lakeside/Timberlea** – the structure of this local route would be changed to access Downtown Halifax via Bayers/Young, Robie to Bell/Summer, Spring Garden to Barrington and Scotia Square. It would be restructured to serve the Glenforest corridor in Clayton Park. Headways would be decreased to 15 minutes during peak periods between Chain Lake, Lacewood and Bayers Road Terminals and downtown Halifax.

- **Route 22 Armdale** – this proposed new local route would serve Exhibition Park, the Metro Transit's Ragged Lake Garage and the Ragged Business Park, St. Margarets Bay Road, to Walter Havill and Kelly, back to St. Margarets Bay, Armdale and the Mumford Terminal. It would provide 30-minute headways to 10:00 p.m. The new route would enable Route 6 in Armdale to be restructured to provide better service to the Fairmont area.

- **Route 23 Timberlea/Mumford** – this local route would terminate at the Mumford Terminal and would not be extended to downtown Halifax during peak periods as people can transfer to the upgraded Route 1 to get to downtown Halifax. No change to the 30-minute peak headways on this route.

- **Route 42 Dal-Lacewood** – this local route operates between Dalhousie and Lacewood Terminal. On the peninsula, the structure of this route would be changed to serve the Windsor corridor in the north peninsula including the CFB bases on Windsor. Headways would be improved from 20 to 15 minutes during peak periods, from 20 to 30 minutes in the midday. The service would be extended to provide 30-minute headways in the evening to 10:00 p.m. It would operate all year round instead of just during the university year as now.

### Community Routes

- **Route 15 Purcell Cove** – no change to the structure or 60-minute headways on this urban community route

- **Route 24 Regency Park/Chain Lake –** this proposed new community route would shuttle passengers to/from the Chain Lake/Regency Park Drive corridor and the Lacewood Terminal. It would operate from the Lacewood Terminal to Regency Park Dr., the Washmill Lake Court Extension, Susie Lake Crescent, and Chain Lake Drive back to Washmill Lake and Regency Park to the Lacewood Terminal. It would provide 30-minute headways all day to 10:00 p.m.

- **Route 33 Tantallon -** this rural community route would be changed to terminate at the Lacewood Terminal rather than downtown Halifax

which is to be served by the rural Metro X express route. No change to the present headways of 60 minutes .The service would be provided on weekends as well as weekdays as now.

### 4.2.2 Bedford and Sackville Routes

#### Core and Express Routes

- **Route 80 Sackville** – no change to the structure of this core route in Sackville and Bedford. Headways would be improved from 15/30 to a consistent 15 minutes in the peak periods and from 60 to 30 minutes in the off peak and late evening to 1:00 a.m. In later years of the service plan, 10-minute headways will likely be required during peak periods on this route.

- **Route 84 Glendale Express –** no change to the structure and 15-minute headways on this peak period route, although it would be operated on a limited stop express basis in the corridors it serves.

- **Route 85 Downsview Express -** this peak period route would be restructured to serve Burnside between the Sackville Terminal in Sackville and the Highfield Terminal in Dartmouth. From Sackville, it would access Burnside via Wright to the Burnside Terminal, and then along John Savage to Commodore, Burnside, and Highfield Park Dr. to the Highfield Terminal. The route would meet Routes 52, 56, 66 and 72, at the Burnside Terminal so that passengers can transfer to access any point in Burnside. No change to the 30-minute headways

- **Route 87 Downsview** – this core route would be restructured to operate from Cobequid Terminal down the Bedford Highway, and along Dartmouth Road to Windmill Road where it would continue on the same alignment as now. In Dartmouth, the route would be shortened to terminate at the Bridge Terminal where transfers can be made to the BRT Route 1 for service into downtown Halifax. Headways would be improved from 20/30 minutes to a consistent 15 minutes in the peak periods. The 30-minute off peak service would be extended to midnight; the current service terminates at 10:00 p.m.

- **Route 185 Sackville MetroLink** – no change to the structure or headways of this MetroLink route except that the service would operate only to 10:00 p.m.

#### Local Routes

- **Route 81A Hemlock Ravine/Glen Moir** – the structure of the local Route 81 would be changed to provide better local service in Bedford which has a very low modal split at the present time. The route would be extended along Starboard in the Hemlock Ravine and north on the new road to Oceanview, Royal Masts Way, Moirs Mills, Bedford Highway, Basinview through the Glen Moirs area, along Meadowbrook, and up the Bedford Highway to Union where it would loop on Bridge and Nottingham behind the Bedford Place

Mall. In the south, the route would terminate at the Mumford Terminal where people can transfer to a number of routes that serve downtown Halifax. Headways of 30 minutes would be provided to 10:00 p.m. The restructured route would be Route 81A, a branch of Route 81.

- **Route 81B Millview** – this new local route would be a branch of Route 81 so that a blended service of 15 minutes can be provided on the Bedford Highway between Larry Utreck and the Mumford Terminal. The route would loop the Hemlock Ravine via Larry Uteck, Southgate in Millview, and Bedford Highway back to Larry Uteck where it would proceed to the Mumford Terminal in two directions. Headways would be 30 minutes all day to 7:00 p.m. The restructured route would be Route 81B, a branch of Route 81.

- **Route 82 Millwood** – the structure of this route would be changed to provide better local service between Sackville and Bedford which has a low modal split at the present time. The route would be extended south to the Dartmouth Road and Ridgevale in Bedford. The peak period extension to downtown Halifax would be discontinued as people from the 82 service could transfer to Route 80 at Cobequid Terminal to get to downtown Halifax. Headways would be improved to 30 minutes to 10:00 p.m., No service after 10:00 p.m.

- **Route 86 Basinview Express** – no change to the route structure and headways on this peak period express route.

- **Route 88 Duke** – this local route is the worst performer in Sackville. To improve its performance, the route will be extended to Bedford operating from the Cobequid Terminal serving the Glendale corridor and Bedford Commons as now, and extend to Rocky Lake Dr., Sunnydale, Maple, Central, Rocky Lake up to Rockmanor in Bedford. Headways would be improved to 30 minutes to 7:00 p.m. and 60 minutes to 10:00 p.m.

- **Route 89 Bedford** – there would be no change to the structure of this route in Bedford. In Sherwood Park, the route would operate in the Dunbrack, Farnham Gate, Parkland and Lacewood corridor to the Lacewood Terminal. At the terminal, the route would be interlined with Route 31 for service to downtown Halifax during peak periods. Headways would be improved to 30 minutes all day to 10:00 p.m. No service after 10:00 p.m.

### Community Routes

- **Route 83 Springfield** – no change to the structure of this urban community route, headways would be improved to 30 minutes all day to 7:00 p.m. No service after 7:00 p.m.

### 4.2.3 Dartmouth Routes

#### Core and Express Routes

- **Route 10 Dalhousie** – no change to the structure and headways of this core route.

- **Route 14 Dartmouth Auburn –** this former Route 61 Auburn-North Preston would be changed in favour of extending Route 14 Halifax into the Portland corridor and Auburn area. In Dartmouth, the route structure would not be changed. In Cole Harbour, the route would be changed to serve Arklow, John Stewart, and Auburn returning via Bradorian. Headways will be decreased from 20/30 minutes to 15-minutes all day to 7:00 p.m., stay at 30 minutes in the evening to 10:00 p.m., and at 60-minutes to midnight which is comparable to the route in Halifax.

- **Route 51 Shannon** – the structure of this core route would be changed to provide service to Wallis Heights and the Bedford Institute of Technology and not service to Burnside. Headways would be improved from 30 to 15 minutes during peak periods, and remain at 30 minutes off-peak to midnight as now.

- **Route 52 Crosstown** – the structure of this core route would be improved to provide more direct and consistent service to and in Burnside. From the Highfield Terminal, the route would operate into Burnside on Ilsley, Wright through the Burnside Terminal transfer point to Dartmouth Crossing looping at Finlay and Countryview. Headways would be improved from 30 minutes to 15 minutes during peak periods for the full length of the route from Chain Lake to Burnside. The route would meet Routes 56, 64, 66, 72, and 85 at the Burnside Terminal so that passengers can transfer to access any point in Burnside and Dartmouth Crossing.

- **Route 53 Notting Park** – no change to the structure of this core route. Headways would be improved from 20 minutes in the peaks and 30 minutes in the off-peak to 15 minutes all day to 10:00 p.m. which should reduce the heavy loading which occurs all day. 30-minute service would be maintained to midnight.

- **Route 59 Colby** – the structure of this core route would be changed as it would not operate into Halifax from the Bridge Terminal. However, it could be interlined with Route 1 for direct service into downtown and central Halifax. This route and Route 14 is a precursor to a BRT service in the Portland corridor in the future. Headways on the route would be improved from 30/20 minutes to a consistent 15-minutes during peak periods, and from 30/60 to a consistent 30-minutes during off peak periods to midnight The service on Routes 14B and 59 would be blended to provide 7.5-minute service during peak periods and 15-minute service during off-peak periods between the Portland Hills Terminal in Cole Harbour and the Bridge Terminal in downtown Dartmouth.

- **Route 60 Eastern Passage** – this core route would be branched in the east end throughout the day as opposed to the peak hours as now. Branch A would serve Eastern Passage via Cow Bay Rd, Caldwell Rd, and Shore Rd. Branch B would serve Heritage Hills via Homes, Caldwell, Cow Bay and Samuel Daniel. Each branch would provide 30-minute service and the two branches would be blended to provide 15-minute service between Pleasant & Cow Bay and the Bridge Terminal during the daytime. In the afternoon peak period, 10-minute service would be required on the combined section of the route, which could be provided by an extra bus. The A branch would operate to 1:00 a.m. while the B branch would only operate to 7:00 p.m.

- **Route 159 Portland Hills MetroLink** – no change to the structure and headways of this MetroLink route. The service would operate to 10:00 p.m. as late evening service is not needed.

- **Route 165 Woodside Link** – this MetroLink route would be restructured to serve the Penhorn Terminal as well as the Portland Hills Terminal as now. As the Woodside Ferry will be expanding to provide 30-minute off-peak service, Route 165 will operate all day to 10:00 p.m. with 30-minute headways once this occurs.

### Local Routes

- **Route 41 Dartmouth-Dalhousie** – no change to the structure of this route. Headways would be changed from 20 to 15-minutes during peak periods, and from 20 to 30-minutes during the midday. No service after 7:00 p.m.

- **Route 54 Montebello** – no change to the structure of this route. Headways would be improved from 30-minutes to 15-minutes during the afternoon peak period and from 60-minutes to 30-minutes during the mid-day.

- **Route 55 Port Wallace** – no change to the route structure or headways. The service would terminate at 10:00 p.m.

- **Route 56 Dartmouth Crossing** – this route would be restructured to serve Burnside and Southdale. In Burnside, the route would be extended past Dartmouth Crossing to serve Commodore, John Savage and the new Burnside Terminal. The route would meet Routes 52, 66, 72, and 85 at the Burnside Terminal so that passengers can transfer to access any point in Burnside. The Penhorn/Portland Hills section of the route would be dropped. Headways on the route would continue to be 30 minutes to 10:00 p.m., when service ends.

- **Route 57 Russell Lake** – this new local route would serve Portland Estates and West Russell Lake between Portland Hills Terminal and the Woodside Ferry Terminal. It would operate from the Portland Hills Terminal serving Portland Hills Dr., Russell Lake Drive, Eisener, Portland to the Penhorn Terminal, back to Portland, Baker, Mount

Hope and Acadia to the Woodside Ferry Terminal. The route would provide 30-minute service to 10:00 p.m.

- **Route 58 Woodlawn** – no change to the structure of this local route operating between Woodlawn and the Bridge Terminal. Headways would be improved to provide a consistent 30-minute service to midnight.

- **Route 62 Wildwood** – this local route would be shortened to terminate at the Penhorn Terminal where people can transfer to Routes 14, 58 or 59 to get to downtown Dartmouth and the Bridge Terminal. At the terminal, the route would be extended to serve Gaston Road. It would not divert into Graham's Corners which will be served by new Route 67. Headways would be improved to provide consistent 30-minute headways to 10:00 p.m. No service would be provided after 10:00 p.m.

- **Route 63 Woodside** – this local route, which supports Route 60 in Woodside, would be restructured to operate just between the Woodside Ferry Terminal and the Bridge Terminal on the same alignment as now. The route would not be extended to the Penhorn Terminal in the midday. There would be no change to the 30-minute headways to 7:00 p.m.

- **Route 64 Akerley** – this local route would be restructured in Burnside to serve Akerley, Mosher, Pettipas, Topple, Joseph Zatzman, Akerley, and Williams to the Burnside Terminal at Wright and John Savage. The route would meet Routes 52, 56, 66, 72, and 85 at the Burnside Terminal so that passengers can transfer to access any point in Burnside and Dartmouth Crossing. There would be no change to the 30-minute peak headways.

- **Route 65 Astral** – this route would be restructured to serve the Portland Hills Terminal only. At the terminal, it would be interlined with Route 68 so that there is through service in Cole Harbour to Cole Harbour Place. People wanting to go into Dartmouth can transfer at the Portland Hills Terminal to Routes 14 or 59. Headways would be improved to 30-minutes all day and 60-minutes evening to 10:00 p.m. to be compatible with Route 68.

- **Route 66 Bedford/Burnside (formerly Penhorn)** – the route would be restructured in Burnside and Dartmouth. In Dartmouth, the route would start at the Highfield Terminal accessing Burnside via Highland Park Dr., Burnside, Commodore, Brownlow, Eileen Stubbs, Commodore, and John Savge to the Burnside Terminal at Wright. At the terminal, the route would go to Bedford and Sackville via Wright, Windmill Road and the Bedford Highway to the Cobequid Terminal in Sackville. The route would meet Routes 52, 56, 72, and 85 at the Burnside Terminal so that passengers can transfer to access any point in Burnside. In an attempt to improve the low modal split between Sherwood Park and Burnside, Route 66 would be interlined with Route 16 at the Highfield Terminal for service to Burnside. Route 66 would be interlined with Route 16 at the Highfield Terminal for direct service to Sherwood Park and the upper mainland.

Headways on Route 66 would be improved to 30-minutes to 10:00 p.m. to be compatible with the Route 16 headways and span.

- **Route 68 Cherrybrook** – this route would terminate at the Portland Hills Terminal where people can transfer to the high frequency services in the Portland corridor for service to downtown Dartmouth and Halifax. Headways would be improved to a consistent 30-minutes to 10:00 p.m. It would be interlined with Route 65 to provide cross-community service within Cole Harbour.

- **Route 72 Tacoma Burnside (formerly called Portland Hills)** – this route would be restructured in Dartmouth and Burnside. In Dartmouth, the route would terminate at the Portland Hills Terminal as now, operate through Woodlawn as now, travel up Kelly to the Tacoma Centre, and then to the Mic Mac Terminal and Highfield Terminal in two directions. At the Highfield terminal, the route would access Burnside via Highfield Park Dr., the Metro Transit Garage, Macdonald, and Wright to the Burnside Terminal at John Savage. The route would meet Routes 52, 56, 64 and 85 at the Burnside Terminal so that passengers can transfer to access any point in Burnside. Headways on Route 72 would be improved to 30-minutes to 10:00 p.m.

#### Community Routes

- **Route 61 North Preston** – this urban community route would serve North Preston between Portland Hills Terminal and the North Preston Recreation Centre as now. It would be restructured to operate on Ross and Cole Harbour Roads to the Portland Hills Terminal. It would not serve the Portland corridor to the Bridge Terminal as many routes in the corridor have been improved for transferring purposes. No change to the 30-minute headways.

- **Route 67 Graham's Corner** – this proposed new urban community route would shuttle Graham's Corner residents to/from the Penhorn Terminal and Alderney Gate Ferry Terminal. It would basically serve the roads served by the former Route 62 in Graham's Corner. It would provide 30-minute headways all day to 10:00 p.m.

In addition to the foregoing, **MetroX routes** in the highway 101, 102 and 107 corridors are also planned for implementation over the next five years. The detailed planning for these routes is being developed separately by Metro Transit staff.

### 4.2.4 Ferry Services

A core component of the re-structured and enhanced services in the Dartmouth/Cole Harbour/Eastern Passage areas would be up-grading the Woodside Ferry service to all-day, Monday to Saturday operation. This will provide greater flexibility for travel trips to downtown Halifax as well as enhance the Woodside Ferry terminal as an important terminus point for routes originating from Eastern Passage, and future Shearwater/Portland Estates/Russell Lake/Morris Lake developments. Two additional ferry vessels will be required to introduce this service, one for the service upgrade and a

second as a spare for maintenance and operational purposes. This would add approximately 10 revenue-hours per day or 60 per week and 3,000 annually.

## 4.3 Infrastructure Plan

This section reviews the current and future asset needs of the transit system and provides a plan for both maintaining and renewing them to respond to the ridership growth and service plans set out in the ***Five-Year Transit Operations Strategic Plan***. The transit system's assets include: vehicles, terminals, garage and administrative facilities, bus stops and shelters, fare collection equipment and ITS systems. Each of these is discussed in the sections below.

### 4.3.1 Vehicle Fleet

As of September 2009, the transit fleet consists of 302 transit buses and 3 ferry vessels. The bus component totals 302 vehicles, including 265 conventional and community buses, 27 Access-A-Bus vehicles and 10 MetroX rural express vehicles. The bus fleet is itemized in the Exhibit 4-2.

#### Fleet Profile

The conventional transit fleet largely consists of 12.2m buses (245), both high floor and low floor designs. There are also 14 18m articulated buses, used on the high density routes and three 9.6 m buses used on the community transit routes. All new buses are low floor to provide increased accessibility for all users.

The average fleet age is approximately 7.8 years (to the end of 2009) which is low by industry standards given HRM's replacement cycle of 20 years. The fleet average age has been reduced significantly over the past 5 years as the result of the purchase of a large number of new buses. On the basis of the 20-year replacement cycle, the target average age for the fleet should be 10 years and would indicate that 13 buses per year should be purchased for replacement purposes. If an 18 year life was followed, for example, then the average age target would be 9 years and would require 15 buses to be purchased annually for fleet renewal. The following fleet plan is based on a 20-year replacement cycle.

#### Vehicle Spare Ratio

Concerns were expressed by Fleet services and Metro Transit Operations staff regarding the availability of spare vehicles for maintenance and operations purposes. The current fleet consists of:

- 242 Conventional Buses (12.2-m and 18-m units)
- 27 Accessible Small Buses (Access-A-Bus)
- 20 MetroLink Buses
- 10 MetroX Buses
- 3 Community Transit Buses

### Exhibit 4-2: Metro Transit Bus Fleet

| Fleet # | Qty | Manuf. | Model | Lngth | Seats | Low-Floor | Air-Cdn | Year | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Conventional** | | | | | | | | | |
| 511 – 513 | 3 | GMC | T6H5307N | 12.2 | 45 | N | N | 1982 | Ex BC Transit |
| 600 – 619 | 20 | NFI | D40LF | 12.2 | 36 | Y | Y | 2005 | MetroLink service |
| 701 – 707 | 7 | MCI | TA60102N | 18.1 | 69 | N | N | 1992 | |
| 708 – 710 | 3 | MCI | TA60102N | 18.1 | 71 | N | N | 1993 | |
| 711 – 714 | 4 | Novabus | TA60102N | 18.1 | 71 | N | N | 1993 | |
| 871 – 877 | 4 | GMC | TC40102N | 12.2 | 50 | N | N | 1983 | |
| 902, 909 | 2 | GMC | TC40102N | 12.2 | 50 | N | N | 1986 | |
| 928 | 1 | MCI | TC40102N | 12.2 | 50 | N | N | 1988 | |
| 934 – 940 | 5 | MCI | TC40102N | 12.2 | 50 | N | N | 1988 | |
| 942 – 947 | 4 | MCI | TC40102N | 12.2 | 50 | N | N | 1989 | |
| 948 – 952 | 5 | MCI | TC40102N | 12.2 | 48 | N | N | 1990 | |
| 954 – 966 | 12 | Novabus | TC40102N | 12.2 | 48 | N | N | 1994 | |
| 967 – 974 | 8 | Novabus | TC40102N | 12.2 | 48 | N | N | 1995 | |
| 975 – 985 | 11 | Novabus | TC40102N | 12.2 | 48 | N | N | 1996 | |
| 986 – 996 | 11 | Novabus | LFS | 12.2 | 36 | Y | N | 1999 | |
| 997 – 1000 | 4 | Novabus | LFS | 12.2 | 36 | Y | N | 2000 | |
| 1001 – 1032 | 32 | NFI | D40LF | 12.2 | 36 | Y | N | 2003 | |
| 1033 – 1060 | 28 | NFI | D40LF | 12.2 | 36 | Y | N | 2004 | |
| 1061 – 1082 | 22 | NFI | D40LF | 12.2 | 36 | Y | N | 2005 | |
| 1083 – 1107 | 25 | NFI | D40LF | 12.2 | 36 | Y | Y | 2006 | |
| 1108 – 1130 | 23 | NFI | D40LF | 12.2 | 36 | Y | Y | 2007 | |
| 1131 – 1153 | 23 | NFI | D40LF | 12.2 | 36 | Y | Y | 2008 | |
| 1154 – 1159 | 6 | NFI | D40LF | 12.2 | 36 | Y | Y | 2009 | |
| **Sub-Total** | **262** | | | | | | | | |
| | | | | | | | | | |
| **Community Bus** | | | | | | | | | |
| 505 – 507 | **3** | NFI | D30LF | 9.1 | 25 | Y | N | 1999 | |
| | | | | | | | | | |
| **Access-a-Bus** | | | | | | | | | |
| 347 – 353 | 7 | Ford | | 7.6 | | N | | | |
| 355 – 374 | 20 | GM | | 7.6 | | N | | 2009 | |
| **Sub-Total** | **27** | | | | | | | | |
| | | | | | | | | | |
| **Metro-X** | | | | | | | | | |
| 516 – 525 | **10** | GM | TC5500 | 10.7 | 34 | N | Y | 2009 | |
| | | | | | | | | | |
| **Grand Total** | **302** | | | | | | | | |

Metro Transit operations requires the following buses on a daily basis:

- 193 buses for conventional transit services
- 2 buses for standby (used to fill in where required and for overloads – also used for change-offs when other buses are not available)
- 2 Change-Off Buses
- 15 buses for MetroLink services
- 4 buses for MetroX services (increasing to 5 effective November 2009)
- 2 conventional buses for Community transit plus 1 serviced by a MetroX vehicle

**Total Requirement** – 212 Conventional/MetroLink Buses + 6 for MetroX and Community Transit.

***Total Conventional/MetroLink Bus Fleet -- 262***

On the basis of the conventional/MetroLink service requirements, the fleet spare ratio (buses available for maintenance, accident repairs, major overhauls, etc.) is 50 buses or 19.1%. This ratio is within industry guidelines of 18% to 20% for a large, diverse fleet.

Discussions with Operations indicate that on many occasions, Fleet has not been able to supply sufficient units to replace defective buses and therefore on-road service has had to be cancelled. This is not acceptable performance and can be attributed to the absence of a formal preventive maintenance program and tracking and analysis of vehicle performance and defects. Additionally, the difficulty in meeting operational needs may also be a reflection of inadequate staffing levels as discussed below.

*Articulated buses (top photo) provide added capacity. Medium size buses (lower photo) are suited to low density routes.*

## Vehicle Size

Metro Transit has predominantly purchased 12.2m (40 foot) buses over the past 15 years. To meet capacity needs on high volume routes and reduce the need for extras as well as to implement the proposed BRT services, articulated, 18m (60 foot) buses are proposed for purchase, which Metro Transit is proceeding with.

At the same time, consideration should be given to broadening the fleet profile to include medium size, 9.6m (30 foot), 24 passenger vehicles. This size of vehicle is available as a low-floor, accessible vehicle. With the increase in the number of shuttle and local routes under the service plan, it would be appropriate to acquire vehicles of a size more suited to the operating characteristics of these services. The introduction of another vehicle size into the fleet mix can be problematic, especially if there is only one or two within the fleet. However, the shuttle/local routes will require 12 buses, including spares, to operate and this number provides a reasonable pool of vehicles to warrant acquisition of this vehicle size. At the same time, as the MetroX and other community routes evolve, a 9.6 m, low-floor accessible bus could meet the needs of these services, thereby increasing the required number of vehicles.

## Propulsion Technology – Hybrid Drive Systems

Metro Transit has to date purchased clean diesel buses which meet the latest stringent emissions standards. Recently, two buses with a new propulsion system which combines the diesel engine with an electric drive system, commonly known as a “hybrid diesel-electric drive system” or “hybrid” for short, have been ordered for demonstration and evaluation purposes. They are to be delivered within the next few months. The cost premium for hybrid drive buses over conventional standard diesel-hydraulic drive buses is $200,000 or more.

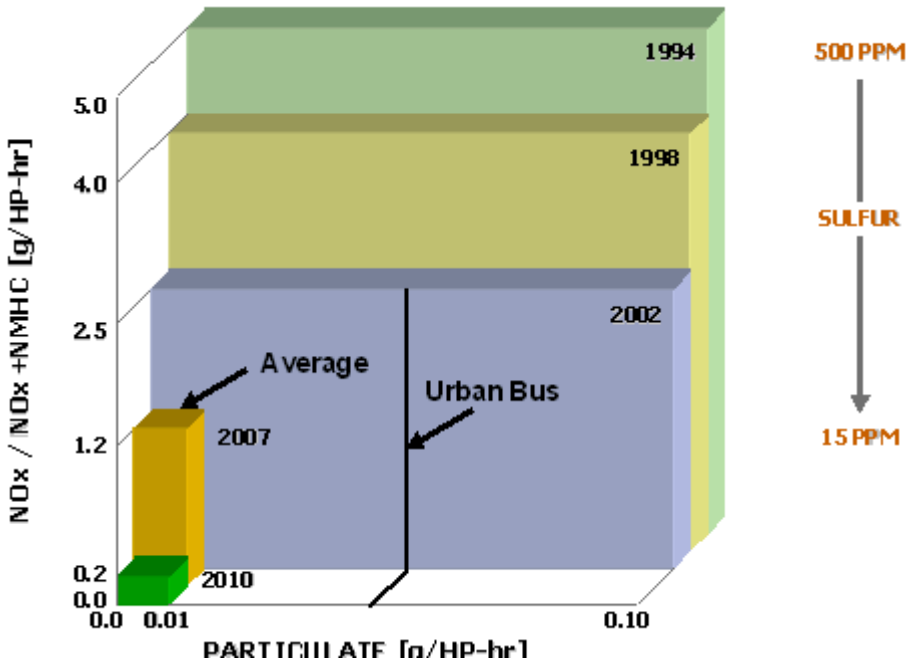
Although there is strong interest in this new technology, experience in other jurisdictions has not provided the expected results in terms of fuel savings and emissions reductions (fuel savings estimated at 10% to 20%). In contrast, emissions standards which come into effect in 2010 (Exhibit 4-3) will decrease

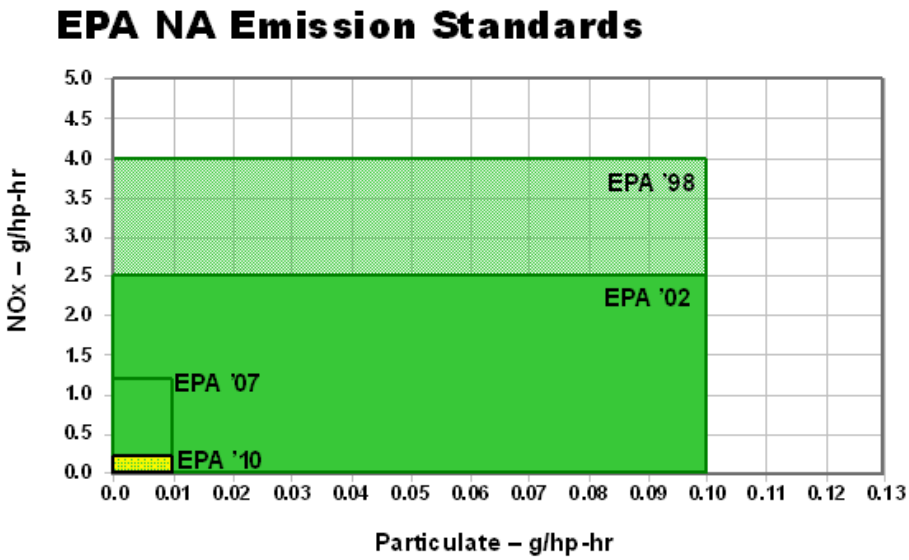
standard diesel engine technology emissions to very low levels. At the same time, from a vehicle maintenance perspective, the electric-drive technology will require new maintenance procedures and staff training.

Therefore, from an operating and capital cost standpoint, the fuel savings offered by a hybrid drive bus over standard technology will not offset the capital cost premium over the life of the vehicle. For example, the required battery storage system, which may require replacement every five years, costs of $25,000 per bus although it is too early for accurate information since there is insufficient data available from transit systems with hybrid vehicles. These facts, together with the marginal emissions reductions benefit makes it difficult to justify purchasing hybrid vehicles at this time. This may change should there be advances in hybrid technology in the future.

As technology in this field is moving very rapidly and in view of both the cost premium and maintenance changes associated with these vehicles, it may be prudent to wait a few more years to see what is on the horizon before investing in hybrid drive vehicles.

**Exhibit 4-3 Summary of Emissions Standards 1994 to 2010**






### Future Needs

Based on the Five-Year Strategic Operations Plan, the fleet will need to increase by 37 vehicles (including allowance for final route scheduling) to 302 for the conventional fleet. In addition, a total of 65 vehicles will need to be replaced over the next five years. The majority (45) of these buses should be articulated 18m units for the BRT both to renew the existing articulated bus fleet of 14 units but also to provide additional capacity for existing routes and for use on the BRT service. Twelve (12) medium size (9.6 m) buses should be acquired with the remainder (45) being 12.2m buses. All buses should be clean diesel technology.

The estimated unit cost for a 12.2 m clean diesel bus is $450,000, $650,000 for an 18m articulated bus and $360,000 for a 9.6 m bus. The estimated vehicle cost over the 5 years would be $53.7 million.

## 4.3.2 Vehicle Maintenance

As noted elsewhere, transit vehicle maintenance is not a functional part of the Metro Transit organization but is the responsibility of the Fleet Services group within the Transportation and Public Works Department. Reliability of the transit fleet and supply of vehicles for operations as well as general support by Fleet Services to Metro Transit operations was identified as an issue at the outset of the study. Accordingly, a high-level review of the transit vehicle maintenance program was undertaken to identify current practices and any opportunities for improvement.

### Maintenance Assessment

Best practices throughout the Canadian Transit Industry indicate that in order to maintain and prolong the service life of transit buses, a formal and comprehensive Preventive Maintenance (PM) program should be in place and implemented on a regular and consistent basis.

In general, maintenance of transit vehicles consists of two main activities:

1. Daily servicing - cleaning and fuelling, exterior washing and periodic, more comprehensive, cleaning of each bus; and

2. A scheduled (preventive) maintenance and repair program.

Daily Servicing

The *daily vehicle cleaning* activity consists of exterior washing, interior cleaning and sanitizing, removal of garbage, sweeping floors, wiping seats, interior fittings, fuelling, checking and replenishing fluid levels, emptying fareboxes and downloading electronic data. The periodic, comprehensive interior cleaning consists of washing walls, floor, ceiling, doors, fittings, windows, seats, coach operator's compartment and removal of graffiti. This activity is intended to maintain a reasonable standard of cleanliness and hygiene. General industry targets are to undertake this level of cleaning a minimum of every 3 months, depending on the operating conditions and levels of ridership as well as the quality of cleaning carried out each evening. Fleet Services schedules this work consistent with this standard. Maintaining a high level of vehicle cleanliness is important in attracting users to the transit service.

Preventive Maintenance

While maintenance of transit vehicles is undertaken with due regard for safety and provincial inspection guidelines, there is no scheduled, preventive vehicle maintenance program in place for the transit fleet. This is in contrast to established practices in the transit industry. Further, it appears that Fleet Services relies on the semi-annual inspections undertaken by the Province to both inspect and ensure safety compliance for the transit fleet.

In Nova Scotia, provincial law requires that each bus be inspected by the Nova Scotia Utility Review Board (NSURB) approximately every six month and a "Safety Sticker " be attached to the vehicle when the inspector is satisfied with the condition of the vehicle. With that in mind, the PM program should include all the items that are required by the NSURB inspection and a complete inspection should be scheduled just prior to the NSURB inspection. It appears that, rather than perform an inspection to ensure the bus will meet the criteria of the NSURB, fleet relies on the NSURB inspector to find all defects and then repairs are completed. This procedure results in numerous buses being turned down by the inspector and causing a delay in bus availability for service.

This is contrary to the responsibility of HRM and Fleet Services wherein HRM, as owners and operators of the vehicles, should be ensuring that the vehicles are inspected regularly and are in compliance with safety standards. Inspections undertaken by the NSURB should be simply to check the work of HRM Fleet Services. It is also causing strained relations between Fleet and the NSURB whose function is to ensure safety of buses, not to find the entire defects for repairs and it is frustrating the NSURB due to the fact that they are constantly finding the same type of problems and little improvement is noted. In essence, Fleet Services is relying upon the NSURB to inspect their buses and advise of defects. HRM should have a regular, planned preventative vehicle maintenance program in place.

A preventive maintenance program should have the following elements.

- *Pre-scheduled service/inspections* based on kilometres travelled and tracked through an electronic system (i.e. fuel system). Service/inspection intervals based on kilometres with three levels of increasingly detailed work carried out at each interval – A, B and C. The work to be undertaken is documented on an inspection summary sheet. A complete inspection of the vehicle is carried out at each interval with engine oil and filters changed and defects corrected. All work undertaken, time spent and parts and materials used is recorded on a work order. The work order information is then entered into a computerized information system. This system is used to determine and prompt the maintenance staff when to bring buses in for service and inspection.

  The *service/inspections* generally follow the vehicle manufacturer's recommended procedures as well as adhering to provincial testing and reporting requirements.

- *Defect Reporting* - Apart from the service/inspection program, buses are brought in for repair as a result of a breakdown or serious defect reported while in service in which case the bus is "changed off" (replaced), or as a result of a defect reported by the bus operator at the end of the operator's shift. Defects found by the bus operator are recorded by the operator at the end of his/her shift on a coach condition card which bus operators are required to fill out at the beginning of their work shift. This information is then provided to the vehicle service staff and a work order is opened to cover the work and retained by the Maintenance Clerk. Depending on the urgency of the repair, the repair requests may be retained by the Maintenance Manager until either the vehicle comes in for servicing or can be brought in. Attempts are made to undertake this work if the bus is in the garage between the AM and PM peaks.

Vehicle maintenance work and servicing is scheduled and documented using SAP, a computerized asset management program designed for general municipal assets. This system is not the most user-friendly system for transit vehicle maintenance as it was mainly developed for financial and accounting purposes. The system is not able to provide all of the required information for maintenance purposes. Although it has been in use for many years and in spite of its shortcomings, the Fleet Services group has not developed a more suitable maintenance management system even though such systems exist.

Currently, when a bus is scheduled for a maintenance task, e.g. oil and filter change, the required task is indicated on a "work order" and assigned to a mechanic. It is assumed, although not indicated on the work order, that all the normal checks that are associated with an inspection are completed by the mechanic. There is no way of knowing if that is the case because only the tasks indicated on the work- order are checked off and indicate that they have been completed. Human nature is such that certain duties may be forgotten unless the person is reminded by means of words and check marks. A complete list of required items should be given to the mechanic each time an inspection is performed and each item listed should be checked upon completion. An example is provided in Appendix G.

### Maintenance Statistics

It was noted, in discussion with Fleet, that statistical information is non-existent. This type of information is vital in order to determine what type of problems and

which buses are repeat offenders for breakdowns or change-offs. However, Metro Transit Operations appears to be the only group collecting information and statistics pertaining to bus breakdowns and the reason for the occurrence. Unfortunately this information does not seem to be shared with Fleet. If Fleet was collecting or was provided with this information, then Fleet would be able to concentrate on the areas of high defects. For example, a review of the defect sheet shows that the number of "hot engine" reports accounts for approximately 50% of the bus change-offs. Focussing their attention on the causes of this issue would help reduce change-offs and improve fleet reliability. But, due to the lack of vehicle change-off statistics from Fleet, it is difficult to determine of how the fleet compares to industry standards.

### Maintenance Mechanics/Bus Ratio

Currently, Fleet operates with 38 mechanics to perform "Running Repairs". The total bus fleet consists of 265 conventional/MetroLink/Community buses, which converts to a Mechanic to Bus ratio of 7.0 buses per mechanic. This is based on the assumption that all mechanics are at work at all times. The average Fleet employee receives four (4) weeks of vacation and further, the number of sick days amounts to approximately twelve (12) per annum per employee. For 38 mechanics, the above vacation and sick days converts to a total of five (5) employees and taking that into consideration, the ratio then changes to 8.6 buses per mechanic.

This ratio is higher than the average industry standard which is between 5 to 6 buses per mechanic given the amount of work undertaken in-house by Metro Transit staff. The industry ratio can vary due to fleet age, bus types and extent work undertaken in-house. Nevertheless, industry experience and the level of work undertaken by Metro Transit in-house suggest a need for 44 mechanics.

### Maintenance Recommendations

As a priority, HRM and its Fleet Services group (whether transferred to Metro Transit or not) must undertake the following actions.

**1. Develop a comprehensive "Preventive Maintenance Program"**

The program should include a complete and comprehensive vehicle inspection process. The type of inspection may vary depending on vehicle types, but should always include every item that requires inspection and a check mark required by the mechanic indicating completion. Further, all inspections should include all items required by the NSURB inspection.

*Suggestion:* Request assistance from NSURB staff and in-house mechanical staff when developing Inspection Procedures to ensure all area are covered to the satisfaction of the parties. In order to achieve more positive results and move the reliability of the fleet to a higher level, the frequency of inspections may have to be performed more often until improvements are noted and then adjustments can be made and to decrease the level.

*Staff training re maintenance procedures:* This is one of the key areas when introducing new procedures. All staff must be trained and must fully understand what management expects when performing an inspection.

*Quality Assurance program:* Develop a "Quality Assurance Program". This should include a formal process of checking the work performed by the

mechanical staff and "Standard Operating Procedures – SOP "should be developed (see sample). These standards will ensure that PM inspections and other work are performed on a consistent basis and to management's expectations.

*Vehicle Statistics:* In order to improve vehicle reliability, it is important to gather statistics and analyze the cause and correct the problems. Some of the statistics that should be looked at are the following:

- number of bus change offs and road calls;
- type of defect causing the C/Os or road call;
- is this a repeat problem on the same bus?;
- when was this vehicle last inspected and by whom?; and
- could this problem be a manufacturer defect?

**2. Develop Maintenance Management System**

A reliable and user-friendly "Maintenance Management System" should be purchased that will enable the Fleet Department to track and perform some of the following functions:

- scheduling PM maintenance by KM's or by time
- scheduling additional items that may be required for a PM
- sort the database by defect code, dates, bus numbers etc.
- generate work orders
- accept bar codes for parts and employee ID numbers

**3. Develop Performance Measures**

Performance measures are important tools for management to understand and improve the quality of work, efficiency of the work force and financial Impact. Some of these measures cannot be implemented until statistics are available and then some of the following should be considered:

- Number of change-offs and road calls per 100,000 km;
- Apply reasonable expectation times for major functions;
- Perform vehicle life-cycle costing; and
- Determine energy consumption per vehicle.

### Mechanical Staff

The ratio of buses to mechanic is much higher than industry standards and should be brought into line to approximately 6 to 1. This will require the hiring of six additional mechanics as noted previously.

### Conclusion

In order to improve reliability and safety of the vehicle fleet, some, if not all of the above mentioned items should be initiated as soon as possible. It will take a number of years of consistent PM maintenance, repairing of vehicles, updating of data and procedures before the full impact will be realized. Once these systems are in place, emphasis must be placed on "Quality Assurance" because it should not be assumed that the mechanics will perform the required task to management's satisfaction without active support and encouragement.

Of significant priority is to improve the working relationship with the NSURB by developing a comprehensive and agreed-upon maintenance program. This approach will both provide the NSURB with the necessary assurance that the Metro Transit fleet is being maintained to its expectations and will help lessen current conflicts with NSURB inspectors over vehicle maintenance practices and certification.

### 4.3.3 Garage

Metro Transit's primary operations and maintenance facility is the Burnside Transit Centre (BTC), located at 200 Ilsley Avenue in the Burnside Industrial Park. A secondary facility is located on Thornhill Drive, also in the Burnside Park. A new operations and maintenance facility, the Ragged Lake Transit Centre (RLTC), is being constructed in the Ragged Lake Industrial Park and is scheduled to open by summer 2010. This would replace the Thornhill facility.

The Ilsley facility is the primary administrative and operations headquarters for Metro Transit. Up to 150 buses are stored at this facility and there is a large maintenance area along with two fuel and wash lanes for servicing and cleaning of the bus fleet assigned to Ilsley.

The Thornhill facility is primarily for vehicle storage (120 buses) and maintenance as well as vehicle servicing (fuelling, washing, cleaning) for part of the conventional fleet and Access-A-Bus fleet. Upon the opening of the Ragged Lake facility, all of these functions will be transferred there. The Thornhill facility will then be used for non-transit purposes.

The Ragged Lake facility is to have storage and maintenance and servicing capacity initially for up to 150 buses but is designed to be expanded to 200 buses.

Future projections for transit modal split and resulting services levels suggest a potential fleet of some 450 buses by 2031. This could result in the need to construct a third facility or, alternately, strong consideration to expanding the Ilsley facility to accommodate up to 200 buses and related staff. It is recognized that there are design issues with the Ilsley facility that would make it difficult to expand in its present configuration but in consideration of the optimum location of 200 Ilsley it would be advantageous to review the options for modifying and expanding the Ilsley facility to handle a larger fleet of vehicles.

### 4.3.4 Bus Stops and Shelters

#### Bus Stops

There are currently 2,224 bus stops located throughout the city to provide residents with convenient access to transit services. Bus stops serve three important functions in the operation of a transit system:

1. "Advertise" to users where bus services exist;

2. Indicate where users are to stand to access the transit service; and,

*Bus stops should be visible from all directions. This bus stop sign cannot be identified.*

3. Designate the spot where the bus driver is to stop.

Thus, careful attention must be given to stop placement. Metro Transit has generally followed a "near side" (before the intersection) policy in stop placement as opposed to a "far side" (after an intersection) location placement. While there are pros and cons to stop placement, industry experience and analysis favours "nearside" placements for four primary reasons:

- **Safety** – users are protected by traffic signals, where they exist; the bus operator has better view of intending passengers since they are more likely to approach the bus from the front as opposed to the rear; users are less likely to cross the road behind the bus away from an intersection; stopping "far" side is unexpected after clearing an intersection and thus could lead to rear-end accidents;

- **Convenience** – at intersections, the bus need only stop once; users can more readily transfer to a connecting bus with signal protection;

- **Time saving** – the bus can make use of the stop phase to board passengers;

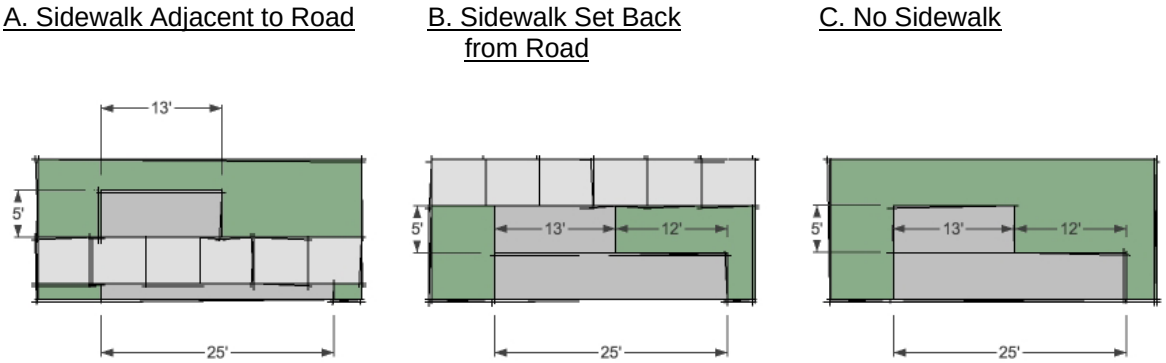
- **Curb space** – the bus stop area can take advantage of an existing right turn lane or the intersection for its departure compared to a far side stop.

Independent of preference for a "far side" versus a "near side" stop placement, the actual stop location must take into account other factors such as the location **of** the travel destination and available curb and sidewalk space for stopping and boarding. Mid-block, or stops between intersections, are also common and occur where a travel origin/destination is mid-block. In the final location selection, the stop sign should be precisely installed and be readily identifiable. All signs should be two-sided and readily visible from any direction for the benefit of passengers looking for the stop sign from different directions and sides of the street. Further, the bus stop area should be designated and protected by "No Stopping/Parking" signage. Metro Transit stop locations and installations frequently have single-sided stops which make it difficult to identify stop locations when approaching the stop from the opposite-facing direction.

### Accessibility

In future, to promote greater accessibility for all residents, bus stops will need to be upgraded to include concrete pads extending a minimum of 9 metres long (the width between the front and centre doors of buses) and between the road edge/curb and sidewalk (if applicable) or, if no sidewalk, a minimum of 3 metres back from the road edge/curb. All bus stop areas should be level with a maximum height from the roadway of 18 cm. Exhibit 4-4 illustrates typical bus stop accessibility standards.

### Exhibit 4-4 Typical Shelter and Landing Pad Accessibility Designs




The example for a “no sidewalk” installation would need to provide for accessibility by a wheelchair from the street either via a curb cut and sloped area in the middle of the platform or the platform extended to the right or left to provide for access from the street.

The cost to upgrade bus stops to meet these accessibility designs is approximately $1,500 depending on the location and condition of the existing stop. It is to be noted that in many areas, where sidewalks do not exist, upgrading bus stops may not be practical.

### Shelters

There are 393 shelters at bus stops throughout the transit service area which represents a coverage rate (% of bus stops with shelters) of approximately 17.6%. Municipalities and their transit systems are generally moving to increase the coverage rate as part of a strategy to enhance the attractiveness of using transit which recognizes the need to limit user exposure to the elements, regardless of the level of usage at a particular stop. The target coverage percentages range between 25% and 30% to over 50% in some cities. In the short term, HRM should pursue a coverage percentage of 25% with a long term goal of 50%. This would represent an immediate need for 556 shelters in the short term, an increase of 163 over current numbers. This program would mean the addition of approximately 33 shelters per year. At an estimated purchase and installation cost of $10,000 per shelter, including necessary accessibility features (concrete pad), the annual cost would be $330,000.

An additional 180 bus stop locations have benches with waste receptacles and advertising.

Metro Transit has created an inventory of its roadside infrastructure which permits the creation of computer-based maps of the location of all bus stops. This database also helps manage stop amenities such as shelters, benches, signs and waste receptacles. The service planning group, responsible for stop infrastructure, intends to adopt GPS technology in the near future to enhance the information database.

The new Sackville Bus Terminal

## 4.3.5 Terminals

There are 15 terminals located throughout the Metro Transit service area which serve as focal points for transit routes and services. Most of these terminals feature loading platforms for each route, shelters, benches and other customer amenities as well as, in some strategic locations, washrooms for bus operators. HRM is in the process of relocating and upgrading the important Bridge Terminal on the Dartmouth side of the MacDonald Bridge.

Two new terminals have been constructed within the past three years in connection with the new MetroLink services – Sackville and Portland Hills.

The remaining terminals are of varying size with varying passenger amenities. Action is required to expand, relocate or refurbish five of these terminals as follows:

**Mumford** – this terminal is very constrained and requires expansion to meet current and future operational needs. There is no room to expand at the existing location therefore a new site is required. Strategically, the terminal should remain in the vicinity of the existing location with preference to construction on potentially surplus adjacent mall property. Space for up to 16 buses and routes as well as expanded passenger and bus operator amenities at this terminal would be required. A preliminary cost estimate to construct a new terminal would be $3 million to $4 million, excluding land.

**Lacewood** – this terminal is at capacity and must be expanded. There is no room for expansion at the current location therefore HRM has been exploring alternate locations on Lacewood Drive west of Willett Street. Space for up to 14 buses and routes would be required as well as expanded passenger and bus

operator amenities in a new terminal. A preliminary cost estimate for the terminal would be $3 million to $4 million, excluding land.

The Mumford and Lacewood terminals would be similar in appearance and general design to the Portland Hills and Sackville terminals.

**Highfield** – this terminal is in the process of being refurbished with the addition of a washroom for the bus operators and will be completed this year.

**Cobequid** – this small terminal which is now over 20 years old, will require refurbishing within the next few years to replace the shelters, platform and paved areas as well as the addition of a employee washroom. The estimated cost would be $600,000.

**Penhorn** – this terminal, located at the former Penhorm mall, requires an additional bus layover area as well as an employee washroom at an estimated cost of $50,000.

**Bayers Road** – this on-street terminal beside the Bayers Road shopping centre has limited passenger amenities due to its location adjacent to residences. Consideration should be given to relocating the terminal and upgrading amenities.

For the restructuring of transit services in Burnside, a new terminal is proposed at the intersection of John Savage Drive and Akerley Blvd. This terminal may require up to 10 platforms (subject to final service plan and route scheduling), a passenger waiting area and bus operator washrooms. It would be generally similar in appearance to the Portland Hills terminal. A preliminary cost estimate would be $1.5 million excluding any land costs.

### 4.3.6 Fare Equipment

Metro Transit utilizes modified electronic fareboxes that are non-registering. The recommended fare strategy proposes introducing smart card technology which is consistent with the strategy adopted by HRM/Metro Transit in the 2005 Fare Technology Study. To accommodate this fare strategy, the existing fareboxes would be retained as non-electronic, non-registering units for collecting cash fares with the addition of smart card readers and related support technology. At the same time, a transfer-issuing machine would be installed to eliminate the manual, paper transfers for increased security and legibility. The estimated cost to install these units is $20,000 per vehicle, or $5.5-million for the current conventional and MetroX fleet. Including the 31 additional buses for service expansion over the next 5 years, the total would increase to $6.12-million (+$620,000).

## 4.4 Service Planning Process

Public transit, as with any service, should be planned and delivered on a pro-active, objective basis in order to ensure effectiveness and efficiency. Designing transit services (routes and schedules) that meet the varied travel needs of consumers takes extensive planning and evaluation to ensure that they will be successful. As well, since there is a net cost to providing transit service, it is doubly important to ensure that new or changed services meet ridership

expectations. Accordingly, adopting and implementing a comprehensive transit service planning process is critical to this end.

An effective transit service planning process consists of four elements:

- The use of *service standards and route planning guidelines* as the basis for planning and delivering the transit services and as the basis for evaluating the performance of the services;
- The preparation of a *Five-Year Service Plan*;
- The preparation of an *Annual Service Plan*; and
- Providing *monthly reports* which summarize the performance of the transit services.

Metro Transit has an extensive service planning program in place that generally follows the above process. The following section outlines in more detail the planning process and indicates areas for improvement.

### Integrated Service Planning

As a key service planning principle, all elements of Metro Transit's "family" of services – conventional transit, ferries, Access-A-Bus - should be integrated. For example, the ferries should be considered complementary and linked to the bus services, not as a separate "stand alone" service. Similarly, and in reflection of the increased emphasis on inclusiveness and full access in society, Access-A-Bus services should be considered and planned alongside changes or extensions to the conventional transit service and use of accessible conventional buses. In this regard, a review of Access-A-Bus should be conducted to ensure that its mandate is complementary to accessible conventional service. It is understood that Metro Transit is intending to undertake a review of Access-A-Bus in this regard.

### Hierarchy of Transit Planning

Planning for transportation and transit services within HRM involves a "hierarchy" of planning steps. At the outset, the master authority is the *Regional Plan* which defines broad planning goals and objectives for the Region including population and employment estimates and development patterns.

A *Transportation Master Plan* then defines the goals and objectives for the transportation system and the role and expectations for Metro Transit in terms of modal split (share of trips taken on public transit). HRM's Strategic Transportation Planning group provides input into both the Regional Plan and the Transportation Master Plan. The TMP is typically a long term (20-25 year) document.

A Transit Functional Plan, developed jointly by the Strategic Transportation Planning group and Metro Transit staff, sets out an overall statement of intent with regard to a direction for transit. It provides a general guideline for the preparation of a Five-Year Transit Operations or Strategic Operations Plan, as described in section 4.4.2 below.

### 4.4.1 Transit Service Standards and Route Planning Guidelines

Transit service standards and route planning guidelines are the foundation for the management of the conventional transit services. They outline the parameters by which Metro Transit services will be designed, delivered and managed. While public transit should respond as quickly as possible to customer and community needs, it is also a service that must be delivered consistently and reliably. Frequent changes and variations in routes and schedules undermine the system's credibility and erode customer confidence. From this perspective, management then has the basis upon which to make consistent, thorough, well-defined decisions and recommendations concerning the delivery of transit service.

Planning Guidelines are principles that provide the framework for designing and delivering the transit service. They are intended to have some degree of flexibility so as to be able to respond to the needs of the community and its residents as conditions change over time.

The **standards, policies and guidelines** outlined in this Study should be reviewed and updated a minimum of every five years.

The benefits of the service standards and planning guidelines include:

- a recognized framework for making rational decisions on the level and quality of transit service in the community;
- increased public awareness of the philosophy of service and future direction for the transit services;
- a demonstrated commitment by HRM Regional Council to the effective management of the public transit service and to maintaining service consistency within social and financial parameters;
- for all stakeholders, increased understanding and clear expectations of the role of transit in the community and how it is planned and managed;
- increased support for service decisions by all stakeholders through public input and participation in the service standards process;
- providing stakeholders with a better understanding of service priorities and financial obligations;
- showing staff what is expected of them and giving them a stronger commitment to reach the established performance targets; and
- stronger support for transit expenditures by the public.

### 4.4.2 Five Year Transit Plan

The *Regional Transportation Master Plan* provides an overall policy vision for public transit in HRM and provides direction to Council, Metro Transit

management, other HRM departments and transit employees on the future of Metro Transit. This Five-Year Strategic Operation Plan translates the Regional TMP plan into five year "operationalized" segments and has two main purposes: first, it assists in determining priorities for transit initiatives over the longer term and, second, it guides the development of detailed plans and budgets on an annual basis. The Strategic Operations Plan should be updated every five years.

### 4.4.3 Annual Service Plan

The *Annual Service Plan* is a one year action plan which identifies detailed route and service changes for the forthcoming fiscal year and is developed consistent with the more general policies set out in the *Five-Year Strategic Operations Plan*. The Annual Service Plan also incorporates the results of several on-going activities:

- regular route assessments based on performance criteria and including feedback from employees and consideration of operational issues;
- review and evaluation of customer requests for new and/or changes to existing services; and
- the effect of external influences such as land-use changes, development proposals and ridership changes.

In the development of the Annual Service Plan, proposals for service changes are reviewed and prioritized. Thus, a major application of service standards is to set criteria for evaluating and prioritizing proposals for new or modified services. Proposed service improvements are tied closely to the development of operating and capital budgets.

### 4.4.4 Service Evaluation and Measuring Performance

Fundamental to the service review process and to evaluating transit service needs and to the on-going management of the transit services, is the maintenance of an accurate record of the transit service being provided. This information is then used to measure performance. Metro Transit maintains the following information and statistics which are utilized to measure and evaluate the performance of the transit services:

- passengers carried, by route or service, daily, monthly and annually;
- on-off count of passengers on a typical Autumn weekday on each route;
- revenue-hours operated (amount of service provided);
- buses required to provide the service by time of day;
- service level by time of day;
- cost to provide the service by route;

- revenue (fares) distributed by route;
- net cost by route;
- ridership per revenue hour; and
- revenue/cost ratio (percentage of revenue versus cost to provide service).

While the foregoing information is collected on a monthly basis (note, an detailed, on-off ridership count is conducted once per year), it is only summarized on an annual basis, generally as background material for the preparation of the subsequent year's operating budget as well as to report on the performance of the transit system over the previous 12 months and for setting service adjustment priorities.

The information collected and performance measurement data included in the report is significant and should be made available during the course of the year to both monitor as well as inform all stakeholders with respect to the performance of the transit system.

### 4.4.5 Summary

As noted earlier, Metro Transit has a comprehensive program of reviewing, monitoring and evaluating its services according to the process described above. While thorough, Metro Transit's planning process can be improved through the following actions:

1. Prepare monthly reports on ridership based on the results of analysis of revenues and pass and tickets sales. This will help track general ridership performance on a more timely basis;
2. Prepare quarterly reports on overall system performance with regard to ridership, revenue, costs and cost recovery by route;
3. Increase the resources available for ridership counts (on/off counts) and conduct counts twice annually. This will provide a more reliable, consistent method of monitoring transit ridership, especially as services are expanded and changed under the recommended Five-Year Operations Strategy plan. Metro Transit should also pursue the use of electronic technology to count ridership although manual counts should be continued to verify the electronic counts.

## 4.5 Marketing and Communications Plan

Metro Transit has a strong graphic identity and brand, recognizable in the community and well received. A solid marketing and communications plan already exists along with a suite of effective marketing materials. With this foundation, Metro Transit's marketing and communications program over the next five years should be focused on the following four key areas:

- Communications with Customers;

- Maximizing web services potential;
- Customer satisfaction and service design input; and
- Internal communications.

### 4.5.1 Communications with Customers

Metro Transit wants HRM residents to be highly engaged in regional transit. This has resulted in a significant increase in the volume of customer contact, which is overwhelming Metro Transit's capacity to respond. Managing expectations and responsiveness are two critical success factors in customer communications; customers need to know what to expect and a timeframe for responses.

Post amalgamation, the Metro Transit call centre was merged with HRM. While this produced operational efficiencies, the reality is that the majority of transit inquiries require the expert knowledge of a Metro Transit employee. This causes some response time lags as operations details are verified. In particular it is often difficult to meet the two-day response time standard HRM has published for citizen contacts.

#### Recommendation

1. Review response standards
    - Review current HRM standards, and adopt transit-specific response times that are realistic and manageable. Currently, a three-day response time standard has been set. For certain situations, specifically complaints which require an investigation, this may be too demanding.
    - The new transit-specific standards should be published and clearly communicated to HRM call centre staff and the public (along with an explanation of the need for time to complete thoughtful investigation – particularly for those situations which include a Metro Transit employee).

2. Monitor staffing levels
    - Ensure staff levels are sufficient to maintain standards. Currently, two people respond to feedback from the public and are responsible for the investigation, resolution and follow up of all customer requests and complaints. These two, in turn rely on one Service Supervisor in the Operations Department to respond to operations feedback while Planning staff respond to feedback regarding planning, scheduling and infrastructure. The need for additional staffing has been identified and two additional Customer Service Advisors will be added to the Public Affairs department.

3. Auto responder system
    - Implement an automated auto-response tool, that replies to each on-line customer query and informs of the next step
    - Standard response templates should be developed for all types of customer inquiries (complaints, positive/negative feedback, etc) Positive feedback should be addressed with an auto-response and a personal response if required. Complaints must be addressed with an auto-response and a solution should be expedited

### 4.5.2 Maximize Web Services Potential

Metro Transit needs to increase its utilization of web services to reach customers. The prevalence of the web in people's daily lives offers an efficient and inexpensive method of communication. Maximizing the potential of web technology will increase personalization of the transit service and provide easier access to information for customers.

Metro Transit recently launched the Google Transit feature on its website; this is an excellent example of utilizing web features to provide better service to customers.

#### Recommendation

Metro Transit can utilize several tools to maximize web services:

1. Social media platforms – such as Twitter, Facebook or a Metro Transit blog – to reach specific target markets and push messages to customers.
2. Mobile device specific website – purpose built version of website to access information efficiently.
3. Mobile device applications – real-time information access for customers anywhere, anytime on their mobile device.
4. Mobile messaging – using existing technologies such as SMS text alerts
5. NextBus application – customers enter a route number and are provided with upcoming buses to a specific stop in real-time.
6. Customer database – push customer-specific and general messages and information to customers, instead of requiring customers to search for information.

Currently, service disruptions and announcements are posted on the HRM website, which requires a customer to check the website to obtain information. Many people do not have this time available or simply do not check the website. This often results in "discovering" interruptions "on-site", leading to angry customers.

Ideally, a customer database would be utilized to push messages and information to customers. This is a highly effective method of reaching customers before service delays or interruptions reach them. When route information is posted to the website, auto messages are sent to customers who have registered for notification. The customer now knows in advance what to expect and can plan appropriately.

In addition, there should be a clear communications protocol to ensure the coordination and most importantly, timely, dissemination of customer information and service alerts.

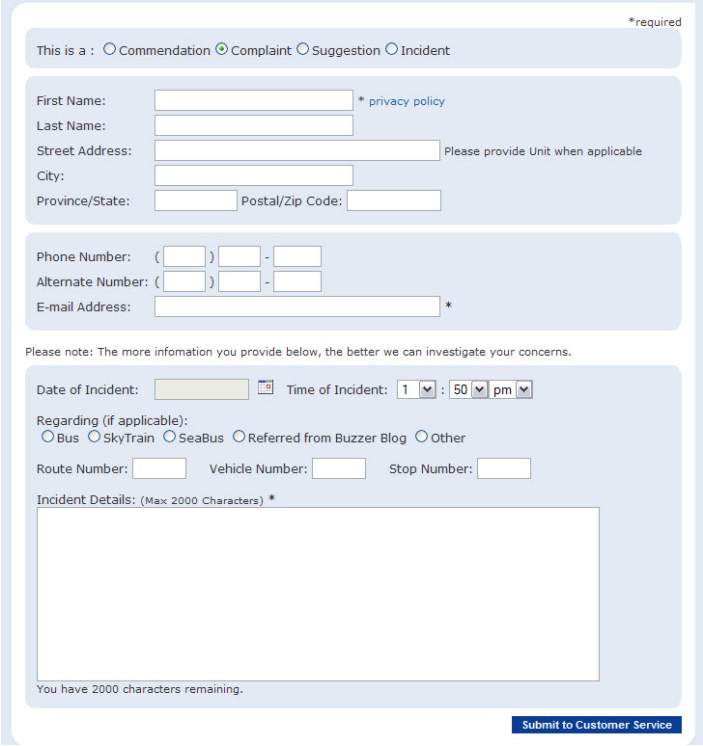
### 4.5.3 Customer Satisfaction & Service Design Input

Increasing customer satisfaction is a key objective for Metro Transit and should be monitored on an ongoing basis. Creating a venue for customers to provide feedback provides valuable information for Metro Transit. It also engages customers, involving them in the process and making them feel valued.

### Recommendation

1. Improve Customer Feedback website feature
    - Allow for open-ended feedback and "response requested" feature. Allow for selection of feedback type – complaint, incident, commendation, etc. See Exhibit 4-5, taken from Vancouver's TransLink website.

### Exhibit 4-5 TransLink (Vancouver) Online Customer Feedback Form




2. Customer Panel – "Metro Transit Listens"
    - As a result of the 2009 HRM Listens survey, a significant number of residents volunteered to participate in ongoing on-line consultation. This group should be used as an ongoing panel for survey questions.
3. Customer Research Program
    - Develop a regular survey program to collect and monitor customer satisfaction

## 4.5.4 Internal Communications

Employees play a significant role in an organization and are vital to continued success. Improving internal communication is particularly critical for a dispersed front line workforce.

### Recommendation

1. Investigate new communication methods

- New technology provides engaging methods to communicate with employees – Twitter, video messages, online newsletters, company blog, etc.

2. Focus on employee satisfaction
   - Ensuring employees are satisfied and engaged will lead to greater motivation and increased productivity, benefitting both employees and the organization.

### 4.5.5 Route Names and Signage

Comprehension of where a transit route goes and what area it serves is an important, and often overlooked, aspect of communicating with transit users, especially potential users. The name given to a route and, in turn, the information displayed on system map and schedule brochures and finally on a bus destination sign play a significant role in attracting people to use transit. Obscure and confusing route designations and the absence of sufficient route information make it difficult for potential users to feel confident in taking transit. Insufficient route signage can also make the job of a bus operator more difficult.

As a matter of principle, the naming of routes and the provision of route destination information should involve the following key points:

- Include a route number. Numbers are easier for newcomers to remember and relate to. They are also universal for visitors from different countries;

- Include the key street or corridor travelled or, if there are a series of separate streets travelled, then the general area served, if well-known;

- The origin and destination points of the route.

Information signage should be designed with visitors, persons who have limited or no knowledge of the city, in mind. And, the route designation and destination information should be consistent, to the degree possible, between printed route/schedule brochures, bus stop and terminal signage and the bus destination sign. As the most visible and primary access point for using transit, the bus destination sign becomes a critical element in the process. A review of Metro Transit's bus destination sign displays indicates that many are both outdated or are obscure if not confusing. Outdated examples include the route 80 destination "80 Halifax". Since amalgamation 12 years ago, "Halifax" can mean anywhere in the region. Similarly, the destination reading "58 Bridge" is obscure. There are two bridges. Which bridge is being referred to? In actual fact, the name is referring to the "Bridge Terminal" at the Macdonald Bridge.

Developing a suitable naming convention or protocol, for bus routes is difficult, made more challenging given the geography, street-network and community make-up of HRM. Nevertheless, Metro Transit should undertake a comprehensive review of its bus route names and particularly of its bus destination sign readings and develop a list which is more informative, consistent and better reflects the current HRM community. Since Metro Transit's buses are now equipped with the latest destination sign which permit a wide range of destination readings and messages, now is the appropriate time to complete this review. The process will be time-consuming and should be the subject of a separate study.

# 5. Transit Operations Strategy

In support of the Transit Service Plan described in Section 3, internal organizational, staffing, administrative and operations procedures affecting the deployment of transit personnel and delivery of transit services will need to be revised and strengthened to ensure effectiveness and efficiency. Three primary areas were identified during the course of the study for review and preparation of a recommended strategy:

1. General operational procedures affecting personnel and vehicle utilization;
2. Bus operator Training; and
3. Operations Handbook.

Each of these areas is discussed below.

## 5.1 Operations Strategies

Operations strategies pertain to the deployment of human and vehicle resources required to deliver transit services effectively and efficiently to meet public route schedule commitments and ensure reliability and the ability to respond to changing operational circumstances. Three operations strategy issues were identified as areas of concern and have been reviewed:

- Bus Operator Pick Process;
- Bus Deployment; and
- Service Planning.

### 5.1.1 Bus Operator Pick Process

The “Pick Process” is the method by which bus operators select, or “pick”, their work assignments for a specified period of time. To provide for variations in service levels throughout the year and the opportunity for drivers to select different pieces of work, the Pick process currently occurs four times per year.

The Pick process has become cumbersome and expensive to administer. Technical Memorandum #6, attached as an **Appendix H** to this report presents a detailed review and assessment of the Pick process and issues. The key issues are:

- Length of time taken to complete each Pick;
- Complexity of the Pick process;
- Resources required for the current Pick process;
- Having to provide Operators with personal letters advising them of the date, time and location for their pick rather than a posting of a comprehensive list; and

- Need to modify current pick process to accommodate the new, second operations/garage facility.

Timeline – The Pick process is taking approximately 19 days to sign up 400 Operators and has taken as long as 30 days.

Complexity – The Pick process involves staff going out to meet Operators on the road while in revenue service, if they are unavailable be at the office, and relieve them of their duties to have them select their work. This process requires extensive planning, is complicated depending on the location of the Operator, and adds to the timeline for completing the Pick process.

Resources – As a result of the above process, up to four staff are involved, travelling out to relieve the Operator, supervise the selection of work and days off, record and confirm the selection and then update the list of available work and days off. A vehicle is required to transport the Pick personnel to meet the Operators. With a minimum of four Picks per year, and at an average of 19 to 30 days per Pick to complete the sign-up process, a total of 76 to 120 days per person, or 304 to 480 person-days are involved. The resulting labour cost is significant not including the capital and operating costs of vehicles associated with the process.

Notice to Operators – providing individual personal letters to Operators advising them of when they are to pick involves issuing up to some 500 letters. This will increase as the size of the transit system increases.

Second Facility - transit services currently operate out of one facility located at 200 Ilsley Avenue. Beginning in 2010, a second garage facility in the Ragged Lake industrial park will be opened and it is intended that this facility would function on a “stand alone” (ie. separate) basis from Ilsley Avenue and that bus operators would be assigned to that garage for work and work selection purposes. It is not practical, nor desirable, to have Operators work out of both facilities during their workday or workweek as this would be administratively complex and confusing.

### Current Process

Metro Transit does not have a policy or standard operating procedure (SOP) document setting out the parameters of how bus operators select their work. There is an internal, technical document that describes the tasks to be done, but it is neither a policy nor a procedure document. The technical document indicates that “Operators pick their duties in accordance with the collective agreement…” and therefore leaves the suggestion that the collective agreement (CA) describes the process. In fact, the CA does not describe the process; instead it sets out certain base conditions such as the number of Picks per year and that selection is based on seniority.

All regularly scheduled and non-scheduled transit service as well as certain non-revenue services are arranged into work assignments (or “shifts”) by Metro Transit’s planning staff based on individual route schedules developed as part of the overall planning and management of the transit service to meet customer needs. A computerized “run-cutting” software system (“HASTUS”) is used to arrange the work into shifts based on parameters established by the Metro Transit planning and operations departments and is in accordance with provincial legislation and the transit collective agreement. Work is pre-packaged

into assignments of four days/10 hours per day or five days/8 hours per day of work. Currently there are approximately 370 work assignments.

Once the work assignments are finalized, they must be given to the bus operators. This is achieved through the Pick process with bus operators picking the work as well as their days off each week. The process essentially consists of Operators being contacted and asked to select work and days off in order of seniority (length of service) which is a standard arrangement in the transit industry. Once the work and days off are selected, the work shift is confirmed and entered into the payroll and operations control systems. The pick process is directed by a member of Transit management.

At the time of making their work selection, Operators select both their daily work and their days off for the duration of the period of the "Pick" (approximately 3 months) "cafeteria" style, in that, they are able select their four or five days of work (depending on whether they are working a 4 day/10 hour workweek or a 5 day/8 hour workweek) on an individual-day basis, as opposed to the work being pre-packaged into blocks of 4 or 5 days work by management. Bus operators are also able to select their days off separately rather than being pre-packaged or included with the blocks of work. This latter arrangement, that is, blocks of work with assigned days off, was once common in the industry.

### Peer Review

To place the Halifax pick process into context, five peer transit systems, Brampton, Hamilton, London, Mississauga and Waterloo as well as the large transit system in Toronto, were contacted to ascertain how their pick processes were handled with regard to duration, frequency of picks per year, process and administrative support. Four of the systems, Toronto, Mississauga, Waterloo and Brampton, currently have more than one operating facility. A fourth peer system, London, is in the process of constructing a second facility.

The peer survey indicates that other transit systems sign up their bus operators in considerably less time compared to Halifax by assigning Operators a specific amount of time to make their pick and pre-scheduling them by means of a schedule posted on the Operators' bulletin board. Individual letters to advise them of their sign-up time are not provided. The number of employees directly involved in the sign-up is also less at the peer systems. Additionally, Halifax is the only one of the systems surveyed that goes out to the Operators to sign them up. This supports the concerns in Halifax about the length of time taken by Operators to select their work and the resource commitment.

Additionally, the systems with more than one facility conduct a "master pick" each year wherein Operators decide which garage they want to work out of for one year. Subsequently, the Operators at each garage then select their work based on the work available at that garage in order of seniority for the following year.

### Required Changes

As noted previously, the pick process takes a significant amount of time to complete each occasion and requires up to four staff as well as vehicles to conduct. It has therefore become administratively cumbersome and lengthy. On a go-forward basis as Metro Transit operations expand and the number of

bus operators increases, the time and resource requirements will increase as well. Steps need to be taken to simplify the pick process to both reduce the length of time taken to select the work and the resources required to conduct the pick. Also, with the opening of a second facility, the current pick process needs to be modified to permit work assignments to be allocated and selected by facility.

The wording in the CA provides latitude to Metro Transit management to develop a policy and procedure describing the Pick process and thereby to revise the pick process to both simplify the process and provide for a second facility. Given that a long standing pick process and practice exists, changing the process will need to involve giving the Union due notice of the change and dialogue to finalize a new process.

#### Future Direction

Metro Transit management should develop a comprehensive "Operator Work Pick" standard operating procedure document and policy which addresses all areas of concern including giving notice of Bus Operator selection times via a notice posted on bulletin boards, not going out to Operators and relieving them on the road to make their pick, and implementing a "master" pick process to permit separate picks and operations out of both Ilsley and the new satellite garage in Ragged lake. Management should serve notice on the Union of the need and new policy revising the Pick process in accordance with the new "Operator Work Pick" procedure and implement the new Pick process at the earliest opportunity in advance of the opening of the second garage.

### 5.1.2 Bus Deployment

The deployment of the transit bus fleet for daily transit operations currently involves assignment of vehicles to specific routes and individual trips according to the design and seating capacity of specific bus types. Vehicle deployment also includes the use of buses as "standbys" to protect for service interruptions due to traffic delays and accidents or to assist regular buses in the event of high ridership levels ("overloads"). The method of deploying and number of buses associated with these operational issues has been reviewed with a view to identifying appropriate procedures to be followed to make the most efficient use of the vehicle fleet.

#### Fleet Utilization

Metro Transit services consist of three basic products: MetroLink premium regional express routes, standard transit routes and community routes. Recently, a fourth product, MetroX, has been added. For the MetroLink, Community and MetroX services, specific vehicles have been acquired and branded (image, colour scheme) for each. As a result, the transit bus fleet consists of vehicles of differing technical features, lengths, floor height and seating capacity as follows:

MetroLink – 20 buses. 12.2m length. Separate branding, low-floor with high quality seats and other passenger features;

Community Transit – 3 buses. 9.2 m length. One door, low floor design.

MetroX – 10 buses. 10.7m length. Separate branding. Low cost, high floor, one door design, suited to rural transit operation.

Conventional (regular) Transit – 262 buses: 248 12.2m buses, 14 18m articulated buses. High floor and low floor designs. Standard transit seat design with seating capacity ranging from 36 to 50.

There are an additional 27 small accessible buses dedicated to the Access-A-Bus specialized transit service which is operated separately from the conventional transit fleet.

For the standard transit routes, operations staff endeavour to assign vehicles to specific routes and trips to maximize the use of the capacity of the vehicles. For each service type, the required vehicles and resulting "spare" ratio varies considerably. For example, the MetroLink service requires a maximum of 14 vehicles which leaves six vehicles (30%) as "spares" which is high. Within the remainder of the fleet, the variety of sizes, floor heights and seating capacities complicates vehicle assignments. Frequently, operations does not have enough of certain vehicle types to assign to the desired routes or runs leaving the operations staff (dispatchers) with having to choose to assign non-suitable vehicles to certain routes in order to make service. For example, a "MetroLink" bus may be used on a standard route, or vice versa.

As Metro Transit progresses towards replacing older vehicles, the number of vehicle variations will move toward greater standardization in terms of floor height and seating capacity, thereby simplifying vehicles assignments. At the same time, the presence of specifically branded vehicles, such as for the MetroLink service or with the introduction of a BRT services and additional "community or shuttle bus routes" as proposed in the Five-Year service plan with potentially specially-branded and distinct vehicles, there will continue to be bus sub-groups within the fleet.

As a matter of principle for vehicle utilization in future, Operations and maintenance staff should work on the basis of an 18% to 20% spare ratio for each vehicle and service type for maintenance purposes including buses for change-offs, as discussed elsewhere in the fleet maintenance review section (as noted previously, the current spare ratio is below standard. 11 to 16 buses should be added to increase the spare ratio). While current vehicle fleet numbers suggest there are more vehicles than required for services such as MetroLink, it is reasonable for Operations/Dispatch staff to assign non-standard buses to specific routes or trips when the required vehicle type is not available. The lack of a specific vehicle for a specific service should not interfere with the operation of any service. *"Any vehicle is better than no vehicle"*.

### Stand-By and Change-Off Buses

Two buses are currently assigned on a daily basis for standby purposes to fill in for buses that are running late or to handle ridership "overloads" on specific trips. These buses may also be used to "change off" a defective vehicle. One vehicle is assigned to the Halifax, and one to the Dartmouth side in order to position the vehicle for convenient use. The overall objective of these buses is to maintain service reliability.

A review of records maintained by Operations indicates that these buses are consistently utilized each day for a variety of purposes and there may be a need to increase this number, particularly during peak hours, Monday to Friday, to three vehicles. Two vehicles have been available for standby purposes for over 20 years. As the number of buses in operation has grown, particularly over the past 5 to 10 years, the number of standby buses has not been increased. On this basis, an increase of one to two in the number of standby buses would be warranted. However, the original concept of standby buses being positioned in either Halifax or Dartmouth was to minimize the distance and time required to bring an extra bus from the transit garage in Burnside especially in the event of traffic delays on either of the bridges. With the opening of the Ragged Lake facility in 2010, the need to increase the number of standby buses should be mitigated as the location of the Ragged Lake facility may make it more advantageous to position a standby bus at that facility instead of downtown Halifax to be placed in service “inbound” in the morning if the need arises. Positioning of an extra standby bus downtown in the PM peak hours may still be warranted but should be subject to a further review of the traffic and time implications of deadheading in from the Ragged Lake facility location.

Although standby buses are primarily intended to fill gaps in service or accommodate over-load conditions, they have been increasingly used to replace buses with defects and, based on information provided by Operations, have not been replaced by maintenance due to a shortage of spare vehicles. This situation should not occur. Stand-by buses should be considered as buses required for operational purposes and, as a matter of principle, should be replaced immediately if used to change-off a defective bus.

### 5.1.3 Service Planning

In designing route schedules and running time allowances, transit planning staff have been using an allowance of approximately 10% of running time (i.e. 6 minutes for a 60 minute round-trip time), rounded to the nearest time multiple suited to the route frequency, for make-up or layover purposes. This percentage is the typical standard rather than a specific amount of time.

Make-up or layover time is intended to provide bus operators with both an ability to step off the bus at the end of a run for rest purposes or, during peak periods, to recoup time lost during the run so as to be able to maintain the public schedule.

No change in current planning and scheduling guidelines is warranted.

### 5.1.4 Bus Operator Training Program

Bus operators are the most prominent human resource of any transit system. They must be able to deliver a transit service with limited supervision, to administer policies and procedures, to adhere to established routes and schedules, to handle a public vehicle in a safe, responsible manner and to respond to customer needs at all times. Therefore, training of this staff resource must be a high priority within a transit organization. It should consist of a comprehensive initial training to ensure the individual is fully capable of handling the job, of regular monitoring of their performance with coaching undertaken to

support or correct their behaviour or performance, followed by a program of re-training employees at regular intervals to maintain their skills level.

The consulting team reviewed Metro Transit's training program to identify opportunities for improvement including a review of the following documents:

- Bus Operator Posting
- Metro Transit Basic Operator Training
- Metro Transit Student Workbook
- CUTA Transit Ambassador Modules 1 to 4:
    - Essentials of customer service
    - Effective Communications
    - Managing Customer Feedback
    - Managing Stress

### Current Training Program

The Basic Operator Training (BOT) Program is a six week/29 day program that covers the following topics:

- Basic orientation to facilities, policies and procedures
- Map drawing, reading maps
- Payroll, benefits
- Paddle cards, time cards, riders' guide, rule book
- Defensive driving, preventable and non preventable incidents, vehicle operation
- Transit Ambassador Customer Service, Communications, Customer Feedback and Managing Street Modules (4 modules)
- Route education, in-service operation (1 week)

The BOT program appears to be quite comprehensive and covers everything it needs to in a compact but not excessive time frame. The trainers are, however, hampered by the lack of learning objectives for each training module (in most cases), a lack of quality training materials and an inability to access all of the types of buses the operators need to be trained on. In the absence of specific learning objectives, it is not possible to assess the adequacy of the actual training materials.

An outline of the BOT Program demonstrates that Metro Transit uses a modular approach to training which is consistent with sound adult learning techniques. It was obvious that one or more persons had also done a good job of assembling a lot of relevant material and putting it in one place, a document called the "Student Workbook". There is an excellent definition of what constitutes preventable and non preventable accidents in that document and the definitions are repeated in the Operator's Handbook. The Student Workbook is used right after the date of hire but there is no refresher training.

The Canadian Urban Transit Association (CUTA) produces industry standard training materials relating to a number of subjects including client service. Metro Transit uses Modules 1 to 4. As with the in-house training, these programs are administered after date of hiring only. There is no refresher training.

Overall, learning objectives were not specified except for pages 105 and 124 of the Student Workbook and the definition of training on Page 105 should be revisited. The material could be better organized to avoid unnecessary duplication, reduce the potential for error and be more user-friendly for operators. As well, the quality of the materials is not high in terms of grammar, spelling, punctuation, use of capitals (e.g., p. 41), and Canadian versus American spelling.

The changes that are needed to the bus operator training program include:

- Establishment of standards for the quality of all in-house training materials
- Elimination of redundant information which increases the opportunities for errors
- Development of learning objectives for all modules
- Availability of all types of buses for use during training

Training is provided by three instructors who previously reported directly to the Manager, Service Delivery. A recent change in the Operations/Service Delivery department has the training instructors reporting to the Superintendent of Employee Services. This change disengages the important training function from the rest of the human resource functions of candidate screening, selection, interviewing and training and retraining. There should be an integrated human resource department within Metro Transit and reporting directly to the General Manager, Transit.

Human resource management can be carried out in a segmented or an integrated fashion. At Metro Transit, and between HRM and Metro Transit, a segmented approach has been taken. This means that the recruitment and staffing, payroll and benefits, training and development, labour relations, performance management, attendance management, and other HR functions are largely dispersed through the two organizations. As a result, there is no one picture that emerges for the most important positions at Metro Transit including the bus operators, maintenance staff and supervisors who must deliver the service. Those supervising the bus operators, for example, should have access to a single source for their HR needs even if some of that service has to be brought in (for collective bargaining, for example). An integrated HR Department within Metro Transit should also be able to provide supervisors with integrated performance reports that deal with accidents, attendance, and other matters, reducing unnecessary duplication.

### Employee Selection and Hiring

Regarding the candidate selection and hiring process, when asked for a copy of the position description for Bus Operator, a Posting document (advertisement of a vacancy) was provided indicating that no appropriate position description is available. A comprehensive position description is a necessary first step towards establishing the linkages between the position description, personnel recruitment, selection, training, and performance management.

Additionally, discussions with operations and training staff indicated that there was no evidence that bus operators and maintenance personnel are treated as internal customers. Since they represent the most important part of the public

transit system, the organization needs to place a greater focus on them in order to ensure that the transit service is delivered effectively.

#### Retraining

Metro Transit has no retraining program although it is considering the purchase of several CUTA refresher training modules. Retraining is an important element in ensuring employees perform to a high level and to minimize risk related to accidents and security issues.

The only retraining that is conducted involves remedial training after problem driving behaviour has been detected. This means that all retraining is viewed as corrective rather than supportive. The fact that there is no performance management system in place for Operators means that other training and/or development needs are never formally identified or addressed. This would account for the recent rash of incidents about operator behaviour that was highlighted in the many media reports earlier this year.

Operators should not be left on the road to drive day after day without appropriate support. This includes dedicated and supportive supervision, a regular retraining program that would focus on driver behaviour at least once a year (even if it's just a check so that the operator can be complimented on his/her skills), and at least one other day per year on the most important challenges facing Operators. This could include changes to routes, customer service training, handling people with special needs, information sessions on wellness and employee assistance, and generally, topics which would be identified through a good performance management system.

#### Accident Monitoring and investigation

Accidents are all recorded and appear to be investigated for cause and effect and Metro Transit appears to be doing a good job of analysing individual accidents and incidents for cause and effect. However, it is not enough to collect statistics on accidents and incidents, and cause and effect. A thorough analysis of all accident and incident statistics needs to be conducted on at least a quarterly basis (if not more frequently) so that trends can be identified and corrected before they become bigger problems. If a thorough accident/incident analysis were systematically carried out, Metro Transit could save significant dollars and paid hours by identifying trends and reacting to them appropriately. Having an annual driver behaviour check-up would also help to curtail the number of accidents.

Operators should also be aware of how they are doing as a group. Is their incident/accident record improving, or is it getting worse? No one really knows because no one is analyzing the data collected. Collecting and disseminating good information on trends should help everyone focus and improvements should be a source of pride in providing a safe service. (The same could be said of complaints – how does anyone know how they are doing if the information is unknown?).

### 5.1.5 Review of Operator's Handbook and Daily Planner

Transit staff have undertaken the arduous task of consolidating a lot of information into one document. As a result, however, the Table of Contents is confusing and the concept of external and internal customer service is absent. A lot of the information is duplicated from the BOT, for example:

- The Quick Reference Contact List appears to be better than the one in the Basic Operator Training book (Page 6).
- The First Aid information on P. 7 duplicates BOT material.
- There should be no cross referencing to fare policy in the BOT.
- The workplace injury on the road duplicates material from BOT.
- Health and safety (Pages 22 to 24) is also covered in the BOT.
- Having a reliable watch is mentioned again on Page 35.
- Securing wheelchairs is mentioned once again on Page 36.
- Cell phones are once again mentioned on Page 40.
- Pets on buses are mentioned again on Page 48.
- Defensive driving is covered again on Page 51.
- The Railroad crossings section on Page 55 duplicates BOT material.

The Nova Scotia Driver's Handbook should be included as a separate module (Page 54).

#### Future Actions

HRM should develop a comprehensive position description for Bus Operator including a list of specifications and no more than five or six critical accountabilities which includes standard of performance.

Learning objectives should be developed for each module outlined in the Basic Operator Training Outline (except for the CUTA modules) and the Training Department be provided with effective internal or external support to develop high quality training materials.

A refresher training program should be developed for all critical operator skill areas including defensive driving, client service, responding to people with special needs, coping skills, and wellness.

### 5.1.6 Bus Operator Attendance Management Program

Good attendance should reflect no more than 4% absenteeism in a normal working environment. However, public transit is a high-pressure working environment where operators have very little control over their work environment and one would therefore expect it to be higher.

Bus operator attendance was identified by Metro Transit staff as a major source of concern with high absenteeism occurring. The rate of absenteeism among bus operators stands at 8.83%, or 20 days per year which is high by industry standards. By any measure, however, 20 days per year is excessive since it represents one work-month over and above vacation, holidays and other leave. Metro Transit's policy appears to allow for six days of sick leave. The most prudent course would be to start benchmarking against other transit operations of similar size.

The following documents were reviewed as a basis for assessing the issue of bus operator attendance:

- Halifax Regional Municipality Human Resources Policy Manual
- Rate of absenteeism
- Health Care Professional Notification of RTW Program
- Addendum to Return to Work Program Follow-up

The Halifax Regional Municipality Human Resources Policy Manual describes the attendance management program. This program is essentially sound and there is much good and detailed information provided for use by supervisors, including information on process, sample letters, and guiding principles. From discussions with HRM and transit staff, it appears that the program has not been effective with respect to bus operators and this may be the result of several factors:

- Lack of dedicated continuous supervision for the individual bus operator
- Failure to follow the program
- Lack of timely information on individual operator records
- Lack of understanding of what, after all, is a relatively complex issue, "attendance management"
- Lack of dedicated HR staff support for supervisors
- Lack of benchmarking to industry norms
- Lack of consequences for poor attendance
- Lack of focus on rewarding good attendance
- Lack of a performance management program for operators
- Inability to accommodate individuals given Metro Transit's operating environment

In order to more effectively manage attendance and reduce absenteeism, Metro Transit management needs to implement the following actions:

1. Provide dedicated supervision for each and every Operator so that a clear picture of each Operator's performance, including attendance, emerges.

2. Require all supervisors to follow the attendance management program and hold them accountable through the performance management process.

3. Begin benchmarking against other transit properties with respect to attendance statistics and approaches.

# 6. Transit Supportive Strategies

An urban transit system cannot function and thrive solely on the basis of the level and quality of service it provides. A wide range of external factors, such as urban development patterns and traffic and parking policies can have a significant impact on how effectively the transit system performs and how efficiently the service functions financially. Halifax Regional Council, as the body responsible for not only the delivery of transit services within the urban area but also transportation, parking and development policies, should consider the impact of the various decisions and policies it enacts on the performance of its transit system.

There are a number of "transit supportive" policies and decisions Regional Council can take action on to ensure the success and effectiveness of its public transit service, reduce the municipality's dependency on automobile use and promote environmentally friendly modes of transportation to achieve its target of a 26% or better modal split by 2031.

HRM has been very proactive in these areas through its long range planning, development, traffic and transportation policies which have been successful in supporting improvements to Metro Transit's services to date and achieving significant increases in ridership over the past 5 years. However, to improve the attractiveness of public transit even further and to achieve the future level of transit use targeted within this Five-Year Strategic Operations Plan, a greater emphasis will need to be placed on priority for Metro Transit vehicles throughout the HRM. This section identifies and discusses a number of these operational strategies.

## 6.1 Priority Measures

Major steps to reduce transit travel times and improve schedule reliability need to be implemented. Transit Priority Measures (TPM's) represent the kind of steps required. They encompass various strategies and should be introduced not only along the major corridors, such as Barrington, Spring Garden and Portland as part of a future BRT strategy, but also at key intersections or areas where delays to transit vehicles occur regularly.

### 6.1.1 "Yield to Transit" Legislation

As a first step, it is proposed that HRM/Metro Transit approach the Provincial government to adopt a "Yield To Transit" legislation. Yield to Transit is designed to improve transit flow and make transit service more reliable and efficient. The legislation would require other users of the road to yield the right-of-way to buses leaving bus stops or when turning to merge with the traffic. Similar legislation has been introduced in the provinces of British Columbia, Ontario and Quebec and is supported by the Association of Municipalities of Ontario (AMO), Canadian Urban Transit Association (CUTA) and a number of individual municipal transit systems across the country. It is relatively inexpensive to introduce consisting of the installation of decals on the rear of each transit vehicle, supported by media advertisements to inform the public of the

legislation and explain its need and benefit. Overall, implementation of the legislation would not only reinforce the importance of public transit in urban areas but also demonstrate the Province's commitment to a sustainable environment through more effective public transit services.

### 6.1.2 Transit Priority

Under mixed traffic conditions, transit reliability and efficiency often suffer due to the constant interaction with general purpose vehicles. As a result of the increase in general purpose vehicles on the roads, there has been a significant amount of congestion, which would be detrimental to transit systems operating in mixed traffic. As such, measures have been implemented to provide transit vehicles priority over the general purpose vehicles. The premise of these measures is to enhance the overall transit service. These measures are referred to as Transit Priority Measures (TPM).

Generally, TPMs can be categorized as either active transit priority or passive transit priority. Each type of priority measure is described below:

- **Passive Transit Priority:** Passive priority is transit priority measures that involve the reconfiguration of the roadway to favour the transit vehicles (i.e. queue jump lanes on intersection approaches, installation of a dedicated lane for transit vehicles, etc). Other provisions under passive priority can include restrictions of lane usage to general purpose vehicles during peak periods; and

- **Active Transit Priority**: Active transit priority treatments alter the normal traffic signal operations to benefit the transit vehicle. Under this priority treatment, detection is required to distinguish between general purpose vehicles and the transit vehicles prior to arriving at the intersection. The most common forms of active measures are the red truncation and green extensions.

Red truncations occur when the conflicting vehicle movements have the Right-of-Way (ROW), while the transit vehicle approaches the intersection. Upon detection of the transit vehicle upstream of the intersection, the conflicting phases will then be safely shortened to a predetermined time to allow transit vehicles to proceed through the intersection. Whereas, green extensions are used when a transit vehicle approaches the intersection near the end of the green phase. When detected, the green phase will be extended to a maximum predetermined time to allow vehicles to clear the intersection.

Active transit priority can further be subdivided into unconditional and conditional priority. The former is where priority is granted whenever there is a transit vehicle detected upstream of the intersection. Whereas, unconditional priority requires a transit vehicle to meet predetermined criteria (e.g., schedule adherence) before granting priority.

It should be noted that passive and active priority are commonly used together to provide transit vehicles priority at intersections.

### 6.1.3 MetroLink

With the initial implementation of the MetroLink System in Halifax, transit priority measures were introduced at 14 key locations (Exhibit 6-1). It should be noted that the bolded intersections are locations where queue jump lanes were also implemented.

**Exhibit 6-1 Existing TPM Locations**

| Intersection |
|---|
| Portland Street at Spring Avenue/ Portland Estates Boulevard |
| Portland Street at Carver Street/Eisener Drive |
| Portland Street at Woodlawn Road/Baker Drive |
| Portland Street at Highway 111 Northobund Ramp |
| Portland Street at Sears/ Evergreen |
| Portland Street at Gaston Road |
| Portland Street at Pleasant Street |
| Portland Street at Prince Albert Road/Alderney Drive |
| Wyse Road at Windmill Road |
| Cobequid Road at Sackville Drive |
| Beaverbank at Old Sackville Road |
| Akerley Boulevard at Windmill Road |
| Wright Avenue/Bancroft Lane at Windmill Road |
| Fairly and Stevens/Windmill Road at Windmill Road/Victoria Road |

The current MetroLink System uses the Global Traffic Technologies (GTT) Opticom infrared system to detect MetroLink transit vehicles operating in mixed traffic. Siemens Eagle controllers equipped with Transit Signal Priority (TSP) logic operate the signalized intersections at the TSP enabled locations. Together these systems provide active unconditional priority at the 14 signalized intersections. As previously stated, this form of transit priority is provided whenever a transit vehicle is detected arriving at the intersection.

At all intersections, priority is provided in the form of red truncations or green extensions. However, the distance in which detection occurs differs depending on the availability of a queue jump lane. When queue jump lanes are not provided at the intersection, the check-in distance for the transit vehicle is based on the green extension duration (10 to 15 seconds). In the presence of a queue jump lane, check-in distances are set back as far as possible to provide transit vehicles with priority over multiple cycles. Additionally, a transit signal display (vertical white bar) is provided at queue jump locations without far side receiving lane. The transit signal display in conjunction with an advance transit phase allows transit vehicles to proceed into the intersection ahead of the general purpose vehicles. Where possible, traffic signal co-ordination is maintained with both priority treatments.

### 6.1.4 Additional Transit Signal Priority Locations

The subsections below provide two locations that illustrate how TSP can be applied to each intersection. TSP applications provided in the following were based on the work completed by IBI Group for the Transportation Association of Canada's (TAC) Guidelines for the Application and Displays of Transit Signals. It should be noted that the TSP applications presented below are currently under review by TAC.

## Akerley Boulevard at Windmill Road

**EXISTING CONDITIONS**
Akerley Boulevard forms a T-intersection with Windmill Road, as shown in Exhibit 6-2. The southbound approach consists of a dedicated left and right turn lanes, and a shared left/right turn lane. HRM staff indicated that transit vehicles on this approach experience long queues. As a result, the transit vehicles attempting to make the left turn on to Windmill Road experience significant delays.

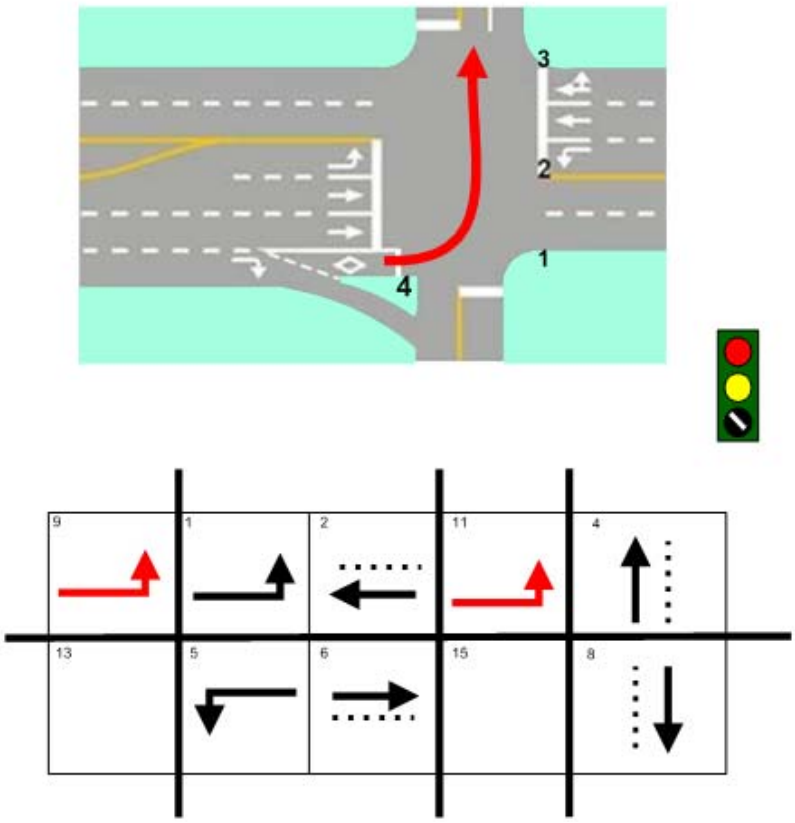
### Exhibit 6-2 Akerley Boulevard at Windmill Road

**POSSIBLE TSP STRATEGY 1**
Given the current lane configuration for the southbound approach, the most feasible solution to provide transit vehicles priority to make the left turn on to Windmill Road would be to construct a queue jump lane, and implement a transit signal display.

Exhibit 6-3 presents the possible phase sequence and transit display to be used for the southbound movement. Although the exhibit below illustrates TSP treatment with a four-legged intersection, the transit operations are still applicable to a t-intersection. Under this priority treatment, the transit vehicle will only be able to make a protected left turn at the intersection. As such, it is proposed that a transit head be used in conjunction with the normal traffic heads to control the transit vehicle movement.

Similar to the current locations with queue jump lanes, upstream detection can be used to activate signal priority for the transit vehicles. Stop bar detection will activate the transit signal to provide transit vehicles at the intersection with an advance phase.

### Exhibit 6-3 Dedicated Left Turn Phase for Transit Vehicles




### Spring Garden Road and Barrington Street

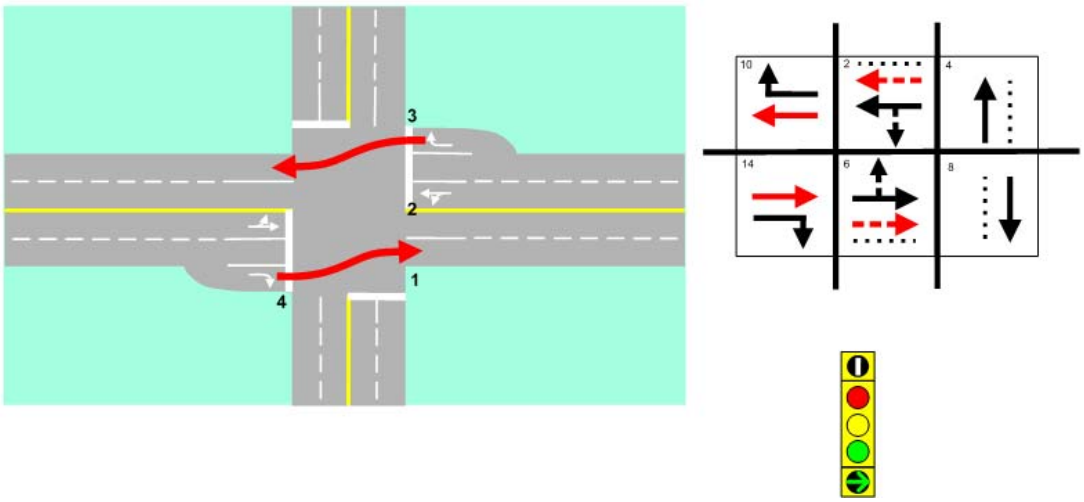
**EXISTING CONDITIONS**

Both roadways are among the busiest transit corridors in Nova Scotia. As such, transit services along these corridors experience significant delays. To increase transit efficiency, it may not be feasible to construct additional lanes (in the form of queue jump lanes or dedicated transit lanes) to provide transit vehicles priority. Therefore, it may be necessary to provide transit priority under mixed conditions.

**POSSIBLE TSP STRATEGY 2**

Exhibit 6-4 demonstrates how TSP can be implemented under mixed traffic conditions. The vertical white bar above the general traffic signal will provide transit vehicles with an advance through phase. However, unlike the previous example, transit vehicles can proceed through the intersection with general through traffic, provided that there is an adequate gap for the transit vehicle to merge into the main stream of traffic from the right turn lane.

### Exhibit 6-4 Lane Shift for Transit Vehicles




Additional TPM locations were identified through this assignment, with the objective of building on the previous work. Exhibit 6-5 presents the recommended locations where transit priority measures would benefit transit operations, the proposed TPM measure, and the applicability of the above presented TSP strategies in each location.

### Exhibit 6-5 Additional Locations for TPM Implementation

| Intersection/ Street | Section | Proposed TPM | TSP Strategy | |
|---|---|---|---|---|
| | | | 1 | 2 |
| **Brunswick Street** | MacDonald Bridge – Downtown | Use street in both directions. Requires transit priority access. | - | - |
| **Portland Street** | - | Extend existing queue jump lane back to Spring Avenue | - | - |
| **Spring Garden Road and Barrington Street** | - | Remove parking and loading from both roads | - | Yes |
| **Barrington Street** | - | Transit only downtown | - | Yes |
| **Barrington Street at Devonshire Street** | - | Use signals at Barrington Street at Shipyard to allow buses to merge onto Barrington Street from Devonshire Street | Yes | - |
| **Gottingen Street** | - | Provision of bus lane(s). Northbound only lane. | - | Yes |
| **Akerley Boulevard at Windmill Road** | - | Transit lane or signal priority treatments | Yes | - |
| **Hartlen Street at Main Street** | - | Allow buses to make left turns from the right turn lane on to Main Street | Yes | - |
| **Main Street at Gordon Avenue** | - | Use right turn lane as queue jump lane | - | Yes |
| **Lacewood Drive** | Willet to Bayers Lake | Queue jump lane opportunities | - | Yes |
| **Chain Lake Drive** | - | Queue jump and TSP opportunities | - | Yes |
| **St. Margarets Bay** | Lakeside – | Possible bus lane | - | - |

| Intersection/ Street | Section | Proposed TPM | TSP Strategy | |
|---|---|---|---|---|
| | | | 1 | 2 |
| **Road** | Armdale Roundabout | | | |
| **St. Maragarets Bay Road at Prospect Road** | - | Signal Priority | - | - |
| **Fairview Overpass at Windsor Street** | - | Queue Jump Lanes | - | - |
| **Bedford Highway** | Fairview Overpass to Sunnyside Mall | Signal Priority | - | Yes |
| **Bayers Road** | Transit Corridor | Road widening | - | Yes |
| **Bayers Road at Romans Avenue** | - | Cut-off access on to Bayers Road from Romans Avenue | - | Yes |
| **Highfield Park Drive at Highway 111 Ramps** | - | Signal priority or queue jump lanes | - | - |
| **Summer Street at Spring Garden Road** | - | Remove median or offset further upstream from the intersection | - | - |
| **Walker Avenue** | - | Widen lanes | - | Yes |
| **Highway 101** | - | Direct access ramp to Sackville terminal | | |
| **Barrington Street at Spring Garden Road** | - | - | Yes | - |
| **Portland Street in Dartmouth** | - | Continuous curb lane to feed existing queue jump lane | - | - |
| **Chebucto at Connaught** | - | Use right turn lane as a bus only through lane. | - | Yes |
| **North Street at Gottingen Street (WB)** | - | Signal priority, or far side discharge lane. | - | - |
| **Barrington Street at North Street and Barrington Street at Conwallis Street** | - | Queue jump lanes, extend SB curb lane to Cornwallis Street | - | - |
| **Portland Street at Moffats Drugs** | - | Remove parking | - | Yes |
| **Weyburn at Main Street** | - | Use pedestrian signal on main street to exit Weyburn | - | - |

### 6.1.5 Capital Cost – Transit Priority Measures

Implementation of the foregoing transit priority measures, particularly those associated with the introduction of the BRT services along the Spring Garden/Barrington/ Portland Street corridors, will require a separate study to confirm the measures to be introduced, confirm cost estimates, and a priority and implementation plan. On a preliminary basis, a capital cost estimate for traffic control, signage and road improvements of $10 million is suggested.

## 6.2 Transit Oriented Land-Use Development (TOD)

The relationship between urban growth and transit is a primary factor influencing the demand for transit. The shape and structure of urban development can work for or against transit ridership. A sparse, auto-oriented area where housing is separated from other activities makes transit more difficult to use and less attractive. In contrast more compact development with a variety of activities and that encourages walking creates an environment where transit is easy to use and more attractive.

Transit-oriented development (TOD) is a particular strategy for urban development that makes transit more attractive through well-designed physical connections between high-quality transit service and compact residential and commercial areas. TOD provides architectural, planning and urban-design guidelines for shaping neighbourhoods into configurations that are pedestrian and transit friendly. Typical features of TODs are compact, mixed-use neighbourhoods that use streetscape improvements and other urban design strategies to create attractive atmospheres that encourage walking and transit ridership. The intent of transit-oriented development is to concentrate as much potential ridership as possible in close proximity to a transit station while creating an environment that further encourages walking and transit use.

A philosophy closely related to TOD is smart growth - a family of regional policy tools that encourage redevelopment of core urban areas and limitations on new development on the urban periphery. Rather than expanding service into hard to serve areas, smart growth allows and encourages more people to live and work where high-quality transit service can be easily provided. TODs are often seen as one tool for achieving smart growth goals.

Many of HRM's planning documents already embody the principles of Transit-oriented development and Smart Growth, most notably the **Regional Municipal Planning Strategy**, which outlines a bold vision for the Region that requires a significant change in both land use and transportation behaviour, with the goal of becoming a more sustainable region.

The remainder of this section discusses some specific strategies and actions that HRM could take to facilitate TOD and smart growth.

*HRM has already seen the effect of the MetroLink on focusing development*

### 6.2.1 Encourage Density

TOD neighbourhoods cluster residences and jobs around a transit node or corridor. Ideally, these nodes and corridors would include higher order transit such as the Bus Rapid Transit (MetroLink); however the lack of such modes should not be considered a deterrent to TOD.

In addition to the Regional Centre (downtown Halifax and Dartmouth), several areas of HRM have a strong potential to become TOD hubs. For example, Exhibit 6.6 illustrates areas of potential growth near two of the main MetroLink Stations, the Sackville terminal on route 185, and the Penhorn terminal on route 159. It is anticipated that the highlighted areas near the terminals and the Park & Ride lots will experience significant infill development in the near future.

In the coming years, HRM is to undertake studies for each of the growth centres identified in the Regional Municipal Planning Strategy, similar to the efforts undertaken in the HRM by Design study for the Regional Centre. It is expected that each of these studies will identify the appropriate amount and density of development for each centre, taking into account existing and future transit accessibility. Already, areas around Penhorn have been developed, some as TOD.

**Exhibit 6-6 Areas of Potential Transit-Supportive Land Development**

**A. Sackville Terminal**

**B. Penhorn Terminal**

## 6.2.2 Design Communities to be Walkable

Walkable communities tend to go hand in hand with transit supportive communities. Although Halifax has one of the highest rates of walking in the country, it is falling behind in some areas. Of particular concern is the design of employment areas such as Burnside and Bayer's Lake, which lack sidewalks and safe pedestrian crossings. Part of the challenge in the past has been that development in many parts of HRM are not subject to site plan control, meaning that developers are not obligated to provide improvements that are not identified in the Land Use by-law.

If transit, pedestrian, and cycling facilities planned for HRM are to achieve their maximum potential, potential transit users (who typically begin their trip as pedestrians) and cyclists must be able to conveniently and safely access arterial transit and cycling facilities from the nearby local and collector road networks. This starts with the design of individual sites as illustrated in Exhibit 6-7.

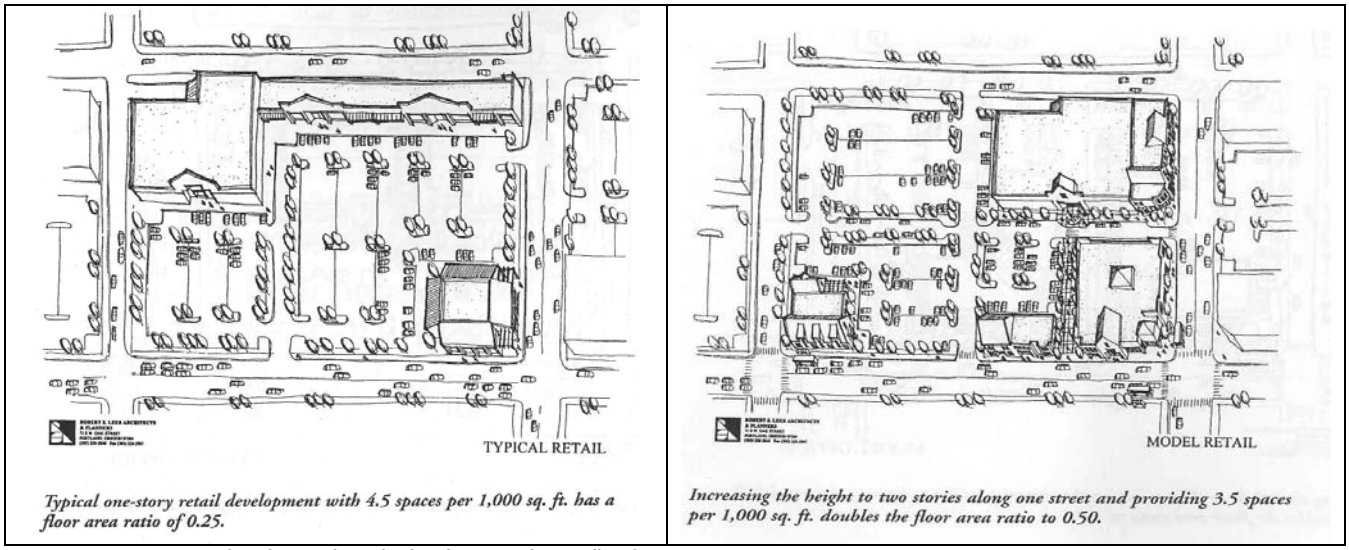
Policies must be expanded or put in place to ensure that new development is designed to be pedestrian friendly. Some of the design considerations that should be ingrained at the time of initial site design to help to create better environments for transit-riders include:

- Ensuring building parallel to the street and at a consistent set back provides a well defined public edge;
- Animating the public sidewalk with street front uses;

- Locating ancillary uses (e.g. daycares, convenience stores, etc.) closest to potential users;
- Locating the highest density uses close to intersections;
- Providing building entrances close to street and transit stops in order to animate the street and minimize walking distances;
- Constructing mixed-use development to allow people to live near work;
- Minimizing parking supply to provide opportunities for other uses such as parks while discouraging auto use; and
- Locating surface parking to the rear of site, away from pedestrian activities.

*It is recommended that HRM work to develop and adopt guidelines for site design incorporating the above considerations. This should be done in conjunction with the development of land use by-laws for specific centres as identified in the Regional Municipal Planning Strategy.*

### Exhibit 6-7 Typical vs. Model Site Layout




*Source: TRI MET, Planning and Designing for Transit Handbook*

Similarly, decisions made at the site layout stage can influence how transit rides and other non-motorized travellers move throughout a site. Major decisions at this stage of the design process include determining the internal road configuration (where internal roads or driveways are required), parking layout and configuration, and the location of transit facilities, bicycle facilities and passenger pick-up and drop-off areas in relation to buildings and the internal and/or adjacent street network.

- Pedestrian crossings, including mid-block crossings are well defined;
- Pedestrian connections are possible through the site;
- Number of driveways and mid-block access/egress is minimized;

- Transit stops are provided close to main generators and key pedestrian routes;
- Loading areas are underground in order to minimize visual impact and maximize safety;
- Where loading is above ground, access does not interfere with pedestrians and cyclists;
- Short-term bike parking is located in visible areas and protected from elements;

**Exhibit 6-8 Contrasting Examples of Site Layout**

| | Poor Considerations for Pedestrians | Good Considerations for Pedstrians |
|---|---|---|
| Pedestrian-vehicle interaction | | |
| Pedestrian routes | | |
| Transit Stops | | |

- On-street parking is factored into design and provides a buffer for pedestrians;
- Parking lots are developed in modules and pedestrian routes are protected;
- Preferred carpool/vanpool parking is provided closest to destinations; and
- Avoid drive-throughs, which tend to sever pedestrian movements though a site and add to vehicle emissions due to idling.

Contrasting examples showing the impacts of site layout are provided in Exhibit 6-8 above.

## 6.3 Travel Demand Management

Transportation Demand Management (TDM) is the use of policies, programs, services and products to influence *whether*, *why*, *when*, *where* and *how* people travel. Its goal is to make personal travel decisions more sustainable, and to make more efficient use of existing transportation systems.

Transportation Demand Management has two general approaches:

- **Education, promotion and outreach** – raising individuals' awareness, improving their understanding and building positive attitudes about sustainable transportation choices; and

- **Incentives and disincentives** – offering tangible benefits or obstacles related to personal travel choices and making certain choices more or less attractive on a practical level.

HRM has been advancing a number of TDM initiatives over the past few years as part of the TDM Functional Plan. Major achievements include:

- Creation of the University transit pass

- Establishment of the HRMSmarttrip program, a state of the art ride-matching system that allows commuters to quickly and securely find carpool partners.

- Creation of an Active and Safe Routes to School programs that encourage children to walk and bicycle to school;

- Including bike racks in new bus purchases and retrofitting existing MetroLink and conventional fleet

- Bulk transit pass sales for large employers (pilot program); and

- Introduction of FRED, the downtown transit circulator bus

Additional or expanded TDM measures that would serve to support transit include:

- Establishment of more formalized *transit management associations,* which offer customized local services including carpooling programs,

cycling programs, vanpool assistance, shuttles and Emergency Ride Home (ERH, a kind of "commuter insurance") programs, employee work arrangement solutions (including telework, flexible work hours and compressed work weeks), site assessment and surveys, and promotions;

- Development of an enhanced online trip planners for transit that permit users to enter their travel time, origin and destination, and have the website display the best transit route; currently HRM utilizes Google Transit, which has some limitations in terms of the timeliness of schedule information.

- Adoption of Smart Cards which provide convenient fare payment and integration across regional transit services;

- Mandated requirements for a TDM plan within development applications;

### 6.3.1 Parking Management

*Large surface parking lots with free parking provide little incentive for use of transit*

Dispersed development patterns, low densities, high-speed roads, and large parking lots all contribute to making the private vehicle a comfortable and quick mode of transport for many trips. Since suburban land use patterns are not transit-supportive in many cases, it is difficult to justify the investment required to provide the quality of transit services necessary to compete with the automobile. Compounding this challenge is the issue that the true costs of auto use are not borne by motorists. Parking is a prime example.

*Based on a survey of HRM residents, respondents with access to free employee parking were 13% more likely to drive alone and 31% less likely to take public transit. Of the respondents who commute by automobile and have access to free parking at their destination, 17% would shift to another mode if parking was not free, while a further 12% would shift if parking was sufficiently priced. (Source: HRM Parking Strategy, 2008)*

With the exception of downtown Halifax and Downtown Dartmouth, and other high-demand areas such as hospitals and Universities, parking is normally "free". However, parking is not cheap to build or maintain (an owner would need to charge about $150 per month or $1.50/hr to recover the construction costs and ongoing maintenance costs for a structured parking space, excluding land costs). In effect, the cost of constructing and maintaining parking is not passed on to drivers. Similarly, the true costs of parking on the environment and need for supporting transportation facilities is seldom quantified. As a result, non-motorists (i.e. transit users) subsidize motorists through higher prices on goods and higher taxes.

Several strategies outlined in the HRM Regional Parking Strategy Functional Plan are aimed at levelling the playing field between transit and automobiles, with respect to parking. These include:

- **Amending parking requirements in land use by-laws**: Minimum parking standards are now widely criticized for increasing the costs of development, reducing the potential for market pricing of public parking facilities, and encouraging auto use. HRM intends to amend its land use by-laws to

include parking maximums, in addition to minimums, as well as policies to permit off-site parking, shared parking and good parking design.

- **Increase the Cost of off-street parking**: HRM is considering a number of potential strategies to create an environment for priced parking outside of the small areas where parking is currently priced. These strategies are being considered in conjunction with the on-going review of the municipal taxation structure.

# 7. Financial Plan

This chapter summarizes the financial resources required to implement the Five-Year Strategic Operations Plan and includes estimates for operating and capital expenditures.

## 7.1 Fare Strategy

An important component of the Five-Year Strategic Operations Plan is the establishment of objectives, strategies and policies in regard to the fares and financing of the various transit services offered by Metro Transit. A fare structure should contribute to Metro Transit's financial stability, the ease and convenience of Metro Transit's customers, and to the continuing increase in ridership and movement to the next higher order in terms of successful transit systems. The existing fare structure as of August 30, 2009 is shown below.

**Exhibit 7-1 Metro Transit Fare Structure – August 30, 2009**

**Conventional, Ferry, Access-A-Bus, and Community Transit**

| Fare Category | Cash Fare | 10 Tickets | MetroPass | Assumed Trips Per Pass per Month With Cash Fare | Bus or Ferry Transfer |
|---|---|---|---|---|---|
| **Adult** | $2.25 | $18 | $70 | 31.1 | Free |
| **Senior & Child** | $1.50 | $13 | $52 | 34.6 | Free |
| **Student** | $2.25 | $18 | $64 | 28.4 | Free |

**MetroLink Fares**

| Fare Category | Cash Fare | MetroLink Pass | Assumed Trips with Pass Per Month With Cash Fare | With ticket, MetroPass, UPass or transfer |
|---|---|---|---|---|
| **Adult** | $2.75 | $85 | 31.0 | + $0.50 cents |
| **Senior & Child** | $2.00 | n/a | | + $0.50 cents |
| **Student** | $2.75 | n/a | | + $0.50 cents |

**MetroX Fares**

| Fare Category | Cash Fare | MetroX Pass | Assumed Trips with Pass per Month With Cash Fare | With ticket, MetroPass, UPass or transfer | With MetroLink pass or transfer |
|---|---|---|---|---|---|
| **Adult** | $3.25 | $100 | 30.8 | + $1 | + $0.50 |
| **Senior & Child** | $2.50 | n/a | | + $1 | + $0.50 |
| **Student** | $3.25 | n/a | | + $1 | + $0.50 |

**Fare Categories:**

**Adult**: 16 yrs. & up
**Child**: 5 - 15 yrs.
**Senior**: 65 yrs. & up
**Student**: Full Time Student - valid photo student ID required

The existing Metro Transit fare structure is complex which negatively impacts its comprehension by users and potential users, especially, and therefore can act as a disincentive to using transit. Transit fare structures should be simple and easy to understand. **Appendix I** summarizes the key principles to be followed by Metro Transit on a go-forward basis for pricing transit services.

The current fare structure is premised on the fact that customers should pay more for higher order services, such as the MetroLink bus rapid transit service, or for more expensive and longer distance rural express transit services such as MetroX, or perhaps in the future - fast ferry service from Bedford. As well, MetroLink and MetroX fares have complicated add-on fares. In addition, seniors and children are provided with lower fares than other customers despite the fact that they consume the same service as other customers. It should not be the responsibility of Metro Transit to provide subsidies to specific riders. This responsibility should lie with other regional or provincial social agencies.

As an over-arching objective in establishing fare levels for the rural express or BRT transit services, HRM is now trying to balance fare levels which account for the higher costs in operating these services and/or higher order service levels, versus having lower fares which will encourage greater use and ridership on these services. Attracting greater ridership to rural express transit services by lower fares will, in turn, reduce the number of automobiles making long distance trips, and hence reduce greenhouse gas emissions. However, having lower fares for these above-noted services will mean that customers of other transit services provided by Metro Halifax will be paying higher fares if Metro Transit adheres to its goal of maintaining a revenue/cost ratio on its overall operations of 55%. This is recommended for achieving financial stability and is in line with the performance achieved by Metro Transit's peers.

As well, in establishing its priorities and overall objectives for its fare structure, Metro Transit should be aware of elasticity factors for resources allocated to transit service improvements versus fare subsidies. In this regard, it is important to realize that the elasticities (i.e. 0.6 to 0.7) for funds spent on service improvements are consistently much higher than resources used to lower fares (i.e. 0.3 to 0.4). That means for every 1.0% increase in funds spent improving service, you can expect to have a 0.6% to 0.7% increase in ridership. See the following chart for fare elasticities. Therefore, resources allocated to service improvements for Metro Transit for service improvements are more meaningful to achieving higher ridership objectives than resources used to lower fares or maintain lower revenue cost ratios. Therefore, it is recommended that scarce financial operating resources in the Metro Transit system should be focused on service improvements rather than to provide fare subsidies to specific groups of riders, or keep fares low overall and postpone regular fare increases.

### Exhibit 7-2 Empirically Estimated Values for Price and Cross-Price Elasticities

| | % Change in Transit Demand | | % Change in Automobile Demand | | |
|---|---|---|---|---|---|
| | | | low range | high range | |
| 1% Change in Transit Fare | -0.10 | home to work commute | 0.03 | 0.08 | rail travel |
| | -0.15 | rail travel | 0.07 | 0.09 | bus travel |
| | -0.20 | peak period | | | |
| | -0.30 | average | | | |
| | -0.35 | bus travel | | | |
| | -0.40 | off peak travel | | | |
| | | | low range | high range | |
| 1% Change in Auto Costs | 0.35 | parking fees | -0.06 | -0.43 | gas tax (short range) |
| | 0.85 | average total auto costs | -0.07 | -0.93 | gas tax (long range) |
| | | | -0.10 | -0.23 | parking fees |
| | | | -0.08 | -0.27 | (downtown) |
| | | | -0.03 | -0.31 | parking fees (suburban) |
| | | | | | tolls |

Source: Transportation Research Board, Report No. 14, October, 1997 Coordinated Intermodal Transportation Pricing and Funding Strategies

It is important for Metro Transit to select fare levels that attract ridership while still achieving a sustainable revenue/cost recovery ratio of 55%. The fact that using resources for increasing service versus reducing fares has a great impact on increasing ridership, and that the existing fare system is overly complicated, it is recommended that Metro Transit pursue the following fare initiatives in its five year transit operational plan:

#### Make the Fare Simple and Easy to Understand and Reduce Complexity

- Establish the driving force of the overall Metro Transit fare structure as making it simple to understand and convenient for customers, seamless between different transit modes, and generating increased ridership for the associated benefits with higher ridership, i.e. reduced greenhouse gas emissions and reduced vehicle accidents. Towards this objective, establish the same cash fare structure for adults, students, seniors and youth. This principle could be extended to tickets, and passes, as Metro Transit should not be paying for social equity.

- Establish the same fare level (cash fares and pass and ticket multiples) for all transit services including the BRT MetroLink and Metro X rural express routes and ferries, unless the time savings on the higher order services is significant (i.e., over 25% over a conventional service - with high degrees of transit priority measures along the routes and the services having very few stops), or is much more expensive to provide in terms of hours and kilometres of service. In 2011, with a complete restructuring of the overall fare system, all cash fares could be moved up to the MetroLink service levels that are established, and a premium fare still charged for longer

distance and higher cost, and premium services in terms of significant time savings (i.e., more than 25% over primary network).

### Attract Outside Fare Contributors

- Developing private sector sponsorship of targeted fare discounts such as for the U-Pass program with well known local firms that would reap benefits from the association with a student U-Pass program (e.g. financial institutions. TransLink in Metro Vancouver receives a $3.0 million contribution over three years for its U-Pass Program from Van City - a well known local financial institution - in exchange for marketing rights, etc.);

- Obtain funding from a regional or provincial agency, if it is the desire to decrease the cost of transit fares for groups such as children and seniors.

### Reduce the Use of Cash in Fare System by Increasing the Proportion of Fare Increases For Cash Fares versus Passes

- Continue to progressively increase the proportion of fare increases placed on cash fares versus passes, in order to decrease use of cash fares which are more expensive to handle operationally, and to encourage customers to switch to use of tickets and monthly and other passes, and be regular riders. By this principle you are rewarding customers for their loyalty to the transit system and providing a disincentive to use cash which is more often used by infrequent customers or visitors.

### Have Regular Fare Increases – Every Two Years

- Recommend HRM Council to approve small fare increases in line with inflation-annually or ideally every two years, as these smaller fare increases will have less of a cumulative negative ridership impact rather than infrequent large increases (i.e., 25 cent increases in cash fare and smaller percent increases in monthly passes). Note: the last Metro Transit fare increase prior to July, 2009 was in January 2005, and it has taken over four years to get a fare adjustment despite the fact that Metro Transit operating costs of services have significantly increased, with service improvements;

### Establish the fare system structure and levels so that Metro Transit can continue to keep a 55% RC Ratio

- While Metro Transit is still growing by adding greater frequency on routes, new routes and enhanced services (i.e., new BRT routes, possibly new Urban Express routes, more ferry service etc.), and increasing its operating costs, Metro Transit should establish the fare structure and levels so it can maintain some financial stability and a revenue cost ratio of 55% to keep in line with its peers. Allocating funds into service improvements versus using the same level of funds for keeping fares lower for all or specific customers, has a much larger impact on increasing transit ridership and mode share, and realizes the benefits of these service investments-greater ridership and lower greenhouse gas emissions, fewer cars on road, etc.

### Introduce New Targeted Fare Programs and Ultimately a Smart Card to Attract More Ridership

- Establish a Day Pass and an Adult Monthly Pass that functions as a Family Day Pass on weekends and statutory holidays permitting unlimited travel for the pass holders plus up to 2 to 3 accompanying passengers aged 17 or less; this again rewards loyal and frequent use customers.

Other types of passes that could be considered to increase ridership include the following:

- Annual Pass - to enable long term commuters to pre-purchase their travel a year in advance to assist in financial planning and to provide the deepest discount available;

- U-Pass Program - expanding this program to staff and faculty at the three current institutions which now have this pass and developing a private sector sponsorship for this program;

- Employer Pass Program - establishing a U-Pass like pass program that is purchased for every employee or a particular business by payroll in return for discounts;

- Community Pass - to provide a discounted pass to large developments where, in return for a committed number of passes being purchased for a specified term of one to four years as part of the development agreement, a discounted pass is provided for household/unit members.

Proceed to introduce a Smart Card fare collection system, and then the following features can be included in the fare structure:

- Special fare discounts for certain off-peak travel

- A loyalty point bonus scheme to provide targeted reduced fare discounts and other benefits to frequent riders

- An affinity program with selected partners to encourage ridership development;

The recommended framework for Metro Transit's fare system is attached as Appendix I for approval.

## 7.2 Five-Year Operating and Capital Budget

Exhibit 7-3 presents the five year operating and capital budget for the service plan for the conventional and MetroLink services based on the implementation strategy outlined in Section 8. It does not include the recently introduced MetroX services. All operating costs are in inflated dollars reflecting wage and fare increases that are likely to occur over the five year period.

## Exhibit 7-3 2010-2014 Metro Transit Operating and Capital Budget

| | | 2008 Actual | 2010 | 2011 | 2012 | 2013 | 2014 | Change 2008-14 |
|---|---|---|---|---|---|---|---|---|
| **Service Area Pop.** | | 314,600 | 317,000 | 319,000 | 322,000 | 325,000 | 330,000 | 15,400 |
| **Vehicle Fleet** | + Buses (Replacement) | | 13 | 13 | 13 | 13 | 13 | + 65 |
| | + Buses (Expansion) | | 9 | 9 | 9 | 5 | 5 | + 37 |
| | - Buses (Retirements) | | -13 | -13 | -13 | -13 | -13 | - 65 |
| | Total Buses | 265 | 274 + 9 | 283 + 9 | 292 + 9 | 297 + 5 | 302 + 5 | + 37 |
| | Ferry | 3 | 3 + 0 | 3 + 0 | 5 + 2 | 5 + 0 | 5 + 0 | + 2 |
| **Staff** | Operations | 448 | 466 + 18 | 480 + 14 | 506 + 26 | 533 + 27 | 553 + 20 | + 105 |
| | Maintenance | 106 | 110 + 4 | 113 + 3 | 116 + 3 | 118 + 2 | 121 + 3 | + 15 |
| | Administration | 25 | 27 + 2 | 29 + 2 | 32 + 3 | 32 + 0 | 33 + 1 | + 8 |
| | **Total Staff** | 579 | 603 + 24 | 622 + 19 | 654 + 32 | 683 + 29 | 707 + 24 | + 128 |
| **Revenue Hours** | Bus | 679,800 | 700,000 | 720,000 | 760,000 | 800,000 | 830,000 | 150,200 |
| | Ferry | 9,000 | 9,000 | 9,000 | 12,000 | 12,000 | 12,000 | 3,000 |
| | **Total** | 688,800 | 709,000 | 729,000 | 772,000 | 812,000 | 842,000 | 153,200 |
| ***Revenue Hours per Capita*** | | **2.19** | **2.24** | **2.29** | **2.40** | **2.50** | **2.55** | |
| **Rev. Passengers** | Bus | 18,366,775 | 18,500,000 | 19,200,000 | 19,900,000 | 20,600,000 | 21,200,000 | 2,833,225 |
| | Ferry | 1,232,659 | 1,250,000 | 1,300,000 | 1,350,000 | 1,500,000 | 1,600,000 | 367,341 |
| | **Total** | 19,599,434 | 19,750,000 | 20,500,000 | 21,250,000 | 22,100,000 | 22,800,000 | 3,200,566 |
| ***Revenue Passengers per Capita*** | | **62.3** | **62.3** | **64.3** | **66.0** | **68.0** | **69.1** | |
| **Operating Expenses** | Bus | $ 51,857,063 | $ 54,600,000 | $ 57,250,000 | $ 59,900,000 | $ 64,100,000 | $ 67,600,000 | $ 15,742,937 |
| | Ferry | $ 2,681,809 | $ 2,700,000 | $ 2,750,000 | $ 4,700,000 | $ 4,800,000 | $ 4,900,000 | $ 2,218,191 |
| | **Total** | $ 54,538,872 | $ 57,300,000 | $ 60,000,000 | $ 64,600,000 | $ 68,900,000 | $ 72,500,000 | $ 17,961,128 |
| **Passenger Revenue** | Bus | $ 25,913,166 | $ 27,750,000 | $ 28,850,000 | $ 31,840,000 | $ 32,960,000 | $ 36,040,000 | $ 10,126,834 |
| | Ferry | $ 1,725,722 | $ 1,875 | $ 1,950,000 | $ 2,160,000 | $ 2,400,000 | $ 2,720,000 | $ 994,278 |
| | **Total** | $ 27,638,888 | $ 27,751,875 | $ 30,800,000 | $ 34,000,000 | $ 35,360,000 | $ 38,760,000 | $ 11,121,112 |
| ***Average Fare*** | | **$1.41** | **$1.41** | **$1.50** | **$1.60** | **$1.60** | **$1.70** | |
| **Other Revenue** | Bus | $ 859,965 | $ 885,000 | $ 900,000 | $ 930,000 | $ 960,000 | $ 1,000,000 | $ 140,035 |
| | Ferry | $ 74,278 | $ 75,000 | $ 76,000 | $ 90,000 | $ 92,000 | $ 94,000 | $ 19,722 |
| | **Total** | $ 934,243 | $ 960,000 | $ 976,000 | $ 1,020,000 | $ 1,052,000 | $ 1,094,000 | $ 159,757 |
| **Operating Revenue** | Bus | $ 26,773,131 | $ 28,635,000 | $ 29,750,000 | $ 32,770,000 | $ 33,920,000 | $ 37,040,000 | $ 10,266,869 |
| | Ferry | $ 1,800,000 | $ 76,875 | $ 2,026,000 | $ 2,250,000 | $ 2,492,000 | $ 2,814,000 | $ 1,014,000 |
| | **Total** | $ 28,573,131 | $ 28,711,875 | $ 31,776,000 | $ 35,020,000 | $ 36,412,000 | $ 39,854,000 | $ 11,280,869 |
| **Net Operating Cost** | Bus & Ferry excl. Debt | $ 25,965,741 | $ 28,588,125 | $ 28,224,000 | $ 29,580,000 | $ 32,488,000 | $ 32,646,000 | $ 6,680,259 |
| | Increase vs. 2008 | | + 10% | + 9% | + 14% | + 25% | + 26% | |
| ***Net Cost per Capita*** | | **$82.54** | **$90.18** | **$88.48** | **$91.86** | **$99.96** | **$98.93** | |
| ***Revenue/Cost Ratio*** | | **52.39%** | **50.11%** | **52.96%** | **54.21%** | **52.85%** | **54.97%** | |
| **Capital Expenses** | Buses (Replacement) | | $7,400,000 | $7,400,000 | $7,400,000 | $6,500,000 | $6,500,000 | $35,200,000 |
| | Buses (Expansion) | | $4,500,000 | $4,500,000 | $4,500,000 | $2,500,000 | $2,500,000 | $18,500,000 |
| | Total - Buses | | $11,900,000 | $11,900,000 | $11,900,000 | $9,000,000 | $9,000,000 | $53,700,000 |
| | Terminals | | 4,000,000 | 4,000,000 | 1,750,000 | | | $9,750,000 |
| | Bus Stops | | 360,000 | 360,000 | 360,000 | 360,000 | 360,000 | $1,800,000 |
| | Shelters | | 330,000 | 330,000 | 330,000 | 330,000 | 330,000 | $1,650,000 |
| | Fare Collection Equip | | | $6,120,000 | | | | $6,120,000 |
| | Transit Priority Meas. | | | | 4,000,000 | 4,000,000 | 2,000,000 | $10,000,000 |
| | Ferry vessels (Expansion) | | | | 5,000,000 | 5,000,000 | | $10,000,000 |
| | **Total** | $ - | $ 16,590,000 | $ 22,710,000 | $ 23,340,000 | $ 18,690,000 | $ 11,690,000 | $ 93,020,000 |

As indicated in the Exhibit, ridership is projected to increase from 19.6 million (2008) to 22.8 million in 2014 with revenues increasing from $28.6 million to $39.9 million, an increase of $11.1 million, including the implementation of the recommended fare strategy. Annual operating expenditures would increase from $54.54 million in2008 to $72.5 million in 2014, an increase of $17.9 million. The annual net municipal investment for operations would increase from $26.0 million to $32.6 million, or approximately $6.7 million. Revenue-hours of service would increase from 688,800 in 2008 to 842,000, an increase of 153,200 revenue-hours.

Capital expenditures over the Five-Year period would total approximately $93.02 million for 102 buses (65 replacement and 37 expansion), two ferry vessels (one for expansion and one spare), expansion and refurbishing of three terminals and construction of one new terminal, additional shelters and upgrading of bus stops, fare collection equipment and preliminary estimates for transit priority measures. These capital estimates do not include construction of the new Ragged Lake operations and maintenance facility now underway or the Bridge Terminal expansion also underway.

Transit staff would increase, including an allowance for additional vehicle maintenance staff, from 579 to 707 employees including 8 administration and operations staff, 15 maintenance staff and 105 bus operators.

Overall, the transit vehicle fleet for conventional and community transit services would increase from 265 buses and three ferries to 302 buses and five ferries during the term of the 5-Year Plan. MetroX and Access-A-Bus vehicles would be additional.

### Bus Renewal Plan

HRM is currently on a 20-year replacement cycle. 32% of the fleet is nine years and older and eighteen of the conventional bus fleet are more than 20 years old. The remaining 68% are eight years and younger. For many years, industry practice has been to replace buses after an 18-year cycle. However, since the introduction of the “Low Floor Buses” and the emphasis that has been placed on “Becoming Green”, more Canadian systems are starting to replace buses much earlier and in some cases after 12 to 13 years. Transit buses are capable of lasting 18 years, providing that the vehicle undergoes a complete mid-life overhaul which should include body rebuild and possibly repower to meet the newer emission standards.

If HRM maintains the 20-year replacement cycle, over the next five years, an average of 13 vehicles per year should be replaced. Costing is based on $450,000 per conventional bus, $360,000 for 9.6m buses and $ 650,000 for articulated buses.

**Exhibit 7-4 Proposed Transit Vehicle Replacement Plan**

| Bus Group | Year Purchased | Replacement Year | Replacement Age | Total Purchase | Replacement Cost (000's) |
|---|---|---|---|---|---|
| ***511 to 513*** | *1981* | *Immediate* | *28* | *3* | *$ 1,350* |
| ***871 to 876*** | *1983* | *Immediate* | *26* | *3* | *$ 1,350* |
| ***902*** | *1986* | *Immediate* | *23* | *1* | *$ 450* |
| ***909, 928*** | *1987* | *Immediate* | *22* | *2* | *$ 900* |
| ***934 to 940*** | *1988* | *Immediate* | *21* | *5* | *$ 2,250* |
| ***943 to 946*** | *1989* | *Immediate* | *20* | *3* | *$ 1,350* |
| ***948 to 952*** | *1990* | *2010* | *20* | *5* | *$ 2,250* |
| ***701 to 711*** | *1992 (Artic. Buses)* | *2012* | *20* | *11* | *$ 7,150* |
| ***712 to 714*** | *1993 (Artic. Buses)* | *2013* | *20* | *3* | *$ 1,950* |
| ***954 to 966*** | *1994* | *2014* | *20* | *12* | *$ 5,400* |
| ***Total*** | | | | ***48*** | ***$ 24,400*** |

## 7.3 Funding Source Options

The Five-Year Transit Service Plan for Metro Transit proposes to increase revenue service hours from 688,800 in 2008 to 842,000 (bus and ferry) in 2014, a 16% increase, which in turn is projected to increase the annual net operating cost by $6.68 million. Capital expenditures will total approximately $93 million.

Apart from the increase in service expansion, the operating funding gap will also be a result of wage increases, rises in fuel costs, additional debt changes from new buses required to replace older buses and for service expansion, and from other transit capital investments (e.g., transit priority measures to improve travel times and reliability).

The above-noted projected gap in transit operating funding for Metro Transit could be funded by a number of means both within and outside the direct control of HRM, which are directed to both current transit users and non-users. By directing these costs to both transit users and non-users, the taxes act as transportation demand management tools and spread the costs out more evenly amongst the region's residents and visitors.

### 7.3.1 Financing Options under HRM Control

The means within the control of Halifax Regional Municipality control could include the following:

i. Increase Fares - Raise fare levels to maintain a revenue cost-ratio of approximately 50-55%;

ii. Develop New Transit Passes: Develop new types of fare media which could in turn be used to increase ridership and fare revenues. Such new fare media include the employer and community passes. As well, the U-Pass Program could be expanded.

*Employer Pass*

Develop a broad based Employer Pass is where employers would sign up their employees for transit passes for one year and the costs are deducted through payroll. When employees combine these employee pass discounts (which are usually in the 15 to 18% range) with the federal tax credit for transit passes, they can receive up to a 30% discount. Employer Transit Passes have been implemented in many transit systems of similar size to Metro Transit and they have successfully captured new riders and fare revenues. The Metro Vancouver experience has shown that employer passes are growing in popularity. Together with monthly passes, the sale of these discounted passes has steadily increased (e.g., it grew by 8.2% between 2007 and 2008), and the use of prepaid fare media continues to exceed growth in cash sales. In 2008, 197,000 employer passes were sold, generating $18,170,000 in revenue. If Metro Transit was to establish such a program, given that its population size is about 17% that of Metro Vancouver, up to $3 million in revenue could be generated from it annually. However, it should be noted that increased revenues will only result from *employers* absorbing the discount of the pass, and not Metro Transit/HRM. In addition, it would be likely necessary for HRM to take a leadership role and adopt an employee pass for its own employee at a direct cost to HRM. However, the cost for HRM employee passes should not be charged against the Metro Transit budget. The cost should be accounted for in a general municipal account such as for employee benefits.

*Community Pass*

A Community Bus Pass is where developers of large multi-family residential developments (i.e., apartments) or well defined areas developed by a common development corporation (i.e., subdivisions) are provided with incentives (e.g., density bonuses or reduced parking requirements) and in exchange provide households with Community Transit passes for household members. Community Pass systems have been developed in Metro Vancouver (e.g., in Simon Fraser University's newest on-campus residential neighbourhood, UniverCity). The Community Pass at SFU is available to residents at a discounted monthly rate of $29.67 compared to a regular three-zone monthly pass of $136 and a three-zone monthly Employer Pass of $117, and allows unlimited travel within the TransLink service area). BC Transit has also developed similar Community Pass Programs for higher density and multi-family developments in the City of Victoria. These Community Pass Programs have been successful in attracting new riders and revenues for their respective transit systems. In the agreement for the Community Pass at Simon Fraser University, the corporation responsible for developing UniverCity (the SFU Community Trust) was able to negotiate with TransLink a discounted rate for the community pass by guaranteeing at least 50% of the residents would commit to purchasing this pass. If the take-up for the program in any one year is not 50% of the residents living in UniverCity, the SFU Community Trust makes up the difference in fee payments to TransLink

A similar Community Pass program could be established in communities with higher densities (e.g., Bishop's Landing in downtown Halifax) and good access to transit, and monthly passes could be priced at approximately $25 (providing deep discounts for pass holders). In Bishop's

Landing alone, approximately $61,800 (assuming each apartment unit purchases one pass) to $123,600 (assuming each apartment unit purchases two passes) in revenue could be collected each year.

*Expand U-Pass Program to Staff and Faculty*

The current U-Pass systems developed for Dalhousie, St. Mary's and other colleges in Metro Halifax could be extended to include staff and faculty but at a lower discount rate than the student U-Pass (e.g. 50% for regular monthly pass). Together with the excellent transit services already being provided to these post secondary schools (and will be further enhanced through the implementation of the proposed service plan in the next five years), this would increase transit ridership and revenues. If the post-secondary schools in HRM were to offer the U-Pass to their faculty and staff, up to approximately 5,310 faculty and staff could be provided with a pass. If each faculty/staff U-Pass costs $200 per academic year, depending on whether this program is voluntary (e.g., staff and faculty can choose to buy a pass) or mandatory (i.e., all staff and faculty will automatically have the cost of the transit pass deducted from their paycheck each month), this pass could generate $531,000 (with a 50% uptake) to $1.1 million (with a 100% uptake) of revenue each year. Alternatively, Metro Transit could require institutions to have at least 50% of their staff and faculty purchasing the pass.

iii. Increase Property Taxes - the taxes for residential, commercial, and industrial properties could be raised to generate more funding for transit (currently, approximately $29 million of the property tax revenue collected annually is used to fund transit). Property taxes have been a prominent source of revenue for transit and will likely continue to be in the future.

iv. Advertising – Typically, the most common forms of transit advertising include posters at transit stops/stations, inside and outside transit vehicles, and vinyl bus wrapping. Earlier in 2009, a study was conducted through the Transit Cooperative Research Program to gain a better understanding of advertising decision makers' perceptions of transit advertising and to develop strategies for improving these perceptions and increasing transit advertising revenues.[1]

Currently, most systems use advertising revenues to cover 1-2% of the annual operating costs. If, however, aggressive campaigns are made to improve transit advertising programs, the revenue that could be generated could increase. In other regions of comparable sizes, advertising revenue is typically $500,000 to $700,000. In 2009/2010, Metro Transit is expected collect approximately $656,000 in revenue from advertising fees.

v. Increase Parking Fees in the region - parking fees at lots or at meters could be increased/implemented to generate funding for transit. As well, an area parking tax could be developed and applied against all lands surfaced for parking in shopping centres, churches, municipalities, schools, etc. TransLink in Metro Vancouver has a 7% charge on fees paid for off-street parking and this tax generates approximately $15 million annually. TransLink implemented an area parking tax in 2006 of $1.02 per square metre or approximately $30.00 per parking stall. This area parking tax generated approximately $25 million annually, but was removed by the province of BC in 2007 after intense pressure from the business

[1] Alper, J. (2009). *Practical Measures to Increase Transit Advertising Revenues. TCRP Report. 133.* Washington, DC: Transportation Research Board. http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_133.pdf

community. Their major objection to the tax was that it was not been applied to parking areas of municipalities, churches and all schools.

Currently, each year $2.57 million of revenue is collected from parking meters in the Halifax Region. If this was increased by 10%, additional annual revenue of $257,000 would be collected, which could then be used to fund transit. If an area parking tax was also applied, and assuming that the number of parking stalls at shopping centres, churches, municipalities, etc. per person is approximately the same between the two regions, approximately $4.0 to 4.3 million of annual revenue could be collected from this area parking tax. Together, these two sources would equate to approximately $4.6 million.

vi. Implement a Capital Cost Levy - a levy could be charged against new land developed to help pay for the capital costs required to fund transit services to these lands, and these revenues could be used to reduce debt charges for new buses. Currently, York Transit in Ontario collects development charges to help cover a portion of its operating costs. Each year, York Region Transit receives approximately $1 million of the development cost charges collected. Given that the population of York Region is more than twice that of HRM, approximately $430,000 could be potentially collected by HRM.

### 7.3.2 Financing Means Not Under HRM Control

The means of obtaining additional operating funding for transit which are not under the control of HRM include the following:

i. Increase Bridge Tolls - the current tolls could be increased on the two main bridges between Halifax and Dartmouth. Currently, the bridge toll rate is $0.75. If this was increased by $0.25 on both bridges, an additional $8 million could be generated each year. In initial discussions with representatives of the authority responsible for the bridges on this use of toll revenues for transit, it was indicated that all the projected bridge toll revenues would be required to fund required bridge maintenance work, and that this work may require more funds than allocated under the existing tolling rates. The advantage of using toll revenues for transit improvements is that these improvements will assist in delaying the timeframe required for an additional major bridge crossing in the Halifax-Dartmouth area. As well, increased tolls would begin to act as a TDM measure and perhaps encourage more residents to cross the harbour using transit rather than cars.

ii. Vehicle Registration Tax - a vehicle tax based on the weight of the vehicles and the type of driving for which it is insured (e.g., used regularly for work or just for pleasure trips) could be included in the annual registration fee for all vehicles in Metro Halifax.

Since 1997, the Central Puget Sound Regional Transit Authority in the State of Washington has implemented a 0.3% motor-vehicle tax to fund transit expansion. In 2008, combining this with a car rental tax, approximately $71 million of revenue was collected. In the case of the HRM, given that its population size is 10% that of the Puget Sound Region, approximately $5.0 million to $7.1 million could be generated from the implementation of similar taxes.

iii. Property Value Capture Tax – as transit service enhances an area's economic, cultural, and social accessibility, the value of properties within the vicinity of a transit terminal/exchange typically increases. A property

value capture tax allows some of this increased value to be captured and used to fund the necessary public amenities to support the community. This type of taxing system has been used in the UK and US for many decades. Boston, for example, collects a "betterment tax" to fund public infrastructure costs. The tax is individually assessed and is based on the overall cost of the betterment and parcel-specific factors such as length of frontage and the parcel's land area. A 2001 study conducted by Gihring also looked at the potential revenue that could be generated at the Broadway Station area in Seattle if the Sound Transit LINK rail line was built and if a land value gains tax was applied in the transit benefit district area. The conclusion was that $24 million of revenue could potentially be generated. Depending on the land value premium that is generated around Halifax's major transit terminals/exchanges (typically 5-10% for residential properties and 10-30% for commercial properties), and taking into account the average land value as compared to Seattle and the fact that bus stations may not increase land values as much as rail stations, approximately $5 million to $10 million could be generated from each terminal area.

iv. Cargo Tax - truck traffic carrying cargo places a significant strain on the roads of the Halifax Region. There are congestion costs, as well as increased road infrastructure and maintenance costs. Therefore, a tax on all cargos coming in to or out of the Halifax port could be charged on a per tonnage basis, and this could be used to fund transit. If, for example, each tonne of cargo was charged $0.10, in 2008 (when almost 10.3 million tonne of cargo came in/out through the Halifax Port) over $1 million could have been collected from the shipping sector.

v. Sales Tax - since 1997, the Central Puget Sound Regional Transit Authority has used a 0.4% sales tax to fund transit expansions. If a similar percentage was applied in Metro Halifax, approximately $14.5 million (in 2008/09, the per capita spending on goods and services within the Region is predicted to be approximately $9,460) could be collected to fund transit infrastructure each year.

vi. Gasoline Tax – Currently, the province of Nova Scotia collects a gasoline tax of 15.5 cents per litre, and approximately 1280 litres of gasoline was purchased per person in 2008. Currently, TransLink in Metro Vancouver receives 12 cents in revenue from the provincial government for each litre of gasoline and diesel sold in the region (a 6 cents per litre transit tax is matched by the provincial government, who remits an additional 6 cents/litre to the region). If a similar agreement can be reached for Halifax, approximately $59 million in revenue could be generated for Halifax each year.

vii. Carbon Tax - Carbon taxes are taxes based on fossil fuel carbon content, and therefore a tax on carbon dioxide emissions. However, they require provincial or federal legislation to be implemented. If such a tax is implemented, the following recommendations made by Durning and Bauman (1998) and the Carbon Tax Center should be considered: [2,3]

- *Broad coverage*. Carbon taxes should apply to all fossil fuels, based on their carbon content. This makes them credible and efficient to administer compared with taxes that vary depending on where or by whom fuel is consumed.

- *Gradual and predictable implementation.* Such taxes should increase gradually and predictably so consumers and

[2]Alan Durning and Yoram Bauman. (1998). "Tax Shift". *Sightline Institute.* www.sightline.org/publications/books/tax-shift/tax.

[3] *Carbon Tax Center* (www.carbontax.org).

businesses can take higher future energy costs into account when making long-term decisions, such as vehicle purchases and building locations.

- *Revenue-neutrality.* Revenues generated by the tax should be returned to individuals and businesses through reductions in other taxes.

- *Protection for lower-income households.* Tax reductions and rebates should be structured to aid lower-income households and other disadvantaged groups.

However, instead of making it a revenue-neutral tax, the funds collected could be used to finance public transit, further encouraging people to be less dependent on private automobiles.

In 2008 a carbon tax was introduced in BC. In the first year, $10 was charged for every tonne of carbon, and this rate will increase by $5 per tonne annually for at least four years. Over the first three years, approximately $1,849 million is expected to be collected. If a similar tax was introduced in Nova Scotia, the revenue from HRM could be remitted to the Region. Assuming the tonne of carbon produced per person is the approximately the same between the two provinces and a similar rate was charged ($10/tonne in the first year, $15/tonne in the second year, and $20/tonne in the third year), approximately $3.6 million would be generated in the first year. In the third year, this will increase to $5.4 million.

viii. Employer Tax – employers are a major beneficiary of improved transit systems as they are able to attract a wider range of employees and they can reduce the parking spaces they provide to employees. However, employers are often not required to financially contribute to transit systems. Recognizing this, Washington State currently allows regional transit authorities to levy $2.50 per employer per month to fund transit operations. A similar rate could be pursued by HRM, which currently has 23,606 businesses. Doing so would generate $708,180 of annual revenue.

ix. Room or Occupancy Tax – the current 2% municipal hotel room tax, which is applied on a per room basis for all accommodations in the HRM, currently generates approximately $3 million of revenue. This tax could be increased to 3% and the additional funds raised could be used for transit. This would generate another $1.5 million of revenue each year.

x. A Car Rental Tax - similar to the vehicle registration tax, there could be a car rental tax that is also based on the weight and type of vehicles. As mentioned earlier, in 2008, the Central Puget Sound Transit Authority collected approximately $71 million of revenue from the vehicle registration tax and the car rental tax (was 0.8%). If HRM was to implement similar taxes, approximately $5.0 to 7.1 million could be generated.

A summary of the revenue that would be generated from the above sources is presented in Exhibit 7-55.

### Exhibit 7-5 Revenue from the Various Potential Funding Sources

| Funding Source | Potential Annual Revenue |
|---|---|
| **Under HRM control** | |
| Employer Pass | $3 million |
| U-Pass | $531,000 to $1.1 million |
| Community Pass | Depends on number of pass holders |
| Increased Property Tax | Viable option that is a main source of funding, but not as directly related to benefits from transit as other resources |
| Advertising | $500,000 to 700,000 |
| Increased Parking Fees | $4 to 4.5 million |
| Capital Cost Levy | $430,000 |
| **Not Under HRM Control** | |
| Increased Bridge Tolls | $8 million |
| Vehicle Registration Tax and Car Rental Tax | $5 to 7.1 million |
| Property Value Capture Tax | $5 to 10 million (total revenue for each station area, not annual) |
| Cargo Tax | $1 million |
| Sales Tax | $14.5 million |
| Gasoline Tax | $59 million |
| Carbon Tax | $3.6 to 5.4 million |
| Employer Tax | $708,180 |
| Room/Occupancy Tax | $1.5 million |

The criteria which are used to evaluate these alternative financing methods include:

- Transparency-ease of understanding the revenue source and its application to funding transit;
- Revenue generating potential - amount of new revenue generated;
- Ease of implementation - difficulty of implementing the measure and whether or not it requires legislative changes, extensive consultation, and approval from numerous agencies;
- Transportation demand management (TDM) effects - relationship of new funding source to transit and transportation patterns;
- Environmental/social benefits – this includes equity in the application of the alternative funding to different income and demographic groups, and the potential for environmental benefits to result (due to auto trips being diverted to transit trips);
- Cost efficiency - in terms of distractive costs, compliance costs and evasion levels;
- Technical feasibility;
- Popular or political acceptability; and

- Consistency of revenue stream - sustainability and consistency of revenue stream from the source.

Exhibit 7-6 provides the evaluation results for the above funding sources.

### 7.3.3 Recommendations

Based on the evaluation results, it is recommended that the Halifax Regional Council pursue the sources of funding listed below, which are presented in order of overall feasibility and effectiveness, with the first three on the list being the primary focus. These sources were selected based on the number of criteria they could achieve and the timeliness in which they could be implemented.

1. New fare media
2. Parking levies
3. Bridge Tolls
4. Value capture
5. Gas tax revenue

Outside of HRM Council's direct control, increasing the bridge tolls and dedicating the additional amount to transit has been discussed and has the potential to raise approximately $8.0 million annually. Implementation of this measure would require a high level of cooperation between HRM and the province with the possible requirement for legislative change to the Bridge Commission Act but is recommended to be pursued.

## Exhibit 7-6 Evaluation of Financing Means to Bridge Operating Funding Gap with Metro Transit

| Revenue Source | Transparency | Revenue Generating Potential | Ease of Implementation | TDM Effects | Environ. / Social Benefits | Cost Efficiency | Technical Feasibility | Popular/ Political Acceptability | Consistency of Revenue Stream |
|---|---|---|---|---|---|---|---|---|---|
| **Means Within HRM Control** | | | | | | | | | |
| **Property Taxes** | ◒ | ◒ | ● | ○ | ○ | ● | ● | ○ | ● |
| **Raise Fares** | ● | ○ | ● | ○ | ◒ | ◒ | ● | ○ | ◒ |
| **Parking Levies** | ● | ● | ◒ | ● | ● | ● | ● | ◒ | ◒ |
| **Capital Cost Levy** | ◒ | ◒ | ◒ | ◒ | ● | ● | ◒ | ◒ | ◒ |
| **New Fare Media** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Advertising** | ● | ◒ | ● | ○ | ○ | ● | ● | ● | ● |
| **Means Not Within HRM Control** | | | | | | | | | |
| **Sales Taxes** | ○ | ● | ○ | ○ | ○ | ● | ◒ | ◒ | ◒ |
| **Gas Taxes** | ● | ● | ◒ | ◒ | ◒ | ● | ◒ | ● | ◒ |
| **Carbon Tax** | ◒ | ● | ○ | ◒ | ● | ● | ◒ | ○ | ◒ |
| **Value Capture** | ● | ● | ◒ | ● | ● | ● | ◒ | ◒ | ● |
| **Hotel/ Occupancy Tax** | ◒ | ◒ | ◒ | ○ | ○ | ● | ◒ | ◒ | ● |
| **Container Tax** | ● | ◒ | ○ | ○ | ◒ | ● | ◒ | ◒ | ● |
| **Vehicle Registration Levy** | ● | ● | ◒ | ◒ | ◒ | ● | ◒ | ◒ | ● |
| **Employer Tax** | ◒ | ◒ | ○ | ◒ | ○ | ● | ◒ | ◒ | ● |
| **Bridge Tolls** | ● | ● | ◒ | ● | ● | ● | ● | ◒ | ◒ |
| **Rental Car Tax** | ● | ● | ○ | ◒ | ◒ | ● | ◒ | ● | ◒ |

● **Best Suited to meet Criteria** ◒ **Adequately Suited to meet Criteria** ○ **Poorly Suited to meet Criteria**

# 8. Implementation Plan

If implemented over the 2010 – 2014 period, the proposed Service Plan is expected to have the following outcomes by 2014.

## 8.1 Years 2010, 2011

The first priority is to improve the headways to reduce the overloading and bring all routes to the standards established for core and local routes. The improvements could be extended over a two year period starting in 2010. Improved headways would be required on core Routes 1, 2, 4, 7, 9, 14, 18, 32, 34, 35, 51, 52, 53, 59, 60, 80, 87 and 159, and on local Routes 6, 21, 41, 42, 54, 58, 62, 65, 66, 67, 72, 82, 83, 88 and 89. In addition, several routes will need to be restructured to accommodate the headway changes including Routes 2, 4, 18, 24, 57, 58, and 65. The actual headways and operating characteristics of the routes are shown in Exhibits E1.1– E1.5 in Appendix D.

Specifically, in the first year (2010), the following changes would be introduced:

- Route 22 to Ragged Lake (also serving the new Transit Centre)\
- New service to Baker Drive (route 57)
- Service to Wright Avenue (extension of route 72)

In 2011, in addition to general service improvements and frequency increases, the extension of route 24 to Washmill Lake would be introduced upon the completion of the underpass.

The headway changes would occur primarily on weekdays and should increase the annual revenue vehicle hours for the bus operations by approximately 40,000 or 20,000 revenue hours in 2010 and 20,000 revenue hours in 2011. The frequency improvements will require 18 additional buses over the two years and 32 additional operators.

## 8.2 Years 2012, 2013

The second priority is to expand the Woodside Ferry Service to operate all day Monday to Saturday, and to restructure and expand the routes to accommodate the growth and development and improve their performance for passengers. The routes that need to be restructured or added include Routes 5, 6, 16, new 22, 33, 52, 56, 64, 66, new 67, 72, 81A, 81B, 82, 85, 165, and new 330. Much of the restructuring will occur in Bedford, Dartmouth and Burnside. In Burnside, a new off-street terminal will need to be built at Wright and John Savage before Routes 52, 56, 64, 66, 72 and 85 can be restructured. The proposed changes to services in Burnside would need to be implemented as a package, similar to the proposed changes to services in the Portland corridor.

The operating characteristics of the routes are shown in Exhibits E2.1– E2.5 in Appendix D.

The structural changes would occur on weekdays and weekends, and should increase the annual revenue vehicle hours for Metro buses by approximately 80,000 or 40,000 revenue hours in 2012 and 40,000 revenue hours in 2013. The restructuring of the existing routes and implementation of new routes will require 14 additional buses, 2 additional ferry vessels, and 53 additional operators.

## 8.3 Year 2014

The third priority is to implement the new MetroLink and Metro X services (131, 132, transit priorities in the Route 1 corridors in Halifax and the Portland corridor in Dartmouth, and reduced headways on the BRT and other routes affected by the transit priorities. The operating characteristics of the routes are shown in Exhibits C.1– C.5 in Appendix D.

The 2014 changes and additions should increase the annual revenue vehicle hours for Metro Transit buses by approximately 30,000 revenue vehicle hours in 2014. The new MetroLink services will require 5 additional buses and 20 additional operators.

# 9. GHG and Climate Change Impact

The construction and operation of transportation systems consume large amounts of natural resources such as fossil fuels, aggregates, metals, rubber and green-space. They also produce emissions of a wide range of pollutants that contaminate our air, water and land, as well as greenhouse gases that are affecting the earth's climate. Increasing the use of transit is seen as a key strategy in reducing our ecological footprint.

The remainder of this section focuses on the potential for transit improvements to reduce greenhouse gas emissions from transportation in the MetroTransit Service Area and beyond. The relative impacts on greenhouse gas emissions are indicative of the impacts of transit improvements on other environmental indicators that vary with modal shares, including air emissions, noise and consumption of non-renewable energy.

There are a number of ways to reduce greenhouse gas emissions from transportation including:

- Shifting to more fuel efficient vehicles;
- Increasing the utilization of vehicles (i.e. load factors);
- Reducing the number of trips and average distance travelled; and
- Reducing automobile use and emphasizing public transit use.

Transit has a role to play in all of these. As shown in Exhibit 9.1, the emissions intensity of urban transit can be as much as half that of a typical passenger car depending on how well transit is utilized. Even at load factors as low as six passengers per bus, an urban transit bus consumes less fuel and produces fewer emissions per passenger-kilometre than a car carrying a single occupant. The case for transit improves substantially in 2010 with the latest emissions standards which lower NOx and particulate matter levels substantially.

**Exhibit 9-1 GHG Comparison for Buses and Passenger Cars**

| | Fuel Efficiency (L/100KM) | GHG Emissions Factor (g/L) | GHG Emissions per Passenger-km |
|---|---|---|---|
| **Passenger Vehicle** | 9.8 | 2479 | |
| Single Occupant | | | 263 |
| Two Occupants | | | 131 |
| **Diesel Bus** | 54.0 | 2757 | |
| 6 persons per bus | | | 221 |
| 30 persons per bus | | | 44 |

*Source: Transport Canada Urban Transportation Emissions Calculator www.tc.gc.ca/UTEC*

In order to explore the ability for transit and related land use and travel demand management measures to reduce GHGs, estimates of emissions were calculated using the Urban Transportation Emissions Calculator developed by IBI Group for Transport Canada (**www.tc.gc.ca/UTEC**). The Urban Transportation Emissions Calculator (UTEC) is a user-friendly tool for estimating annual emissions from personal, commercial, and public transit vehicles. It estimates greenhouse gas (GHG) and criteria air contaminant (CAC) emissions from the operation of vehicles. It also estimates upstream GHG emissions from the production, refining and transportation of transportation fuels, as well as from production of electricity used by electric vehicles.

The primary input to the Tool is vehicle kilometres travelled (VKT) for all road vehicles, including buses. Data can be entered for any time period (may be different for each mode) and the model will scale the results up to annual values. VKT for the base scenario was estimated using the Greater Golden Horseshoe Transportation Planning Model (MTO EMME/2 Model). Transit vehicle-kilometres were calculated based on the annual vehicle hours presented elsewhere in this report. The exhibit below provides a summary of the input assumptions. In addition to the existing scenario, two future scenarios were developed, one assuming minimal improvements to transit (Base Level) and the other assuming the long term service strategy is fully implemented.

### Exhibit 9-2 Input Variables for GHG Calculations

| | Source/Assumptions | Existing (2008) | Future Base Case (Do Nothing) | Long Term Plan |
|---|---|---|---|---|
| Service Area population | City | 86,000 | 88,500 | 88,500 |
| ***Auto VKT (Peak Hour)*** | ***MTO GGH Model; future long term plan is based on expected mode shifts from auto to transit; assumes 1.1 persons per car*** | ***128,000*** | ***131,700*** | ***128,100*** |
| Auto VKT (Annual) | Based on expansion factors in UTEC Model | 430,080,000 | 442,512,000 | 430,381,091 |
| Total Bus Vehicle Hrs (Annual) | City/IBI estimates | 65,800 | 65800 | 105000 |
| ***Total Bus VKT (Annual)*** | ***CUTA Stats; future scenarios are pro-rated based on bus hours*** | ***1,400,000*** | ***1,400,000*** | ***2,234,000*** |
| Average Passengers/bus | Used to calculate transit passenger-km | 16 | 16 | 22 |
| Total Transit Passenger-km | Based on average load factors; used to calculate changes in Auto veh-km | 22,400,000 | 22,400,000 | 49,148,000 |

***Bold rows indicate values input to UTEC Model***

As shown below, the proposed transit improvements have a small but measurable effect on reducing greenhouse gas emissions and other emissions. Overall, compared to the base case (or do nothing) alternative, the proposed transit improvements would reduce GHG emissions from passenger transportation by about 4.4%. These results could be further enhanced if supported by other initiatives to create more transit-oriented communities, promote walking and cycling as viable transportation modes and encourage a reduction in auto trips through various travel demand management initiatives.

**Exhibit 9-3 Summary of GHG Impacts of Proposed Transit Improvements**

| Scenario | Annual GHG Emissions (CO2 Equivalent tonnes) | | |
|---|---|---|---|
| | Autos | Transit | Total |
| Existing (2008) | 145,100 | 2,637 | **147,737** |
| Future Base Case | 143,800 | 2,548 | **146,348** |
| % change from existing [1] | -0.9% | -3.4% | **-0.9%** |
| Future Long Term Plan | 135,900 | 4,067 | **139,967** |
| % change from existing [1] | -6.3% | 54.2% | **-5.3%** |
| % change from future base case | -5.5% | 59.6% | **-4.4%** |

[1] Includes impacts of changes in technology as estimated by UTEC Model.

## 9.1 Summary

The transit improvements are projected to reduce GHG's by approximately 4.4% based on the ridership projections included in the 5-Year Strategic Operations Plan particularly given the significant projected increase in the transit modal split. Further GHG reductions could be achieved through greater transit use and corresponding reductions in auto use as intended with the Regional TMP by 2031.

# 10. Conclusions and Recommendations

## 10.1 Conclusions

The Five-Year Strategic Operations Plan for the conventional urban transit operations of Metro Transit (excluding MetroX and community transit services) provides direction for improving these services over the period 2010 to 2014 consistent with the Regional Plan which calls for significantly increased transit use by 2031. The Strategic Operations Plan identifies the transit service changes and investment required as well as funding options for meeting the on-going finance needs of the transit system.

The Strategic Plan analyzes the market for transit based on analysis of an extensive web survey and other planning data undertaken as part of the study; a review and assessment of all elements of the existing transit service and operations. The key conclusions based on the research and analysis undertaken are:

1. There is strong support for expanding public transit services in the HRM area;

2. The transit modal split has increased from 10% in 2000 to 12% in 2008. The Five-Year Strategic Transit Operations plan goal is to increase the modal split from 12% to 14% by 2014 consistent with the Regional TMP. This will require further investment in Metro Transit service in terms of service levels, revenue-hours, vehicles, staff and facilities. An important objective for increasing the transit modal split is to avoid the necessity of building a third harbour crossing at an estimated cost of $1.4 billion;

3. The Strategic Transit Operations service plan will increase bus and ferry revenue-hours from 688,800 in 2008 to 842,000 in 2014. A key element of the service plan is the introduction of a Bus Rapid Transit service along the Spring Garden/Barrington/Portland Street corridors;

4. Metro Transit staff are preparing separately a rural transit service plan as well as planning for the introduction of further MetroX services;

5. Expanded transit priority measures will also be required to improve service reliability and improve travel speeds;

6. Ridership is projected to increase by 16% from 19.6 million in 2008 to 22.8 in 2014;

7. The transit fleet will increase from 265 buses and three vessels to 302 buses and five vessels by 2014;

8. Improvements to four transit terminals will be required at Mumford, Lacewood and Cobequid and the construction of a new terminal in Burnside in addition to the expansion of the Bridge Terminal and refurbishing of the Highfield Terminal currently underway;

9. The number of transit employees will increase from 579 (including vehicle maintenance employees) to 707 by 2014;

10. Total operating expenses will increase from $54.54 million in 2008 to $72.5 million in 2014. The net annual investment required for transit operations would be $32.6 million by 2014.

11. Capital expenditures would total $93.02 million over the next 5 years for 65 replacement and 37 expansion buses, two ferry vessels, construction, refurbishing and expansion of 4 terminals, upgrading bus stops, adding 163 new shelters, and introducing smart cards for fare collection. This total does not include current capital projects such as the Ragged Lake Transit Centre or Bridge Terminal re-construction and expansion.

12. New funding sources will be required to supplement the current sources of fares and property taxes. The most advantageous options within HRM's direct control are: new fare media and fare increases, capital cost levy, gas tax, value capture, and vehicle registration levies. Although not within HRM's direct control, increasing the tolls on the two bridges and dedicating the additional amount to transit should be pursued in cooperation with the Province and the Bridge Commission. A 25 cent additional charge on the bridge tolls would generate approximately $8 million per year.

## 10.2 Recommendation

It is recommended that this report be adopted in principle as the basis for planning, managing, operating and financing Metro Transit services over the next five year period, 2010 to 2014.

# Appendix A
# Web Survey Form

## Section 1 - Household Information

1. How many persons 16 or older live permanently in this household, including yourself? _____

2. Number of vehicles available for personal use in the household?
____ Cars or Trucks ____ Motorcycles ____ Bicycles ____ CarShare HRX Vehicles Other (please specify) _____

## Section 2 - Person Details

Residents' Information. Please complete the following information.

3. First name or initials _____

4. Gender ( ) Male ( ) Female

5. Age ( ) 16 – 24 ( ) 25 – 34 ( ) 35 – 44 ( ) 45 – 54 ( ) 55 – 64 ( ) 65 or older

6. Do you have a driver's license? ( ) Yes ( ) No

7. Current employment status
( ) Part-time/Casual less than 30 hours per week ( ) Full-time 30 hours or more per week ( ) Work at home part-time ( ) Work at home full-time ( ) Retired ( ) Not employed

8. Type of occupation
( ) General Office/Clerical ( ) Manufacturing/Construction/ Trades ( )Professional/Management/ Technical ( ) Healthcare Services
( ) Military ( ) Retail Sales and Service ( ) Home Duties ( ) Not Employed

9. Current educational status
( ) Elementary or High School ( ) College / Technical School part-time ( ) University part-time
( ) College / Technical School full -time ( ) University full-time ( ) Not a student

10. How often do you BIKE as a form of transportation?
( ) Frequently ( ) Several times per month ( ) Occasionally each year ( ) Never

11. How often do you WALK as a form of transportation (without also using other modes of transportation)?
( ) Frequently ( ) Several times per month ( ) Occasionally each year ( ) Never

12. How often do you drive a motorized personal vehicle (e.g. car, truck, or motorcycle)?
( ) Daily ( ) Several times per month ( ) Occasionally each year ( ) Never

13. How often do you use PUBLIC TRANSIT?
( ) 10 or more one-way trips/week ( ) 4-9 one-way trips/week ( ) 3 or less one-way trips / week ( ) A few trips / year ( ) Never – Go to #17

14. Most common method of payment for transit
( ) MetroPass ( ) MetroLink Pass ( ) U Pass ( ) Tickets ( ) Cash ( ) Other

15. Which route(s) do you most commonly use for bus or ferry trips?

| | | | | |
|---|---|---|---|---|
| ( ) 1 Spring Garden | ( ) 17 Saint Mary's | ( ) 42 Lacewood-Dalhousie | ( ) 62 Wildwood | ( ) 84 Glendale |
| ( ) 2 Wedgewood | ( ) 18 Universities | ( ) 51 Shannon | ( ) 63 Woodside | ( ) 85 Downsview |
| ( ) 3 Manors | ( ) 19 Greystone | ( ) 52 Crosstown | ( ) 64 Akerley | (via MacKay Bridge) |
| ( ) 4 Rosedale | ( ) 20 Herring Cove | ( ) 53 Notting Park | ( ) 65 Astral | ( ) 86 Basinview |
| ( ) 5 Chebucto | ( ) 21 Lakeside/ Timberlea | ( ) 54 Montebello | ( ) 66 Penhorn | ( ) 87 Downsview / Halifax |
| ( ) 6 Quinpool | ( ) 23 Timberlea/ Mumford | ( ) 55 Port Wallace | ( ) 68 Cherry Brook | (via Macdonald Bridge) |
| ( ) 7 Robie | ( ) 31 Main | ( ) 56 Dartmouth Crossing | ( ) 72 Portland Hills | ( ) 88 Duke |
| ( ) 9 Barrington | ( ) 32 Cowie Hill | ( ) 58 Woodlawn | ( ) 80 Sackville | ( ) 89 Bedford |
| ( ) 10 Dalhousie | ( ) 33 Tantallon | ( ) 59 Colby | ( ) 81 Hemlock Ravine | ( ) 159 Portland Hills Link |
| ( ) 14 Leiblin Park | ( ) 34 Glenbourne | ( ) 60 Eastern Passage | ( ) 82 Millwood | ( ) 165 Woodside Link |
| ( ) 15 Purcell's Cove | ( ) 35 Parkland | ( ) 61 Auburn/North Preston | ( ) 83 Springfield | ( ) 185 Sackville Link |
| ( ) 16 Parkland | ( ) 41 Dartmouth-Dalhousie | | | |

16. Do your bus trips usually involve a transfer between routes? ( ) Yes ( ) No If Yes, answer the following:

Location(s) of the transfer _____

Number of transfers _____

17. Which of the following would you like to do more frequently?
( ) Take transit ( ) Bike ( ) Walk ( ) None of the above

## Section 3 - Trip Details

### Trip Diary

Please complete this trip diary for the person filling out this questionnaire only, and include all one-way trips made yesterday.

18. Which day of the week was yesterday? _____

19. Where did you begin your first trip? (Please provide any one of the following, being as specific as you can)
Place Name, Intersection, Postal Code OR No Trips Made _____

20. For what reason were you at this address?
( ) Home ( ) Work ( ) Shopping ( ) Entertainment ( ) School ( ) Other _____

## Section 4 - Specific Trip Details

21.1 Trip #1

What time did this trip begin? You must include AM or PM (e.g. 1:35pm)_____

What time did this trip finish? You must include AM or PM (e.g. 2:35pm) _____

Where was this destination? (Please provide any one of the following, being as specific as you can)
Place Name, Intersection, Postal Code _____

What was the activity at this trip's destination?
( ) Home ( ) Work ( ) School ( ) Entertainment ( ) Other (please write in)
( ) Daycare ( ) Transporting a Passenger ( ) Shopping _____

What mode(s) of transportation were used? (Please check all methods of travel that were used)
( ) Private Vehicle as Driver ( ) Metro Transit Bus ( ) Access-A-Bus ( ) Motorcycle ( ) Other (please write in)
( ) Private Vehicle as Passenger ( ) MetroLink Bus ( ) Community Transit ( ) Taxi _____
( ) Walk ( ) Ferry ( ) Bicycle ( ) School Bus

If you used public transit, by what means did you access it?
( ) Walk ( ) Private Vehicle as Driver ( ) Private Vehicle as Passenger ( ) Bike ( ) Motorcycle ( ) Other (please write in) _____

How many minutes did it take to access public transit? _____

Was this the last trip of the day? ( ) Yes ( ) No
If Yes, go to #23. If No, Complete Trip #2

21.2 Trip #2

What time did this trip begin? You must include AM or PM (e.g. 1:35pm)_____

What time did this trip finish? You must include AM or PM (e.g. 2:35pm) _____

Where was this destination? (Please provide any one of the following, being as specific as you can)
Place Name, Intersection, Postal Code _____

What was the activity at this trip's destination?
( ) Home ( ) Work ( ) School ( ) Entertainment ( ) Other (please write in)
( ) Daycare ( ) Transporting a Passenger ( ) Shopping _____

What mode(s) of transportation were used? (Please check all methods of travel that were used)
( ) Private Vehicle as Driver ( ) Metro Transit Bus ( ) Access-A-Bus ( ) Motorcycle ( ) Other (please write in)
( ) Private Vehicle as Passenger ( ) MetroLink Bus ( ) Community Transit ( ) Taxi _____
( ) Walk ( ) Ferry ( ) Bicycle ( ) School Bus

If you used public transit, by what means did you access it?
( ) Walk ( ) Private Vehicle as Driver ( ) Private Vehicle as Passenger ( ) Bike ( ) Motorcycle ( ) Other (please write in) _____

How many minutes did it take to access public transit? _____

Was this the last trip of the day? ( ) Yes ( ) No
If Yes, go to #23. If No, Complete Trip #3

21.3 Trip #3

What time did this trip begin? You must include AM or PM (e.g. 1:35pm)_____

What time did this trip finish? You must include AM or PM (e.g. 2:35pm) _____

Where was this destination? (Please provide any one of the following, being as specific as you can)
Place Name, Intersection, Postal Code _____

What was the activity at this trip's destination?
( ) Home ( ) Work ( ) School ( ) Entertainment ( ) Other (please write in)
( ) Daycare ( ) Transporting a Passenger ( ) Shopping _____

What mode(s) of transportation were used? (Please check all methods of travel that were used)
( ) Private Vehicle as Driver ( ) Metro Transit Bus ( ) Access-A-Bus ( ) Motorcycle ( ) Other (please write in)
( ) Private Vehicle as Passenger ( ) MetroLink Bus ( ) Community Transit ( ) Taxi _____
( ) Walk ( ) Ferry ( ) Bicycle ( ) School Bus

If you used public transit, by what means did you access it?
( ) Walk ( ) Private Vehicle as Driver ( ) Private Vehicle as Passenger ( ) Bike ( ) Motorcycle ( ) Other (please write in) _____

How many minutes did it take to access public transit? _____

Was this the last trip of the day? ( ) Yes ( ) No

## Section 5 - Concept Feedback

23. How would each of the following changes to Metro Transit affect how often you use public transit?

| | Significantly more often | Somewhat more often | No impact | Somewhat less often | Significantly less often |
|---|---|---|---|---|---|
| More frequent service during peak periods (i.e. weekdays from 6 to 9am and 3:30 to 6:30pm) | | | | | |
| More frequent neighbourhood shuttle buses (e.g. every 15 minutes) connecting to transit terminals | | | | | |
| More bus shelters | | | | | |
| More convenient and comfortable transfers at bus terminals | | | | | |
| More frequent Saturday and Sunday service | | | | | |
| Earlier service Saturday and Sunday mornings | | | | | |
| Service outside of peak periods on the Woodside ferry | | | | | |
| More MetroLink routes | | | | | |
| Fast ferry service to Bedford with connecting buses | | | | | |
| More reliable transit schedule | | | | | |
| "Smart Cards" to replace monthly passes and tickets | | | | | |

24. If you could make two other changes to Metro Transit services, what would you suggest?

1. _____ 2. _____

25. What three destinations in the Halifax Region require better transit service?

1. _____ 2. _____ 3. _____

26. Public Outreach
( ) YES! To help develop and evaluate future transit improvements, I am willing to participate in future e-mail surveys about Metro Transit programs and services.

Contact e-mail or phone number _____
Note: You must provide an email address or phone number to be entered to win in the HRM Listens contest.

27. May we contact you by telephone? ( ) Yes ( ) No

28. Your preferred after hours phone number _____

29. Please add any final comments or concerns you have about this survey.

_____

_____

*Thank you for taking our survey. Your response is very important to us!*

Please mail your completed survey to
HRM Listens
Metro Transit
Halifax Regional Municipality
200 Ilsley Ave
Dartmouth, Nova Scotia, B3B 1V1
Attention: Metro Transit Planning Department

Or drop off at one of HRM's Customer Service Centres

- Acadia Centre 636 Sackville Drive Lwr. Sackville, NS
- Alderney Gate, Mezzanine Level 40 Alderney Drive Dartmouth, NS
- West End Mall 6960 Mumford Road Halifax, NS
- Scotia Square Mall 5201 Duke Street Halifax, NS
- Cole Harbour Place 51 Forest Hills Parkway Cole Harbour, Dartmouth, NS
- Musquodoboit Harbour Hwy 107 & East Petpeswick Road Musquodoboit Harbour, NS

Attention: Metro Transit Planning Department

Or return by e-mail to
reaged@halifax.ca

# Appendix B
# Existing
# Route Characteristics

**EXHIBIT B.1**

**OPERATING CHARACTERISTICS OF METRO TRANSIT'S HALIFAX ROUTES (Fall Weekday 2008)**

| ROUTE | Dir. | SPAN OF SERVICE | HEADWAY (minutes) AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | RUNNING TIME (minutes) AM PEAK Dr. Time | AM PEAK Rec Time | MID-DAY Dr. Time | MID-DAY Rec Time | PM PEAK Dr. Time | PM PEAK Rec Time | EVE Dr. Time | EVE Rec Time | LATE EVE Dr. Time | LATE EVE Rec Time | VEHICLES AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | VEHICLE SERVICE HOURS AM PEAK 3.0 | MID DAY 6.0 | PM PEAK 4.0 | EVE 3.0 | LT EVE 2.0 | TOTAL 18.0 | BOARDING PASSENGERS AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | TOTAL | PASSENGERS / VEH. SERVICE HR AM PK | MID DAY | PM PK | EVE | LT EVE | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SPRING GARDEN | | | | | | | | | | | | | | | | | | | | | | | | | | | | *96.8* | | | | | | | | | | | | |
| Mumford Terminal-Quinpool&Oxford | eb | 6:00am - 12:15am | 10 | 15 | 15/10 | 15 | 30 | 13 | 8 | 13 | 7 | 13 | 6 | 11 | 8 | 11 | 3 | 2.1 | 1.3 | 1.4 | 1.3 | 0.5 | 6.0 | 8.0 | 5.6 | 3.8 | 1.0 | 24.4 | 463 | 599 | 439 | 298 | 60 | 1859 | 77 | 75 | 78 | 78 | 60 | 76 |
| | wb | 6:33am - 12:47am | 20/10 | 15 | 15/10 | 15 | 30 | 14 | | 14 | | 14 | | 14 | | 11 | | 0.8 | 0.9 | 1.0 | 0.9 | 0.4 | 2.3 | 5.6 | 4.1 | 2.8 | 0.8 | 15.6 | 27 | 93 | 64 | 39 | 5 | 228 | 12 | 17 | 15 | 14 | 6 | 15 |
| QuinpoolOxford-Duke&Barrington | eb | 6:11am - 12:26am | 10 | 15 | 15/10 | 15 | 30 | 14 | | 15 | | 15 | | 14 | | 14 | | 1.4 | 1.0 | 1.1 | 0.9 | 0.5 | 4.0 | 6.0 | 4.4 | 2.8 | 1.0 | 18.2 | 326 | 720 | 592 | 368 | 157 | 2163 | 82 | 120 | 133 | 131 | 156 | 119 |
| | wb | 6:20am - 12:36am | 20/10 | 15 | 15/10 | 15 | 30 | 13 | | 14 | | 16 | | 16 | | 11 | | 0.7 | 0.9 | 1.2 | 1.1 | 0.4 | 2.1 | 5.6 | 4.7 | 3.2 | 0.8 | 16.4 | 236 | 1005 | 944 | 339 | 162 | 2686 | 111 | 179 | 199 | 106 | 205 | 163 |
| Duke&Barrington-North&Brunswick | eb | 6:25am - 12:40am | 10 | 15 | 15/10 | 15 | 30 | 7 | | 6 | | 8 | | 8 | | 8 | | 0.7 | 0.4 | 0.6 | 0.5 | 0.3 | 2.0 | 2.4 | 2.4 | 1.6 | 0.6 | 8.9 | 88 | 159 | 162 | 98 | 72 | 579 | 44 | 66 | 68 | 61 | 126 | 65 |
| | wb | 6:14am - 12:29am | 20/10 | 15 | 15/10 | 15 | 30 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.3 | 0.4 | 0.4 | 0.4 | 0.2 | 1.0 | 2.4 | 1.8 | 1.2 | 0.4 | 6.8 | 30 | 53 | 67 | 14 | 2 | 166 | 31 | 22 | 38 | 12 | 5 | 24 |
| North&Brunswick-BridgeTerminal | eb | 6:04am - 12:48am | 10 | 15 | 15/10 | 15 | 30 | 4 | | 4 | | 6 | | 4 | | 4 | 18 | 0.4 | 0.3 | 0.4 | 0.3 | 0.7 | 1.1 | 1.6 | 1.8 | 0.8 | 1.6 | 6.9 | 80 | 152 | 39 | 23 | 18 | 312 | 70 | 95 | 22 | 29 | 11 | 45 |
| | wb | 6:10am - 12:26am | 20/10 | 15 | 15/10 | 15 | 30 | 4 | 5 | 4 | 7 | 4 | 7 | 4 | 5 | 4 | | 0.5 | 0.7 | 0.8 | 0.6 | 0.1 | 1.5 | 4.4 | 3.3 | 1.8 | 0.3 | 11.2 | 389 | 544 | 398 | 137 | 76 | 1544 | 265 | 124 | 122 | 76 | 265 | 138 |
| | Total | | | | | | | 75 | 13 | 76 | 14 | 82 | 13 | 77 | 13 | 69 | 21 | 7.0 | 6.0 | 7.0 | 6.0 | 3.0 | 20.0 | 36.0 | 28.1 | 18.0 | 6.5 | 108.5 | 1639 | 3325 | 2705 | 1316 | 552 | 9537 | 82 | 92 | 96 | 73 | 86 | 88 |
| 2. WEDGEWOOD | | | | | | | | | | | | | | | | | | | | | | | | | | | | *51.8* | | | | | | | | | | | | |
| WaterStreetTerminal-Mumford Terminal | nb | 6:25am - 11:54pm | 30 | 30 | 30 | 60 | 60 | 15 | 8 | 15 | 8 | 23 | 31 | 17 | 57 | 17 | 57 | 0.8 | 0.8 | 1.8 | 1.2 | 1.2 | 2.3 | 4.6 | 7.2 | 3.7 | 2.5 | 20.3 | 70 | 271 | 251 | 79 | 94 | 765 | 30 | 59 | 35 | 21 | 38 | 38 |
| | sb | 6:32am - 12:09am | 30 | 30 | 30 | 60 | 60 | 19 | | 19 | | 19 | | 17 | | 17 | | 0.6 | 0.6 | 0.6 | 0.3 | 0.3 | 1.9 | 3.8 | 2.5 | 0.9 | 0.6 | 9.7 | 103 | 127 | 54 | 23 | 6 | 313 | 54 | 33 | 21 | 27 | 11 | 32 |
| Mumford Terminal - Lacewood Terminal. | nb | 6:10am - 12:10am | 30 | 30 | 30 | 60 | 60 | 20 | | 20 | | 23 | | 19 | | 19 | | 0.7 | 0.7 | 0.8 | 0.3 | 0.3 | 2.0 | 4.0 | 3.1 | 1.0 | 0.6 | 10.7 | 90 | 246 | 186 | 66 | 25 | 613 | 45 | 62 | 61 | 69 | 39 | 58 |
| | sb | 6:10am - 12:41am | 30 | 30 | 30 | 60 | 60 | 22 | | 22 | | 23 | | 19 | | 19 | | 0.7 | 0.7 | 0.8 | 0.3 | 0.3 | 2.2 | 4.4 | 3.1 | 1.0 | 0.6 | 11.3 | 206 | 348 | 143 | 56 | 37 | 790 | 94 | 79 | 47 | 59 | 58 | 70 |
| LacewoodTerm.-KearneyLake&Castlehil | nb | 5:50am - 12:30am | 30 | 30 | 30 | 60 | 60 | 7 | 1 | 7 | 1 | 6 | 1 | 7 | 1 | 7 | 1 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.8 | 1.6 | 0.9 | 0.4 | 0.3 | 4.0 | 16 | 22 | 25 | 13 | 8 | 84 | 20 | 14 | 27 | 33 | 30 | 21 |
| | sb | 5:57am - 12:37am | 30 | 30 | 30 | 60 | 60 | 13 | | 13 | | 13 | | 13 | | 13 | | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 1.3 | 2.6 | 1.7 | 0.7 | 0.4 | 6.7 | 88 | 96 | 43 | 8 | 7 | 242 | 68 | 37 | 25 | 12 | 16 | 36 |
| | Total | | | | | | | 96 | 9 | 96 | 9 | 107 | 32 | 92 | 58 | 92 | 58 | 3.5 | 3.5 | 4.6 | 2.5 | 2.5 | 10.5 | 21.0 | 18.5 | 7.5 | 5.0 | 62.5 | 573 | 1110 | 702 | 245 | 177 | 2807 | 55 | 53 | 38 | 33 | 24 | 45 |
| 3. MANORS | X | | | | | | | | | | | | | | | | | | | | | | | | | | | *7.6* | | | | | | | | | | | | |
| MumfordTerminal-Bayers Rd. Terminal | sb | 9:57am - 2:47pm | | 97 | | | | | | 15 | 7 | | | | | | | | 0.2 | | | | | 1.1 | | | | 1.1 | | 13 | | | | 13 | | 11 | | | | 11 |
| | nb | 9:41am - 2:31pm | | 82 | | | | | | 9 | | | | | | | | | 0.1 | | | | | 0.5 | | | | 0.5 | | 1 | | | | 1 | | 2 | | | | 2 |
| Bayers Rd. Terminal-Barrington&Duke | sb | 10:12am - 3:02pm | | 97 | | | | | | 28 | | | | | | | | | 0.3 | | | | | 1.4 | | | | 1.4 | | 32 | | | | 32 | | 22 | | | | 22 |
| | nb | 9:13am - 2:03pm | | 82 | | | | | | 28 | | | | | | | | | 0.3 | | | | | 1.7 | | | | 1.7 | | 28 | | | | 28 | | 16 | | | | 16 |
| Barrington&Duke-John Howe Manor | sb | 10:40am - 3:30pm | | 97 | | | | | | 15 | | | | | | | | | 0.2 | | | | | 0.8 | | | | 0.8 | | 15 | | | | 15 | | 19 | | | | 19 |
| | nb | 8:55am - 1:45pm | | 82 | | | | | | 18 | 10 | | | | | | | | 0.3 | | | | | 2.0 | | | | 2.0 | | 21 | | | | 21 | | 10 | | | | 10 |
| | Total | | | | | | | | | 113 | 17 | | | | | | | | 1.5 | | | | | 7.7 | | | | 7.7 | | 110 | | | | 110 | | 14 | | | | 14 |
| 4. ROSEDALE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *51.5* | | | | | | | | | | | | |
| WaterStreetTerminal-Mumford Terminal | nb | 6:10am - 11:24pm | 30 | 30 | 30 | 60 | 60 | 16 | 5 | 20 | | 23 | 2 | 16 | | 16 | | 0.7 | 0.7 | 0.8 | 0.3 | 0.3 | 2.1 | 4.0 | 3.3 | 0.8 | 0.5 | 10.8 | 95 | 244 | 325 | 73 | 31 | 768 | 45 | 61 | 98 | 91 | 58 | 71 |
| | sb | 6:20am - 11:47pm | 30 | 30 | 30 | 60 | 60 | 18 | | 19 | | 16 | | 16 | | 16 | | 0.6 | 0.6 | 0.5 | 0.3 | 0.3 | 1.8 | 3.8 | 2.1 | 0.8 | 0.5 | 9.1 | 78 | 81 | 18 | 4 | 1 | 182 | 43 | 21 | 8 | 5 | 2 | 20 |
| Mumford Terminal-Lacewood Terminal | nb | 6:26am - 11:40pm | 30 | 30 | 30 | 60 | 60 | 23 | | 23 | | 21 | | 20 | | 20 | | 0.8 | 0.8 | 0.7 | 0.3 | 0.3 | 2.3 | 4.6 | 2.8 | 1.0 | 0.7 | 11.4 | 88 | 214 | 176 | 70 | 19 | 567 | 38 | 47 | 63 | 70 | 29 | 50 |
| | sb | 5:49am - 12:20am | 30 | 30 | 30 | 60 | 60 | 21 | | 22 | | 19 | | 19 | | 19 | | 0.7 | 0.7 | 0.6 | 0.3 | 0.3 | 2.1 | 4.4 | 2.5 | 1.0 | 0.6 | 10.6 | 187 | 337 | 95 | 23 | 4 | 646 | 89 | 77 | 38 | 24 | 6 | 61 |
| LacewoodTerminal-Ross&Dunbrack | nb | 5:29am - 12:00am | 30 | 30 | 30 | 60 | 60 | 10 | 1 | 9 | 1 | 8 | 1 | 8 | 1 | 8 | 1 | 0.4 | 0.3 | 0.3 | 0.2 | 0.2 | 1.1 | 2.0 | 1.2 | 0.5 | 0.3 | 5.1 | 29 | 68 | 18 | 12 | 4 | 131 | 26 | 34 | 15 | 27 | 13 | 26 |
| | sb | 5:38am - 12:09am | 30 | 30 | 30 | 60 | 60 | 11 | | 11 | | 11 | | 11 | | 11 | | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 1.1 | 2.2 | 1.5 | 0.6 | 0.4 | 5.7 | 107 | 142 | 34 | 16 | 1 | 300 | 97 | 65 | 23 | 29 | 3 | 53 |
| | Total | | | | | | | 99 | 6 | 104 | 1 | 98 | 3 | 90 | 1 | 90 | 1 | 3.5 | 3.5 | 3.4 | 1.5 | 1.5 | 10.5 | 21.0 | 13.5 | 4.6 | 3.0 | 52.6 | 584 | 1086 | 666 | 198 | 60 | 2594 | 56 | 52 | 49 | 44 | 13 | 49 |
| 5. CHEBUCTO/FAIRMOUNT | | | | | | | | | | | | | | | | | | | | | | | | | | | | *3.2* | | | | | | | | | | | | |
| WaterStreetTerminal-MumfordTerminal | wb | 4:10-5:15pm | | | 65 | | | | | | | 16 | | | | | | | | 0.2 | | | | | 0.6 | | | 0.6 | | | 36 | | | 36 | | | 65 | | | 65 |
| | eb | 7:30-8:32a/4:45-5:45p | 33 | | | | | 13 | | | | | | | | | | 0.4 | | | | | 0.4 | | | | | 0.4 | 43 | | - | | | 43 | 109 | | | | | 109 |
| MumfordTerminal-Downs&Wilson (Fairm | wb | 7:10-8:17a/3:55p | 32 | | | | | 10 | | | | 10 | | | | | | 0.3 | | 0.5 | | | 0.3 | | 1.1 | | | 1.4 | 11 | | 10 | | | 21 | 35 | | 9 | | | 15 |
| | eb | 7:20-8:20a/4:05-5:40p | 31 | | 47 | | | 10 | | | | 10 | | | | | | 0.3 | | 0.2 | | | 0.3 | | 0.5 | | | 0.8 | 42 | | 3 | | | 45 | 130 | | | | | 56 |
| | Total | | | | | | | 33 | 0 | | | 36 | | | | | | 1.0 | | 1.0 | | | 1.0 | | 2.2 | | | 3.2 | 96 | 0 | 49 | 0 | 0 | 145 | 93 | | 23 | | | 46 |
| 6. QUINPOOL | | | | | | | | | | | | | | | | | | | | | | | | | | | | *22.8* | | | | | | | | | | | | |
| WaterStreetTerminal-MumfordTerminal | wb | 6:45am-12:05am | 34 | 60 | 30 | 60 | 60 | 17 | | 17 | | 17 | | 17 | | 17 | | 0.5 | 0.3 | 0.6 | 0.3 | 0.3 | 1.5 | 1.7 | 2.3 | 0.9 | 0.7 | 7.0 | 36 | 56 | 185 | 29 | 22 | 328 | 24 | 33 | 82 | 34 | 31 | 47 |
| | eb | 6:27am-12:42am | 34 | 60 | 30 | 60 | 60 | 21 | 5 | 21 | 2 | 21 | 2 | 17 | 6 | 17 | 6 | 0.8 | 0.4 | 0.8 | 0.4 | 0.4 | 2.3 | 2.3 | 3.1 | 1.2 | 1.0 | 9.8 | 80 | 30 | 25 | 15 | 1 | 151 | 34 | 13 | 8 | 13 | 1 | 15 |
| MumfordTerminal-Glenmor&Stonehaven | wb | 6:04am - 12:22am | 34 | 60 | 30 | 60 | 60 | 11 | 1 | 9 | 1 | 9 | 1 | 9 | 1 | 9 | 1 | 0.4 | 0.2 | 0.3 | 0.2 | 0.2 | 1.1 | 1.0 | 1.3 | 0.5 | 0.4 | 4.3 | 48 | 36 | 54 | 15 | 8 | 161 | 45 | 36 | 41 | 30 | 19 | 37 |
| | eb | 6:15am - 12:32am | 34 | 60 | 30 | 60 | 60 | 12 | | 10 | | 10 | | 10 | | 10 | | 0.4 | 0.2 | 0.3 | 0.2 | 0.2 | 1.1 | 1.0 | 1.3 | 0.5 | 0.4 | 4.3 | 64 | 33 | 23 | 5 | 1 | 126 | 60 | 33 | 17 | 10 | 2 | 29 |
| | Total | | | | | | | 61 | 6 | 57 | 3 | 57 | 3 | 53 | 7 | 53 | 7 | 2.0 | 1.0 | 2.0 | 1.0 | 1.0 | 6.0 | 6.0 | 8.0 | 3.0 | 2.5 | 25.5 | 228 | 155 | 287 | 64 | 32 | 766 | 38 | 26 | 36 | 21 | 13 | 30 |
| 7. ROBIE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *64.9* | | | | | | | | | | | | |
| North Ridge-Robie&Quinpool | ccw | 6:00am - 12:10am | 20 | 30 | 20 | 30 | 30 | 14 | | 14 | | 14 | | 14 | | 14 | | 0.7 | 0.5 | 0.7 | 0.5 | 0.5 | 2.1 | 2.8 | 2.5 | 1.4 | 1.1 | 9.9 | 283 | 303 | 182 | 65 | 34 | 867 | 135 | 108 | 72 | 46 | 32 | 88 |
| | cw | 6:36am - 12:20am | 20 | 30 | 20 | 30 | 30 | 11 | 8 | 11 | 2 | 11 | 8 | 11 | 2 | 11 | 2 | 1.0 | 0.4 | 1.0 | 0.4 | 0.4 | 2.9 | 2.6 | 3.4 | 1.3 | 1.0 | 11.1 | 109 | 94 | 96 | 31 | 2 | 332 | 38 | 36 | 28 | 24 | 2 | 30 |
| Robie&Quinpool-Barrington&Duke | ccw | 6:14am - 12:21am | 20 | 30 | 20 | 30 | 30 | 14 | | 14 | | 14 | | 14 | | 14 | | 0.7 | 0.5 | 0.7 | 0.5 | 0.5 | 2.1 | 2.8 | 2.5 | 1.4 | 1.1 | 9.9 | 79 | 145 | 298 | 82 | 33 | 637 | 38 | 52 | 118 | 59 | 31 | 65 |
| | cw | 6:20am - 12:05am | 20 | 30 | 20 | 30 | 30 | 16 | | 16 | | 16 | | 16 | | 16 | | 0.8 | 0.5 | 0.8 | 0.5 | 0.5 | 2.4 | 3.2 | 2.9 | 1.6 | 1.2 | 11.3 | 103 | 214 | 142 | 56 | 13 | 528 | 43 | 67 | 49 | 35 | 11 | 47 |
| Barrington&Duke/North Ridge | ccw | 6:28am - 12:35am | 20 | 30 | 20 | 30 | 30 | 17 | 5 | 17 | 2 | 17 | 5 | 17 | 2 | 17 | 2 | 1.1 | 0.6 | 1.1 | 0.6 | 0.6 | 3.3 | 3.8 | 4.0 | 1.9 | 1.4 | 14.4 | 124 | 164 | 196 | 75 | 29 | 588 | 38 | 43 | 49 | 39 | 20 | 41 |
| | cw | 6:05am - 11:50pm | 20 | 30 | 20 | 30 | 30 | 15 | | 15 | | 15 | | 15 | | 15 | | 0.8 | 0.5 | 0.8 | 0.5 | 0.5 | 2.3 | 3.0 | 2.7 | 1.5 | 1.1 | 10.6 | 431 | 420 | 195 | 84 | 16 | 1146 | 192 | 140 | 72 | 56 | 14 | 108 |
| | Total | | | | | | | 87 | 13 | 87 | 4 | 87 | 13 | 87 | 4 | 87 | 4 | 5.0 | 3.0 | 5.0 | 3.0 | 3.0 | 15.0 | 18.2 | 18.0 | 9.1 | 6.8 | 67.1 | 1129 | 1340 | 1109 | 393 | 127 | 4098 | 75 | 74 | 62 | 43 | 19 | 61 |
| 9. BARRINGTON | | | | | | | | | | | | | | | | | | | | | | | | | | | | *40.2* | | | | | | | | | | | | |
| PointPleasantPark/Barrington&Duke | nb | 6:20am - 12:00am | 20 | 30 | 20/30 | 60 | 60 | 13 | | 13 | | 13 | | 12 | | 10 | | 0.7 | 0.4 | 0.5 | 0.2 | 0.2 | 2.0 | 2.6 | 2.1 | 1.0 | 0.3 | 8.0 | 110 | 213 | 242 | 39 | 16 | 620 | 56 | 82 | 116 | 39 | 48 | 78 |
| | sb | 6:10am - 11:42pm | 20 | 30 | 20/30 | 60 | 60 | 14 | 3 | 14 | 5 | 14 | 3 | 12 | | | | 0.9 | 0.6 | 0.7 | 0.2 | | 2.6 | 3.8 | 2.7 | 1.0 | 0.0 | 10.1 | 60 | 104 | 100 | 6 | | 270 | 24 | 27 | 37 | 6 | | 27 |
| Barrington&Duke/Duffus&Novalea | nb | 6:30am - 12:10am | 20 | 30 | 20/30 | 60 | 60 | 11 | | 11 | | 11 | | 11 | | 10 | | 0.6 | 0.4 | 0.4 | 0.2 | 0.2 | 1.7 | 2.2 | 1.8 | 0.9 | 0.3 | 6.9 | 99 | 130 | 138 | 19 | 7 | 393 | 60 | 59 | 78 | 21 | 21 | 57 |
| | sb | 6:00am - 11:32pm | 20 | 30 | 20/30 | 60 | 60 | 13 | | 13 | | 13 | | 13 | | 10 | | 0.7 | 0.4 | 0.5 | 0.2 | 0.2 | 2.0 | 2.6 | 2.1 | 1.1 | 0.3 | 8.0 | 87 | 95 | 62 | 10 | 4 | 258 | 45 | 37 | 30 | 9 | 12 | 32 |
| Duffus&Novalea/MumfordTerminal | nb | 6:41am - 12:19am | 20 | 30 | 20/30 | 60 | 60 | 11 | 3 | 11 | 13 | 11 | 23 | 11 | 21 | 11 | 9 | 0.7 | 0.8 | 1.4 | 0.5 | 0.3 | 2.1 | 4.8 | 5.4 | 2.7 | 0.7 | 15.7 | 53 | 99 | 51 | 5 | 4 | 212 | 25 | 21 | 9 | 2 | 6 | 14 |
| | sb | 5:50am - 11:22pm | 20 | 30 | 20/30 | 60 | 60 | 12 | | 12 | | 12 | | 10 | | 10 | | 0.6 | 0.4 | 0.5 | 0.2 | 0.2 | 1.8 | 2.4 | 1.9 | 0.8 | 0.3 | 7.3 | 209 | 195 | 191 | 61 | 10 | 666 | 116 | 81 | 99 | 73 | 30 | 91 |
| | Total | | | | | | | 74 | 6 | 74 | 18 | 74 | 26 | 69 | 21 | 51 | 9 | 4.0 | 3.1 | 4.0 | 1.5 | 1.0 | 12.0 | 18.4 | 16.0 | 7.5 | 2.0 | 55.9 | 618 | 836 | 784 | 140 | 41 | 2419 | 52 | 45 | 49 | 19 | 21 | 43 |

**EXHIBIT B.2**

**OPERATING CHARACTERISTICS OF METRO TRANSIT'S HALIFAX ROUTES (Fall Weekday 2008)**

| ROUTE | Dir. | SPAN OF SERVICE | HEADWAY (minutes) AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | RUNNING TIME (minutes) AM PEAK Dr. Time | Rec Time | MID-DAY Dr. Time | Rec Time | PM PEAK Dr. Time | Rec Time | EVE Dr. Time | Rec Time | LATE EVE Dr. Time | Rec Time | VEHICLES AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | VEHICLE SERVICE HOURS AM PEAK 3.0 | MID DAY 6.0 | PM PEAK 4.0 | EVE 3.0 | LT EVE 2.0 | TOTAL 18.0 | BOARDING PASSENGERS AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | TOTAL | PASSENGERS / VEH. SERVICE HR AM PK | MID DAY | PM PK | EVE | LT EVE | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14. LEIBLIN PARK | interlined with 61 | | | | | | | | | | | | | | | | | | | | | | | | | | | *58.9* | | | | | | | | | | | | |
| Barrington & St.Mary's Univ | wb | 6:18am - 10:32pm | 20 | 30 | 30 | 60 | 60 | 12 | | 12 | | 12 | | 12 | | 12 | 8 | 0.6 | 0.4 | 0.4 | 0.2 | 0.3 | 1.8 | 2.4 | 1.6 | 0.6 | 0.7 | 7.1 | 164 | 542 | 272 | 89 | 10 | 1077 | 91 | 226 | 170 | 148 | 15 | 152 |
| | eb | 7:15am - 10:15pm | 30 | 30 | 30 | 60 | 60 | 12 | 17 | 12 | | 12 | | 12 | | 12 | 3 | 1.0 | 0.4 | 0.4 | 0.2 | 0.3 | 2.9 | 2.4 | 1.6 | 0.6 | 0.5 | 8.0 | 22 | 206 | 140 | 8 | - | 376 | 8 | 86 | 88 | 13 | | 47 |
| St. Mary's Univ./Mumford Terminal | wb | 6:30am - 10:44pm | 20 | 30 | 30 | 60 | 60 | 18 | | 18 | | 18 | | 18 | | 18 | | 0.9 | 0.6 | 0.6 | 0.3 | 0.3 | 2.7 | 3.6 | 2.4 | 0.9 | 0.6 | 10.2 | 20 | 171 | 255 | 27 | 5 | 478 | 7 | 48 | 106 | 30 | 8 | 47 |
| | eb | 6:57am - 9:57pm | 30 | 30 | 30 | 60 | 60 | 18 | | 18 | | 18 | | 18 | | 18 | | 0.6 | 0.6 | 0.6 | 0.3 | 0.3 | 1.8 | 3.6 | 2.4 | 0.9 | 0.6 | 9.3 | 100 | 368 | 213 | 25 | - | 706 | 56 | 102 | 89 | 28 | - | 76 |
| MumfordTerminal/Leible&Juniper | wb | 6:37am - 12:10am | 20 | 30 | 30 | 60 | 60 | 24 | 13 | 24 | 6 | 24 | 6 | 24 | | 24 | | 1.9 | 1.0 | 1.0 | 0.4 | 0.4 | 5.6 | 6.0 | 4.0 | 1.2 | 0.8 | 17.6 | 146 | 164 | 189 | 44 | 17 | 560 | 26 | 27 | 47 | 37 | 21 | 32 |
| | eb | 6:32am - 12:35am | 30 | 30 | 30 | 60 | 60 | 25 | | 25 | | 25 | | 25 | | 25 | | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 2.5 | 5.0 | 3.3 | 1.3 | 0.8 | 12.9 | 276 | 305 | 121 | 12 | - | 714 | 110 | 61 | 36 | 10 | - | 55 |
| | Total | | | | | | | 109 | 30 | 109 | 6 | 109 | 6 | 109 | 0 | 109 | 11 | 5.8 | 3.8 | 3.8 | 1.8 | 2.0 | 17.3 | 23.0 | 15.3 | 5.5 | 4.0 | 65.0 | 728 | 1756 | 1190 | 205 | 32 | 3911 | 42 | 76 | 78 | 38 | 8 | 60 |
| 15. PURCELL COVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *14.8* | | | | | | | | | | | | |
| Bayers Rd Terminal /Mumford Terminal | sb | 6:08am - 9:38pm | 60 | 60 | 60 | 60 | | 8 | | 8 | | 8 | | 8 | | | | 0.1 | 0.1 | 0.1 | 0.1 | | 0.4 | 0.8 | 0.5 | 0.4 | | 2.1 | 3 | 15 | 16 | 3 | | 37 | 8 | 19 | 30 | 8 | | 17 |
| | nb | 6:55am - 10:25pm | 60 | 60 | 60 | 60 | | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | | | 0.2 | 0.2 | 0.2 | 0.2 | | 0.7 | 1.3 | 0.9 | 0.7 | | 3.5 | 11 | 2 | 7 | 2 | | 22 | 17 | 2 | 8 | 3 | | 6 |
| Mumford Terminal/York Redoubt | sb | 6:16am - 9:44pm | 60 | 60 | 60 | 60 | | 19 | | 19 | | 19 | | 19 | | | | 0.3 | 0.3 | 0.3 | 0.3 | | 1.0 | 1.9 | 1.3 | 1.0 | | 5.1 | 27 | 28 | 59 | 12 | | 126 | 28 | 15 | 47 | 13 | | 25 |
| | nb | 6:35am - 10:05pm | 60 | 60 | 60 | 60 | | 20 | | 20 | | 20 | | 20 | | | | 0.3 | 0.3 | 0.3 | 0.3 | | 1.0 | 2.0 | 1.3 | 1.0 | | 5.3 | 46 | 38 | 40 | 8 | | 132 | 46 | 19 | 30 | 8 | | 25 |
| | Total | | | | | | | 54 | 6 | 54 | 6 | 54 | 6 | 54 | 6 | | | 1.0 | 1.0 | 1.0 | 1.0 | | 3.0 | 6.0 | 4.0 | 3.0 | | 16.0 | 87 | | 122 | 25 | | 317 | 29 | - | 31 | 8 | | 20 |
| 17. SAINT MARY'S | | | | | | | | | | | | | | | | | | | | | | | | | | | | *30.2* | | | | | | 2038 | | | | | | |
| LacewoodTerminal/BayerRdShop.Centre | sb | 6:25am - 5:55pm | 30 | 30 | 30 | | | 13 | 3 | 13 | 3 | 13 | 3 | | | | | 0.5 | 0.5 | 0.5 | | | 1.6 | 3.2 | 1.9 | | | 6.7 | 177 | 210 | 71 | | | 458 | 111 | 66 | 38 | | | 69 |
| | nb | 7:26am - 5:56pm | 30 | 30 | 30 | | | 10 | | 10 | | 10 | | | | | | 0.3 | 0.3 | 0.3 | | | 1.0 | 2.0 | 1.2 | | | 4.2 | 19 | 49 | 21 | | | 89 | 19 | 25 | 18 | | | 21 |
| Bayers Rd Terminal/Dalhousie | sb | 6:38am - 6:08pm | 30 | 30 | 30 | | | 24 | 3 | 24 | 3 | 24 | 3 | | | | | 0.9 | 0.9 | 0.9 | | | 2.7 | 5.4 | 3.2 | | | 11.3 | 217 | 315 | 182 | | | 714 | 80 | 58 | 58 | | | 63 |
| | nb | 7:05am - 6:35pm | 30 | 30 | 30 | | | 21 | | 21 | | 21 | | | | | | 0.7 | 0.7 | 0.7 | | | 2.1 | 4.2 | 2.5 | | | 8.8 | 21 | 113 | 72 | | | 206 | 10 | 27 | 29 | | | 24 |
| | Total | | | | | | | 68 | 6 | 68 | 6 | 68 | 6 | | | | | 2.5 | 2.5 | 2.5 | | | 7.4 | 14.8 | 8.6 | | | 30.8 | 434 | 687 | 346 | - | - | 1261 | 59 | 46 | 40 | | | 41 |
| 18. UNIVERSITIES | | | | | | | | | | | | | | | | | | | | | | | | | | | | *48.4* | | | | | | 207 | | | | | | |
| Lacewood Terminal/Mt.SaintVincent Uni | sb | 6:10am - 12:25am | 30 | 30 | 30 | 30 | 30 | 12 | | 12 | | 12 | | 12 | | 12 | | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.2 | 2.4 | 1.6 | 1.2 | 1.0 | 7.4 | 189 | 207 | 149 | 29 | 16 | 590 | 158 | 86 | 93 | 24 | 16 | 80 |
| | nb | 6:12am - 12:13am | 30 | 30 | 30 | 30 | 30 | 13 | 12 | 13 | 12 | 13 | 8 | 13 | 14 | 13 | 14 | 0.8 | 0.8 | 0.7 | 0.9 | 0.9 | 2.5 | 5.0 | 2.8 | 2.7 | 2.3 | 15.3 | 42 | 68 | 40 | 10 | 2 | 162 | 17 | 14 | 14 | 4 | 1 | 11 |
| SaintVincentUniv/Robie&Quinpool | sb | 6:22am - 11:52pm | 30 | 30 | 30 | 30 | 30 | 19 | | 17 | | 17 | | 17 | | 17 | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 1.9 | 3.4 | 2.3 | 1.7 | 1.4 | 10.7 | 90 | 150 | 80 | 28 | 9 | 357 | 47 | 44 | 35 | 16 | 6 | 33 |
| | nb | 6:58am - 11:56pm | 30 | 30 | 30 | 30 | 30 | 17 | | 17 | | 22 | | 17 | | 17 | | 0.6 | 0.6 | 0.7 | 0.6 | 0.6 | 1.7 | 3.4 | 2.9 | 1.7 | 1.4 | 11.2 | 61 | 91 | 57 | 23 | 12 | 244 | 36 | 27 | 19 | 14 | 8 | 22 |
| Robie&Quinpool/SaintMary's&Dal. Univ. | sb | 6:41am - 12:09am | 30 | 30 | 30 | 30 | 30 | 8 | 1 | 10 | 3 | 7 | 3 | 10 | 1 | 10 | 1 | 0.3 | 0.4 | 0.3 | 0.4 | 0.4 | 0.9 | 2.6 | 1.3 | 1.1 | 0.9 | 6.9 | 69 | 261 | 294 | 98 | 47 | 769 | 77 | 100 | 221 | 89 | 51 | 112 |
| | nb | 6:50am - 11:50pm | 30 | 30 | 30 | 30 | 30 | 8 | | 6 | | 8 | | 6 | | 6 | | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.8 | 1.2 | 1.1 | 0.6 | 0.5 | 4.2 | 22 | 69 | 127 | 33 | 11 | 262 | 28 | 58 | 119 | 55 | 22 | 63 |
| | Total | | | | | | | 77 | 13 | 75 | 15 | 79 | 11 | 75 | 15 | 75 | 15 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 9.0 | 18.0 | 12.0 | 9.0 | 7.5 | 55.5 | 473 | 846 | 747 | 221 | 97 | 2384 | 53 | 47 | 62 | 25 | 13 | 43 |
| 19. GREYSTONE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *23.3* | | | | | | | | | | | | |
| Greystone/Mumford Terminal | nb | 6:34am - 10:04pm | 12 | 30 | 20 | 30 | | 18 | | 18 | 25 | 18 | 5 | 17 | 27 | | | 1.5 | 1.4 | 1.2 | 1.5 | | 3.8 | 8.6 | 4.6 | 2.9 | | 19.9 | 147 | 178 | 105 | 27 | | 457 | 39 | 21 | 23 | 9 | | 23 |
| | sb | 6:17am - 9:48pm | 12 | 30 | 20 | 30 | | 18 | | 17 | | 17 | | 16 | | | | 1.5 | 0.6 | 0.9 | 0.5 | | 3.8 | 3.4 | 3.4 | 1.1 | | 11.6 | 53 | 100 | 246 | 64 | | 463 | 14 | 29 | 72 | 60 | | 40 |
| | Total | | | | | | | 36 | 0 | 35 | 25 | 35 | 5 | 33 | 27 | | | 3.0 | 2.0 | 2.0 | 2.0 | | 7.5 | 12.0 | 8.0 | 4.0 | | 31.5 | 200 | 278 | 351 | 91 | | 920 | 27 | 23 | 44 | 23 | | 29 |
| 20. HERRING COVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *75.1* | | | | | | | | | | | | |
| UpperWater&Cornwallis/MumfordTerm. | wb | 6:07am - 11:12pm | 30 | 30 | 20 | 30 | 30 | 28 | | 28 | | 28 | | 28 | | 28 | | 0.9 | 0.9 | 1.4 | 0.9 | 0.9 | 2.8 | 5.6 | 4.2 | 3.7 | 1.9 | 18.2 | 66 | 269 | 359 | 120 | 31 | 845 | 24 | 48 | 85 | 32 | 17 | 46 |
| | eb | 6:10am- 12:37am | 30 | 30 | 20 | 30 | 30 | 22 | | 22 | | 22 | | 22 | | 22 | | 0.7 | 0.7 | 1.1 | 0.7 | 0.7 | 2.2 | 4.4 | 3.3 | 2.9 | 1.5 | 14.3 | 151 | 154 | 30 | 32 | 1 | 368 | 69 | 35 | 9 | 11 | 1 | 26 |
| MumfordTerminal/HerringCove&Dentith | wb | 5:10am - 11:40pm | 30 | 30 | 20 | 30 | 30 | 17 | | 17 | | 17 | | 17 | | 17 | | 0.6 | 0.6 | 0.9 | 0.6 | 0.6 | 1.7 | 3.4 | 2.6 | 2.3 | 1.1 | 11.1 | 115 | 327 | 288 | 126 | 45 | 901 | 68 | 96 | 113 | 56 | 40 | 82 |
| | eb | 5:52am - 12:20am | 30 | 30 | 20 | 30 | 30 | 18 | | 18 | | 18 | | 18 | | 18 | | 0.6 | 0.6 | 0.9 | 0.6 | 0.6 | 1.8 | 3.6 | 2.7 | 2.4 | 1.2 | 11.7 | 200 | 130 | 66 | 28 | 3 | 427 | 111 | 36 | 24 | 12 | 3 | 36 |
| HerringCove&Dentith/Herring Cove | wb | 5:27am - 11:56p | 30 | 30 | 20 | 30 | 30 | 12 | | 12 | | 12 | 11 | 12 | 11 | 12 | 11 | 0.4 | 0.4 | 1.2 | 0.8 | 0.8 | 1.2 | 2.4 | 3.5 | 3.1 | 1.5 | 11.7 | 45 | 67 | 48 | 10 | 3 | 173 | 38 | 28 | 14 | 3 | 2 | 15 |
| | eb | 5:40am - 12:09am | 30 | 30 | 20 | 30 | 30 | 12 | 11 | 12 | 11 | 12 | | 12 | | 12 | | 0.8 | 0.8 | 0.6 | 0.4 | 0.4 | 2.3 | 4.6 | 1.8 | 1.6 | 0.8 | 11.1 | 393 | 385 | 92 | 62 | 15 | 947 | 171 | 84 | 51 | 39 | 19 | 85 |
| | extra | | 30 | | | | 30 | 23 | 37 | | | | | | | | | 2.0 | | | | | 5.7 | | | | | 5.7 | | | | | | | | | | | | |
| | Total | | | | | | | 132 | 0 | 109 | 0 | 109 | 11 | 109 | 11 | 109 | 11 | 6.0 | 4.0 | 6.0 | 4.0 | 4.0 | 17.7 | 24.0 | 18.0 | 16.0 | 8.0 | 83.7 | 970 | 1332 | 883 | 378 | 98 | 3661 | 55 | 56 | 49 | 24 | 6 | 44 |
| 21. LAKESIDE/TIMBERLEA | | | | | | | | | | | | | | | | | | | | | | | | | | | | *38.5* | | | | | | | | | | | | |
| Summer&Spring Gdn/LacewoodTermina | wb | 3:31pm-6:01pm | | | 30 | | | | | | | 39 | | | | | | | | 1.3 | | | | | 2.6 | | | 2.6 | | | 258 | | | 258 | | | 99 | | | 99 |
| | eb | 6:15am - 8:20am | 30 | | | | | 36 | 4 | | | | | | | | | 1.3 | | | | | 2.0 | | | | | 2.0 | 175 | | | | | 175 | 88 | | | | | 88 |
| Lacewood Term./Chain Lake&Lakelands | wb | 5:25am - 12:05am | 30 | 30 | 30 | 30 | 30 | 6 | | 8 | | 8 | 28 | 8 | | 8 | | 0.2 | 0.3 | 1.2 | 0.3 | 0.3 | 0.6 | 1.6 | 4.8 | 0.8 | 0.5 | 8.3 | 152 | 139 | 118 | 41 | 13 | 463 | 253 | 87 | 25 | 51 | 24 | 56 |
| | eb | 6:02am - 12:41am | 30 | 30 | 30 | 30 | 30 | 13 | | 12 | 9 | 12 | | 12 | 12 | 12 | 12 | 0.4 | 0.7 | 0.4 | 0.8 | 0.8 | 1.3 | 4.2 | 1.6 | 2.4 | 1.6 | 11.1 | 31 | 54 | 34 | 7 | 5 | 131 | 24 | 13 | 21 | 3 | 3 | 12 |
| Chaiin Lake & Lakelands/Glengary Gard | wb | 5:31am - 12:13am | 30 | 30 | 30 | 30 | 30 | 14 | | 14 | | 20 | | 15 | | 15 | | 0.5 | 0.5 | 0.7 | 0.5 | 0.5 | 1.4 | 2.8 | 2.7 | 1.5 | 1.0 | 9.4 | 10 | 17 | 28 | 28 | 4 | 87 | 7 | 6 | 11 | 19 | 4 | 9 |
| | eb | 5:45am - 12:28am | 30 | 30 | 30 | 30 | 30 | 17 | | 17 | | 13 | | 13 | | 13 | | 0.6 | 0.6 | 0.4 | 0.4 | 0.4 | 1.7 | 3.4 | 1.7 | 1.3 | 0.9 | 9.0 | 116 | 112 | 63 | 27 | 7 | 325 | 68 | 33 | 36 | 21 | 8 | 36 |
| | Total | | | | | | | 86 | 4 | 51 | 9 | 92 | 28 | 48 | 12 | 48 | 12 | 3.0 | 2.0 | 4.0 | 2.0 | 2.0 | 7.0 | 12.0 | 13.4 | 6.0 | 4.0 | 42.4 | 484 | 322 | 501 | 103 | 29 | 1439 | 69 | 27 | 37 | 17 | 5 | 34 |
| 23. TIMBERLEA/MUMFORD | X | | | | | | | | | | | | | | | | | | | | | | | | | | | *16.7* | | | | | | | | | | | | |
| Upper WaterCornwallis/Mumford Term. | wb | 3:46pm-6:16pm | | | 30 | | | | | | | 31 | | | | | | | | 1.0 | | | | | 2.6 | | | 2.6 | | | 152 | | | 152 | | | 59 | | | 59 |
| | eb | 6:56am-9:33am | 30 | | | | | 24 | | | | | | | | | | 0.8 | | | | | 2.0 | | | | | 2.0 | 28 | | | | | 28 | 14 | | | | | 14 |
| Mumford Term./Bay Rd & Lakelands | wb | 5:33-8:03a/4:17-6:44p | 30 | | 30 | | | 21 | | | | 21 | | | | | | 0.7 | | 0.7 | | | 2.1 | | 2.1 | | | 4.2 | 53 | | 62 | | | 115 | 25 | | 30 | | | 27 |
| | eb | 6:10-8:40a/4:52-7:19p | 30 | | 30 | | | 27 | | | | 22 | | | | | | 0.9 | | 0.7 | | | 2.7 | | 2.2 | | | 4.9 | 17 | | 7 | | | 24 | 6 | | 3 | | | 5 |
| Bay Rd.& Lakelands/Glengarry Gardens | wb | 5:54-8:24a/4:38-7:05p | 30 | | 30 | | | 6 | | | | 6 | | | | | | 0.2 | | 0.2 | | | 0.6 | | 0.6 | | | 1.2 | 19 | | 32 | | | 51 | 32 | | 53 | | | 43 |
| | eb | 6:05-8:35a/4:47-7:14p | 30 | | 30 | | | 5 | 7 | | | 5 | 5 | | | | | 0.4 | | 0.3 | | | 1.2 | | 1.0 | | | 2.2 | 121 | | 23 | | | 144 | 101 | | 23 | | | 65 |
| | Total | | | | | | | 83 | 7 | | | 85 | 5 | | | | | 3.0 | | 3.0 | | | 8.6 | | 8.5 | | | 17.1 | 238 | | 276 | | | 514 | 28 | | 33 | | | 30 |
| 31. MAIN | | | | | | | | | | | | | | | | | | | | | | | | | | | | *5.4* | | | | | | 293 | | | | | | |
| Summer&Bell/LacewoodTerminal | wb | 3:17pm-5:17pm | | | 30 | | | | | | | 38 | 22 | | | | | | | 2.0 | | | | | 5.0 | | | 5.0 | | | 158 | | | 158 | | | 32 | | | 32 |
| | eb | 6:50am-7:55am | 22 | | | | | 33 | 11 | | | | | | | | | 2.0 | | | | | 5.1 | | | | | 5.1 | 159 | | | | | 159 | 31 | | | | | 31 |
| | Total | | | | | | | 33 | 11 | | | 38 | 22 | | | | | 2.0 | | 2.0 | | | 5.1 | | 5.0 | | | 10.1 | 159 | - | 158 | - | - | 317 | 31 | | 32 | | | 31 |
| 32. COWIE HILL | | | | | | | | | | | | | | | | | | | | | | | | | | | | *7.8* | | | | | | 377 | | | | | | |
| Summer&Bell/SouthCentreMall | wb | 3:35pm-5:35pm | | | 24 | | | | | | | 37 | 11 | | | | | | | 2.0 | | | | | 4.0 | | | 4.0 | | | 217 | | | 217 | | | 54 | | | 54 |
| | eb | 6:16am-8:06am | 18 | | | | | 35 | 1 | | | | | | | | | 2.0 | | | | | 3.9 | | | | | 3.9 | 243 | | | | | 243 | 62 | | | | | 62 |
| | Total | | | | | | | 35 | 1 | | | 37 | 11 | | | | | 2.0 | | 2.0 | | | 3.9 | | 4.0 | | | 7.9 | 243 | - | 217 | - | - | 460 | 62 | | 54 | | | 58 |
| 34. GLENBOURNE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *11.3* | | | | | | 694 | | | | | | |
| Summer&Bell/Lacewood Terminal | wb | 3:02pm-6:02pm | | | 26 | | | | | | | 30 | | | | | | | | 1.2 | | | | | 3.5 | | | 3.5 | | | 242 | | | 242 | | | 69 | | | 69 |
| | eb | 6:40am-8:20am | 17 | | | | | 36 | | | | | | | | | | 2.2 | | | | | 4.9 | | | | | 4.9 | 201 | | | | | 201 | 41 | | | | | 41 |
| Lacewood Terminal/Heathside Cresc | wb | 3:40pm-6:40pm | | | 26 | | | | | | | 22 | | | | | | | | 0.9 | | | | | 2.6 | | | 2.6 | | | 47 | | | 47 | | | 18 | | | 18 |
| | eb | 6:30am-8:10am | 17 | | | | | 10 | 4 | | | | | | | | | 0.8 | | | | | 1.9 | | | | | 1.9 | 81 | | | | | 81 | 43 | | | | | 43 |
| | Total | | | | | | | 46 | 4 | | | 52 | 0 | | | | | 3.0 | | 2.0 | | | 6.8 | | 6.1 | | | 12.8 | 282 | - | 289 | - | - | 571 | 42 | | 48 | | | 45 |
| 35. PARKLAND | | | | | | | | | | | | | | | | | | | | | | | | | | | | *6.3* | | | | | | | | | | | | |
| Hollis Train Sta/Lacewood Terminal | wb | 3:36pm-5:38pm | | | 31 | | | | | | | 42 | 3 | | | | | | | 1.5 | | | | | 3.0 | | | 3.0 | | | 179 | | | 179 | | | 61 | | | 61 |
| | eb | 6:20am-8:15am | 38 | | | | | 42 | 15 | | | | | | | | | 1.5 | | | | | 3.0 | | | | | 3.0 | 180 | | | | | 180 | 61 | | | | | 61 |
| | Total | | | | | | | 42 | 15 | | | 42 | 3 | | | | | 1.5 | | 1.5 | | | 3.0 | | 3.0 | | | 5.9 | 180 | - | 179 | - | - | 359 | 61 | | 61 | | | 61 |
| 42. LACEWOOD-DALHOUSIE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *28.3* | | | | | | | | | | | | |
| LacewoodTerminal?South&La Marchant | sb | 6:55am - 6:37pm | 20 | 20 | 20 | | | 24 | 2 | 24 | 1 | 27 | 1 | | | | | 1.3 | 1.3 | 1.4 | | | 3.9 | 7.5 | 5.6 | | | 17.0 | 196 | 262 | 106 | | | 564 | 50 | 35 | 19 | | | 33 |
| | nb | 7:22am - 6:23pm | 20 | 20 | 20 | | | 28 | 6 | 26 | 9 | 29 | 3 | | | | | 1.7 | 1.8 | 1.6 | | | 5.1 | 10.5 | 6.4 | | | 22.0 | 15 | 220 | 329 | | | 564 | 3 | 21 | 51 | | | 26 |
| | Total | | | | | | | 52 | 8 | 50 | 10 | 56 | 4 | | | | | 3.0 | 3.0 | 3.0 | | | 9.0 | 18.0 | 12.0 | | | 39.0 | 211 | 482 | 435 | | | 1128 | 23 | 27 | 36 | | | 29 |
| | | | | | | | | | | | | | | | | | | ***HALIFAX ROUTES*** | ***65*** | ***43*** | ***63*** | ***29*** | ***23*** | ***180.1*** | ***256.1*** | ***222.2*** | ***93.1*** | ***49.3*** | ***800.8*** | ***9556*** | ***13665*** | ***11996*** | ***3379*** | ***1245*** | ***39718*** | *53* | *53* | *54* | *36* | *13* | ***50*** |

**EXHIBIT B.3**

**OPERATING CHARACTERISTICS OF METRO TRANSIT'S BEDFORD-SACKVILLE ROUTES (Fall Weekday 2008)**

| ROUTE | Dir. | SPAN OF SERVICE | HEADWAY (minutes) AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | RUNNING TIME (minutes) AM PEAK Dr. Time | AM PEAK Rec Time | MID-DAY Dr. Time | MID-DAY Rec Time | PM PEAK Dr. Time | PM PEAK Rec Time | EVE Dr. Time | EVE Rec Time | LATE EVE Dr. Time | LATE EVE Rec Time | VEHICLES AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | VEHICLE SERVICE HOURS AM PEAK 3.0 | MID DAY 6.0 | PM PEAK 4.0 | EVE 3.0 | LT EVE 2.0 | TOTAL 18.0 | BOARDING PASSENGERS AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | TOTAL | PASSENGERS / VEH. SERVICE HR AM PK | MID DAY | PM PK | EVE | LT EVE | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33. TANTALION | | | | | | | | | | | | | | | | | | | | | | | | | | | | *7.7* | | | | | | 233 | | | | | | |
| Summer&Bell/LacewoodTerminal | wb | 4:12,5:12pm | | | 60 | | | | | | | 38 | 15 | | | | | | | 0.9 | | | | | 0.9 | | | 0.9 | | | 104 | | | 104 | | | 118 | | | 118 |
| | eb | 7:20, 8:10a/5:57,6:49p | 50 | | | | | 33 | 1 | | | | | | | | | 0.7 | | | | | 0.7 | | | | | 0.7 | 94 | | | | | 94 | 138 | | | | | 138 |
| LacewoodTerminal/Tantallon(Hubley Ce | wb | 15,7:05a/12:00/4:50,5:5 | 50 | 1 trip | 60 | | | 30 | | 40 | | 32 | | | | | | 0.6 | 0.5 | 0.5 | | | 0.6 | 2.0 | 0.5 | | | 3.1 | 16 | 8 | 13 | | | 37 | 27 | | 24 | | | 12 |
| | eb | 5,7:35a/12:40//5:17,6:1 | 50 | 1 trip | 60 | | | 35 | 1 | 35 | | 35 | | | | | | 0.7 | 0.5 | 0.6 | | | 0.7 | 0.6 | 0.6 | | | 1.9 | 94 | 7 | 3 | | | 104 | 131 | | 5 | | | 55 |
| Total | | | | | | | | 98 | 2 | 75 | | 105 | 15 | | | | | 2.0 | 1.0 | 2.0 | | | 2.0 | 2.6 | 2.0 | | | 6.6 | 204 | 15 | 120 | | | 339 | 102 | | 60 | | | 51 |
| 80. SACKVILLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *95.6* | | | | | | | | | | | | |
| UpperWater&Cornwallis/Bayers Rd Term | nb | 5:52am - 12:08am | 30 | 30 | 15 | 30 | 60 | 26 | | 30 | | 34 | | 25 | | 25 | | 0.9 | 1.0 | 2.3 | 0.8 | 0.4 | 2.6 | 6.0 | 9.1 | 2.5 | 0.8 | 21.0 | 167 | 463 | 672 | 211 | 114 | 1627 | 64 | 77 | 74 | 84 | 46 | 35 |
| | sb | 6:25am - 11:58pm | 30 | 30 | 30 | 30 | 60 | 30 | 24 | 30 | 23 | 30 | 5 | 23 | 17 | 23 | 17 | 1.8 | 1.8 | 1.2 | 1.3 | 0.7 | 5.4 | 10.6 | 4.7 | 4.0 | 1.3 | 26.0 | 124 | 151 | 42 | 26 | 5 | 348 | 23 | 14 | 9 | 7 | 1 | 8 |
| Bayers Rd Term./Copequid Terminal | nb | 6:15am - 12:33am | 30 | 30 | 15 | 30 | 60 | 31 | | 31 | | 29 | | 25 | | 25 | | 1.0 | 1.0 | 1.9 | 0.8 | 0.4 | 3.1 | 6.2 | 7.7 | 2.5 | 0.8 | 20.4 | 182 | 329 | 230 | 87 | 25 | 853 | 59 | 53 | 30 | 35 | 10 | 23 |
| | sb | 5:54am - 1:28am | 30 | 30 | 30 | 30 | 60 | 32 | | 30 | | 30 | | 25 | | 25 | | 1.1 | 1.0 | 1.0 | 0.8 | 0.4 | 3.2 | 6.0 | 4.0 | 2.5 | 0.8 | 16.5 | 379 | 550 | 250 | 114 | 12 | 1305 | 118 | 92 | 63 | 46 | 5 | 42 |
| CobequidTerminal/Sackville Terminal | nb | 5:26am - 12:58am | 30 | 30 | 15 | 30 | 60 | 13 | 8 | 13 | 8 | 13 | 4 | 13 | 10 | 13 | 10 | 0.7 | 0.7 | 1.1 | 0.8 | 0.4 | 2.1 | 4.2 | 4.5 | 2.3 | 1.2 | 14.3 | 27 | 53 | 48 | 7 | 0 | 135 | 13 | 13 | 11 | 3 | - | 6 |
| | sb | 5:42am - 1:16am | 30 | 30 | 30 | 30 | 60 | 15 | | 15 | | 15 | | 12 | | 12 | | 0.5 | 0.5 | 0.5 | 0.4 | 0.2 | 1.5 | 3.0 | 2.0 | 1.2 | 0.6 | 8.3 | 194 | 182 | 95 | 30 | 10 | 511 | 129 | 61 | 48 | 25 | 8 | 4 |
| Total | | | | | | | | 147 | 32 | 149 | 31 | 151 | 9 | 123 | 27 | 123 | 27 | 6.0 | 6.0 | 8.0 | 5.0 | 2.5 | 17.9 | 36.0 | 32.0 | 15.0 | 5.6 | 106.5 | 1073 | 1728 | 1337 | 475 | 166 | 4779 | 60 | 48 | 42 | 32 | 30 | 45 |
| 81. HEMLOCK RAVINE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *41.7* | | | | | | | | | | | | |
| UpperWater&Cornwallis/Bayers Rd Term | nb | 6:03am - 7:00pm | 30 | 30 | 30 | | | 30 | 27 | 30 | 27 | 32 | 23 | | | | | 1.9 | 1.9 | 1.8 | | | 5.7 | 11.4 | 9.2 | | | 26.3 | 116 | 236 | 229 | | | 581 | 20 | 21 | 25 | | | 22 |
| | sb | 6:27am - 7:54pm | 30 | 30 | 30 | | | 30 | | 30 | | 28 | | | | | | 1.0 | 1.0 | 0.9 | | | 3.0 | 6.0 | 4.7 | | | 13.7 | 86 | 152 | 68 | | | 306 | 29 | 25 | 15 | | | 22 |
| Bayers Rd Term./Larry Uteck&Bedford H | nb | 6:26am - 7:25pm | 30 | 30 | 30 | | | 15 | | 15 | | 18 | | | | | | 0.5 | 0.5 | 0.6 | | | 1.5 | 3.0 | 3.0 | | | 7.5 | 22 | 41 | 28 | | | 91 | 15 | 14 | 9 | | | 12 |
| | sb | 6:10am - 740pm | 30 | 30 | 30 | | | 18 | | 18 | | 19 | | | | | | 0.6 | 0.6 | 0.6 | | | 1.8 | 3.6 | 3.2 | | | 8.6 | 185 | 196 | 70 | | | 451 | 103 | 54 | 22 | | | 53 |
| Total | | | | | | | | 93 | 27 | 93 | 27 | 97 | 23 | | | | | 4.0 | 4.0 | 4.0 | | | 12.0 | 24.0 | 20.0 | - | - | 56.0 | 409 | 625 | 395 | - | - | 1429 | 34 | 26 | 20 | | | 26 |
| 82. MILLWOOD | | | | | | | | | | | | | | | | | | | | | | | | | | | | *44.0* | | | | | | | | | | | | |
| Barrington&Duke/CobequidTerminal | nb | 3:38pm- 5:38pm | | | 30 | | | | | | | 48 | | | | | | | | 1.6 | | | | | 3.2 | | | 3.2 | | | 201 | | | 201 | | | 63 | | | 63 |
| | sb | 6:20am - 8:29am | 30 | | | | | 46 | | | | | | | | | | 1.5 | | | | | 3.1 | | | | | 3.1 | 167 | | | | | 167 | 54 | | | | | 54 |
| CobequidTerminal/SackvilleTerminal | nb | 6:15am - 11:10pm | 30 | 30 | 30 | 60 | 60 | 35 | | 27 | | 29 | | 27 | | 27 | | 1.2 | 0.9 | 1.0 | 0.5 | 0.5 | 3.5 | 5.4 | 3.9 | 1.4 | 0.7 | 14.8 | 82 | 171 | 134 | 25 | 5 | 417 | 23 | 32 | 35 | 19 | 4 | 28 |
| | sb | 5:36am - 10:29pm | 30 | 30 | 30 | 60 | 60 | 36 | 3 | 30 | 3 | 30 | 13 | 30 | 3 | 30 | 3 | 1.3 | 1.1 | 1.4 | 0.6 | 0.6 | 3.9 | 6.6 | 5.7 | 1.7 | 0.8 | 18.7 | 188 | 139 | 84 | 31 | 1 | 443 | 48 | 21 | 15 | 19 | 1 | 24 |
| Total | | | | | | | | 117 | 3 | 57 | 3 | 107 | 13 | 57 | 3 | 57 | 3 | 4.0 | 2.0 | 4.0 | 1.0 | 1.0 | 10.5 | 12.0 | 12.8 | 3.0 | 1.5 | 39.8 | 437 | 310 | 419 | 56 | 6 | 1228 | 42 | 26 | 33 | 19 | 4 | 31 |
| 83. SPRINGFIELD | | | | | | | | | | | | | | | | | | | | | | | | | | | | *11.3* | | | | | | 148 | | | | | | |
| SackvilleTerminal/SpringfieldEstates | nb | 5:47am- 9:50pm | 19 | 60 | 18 | 60 | | 16 | 4 | 16 | 27 | 16 | 4 | 16 | 27 | | | 1.1 | 0.7 | 1.1 | 0.7 | | 3.2 | 4.3 | 4.4 | 2.2 | | 14.1 | 4 | 34 | 49 | 13 | | 100 | 1 | 8 | 11 | 6 | | 7 |
| | sb | 6:00am - 10:07pm | 19 | 60 | 18 | 60 | | 17 | | 17 | | 16 | | 17 | | | | 0.9 | 0.3 | 0.9 | 0.3 | | 2.7 | 1.7 | 3.6 | 0.9 | | 8.8 | 56 | 27 | 18 | 1 | | 102 | 20 | 16 | 5 | 1 | | 12 |
| Total | | | | | | | | 33 | 4 | 33 | 27 | 32 | 4 | 33 | 27 | | | 2.0 | 1.0 | 2.0 | 1.0 | | 6.0 | 6.0 | 8.0 | 3.0 | | 23.0 | 60 | 61 | 67 | 14 | - | 202 | 10 | 10 | 8 | 5 | | 9 |
| 84. GLENDALE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *26.8* | | | | | | | | | | | | |
| Summer&Bell/CobequidTerminal | nb | 3:13pm - 6:05pm | | | 15 | | | | | | | 40 | 4 | | | | | | | 2.9 | | | | | 11.7 | | | 11.7 | | | 583 | | | 583 | | | 50 | | | 50 |
| | sb | 6:08am-8:25am | 16 | | | | | 40 | 1 | | | | | | | | | 2.6 | | | | | 6.4 | | | | | 6.4 | 295 | | | | | 295 | 46 | | | | | 46 |
| CobequidTerminal/SackvilleTerminal | nb | 3:53pm - 6:45pm | | | 14 | | | | | | | 15 | | | | | | | | 1.0 | | | | | 4.2 | | | 4.2 | | | 26 | | | 26 | | | 6 | | | 6 |
| | sb | 5:50am-8:02am | 13 | | | | | 18 | | | | | | | | | | 1.4 | | | | | 3.6 | | | | | 3.6 | 338 | | | | | 338 | 94 | | | | | 94 |
| Total | | | | | | | | 58 | 1 | | | 55 | 4 | | | | | 4.0 | | 4.0 | | | 10.0 | | 15.9 | | | 25.9 | 633 | | 609 | | - | 1242 | 63 | | 38 | | | 48 |
| 85. DOWNSVIEW | | | | | | | | | | | | | | | | | | | | | | | | | | | | *3.9* | | | | | | | | | | | | |
| Summer&Bell/SackvilleTerminal | nb | 4:00pm,4:30pm | | | 30 | | | | | | | 44 | 1 | | | | | | | 1.5 | | | | | 1.5 | | | 1.5 | | | 99 | | | 99 | | | 66 | | | 66 |
| | sb | 7:00am,7:10am | 10 | | | | | 44 | 1 | | | | | | | | | 4.5 | | | | | 4.5 | | | | | 4.5 | 22 | | | | | 22 | 5 | | | | | 5 |
| Sackville Terminal//CobequidTerminal | nb | 4:44pm,5:14pm | | | 30 | | | | | | | 15 | | | | | | | | 0.5 | | | | | 0.5 | | | 0.5 | | | 12 | | | 12 | | | 24 | | | 24 |
| | sb | 6:45am,6:55am | 10 | | | | | 15 | | | | | | | | | | 1.5 | | | | | 1.5 | | | | | 1.5 | 27 | | | | | 27 | 18 | | | | | 18 |
| Total | | | | | | | | | | | | | | | | | | 6.0 | | 2.0 | | | 6.0 | | 2.0 | | | 8.0 | 49 | | 111 | | | 151 | 8 | | 56 | | | 19 |
| 86. BASINVIEW | | | | | | | | | | | | | | | | | | | | | | | | | | | | *4.0* | | | | | | | | | | | | |
| Summer&Bell/Meadowbrook&Hwy 2 | nb | 4:35pm,5:05pm | | | 30 | | | | | | | 48 | | | | | | | | 1.6 | | | | | 1.6 | | | 1.6 | | | 45 | | | 45 | | | 28 | | | 28 |
| | sb | 7:05am,7:30am | 25 | | | | | 49 | | | | | | | | | | 2.0 | | | | | 2.0 | | | | | 2.0 | 4 | | | | | 4 | 2 | | | | | |
| Meadowbrook&Hwy 2l/Rockmanor&Hwy | nb | 5:25pm,5:55pm | | | 30 | | | | | | | 12 | | | | | | | | 0.4 | | | | | 0.4 | | | 0.4 | | | - | | | | | | - | | | |
| | sb | 6:55am,7:20am | 25 | | | | | 10 | 16 | | | | | | | | | 1.0 | | | | | 1.0 | | | | | 1.0 | 49 | | | | | 49 | 47 | | | | | 47 |
| Total | | | | | | | | | | | | | | | | | | 3.0 | | 2.0 | | | 3.0 | | 2.0 | | | 5.0 | 46 | | 46 | | | 92 | 15 | | 23 | | | 18 |
| 87. DOWNSVIEW | | | | | | | | | | | | | | | | | | | | | | | | | | | | *38.4* | | | | | | - | | | | | | |
| Summer*Bell/Bridge Terminal | nb | 3:53pm,4:23pm | | | 30 | | | | | | | 22 | | | | | | | | 0.7 | | | | | 2.9 | | | 2.9 | | | 62 | | | 62 | | | 21 | | | 21 |
| | sb | 7:10-7:57am | 23 | | | | | 20 | | | | | | | | | | 0.9 | | | | | 2.6 | | | | | 2.6 | 14 | | | | | 14 | 5 | | | | | 5 |
| Bridge Terminal/Cobequid Terminal | nb | 6:35am-10:05pm | 30 | 30 | 30 | 30 | | 24 | | 25 | 7 | 25 | 7 | 25 | 7 | | | 0.8 | 1.1 | 1.1 | 1.1 | | 2.4 | 6.4 | 4.3 | 3.2 | | 16.3 | 109 | 169 | 221 | 46 | | 545 | 45 | 26 | 52 | 14 | - | 34 |
| | sb | 6:51am-10:08pm | 23 | 30 | 30 | 30 | | 19 | 8 | 19 | 8 | 21 | 10 | 21 | 2 | | | 1.2 | 0.9 | 1.0 | 0.8 | | 3.5 | 5.4 | 4.1 | 2.3 | | 15.4 | 93 | 77 | 71 | 13 | | 254 | 26 | 14 | 17 | 6 | - | 17 |
| Cobequid Terminal/Sackville Terminmal | nb | 5:27am-10:30pm | 30 | 30 | 30 | 30 | | 15 | | 15 | | 15 | | 15 | | | | 0.5 | 0.5 | 0.5 | 0.5 | | 1.5 | 3.0 | 2.0 | 1.5 | | 8.0 | 60 | 80 | 41 | 14 | | 195 | 40 | 27 | 21 | 9 | - | 24 |
| | sb | 6:35am-9:52pm | 23 | 30 | 30 | 30 | | 16 | | 16 | | 20 | | 20 | | | | 0.7 | 0.5 | 0.7 | 0.7 | | 2.1 | 3.2 | 2.7 | 2.0 | | 10.0 | 127 | 141 | 60 | 11 | | 339 | 61 | 44 | 23 | 6 | - | 34 |
| Total | | | | | | | | 94 | 8 | 75 | 15 | 103 | 17 | 81 | 9 | | | 4.0 | 3.0 | 4.0 | 3.0 | | 12.1 | 18.0 | 16.0 | 9.0 | | 55.1 | 403 | 467 | 455 | 84 | - | 1409 | 33 | 26 | 28 | 9 | | 26 |
| 88. DAMASCUS | | | | | | | | | | | | | | | | | | | | | | | | | | | | *13.6* | | | | | | | | | | | | |
| Sackville Terminal/Duke&Damascus | eb | 6:30am- 9:30pm | 60 | 60 | 60 | 60 | | 25 | 5 | 25 | 5 | 25 | 5 | 25 | 5 | | | 0.5 | 0.5 | 0.5 | 0.5 | | 1.5 | 3.0 | 2.0 | 1.5 | | 8.0 | 11 | 34 | 24 | 2 | | 71 | 7 | 11 | 12 | 1 | - | 9 |
| | wb | 6:06am- 10:06pm | 60 | 60 | 60 | 60 | | 25 | 5 | 25 | 5 | 25 | 5 | 25 | 5 | | | 0.5 | 0.5 | 0.5 | 0.5 | | 1.5 | 3.0 | 2.0 | 1.5 | | 8.0 | 26 | 53 | 24 | 8 | | 111 | 17 | 18 | 12 | 5 | - | 14 |
| Total | | | | | | | | 50 | 10 | 50 | 10 | 50 | 10 | 50 | 10 | | | 1.0 | 1.0 | 1.0 | 1.0 | | 3.0 | 6.0 | 4.0 | 3.0 | | 16.0 | 37 | 87 | 48 | 10 | - | 182 | 12 | 15 | 12 | 3 | | 11 |
| 89. BEDFORD | | | | | | | | | | | | | | | | | | | | | | | | | | | | *36.0* | | | | | | | | | | | | |
| Copequid Term./Bluewater & Kearney La | eb | 6:49am-10:49pm | 30 | 60 | 30 | 60 | 60 | 31 | | 31 | | 31 | | 31 | | 29 | | 1.0 | 0.5 | 1.0 | 0.5 | 0.5 | 2.6 | 3.1 | 4.1 | 1.6 | 1.0 | 12.3 | 47 | 28 | 20 | 8 | 0 | 103 | 18 | 9 | 5 | 5 | - | 8 |
| | wb | 6:35am-12:05am | 30 | 60 | 30 | 60 | 60 | 30 | 12 | 30 | 12 | 30 | 12 | 30 | 12 | 29 | | 1.4 | 0.7 | 1.4 | 0.7 | 0.5 | 3.5 | 4.2 | 5.6 | 2.1 | 1.0 | 16.4 | 46 | 25 | 8 | 2 | 0 | 81 | 13 | 6 | 1 | 1 | - | 5 |
| Bluewater & Kearney Lake- Lacewood T | sb | 7:20am-11:20pm | 30 | 60 | 30 | 60 | 60 | 18 | | 18 | | 18 | | 18 | | 17 | | 0.6 | 0.3 | 0.6 | 0.3 | 0.3 | 1.5 | 1.8 | 2.4 | 0.9 | 0.6 | 7.2 | 22 | 24 | 18 | 0 | 0 | | 15 | 13 | 8 | - | - | - |
| | nb | 6:20am-11:50pm | 30 | 60 | 30 | 60 | 60 | 15 | 14 | 15 | 14 | 15 | 14 | 15 | 14 | 15 | | 1.0 | 0.5 | 1.0 | 0.5 | 0.3 | 2.4 | 2.9 | 3.9 | 1.5 | 0.5 | 11.1 | 31 | 37 | 52 | 6 | 0 | 126 | 13 | 13 | 13 | 4 | - | 11 |
| Total | | | | | | | | 94 | 26 | 94 | 26 | 94 | 26 | 94 | 26 | 90 | | 4.0 | 2.0 | 4.0 | 2.0 | 1.5 | 10.0 | 12.0 | 16.0 | 6.0 | 3.0 | 47.0 | 146 | 114 | 98 | 16 | - | 374 | 15 | 10 | 6 | 3 | - | 8 |
| 185. SACKVILLE LINK | | | | | | | | | | | | | | | | | | | | | | | | | | | | *45.2* | | | | | | | | | | | | |
| Sackville Terminal/Windmill&Wright | sb | 6:00am-11:30pm | 10 | 30 | 10 | 30 | 30 | 13 | | 13 | | 13 | | 13 | | 13 | | 1.3 | 0.4 | 1.3 | 0.4 | 0.4 | 3.9 | 2.6 | 3.9 | 1.7 | 0.9 | 13.0 | 675 | 138 | 54 | 43 | 6 | 916 | 173 | 53 | 14 | 25 | 3 | 70 |
| | nb | 6:43am-11:43pm | 10 | 30 | 10 | 30 | 30 | 11 | 6 | 11 | 6 | 11 | 6 | 11 | 6 | 11 | 6 | 1.7 | 0.6 | 1.7 | 0.6 | 0.6 | 5.1 | 3.4 | 5.1 | 2.3 | 1.1 | 17.0 | 3 | 2 | 7 | 9 | 0 | 21 | 1 | 1 | 1 | 4 | - | 1 |
| Windmill&Wright/Barrington&Duke | sb | 6:12am-11:41pm | 10 | 30 | 10 | 30 | 30 | 11 | | 11 | | 11 | | 11 | | 11 | | 1.1 | 0.4 | 1.1 | 0.4 | 0.4 | 3.3 | 2.2 | 3.3 | 1.5 | 0.7 | 11.0 | 13 | 2 | 16 | 1 | 0 | 32 | 4 | 1 | 5 | 1 | - | 3 |
| | nb | 6:30am-11:30pm | 10 | 30 | 10 | 30 | 30 | 13 | 6 | 13 | 6 | 13 | 6 | 13 | 6 | 13 | 6 | 1.9 | 0.6 | 1.9 | 0.6 | 0.6 | 5.7 | 3.8 | 5.7 | 2.5 | 1.3 | 19.0 | 32 | 135 | 640 | 82 | 14 | 903 | 6 | 36 | 112 | 32 | 6 | 48 |
| Total | | | | | | | | 48 | 12 | 48 | 12 | 48 | 12 | 48 | 12 | 48 | 12 | 6.0 | 2.0 | 6.0 | 2.0 | 2.0 | 18.0 | 12.0 | 18.0 | 8.0 | 4.0 | 60.0 | 723 | 277 | 717 | 135 | 20 | 1872 | 40 | 23 | 40 | 17 | | 31 |
| ***BEDFORD-SACKVILLE ROUTES*** | | | | | | | | | | | | | | | | | | ***49.0*** | ***25.0*** | ***46.0*** | ***15.0*** | ***7.0*** | ***110*** | ***129*** | ***149*** | ***47*** | ***14*** | ***449*** | ***4431*** | ***4166*** | ***4857*** | ***790*** | ***192*** | ***14427*** | *40* | *32* | *33* | *17* | *4* | ***32*** |

**EXHIBIT B.4**

**OPERATING CHARACTERISTICS OF METREO TRANSIT'S DARTMOUTH ROUTES (Fall Weekday 2008)**

| ROUTE | Dir. | SPAN OF SERVICE | HEADWAY (minutes) AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | RUNNING TIME (minutes) AM PEAK Dr. Time | Rec Time | MID-DAY Dr. Time | Rec Time | PM PEAK Dr. Time | Rec Time | EVE Dr. Time | Rec Time | LATE EVE Dr. Time | Rec Time | VEHICLES AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | VEHICLE SERVICE HOURS AM PEAK 3.0 | MID DAY 6.0 | PM PEAK 4.0 | EVE 3.0 | LT EVE 2.0 | TOTAL 18.0 | BOARDING PASSENGERS AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | TOTAL | PASSENGERS / VEH. SERVICE HR AM PK | MID DAY | PM PK | EVE | LT EVE | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. DALHOUSIE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *85.2* | | | | | | - | | | | | | |
| South&LaMarchant-Barrington&Duke | eb | 6:41am-11:10pm | 15 | 30 | 15 | 30 | 30 | 18 | | 18 | | 18 | | 18 | | 18 | | 1.2 | 0.6 | 1.2 | 0.6 | 0.6 | 2.1 | 3.6 | 3.9 | 1.8 | 0.9 | 12.3 | 123 | 446 | 705 | 195 | 61 | 1530 | 59 | 124 | 181 | 108 | 68 | 125 |
| | Extra | 3:25pm | | | | | | | | | | | | | | | | | | | | | | | 0.2 | | | 0.2 | | | 21 | | | 21 | | | 97 | | | 97 |
| | wb | 6:18 am-11:35 pm | 15 | 30 | 15 | 30 | 30 | 20 | 5 | 20 | 5 | 20 | 5 | 20 | 15 | 20 | 15 | 1.7 | 0.8 | 1.7 | 1.2 | 1.2 | 4.2 | 5.3 | 4.3 | 2.5 | 1.6 | 17.8 | 228 | 198 | 139 | 32 | 23 | 620 | 55 | 37 | 33 | 13 | 15 | 35 |
| Barrington&Duke-Bridge Terminal | eb | 6:58am-11:28pm | 15 | 30 | 15 | 30 | 30 | 12 | | 12 | | 12 | | 10 | | 10 | | 0.8 | 0.4 | 0.8 | 0.3 | 0.3 | 1.4 | 2.4 | 2.9 | 1 | 0.5 | 8.2 | 67 | 128 | 331 | 42 | 24 | 592 | 48 | 53 | 113 | 42 | 48 | 72 |
| | wb | 6:08am-11:25pm | 15 | 30 | 15 | 30 | 30 | 10 | | 10 | | 10 | | 10 | | 10 | | 0.7 | 0.3 | 0.7 | 0.3 | 0.3 | 1.4 | 2.4 | 2.5 | 0.7 | 0.5 | 7.4 | 188 | 167 | 86 | 25 | 8 | 474 | 139 | 70 | 34 | 36 | 17 | 64 |
| Bridge Terminal-Mic Mac Terminal | eb | 5:53am-11:38pm | 15 | 30 | 15 | 30 | 30 | 10 | | 10 | | 10 | | 7 | | 7 | | 0.7 | 0.3 | 0.7 | 0.2 | 0.2 | 2 | 2 | 1.7 | 1.2 | 0.5 | 7.3 | 98 | 194 | 224 | 52 | 25 | 593 | 49 | 97 | 134 | 45 | 50 | 81 |
| | wb | 5:58am-12:14am | 15 | 30 | 15 | 30 | 30 | 11 | | 11 | | 11 | | 11 | | 11 | | 0.7 | 0.4 | 0.7 | 0.4 | 0.4 | 2.4 | 2.2 | 2.8 | 1.1 | 0.9 | 9.3 | 239 | 142 | 134 | 98 | 7 | 620 | 102 | 65 | 49 | 89 | 8 | 67 |
| Mic Mac Terminal-Inverary&Strath | eb | 5:59am-11:45pm | 15 | 30 | 15 | 30 | 30 | 17 | 1 | 17 | 1 | 17 | 1 | 14 | 1 | 14 | 1 | 1.2 | 0.6 | 1.2 | 0.5 | 0.5 | 2.7 | 3.6 | 4.6 | 1.5 | 1.1 | 13.5 | 119 | 232 | 133 | 44 | 6 | 534 | 45 | 64 | 29 | 29 | 5 | 40 |
| | Extra | 35am,6:29am,6:44am | | | | | | | | | | | | | | | | | | | | | 0.5 | | | | | 0.5 | 44 | | | | | 44 | 98 | | | | | 98 |
| | wb | 5:44am-12:00am | 15 | 30 | 15 | 30 | 30 | 16 | | 16 | | 16 | | 14 | | 14 | | 1.1 | 0.5 | 1.1 | 0.5 | 0.5 | 2.9 | 3.2 | 3.9 | 1.4 | 1.2 | 12.5 | 179 | 96 | 76 | 19 | 9 | 379 | 62 | 30 | 20 | 14 | 8 | 30 |
| | Extra | 7:15am | | | | | | | | | | | | | | | | | | | | | 0.1 | | | | | 0.1 | 14 | | | | | 14 | 120 | | | | | 120 |
| | Total | | | | | | | 114 | 6 | 114 | 6 | 114 | 6 | 104 | 16 | 104 | 16 | 8.0 | 4.0 | 8.0 | 4.0 | 4.0 | 19.7 | 24.7 | 26.8 | 11.2 | 7.2 | 89.1 | 1299 | 1603 | 1849 | 507 | 163 | 5421 | 66 | 65 | 69 | 45 | | 61 |
| 16 PARKLAND | | | | | | | | | | | | | | | | | | | | | | | | | | | | *32.0* | | | | | | | | | | | | |
| Bridge Terminal-Highfield Terminal | wb | 6:00am-10:00pm | 30 | 30 | 30 | 60 | 60 | 9 | | 7 | | 7 | | 7 | | 7 | | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.8 | 1.4 | 0.9 | 0.4 | 0.1 | 3.6 | 54 | 87 | 114 | 15 | 3 | 273 | 65 | 62 | 122 | 43 | 26 | 75 |
| | eb | 7:13am-10:51pm | 30 | 30 | 30 | 60 | 60 | 7 | 9 | 7 | 12 | 10 | 5 | 7 | 2 | 7 | 0 | 0.5 | 0.6 | 0.5 | 0.2 | 0.1 | 0.5 | 1.4 | 1.3 | 0.6 | 0.1 | 3.8 | 19 | 59 | 29 | 8 | 2 | 117 | 41 | 42 | 23 | 14 | 17 | 31 |
| Highfield Terminal-Mt. St. Vincent U | wb | 6:07am-10:07pm | 30 | 30 | 30 | 60 | 60 | 11 | | 9 | | 12 | | 9 | | 8 | | 0.4 | 0.3 | 0.4 | 0.2 | 0.1 | 1.1 | 1.8 | 1.5 | 0.5 | 0.1 | 5 | 18 | 32 | 38 | 2 | 1 | 91 | 16 | 18 | 25 | 4 | 8 | 18 |
| | eb | 7:03am-10:43pm | 30 | 30 | 30 | 60 | 60 | 10 | | 10 | | 10 | | 9 | | 8 | | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.7 | 2 | 1.3 | 0.6 | 0.1 | 4.7 | 2 | 10 | 28 | 10 | 0 | 50 | 3 | 5 | 21 | 17 | - | 11 |
| Mt. St. Vincent U-Lacewood Terminal | wb | 6:18am-10:15pm | 30 | 30 | 30 | 60 | 60 | 20 | 9 | 14 | 18 | 20 | 11 | 13 | 2 | 13 | 2 | 1 | 1.1 | 1 | 0.3 | 0.3 | 2.5 | 6.4 | 3.6 | 0.7 | 0.2 | 13.4 | 71 | 83 | 49 | 10 | 3 | 216 | 29 | 13 | 14 | 14 | 14 | 16 |
| | eb | 6:48am-10:30pm | 30 | 30 | 30 | 60 | 60 | 15 | | 13 | | 15 | | 13 | | 13 | | 0.5 | 0.5 | 0.5 | 0.2 | 0.2 | 1.2 | 2.6 | 2 | 0.7 | 0.2 | 6.7 | 91 | 116 | 134 | 25 | 6 | 372 | 75 | 45 | 68 | 37 | 28 | 56 |
| | Total | | | | | | | 72 | 18 | 60 | 30 | 74 | 16 | 58 | 4 | 56 | 2 | 3.0 | 3.0 | 3.0 | 1.0 | 1.0 | 6.8 | 15.6 | 10.6 | 3.4 | 0.9 | 37.3 | 255 | 387 | 392 | 70 | 15 | 1119 | 38 | 25 | 37 | 21 | 16 | 30 |
| 41 DARTMOUTH-DALHOUSIE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *25.3* | | | | | | | | | | | | |
| South&LaMarchant-Barrington&Duke | nb | 7:15am - 7:09pm | 20 | 20 | 20 | - | - | 13 | | 13 | | 13 | | - | - | - | | 0.7 | 0.7 | 0.7 | - | - | 0.9 | 3.9 | 2.6 | | - | 7.4 | 18 | 256 | 341 | | - | 615 | 21 | 66 | 131 | | - | 84 |
| | sb | 7:00am - 6:05pm | 20 | 20 | 20 | - | - | 13 | 8 | 13 | 9 | 13 | 9 | - | - | - | - | 1.1 | 1.1 | 1.1 | - | - | 1.2 | 6.5 | 3.6 | - | - | 11.2 | 48 | 234 | 93 | - | - | 375 | 41 | 36 | 26 | - | - | 34 |
| Barrington&Duke-Bridge Terminal | nb | 7:28am - 7:22pm | 20 | 20 | 20 | - | - | 10 | 5 | 10 | 5 | 10 | 5 | - | - | - | - | 0.8 | 0.8 | 0.8 | - | - | 1.1 | 4.3 | 2.6 | | - | 8 | 18 | 151 | 119 | | - | 288 | 17 | 36 | 46 | | - | 36 |
| | sb | 6:50am - 5:55pm | 20 | 20 | 20 | - | - | 10 | | 10 | | 10 | | - | | - | | 0.5 | 0.5 | 0.5 | - | - | 0.8 | 2.8 | 1.7 | - | - | 5.3 | 71 | 185 | 66 | - | - | 322 | 85 | 65 | 40 | - | - | 60 |
| | Total | | | | | | | 46 | 13 | 46 | 14 | 46 | 14 | - | - | - | - | 3.0 | 3.0 | 3.0 | - | - | 3.9 | 17.4 | 9.9 | | - | 31.9 | 155 | 826 | 599 | | - | 1600 | 39 | 47 | 60 | | | 50 |
| 51. SHANNON | | | | | | | | | | | | | | | | | | | | | | | | | | | | *23.5* | | | | | | | | | | | | |
| Dockyard/BridgeTerminal (H-C) | nb | 3:10pm - 4:10pm | | | 30 | | | | | | | 13 | | | | | | | | 0.4 | | | | | 0.7 | | | 0.7 | | | 72 | | | 72 | | | 103 | | | 103 |
| | sb | 6:07am - 7 :18am | 23 | | | | | 7 | | | | | | | | | | 0.3 | | | | | 0.5 | | | | | 0.5 | 64 | | | | | 64 | 128 | | | | | 128 |
| BridgeTerm/Windmill&Princ.Marg.(C-E) | nb | 6:10am - 12:25am | 30 | 30 | 30 | 30 | 30 | 12 | | 12 | | 12 | | 12 | | 12 | | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.2 | 2.4 | 1.6 | 1.2 | 0.8 | 7.2 | 192 | 126 | 184 | 80 | 29 | 611 | 160 | 53 | 115 | 67 | 24 | 85 |
| | sb | 6:27am-12:42am | 30 | 30 | 30 | 30 | 30 | 15 | | 15 | 6 | 15 | 5 | 15 | 6 | 15 | 6 | 0.5 | 0.7 | 0.7 | 0.7 | 0.7 | 1.5 | 4.2 | 2.7 | 2.1 | 1.4 | 11.9 | 192 | 134 | 96 | 18 | 6 | 446 | 128 | 32 | 36 | 9 | 3 | 37 |
| Windmill&Princ.Marg/J. Zatzman (E-X) | nb | 6:32am-8:37am | 30 | | | | | 12 | | | | | | | | | | 0.4 | | | | | 0.8 | | | | | 0.8 | 1 | | | | | 1 | 1 | | | | | 1 |
| | sb | 6:45-8:50a:48-5:20p | 30 | | 30 | | | 12 | | | | 18 | | | | | | 0.4 | | 0.6 | | | 0.8 | | 0.6 | | | 1.4 | 3 | | 36 | | | 39 | 4 | | 60 | | | 28 |
| Windmill&Princ.Marg/P.M.&KillkeeGaE-F | nb | 9:01am - 12:31am | 30 | 30 | 30 | 30 | 30 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.6 | 1.2 | 0.8 | 0.6 | 0.4 | 3.6 | 18 | 32 | 8 | 5 | 1 | 64 | 30 | 27 | 10 | 8 | 2 | 18 |
| | sb | 6:22am - 12:37pm | 30 | 30 | 30 | 30 | 30 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.6 | 1.2 | 0.8 | 0.6 | 0.4 | 3.6 | 9 | 42 | 8 | 9 | 3 | 71 | 15 | 35 | 10 | 15 | 5 | 20 |
| Princ.Marg&Killkee/J.Zatzman (F-X ) | nb | 3:33pm-5:20pm | | | 30 | | | | | | | 15 | | | | | | | | 0.5 | | | | | 0.75 | | | 0.8 | | | 3 | | | 3 | | | 4 | | | 4 |
| | sb | 6:45am-8:50:am | 30 | | | | | 18 | | | | | | | | | | 0.6 | | | | | 0.6 | | | | | 0.6 | 2 | | | | | 2 | 3 | | | | | 3 |
| | Total | | | | | | | 88 | 0 | 39 | 6 | 85 | 5 | 39 | 6 | 39 | 6 | 3.0 | 1.5 | 3.0 | 1.5 | 1.5 | 6.6 | 9.0 | 8.0 | 4.5 | 3.0 | 31.1 | 481 | 334 | 407 | 112 | 39 | 1199 | 73 | 37 | 51 | 25 | 9 | 39 |
| 52 CROSSTOWN | | | | | | | | | | | | | | | | | | | | | | | | | | | | *102.6* | | | | | | | | | | | | |
| Chain Lake-Lacewood Terminal | nb | 6:08am-12:10am | 20 | 30 | 20 | 30 | 60 | 15 | | 15 | | 15 | | 15 | | 15 | | 0.75 | 0.50 | 0.75 | 0.50 | 0.25 | 2.3 | 3.0 | 3.0 | 1.5 | 0.5 | 10.3 | 45 | 116 | 266 | 108 | 62 | 597 | 20 | 39 | 89 | 72 | 124 | 58 |
| | sb | 5:58am-11:55pm | 17 | 30 | 20 | 30 | 60 | 10 | 8 | 10 | 5 | 10 | 8 | 10 | 5 | 10 | 5 | 1.06 | 0.50 | 0.90 | 0.50 | 0.25 | 3.2 | 3.0 | 3.6 | 1.5 | 0.5 | 11.8 | 47 | 110 | 117 | 57 | 0 | 331 | 15 | 37 | 33 | 38 | - | 28 |
| Lacewood Terminal-Mumford Terminal | nb | 5:53am-12:25am | 17 | 30 | 20 | 30 | 60 | 16 | | 15 | | 15 | | 15 | | 15 | | 0.94 | 0.50 | 0.75 | 0.50 | 0.25 | 2.8 | 3.0 | 3.0 | 2.3 | 0.5 | 11.6 | 252 | 176 | 96 | 150 | 15 | 689 | 89 | 59 | 32 | 67 | 30 | 60 |
| | sb | 6:32am-11:40pm | 17 | 30 | 20 | 30 | 60 | 17 | | 15 | | 17 | | 15 | | 15 | | 1.00 | 0.50 | 0.85 | 0.50 | 0.25 | 3.0 | 3.0 | 3.4 | 2.3 | 0.5 | 12.2 | 156 | 203 | 296 | 74 | 27 | 756 | 52 | 68 | 87 | 33 | 54 | 62 |
| Mumford Terminal-Bridge Terminal | nb | 6:09am-12:40am | 17 | 30 | 20 | 30 | 60 | 16 | | 15 | | 15 | | 15 | | 15 | | 0.94 | 0.50 | 0.75 | 0.50 | 0.25 | 2.8 | 3.0 | 3.0 | 2.3 | 0.5 | 11.6 | 243 | 202 | 128 | 84 | 28 | 685 | 86 | 67 | 43 | 37 | 56 | 59 |
| | sb | 6:12am-11:25pm | 17 | 30 | 20 | 30 | 60 | 20 | | 15 | | 20 | | 15 | | 15 | | 1.18 | 0.50 | 1.00 | 0.50 | 0.25 | 3.5 | 3.0 | 4.0 | 2.3 | 0.5 | 13.3 | 135 | 195 | 313 | 72 | 21 | 736 | 38 | 65 | 78 | 32 | 42 | 55 |
| Bridge Terminal-Highfield Terminal | nb | 6:25am-12:55am | 17 | 30 | 20 | 30 | 60 | 11 | | 10 | | 11 | | 10 | | 15 | | 0.65 | 0.33 | 0.55 | 0.33 | 0.25 | 1.9 | 2.0 | 2.2 | 2.3 | 0.5 | 8.9 | 132 | 157 | 90 | 91 | 29 | 499 | 68 | 79 | 41 | 40 | 58 | 56 |
| | sb | 6:01am-11:15pm | 17 | 30 | 20 | 30 | 60 | 11 | | 10 | | 11 | | 10 | | 15 | | 0.65 | 0.33 | 0.55 | 0.33 | 0.25 | 1.9 | 2.0 | 2.2 | 2.3 | 0.5 | 8.9 | 94 | 86 | 85 | 14 | 26 | 305 | 48 | 43 | 39 | 6 | 52 | 34 |
| Highfield Term.-Colford via Isley | nb | 9:05a-3:36p/6:05-9:35p | - | 30 | 30 | 30 | - | - | - | 16 | 3 | 16 | 3 | 16 | 3 | - | - | - | 0.63 | 0.63 | 0.63 | - | - | 3.2 | 0.8 | 1.9 | - | 5.9 | - | 24 | 10 | 9 | - | 43 | - | 8 | 13 | 5 | - | 7 |
| | sb | 9:24a-3:24p/6:24-9:54p | - | 30 | 30 | 30 | - | - | | 21 | | 21 | | 21 | | - | | - | 0.70 | 0.70 | 0.70 | - | - | 4.8 | 1.1 | 1.8 | - | 7.6 | - | 205 | 85 | 59 | - | 349 | - | 43 | 81 | 34 | - | 46 |
| Highfield Term.-Wright&MacDonald via Isley | nb | 6:36a-8:48a/3:36-6:05p | 15 | - | 30 | - | - | 10 | 0 | - | - | 10 | 0 | - | - | - | - | 0.67 | - | 0.33 | - | - | 1.4 | - | 1.3 | - | - | 2.8 | 24 | - | 21 | - | - | 45 | 17 | - | 16 | - | - | 16 |
| Extra starting at Isley | nb | 3:57-5:57p/10:05p-1:05a | | | 30 | | 60 | | | | | 4 | | | | 5 | | | | | | | | | 0.3 | | 0.3 | 0.6 | | | 15 | - | 1 | 16 | | | 50 | - | 3 | 25 |
| | sb | 6:46-8:57a/,3:46-5:36p | 15 | - | 15 | - | - | 18 | - | - | - | 18 | - | - | - | - | - | 1.20 | - | 1.20 | - | - | 1.8 | - | 3.0 | - | - | 4.8 | 102 | - | 222 | - | - | 324 | 57 | - | 74 | - | - | 68 |
| Extra starting at Isley | sb | 5:50-7:06am,11:10pm | 30 | | | | | 11 | | | | | | | | | | | | | | | 0.4 | | | | 0.1 | 0.5 | 13 | | | | 26 | 39 | 36 | | | | 312 | 87 |
| | Total | | | | | | | 144 | 8 | 142 | 8 | 179 | 11 | 142 | 8 | 115 | 5 | 9.0 | 5.0 | 9.0 | 5.0 | 2.0 | 25.1 | 30.0 | 30.9 | 20.3 | 4.2 | 110.4 | 1243 | 1474 | 1744 | 718 | 235 | 5414 | 50 | 49 | 57 | 35 | 53 | 49 |
| 53 NOTTING PARK | | | | | | | | | | | | | | | | | | | | | | | | | | | | *21.3* | | | | | | | | | | | | |
| Summer Street-Bridge Terminal | nb | 4:13pm-5:33pm | - | - | 20 | - | - | - | - | - | - | 22 | 0 | - | - | - | - | | | 1.1 | | | | | 1.7 | | | 1.7 | - | - | 123 | - | - | 123 | | | 75 | | | 75 |
| | sb | 6:54am-8:39am | 20 | - | - | - | - | 20 | 0 | - | - | - | - | - | - | - | - | 1.0 | | | | | 1.5 | | | | | 1.5 | 131 | - | - | - | - | 131 | 87 | | | | | 87 |
| Bridge Terminal-Highfield Terminal | nb | 6:10am-11:55pm | 20 | 30 | 20 | 30 | 30 | 7 | | 7 | | 7 | | 7 | | 7 | | 0.4 | 0.2 | 0.4 | 0.2 | 0.2 | 1.1 | 1.4 | 1.4 | 0.7 | 0.5 | 5.0 | 73 | 270 | 220 | 96 | 43 | 702 | 70 | 193 | 157 | 137 | 61 | 140 |
| | sb | 5:52am-12:02am | 20 | 30 | 20 | 30 | 30 | 17 | 0 | 17 | 6 | 17 | 0 | 13 | 10 | 13 | 10 | 0.9 | 0.8 | 0.9 | 0.8 | 0.8 | 2.6 | 4.6 | 3.4 | 2.3 | 1.5 | 14.4 | 272 | 196 | 43 | 42 | 9 | 562 | 107 | 43 | 13 | 18 | 4 | 39 |
| | Total | | | | | | | 44 | 0 | 24 | 6 | 46 | 0 | 20 | 10 | 20 | 10 | 2.2 | 1.0 | 2.3 | 1.0 | 1.0 | 6.6 | 6.0 | 6.9 | 4.0 | 2.0 | 25.5 | 448 | 404 | 493 | 99 | 49 | 1,493 | 68 | 67 | 71 | 25 | 12 | 59 |

**EXHIBIT B.5**

**OPERATING CHARACTERISTICS OF METRO TRANSIT'S DARTMOUTH ROUTES (Fall Weekday 2008)**

| ROUTE | Dir. | SPAN OF SERVICE | HEADWAY (minutes) AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | RUNNING TIME (minutes) AM PEAK Dr. Time | Rec Time | MID-DAY Dr. Time | Rec Time | PM PEAK Dr. Time | Rec Time | EVE Dr. Time | Rec Time | LATE EVE Dr. Time | Rec Time | VEHICLES AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | VEHICLE SERVICE HOURS AM PEAK 3.0 | MID DAY 6.0 | PM PEAK 4.0 | EVE 3.0 | LT EVE 2.0 | TOTAL 18.0 | BOARDING PASSENGERS AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | TOTAL | PASSENGERS / VEH. SERVICE HR AM PK | MID DAY | PM PK | EVE | LT EVE | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54 MONTEBELLO | | | | | | | | | | | | | | | | | | | | | | | | | | | | *19.2* | | | | | | | | | | | | |
| Alderney Ferry Term.-Mic Mac Terminal | nb | 6:30am-9:00pm | 30 | 60 | 30 | 60 | - | 10 | | 10 | | 10 | | 10 | | - | | 0.3 | 0.2 | 0.3 | 0.2 | - | 0.8 | 1.0 | 1.2 | 0.5 | - | 3.5 | 28 | 101 | 136 | 12 | - | 277 | 34 | 101 | 117 | 24 | - | 79 |
| | sb | 6:43am-9:45pm | 30 | 60 | 30 | 60 | - | 10 | 7 | 10 | 5 | 10 | 5 | 10 | 5 | - | - | 0.6 | 0.3 | 0.5 | 0.3 | - | 1.4 | 1.8 | 1.8 | 0.7 | - | 5.6 | 26 | 42 | 26 | 9 | - | 103 | 18 | 24 | 15 | 14 | - | 18 |
| Mic Mac Terminal-Appian&Caledonia | nb | 6:10am-9:10pm | 30 | 60 | 30 | 60 | - | 14 | 1 | 15 | 2 | 15 | 2 | 15 | 2 | - | - | 0.5 | 0.3 | 0.6 | 0.3 | - | 1.5 | 1.7 | 2.0 | 0.9 | - | 6.0 | 32 | 82 | 56 | 16 | - | 186 | 21 | 48 | 28 | 19 | - | 31 |
| | sb | 6:25am-9:27pm | 30 | 60 | 30 | 60 | - | 18 | | 18 | | 18 | | 18 | | - | | 0.6 | 0.3 | 0.6 | 0.3 | - | 1.8 | 1.8 | 2.1 | 0.9 | - | 6.6 | 89 | 101 | 41 | 6 | - | 237 | 49 | 56 | 20 | 7 | - | 36 |
| | Total | | | | | | | 52 | 8 | 53 | 7 | 53 | 7 | 53 | 7 | - | - | 2.0 | 1.0 | 2.0 | 1.0 | - | 5.6 | 6.3 | 7.0 | 2.9 | - | 21.7 | 175 | 326 | 259 | 43 | - | 803 | 32 | 52 | 37 | 15 | - | 37 |
| 55 PORT WALLACE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *18.7* | | | | | | | | | | | | |
| Bridge Terminal-Mic Mac Terminal | nb | 6:10am-10:25pm | 30 | 60 | 30 | 60 | 60 | 10 | | 10 | | 10 | | 10 | | 10 | | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.7 | 1.0 | 1.0 | 0.7 | 0.2 | 3.5 | 12 | 40 | 75 | 16 | - | 143 | 18 | 40 | 75 | 24 | - | 41 |
| | sb | 6:00am-11:08pm | 30 | 60 | 30 | 60 | 60 | 10 | 7 | 10 | 7 | 10 | 7 | 10 | 7 | 10 | 7 | 0.6 | 0.3 | 0.6 | 0.3 | 0.3 | 1.6 | 1.7 | 1.5 | 1.0 | 0.2 | 6.0 | 21 | 15 | 27 | 2 | - | 65 | 13 | 9 | 18 | 2 | - | 11 |
| Mic Mac Term.l-Portobello Turning Loop | nb | 5:27am-10:35pm | 30 | 60 | 30 | 60 | 60 | 12 | 1 | 12 | 1 | 12 | 1 | 12 | 1 | 12 | 1 | 0.4 | 0.2 | 0.4 | 0.2 | 0.2 | 1.3 | 1.3 | 1.3 | 0.7 | 0.2 | 4.8 | 2 | 20 | 22 | 15 | 2 | 61 | 2 | 15 | 17 | 23 | 9 | 13 |
| | sb | 5:40am-10:48pm | 30 | 60 | 30 | 60 | 60 | 20 | | 20 | | 20 | | 20 | | 20 | | 0.7 | 0.3 | 0.7 | 0.3 | 0.3 | 2.0 | 2.0 | 2.0 | 1.0 | 0.3 | 7.3 | 88 | 55 | 31 | 8 | - | 182 | 44 | 28 | 16 | 8 | - | 25 |
| | Total | | | | | | | 52 | 8 | 52 | 8 | 52 | 8 | 52 | 8 | 52 | 8 | 2.0 | 1.0 | 2.0 | 1.0 | 1.0 | 5.5 | 6.0 | 5.8 | 3.3 | 0.9 | 21.6 | 123 | 130 | 155 | 41 | 2 | 451 | 22 | 22 | 27 | 12 | 2 | 21 |
| 56 DARTMOUTH CROSSING | | | | | | | | | | | | | | | | | | | | | | | | | | | | *26.4* | | | | | | | | | | | | |
| Dartmouth Crossing-Mic Mac Terminal | sb | 6:45am-10:45am | 30 | 30 | 30 | 30 | 30 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 1.2 | 0.8 | 0.6 | 0.2 | 3.3 | - | 13 | 8 | 9 | - | 30 | - | 11 | 10 | 15 | - | 9 |
| | nb | 6:32am-10:32pm | 30 | 30 | 30 | 30 | 30 | 9 | 4 | 9 | 4 | 9 | 4 | 9 | 4 | 9 | 4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.1 | 2.6 | 1.7 | 1.3 | 0.4 | 7.2 | 33 | 92 | 120 | 35 | 6 | 286 | 30 | 35 | 69 | 27 | 5 | 40 |
| Mic Mac Terminal-Penhorn Terminal | sb | 6:51am-10:51am | 30 | 30 | 30 | 30 | 30 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 1.2 | 0.8 | 0.6 | 0.2 | 3.3 | 1 | 31 | 22 | 9 | 1 | 64 | 2 | 26 | 28 | 15 | 2 | 19 |
| | nb | 6:24am-10:24am | 30 | 30 | 30 | 30 | 30 | 8 | | 8 | | 8 | | 8 | | 8 | | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 | 1.6 | 1.1 | 0.8 | 0.3 | 4.4 | 22 | 40 | 26 | 7 | 2 | 97 | 33 | 25 | 24 | 9 | 3 | 22 |
| Penhorn Terminal-Portland Hills Termina | sb | 6:57am-10:57pm | 30 | 30 | 30 | 30 | 30 | 10 | 8 | 10 | 8 | 10 | 8 | 10 | 8 | 10 | 8 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 1.5 | 3.6 | 2.4 | 1.8 | 0.6 | 9.9 | 3 | 2 | 14 | 5 | - | 24 | 2 | 1 | 6 | 3 | - | 2 |
| | nb | 6:15am-10:15am | 30 | 30 | 30 | 30 | 30 | 9 | | 9 | | 9 | | 9 | | 9 | | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.8 | 1.8 | 1.2 | 0.9 | 0.3 | 5.0 | 28 | 36 | 38 | 4 | - | 106 | 37 | 20 | 32 | 4 | - | 21 |
| | Total | | | | | | | 48 | 12 | 48 | 12 | 48 | 12 | 48 | 12 | 48 | 12 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 5.0 | 12.0 | 8.0 | 6.0 | 2.0 | 33.0 | 87 | 214 | 228 | 69 | 9 | 607 | 17 | 18 | 29 | 12 | 2 | 18 |
| 58. WOODLAWN | | | | | | | | | | | | | | | | | | | | | | | | | | | | *33.3* | | | | | | | | | | | | |
| Dorothea&Lucien-Penhorn Terminal | wb | 5:55am-12:25am | 26 | 60 | 30 | 60 | 60 | 15 | | 15 | | 15 | | 15 | | 15 | | 0.6 | 0.3 | 0.5 | 0.3 | 0.3 | 1.7 | 1.5 | 2.0 | 0.8 | 0.5 | 6.5 | 92 | 31 | 45 | 9 | - | 177 | 53 | 21 | 23 | 12 | - | 13 |
| | eb | 5:40am-12:10pam | 26 | 60 | 30 | 60 | 60 | 12 | 3 | 12 | 3 | 12 | 6 | 12 | 3 | 12 | 3 | 0.6 | 0.3 | 0.6 | 0.3 | 0.3 | 1.7 | 1.5 | 2.4 | 0.8 | 0.5 | 6.9 | 56 | 38 | 61 | 5 | 3 | 163 | 32 | 25 | 25 | 7 | 4 | 12 |
| Penhorn Terminal-Bridge Terminal | wb | 6:10am-11:40pm | 26 | 60 | 30 | 60 | 60 | 15 | | 15 | | 15 | | 15 | | 15 | | 0.6 | 0.3 | 0.5 | 0.3 | 0.3 | 1.7 | 1.5 | 2.0 | 0.8 | 0.5 | 6.5 | 157 | 65 | 56 | 27 | 4 | 309 | 91 | 43 | 28 | 36 | 5 | 24 |
| | eb | 5:55am-11:55pm | 26 | 60 | 30 | 60 | 60 | 15 | | 15 | | 15 | | 15 | | 15 | | 0.6 | 0.3 | 0.5 | 0.3 | 0.3 | 1.7 | 1.5 | 2.0 | 0.8 | 0.5 | 6.5 | 85 | 101 | 203 | 62 | 19 | 470 | 49 | 67 | 102 | 83 | 25 | 40 |
| Bridge Terminal-Mumford Terminal | wb | 6:35am-8:35am | 20 | - | - | - | - | 37 | 16 | - | | - | | - | | - | | 2.7 | | | | | 5.3 | | | | | 5.3 | 208 | - | - | - | - | 208 | 39 | | | | | 22 |
| | eb | 3:10pm-4:40pm | - | - | 20 | - | - | - | | - | | 42 | 16 | - | | - | | | | 2.9 | | | | | 4.4 | | | 4.4 | - | - | 289 | - | - | 289 | | | 66 | | | 7 |
| | Total | | | | | | | 94 | 19 | 57 | 3 | 99 | 22 | 57 | 3 | 57 | 3 | 5.0 | 1.0 | 5.0 | 1.0 | 1.0 | 12.2 | 6.0 | 12.8 | 3.0 | 2.0 | 36.0 | 598 | 235 | 654 | 103 | 26 | 1,616 | 49 | 39 | 51 | 34 | 9 | 20 |
| 59. COLBY | | | | | | | | | | | | | | | | | | | | | | | | | | | | *44.5* | | | | | | | | | | | | |
| Summer St-Bridge Terminal | eb | 3:33pm-5:13pm | | | 17 | | | | | | | 22 | 8 | | | | | | | 1.8 | | | | | 3.5 | | | 3.5 | - | - | 260 | - | - | 260 | | | 74 | | | 74 |
| | wb | 6:38am-8:35am | 17 | | | | | 20 | 8 | | | | | | | | | 1.6 | | | | | 3.3 | | | | | 3.3 | 174 | - | - | - | - | 174 | 53 | | | | | 53 |
| Bridge Terminal-Portland Terminal | eb | 6:44am-12:25am | 27 | 30 | 21 | 60 | 60 | 23 | | 22 | | 24 | | 24 | | 24 | | 0.9 | 0.7 | 1.1 | 0.4 | 0.4 | 2.6 | 4.4 | 4.6 | 1.2 | 0.8 | 13.5 | 83 | 252 | 262 | 78 | 50 | 725 | 32 | 57 | 57 | 65 | 42 | 54 |
| | wb | 5:44am-1:11am | 20 | 30 | 21 | 60 | 60 | 20 | | 17 | | 17 | | 17 | | 17 | | 1.0 | 0.6 | 0.8 | 0.3 | 0.3 | 3.0 | 3.4 | 3.2 | 0.9 | 0.6 | 11.1 | 272 | 131 | 135 | 5 | 8 | 551 | 91 | 39 | 42 | 6 | 9 | 50 |
| Portland Terminal-Ashgrove&Cole Harbo | eb | 5:21am-12:49am | 26 | 30 | 21 | 60 | 60 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | | 4 | | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.6 | 1.0 | 1.0 | 0.2 | 0.1 | 2.9 | 8 | 15 | 48 | 6 | 6 | 83 | 14 | 15 | 50 | 30 | 30 | 29 |
| | wb | 5:25am-12:54am | 26 | 30 | 21 | 60 | 60 | 19 | | 17 | | 17 | | 17 | | 17 | | 0.7 | 0.6 | 0.8 | 0.3 | 0.3 | 2.2 | 3.4 | 3.2 | 0.9 | 0.6 | 10.2 | 190 | 95 | 45 | 6 | 6 | 342 | 87 | 28 | 14 | 7 | 7 | 33 |
| | Total | | | | | | | 86 | 9 | 60 | 1 | 84 | 1 | 62 | | 62 | | 4.4 | 2.0 | 4.8 | 1.0 | 1.0 | 11.6 | 12.2 | 15.5 | 3.1 | 2.1 | 44.5 | 727 | 493 | 750 | 95 | 70 | 2,135 | 63 | 40 | 48 | 31 | 23 | 48 |
| 60. EASTERN PASSAGE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *52.9* | | | | | | | | | | | | |
| BridgeTerm/Hospital-WoodsideFerry | sb | 5:42am - 12:25am | 15 | 30 | 15 | 30 | 60 | 16 | | 16 | | 16 | | 16 | | 16 | | 1.1 | 0.5 | 1.1 | 0.5 | 0.3 | 4.3 | 3.2 | 4.3 | 1.6 | 0.8 | 14.1 | 375 | 448 | 455 | 101 | 62 | 1,441 | 88 | 140 | 107 | 63 | 39 | 102 |
| | nb | 5:53am - 1:05am | 15 | 30 | 15 | 30 | 60 | 16 | 1 | 16 | | 16 | 1 | 16 | | 16 | | 1.1 | 0.5 | 1.1 | 0.5 | 0.3 | 4.5 | 3.2 | 4.5 | 1.6 | 0.8 | 14.7 | 187 | 372 | 208 | 30 | - | 797 | 41 | 116 | 46 | 19 | - | 54 |
| Hospital/WoodsideF/Pleasant&CowBay | sb | 5:55am - 12:38am | 15 | 30 | 15 | 30 | 60 | 8 | | 8 | | 8 | | 8 | | 8 | | 0.5 | 0.3 | 0.5 | 0.3 | 0.1 | 2.1 | 1.6 | 2.1 | 0.8 | 0.4 | 7.1 | 7 | 8 | 73 | 8 | - | 96 | 3 | 5 | 34 | 10 | - | 14 |
| | nb | 5:48am - 12:54am | 15 | 30 | 15 | 30 | 60 | 8 | | 8 | | 8 | | 8 | | 8 | | 0.5 | 0.3 | 0.5 | 0.3 | 0.1 | 2.1 | 1.6 | 2.1 | 0.8 | 0.4 | 7.1 | 147 | 136 | 69 | 26 | 10 | 388 | 69 | 85 | 32 | 33 | 13 | 55 |
| Pleasant&CowBay/Caldwell&Shore | sb | 5:36am - 12:48am | 30 | 30 | 30 | 30 | 60 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.8 | 1.2 | 0.8 | 0.6 | 0.3 | 3.7 | 52 | 59 | 20 | 11 | 8 | 150 | 65 | 49 | 25 | 18 | 13 | 41 |
| | nb | 5:42am - 12:53am | 30 | 30 | 30 | 30 | 60 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.8 | 1.2 | 0.8 | 0.6 | 0.3 | 3.7 | 76 | 39 | 20 | 10 | - | 145 | 95 | 33 | 25 | 17 | - | 39 |
| Pleasant&CowBay/HeritageHills | sb | :48-9:18a/2:46-6:44 | 30 | | 30 | | | 4 | | | | 4 | | | | | | 0.1 | | 0.1 | | | 0.5 | | 0.5 | | | 1.1 | 48 | | 12 | | | 60 | 90 | | 23 | | | 56 |
| | nb | :57-9:27a/2:55-6:53 | 30 | | 30 | | | 4 | 2 | | | 4 | 2 | | | | | 0.2 | | 0.2 | | | 0.8 | | 0.8 | | | 1.6 | 67 | | 14 | | | 81 | 84 | | 18 | | | 51 |
| | Total | | | | | | | 68 | 3 | 60 | 0 | 68 | 3 | 60 | 0 | 60 | 0 | 4.0 | 2.0 | 4.0 | 2.0 | 1.0 | 16.0 | 12.0 | 16.0 | 6.0 | 3.0 | 53.0 | 959 | 1,062 | 871 | 186 | 80 | 3,158 | 60 | 89 | 54 | 31 | 27 | 60 |
| 61. AUBURN-NORTH PRESTON interlined with 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | *71.0* | | | | | | 1,639 | | | | | | |
| Barrington&Duke-Bridge Terminal | sb | 7:27am-10:27pm | 30 | 30 | 30 | 30 | 60 | 10 | | 10 | | 10 | | 10 | | 10 | | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 1.0 | 2.0 | 1.3 | 0.7 | 0.5 | 5.5 | 35 | 206 | 215 | 58 | 7 | 521 | 35 | 103 | 161 | 87 | 11 | 95 |
| | nb | 6:08am-11:22pm | 20 | 30 | 30 | 30 | 60 | 10 | | 10 | | 10 | | 10 | | 10 | | 0.5 | 0.3 | 0.3 | 0.3 | 0.2 | 1.5 | 2.0 | 1.3 | 0.7 | 0.5 | 6.0 | 108 | 202 | 30 | 16 | 10 | 366 | 72 | 101 | 23 | 24 | 15 | 61 |
| Bridge Terminal-Portland Hills Terminal | sb | 5:57am-11:37pm | 30 | 30 | 30 | 30 | 60 | 27 | | 27 | | 27 | | 27 | | 27 | | 0.9 | 0.9 | 0.9 | 0.9 | 0.5 | 2.7 | 5.4 | 3.6 | 1.8 | 1.4 | 14.9 | 58 | 232 | 202 | 77 | 15 | 584 | 21 | 43 | 56 | 43 | 8 | 39 |
| | nb | 5:43am-11:30pm | 20 | 30 | 30 | 30 | 60 | 25 | | 22 | | 22 | | 22 | | 22 | | 1.3 | 0.7 | 0.7 | 0.7 | 0.4 | 3.8 | 4.4 | 2.9 | 1.5 | 1.1 | 13.7 | 152 | 299 | 39 | 55 | 21 | 566 | 41 | 68 | 13 | 38 | 14 | 41 |
| Portland Hills Terminal-Auburn&Serocco | sb | 6:24am-12:04am | 26 | 30 | 30 | 30 | 60 | 10 | | 10 | | 10 | | 10 | | 10 | | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 1.2 | 2.0 | 1.3 | 0.7 | 0.5 | 5.7 | 17 | 38 | 50 | 23 | 4 | 132 | 15 | 19 | 38 | 35 | 6 | 23 |
| | nb | 5:25am-12:14am | 20 | 30 | 30 | 30 | 60 | 18 | | 18 | | 18 | | 18 | | 22 | | 0.9 | 0.6 | 0.6 | 0.6 | 0.4 | 2.7 | 3.6 | 2.4 | 1.2 | 1.1 | 11.0 | 196 | 128 | 63 | 12 | 1 | 400 | 73 | 36 | 26 | 10 | 1 | 36 |
| Auburn&Serocco-North Preston Recreat | sb | 6:34am-10:14pm | 30 | 30 | 30 | 30 | 60 | 13 | | 13 | | 13 | | 13 | | 13 | | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 1.3 | 2.6 | 1.7 | 0.9 | 0.7 | 7.2 | 25 | 6 | 4 | 3 | 1 | 39 | 19 | 2 | 2 | 3 | 1 | 5 |
| | nb | 5:10am-10:27pm | 30 | 30 | 30 | 30 | 60 | 15 | | 15 | | 15 | | 15 | | 15 | | 0.5 | 0.5 | 0.5 | 0.5 | 0.3 | 1.5 | 3.0 | 2.0 | 1.0 | 0.8 | 8.3 | 52 | 33 | 18 | 2 | 0 | 105 | 35 | 11 | 9 | 2 | - | 13 |
| | Total | | | | | | | 128 | | 125 | | 125 | | 125 | | 129 | | 5.2 | 4.2 | 4.2 | 4.2 | 2.2 | 15.6 | 25.0 | 14.7 | 7.3 | 5.7 | 72.1 | 643 | 1,144 | 621 | 246 | 59 | 2,713 | 41 | 46 | 42 | 34 | 8 | 38 |
| 62. WILDWOOD | | | | | | | | | | | | | | | | | | | | | | | | | | | | *27.5* | | | | | | | | | | | | |
| Bridge Terminal-Penhorn Terminal | ob | 6:29am-10:27pm | 30 | 60 | 30 | 60 | 60 | 20 | | 20 | | 20 | | 20 | | 20 | | 0.7 | 0.3 | 0.7 | 0.3 | 0.3 | 1.3 | 2.0 | 2.0 | 1.0 | 0.7 | 7.0 | 48 | 82 | 136 | 29 | 6 | 301 | 36 | 41 | 68 | 29 | 6 | 43 |
| | ib | 6:27am-11:23pm | 30 | 60 | 30 | 60 | 60 | 20 | 14 | 20 | 44 | 20 | 14 | 20 | 44 | 20 | 44 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 3.4 | 6.4 | 3.4 | 3.2 | 2.1 | 18.5 | 92 | 80 | 34 | 21 | 1 | 228 | 27 | 13 | 10 | 7 | 0 | 12 |
| Penhorn Terminal-Cole Habour Place | ob | 6:49am-10:47pm | 30 | 60 | 30 | 60 | 60 | 17 | 1 | 17 | 1 | 17 | 1 | 17 | 1 | 17 | 1 | 0.6 | 0.3 | 0.6 | 0.3 | 0.3 | 1.2 | 1.8 | 1.8 | 0.9 | 0.6 | 6.3 | 7 | 16 | 30 | 12 | 1 | 66 | 6 | 9 | 17 | 13 | 1 | 10 |
| | ib | 6:09am-11:05pm | 30 | 60 | 30 | 60 | 60 | 18 | | 18 | | 18 | | 18 | | 18 | | 0.6 | 0.3 | 0.6 | 0.3 | 0.3 | 1.8 | 1.8 | 1.8 | 0.9 | 0.6 | 6.9 | 83 | 76 | 14 | 15 | - | 188 | 46 | 42 | 8 | 17 | - | 27 |
| | Total | | | | | | | 75 | 15 | 75 | 45 | 75 | 15 | 75 | 45 | 75 | 45 | 3.0 | 2.0 | 3.0 | 2.0 | 2.0 | 7.7 | 12.0 | 9.0 | 6.0 | 4.0 | 38.7 | 230 | 254 | 214 | 77 | 8 | 783 | 30 | 21 | 24 | 13 | 2 | 20 |

**EXHIBIT B.6**

**OPERATING CHARACTERISTICS OF METRO TRANSIT'S DARTMOUTH ROUTES (Fall Weekday 2008)**

| ROUTE | Dir. | SPAN OF SERVICE | HEADWAY (minutes) AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | RUNNING TIMR (minutes) AM PEAK Dr. Time | Rec Time | MID-DAY Dr. Time | Rec Time | PM PEAK Dr. Time | Rec Time | EVE Dr. Time | Rec Time | LATE EVE Dr. Time | Rec Time | VEHICLES AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | VEHICLE SERVICE HOURS AM PEAK 3.0 | MID DAY 6.0 | PM PEAK 4.0 | EVE 3.0 | LT EVE 2.0 | TOTAL 18.0 | BOARDING PASSENGERS AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | TOTAL | PASSENGERS / VEH. SERVICE HR AM PK | MID DAY | PM PK | EVE | LT EVE | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63. WOODSIDE | | | | | | | | | | | | | | | | | | | | | | | | | | | | *16.8* | | | | | | | | | | | |
| Bridge Terminal-Pleasant&Everette | ob | 6:25am-5:25pm | 30 | 30 | 30 | - | - | 17 | 4 | 17 | 0 | 17 | 3 | - | - | - | - | 0.7 | 0.6 | 0.7 | - | - | 1.8 | 3.4 | 2.0 | | | 7.2 | 119 | 216 | 110 | | | 445 | 68 | 64 | 55 | | | 62 |
| | ib | 6:46am-5:45pm | 30 | 30 | 30 | - | - | 19 | 20 | 20 | 4 | 20 | 20 | - | - | - | - | 1.3 | 0.8 | 1.3 | - | - | 2.6 | 4.8 | 4.0 | | | 11.4 | 103 | 221 | 92 | | | 416 | 40 | 46 | 23 | | | 36 |
| Pleasant&Everette-Penhorn Mall Termin | ob | 9:42am-3:12pm | - | 30 | | - | - | - | - | 7 | 5 | | | - | - | - | - | | 0.4 | | - | - | | 2.4 | | | | 2.4 | - | 7 | | | | 7 | | 3 | | | | 3 |
| | ib | 9:54am-3:24pm | - | 30 | | - | - | - | | 7 | | | | - | | - | | | 0.2 | | - | - | | 1.4 | | | | 1.4 | - | 11 | | | | 11 | | 8 | | | | 8 |
| | Total | | | | | | | 36 | 24 | 51 | 9 | 37 | 23 | | | | | 2.0 | 2.0 | 2.0 | | | 4.4 | 12.0 | 6.0 | | | 22.4 | 222 | 455 | 202 | - | - | 879 | 51 | 38 | 34 | | | 39 |
| 64. AKERLEY | | | | | | | | | | | | | | | | | | | | | | | | | | | | *6.7* | | | | | | 270 | | | | | | |
| Bridge Terminal-Highfield Terminal | nb | 5:25-8:40a/3:25-5:25 | 30 | - | 30 | - | - | 5 | | - | | 7 | | - | | - | | 0.2 | | 0.2 | | | 0.4 | | 0.4 | | | 0.9 | 128 | | 40 | | | 196 | 320 | | 100 | - | - | 218 |
| | sb | 5:59-9:12a/3:57-5:59 | 30 | - | 30 | - | - | 7 | 20 | - | - | 7 | 20 | - | - | - | - | 0.9 | | 0.9 | | | 1.8 | | 1.8 | | | 2.8 | 49 | | 62 | | | 76 | 27 | | 34 | - | - | 27 |
| Highfield Terminal-McCluskey&Colford | nb | 5:32-8:45a/3:30-5:32 | 30 | - | 30 | - | - | 13 | 0 | - | - | 13 | 0 | - | - | - | - | 0.4 | | 0.4 | | | 0.8 | | 0.8 | | | 2.2 | 49 | | 62 | | | 77 | 61 | | 78 | - | - | 35 |
| | sb | 5:45-8:58a/3:43-5:45 | 30 | - | 30 | - | - | 14 | | - | | 14 | | - | | - | | 0.5 | | 0.5 | | | 1.0 | | 1.0 | | | 2.1 | 17 | | 44 | | | 62 | 17 | | 44 | - | - | 30 |
| | Total | | | | | | | 39 | 20 | | | 41 | 20 | | | | | 2.0 | | 2.0 | | | 4.0 | | 4.0 | | | 8.0 | 243 | | 208 | | | 411 | 61 | | 52 | | | 51 |
| 65. ASTRAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | *19.3* | | | | | | | | | | | |
| Acadia&Pleasant-WoodsideFerryTerm. | eb | 3:45pm- 5:45PM | | | 30 | | | | | | | 3 | 3 | | | | | | | 0.2 | | | | | 0.4 | | | 0.4 | | | 3 | | | 3 | | | 8 | | | 8 |
| | wb | 6:34am-9:04am | 30 | | | | | 7 | 3 | | | | | | | | | 0.3 | | | | | 0.7 | | | | | 0.7 | 9 | | | | | 9 | 14 | | | | | 14 |
| WoodsideFerryTerm.-Penhorn Term. | eb | 5:55-8:59a/3:51-5:51 | 30 | | 30 | | | 9 | | | | 8 | | | | | | 0.3 | | 0.3 | | | 0.9 | | 0.8 | | | 1.7 | n/a | | 63 | | | 63 | | | 79 | | | 37 |
| | wb | 5:27-8:57a/3:58-5:20 | 30 | | 30 | | | 7 | 3 | | | 7 | | | | | | 0.3 | | 0.2 | | | 1.0 | 0.0 | 0.7 | | | 1.7 | 42 | | n/a | | | 42 | 42 | | | | | 25 |
| Penhorn Term.- Athoiea&Caldwell | eb | 6:03am-5:59pm | 30 | 60 | 30 | | | 23 | | 20 | | 23 | | | | | | 0.8 | 0.3 | 0.8 | | | 2.3 | 2.0 | 2.3 | | | 6.6 | 54 | 48 | 88 | | | 190 | 23 | 24 | 38 | | | 29 |
| | wb | 5:56am-6:22pm | 30 | 60 | 30 | | | 31 | 7 | 31 | 9 | 28 | 18 | | | | | 1.3 | 0.7 | 1.5 | | | 3.8 | 4.0 | 4.6 | | | 12.4 | 98 | 22 | 7 | | | 127 | 26 | 6 | 2 | | | 10 |
| | Total | | | | | | | 77 | 13 | 51 | 9 | 69 | 21 | | | | | 3.0 | 1.0 | 3.0 | | | 8.7 | 6.0 | 8.8 | | | 23.5 | 203 | 70 | 161 | - | - | 434 | 23 | 12 | 18 | | | 18 |
| 66. PENHORN | | | | | | | | | | | | | | | | | | | | | | | | | | | | *37.7* | | | | | | | | | | | |
| Cobequid Terminal-Windmill&Ackerley | sb | 6:35am-5:35pm | 30 | 60 | 30 | | | 11 | | 11 | | 11 | | | | | | 0.4 | 0.2 | 0.4 | | | 0.9 | 1.2 | 1.3 | 0.0 | | 3.4 | 71 | 34 | 45 | | | 150 | 77 | 28 | 35 | | | 44 |
| | nb | 7:21am-6:48pm | 30 | 60 | 30 | | | 12 | 2 | 12 | 2 | 12 | 2 | | | | | 0.5 | 0.2 | 0.5 | | | 1.2 | 1.2 | 1.6 | 0.0 | | 4.0 | 8 | 7 | 26 | | | 41 | 7 | 6 | 16 | | | 10 |
| Windmill&Ackerley-Highfield Terminal | sb | 6:46am-5:46pm | 30 | 60 | 30 | | | 16 | | 16 | | 16 | | | | | | 0.5 | 0.3 | 0.5 | | | 1.3 | 1.8 | 1.9 | 0.0 | | 5.0 | 16 | 61 | 73 | | | 150 | 12 | 34 | 39 | | | 30 |
| | nb | 7:05am-6:32pm | 30 | 60 | 30 | | | 16 | | 16 | | 16 | | | | | | 0.5 | 0.3 | 0.5 | | | 1.3 | 1.8 | 1.9 | 0.0 | | 5.0 | 47 | 31 | 56 | | | 134 | 35 | 17 | 30 | | | 27 |
| Highfield Terminal-MicMac Terminal | sb | 7:02am-10:02pm | 30 | 60 | 30 | 60 | | 8 | | 8 | | 8 | | 8 | | | | 0.3 | 0.1 | 0.3 | 0.1 | | 0.7 | 0.6 | 0.9 | 0.4 | | 2.6 | 28 | 54 | 41 | 29 | | 152 | 42 | 90 | 44 | 73 | | 58 |
| | nb | 6:54am-10:54pm | 30 | 60 | 30 | 60 | | 11 | | 11 | | 11 | | 8 | | | | 0.4 | 0.2 | 0.4 | 0.1 | | 0.9 | 1.2 | 1.3 | 0.4 | | 3.8 | 31 | 59 | 30 | 26 | | 146 | 34 | 49 | 23 | 65 | | 38 |
| MicMac Terminal-Penhorn Terminal | sb | 6:17am-10:10pm | 30 | 60 | 30 | 60 | | 15 | | 15 | | 15 | | 15 | | | | 0.5 | 0.3 | 0.5 | 0.3 | | 1.3 | 1.8 | 1.8 | 0.8 | | 5.6 | 13 | 49 | 46 | 33 | | 141 | 10 | 27 | 26 | 44 | | 25 |
| | nb | 6:40am-10:40pm | 30 | 60 | 30 | 60 | | 14 | | 14 | | 14 | | 14 | | | | 0.5 | 0.2 | 0.5 | 0.2 | | 1.2 | 1.2 | 1.6 | 0.7 | | 4.7 | 55 | 55 | 50 | 13 | | 173 | 47 | 46 | 31 | 19 | | 37 |
| Penhorn Terminal-Gaston Turning Loop | sb | 6:25am-10:25pm | 30 | 60 | 30 | 60 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | 0.3 | 0.1 | 0.3 | 0.1 | | 0.7 | 0.6 | 0.9 | 0.4 | | 2.6 | 47 | 76 | 44 | 21 | | 188 | 71 | 127 | 47 | 53 | | 72 |
| | nb | 6:33am-10:33pm | 30 | 60 | 30 | 60 | | 7 | | 7 | | 7 | | 7 | | | | 0.2 | 0.1 | 0.2 | 0.1 | | 0.6 | 0.6 | 0.8 | 0.4 | | 2.4 | 44 | 26 | 22 | 6 | | 51 | 75 | 43 | 27 | 17 | | 22 |
| | Total | | | | | | | 114 | 6 | 114 | 6 | 114 | 6 | 56 | 4 | | | 4.0 | 2.0 | 4.0 | 1.0 | | 10.0 | 12.0 | 14.0 | 3.0 | | 39.0 | 360 | 452 | 433 | 128 | | 1,326 | 36 | 38 | 31 | 43 | | 34 |
| 68 CHERRYBROOK | | | | | | | | | | | | | | | | | | | | | | | | | | | | *43.9* | | | | | | | | | | | |
| Summer Street-Barrington&Duke | eb | 4:15pm-5:15pm | - | - | 30 | - | - | - | | - | | 10 | | - | | - | | | | 0.3 | | - | - | - | 0.5 | - | - | 0.5 | | | 68 | - | - | 68 | | | 136 | | | 136 |
| | wb | 6:15am-9:15am | 30 | 30 | - | - | - | 10 | | 10 | 9 | - | - | - | - | - | - | 0.3 | 0.6 | | | - | 0.8 | 0.2 | - | - | - | 1.0 | 14 | 1 | - | - | - | 15 | 18 | 5 | | | | 15 |
| Barrington&Duke-Bridge Terminal | eb | 4:25pm-5:25pm | - | - | 30 | - | - | - | | - | | 12 | | - | | - | | | | 0.4 | | - | - | - | 0.6 | - | - | 0.6 | | | 36 | - | - | 36 | | | 60 | | | 60 |
| | wb | 6:05am-9:05am | 30 | 30 | - | - | - | 10 | | 10 | | - | | - | | - | | 0.3 | 0.3 | | | - | 0.8 | 0.2 | - | - | - | 1.0 | 31 | | - | - | - | 31 | 39 | - | | | | 31 |
| Bridge Terminal-Alderney Ferry Term. | eb | 7:09am-10:12pm | 60/30 | 30 | 30 | 60 | 60 | 5 | | 5 | | 5 | | 5 | | 5 | | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.3 | 1.0 | 0.6 | 0.3 | 0.1 | 2.2 | 25 | 72 | 96 | 20 | 10 | 223 | 83 | 72 | 160 | 67 | 33 | 101 |
| | wb | 6:00am-11:33pm | 30 | 30 | 30 | 60 | 60 | 5 | 0 | 5 | 4 | 5 | 11 | 5 | 34 | 5 | 34 | 0.2 | 0.3 | 0.5 | 0.7 | 0.7 | 0.4 | 1.8 | 1.0 | 2.0 | 0.2 | 5.4 | 12 | 55 | 26 | - | - | 93 | 30 | 31 | 26 | - | - | 17 |
| AlderneyFerry Term.-Penhorn Terminal | eb | 7:14am-10:17pm | 60/30 | 30 | 30 | 60 | 60 | 10 | | 10 | | 10 | | 10 | | 10 | | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.5 | 2.0 | 1.2 | 0.5 | 0.2 | 4.3 | 7 | 40 | 59 | 12 | 3 | 121 | 14 | 20 | 49 | 24 | 6 | 28 |
| | wb | 5:53am-11:26pm | 30 | 30 | 30 | 60 | 60 | 7 | | 7 | | 7 | | 7 | | 7 | | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.7 | 1.4 | 0.9 | 0.4 | 0.2 | 3.6 | 57 | 71 | 24 | 7 | 1 | 160 | 81 | 51 | 27 | 18 | 3 | 44 |
| Penhorn Terminal-Lake LoonMcLaughlir | eb | 7:24am-10:27pm | 60/30 | 30 | 30 | 60 | 60 | 27 | | 27 | 1 | 27 | 1 | 27 | 1 | 27 | | 0.6 | 0.9 | 0.9 | 0.5 | 0.5 | 1.7 | 5.6 | 3.6 | 1.5 | 0.5 | 4.8 | 35 | 41 | 58 | 15 | 1 | 150 | 21 | 7 | 16 | 10 | 1 | 31 |
| | wb | 5:22am-10:55pm | 30 | 30 | 30 | 60 | 60 | 31 | | 31 | | 31 | | 31 | | 31 | | 1.0 | 1.0 | 1.0 | 0.5 | 0.5 | 3.4 | 6.2 | 4.2 | 1.6 | 0.7 | 5.7 | 166 | 127 | 46 | 8 | 2 | 349 | 49 | 20 | 11 | 5 | 1 | 61 |
| | Total | | | | | | | 105 | | 105 | 14 | 107 | 12 | 85 | 35 | 85 | 35 | 3.0 | 4.0 | 4.0 | 2.0 | 2.0 | 8.6 | 18.4 | 12.6 | 6.3 | 1.9 | 47.3 | 347 | 407 | 413 | 62 | 17 | 1,246 | 40 | 22 | 33 | 10 | 3 | 26 |
| 72 PORTLAND HILLS | | | | | | | | | | | | | | | | | | | | | | | | | | | | *17.4* | | | | | | | | | | | |
| Portland Hills Terminal-Mic Mac Termina | nb | 6:03am-6:03pm | 30 | 60 | 30 | - | - | 16 | | 16 | | 16 | | - | | - | | 0.5 | 0.3 | 0.5 | - | - | 1.6 | 1.6 | 1.9 | - | - | 5.1 | 86 | 54 | 60 | - | - | 200 | 54 | 34 | 32 | - | - | 39 |
| | sb | 6:42am-6:12pm | 30 | 60 | 30 | - | - | 16 | 5 | 16 | 5 | 16 | 5 | - | - | - | - | 0.7 | 0.4 | 0.7 | - | - | 2.1 | 2.1 | 2.5 | - | - | 6.7 | 6 | 25 | 40 | - | - | 71 | 3 | 12 | 16 | - | - | 11 |
| Mic Mac Terminal-MetroTransit via Isley | nb | 6:19am-6:19pm | 30 | 60 | 30 | - | - | 15 | | 15 | | 15 | | - | | - | | 0.5 | 0.3 | 0.5 | - | - | 1.5 | 1.5 | 1.8 | - | - | 4.8 | 20 | 21 | 51 | - | - | 92 | 13 | 14 | 29 | - | - | 19 |
| MetroTransit-MicMacT via Commodore | sb | 6:34am-6:04pm | 30 | 60 | 30 | - | - | 8 | 0 | 8 | 0 | 8 | 0 | - | - | - | - | 0.3 | 0.1 | 0.3 | - | - | 0.8 | 0.8 | 0.9 | - | - | 2.5 | 30 | 31 | 45 | - | - | 106 | 38 | 39 | 48 | - | - | 42 |
| | Total | | | | | | | 55 | 5 | 55 | 5 | 55 | 5 | - | | - | | 2.0 | 1.0 | 2.0 | - | - | 6.0 | 6.0 | 7.0 | - | - | 19.0 | 142 | 131 | 196 | | - | 469 | 24 | 22 | 28 | - | - | 25 |
| 159 PORTLAND HILL LINK | | | | | | | | | | | | | | | | | | | | | | | | | | | | *40.7* | | | | | | | | | | | |
| Portland Hills Terminal-Bridge Terminal | nb | 6:00am-11:30pm | 10 | 30 | 10 | 30 | 30 | 13 | | 13 | | 13 | | 13 | | 13 | | 1.3 | 0.4 | 1.3 | 0.4 | 0.4 | 3.9 | 2.6 | 3.9 | 1.7 | 0.9 | 13.0 | 509 | 95 | 36 | 49 | 4 | 486 | 131 | 37 | 9 | 28 | 2 | 37 |
| | sb | 6:45am-12:15am | 10 | 30 | 10 | 30 | 30 | 13 | | 13 | 10 | 16 | | 13 | 10 | 13 | 10 | 1.3 | 0.8 | 1.6 | 0.8 | 0.8 | 3.9 | 4.6 | 4.8 | 3.1 | 1.5 | 17.9 | 3 | 6 | 30 | 4 | 2 | 4 | 1 | 1 | 6 | 1 | 1 | 0 |
| Bridge Terminal-Duke&Barrington | nb | 6:13am-11:43pm | 10 | 30 | 10 | 30 | 30 | 11 | 6 | 7 | 10 | 7 | 3 | 7 | 10 | 7 | 10 | 1.7 | 0.6 | 1.0 | 0.6 | 0.6 | 5.1 | 3.4 | 3.0 | 2.3 | 1.1 | 14.9 | 2 | 2 | 0 | 0 | 0 | 4 | 0 | 1 | - | - | - | 0 |
| | sb | 6:30am-12:00am | 10 | 30 | 10 | 30 | 30 | 7 | | 7 | | 11 | | 7 | | 7 | | 0.7 | 0.2 | 1.1 | 0.2 | 0.2 | 2.1 | 1.4 | 3.3 | 0.9 | 0.5 | 8.2 | 16 | 40 | 428 | 48 | 17 | 549 | 8 | 29 | 130 | 51 | 18 | 67 |
| | Total | | | | | | | 44 | 6 | 40 | 20 | 47 | 3 | 40 | 20 | 40 | 20 | 5.0 | 2.0 | 5.0 | 2.0 | 2.0 | 15.0 | 12.0 | 15.0 | 8.0 | 4.0 | 54.0 | 530 | 143 | 494 | 101 | 23 | 1291 | 35 | 12 | 33 | 13 | 3 | 24 |
| 165 WOODSIDE LINK | | | | | | | | | | | | | | | | | | | | | | | | | | | | *5.0* | | | | | | | | | | | |
| Portland HillsTerm.-WoodsideFerryTerm | nb | 5:22-9:52a/3:07-6:07 | 30 | | 30 | | | 10 | 7 | | | 10 | 5 | - | - | - | - | 0.6 | | 0.5 | | | 2.0 | | 1.5 | | | 3.5 | 64 | | 4 | - | - | 68 | 32 | | 3 | | | 20 |
| | sb | 6:39-10:09a/3:22-6: | 30 | | 30 | | | 10 | 3 | | | 10 | 5 | - | - | - | - | 0.4 | | 0.5 | | | 1.5 | | 1.5 | | | 3.0 | 64 | | 77 | - | - | 141 | 42 | | 51 | | | 47 |
| | Total | | | | | | | 20 | 10 | | | 20 | 10 | - | - | - | - | 1.0 | | 1.0 | | | 3.5 | | 3.0 | | | 6.5 | 128 | | 81 | - | - | 209 | 37 | | 27 | | | 32 |
| | | | | | | | | | | | | | | | | | | ***DARTMOUTH ROUTES*** | ***78*** | ***45*** | ***78*** | ***32*** | ***24*** | ***208.1*** | ***260.6*** | ***252.2*** | ***98.3*** | ***42.9*** | ***865.4*** | ***9598*** | ***10544*** | ***11424*** | ***2657*** | ***795*** | ***34777*** | *46* | *40* | *45* | *27* | *19* | ***40*** |

**EXHIBIT B1**

**OPERATING CHARACTERISTICS OF METRO TRANSIT'S HALIFAX ROUTES (Weekend Days 2008)**

| ROUTE | Dir. | SATURDAY SPAN OF SERVICE | HEADWAY DAY | HEADWAY EVE | RUNNING TIME DAY Dr. Time | RUNNING TIME DAY Rec Time | RUNNING TIME EVE Dr. Time | RUNNING TIME EVE Rec Time | VEHICLES DAY | VEHICLES EVE | EH.SERVICE HOURS DAY | EH.SERVICE HOURS EVE | EH.SERVICE HOURS TOTAL | SUNDAY AND HOLIDAYS SPAN OF SERVICE | HEADWAY DAY | HEADWAY EVE | RUNNING TIME DAY Dr. Time | RUNNING TIME DAY Rec. Time | RUNNING TIME EVE Dr. Time | RUNNING TIME EVE Rec. Time | VEHICLES DAY | VEHICLES EVE | EH.SERVICE HOURS DAY | EH.SERVICE HOURS EVE | EH.SERVICE HOURS TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SPRING GARDEN | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mumford Terminal-Bridge Terminal | eb | 6:05am - 12:05am | 15 | 30 | 32 | 5 | 32 | 12 | 2.5 | 1.5 | 41.9 | 2.2 | 44.1 | 6:40am - 11:40pm | 30/15 | 30 | 29 | 9 | 29 | 13 | 1.5/2.5 | 1.5 | 35.5 | 3.7 | 39.2 |
| | wb | 6:00am - 12:25am | 15 | 30 | 33 | 5 | 33 | 13 | 2.5 | 1.5 | 43.1 | 2.3 | 45.4 | 6:55am - 11:46pm | 30/15 | 30 | 29 | 8 | 34 | 14 | 1.5/2.5 | 1.5 | 35.5 | 3.8 | 39.3 |
| | Total | | | | 65 | 10 | 65 | 25 | 5.0 | 3.0 | 85.0 | 4.5 | 89.5 | | | | 58 | 17 | 63 | 27 | 5.0 | 3.0 | 71.0 | 7.5 | 78.5 |
| 2. WEDGEWOOD | | | | | | | | | | | | | | | | | | | | | | | | | |
| WaterStreetTerm.-KearneyLake&Castle | nb | 6:52am - 11:00pm | 60/30 | 60 | 45 | 5 | 37 | 4 | 1.75/1.5 | 0.7 | 15.8 | 4.4 | 20.2 | 7:00am - 11:00pm | 60 | 60 | 39 | 4 | 39 | 6 | 0.7 | 0.8 | 10.0 | 2.6 | 12.7 |
| | sb | 7:05am - 11:22pm | 60/30 | 60 | 35 | 5 | 45 | 4 | 1.75/1.5 | 0.8 | 15.8 | 4.9 | 20.7 | 7:40am - 11:40pm | 60 | 60 | 43 | 4 | 40 | 5 | 0.8 | 0.8 | 11.0 | 2.6 | 13.6 |
| | Total | | | | 80 | 10 | 82 | 8 | 3.0 | 1.5 | 31.5 | 9.3 | 40.8 | | | | 82 | 8 | 79 | 11 | 1.5 | 1.5 | 21.0 | 5.3 | 26.3 |
| 3. MANORS | | | | | | | | | | | | | | | | | | | | | | | | | |
| MumfordTerminal-Bayers Rd. Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 4. ROSEDALE | | | | | | | | | | | | | | | | | | | | | | | | | |
| WaterStreetTerminal-Ross&Dunbrack | nb | 6:52am - 11:00pm | 30 | 60 | 45 | 5 | 37 | 4 | 1.7 | 0.7 | 28.3 | 1.0 | 29.4 | 7:30am - 11:30pm | 60 | 60 | 41 | 5 | 41 | 5 | 0.8 | 0.8 | 9.2 | 3.8 | 13.0 |
| | sb | 6:32am - 11:58pm | 30 | 60 | 35 | 5 | 45 | 4 | 1.3 | 0.8 | 22.7 | 1.2 | 23.9 | 7:11am - 12>11am | 60 | 60 | 39 | 5 | 39 | 5 | 0.7 | 0.7 | 8.8 | 3.7 | 12.5 |
| | Total | | | | 80 | 10 | 82 | 8 | 3.0 | 1.5 | 51.0 | 2.3 | 53.3 | | | | 80 | 10 | 80 | 10 | 1.5 | 1.5 | 18.0 | 7.5 | 25.5 |
| 5. CHEBUCTO/FAIRMOUNT | | | | | | | | | | | | | | | | | | | | | | | | | |
| WaterStreetTerminal-Downs&Wilson | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 6. QUINPOOL | | | | | | | | | | | | | | | | | | | | | | | | | |
| WaterStreetTerminal-Mumford Termina | wb | 5:57am-9:57pm | 60 | 60 | 18 | 3 | 18 | 3 | 0.4 | 0.4 | 4.6 | 1.4 | 6.0 | no service | | | | | | | | | | | |
| | eb | 6:35am-10:35pm | 60 | 60 | 19 | 2 | 19 | 2 | 0.4 | 0.4 | 4.6 | 1.4 | 6.0 | | | | | | | | | | | | |
| Mumford Terminal-Glenmor&Stonehave | wb | 6:15am-10:15am | 60 | 60 | 8 | | 8 | | 0.1 | 0.1 | 1.7 | 0.5 | 2.3 | 6:50am-10:50pm | 60 | 60 | 9 | 1 | 9 | | 0.2 | 0.2 | 2.2 | 0.6 | 2.8 |
| | eb | 6:25am-10:25pm | 60 | 60 | 10 | | 10 | | 0.2 | 0.2 | 2.2 | 0.7 | 2.8 | 7:00am-11:00pm | 60 | 60 | 10 | | 10 | 1 | 0.2 | 0.2 | 2.2 | 0.7 | 2.9 |
| | Total | | | | 55 | 5 | 55 | 5 | 1.0 | 1.0 | 13.0 | 4.0 | 17.0 | | | | 19 | 1 | 19 | 1 | 0.3 | 0.3 | 4.3 | 1.3 | 5.7 |
| 7. ROBIE | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Ridge-Robie&Quinpool-North Ri | ccw | 6:15am - 11:45pm | 30 | 30 | 36 | 7 | 36 | 7 | 1.4 | 1.4 | 17.2 | 8.6 | 25.8 | 6:20am - 11:35pm | 45 | 45 | 35 | 8 | 35 | 8 | 1.0 | 1.0 | 11.5 | 5.7 | 17.2 |
| | cw | 6:33am - 12:03am | 30 | 30 | 40 | 7 | 40 | 7 | 1.6 | 1.6 | 18.8 | 9.4 | 28.2 | 6:38am - 11:53pm | 45 | 45 | 39 | 8 | 39 | 8 | 1.0 | 1.0 | 12.5 | 6.3 | 18.8 |
| | Total | | | | 76 | 14 | 76 | 14 | 3.0 | 3.0 | 36.0 | 18.0 | 54.0 | | | | 74 | 16 | 74 | 16 | 2.0 | 2.0 | 24.0 | 12.0 | 36.0 |
| 9. BARRINGTON | | | | | | | | | | | | | | | | | | | | | | | | | |
| PointPleasantPark/Mumford Terminal | nb | 6:30am - 11:30pm | 60 | 60 | 30 | | 30 | | 0.5 | 0.5 | 6.0 | 3.0 | 9.0 | 6:40am - 11:35pm | 60 | 60 | 30 | | 30 | | 0.5 | 0.5 | 6.0 | 3.0 | 9.0 |
| | sb | 7:00am - 12:10am | 60 | 60 | 30 | | 30 | | 0.5 | 0.5 | 6.0 | 3.0 | 9.0 | 7:20am - 12:10am | 60 | 60 | 30 | | 30 | | 0.5 | 0.5 | 6.0 | 3.0 | 9.0 |
| | Total | | | | 60 | 0 | 60 | 0 | 1.0 | 1.0 | 12.0 | 6.0 | 18.0 | | | | 60 | 0 | 60 | 0 | 1.0 | 1.0 | 12.0 | 6.0 | 18.0 |
| 14. LEIBLIN PARK | interlined with 61 | | | | | | | | | | | | | | | | | | | | | | | | |
| Barrington&Duke-Leibln&Juniper | wb | 7:48am - 10:48pm | 60 | 60 | 52 | | 52 | | 0.9 | 0.9 | 10.4 | 5.2 | 15.6 | 7:48am - 10:48pm | 60 | 60 | 52 | | 52 | | 0.9 | 0.9 | 10.4 | 5.2 | 15.6 |
| | eb | 6:46am -10:46pm | 60 | 60 | 54 | 4 | 54 | 4 | 1.0 | 1.0 | 11.6 | 5.8 | 17.4 | 6:46am -10:46pm | 60 | 60 | 54 | 4 | 54 | 4 | 1.0 | 1.0 | 11.6 | 5.8 | 17.4 |
| | Total | | | | 106 | 4 | 106 | 4 | 1.8 | 1.8 | 22.0 | 11.0 | 33.0 | | | | 106 | 4 | 106 | 4 | 1.8 | 1.8 | 22.0 | 11.0 | 33.0 |
| 15. PURCELL COVE | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mumford Terminal/York Redoubt | sb | 7:40am - 10:40pm | 60 | 60 | 14 | 6 | 14 | 6 | 0.3 | 0.3 | 4.0 | 1.0 | 5.0 | 8:00am - 10:55pm | 60 | 60 | 14 | 6 | 14 | 6 | 0.3 | 0.3 | 4.0 | 1.0 | 5.0 |
| | nb | 7:55am - 10:55pm | 60 | 60 | 19 | 6 | 19 | 6 | 0.4 | 0.4 | 5.0 | 1.3 | 6.3 | 8:15am - 11:10pm | 60 | 60 | 19 | 6 | 19 | 6 | 0.4 | 0.4 | 5.0 | 1.3 | 6.3 |
| | Total | | | | 33 | 12 | 33 | 12 | 0.8 | 0.8 | 9.0 | 2.3 | 11.3 | | | | 33 | 12 | 33 | 12 | 0.8 | 0.8 | 9.0 | 2.3 | 11.3 |
| 16. PARKLAND | | | | | | | | | | | | | | | | | | | | | | | | | |
| LacewoodTerminal-Bridge Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 17. SAINT MARY'S | | | | | | | | | | | | | | | | | | | | | | | | | |
| LacewoodTerminal-Dalhousie | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 18. UNIVERSITIES | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lacewood Terminal-SaintMary's&Dalho | sb | 6:20am - 12:20am | 30 | 60 | 40 | 6 | 40 | 6 | 1.5 | 0.8 | 21.5 | 3.1 | 24.5 | 7:05am - 12:05am | 60 | 60 | 32 | | 32 | | 0.5 | 0.5 | 6.4 | 3.2 | 9.6 |
| | nb | 7:00am - 12:02am | 30 | 60 | 38 | 6 | 38 | 6 | 1.5 | 0.7 | 20.5 | 2.9 | 23.5 | 7:38am - 11:38pm | 60 | 60 | 26 | 2 | 26 | 2 | 0.5 | 0.5 | 5.6 | 2.8 | 8.4 |
| | Total | | | | 78 | 12 | 78 | 12 | 3.0 | 1.5 | 42.0 | 6.0 | 48.0 | | | | 58 | 2 | 58 | 2 | 1.0 | 1.0 | 12.0 | 6.0 | 18.0 |
| 19. GREYSTONE | | | | | | | | | | | | | | | | | | | | | | | | | |
| Greystone/Mumford Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 20. HERRING COVE | | | | | | | | | | | | | | | | | | | | | | | | | |
| MumfordTerminal - HerringCove | wb | 5:30am - 11:40pm | 30 | 60 | 27 | | 27 | | 0.9 | 0.5 | 14.4 | 0.9 | 15.3 | 6:35am - 11:35pm | 60 | 60 | 29 | | 29 | | 0.5 | 0.5 | 6.8 | 0.9 | 7.7 |
| | eb | 6:00am - 12:10am | 30 | 60 | 27 | 6 | 27 | 6 | 1.1 | 0.6 | 17.6 | 1.1 | 18.7 | 7:05am - 12:05am | 60 | 60 | 25 | 6 | 25 | 6 | 0.6 | 0.6 | 8.3 | 1.1 | 9.4 |
| | Total | | | | 54 | 6 | 54 | 6 | 2.0 | 1.0 | 32.0 | 2.0 | 34.0 | | | | 54 | 6 | 54 | 6 | 1.0 | 1.0 | 15.0 | 2.0 | 17.0 |
| 21. LAKESIDE/TIMBERLEA | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lacewood Term.- Glengary Gardens | wb | 5:55am - 12:00am | 30 | 30 | 25 | 7 | 25 | 7 | 1.1 | 1.1 | 17.1 | 2.1 | 19.2 | 6:15am - 11:15pm | 60 | 60 | 25 | 7 | 25 | 7 | 0.5 | 0.5 | 8.0 | 1.1 | 9.1 |
| | eb | 6:25am - 12:30am | 30 | 30 | 20 | 8 | 20 | 8 | 0.9 | 0.9 | 14.9 | 1.9 | 16.8 | 6:45am - 11:45pm | 60 | 60 | 20 | 8 | 20 | 8 | 0.5 | 0.5 | 7.0 | 0.9 | 7.9 |
| | Total | | | | 45 | 15 | 45 | 15 | 2.0 | 2.0 | 32.0 | 4.0 | 36.0 | | | | 45 | 15 | 45 | 15 | 1.0 | 1.0 | 15.0 | 2.0 | 17.0 |
| 23. TIMBERLEA/MUMFORD | | | | | | | | | | | | | | | | | | | | | | | | | |
| Upper Wallis/Cornwallis-Glengarry Gardens | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 31. MAIN | | | | | | | | | | | | | | | | | | | | | | | | | |
| Summer&Bell/LacewoodTerminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 32. COWIE HILL | | | | | | | | | | | | | | | | | | | | | | | | | |
| Summer&Bell/SouthCentreMall | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 33. TANTALION | | | | | | | | | | | | | | | | | | | | | | | | | |
| LacewoodTerminal/Tantallon(Hubley Centre | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 34. GLENBOURNE | | | | | | | | | | | | | | | | | | | | | | | | | |
| Summer&Bell/Lacewood Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 35. PARKLAND | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hollis Train Sta/Lacewood Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 42. LACEWOOD-DALHOUSIE | | | | | | | | | | | | | | | | | | | | | | | | | |
| LacewoodTerminal-South&La Marchant | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| | | | | | | | | ***HALIFAX ROUTES*** | ***26*** | ***18*** | ***366*** | ***69*** | ***435*** | | | | | | | | ***17*** | ***15*** | ***223*** | ***63*** | ***286*** |

**EXHIBIT B2**

**OPERATING CHARACTERISTICS OF METRO TRANSIT'S BEDFORD-SACKVILLE ROUTES (Weekend Days 2008)**

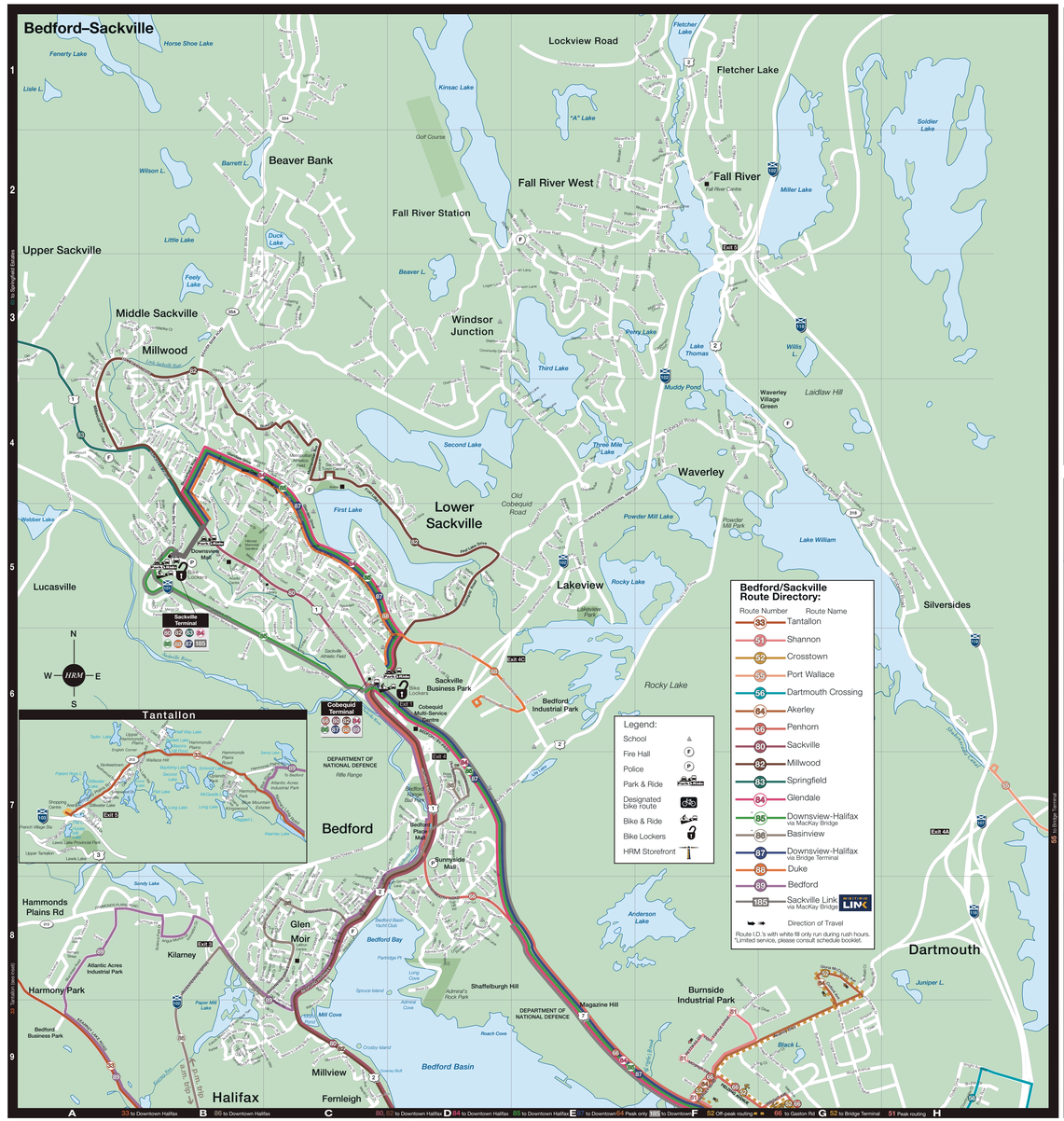
| ROUTE | Dir. | SATURDAY SPAN OF SERVICE | HEADWAY DAY | HEADWAY EVE | RUNNING TIME DAY Dr. Time | RUNNING TIME DAY Rec Time | RUNNING TIME EVE Dr. Time | RUNNING TIME EVE Rec Time | VEHICLES DAY | VEHICLES EVE | EH.SERVICE HOURS DAY | EH.SERVICE HOURS EVE | EH.SERVICE HOURS TOTAL | SUNDAY AND HOLIDAYS SPAN OF SERVICE | HEADWAY DAY | HEADWAY EVE | RUNNING TIME DAY Dr. Time | RUNNING TIME DAY Rec. Time | RUNNING TIME EVE Dr. Time | RUNNING TIME EVE Rec. Time | VEHICLES DAY | VEHICLES EVE | EH.SERVICE HOURS DAY | EH.SERVICE HOURS EVE | EH.SERVICE HOURS TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80. SACKVILLE | | | | | | | | | | | | | | | | | | | | | | | | | |
| UpperWater&Cornwallis-Sackville Terr | nb | 6:15am - 12:07am | 30 | 60 | 59 | | 63 | | 2.0 | 1.1 | 31.5 | 2.1 | 33.6 | 6:57am - 10:57am | 60 | 60 | 60 | | 60 | | 1.0 | 1.0 | 16.0 | 2.0 | 18.0 |
| | sb | 5:45am - 1:07am | 30 | 60 | 67 | 8 | 60 | 25 | 2.5 | 1.4 | 40.0 | 2.8 | 42.8 | 5:45am - 12:15am | 60 | 60 | 67 | | 67 | | 1.1 | 1.1 | 17.9 | 2.2 | 20.1 |
| | Total | | | | 126 | 8 | 123 | 25 | 4.5 | 2.5 | 71.5 | 4.9 | 76.4 | | | | 127 | 0 | 127 | 0 | 2.1 | 2.1 | 33.9 | 4.2 | 38.1 |
| 81. HEMLOCK RAVINE | | | | | | | | | | | | | | | | | | | | | | | | | |
| UpperWater&Cornwallis-LarryUteck&Bedfor | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 82. MILLWOOD | | | | | | | | | | | | | | | | | | | | | | | | | |
| CobequidTerminal/SackvilleTerminal | nb | 7:08am - 10:08pm | 60 | 60 | 30 | | 30 | | 0.5 | 0.5 | 8.0 | 1.0 | 9.0 | 7:24am - 9:24pm | 60 | # | 27 | | 27 | | 0.5 | 0.5 | 5.4 | 2.0 | 7.4 |
| | sb | 6:25am - 10:35pm | 60 | 60 | 43 | 17 | 43 | 17 | 1.0 | 1.0 | 16.0 | 2.0 | 18.0 | 6:55am - 9:55pm | 60 | # | 27 | 6 | 27 | 6 | 0.6 | 0.6 | 6.6 | 2.5 | 9.1 |
| | Total | | | | 73 | 17 | 73 | 17 | 1.5 | 1.5 | 24.0 | 3.0 | 27.0 | | | | 54 | 6 | 54 | 6 | 1.0 | 1.0 | 12.0 | 4.5 | 16.5 |
| 83. SPRINGFIELD | | | | | | | | | | | | | | | | | | | | | | | | | |
| SackvilleTerminal/SpringfieldEstates | nb | 6:14am- 9:14pm | 60 | 60 | 15 | | 15 | | 0.3 | 0.3 | 3.0 | 1.0 | 4.0 | 6:30am - 9:30pm | 60 | 60 | 14 | 1 | 14 | | 0.3 | 0.2 | 3.0 | 0.7 | 3.7 |
| | sb | 6:34am - 9:34pm | 60 | 60 | 15 | | 15 | | 0.3 | 0.3 | 3.0 | 1.0 | 4.0 | 6:45am - 9:45pm | 60 | 60 | 15 | | 15 | 1 | 0.3 | 0.3 | 3.0 | 0.8 | 3.8 |
| | Total | | | | 30 | 0 | 30 | 0 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 | | | | 29 | 1 | 29 | 1 | 0.5 | 0.5 | 6.0 | 1.5 | 7.5 |
| 84. GLENDALE | | | | | | | | | | | | | | | | | | | | | | | | | |
| Summer&Bell-Sackville Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 85. DOWNSVIEW | | | | | | | | | | | | | | | | | | | | | | | | | |
| Summer&Bell-Cobequid Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 86. BASINVIEW | | | | | | | | | | | | | | | | | | | | | | | | | |
| Summer&Bell - Rockmanor Dr. | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 87. DOWNSVIEW | | | | | | | | | | | | | | | | | | | | - | | | | | |
| Bridge Terminal-Sackville Terminal | nb | 6:35am-10:05pm | 60 | 60 | 43 | | 43 | | 0.7 | 0.7 | 10.8 | 1.4 | 12.2 | 7:40am -9:40pm | 60 | 60 | 43 | | 43 | | 0.7 | 0.7 | 8.6 | 2.9 | 11.5 |
| | sb | 6:50am-10:50pm | 60 | 60 | 41 | 6 | 41 | 6 | 0.8 | 0.8 | 11.8 | 1.6 | 13.3 | 7:05am-10:27pm | 60 | 60 | 41 | | 41 | | 0.7 | 0.7 | 8.2 | 2.7 | 10.9 |
| | Total | | | | 84 | 6 | 84 | 6 | 1.5 | 1.5 | 22.5 | 3.0 | 25.5 | | | | 84 | 0 | 84 | 0 | 1.4 | 1.4 | 16.8 | 5.6 | 22.4 |
| 88. DUKE | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sackville Terminal/Duke&Damascus | eb | 6:30am - 9:30pm | 60 | 60 | 25 | 5 | 25 | 5 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 | 6:30am- 9:30pm | 60 | 60 | 25 | 5 | 25 | 5 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 |
| | wb | 6:06am- 10:06pm | 60 | 60 | 25 | 5 | 25 | 5 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 | 6:06am- 10:06pm | 60 | 60 | 25 | 5 | 25 | 5 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 |
| | Total | | | | 50 | 10 | 50 | 10 | 1.0 | 1.0 | 12.0 | 4.0 | 16.0 | | | | 50 | 10 | 50 | 10 | 1.0 | 1.0 | 12.0 | 4.0 | 16.0 |
| 89. BEDFORD | | | | | | | | | | | | | | | | | | | | | | | | | |
| Copequid Term.- Lacewood Term. | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 185. SACKVILLE LINK | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sackville Terminal- Barrington&Duke | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| ***BEDFORD-SACKVILLE ROUTES*** | | | | | | | | | ***9*** | ***7*** | ***136*** | ***17*** | ***153*** | | | | | | | | ***6*** | ***6*** | ***81*** | ***20*** | ***101*** |

**EXHIBIT B3**

**OPERATING CHARACTERISTICS OF METRO TRANSIT'S DARTMOUTH ROUTES (Weekend Days 2008)**

| ROUTE | | SATURDAY | | | | | | | | | | | | SUNDAY AND HOLIDAYS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SPAN OF SERVICE | HEADWAY | | RUNNING TIME | | | | VEHICLES | | VEH.SERVICE HOURS | | | SPAN OF SERVICE | HEADWAY | | RUNNING TIME | | | | VEHICLES | | VEH.SERVICE HOURS | | |
| | | | DAY | EVE | DAY | | EVE | | DAY | EVE | DAY | EVE | TOTAL | | DAY | EVE | DAY | | EVE | | DAY | EVE | DAY | EVE | TOTAL |
| | | | | | Dt | Rt | Dt | Rt | | | | | | | | | Dt | Rt | Dt | Rt | | | | | |
| 10. DALHOUSIE | | | | | | | | | | | | | | | | | | | | | | | | | |
| South&LaMarchant-Inverary&Strath | eb | 6:38am-11:10pm | 30 | 30 | 56 | | 50 | | 1.9 | 1.7 | 22.4 | 10.0 | 32.4 | 7:12am-11:12pm | 60 | 60 | 58 | | 58 | | 1.0 | 1.0 | 11.6 | 4.8 | 16.4 |
| | wb | 6:03 am-12:00am | 30 | 30 | 57 | 7 | 57 | 13 | 2.1 | 2.3 | 25.6 | 14.0 | 39.6 | 7:12am-12:12am | 60 | 60 | 54 | 8 | 54 | 8 | 1.0 | 1.0 | 12.4 | 5.2 | 17.6 |
| | Total | | | | 113 | 7 | 107 | 13 | 4.0 | 4.0 | 48.0 | 24.0 | 72.0 | | | | 112 | 8 | 112 | 8 | 2.0 | 2.0 | 24.0 | 10.0 | 34.0 |
| 16 PARKLAND | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bridge Terminal-LacewoodTerminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 41 DARTMOUTH-DALHOUSIE | | | | | | | | | | | | | | | | | | | | | | | | | |
| South&LaMarchant-Bridgre Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 51. SHANNON | | | | | | | | | | | | | | | | | | | | | | | | | |
| BridgeTerm/- Princ.Marg.& KillkeeGate | nb | 6:25am-12:25am | 30 | 60 | 14 | | 14 | | 0.5 | 0.2 | 6.5 | 0.9 | 7.5 | 7:15am-12:25am | 60 | 60 | 13 | | 13 | | 0.2 | 0.2 | 3.0 | 0.7 | 3.7 |
| | sb | 6:39am-12:39am | 30 | 60 | 14 | 2 | 14 | 2 | 0.5 | 0.3 | 7.5 | 1.1 | 8.5 | 7:28am-11:28am | 60 | 60 | 12 | 5 | 12 | 5 | 0.3 | 0.3 | 4.0 | 0.9 | 4.8 |
| | Total | | | | 28 | 2 | 28 | 2 | 1.0 | 0.5 | 14.0 | 2.0 | 16.0 | | | | 25 | 5 | 25 | 5 | 0.5 | 0.5 | 7.0 | 1.5 | 8.5 |
| 52 CROSSTOWN | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chain Lake-Isley (Metro Transit) | nb | 7:10am-12:10am | 30 | 60 | 60 | | 60 | | 2.0 | 1.0 | 28.0 | 4.0 | 10.3 | 8:00am-12:30am | 30 | 30 | 58 | | 58 | | 1.9 | 1.9 | 27.1 | 7.7 | 10.3 |
| | sb | 6:10am-11:10pm | 30 | 60 | 55 | 6 | 55 | 6 | 2.0 | 1.0 | 28.5 | 4.1 | 11.8 | 7:21am-10:51pm | 30 | 30 | 55 | 7 | 55 | 7 | 2.1 | 2.1 | 28.9 | 8.3 | 11.8 |
| Isley - Colford | nb | 7:10am-1:10am | 30 | 60 | 10 | | 10 | | 0.3 | 0.2 | 4.7 | 0.7 | 11.8 | no service | | | | | | | | | | | |
| | sb | 7:21am-10:51pm | 30 | 60 | 19 | | 19 | | 0.6 | 0.3 | 8.9 | 1.3 | 11.8 | | | | | | | | | | | | |
| | Total | | | | 144 | 6 | 144 | 6 | 5.0 | 2.5 | 70.0 | 10.0 | 110.4 | | | | 113 | 7 | 113 | 7 | 4.0 | 4.0 | 56.0 | 16.0 | 110.4 |
| 53 NOTTING PARK | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bridge Terminal-Highfield Terminal | nb | 5:55am-11:55pm | 30 | 60 | 7 | | 7 | | 0.2 | 0.1 | 3.3 | 0.5 | 3.7 | 6:45am-11:45pm | 60 | 60 | 7 | | 7 | | 0.1 | 0.1 | 1.6 | 0.4 | 2.0 |
| | sb | 6:02am-12:02am | 30 | 60 | 17 | 6 | 17 | 6 | 0.8 | 0.4 | 10.7 | 1.5 | 12.3 | 6:52am-11:52pm | 60 | 60 | 17 | 6 | 17 | 6 | 0.4 | 0.4 | 5.4 | 1.2 | 6.5 |
| | Total | | | | 24 | 6 | 24 | 6 | 1.0 | 0.5 | 14.0 | 2.0 | 16.0 | | | | 24 | 6 | 24 | 6 | 0.5 | 0.5 | 7.0 | 1.5 | 8.5 |
| 54 MONTEBELLO | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alderney Ferry Term.-Appian&Caledon | nb | 7:00am-10:00pm | 60 | 60 | 25 | | 25 | | 0.4 | 0.4 | 5.8 | 0.8 | 6.7 | 8:00am-5:00pm | 60 | | 25 | | | | 0.4 | | 3.8 | | 3.8 |
| | sb | 6:27am-10:27pm | 60 | 60 | 28 | 7 | 28 | 7 | 0.6 | 0.6 | 8.2 | 1.2 | 9.3 | 8:27am-5:27pm | 60 | | 28 | 7 | | | 0.6 | | 5.3 | | 5.3 |
| | Total | | | | 53 | 7 | 53 | 7 | 1.0 | 1.0 | 14.0 | 2.0 | 16.0 | | | | 53 | 7 | | | 1.0 | | 9.0 | | 9.0 |
| 55 PORT WALLACE | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bridge Terminal-Portobello Turning Loc | nb | 7:15am-9:15pm | 60 | 60 | 21 | | 21 | | 0.4 | 0.4 | 4.9 | 0.4 | 5.3 | 7:15am-9:15pm | 60 | 60 | 21 | | 21 | | 0.4 | 0.4 | 4.9 | 0.4 | 5.3 |
| | sb | 6:38am-9:38pm | 60 | 60 | 28 | 11 | 28 | 11 | 0.7 | 0.7 | 9.1 | 0.7 | 9.8 | 6:38am-9:38pm | 60 | 60 | 28 | 11 | 28 | 11 | 0.7 | 0.7 | 9.1 | 0.7 | 9.8 |
| | Total | | | | 49 | 11 | 49 | 11 | 1.0 | 1.0 | 14.0 | 1.0 | 15.0 | | | | 49 | 11 | 49 | 11 | 1.0 | 1.0 | 14.0 | 1.0 | 15.0 |
| 56 DARTMOUTH CROSSING | | | | | | | | | | | | | *26.4* | | | | | | | | | | | | |
| Dartmouth Crossing-Portland Hills Terr | sb | 6:45am-10:45am | 30 | 30 | 22 | | 22 | | 0.7 | 0.7 | 8.8 | 2.9 | 11.7 | 6:45am-10:45am | 30 | 30 | 22 | | 22 | | 0.7 | 0.7 | 8.8 | 2.9 | 11.7 |
| | nb | 6:15am-10:15pm | 30 | 30 | 26 | 12 | 26 | 12 | 1.3 | 1.3 | 15.2 | 5.1 | 20.3 | 6:15am-10:15pm | 30 | 30 | 26 | 12 | 26 | 12 | 1.3 | 1.3 | 15.2 | 5.1 | 20.3 |
| | Total | | | | 48 | 12 | 48 | 12 | 2.0 | 2.0 | 24.0 | 8.0 | 32.0 | | | | 48 | 12 | 48 | 12 | 2.0 | 2.0 | 24.0 | 8.0 | 32.0 |
| 58. WOODLAWN | | | | | | | | | | | | | *33.3* | | | | | | | | | | | | |
| Dorothea&Lucien-Bridge Terminal | wb | 6:25am-12:25am | 60 | 60 | 30 | | 30 | | 0.5 | 0.5 | 7.0 | 2.0 | 9.0 | 8:15am-12:15am | 60 | 60 | 25 | | 25 | | 0.5 | 0.5 | 7.0 | 1.0 | 8.0 |
| | eb | 5:55am-11:55pm | 60 | 60 | 27 | 3 | 27 | 3 | 0.5 | 0.5 | 7.0 | 2.0 | 9.0 | 7:45am-11:45pm | 60 | 60 | 25 | 10 | 25 | 10 | 0.5 | 0.5 | 7.0 | 1.0 | 8.0 |
| Bridge Terminal-Mumford Terminal | | no service | | | | | | | | | 14.0 | 4.0 | 18.0 | no service | | | | | | | | | | | |
| | Total | | | | 57 | 3 | 57 | 3 | 1.0 | 1.0 | 28.0 | 8.0 | 36.0 | | | | 50 | 10 | 50 | 10 | 1.0 | 1.0 | 14.0 | 2.0 | 110.4 |
| 59. COLBY | | | | | | | | | | | | | *44.5* | | | | | | | | | | | | |
| Summer St-Bridge Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| Bridge Terminal-Ashgrove&ColeHarbou | eb | 6:25am-11:25am | 60 | 60 | 28 | | 28 | | 0.5 | 0.5 | 6.5 | 1.4 | 7.9 | 6:25am-11:25am | 60 | 60 | 29 | | 29 | | 0.5 | 0.5 | 6.8 | 1.0 | 7.7 |
| | wb | 6:54am-11:54pm | 60 | 60 | 42 | 17 | 42 | 17 | 1.0 | 1.0 | 13.8 | 3.0 | 16.7 | 6:54am-11:54pm | 60 | 60 | 43 | 9 | 43 | 9 | 0.9 | 0.9 | 12.1 | 1.7 | 13.9 |
| | Total | | | | 70 | 17 | 70 | 17 | 1.5 | 1.5 | 20.3 | 4.4 | 24.7 | | | | 72 | 9 | 72 | 9 | 1.4 | 1.4 | 18.9 | 2.7 | 21.6 |
| 60. EASTERN PASSAGE | | | | | | | | | | | | | | | | | | | | | | | | | |
| BridgeTerm/Hospital-Pleasant&CowBa | sb | 6:10am - 12:25am | 30 | 60 | 22 | | 22 | | 0.7 | 0.4 | 10.3 | 1.5 | 11.7 | 6:45am - 11:45am | 30 | 60 | 22 | | 22 | | 0.7 | 0.4 | 10.3 | 1.1 | 11.4 |
| | nb | 6:47am - 12:46am | 30 | 60 | 22 | 1 | 22 | 1 | 0.8 | 0.4 | 10.7 | 1.5 | 12.3 | 7:22am - 12:21am | 30 | 60 | 22 | 1 | 22 | 1 | 0.8 | 0.4 | 10.7 | 1.2 | 11.9 |
| A. Pleasant&CowBay/Caldwell&Shore | sb | 6:32am - 12:32am | 30 | 60 | 6 | | 6 | | 0.2 | 0.1 | 2.8 | 0.4 | 3.2 | 7:07am - 12:07am | 30 | 60 | 6 | | 6 | | 0.2 | 0.1 | 2.8 | 0.3 | 3.1 |
| | nb | 6:38am - 12:38am | 30 | 60 | 9 | | 9 | | 0.3 | 0.2 | 4.2 | 0.6 | 4.8 | 7:13am - 12:13am | 30 | 60 | 9 | | 9 | | 0.3 | 0.2 | 4.2 | 0.5 | 4.7 |
| B. Pleasant&CowBay/HeritageHills | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| | Total | | | | 59 | 1 | 59 | 1 | 2.0 | 1.0 | 28.0 | 4.0 | 32.0 | | | | 59 | 1 | 59 | 1 | 2.0 | 1.0 | 28.0 | 3.0 | 31.0 |
| 61. AUBURN-NORTH PRESTON interlined with 14 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Barrington&Duke-North Preston R.C. | sb | 7:40am-10:19pm | 60 | 60 | 62 | | 62 | | 1.0 | 1.0 | 12.4 | 6.2 | 18.6 | 7:19am-10:19pm | 60 | 60 | 62 | | 62 | | 1.0 | 1.0 | 12.4 | 5.2 | 17.6 |
| | nb | 6:42am-10:42pm | 60 | 60 | 65 | 3 | 65 | 3 | 1.1 | 1.1 | 13.6 | 6.8 | 20.4 | 7:27am-11:27pm | 60 | 60 | 65 | 3 | 65 | 3 | 1.1 | 1.1 | 13.6 | 5.7 | 19.3 |
| | Total | | | | 127 | 3 | 127 | 3 | 2.2 | 2.2 | 26.0 | 13.0 | 39.0 | | | | 127 | 3 | 127 | 3 | 2.2 | 2.2 | 26.0 | 10.8 | 36.8 |
| 62. WILDWOOD | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bridge Terminal-Cole Harbour Place | eb | 7:25am-10:25pm | 60 | 60 | 32 | | 32 | | 0.5 | 0.5 | 6.4 | 2.1 | 8.5 | 7:00am-10:00pm | 75 | 75 | 32 | | 32 | | 0.4 | 0.4 | 5.1 | 1.3 | 6.4 |
| | wb | 6:59am-10:59pm | 60 | 60 | 34 | 21 | 34 | 21 | 0.9 | 0.9 | 11.0 | 3.7 | 14.7 | 7:34am-10:34pm | 75 | 75 | 34 | 9 | 34 | 9 | 0.6 | 0.6 | 6.9 | 1.7 | 8.6 |
| | Total | | | | 66 | 21 | 66 | 21 | 1.5 | 1.5 | 17.4 | 5.8 | 23.2 | | | | 66 | 9 | 66 | 9 | 1.0 | 1.0 | 12.0 | 3.0 | 15.0 |
| 63. WOODSIDE | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bridge Terminal-Penhorn Mall | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 64. AKERLEY | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bridge Terminal-McCluskey&Colford | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 65. ASTRAL | | | | | | | | | | | | | *19.3* | | | | | | | | | | | | |
| Acadia&Pleasant-Penhorn Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| Penhorn Term.- Athoiea&Caldwell | eb | 8:25am-5:25pm | 60 | | 23 | | | | 0.4 | | 3.5 | | 3.5 | 8:25am-5:25pm | 60 | | 23 | | | | 0.4 | | 3.5 | | 3.5 |
| | wb | 8:48am-5:48pm | 60 | | 31 | 6 | | | 0.6 | | 5.6 | | 5.6 | 8:48am-5:48pm | 60 | | 31 | 6 | | | 0.6 | | 5.6 | | 5.6 |
| | Total | | | | 54 | 6 | | | 1.0 | | 9.0 | | 9.0 | | | | 54 | 6 | | | 1.0 | | 9.0 | | 9.0 |
| 66. PENHORN | | | | | | | | | | | | | *37.7* | | | | | | | | | | | | |
| Cobequid Terminal-Highfield Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| Highfield Terminal-Gaston Turning Loo | sb | 7:02am-10:02pm | 60 | 60 | 27 | | 28 | | 0.5 | 0.5 | 5.4 | 1.4 | 6.8 | 7:02am-10:02pm | 60 | 60 | 27 | | 28 | | 0.5 | 0.5 | 5.4 | 1.4 | 6.8 |
| | nb | 7:33am-10:33pm | 60 | 60 | 27 | 6 | 27 | 5 | 0.6 | 0.5 | 6.6 | 1.6 | 8.2 | 7:33am-10:33pm | 60 | 60 | 27 | 6 | 27 | 5 | 0.6 | 0.5 | 6.6 | 1.6 | 8.2 |
| | Total | | | | 54 | 6 | 55 | 5 | 1.0 | 1.0 | 12.0 | 3.0 | 15.0 | | | | 54 | 6 | 55 | 5 | 1.0 | 1.0 | 12.0 | 3.0 | 15.0 |
| 68 CHERRYBROOK | | | | | | | | | | | | | *43.9* | | | | | | | | | | | | |
| Summer Street-Bridge Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| Bridge Terminal-LakeLoon&McLaughlir | eb | 6:46am-10:46pm | 60 | 60 | 41 | | 41 | | 0.7 | 0.7 | 8.2 | 2.7 | 10.9 | 6:45am-10:45pm | 60 | 60 | 42 | | 42 | | 0.7 | 0.7 | 8.4 | 2.8 | 11.2 |
| | wb | 7:29am-11:29pm | 60 | 60 | 43 | 6 | 43 | 5 | 0.8 | 0.8 | 9.8 | 3.2 | 13.0 | 7:29am-11:29pm | 60 | 60 | 32 | 16 | 32 | 16 | 0.8 | 0.8 | 9.6 | 3.2 | 12.8 |
| | Total | | | | 84 | 6 | 85 | 5 | 1.5 | 1.5 | 18.0 | 5.9 | 23.9 | | | | 74 | 16 | 74 | 16 | 1.5 | 1.5 | 18.0 | 6.0 | 24.0 |
| 72 PORTLAND HILLS | | | | | | | | | | | | | *17.4* | | | | | | | | | | | | |
| Portland Hills Terminal-Isley&Metro Tra | nb | 7:04am-6:04pm | 60 | | 31 | | - | | 0.5 | - | 5.4 | - | 5.4 | 7:04am-6:04pm | 60 | | 31 | | - | | 0.5 | - | 5.4 | - | 5.4 |
| | sb | 6:39am-539pm | 60 | | 24 | 5 | - | - | 0.5 | - | 5.1 | - | 5.1 | 6:39am-539pm | 60 | | 24 | 5 | - | - | 0.5 | - | 5.1 | - | 5.1 |
| | Total | | | | 55 | 5 | - | | 1.0 | - | 10.5 | - | 10.5 | | | | 55 | 5 | - | | 1.0 | - | 10.5 | - | 10.5 |
| 159 PORTLAND HILL LINK | | | | | | | | | | | | | *40.7* | | | | | | | | | | | | |
| Portland Hills Terminal-Duke&Barrington | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 165 WOODSIDE LINK | | | | | | | | | | | | | *5.0* | | | | | | | | | | | | |
| Portland HillsTerm.-WoodsideFerryTerm. | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| ***DARTMOUTH ROUTES*** | | | | | | | | | ***28*** | ***21*** | ***367*** | ***93*** | ***491*** | | | | | | | | ***23*** | ***19*** | ***289*** | ***69*** | ***491*** |
| ***TOTAL ALL ROUTES*** | | | | | | | | | ***62*** | | | | ***1078*** | | | | | | | | ***46*** | | | | ***877*** |

# Appendix C
# Existing
# System Maps




## GoTime system and bus stop signs

Metro Transit's GoTime system, which tracks the buses and provides real-time bus departure times for passengers is being upgraded. The system upgrade includes a change in the GoTime numbers for each of our 2500 bus stops. In addition the prefix to access the system is now **480 + GoTime number**. Metro Transit has also redesigned its standard bus stop signs. The signs include the Metro Transit branding, logo, and a format to include the GoTime number at the bottom of the sign (see above).
For more information on the GoTime system, please contact the HRM Call Centre at 490–4000 or go to *www.halifax.ca/metrotransit*.

GO TIME

Some transit routes operate rush hours only . . . please check chart for bus & ferry service days and times.

Accessible service only where stop meets required standards. Look for the International Symbol for Accessibility on the stops. Please refer to route chart in the next panel for service availability.

Designated bicycle route symbol indicates those routes operating buses equiped with bike racks. Please note that only two bicycles can be accomodated at any one time.

**No Smoking Please!**
Passengers are not permitted to smoke pipes, cigars or cigarettes while on transit vehicles or ferries. Smoking is also not permitted in bus shelters or terminals, or the ferry terminals in accordance with the provincial **Smoke Free Places Act.**

Metro Transit bus tickets & monthly passes are on sale at the following Halifax Regional Municipality Storefront locations, as well as at over 50 other retail outlets:
- Acadia Centre, 636 Sackville Dr., Lower Sackville
- Alderney Gate, 2nd floor, 60 Alderney Dr., Dartmouth
- Cole Harbour Place, 2nd level, 51 Forest Hills Parkway
- Scotia Square–Main Level
- West End Mall, 6960 Mumford Rd Halifax

For a complete list of retail outlets please refer to our Riders' Guide, website, look under Transit Services in the Yellow Pages Directory or call the HRM Call Centre at 490–4000.

HALIFAX REGIONAL MUNICIPALITY

## Lost & Found
8 a.m. to 4 p.m., Monday to Friday
**490–6617**

| ROUTE | RUSH HOURS | MID-DAY | EVENING | SAT. | SUN / HOL. |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| ♿ 3 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 4 | | | | | |
| 5 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| ♿ 6 | | | | | |
| ♿ 7 | | | | | |
| ♿ 9 | | | | | |
| 10 | | | | | |
| ♿ 14 | | | | | |
| ♿ 15 | | | | | |
| ♿ 16 | | | | | |
| 17 | | | NO SERVICE | NO SERVICE | NO SERVICE |
| 18 | | | | | |
| ♿ 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 23 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 31 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 32 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 33 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 34 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 35 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 41 | | Operates university calendar year only. | NO SERVICE | NO SERVICE | NO SERVICE |
| 42 | | Operates university calendar year only. | NO SERVICE | NO SERVICE | NO SERVICE |
| ♿ 51 | | | | | |
| 52 | | | | | |
| ♿ 53 | | | | | |
| ♿ 54 | | | | | |
| 55 | | | | | |
| 🚲 ♿ 56 | | | | | |
| 58 | | | | | |

| ROUTE | RUSH HOURS | MID-DAY | EVENING | SAT. | SUN / HOL. |
|---|---|---|---|---|---|
| 59 | | | | | |
| 60 | | | | | |
| ♿ 61 | | | | | |
| 62 | | | | | |
| ♿ 63 | | | | | |
| 64 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 65 | | | | | |
| ♿ 66 | | | | | |
| 68 | | | | | |
| 🚲 ♿ 72 | | | | | |
| 80 | | | | | |
| 81 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 82 | | | | | |
| 83 | | | | | |
| 84 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 85 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 86 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| ♿ 87 | | | | | |
| ♿ 88 | | | | | |
| ♿ 89 | | | | | |
| METRO LINK 159 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 🚲 ♿ 165 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |
| 🚲 ♿ 185 | | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |

159 Portland Hills Link
165 Woodside Link
185 Sackville Link

Key: Route I.D.s with white fill operate rush hours only. *Consult Riders' Guide for service variations.

**Ferry Service Chart:**

| FERRY | PEAK HOURS | NON-PEAK DAYTIME | EVENING | SAT. | SUN / HOL. |
|---|---|---|---|---|---|
| 🚲 DARTMOUTH | | | | | |
| 🚲 WOODSIDE | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE | NO SERVICE |

**Ferry Service Notes:**
Peak hours are approximately 7:00 to 9:00 a.m. and 12:00 to 6:00 p.m.
*Woodside Ferry operates 6:07 to 12:04 a.m. and from 2:52 to 6:19 p.m., weekdays only.

halifax.ca/metrotransit

HALIFAX REGIONAL MUNICIPALITY

Effective July 1, 2009

## MetroTransit

| BUS, FERRY & ACCESS-A-BUS | CASH FARE | 10 TICKETS | METRO PASS | BUS-FERRY TRANSFER |
|---|---|---|---|---|
| Adult | $2.25 | $18 | $70 | Free |
| Senior &Child | $1.50 | $13 | $52 | Free |
| Student | $2.25 | $18 | $64 | Free |

MetroPasses, transit tickets & MetroLink passes are accepted on the ferries and access-a-bus (registered users).
Additional payment required for transfer to MetroLink

## METRO LINK

| METROLINK | CASH FARE | METROLINK PASS | WITH TRANSIT TICKET, METROPASS, UPASS OR TRANSFER |
|---|---|---|---|
| Adult | $2.75 | $85 | +50¢ additional payment |
| Senior & Child | $2.00 | n/a | +50¢ additional payment |
| Student | $2.75 | n/a | +50¢ additional payment |

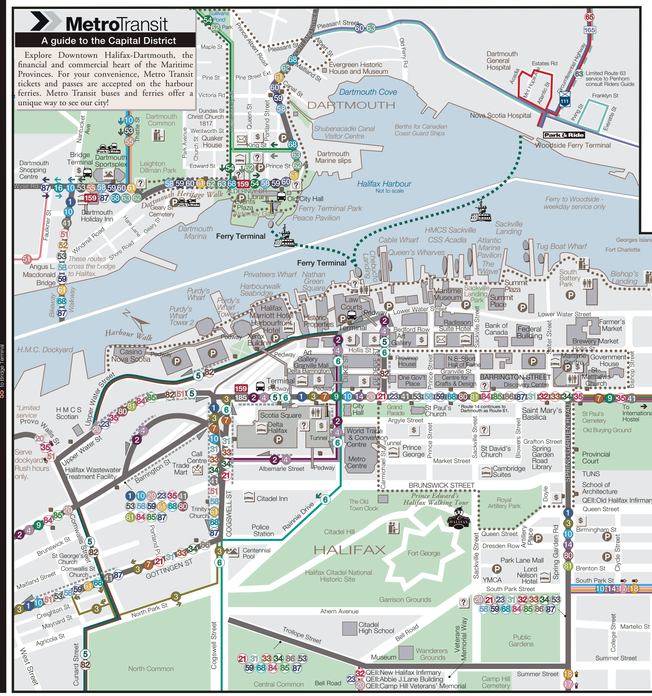
All fares subject to change

**HRM Call Centre 490-4000**
7:00am – 11:00pm, every day of the week

Persons with hearing disabilities may call our TTY/TDD Line at 490–6645 & Access-A-Bus TTY/TDD Line at 490–6664. Toll free 1-800-835-6428.

© HRM 1994 – 2009
**Metro Transit**
Halifax Regional Municipality
P. O. Box 1749
Halifax, Nova Scotia
Canada B3J 3A5

*Cover Illustration: Grant Lengard* *Design: William Gillard*



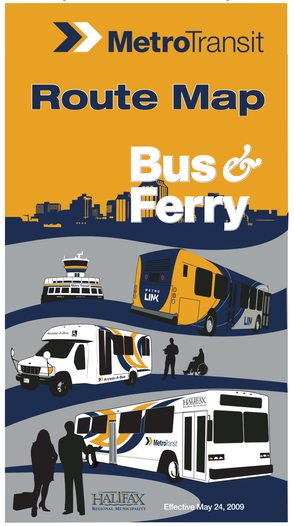

## Save up to 100% on parking

Park at one of Metro Transit's Park & Ride lots and take the bus or ferry to work. Parking costs range from cheap to free!

- Penhorn Mall -opposite Transit Terminal
- Dartmouth Sportsplex -by Nantucket Ave
- Woodside Ferry Terminal
- Alderney Ferry Terminal -Park Avenue & 100 Wyse Road
- Mumford Terminal -Rk Shopping Centre Annex
- South Centre Mall -by Dentith Road
- Centennial Arena -in Fairview
- Cobequid Terminal (Take storage available)
- Downsview Mall -between Wal-Mart & Canadian Tire
- Mayblank Field -Near MacNac Mall
- Village at Bayers Road
- Portland Hills Terminal -Cole Harbour Rd
- Sackville Terminal

**Park & Ride**

For more information call HRM Call Centre 490–4000
7am. – 11p.m. every day of the week




## How to go with GO TIME

At the bottom of every bus stop sign you'll find that stop's four digit **GOTIME** telephone number. Below the bus symbol, listed in black are the various routes that service the stop. These match the route number that appears above the windshield on each bus.

***For exact departure times of your bus dial 480 plus your bus stop number:***

**New 480 + GO TIME Number**

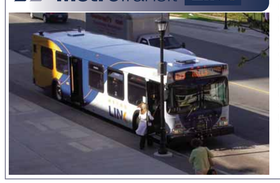
*Metro Transit offers many options for commuters travelling throughout HRM:*

- Metro Transit Services – bus and ferry transportation
- MetroLink – Direct and accessible service
- Access-A-Bus
- Accessible Low Floor Bus (ALF)
- Park and Ride
- Bike and Ride
- Ferry Terminal Parking (at Alderney & Woodside Terminals)

Why not commute actively? Use our Bike and Ride service, or walk to the nearest Transit Terminal!

For more information, please call the HRM Call Centre at 490-4000 or visit www.halifax.ca/metrotransit.

MetroTransit METRO LINK



## THINK LINK!

**A convenient, comfortable transit service to get you downtown!**

Whether from Portland Hills or Sackville, your downtown trip has just gotten easier. MetroLink is a limited-stop, direct, fully accessible service to Scotia Square. Delivering premium service at a fair price, MetroLink's interior includes carpeted walls and ceiling for noise dampening and custom-upholstered high back seats with arm and foot rests.

Heated in the winter and air-conditioned in the summer, this advertising-free zone offers comfort and plenty of room to relax and enjoy your trip downtown.

Don't forget to Bike 'n Ride with MetroLink – our new bike racks will help you get downtown with your bike for free!

**Route #159 Portland Hills Link & Route #185 Sackville Link** provide two-directional service to Scotia Square from Monday to Friday, 6 AM to 12 midnight, 10 minutes peak and 30 minutes off-peak; No service on Saturdays, Sundays or holidays.

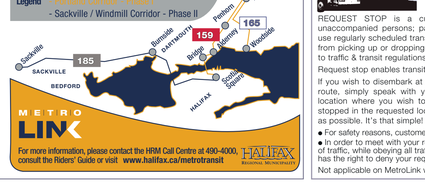
**Route #165 Woodside Link** provides two-directional service from the Portland Hills Terminal to the Woodside Ferry Terminal, connecting with all crossing times. This service only operates during peak hours.

**MetroLink monthly passes are available at the following retail outlets:**

- Alderney Gate Lotto Booth
- Cole Harbour Shopping Centre Pharmasave
- Dartmouth Shopping Centre Lotto Booth
- Shopper's Drug Mart
  Dartmouth Shopping Centre
  Spring Garden
  Quinpool Road
  Forest Hills Parkway
- HRM Storefront Locations
  Alderney Gate
  Cole Harbour Place
  Scotia Square

*HRM developed the MetroLink service in response to Transport Canada's Urban Transportation Showcase Program, established in order to promote effective strategies to reduce greenhouse gas emissions by attracting commuters to public transit. For more information, visit http://www.tc.gc.ca/programs/environment/utsp/menu.htm*

For more information about MetroLink & Metro Transit, contact the HRM Call Centre at 490-4000, consult the Riders' Guide or visit ***www.halifax.ca/metrotransit***



## REQUEST STOP

REQUEST STOP is a customer service offered by Metro Transit to unaccompanied persons; particularly, women, children & senior citizens who use regularly scheduled transit services after 6PM. Bus operators are restricted from picking up or dropping off passengers not at a bus stop before 6PM due to traffic & transit regulations.

Request stop enables transit passengers to travel more safely at night.

If you wish to disembark at a location other than a regular bus stop along the route, simply speak with your bus operator at least one stop prior to the location where you wish to get off & providing it is safe for the bus to be stopped in the requested location, we'll let you off as close to your destination as possible. It's that simple!

- For safety reasons, customers using Request Stop must exit by the front doors.
- In order to meet with your request, the operator must be able to stop safely, out of traffic, while obeying all traffic and safety regulations. Therefore the operator has the right to deny your request and choose an alternate stopping point.

Not applicable on MetroLink which offers terminal to terminal service.

Look under Transit Services in the Yellow Pages Directory from Aliant for GoTime, Park & Ride and other Metro Transit information.

Yellow Pages™

Metro Transit's routes and schedules are subject to change. Please call HRM Call Centre at 490-4000, consult our on-board flyers or visit our web site: www.halifax.ca for the most up-to-date information.

## MetroTransit

Metro Transit is a regional public transportation service and operates a fixed route transit system, MetroLink, Access-A-Bus, for persons with disabilities, Community Transit and the harbour passenger ferries. Metro Transit is a department of Halifax Regional Municipality.

# MetroTransit Route Map

© Metro Transit

## Route Directory

MetroLINK
- 159 Portland Hills Link
- 165 Woodside Link*
- 166 Sackville Link

Note: MetroLink is a limited stop service, please consult Riders' Guide for stop locations.

MetroTransit Routes
- 1 Spring Garden
- 2 Wedgewood
- 3 Manors
- 5 Rosedale
- 6 Chebucto*
- 8 Quinpool*
- 7 Robie
- 9 Barrington
- 10 Dalhousie
- 11 Leiblin Park
- 12 Purcell Cove
- 13 Saint Mary's
- 16 Parkland
- 18 Universities
- 19 Greystone
- 20 Herring Cove
- 21 Timberlea**
- 23 Timberlea**–via Mumford
- 31 Main*
- 32 Cowie Hill*
- 33 Tantallon*
- 34 Glenbourne*
- 35 Parkland*
- 41 Dal-Dartmouth***
- 42 Dal-Lacewood***
- 51 Shannon
- 52 Crosstown
- 60 Notting Park**
- 61 Montebello
- 62 Port Wallace
- 63 Dartmouth Crossing
- 64 Woodlawn**
- 65 Colby**
- 66 Eastern Passage
- 67 Auburn/N.Preston
- 68 Wildwood
- 69 Woodside
- 84 Akerley*
- 85 Astral
- 86 Penhorn
- 87 Cherry Brook
- 88 Portland Hills
- 89 Sackville
- 90 Hemlock Ravine
- 91 Millwood**
- 92 Springfield
- 94 Glendale**
- 95 Downsview–via MacKay Bridge*
- 96 Basinview*
- 97 Downsview–via Macdonald Bridge*
- 98 Duke
- 99 Bedford

* Route ID's with white fill, only operate during weekday Rush Hours.
** These routes only service Downtown Halifax during weekday rush hours.
*** Routes 441 & 442 only operate during university calendar year.

Legend:
- Routes
- Limited Service (see Riders' Guide)
- Ferry Service
- Multiple Routes
- Route ID's
- Rush Hour Routes
- Direction of Travel
- Transit Terminal
- Designated Bike Route
- Accessible Low Floor Bus Service — Serves bus stops only where stop meets required standards for accessible service. Look for the International Symbol for Accessibility on those stops.
- Parkland / Recreation
- Retail Centres
- Institutional
- Industrial

©1994-2009 Metro Transit

Map information is subject to change. Metro Transit is not responsible for loss caused by errors or changes in routing or other information. Please call HRM Call Centre at 490–4000 for updates. Email address: **'contactHRM@halifax.ca'** Website: **www.halifax.ca/metrotransit**

## Burnside Inset

## Waverley

## North Preston

## Timberlea

## Purcell's Cove / Herring Cove

## Spryfield

## Quick Reference:

**Parks/Recreation/Civic Centres**
1. Akervan Boat Club.....H4
2. Albro Lake Beach.....I3
3. Bancok Canoe Club.....J4
4. Beazley Fields.....L3
5. Birch Cove Park.....J4
6. Bowles Arena.....K6
7. Cap Sable Arena.....J7
8. Centennial Pool.....I7
9. Chocolate Lake Beach.....F8
10. Dalplex.....H8
11. Dartmouth Sportplex.....I5
12. Dartmouth Scenic Gardens.....J5
13. Dartmouth Common.....J5
14. Devonshire Arena.....G5
15. Fort Needham Memorial Park..H6
16. Ferry Terminal Park.....J5
17. Grafams Grove Park.....K3
18. Gray Arena.....I3
19. Halifax Forum.....G6
20. Halifax Common.....I7
21. Halifax City Hall.....I7
22. Halifax Metro Centre.....I7
23. Hemrock Ravine Park.....C3
24. Kearney Lake Beach.....B3
25. Majorank Fields.....J3
27. Mayland Lake Beach.....K3
28. McNabs Island.....M10
29. Mic Mac Aquatic Club.....K4
30. Mount Saint Vincent Rec. Centre..C5
31. Northcliffe Centre.....G5
32. Penhorn Lake Beach.....L4
33. Point Pleasant Park.....I9
34. Public Gardens.....I7
35. Seaview Memorial Park/ Affinofile Site.....F4
36. Senobe Aquatic Club.....J4
37. Shubie Beach.....K1
38. Shubie Park.....K1
39. Spryfield Lions Rink.....G11
40. Sport Nova Centre/Saxe Foot & Ankle, Wm. Smith Rec. Centre..F11
41. St. Mary's Ramp Rec. Centre..G8
42. Sullivans Pond Park.....J4
43. The Tower-Saint Mary's.....I8
44. Waegwoltic Boat Club.....G8
45. Williams Lake Beach.....G10
46. YMCA- Dartmouth.....K3
47. YMCA- Halifax.....I8
48. Halifax Mainland Common.....G5
49. Graves-Oakley Mem. Park.....E12
50. George Auer Centre.....H6
51. Chrichton Ave. Community Ctr..J4
52. Cole Harbour Place.....P4
53. Mic Mac Native Friendship Ctr..J6
54. Northbrook Community Ctr.....I4
55. Coastal Park.....G9
56. Adventure Earth Centre.....H9
57. Beechville/Lakeside/Timberlea..A9
58. St. Andrew's Centre.....F6
59. Chocolate Lake Centre.....F8
60. Tallahassee Community Sch..P11
61. Cole Harbour Place.....P4
62. Dartmouth North.....I3

**Points of Interest**
100. Armouries.....I6
102. Army Museum.....I7
103. Art Gallery of N.S.....J7
104. Bloomfield Community Centre H6
105. Brewery Market.....C9
106. Canadian Coast Guard Base..K6
107. Citadel Hill.....I7
108. Citadel Hill.....I7
109. HRM Public Library-Alderney...J5
110. HRM Public Library-Woodlawn.L4
112. Dingle Tower/Fleming Park.....H9
113. Evergreen Historic House.....J5
114. HRM Public Library - Main .....I7
115. HRM Public Library-Main/South F11
116. HRM Public Library-Pen North..K6
117. Holy Trinity Church.....K6
118. Maritime Museum of the Atlantic.....I7
119. N.S. Archives.....I8
120. N.S. Museum.....I7
121. Old Burying Ground.....I7
122. Holy Cross Cem.....I8
123. Martello Tower.....J10
124. Princes Lodge.....C2
125. Quaker Whalers House.....J5
126. Rebecca Cohn Auditorium.....H8
127. Double Canoe - Info Centre.....J7
128. Sackville Landing Shops.....I7
129. St. Paul's Anglican Church.....I7
130. St. George's Round Church.....K6
131. Saint Mary's Basilica .....I7
132. St. Matthew's United Church...I7
133. Keshen Goodman Library.....C6
134. York Redoubt(Herring Cove Inset)
135. Old Town Clock.....I7
136. Fairview Cemetery.....F6
137. Africville National Historic Site..F4
138. Cole Harbour Heritage Farm...O4
139. Black Loyalist Heritage Ctr.....I7
140. Deadman's Island.....G8
141. Shearwater Aviation Museum..N9
142. Pier 21 Museum.....J8

**Retail Centres**
161. Bayers Road Shopping Cntr....F6
162. Burnside Industrial Park.....H2
163. Burnside (various stores).....H2
164. City of Lakes Business Park ...D6
165. Dartmouth Shopping Cntr .....I4
166. Gallery Mall.....I3
167. Granville Promenade .....C6
168. Halifax Shopping Centre.....F7
169. Historic Properties.....I7
170. Tacoma Centre.....L4
171. Maritime Centre.....I7
172. Mic Mac Mall .....I3
173. Park Lane Mall .....I7
174. Park West Place .....C5
175. Penhorn Mall .....L4
176. Costco.....S6
177. Quinpool Place .....H7
178. Rockingham Ridge Plaza.....C4
179. Scotia Square .....I7
180. Shannon Plaza .....H3
181. South Centre Mall .....F10
182. Spring Garden Place .....I7
183. Super Store Dartmouth.....M5
184. West End Mall .....I7
185. Woodlawn Mall .....L4
186. Zellers - Nova Scotia .....I6
187. Norman Newman Market .....I5
188. Dartmouth Crossing.....I2

**Schools**
201. CKBI.....H6
202. Cole Harbour High School .....M3
203. Dalhousie University.....H6
204. Dartmouth High School .....J4
205. Halifax West High School .....C2
206. J.L. Ilsley High School .....G11
207. Lockman Elementary School...K3
208. Maritime School of Soc. Work..H8
209. Mount Saint Vincent Univ.....D5
210. N.S. College of Art and Design..I7
211. N.S. School for the Blind.....I8
212. N.S Institute of Technology.....G5
213. NSCC - Adult Vocational .....L6
214. Citadel high School .....I7
215. NSCC - LW. Akerley Campus M3
216. Prince Andrew High School...M3
218. Saint Mary's University.....I9
220. T.U.N.S - Bel Tech.....I7
221. Atlantic School of Theology.....I9
222. NSCC Waterfront Campus .....I5
223. E. Passage Junior High.....Q10

**Dept. of National Defence**
251. CFB Halifax .....H6
252. CFB Shearwater.....N9
254. CFB Windsor Park.....G8
255. CFB Stadacona.....H6
256. CFB Willow Park.....G6
256. CFB Shannon Park.....G3
257. Defence Research Establishment Atlantic.....H4
258. Magazine Hill .....H6

**Hospitals**
301. QEII -Abbe J. Lane Memorial ....I7
-Camp Hill Veterans Mem...I7
-New Halifax Infirmary.....I7
302. QEII-N.S. Rehab Centre .....I8
303. QEII-Victoria General .....I8
-Bethune,Dickson Bldgs....I8
-Mackenzie Bldg.....I8
304. Dartmouth General Hospital....K6
305. WK-Grace Health Centre.....I8
306. QEII-Old Halifax Infirmary.....I7
307. WK-Grace Health Centre.....K6
308. Nova Scotia Hospital .....K6
309. Halifax County Rehab Ctr.....I8

**Other**
401. Acadia Lines Depot .....H6
402. Autoport .....N10
403. Bayers Lake Business Park ....C8
404. Bedford Inst. of Oceanography G3
405. Dartmouth Sailing Club.....K1
406. Fairview Cove Container Term..F5
407. Halifax Container Terminal .....I9
408. Halifax Heliport .....I7
409. Imperial Oil Refinery.....M9
410. Lakeside Industrial Park.....E7
411. Recycling Plant.....C8
412. Via Rail Train Station.....I8
413. Gordon Bell Building.....C3
415. Halifax Water Treatment Plant..I6
416. Earl. Water Treatment Plant ...K6
417. Halifax Water Pumping Station..I7
418. A.B.T. Pumping Station .....I9
419. Jamieson Pumping Station.....I5

The Quick Reference map locations refer to the map on this side. Places listed above are indicated on the map with a colour coded umber.

Rev. 09 Sebtel 2009

# Appendix D
# 2014 Service Plan
# Operating Characteristics

**EXHIBIT D-1: 2010-2014 SERVICE PLAN FOR METRO TRANSIT'S HALIFAX/LOWER MAINLAND ROUTES (Fall Weekday)**

| ROUTE | | SPAN OF SERVICE | HEADWAY (minutes) | | | | | RUNNING TIME (minutes) | | | | | | | | | | VEHICLES | | | | | VEHICLE SERVICE HOURS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM | MID | PM | | LT | AM PEAK | | MID-DAY | | PM PEAK | | EVE | | LATE EVE | | AM | MID | PM | | LT | AM | MID | PM | | LT | |
| | | | PEAK | DAY | PEAK | EVE | EVE | Dr. | Rec | Dr. | Rec | Dr. | Rec | Dr. | Rec | Dr. | Rec | PEAK | DAY | PEAK | EVE | EVE | PEAK | DAY | PEAK | EVE | EVE | TOTAL |
| **CORE ROUTES (incl. Express & Metrolink** | Dir. | | | | | | | Time | Time | Time | Time | Time | Time | Time | Time | Time | Time | | | | | | 3.0 | 6.0 | 3.0 | 4.0 | 2.0 | 18.0 |
| BRT PHASE 1 HALIFAX (1.SPRING GARDEN | | | | | | | | | | | | | | | | | | 7.0 | | 7.0 | | | | | | | | *108.5* |
| Mumford Terminal-Quinpool&Oxford | eb | 6:00am - 12:15am | 7.5 | 10 | 7.5 | 10 | 10 | 10 | 4 | 10 | 7 | 10 | 3.5 | 10 | 4 | 10 | 3 | 1.9 | 1.7 | 1.8 | 1.4 | 1.3 | 5.6 | 10.2 | 5.4 | 5.6 | 2.8 | 29.6 |
| | wb | 6:33am - 12:47am | 7.5 | 10 | 7.5 | 10 | 10 | 10 | | 10 | | 10 | | 10 | | 10 | | 1.3 | 1.0 | 1.3 | 1.0 | 1.0 | 4.0 | 6.0 | 4.0 | 4.0 | 2.2 | 20.2 |
| QuinpoolOxford-Duke&Barrington | eb | 6:11am - 12:26am | 7.5 | 10 | 7.5 | 10 | 10 | 14 | | 15 | | 15 | | 14 | | 14 | | 1.9 | 1.5 | 2.0 | 1.4 | 1.4 | 5.6 | 9.0 | 6.0 | 5.6 | 3.0 | 29.2 |
| | wb | 6:20am - 12:36am | 7.5 | 10 | 7.5 | 10 | 10 | 13 | | 14 | | 16 | | 16 | | 14 | | 1.7 | 1.4 | 2.1 | 1.6 | 1.4 | 5.2 | 8.4 | 6.4 | 6.4 | 3.0 | 29.4 |
| Duke&Barrington-North&Brunswick | eb | 6:25am - 12:40am | 7.5 | 10 | 7.5 | 15 | 15 | 7 | | 6 | | 8 | | 8 | | 8 | | 0.9 | 0.6 | 1.1 | 0.5 | 0.5 | 2.8 | 3.6 | 3.2 | 2.1 | 1.1 | 12.9 |
| | wb | 6:14am - 12:29am | 7.5 | 10 | 7.5 | 15 | 15 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.8 | 0.6 | 0.8 | 0.4 | 0.4 | 2.4 | 3.6 | 2.4 | 1.6 | 0.9 | 10.9 |
| North&Brunswick-BridgeTermina | eb | 6:04am - 12:48am | 7.5 | 10 | 7.5 | 15 | 15 | 4 | | 4 | | 6 | | 4 | | 4 | 7 | 0.5 | 0.4 | 0.8 | 0.3 | 0.7 | 1.6 | 2.4 | 2.4 | 1.1 | 1.6 | 9.0 |
| | wb | 6:10am - 12:26am | 7.5 | 10 | 7.5 | 15 | 15 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | | 0.9 | 0.8 | 1.1 | 0.4 | 0.3 | 2.8 | 4.8 | 3.2 | 1.6 | 0.6 | 13.0 |
| | Total | | | | | | | 68 | 7 | 69 | 11 | 75 | 7.5 | 72 | 6 | 70 | 10 | 10.0 | 8.0 | 11.0 | 7.0 | 7.0 | 30.0 | 48.0 | 33.0 | 28.0 | 15.1 | 154.1 |
| **2. WEDGEWOOD 4. ROSEDALE** | | | | | | | | | | | | | | | | | | 7.0 | | *8.0* | | | | | | | | *115.1* |
| Rte.2/4: WaterStreetTerminal-Mumford Term | nb | 6:10am - 11:54pm | 15 | 15 | 15 | 15 | 30 | 15 | 5 | 15 | 5 | 23 | 2 | 16 | | 16 | | 1.3 | 1.3 | 1.7 | 1.1 | 0.5 | 4.0 | 8.0 | 5.0 | 4.3 | 1.1 | 22.3 |
| | sb | 6:20am - 12:09am | 15 | 15 | 15 | 15 | 30 | 19 | | 19 | | 16 | | 16 | | 16 | | 1.3 | 1.3 | 1.1 | 1.1 | 0.5 | 3.8 | 7.6 | 3.2 | 4.3 | 1.1 | 19.9 |
| Rte 2/4: Mumford Terminal - Lacewood Term | nb | 6:10am - 12:10am | 15 | 15 | 15 | 15 | 30 | 23 | | 23 | | 21 | | 20 | | 20 | | 1.5 | 1.5 | 1.4 | 1.3 | 0.7 | 4.6 | 9.2 | 4.2 | 5.3 | 1.3 | 24.7 |
| | sb | 5:49am - 12:41am | 15 | 15 | 15 | 15 | 30 | 22 | | 22 | | 22 | | 18 | | 18 | | 1.5 | 1.5 | 1.5 | 1.2 | 0.6 | 4.4 | 8.8 | 4.4 | 4.8 | 1.2 | 23.6 |
| Rte 2: LacewoodT-KearneyLake&Grosvenor | nb | 5:50am - 12:30am | 30 | 30 | 30 | 30 | 60 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | 1 | 7 | | 0.3 | 0.3 | 0.3 | 0.3 | 0.1 | 0.8 | 1.6 | 0.8 | 1.1 | 0.2 | 4.5 |
| | sb | 5:57am - 12:37am | 30 | 30 | 30 | 30 | 60 | 13 | | 13 | | 13 | | 13 | | 13 | | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 1.3 | 2.6 | 1.3 | 1.7 | 0.4 | 7.4 |
| Rte 4: LacewoodT-KearneyLake&Grosvenor | nb | 5:29am - 12:00am | 30 | 30 | 30 | 30 | 60 | 10 | | 10 | | 10 | | 8 | | 8 | | 0.3 | 0.3 | 0.3 | 0.3 | 0.1 | 1.0 | 2.0 | 1.0 | 1.1 | 0.3 | 5.3 |
| | sb | 5:38am - 12:09am | 30 | 30 | 30 | 30 | 60 | 11 | | 11 | | 11 | | 11 | | 11 | | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 1.1 | 2.2 | 1.1 | 1.5 | 0.4 | 6.2 |
| | Total | | | | | | | 120 | 6 | 120 | 6 | 123 | 3 | 109 | 1 | 109 | 0 | 7.0 | 7.0 | 7.0 | 6.0 | 3.0 | 21.0 | 42.0 | 21.0 | 24.0 | 6.0 | 114.0 |
| 7. ROBIE | | | | | | | | | | | | | | | | | | 5.0 | | *5.0* | | | | | | | | *67.1* |
| North Ridge-Robie&Quinpoo | cw | 6:00am - 12:10am | 15 | 30 | 10 | 30 | 30 | 14 | | 14 | | 14 | | 14 | | 14 | | 0.9 | 0.5 | 1.4 | 0.5 | 0.5 | 2.8 | 2.8 | 4.2 | 1.9 | 0.9 | 12.6 |
| | cw | 6:36am - 12:20am | 10 | 15 | 15 | 30 | 30 | 11 | 3 | 11 | 6 | 11 | 3 | 11 | 2 | 11 | 2 | 1.4 | 1.1 | 0.9 | 0.4 | 0.4 | 4.2 | 6.8 | 2.8 | 1.7 | 0.9 | 16.4 |
| Robie&Quinpool-Barrington&Duk | cw | 6:14am - 12:21am | 15 | 30 | 10 | 30 | 30 | 14 | | 14 | | 14 | | 14 | | 14 | | 0.9 | 0.5 | 1.4 | 0.5 | 0.5 | 2.8 | 2.8 | 4.2 | 1.9 | 0.9 | 12.6 |
| | cw | 6:20am - 12:05am | 10 | 15 | 15 | 30 | 30 | 16 | | 16 | | 16 | | 16 | | 16 | | 1.6 | 1.1 | 1.1 | 0.5 | 0.5 | 4.8 | 6.4 | 3.2 | 2.1 | 1.1 | 17.6 |
| Barrington&Duke-North Ridge | cw | 6:28am - 12:35am | 15 | 30 | 10 | 30 | 30 | 17 | 8 | 17 | 10 | 17 | 5 | 17 | 1 | 17 | 1 | 1.7 | 0.9 | 2.2 | 0.6 | 0.6 | 5.0 | 5.4 | 6.6 | 2.4 | 1.2 | 20.6 |
| | cw | 6:05am - 11:50pm | 10 | 15 | 15 | 30 | 30 | 15 | | 15 | | 15 | | 15 | | 15 | | 1.5 | 1.0 | 1.0 | 0.5 | 0.5 | 4.5 | 6.0 | 3.0 | 2.0 | 1.0 | 16.5 |
| | Total | | | | | | | 87 | 11 | 87 | 16 | 87 | 8 | 87 | 3 | 87 | 3 | 8.0 | 5.0 | 8.0 | 3.0 | 3.0 | 24.1 | 30.2 | 24.0 | 12.0 | 6.0 | 96.3 |
| 9. BARRINGTON | | | | | | | | | | | | | | | | | | *4.0* | | *4.0* | | | | | | | | *48.4* |
| PointPleasantPark-Barrington&Duke | nb | 6:20am - 12:00am | 15 | 30 | 15 | 30 | 60 | 13 | | 13 | | 13 | | 8 | | 8 | | 0.9 | 0.4 | 0.9 | 0.3 | 0.1 | 2.6 | 2.6 | 2.6 | 1.1 | 0.3 | 9.1 |
| | sb | 6:10am - 11:42pm | 15 | 30 | 15 | 30 | 60 | 14 | | 14 | | 14 | | 8 | | 8 | | 0.9 | 0.5 | 0.9 | 0.3 | 0.1 | 2.8 | 2.8 | 2.8 | 1.1 | 0.3 | 9.7 |
| Barrington&Duke-Duffus&Novale | nb | 6:30am - 12:10am | 15 | 30 | 15 | 30 | 60 | 11 | | 11 | | 11 | | 10 | | 10 | | 0.7 | 0.4 | 0.7 | 0.3 | 0.2 | 2.2 | 2.2 | 2.2 | 1.3 | 0.3 | 8.3 |
| | sb | 6:00am - 11:32pm | 15 | 30 | 15 | 30 | 60 | 13 | | 13 | | 13 | | 10 | | 10 | | 0.9 | 0.4 | 0.9 | 0.3 | 0.2 | 2.6 | 2.6 | 2.6 | 1.3 | 0.3 | 9.5 |
| Duffus&Novalea-/MumfordTermina | nb | 6:41am - 12:19am | 15 | 30 | 15 | 30 | 60 | 11 | 16 | 11 | 16 | 11 | 16 | 10 | 4 | 10 | 4 | 1.8 | 0.9 | 1.8 | 0.5 | 0.2 | 5.4 | 5.4 | 5.4 | 1.9 | 0.5 | 18.5 |
| | sb | 5:50am - 11:22pm | 15 | 30 | 15 | 30 | 60 | 12 | | 12 | | 12 | | 10 | | 10 | | 0.8 | 0.4 | 0.8 | 0.3 | 0.2 | 2.4 | 2.4 | 2.4 | 1.3 | 0.3 | 8.9 |
| | Total | | | | | | | 74 | 16 | 74 | 16 | 74 | 16 | 56 | 4 | 56 | 4 | 6.0 | 3.0 | 6.0 | 2.0 | 1.0 | 18.0 | 18.0 | 18.0 | 8.0 | 2.0 | 64.0 |
| 14A. LEIBLIN PARK/HALFAX SECTION | | (Interlined with 14B in Dartmouth) | | | | | | | | | | | | | | | | *6.0* | | *4.0* | | | | | | | | *65.0* |
| Barrington & Duke-St.Mary's Univ & Dalhous | wb | 6:18am - 10:32pm | 15 | 15 | 15 | 30 | 60 | 12 | 11 | 12 | 11 | 12 | 11 | 12 | 11 | 12 | 11 | 1.5 | 1.5 | 1.5 | 0.8 | 0.4 | 4.6 | 9.2 | 4.6 | 3.1 | 0.8 | 22.2 |
| | eb | 7:15am - 11:15p | 15 | 15 | 15 | 30 | 60 | 12 | | 12 | | 12 | | 12 | | 12 | | 0.8 | 0.8 | 0.8 | 0.4 | 0.2 | 2.4 | 4.8 | 2.4 | 1.6 | 0.4 | 11.6 |
| St. Mary's Univ-/Mumford Termina | wb | 6:30am - 10:44pm | 15 | 15 | 15 | 30 | 60 | 18 | | 18 | | 18 | | 18 | | 18 | | 1.2 | 1.2 | 1.2 | 0.6 | 0.3 | 3.6 | 7.2 | 3.6 | 2.4 | 0.6 | 17.4 |
| | eb | 6:57am -11:57pm | 15 | 15 | 15 | 30 | 60 | 18 | | 18 | | 18 | | 18 | | 18 | | 1.2 | 1.2 | 1.2 | 0.6 | 0.3 | 3.6 | 7.2 | 3.6 | 2.4 | 0.6 | 17.4 |
| MumfordTerminal-Leiblin&Junipe | wb | 6:37am - 12:10am | 15 | 15 | 15 | 30 | 60 | 24 | | 24 | | 24 | | 24 | | 24 | | 1.6 | 1.6 | 1.6 | 0.8 | 0.4 | 4.8 | 9.6 | 4.8 | 3.2 | 0.8 | 23.2 |
| | eb | 6:32am - 12:35am | 15 | 15 | 15 | 30 | 60 | 25 | | 25 | | 25 | | 25 | | 25 | | 1.7 | 1.7 | 1.7 | 0.8 | 0.4 | 5.0 | 10.0 | 5.0 | 3.3 | 0.8 | 24.2 |
| | Total | | | | | | | 109 | 11 | 109 | 11 | 109 | 11 | 109 | 11 | 109 | 11 | 8.0 | 8.0 | 8.0 | 4.0 | 2.0 | 24.0 | 48.0 | 24.0 | 16.0 | 4.0 | 116.0 |
| **18. UNIVERSITIES/HOSPITALS** | | | | | | | | | | | | | | | | | | *3.0* | | *3.0* | | | | | | | | *55.5* |
| Lacewood Terminal - Mt. Saint Vincent Univ. | sb | 6:10am - 12:13am | 15 | 15 | 15 | 30 | 30 | 12 | | 12 | | 12 | | 12 | | 12 | | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 2.4 | 4.8 | 2.4 | 1.6 | 0.8 | 12.0 |
| | nb | 6:10am - 12:25am | 15 | 15 | 15 | 30 | 30 | 13 | 3 | 12 | 4 | 13 | | 12 | 17 | 12 | 17 | 1.1 | 1.1 | 0.9 | 1.0 | 1.0 | 3.2 | 6.4 | 2.6 | 3.9 | 1.9 | 18.0 |
| Mt. Saint Vincent Univ.-Bayers Rd Terminal | sb | 6:25am -11:55pm | 15 | 15 | 15 | 30 | 30 | 8 | | 8 | | 8 | 3 | 8 | 2 | 8 | 2 | 0.5 | 0.5 | 0.7 | 0.3 | 0.3 | 1.6 | 3.2 | 1.8 | 1.3 | 0.7 | 8.6 |
| | nb | 7:26am -11:56pm | 15 | 15 | 15 | 30 | 30 | 9 | | 9 | | 9 | | 9 | | 9 | | 0.6 | 0.6 | 0.6 | 0.3 | 0.3 | 1.8 | 3.6 | 1.5 | 1.2 | 0.6 | 8.7 |
| Bayers Rd. Terminal -Saint Mary's & Dalhou | sb | 6:38am - 12:08am | 10 | 10 | 10 | 30 | 30 | 13 | 4 | 15 | 4 | 12 | 5 | 15 | 4 | 15 | 4 | 1.7 | 1.9 | 1.7 | 0.6 | 0.6 | 5.1 | 11.4 | 5.1 | 2.5 | 1.3 | 25.4 |
| | nb | 6:50am - 11:50pm | 10 | 10 | 10 | 30 | 30 | 13 | | 11 | | 13 | | 11 | | 11 | | 1.3 | 1.1 | 1.3 | 0.4 | 0.4 | 3.9 | 6.6 | 3.9 | 1.5 | 0.7 | 16.6 |
| | Total | | | | | | | 68 | 7 | 67 | 8 | 67 | 8 | 67 | 23 | 67 | 23 | 6.0 | 6.0 | 6.0 | 3.0 | 3.0 | 18.0 | 36.0 | 17.3 | 12.0 | 6.0 | 89.3 |
| 20. HERRING COVE | | | | | | | | | | | | | | | | | | *9.0* | | *9.0* | | | | | | | | *115.2* |
| UpperWater&Cornwallis-Mumford Termina | wb | 6:07am - 11:12pm | 15 | 30 | 15 | 30 | 30 | 23 | | 28 | | 23 | | 28 | | 28 | | 1.5 | 0.9 | 1.5 | 0.9 | 0.9 | 4.6 | 5.6 | 3.1 | 3.7 | 1.9 | 18.9 |
| | eb | 6:10am- 12:37am | 15 | 30 | 15 | 30 | 30 | 22 | | 22 | | 22 | | 22 | | 22 | | 1.5 | 0.7 | 1.5 | 0.7 | 0.7 | 4.4 | 4.4 | 2.9 | 2.9 | 1.5 | 16.1 |
| MumfordTerminal-HerringCove&Dentit | sb | 5:10am - 11:40pm | 15 | 30 | 15 | 30 | 30 | 17 | | 17 | | 17 | | 17 | | 17 | | 1.1 | 0.6 | 1.1 | 0.6 | 0.6 | 3.4 | 3.4 | 2.3 | 2.3 | 1.1 | 12.5 |
| | nb | 5:52am - 12:20am | 15 | 30 | 15 | 30 | 30 | 18 | | 18 | | 18 | | 18 | | 18 | | 1.2 | 0.6 | 1.2 | 0.6 | 0.6 | 3.6 | 3.6 | 2.4 | 2.4 | 1.2 | 13.2 |
| HerringCove&Dentith-Herring Cove&Greysto | sb | 5:27am - 11:56p | 15 | 30 | 15 | 30 | 30 | 5 | | 5 | | 5 | | 5 | | 5 | | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 1.0 | 1.0 | 0.7 | 0.7 | 0.3 | 3.7 |
| | nb | 5:40am - 12:09am | 15 | 30 | 15 | 30 | 30 | 5 | | 5 | | 5 | | 5 | | 5 | | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 1.0 | 1.0 | 0.7 | 0.7 | 0.3 | 3.7 |
| HerringCove&Greystone-Herring Cove | sb | 5:27am - 11:56p | 30 | 30 | 30 | 30 | 30 | 12 | | 12 | | 12 | | 12 | | 12 | | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.2 | 2.4 | 0.8 | 1.6 | 0.8 | 6.8 |
| | nb | 5:40am - 12:09am | 30 | 30 | 30 | 30 | 30 | 12 | 6 | 12 | 1 | 12 | 6 | 12 | 1 | 12 | 1 | 0.6 | 0.4 | 0.6 | 0.4 | 0.4 | 1.8 | 2.6 | 1.2 | 1.7 | 0.9 | 8.2 |
| | Total | | | | | | | 114 | 6 | 119 | 1 | 114 | 6 | 119 | 1 | 119 | 1 | 7.0 | 4.0 | 7.0 | 4.0 | 4.0 | 21.0 | 24.0 | 14.0 | 16.0 | 8.0 | 83.0 |
| **31.MAIN EXPRESS** | | (interlined with 89 at Lacewood Terminal) | | | | | | | | | | | | | | | | *4.0* | | *4.0* | | | | | | | | 5.4 |
| Summer&Bell - LacewoodTerminal via Robie | wb | 3:17pm-5:17pm | | | 30 | | | | | | | 30 | 15 | | | | | | | 1.5 | | | | | 3.0 | | | 3.0 |
| | eb | 6:50am-7:55am | 30 | | | | | 30 | 15 | | | | | | | | | 1.5 | | | | | 2.4 | | | | | 2.4 |
| | Total | | | | | | | 30 | 15 | | | 30 | 15 | | | | | 1.5 | | 1.5 | | | 2.4 | | 3.0 | | | 5.4 |
| 32. COWIE HILL EXPRESS | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | *3.9* | | *4.0* | | | *7.9* |
| Summer&Bell - South Central Mal | wb | 3:35pm-5:35pm | | | 15 | | | | | | | 30 | 15 | | | | | | | 3.0 | | | | | 3.0 | | | 3.0 |
| | eb | 6:16am-8:06am | 15 | | | | | 30 | 15 | | | | | | | | | 3.0 | | | | | 2.4 | | | | | 2.4 |
| | Total | | | | | | | 30 | 15 | | | 30 | 15 | | | | | 3.0 | | 3.0 | | | 2.4 | | 3.0 | | | 5.4 |
| **34. GLENBOURNE EXPRESS** | | | | | | | | | | | | | | | | | | *3.0* | | *2.0* | | | | | | | | 12.8 |
| Summer&Bell - Lacewood Terminal via Gotti | wb | 3:02pm-6:02pm | | | 15 | | | | | | | 35 | | | | | | | | 2.3 | | | | | 7.0 | | | 7.0 |
| | eb | 6:40am-8:20am | 15 | | | | | 35 | | | | | | | | | | 2.3 | | | | | 4.7 | | | | | 4.7 |
| Lacewood Terminal/Heathside Cresc | wb | 3:40pm-6:40pm | | | 15 | | | | | | | 10 | | | | | | | | 0.7 | | | | | 2.0 | | | 2.0 |
| | eb | 6:30am-8:10am | 15 | | | | | 10 | | | | | | | | | | 0.7 | | | | | 1.3 | | | | | 1.3 |
| | Total | | | | | | | 45 | 0 | 0 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 3.0 | | 3.0 | | | 6.0 | | 9.0 | - | - | 15.0 |
| **35. PARKLAND EXPRESS** | | | | | | | | | | | | | | | | | | *1.5* | | *1.5* | | | | | | | | 5.9 |
| Hollis Train Sta/Lacewood Terminal via Barri | wb | 3:36pm-5:38pm | | | 30 | | | | | | | 42 | 3 | | | | | | | 1.5 | | | | | 3.0 | | | 3.0 |
| | eb | 6:20am-8:15am | 30 | | | | | 42 | 3 | | | | | | | | | 1.5 | | | | | 3.0 | | | | | 3.0 |
| | Total | | | | | | | 42 | 3 | | | 42 | 3 | | | | | 1.5 | | 1.5 | | | 3.0 | | 3.0 | | | 6.0 |
| **131. CLAYTON PARK METROLINK (NEW)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lacewood Terminal - Scotia Square | eb | 6:00am-11:30pm | 10 | 30 | 10 | 30 | | 20 | | 15 | | 20 | | 15 | | | | 2.0 | 0.5 | 2.0 | 0.5 | | 6.0 | 3.0 | 6.0 | 2.0 | | 17.0 |
| | wb | 6:20am-11:50pm | 10 | 30 | 10 | 30 | | 20 | | 15 | | 20 | | 15 | | | | 2.0 | 0.5 | 2.0 | 0.5 | | 6.0 | 3.0 | 6.0 | 2.0 | | 17.0 |
| | Total | | | | | | | 40 | | 30 | | 40 | | 30 | | | | 4.0 | 1.0 | 4.0 | 1.0 | | 12.0 | 6.0 | 12.0 | 4.0 | | 34.0 |
| **132. SPRYFIELD METROLINK (NEW)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Herring Cove & Greystone - Scotia Square | eb | 6:00am-11:30pm | 10 | 30 | 10 | 30 | | 25 | | 25 | 10 | 25 | | 25 | 10 | | | 2.5 | 1.2 | 2.5 | 1.2 | | 7.5 | 7.0 | 7.5 | 4.7 | | 26.7 |
| | wb | 6:20am-11:55pm | 10 | 30 | 10 | 30 | | 25 | | 25 | | 25 | | 25 | | | | 2.5 | 0.8 | 2.5 | 0.8 | | 7.5 | 5.0 | 7.5 | 3.3 | | 23.3 |
| | Total | | | | | | | 50 | | 50 | 10 | 50 | | 50 | 10 | | | 5.0 | 2.0 | 5.0 | 2.0 | | 15.0 | 12.0 | 15.0 | 8.0 | | 50.0 |
| **XXX New and restructured routes** | | | | | increased frequencies | | | | | | | | | | | | Proposed | 71.0 | | 72.0 | | | | | | | | 845.1 |
| | | | | | | | | | | | | | | | | | *2008* | 54.5 | | 51.5 | | | | | | | | 638.3 |

**EXHIBIT D-2: 2010-2014 SERVICE PLAN FOR METRO TRANSIT'S HALIFAX/LOWER MAINLAND ROUTES (Fall Weekday)**

| ROUTE | | SPAN OF SERVICE | HEADWAY (minutes) | | | | | RUNNING TIME (minutes) | | | | | | | | | | VEHICLES | | | | | VEHICLE SERVICE HOURS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM | MID | PM | | LT | AM PEAK | | MID-DAY | | PM PEAK | | EVE | | LATE EVE | | AM | MID | PM | | LT | AM | MID | PM | | LT | |
| | | | PEAK | DAY | PEAK | EVE | EVE | Dr. Time | Rec Time | Dr. Time | Rec Time | Dr. Time | Rec Time | Dr. Time | Rec Time | Dr. Time | Rec Time | PEAK | DAY | PEAK | EVE | EVE | PEAK | DAY | PEAK | EVE | EVE | TOTAL |
| **LOCAL ROUTES** | Dir. | | | | | | | | | | | | | | | | | | | | | | 3.0 | 6.0 | 3.0 | 4.0 | 2.0 | 18.0 |
| 3. MANORS | cancelled | | | | | | | | | | | | | | | | | | 1.0 | | | | | | | | | 7.7 |
| demands served by Rte 7 & restructured 18 and 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. CHEBUCTO/FAIRMOUNT | cancelled (served by 6) | | | | | | | | | | | | | | | | | 1.0 | | 1.0 | | | | | | | | 3.2 |
| demands served by restructured Rte 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **6. QUINPOOL** | | | | | | | | | | | | | | | | | | 2.0 | | 2.0 | | | | | | | | 25.5 |
| WaterStreetTerminal-MumfordTermina | wb | 6:45am-12:05am | 30 | 30 | 30 | 30 | 60 | 17 | | 17 | | 17 | | 17 | | 17 | | 0.6 | 0.6 | 0.6 | 0.6 | 0.3 | 1.7 | 3.4 | 1.7 | 2.3 | 0.6 | 9.6 |
| | eb | 6:27am-12:42am | 30 | 30 | 30 | 30 | 60 | 19 | 2 | 19 | 2 | 19 | 2 | 19 | 2 | 19 | 2 | 0.7 | 0.7 | 0.7 | 0.7 | 0.4 | 2.1 | 4.2 | 2.1 | 2.8 | 0.7 | 11.9 |
| MumfordTerm-Stonehaven via Fairmour | wb | 6:04am - 12:22am | 30 | 30 | 30 | 30 | 60 | 11 | | 11 | | 11 | | 11 | | 11 | | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 1.1 | 2.2 | 1.1 | 1.5 | 0.4 | 6.2 |
| | eb | 6:15am - 12:32am | 30 | 30 | 30 | 30 | 60 | 11 | | 11 | | 11 | | 11 | | 11 | | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 1.1 | 2.2 | 1.1 | 1.5 | 0.4 | 6.2 |
| | Total | | | | | | | 58 | 2 | 58 | 2 | 58 | 2 | 58 | 2 | 58 | 2 | 2.0 | 2.0 | 2.0 | 2.0 | 1.0 | 6.0 | 12.0 | 6.0 | 8.0 | 2.0 | 34.0 |
| **16 PARKLAND** | | interlined with 66 at Highland Termina | | | | | | | | | | | | | | | | 3.0 | | 3.0 | | | | | | | | 37.3 |
| Highfield Terminal-Lacewood Termina | wb | 6:07am-10:07pm | 30 | 30 | 30 | 30 | | 31 | 19 | 31 | 19 | 32 | 18 | 32 | 18 | | | 1.7 | 1.7 | 1.7 | 1.7 | | 5.0 | 10.0 | 5.0 | 6.7 | | 26.7 |
| | eb | 7:03am-10:43pm | 30 | 30 | 30 | 30 | | 25 | | 25 | | 25 | | 25 | | | | 0.8 | 0.8 | 0.8 | 0.8 | | 2.5 | 5.0 | 2.5 | 3.3 | | 13.3 |
| | Total | | | | | | | 56 | 19 | 56 | 19 | 57 | 18 | 57 | 18 | | | 2.5 | 2.5 | 2.5 | 2.5 | | 7.5 | 15.0 | 7.5 | 10.0 | | 40.0 |
| 17. ST. MARY'S | cancelled (combined with 18) | | | | | | | | | | | | | | | | | 2.5 | | 2.5 | | | | | | | | 30.8 |
| Demands served by restructured Rte. 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19. GREYSTONE | | | | | | | | | | | | | | | | | | 3.0 | | 2.0 | | | | | | | | 31.5 |
| Mumford Terminal-Herring Cove & Greyston | sb | 6:17am-9:48pm | 30 | 30 | 30 | 30 | | 15 | | 15 | | 15 | | | | | | 0.5 | 0.5 | 0.5 | | | 1.3 | 3.0 | 2.0 | | | 6.3 |
| | nb | 6:34am-10:04pm | 30 | 30 | 30 | 30 | | 15 | | 15 | | 15 | | | | | | 0.5 | 0.5 | 0.5 | | | 1.3 | 3.0 | 2.0 | | | 6.3 |
| | Total | | | | | | | 30 | | 30 | | 30 | | | | | | 1.0 | 1.0 | 1.0 | | | 7.5 | 6.0 | 12.0 | | | 12.6 |
| **21. LAKESIDE/TIMBERLEA** | | | | | | | | | | | | | | | | | | 3.0 | | 4.0 | | | | | | | | 42.4 |
| Summer&Spring Gdn-Bayers Rd. Termina | wb | 3:31pm-6:01pm | | | 15 | | | | | | | 25 | 8 | | | | | | | 2.2 | | | | | 6.6 | | | 2.6 |
| | eb | 6:15am - 8:20am | 15 | | | | | 20 | 14 | | | | | | | | | 2.3 | | | | | 5.7 | | | | | 2.0 |
| Bayer's Rd. Terminal - Chain Lake&Lakelanc | wb | 5:25am - 12:05am | 15 | 30 | 30 | 30 | 30 | 19 | | 24 | 17 | 24 | | 19 | 2 | 19 | 1 | 1.3 | 1.4 | 0.8 | 0.7 | 0.7 | 3.8 | 8.2 | 2.4 | 2.8 | 1.3 | 18.5 |
| | eb | 6:02am - 12:41am | 30 | 30 | 15 | 30 | 30 | 13 | | 12 | | 12 | | 12 | | 12 | | 0.4 | 0.4 | 0.8 | 0.4 | 0.4 | 1.3 | 2.4 | 2.4 | 1.6 | 0.8 | 8.5 |
| Chaiin Lake & Lakelands/Glengary Gardens | wb | 5:31am - 12:13am | 30 | 30 | 30 | 30 | 30 | 14 | | 20 | | 20 | | 14 | | 15 | | 0.5 | 0.7 | 0.7 | 0.5 | 0.5 | 1.4 | 4.0 | 2.0 | 1.9 | 1.0 | 10.3 |
| | eb | 5:45am - 12:28am | 30 | 30 | 30 | 30 | 30 | 17 | | 17 | | 15 | | 13 | | 13 | | 0.6 | 0.6 | 0.5 | 0.4 | 0.4 | 1.7 | 3.4 | 1.5 | 1.7 | 0.9 | 9.2 |
| | Total | | | | | | | 83 | 14 | 73 | 17 | 96 | 8 | 58 | 2 | 59 | | 5.0 | 3.0 | 5.0 | 2.0 | 2.0 | 13.9 | 18.0 | 14.9 | 8.0 | 4.0 | 51.1 |
| **22. ARMDALE (NEW)** | | | | | | | | | | | | | | | | | | 3.0 | | 3.0 | | | | | | | | 33.7 |
| Exhibition Park Park and Ride - Ragged Lak | eb | | 30 | 30 | 30 | 30 | | 4 | | 4 | | 4 | | 4 | | | | 0.1 | 0.1 | 0.1 | 0.1 | | 0.4 | 0.8 | 0.4 | 0.5 | | 2.1 |
| | wb | | 30 | 30 | 30 | 30 | | 5 | | 5 | | 5 | | 5 | | | | 0.2 | 0.2 | 0.2 | 0.2 | | 0.5 | 1.0 | 0.5 | 0.7 | | 2.7 |
| Ragged Lake Garage - Mumford Terminal | eb | | 30 | 30 | 30 | 30 | | 23 | 1 | 23 | 1 | 23 | 1 | 23 | 1 | | | 0.8 | 0.8 | 0.8 | 0.8 | | 2.4 | 4.8 | 2.4 | 3.2 | | 12.8 |
| | wb | | 30 | 30 | 30 | 30 | | 27 | | 27 | | 27 | | 27 | | | | 0.9 | 0.9 | 0.9 | 0.9 | | 2.7 | 5.4 | 2.7 | 3.6 | | 14.4 |
| | Total | | | | | | | 59 | 1 | 59 | 1 | 59 | 1 | 59 | 1 | 0 | 0 | 2.0 | 2.0 | 2.0 | 2.0 | | 6.0 | 12.0 | 6.0 | 8.0 | | 32.0 |
| **23. TIMBERLEA/MUMFORD** | | | | | | | | | | | | | | | | | | 3.0 | | 3.0 | | | | | | | | 17.1 |
| Mumford Term - Bay Rd. & Lakelands | wb | 6:33-8:03a/4:17-6:44 | 30 | | 30 | | | 21 | | | | 21 | | | | | | 0.7 | | 0.7 | | | 2.1 | | 1.8 | | | 3.9 |
| | eb | 6:10-8:40a/4:52-7:19 | 30 | | 30 | | | 25 | | | | 22 | | | | | | 0.8 | | 0.7 | | | 2.5 | | 1.8 | | | 4.3 |
| Bay Rd. & Lakelands - Glengarry Gardens | wb | 6:54-8:24a/4:38-7:05 | 30 | | 30 | | | 6 | | | | 6 | | | | | | 0.2 | | 0.2 | | | 0.6 | | 0.5 | | | 1.1 |
| | eb | 6:05-8:35a/4:47-7:14 | 30 | | 30 | | | 5 | 3 | | | 5 | 6 | | | | | 0.3 | | 0.4 | | | 0.8 | | 0.9 | | | 1.7 |
| | Total | | | | | | | 57 | 3 | | | 54 | 6 | | | | | 2.0 | | 2.0 | | | 6.0 | | 5.0 | | | 11.0 |
| **42. LACEWOOD-DALHOUSIE** | | | | | | | | | | | | | | | | | | 3.0 | | 3.0 | | | | | | | | 33.7 |
| LacewoodTerminal-South&La Marchan | sb | 6:55am - 9:37pm | 15 | 30 | 15 | 30 | | 24 | 2 | 24 | 1 | 27 | | 27 | | | | 1.7 | 0.8 | 1.8 | 0.9 | | 3.5 | 5.0 | 5.4 | 3.6 | | 17.5 |
| | nb | 7:22am - 9:23pm | 15 | 30 | 15 | 30 | | 28 | 6 | 26 | 9 | 29 | 4 | 29 | 4 | | | 2.3 | 1.2 | 2.2 | 1.1 | | 4.5 | 7.0 | 6.6 | 4.4 | | 22.5 |
| | Total | | | | | | | 52 | 8 | 50 | 10 | 56 | 4 | 56 | 4 | | | 4.0 | 2.0 | 4.0 | 2.0 | | 8.0 | 12.0 | 12.0 | 8.0 | | 40.0 |
| **COMMUNITY ROUTES** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. PURCELL'S COVE | | | | | | | | | | | | | | | | | | 1.0 | | 1.0 | | | | | | | | 16.0 |
| Bayers Rd Terminal - Mumford Termina | sb | 6:08am - 9:38pm | 60 | 60 | 60 | 60 | | 8 | | 8 | | 8 | | 8 | | | | 0.1 | 0.1 | 0.1 | 0.1 | | 0.4 | 0.8 | 0.4 | 0.5 | | 2.1 |
| | nb | 6:55am - 10:25pm | 60 | 60 | 60 | 60 | | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | | | 0.2 | 0.2 | 0.2 | 0.2 | | 0.7 | 1.3 | 0.7 | 0.9 | | 3.5 |
| Mumford Terminal - York Redoubt | sb | 6:16am - 9:44pm | 60 | 60 | 60 | 60 | | 19 | | 19 | | 19 | | 19 | | | | 0.3 | 0.3 | 0.3 | 0.3 | | 1.0 | 1.9 | 1.0 | 1.3 | | 5.1 |
| | nb | 6:35am - 10:05pm | 60 | 60 | 60 | 60 | | 20 | | 20 | | 20 | | 20 | | | | 0.3 | 0.3 | 0.3 | 0.3 | | 1.0 | 2.0 | 1.0 | 1.3 | | 5.3 |
| | Total | | | | | | | 54 | 6 | 54 | 6 | 54 | 6 | 54 | 6 | | | 1.0 | 1.0 | 1.0 | 1.0 | | 3.0 | 6.0 | 3.0 | 4.0 | | 16.0 |
| **24. REGENCY PARK (NEW SHUTTLE)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lacewood Terminal - Regency Park - Lacew | cw | | 30 | 30 | 30 | 30 | | 13 | 5 | 13 | 5 | 13 | 5 | 13 | 5 | | | 0.6 | 0.6 | 0.6 | 0.6 | | 1.8 | 3.6 | 1.8 | 2.4 | | 9.6 |
| | cw | | 30 | 30 | 30 | 30 | | 12 | | 12 | | 12 | | 12 | | | | 0.4 | 0.4 | 0.4 | 0.4 | | 1.2 | 2.4 | 1.2 | 1.6 | | 6.4 |
| | Total | | | | | | | 25 | 5 | 25 | 5 | 25 | 5 | 25 | 5 | | | 1.0 | 1.0 | 1.0 | 1.0 | | 3.0 | 6.0 | 3.0 | 4.0 | | 16.0 |
| **33. TANTALLON** | | | | | | | | | | | | | | | | | | 2.0 | | 2.0 | | | | | | | | 6.6 |
| Tantallon (Hubley Centre) - Lacewood Termi | eb | 45,7:35a/12:40//5:22,6:2 | 60 | 1 trip | 60 | | | 30 | | 30 | | 30 | | | | | | 0.5 | 0.5 | 0.5 | | | 0.5 | 0.5 | 0.5 | | | 1.5 |
| | wb | 15,7:05a/12:00/4:50,5:5 | 60 | 1 trip | 60 | | | 30 | | 30 | | 30 | | | | | | 0.5 | 0.5 | 0.5 | | | 0.5 | 0.5 | 0.5 | | | 1.5 |
| | Total | | | | | | | 60 | 0 | 60 | 0 | 60 | 0 | | | | | 1.0 | 1.0 | 1.0 | | | 1.0 | 1.0 | 1.0 | | | 3.0 |
| **330. TANTALLON METRO EXPRESS (NEW)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tantallon Park and Ride (Hubley Centre) - Scotia | | 6:30am-5:30pm | 30 | 90 | | | | 30 | | 33 | | | | | | | | 1.0 | 0.4 | | | | 2.0 | 1.8 | | | | 3.8 |
| | | 7:00am-7:00pm | 30 | 90 | 30 | | | 30 | | 35 | 22 | 40 | 20 | | | | | 1.0 | 0.6 | 2.0 | | | 2.0 | 3.2 | 4.0 | | | 9.2 |
| | Total | | | | | | | 60 | | 68 | 22 | 40 | 20 | | | | | 2.0 | 1.0 | 2.0 | | | 4.0 | 5.0 | 4.0 | | | 13.0 |
| **XXX New and restructured routes** | | | | increased frequencies | | | | | | | | | | | | | Proposed | 22.5 | | 22.5 | | | | | | | | 256.1 |
| | | | | | | | | | | | | | | | | | 2008 | 16.5 | | 17.5 | | | | | | | | 180.5 |

**EXHIBIT D-3: 2010-2014 SERVICE PLAN FOR METRO TRANSIT'S BEDFORD-SACKVILLE ROUTES (Fall Weekday )**

| ROUTE | | SPAN OF SERVICE | HEADWAY (minutes) | | | | | RUNNING TIME (minutes) | | | | | | | | | | VEHICLES | | | | | VEHICLE SERVICE HOURS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | AM PEAK | | MID-DAY | | PM PEAK | | EVE | | LATE EVE | | AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | AM PEAK | MID DAY | PM PEAK | EVE | LT EVE | TOTAL |
| | | | | | | | | Dr. Time | Rec Time | Dr. Time | Rec Time | Dr. Time | Rec Time | Dr. Time | Rec Time | Dr. Time | Rec Time | | | | | | | | | | | |
| **CORE ROUTES (including Express and M** | Dir. | | | | | | | | | | | | | | | | | | | | | | 3.0 | 6.0 | 3.0 | 4.0 | 2.0 | 18.0 |
| 80. SACKVILLE | | | | | | | | | | | | | | | | | | *6.0* | | *8.0* | | | | | | | | *106.5* |
| Sackville Terminal-Cobequid Termina | sb | 5:42am - 1:16am | 15 | 30 | 15 | 30 | 30 | 15 | | 15 | | 15 | | 15 | | 12 | | 1.0 | 0.5 | 1.0 | 0.5 | 0.4 | 3.0 | 3.0 | 3.0 | 2.0 | 1.2 | 12.2 |
| | nb | 5:26am - 12:58am | 15 | 30 | 15 | 30 | 30 | 13 | 15 | 13 | | 13 | 15 | 13 | 3 | 12 | 4 | 1.9 | 0.4 | 1.9 | 0.5 | 0.5 | 5.6 | 2.6 | 5.6 | 2.1 | 1.6 | 17.5 |
| Cobequid Terminal-Bayer's Rd. Termina | sb | 5:54am - 1:28am | 15 | 30 | 15 | 30 | 30 | 32 | 3 | 30 | 1 | 30 | | 30 | | 22 | | 2.3 | 1.0 | 2.0 | 1.0 | 0.7 | 7.0 | 6.2 | 6.0 | 4.0 | 1.5 | 24.7 |
| | nb | 6:15am - 12:33am | 15 | 30 | 15 | 30 | 30 | 31 | | 31 | | 29 | | 29 | | 22 | | 2.1 | 1.0 | 1.9 | 1.0 | 0.7 | 6.2 | 6.2 | 5.8 | 3.9 | 1.5 | 23.5 |
| Bayer's Rd. Terminal-Upper Water&Cornwal | sb | 6:25am - 11:58pm | 15 | 30 | 15 | 30 | 30 | 30 | | 30 | | 30 | | 30 | | 23 | | 2.0 | 1.0 | 2.0 | 1.0 | 0.8 | 6.0 | 6.0 | 6.0 | 4.0 | 1.5 | 23.5 |
| | nb | 5:52am - 12:08am | 15 | 30 | 15 | 30 | 30 | 26 | | 30 | | 33 | | 30 | | 25 | | 1.7 | 1.0 | 2.2 | 1.0 | 0.8 | 5.2 | 6.0 | 6.6 | 4.0 | 1.7 | 23.5 |
| | Total | | | | | | | 147 | 18 | 149 | 1 | 150 | 15 | 147 | 3 | 116 | 4 | 11.0 | 5.0 | 11.0 | 5.0 | 4.0 | 33.0 | 30.0 | 33.0 | 20.0 | 8.9 | 124.9 |
| 84. GLENDALE EXPRESS | | | | | | | | | | | | | | | | | | *4.0* | | *4.0* | | | | | | | | *25.9* |
| SackvilleTerminal - Cobequid Termina | sb | 5:50am-8:02am | 15 | | | | | 18 | | | | | | | | | | 1.2 | | | | | 3.6 | | | | | 3.6 |
| | nb | 3:53pm - 6:45pm | | | 15 | | | | | | | 15 | | | | | | | | 1.0 | | | | | 3.0 | | | 3.0 |
| Cobequid Term.l-Summer&Bell | sb | 6:08am-8:25am | 15 | | | | | 40 | 2 | | | | | | | | | 2.8 | | | | | 8.4 | | | | | 8.4 |
| | nb | 3:13pm - 6:05pm | | | 15 | | | | | | | 40 | 5 | | | | | | | 3.0 | | | | | 9.0 | | | 9.0 |
| | Total | | | | | | | 58 | 2 | | | 55 | 5 | | | | | 4.0 | | 4.0 | | | 12.0 | | 12.0 | - | - | 24.0 |
| **85. DOWNSVIEW EXPRESS** | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | *4.0* |
| Cobequid Terminal -Sackville Termina | sb | 6:45am,6:55am | 30 | | | | | 15 | | | | | | | | | | 0.5 | | | | | 0.5 | | | | | 0.5 |
| | nb | 4:44pm,5:14pm | | | 30 | | | | | | | 15 | | | | | | | | 0.5 | | | | | 0.5 | | | 0.5 |
| Sackville Terminal - Summer&Bell via Burnsi | sb | 7:00am,7:10am | 30 | | | | | 59 | 16 | | | | | | | | | 2.5 | | | | | 2.5 | | | | | 2.5 |
| | nb | 4:00pm,4:30pm | | | 30 | | | | | | | 59 | 16 | | | | | | | 2.5 | | | | | 2.5 | | | 2.5 |
| | Total | | | | | | | 74 | 16 | | | 74 | 16 | | | | | 3.0 | | 3.0 | | | 3.0 | | 3.0 | - | - | 6.0 |
| **87. DOWNSVIEW** | | | | | | | | | | | | | | | | | | *4.0* | | *4.0* | | | | | | | | *49.6* |
| Sackville Terminal-Cobequid Termina | sb | 6:35am-11:52pm | 15 | 30 | 15 | 30 | 30 | 19 | | 19 | | 21 | | 21 | | 19 | | 1.3 | 0.6 | 1.4 | 0.7 | 0.6 | 3.8 | 3.8 | 4.2 | 2.8 | 1.3 | 15.9 |
| | nb | 5:27am-11:30pm | 15 | 30 | 15 | 30 | 30 | 15 | | 15 | | 15 | | 15 | | 15 | | 1.0 | 0.5 | 1.0 | 0.5 | 0.5 | 3.0 | 3.0 | 3.0 | 2.0 | 1.0 | 12.0 |
| Cobequid Terminal - Bridge Termina | sb | 6:51am-12:08am | 15 | 30 | 15 | 30 | 30 | 23 | 3 | 23 | 3 | 25 | 8 | 25 | | 23 | 3 | 1.7 | 0.9 | 2.2 | 0.8 | 0.9 | 5.2 | 5.2 | 6.6 | 3.3 | 1.7 | 22.1 |
| | nb | 6:35am-12:05am | 15 | 30 | 15 | 30 | 30 | 27 | 3 | 28 | 2 | 28 | 8 | 28 | | 27 | 3 | 2.0 | 1.0 | 2.4 | 0.9 | 1.0 | 6.0 | 6.0 | 7.2 | 3.7 | 2.0 | 24.9 |
| | Total | | | | | | | 84 | 6 | 85 | 5 | 89 | 16 | 89 | | 84 | 6 | 6.0 | 3.0 | 7.0 | 3.0 | 3.0 | 18.0 | 18.0 | 21.0 | 11.9 | 6.0 | 74.9 |
| 185. SACKVILLE LINK | | | | | | | | | | | | | | | | | | *6.0* | | *6.0* | | | | | | | | *48.4* |
| Sackville Term./Cobequid Term-Windmill&W | sb | 6:00am-11:30pm | 10 | 30 | 10 | 30 | | 13 | | 13 | | 13 | | 13 | | | | 1.3 | 0.4 | 1.3 | 0.4 | | 3.9 | 2.6 | 3.9 | 1.1 | | 11.5 |
| | nb | 6:43am-11:43pm | 10 | 30 | 10 | 30 | | 11 | | 11 | | 11 | | 11 | | | | 1.1 | 0.4 | 1.1 | 0.4 | | 3.3 | 2.2 | 3.3 | 0.9 | | 9.7 |
| Windmill&Wright - Barrington&Duke | sb | 6:12am-11:41pm | 10 | 30 | 10 | 30 | | 11 | | 11 | | 11 | | 11 | | | | 1.1 | 0.4 | 1.1 | 0.4 | | 3.3 | 2.2 | 3.3 | 0.9 | | 9.7 |
| | nb | 6:30am-11:30pm | 10 | 30 | 10 | 30 | | 13 | 2 | 13 | 12 | 13 | 2 | 13 | 12 | | | 1.5 | 0.8 | 1.5 | 0.8 | | 4.5 | 5.0 | 4.5 | 2.1 | | 16.1 |
| | Total | | | | | | | 48 | 2 | 48 | 12 | 48 | 2 | 48 | 12 | | | 5.0 | 2.0 | 5.0 | 2.0 | | 15.0 | 12.0 | 15.0 | 5.0 | - | 47.0 |
| **LOCAL ROUTES** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **81A. HEMLOCK RAVINE** | | | | | | | | | | | | | | | | | | *4.0* | | *4.0* | | | | | | | | *56.0* |
| Bridge&Nottingham --Larry Uteck&Bed.Hwy | sb | 6:43am - 9:40pm | 30 | 30 | 30 | 30 | | 28 | | 28 | | 28 | | 28 | | | | 0.9 | 0.9 | 0.9 | 0.9 | | 2.8 | 5.6 | 2.8 | 3.7 | | 14.9 |
| | nb | 6:23am - 9:23pm | 30 | 30 | 30 | 30 | | 28 | 4 | 28 | 4 | 28 | 4 | 28 | 4 | | | 1.1 | 1.1 | 1.1 | 1.1 | | 3.2 | 6.4 | 3.2 | 4.3 | | 17.1 |
| Larry Uteck&Bedford Hwy-Bayer's Road Ter | sb | 7:03am - 9:00pm | 30 | 30 | 30 | 30 | | 23 | 17 | 23 | 17 | 23 | 17 | 23 | 17 | | | 1.3 | 1.3 | 1.3 | 1.3 | | 4.0 | 8.0 | 4.0 | 5.3 | | 21.3 |
| | nb | 6:00am - 9:00pm | 30 | 30 | 30 | 30 | | 20 | | 20 | | 20 | | 20 | | | | 0.7 | 0.7 | 0.7 | 0.7 | | 2.0 | 4.0 | 2.0 | 2.7 | | 10.7 |
| | Total | | | | | | | 99 | 21 | 99 | 21 | 99 | 21 | 99 | 21 | | | 4.0 | 4.0 | 4.0 | 4.0 | | 12.0 | 24.0 | 12.0 | 16.0 | | 64.0 |
| **81B. MILLVIEW** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Southgate Drive Millview-Larry Uteck&Bed.H | sb | 6:43am - 6:40pm | 30 | 30 | 30 | | | 7 | | 7 | | 7 | | | | | | 0.2 | 0.2 | 0.2 | | | 0.7 | 1.4 | 0.7 | | | 2.8 |
| | nb | 6:23am - 7:23pm | 30 | 30 | 30 | | | 7 | 1 | 7 | | 7 | | | | | | 0.3 | 0.2 | 0.2 | | | 0.8 | 1.4 | 0.7 | | | 2.9 |
| Larry Uteck&Bedford Hwy-Bayer's Road Ter | sb | 7:03am - 7:00pm | 30 | 30 | 30 | | | 23 | 2 | 23 | 3 | 23 | 3 | | | | | 0.8 | 0.9 | 0.9 | | | 2.5 | 5.2 | 2.6 | | | 10.3 |
| | nb | 6:00am - 7:00pm | 30 | 30 | 30 | | | 20 | | 20 | | 20 | | | | | | 0.7 | 0.7 | 0.7 | | | 2.0 | 4.0 | 2.0 | | | 8.0 |
| | Total | | | | | | | 57 | 3 | 57 | 3 | 57 | 3 | | | | | 2.0 | 2.0 | 2.0 | | | 6.0 | 12.0 | 6.0 | | | 24.0 |
| **82. MILLWOOD** | | | | | | | | | | | | | | | | | | *4.0* | | *4.0* | | | | | | | | *39.8* |
| SackvilleTerminal-Cobequid Termina | sb | 5:36am - 10:29pm | 30 | 30 | 30 | 30 | | 36 | 3 | 36 | 3 | 36 | 3 | 36 | 3 | | | 1.3 | 1.3 | 1.3 | 1.3 | | 3.9 | 7.8 | 3.9 | 5.2 | | 20.8 |
| | nb | 6:15am - 11:10pm | 30 | 30 | 30 | 30 | | 35 | | 35 | | 35 | | 35 | | | | 1.2 | 1.2 | 1.2 | 1.2 | | 3.5 | 7.0 | 3.5 | 4.7 | | 18.7 |
| Cobequid Terminal -Dartmouth & Ridgeval | sb | | 30 | 30 | 30 | 30 | | 8 | | 8 | | 8 | | 8 | | | | 0.3 | 0.3 | 0.3 | 0.3 | | 0.8 | 1.6 | 0.8 | 1.1 | | 4.3 |
| | nb | | 30 | 30 | 30 | 30 | | 8 | | 8 | | 8 | | 8 | | | | 0.3 | 0.3 | 0.3 | 0.3 | | 0.8 | 1.6 | 0.8 | 1.1 | | 4.3 |
| | Total | | | | | | | 87 | 3 | 87 | 3 | 87 | 3 | 87 | 3 | | | 3.0 | 3.0 | 3.0 | 3.0 | | 9.0 | 18.0 | 9.0 | 12.0 | | 48.0 |
| 86. BASINVIEW | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | *4.0* |
| Rackmanor DriveBedford - Summer&Bell | sb | 6:55am 7:20am | 2 trips | | | | | 50 | | | | | | | | | | 2.0 | | | | | 2.0 | | | | | *2.0* |
| | nb | 4:35pm, 5:05pm | | | 2 trips | | | | | | | 60 | | | | | | | | 2.0 | | | | | 2.0 | | | *2.0* |
| | | | | | | | | | | | | | | | | | | 2.0 | | 2.0 | | | 2.0 | | 2.0 | | | 4.0 |
| **88. DUKE** | | | | | | | | | | | | | | | | | | *1.0* | | *1.0* | | | | | | | | *15.5* |
| Cobequid Terminal - Bedford Commor | eb | 6:30am- 9:30pm | 30 | 30 | 30 | 60 | | 5 | | 5 | | 5 | | 5 | | | | 0.2 | 0.2 | 0.2 | 0.1 | | 0.5 | 1.0 | 0.5 | 0.3 | | 2.3 |
| | wb | | 30 | 30 | 30 | 60 | | 5 | | 5 | | 5 | | 5 | | | | 0.2 | 0.2 | 0.2 | 0.1 | | 0.5 | 1.0 | 0.5 | 0.3 | | 2.3 |
| Bedford Common - Rockmanor Dr. Bedford | eb | | 30 | 30 | 30 | 60 | | 8 | | 8 | | 8 | | 8 | | | | 0.3 | 0.3 | 0.3 | 0.1 | | 0.8 | 1.6 | 0.8 | 0.5 | | 3.7 |
| | wb | 6:06am- 10:06pm | 30 | 30 | 30 | 60 | | 8 | 4 | 8 | 4 | 8 | 4 | 8 | 4 | | | 0.4 | 0.4 | 0.4 | 0.2 | | 1.2 | 2.4 | 1.2 | 0.8 | | 5.6 |
| | Total | | | | | | | 26 | 4 | 26 | 4 | 26 | 4 | 26 | 4 | | | 1.0 | 1.0 | 1.0 | 0.5 | | 3.0 | 6.0 | 3.0 | 2.0 | | 14.0 |
| **89. BEDFORD** | | Interlined with Rte 31 at Lacewood Terminal) | | | | | | | | | | | | | | | | *4.0* | | *4.0* | | | | | | | | *47.0* |
| Copequid Terminal - Bluewater & Kearney La | eb | 6:49am-6:49pm | 30 | 30 | 30 | 30 | | 31 | | 29 | | 31 | | 29 | | | | 1.0 | 1.0 | 1.0 | 1.0 | | 3.1 | 5.8 | 3.1 | 3.9 | | 15.9 |
| | wb | 6:35am-7:05pm | 30 | 30 | 30 | 30 | | 30 | | 28 | | 30 | 11 | 28 | | | | 1.0 | 0.9 | 1.4 | 0.9 | | 3.0 | 5.6 | 4.1 | 3.7 | | 16.4 |
| Bluewater & Kearney Lake- Lacewood Term | sb | 7:20am-6:20pm | 30 | 30 | 30 | 30 | | 18 | 11 | 18 | | 18 | | 18 | | | | 1.0 | 0.6 | 0.6 | 0.6 | | 2.9 | 3.6 | 1.8 | 2.4 | | 10.7 |
| | nb | 6:20am-6:50pm | 30 | 30 | 30 | 30 | | 15 | | 15 | | 15 | | 15 | | | | 0.5 | 0.5 | 0.5 | 0.5 | | 1.5 | 3.0 | 1.5 | 2.0 | | 8.0 |
| | Total | | | | | | | 94 | 11 | 90 | 0 | 94 | 11 | 90 | 0 | | | 3.5 | 3.0 | 3.5 | 3.0 | | 10.5 | 18.0 | 10.5 | 12.0 | | 51.0 |
| **COMMUNITY ROUTES** | | | | | | | | | | | | | | | | | | | | | | | | | | | | *13.8* |
| 83. SPRINGFIELD | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | *6.6* |
| SpringfieldEstates - Sackville Termina | sb | 6:00am - 7:07pm | 30 | 30 | 30 | | | 15 | | 15 | | 15 | | | | | | 0.5 | 0.5 | 0.5 | | | 1.5 | 3.0 | 1.5 | | | 6.0 |
| | nb | 5:47am- 6:50pm | 30 | 30 | 30 | | | 15 | | 15 | | 15 | | | | | | 0.5 | 0.5 | 0.5 | | | 1.5 | 3.0 | 1.5 | | | 6.0 |
| | Total | | | | | | | 30 | | 30 | | 30 | | | | | | 1.0 | 1.0 | 1.0 | | | 3.0 | 6.0 | 3.0 | | | 12.0 |
| **XXX New and restructured routes** | | | | increased frequencies | | | | | | | | | | | | | Proposed | 45.5 | | 46.5 | | | | | | | | 493.8 |
| | | | | | | | | | | | | | | | | | 2008 | 39.0 | | 41.0 | | | | | | | | 403.3 |

**EXHIBIT D-4: 2010-2015 SERVICE PLAN FOR METRO TRANSIT'S DARTMOUTH ROUTES (Fall Weekday)**

| ROUTE | | SPAN OF SERVICE | HEADWAY (minutes) | | | | | RUNNING TIME (minutes) | | | | | | | | | | VEHICLES | | | | | VEHICLE SERVICE HOURS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM | MID | PM | | LT | AM PEAK | | MID-DAY | | PM PEAK | | EVE | | LATE EVE | | AM | MID | PM | | LT | AM | MID | PM | | LT | |
| | | | PEAK | DAY | PEAK | EVE | EVE | Dr. | Rec | Dr. | Rec | Dr. | Rec | Dr. | Rec | Dr. | Rec | PEAK | DAY | PEAK | EVE | EVE | PEAK | DAY | PEAK | EVE | EVE | TOTAL |
| **CORE ROUTES (including Express and M** | Dir. | | | | | | | Time | Time | Time | Time | Time | Time | Time | Time | Time | Time | | | | | | 3.0 | 6.0 | 3.0 | 4.0 | 2.0 | 18.0 |
| 10. DALHOUSIE | | | | | | | | | | | | | | | | | | *8.0* | | *8.0* | | | | | | | | *89.1* |
| South&LaMarchant-Barrington&Duke | eb | 6:41am-12:10am | 15 | 30 | 9 | 30 | 30 | 18 | | 18 | | 18 | | 18 | | 18 | | 1.2 | 0.6 | 2.0 | 0.6 | 0.6 | 3.0 | 3.6 | 6.0 | 2.4 | 0.9 | 15.9 |
| | wb | 6:18am-12:35 am | 11 | 30 | 15 | 30 | 30 | 20 | 14 | 20 | 5 | 20 | 10 | 20 | 15 | 20 | 15 | 3.1 | 0.8 | 2.0 | 1.2 | 1.2 | 7.7 | 5.0 | 6.0 | 4.7 | 1.8 | 25.1 |
| Barrington&Duke-Bridge Termina | eb | 6:58am-12:28am | 15 | 30 | 9 | 30 | 30 | 12 | | 12 | | 12 | | 10 | | 10 | | 0.8 | 0.4 | 1.3 | 0.3 | 0.3 | 2.0 | 2.4 | 4.0 | 1.3 | 0.5 | 10.2 |
| | wb | 6:08am-12:25am | 11 | 30 | 15 | 30 | 30 | 10 | | 10 | | 10 | | 10 | | 10 | | 0.9 | 0.3 | 0.7 | 0.3 | 0.3 | 2.7 | 2.0 | 2.0 | 1.3 | 0.5 | 8.6 |
| Bridge Terminal-Mic Mac Termina | eb | 5:53am-12:38am | 15 | 30 | 9 | 30 | 30 | 10 | | 10 | | 10 | | 7 | | 7 | | 0.7 | 0.3 | 1.1 | 0.2 | 0.2 | 2.0 | 2.0 | 3.3 | 0.9 | 0.4 | 8.6 |
| | wb | 5:58am-12:14am | 11 | 30 | 15 | 30 | 30 | 11 | | 11 | | 11 | | 11 | | 11 | | 1.0 | 0.4 | 0.7 | 0.4 | 0.4 | 3.0 | 2.2 | 2.2 | 1.5 | 0.6 | 9.4 |
| Mic Mac Terminal-Inverary&Strath | eb | 5:59am-12:45am | 15 | 30 | 15 | 30 | 30 | 17 | 2 | 17 | 1 | 17 | | 14 | 1 | 14 | 1 | 1.3 | 0.6 | 1.1 | 0.5 | 0.5 | 3.8 | 3.6 | 3.4 | 2.0 | 0.8 | 13.6 |
| | wb | 5:44am-12:00am | 15 | 30 | 15 | 30 | 30 | 16 | | 16 | | 16 | | 14 | | 14 | | 1.1 | 0.5 | 1.1 | 0.5 | 0.5 | 3.2 | 3.2 | 3.2 | 1.9 | 0.7 | 12.2 |
| | Total | | | | | | | 114 | 16 | 114 | 6 | 114 | 10 | 104 | 16 | 104 | 16 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 27.5 | 24.0 | 30.1 | 16.0 | 6.0 | 103.6 |
| **14B. AUBURN/DARTMOUTH SECTION** | | (Interlined with 14A in Halifax) | | | | | | | | | | | | | | | | *5.0* | | *4.0* | | | | | | | | *72.1* |
| Barrington&Duke - Bridge Terminal | eb | 6:44am-12:25am | 15 | 15 | 15 | 30 | 60 | 10 | | 23 | | 10 | | 23 | | 23 | | 0.7 | 1.5 | 0.7 | 0.8 | 0.4 | 2.0 | 9.2 | 2.0 | 3.1 | 0.8 | 17.0 |
| | wb | 5:44am-1:11am | 15 | 15 | 15 | 30 | 60 | 10 | | 17 | | 10 | | 17 | | 17 | | 0.7 | 1.1 | 0.7 | 0.6 | 0.3 | 2.0 | 6.8 | 2.0 | 2.3 | 0.6 | 13.6 |
| Bridge Terminal - Portland Hills Terminal | eb | 5:21am-12:49am | 15 | 15 | 15 | 30 | 60 | 27 | 18 | 6 | 10 | 27 | 18 | 6 | 25 | 6 | 25 | 3.0 | 1.1 | 3.0 | 1.0 | 0.5 | 9.0 | 6.4 | 9.0 | 4.1 | 1.0 | 29.6 |
| | wb | 5:25am-12:54am | 15 | 15 | 15 | 30 | 60 | 25 | | 19 | | 25 | | 19 | | 19 | | 1.7 | 1.3 | 1.7 | 0.6 | 0.3 | 5.0 | 7.6 | 5.0 | 2.5 | 0.6 | 20.8 |
| Portland Hills Terminal-Auburn & Serocco | eb | 5:21am-12:49am | 15 | 30 | 15 | 30 | 60 | 10 | 2 | 10 | 2 | 10 | 2 | 10 | 2 | 10 | 2 | 0.8 | 0.4 | 0.8 | 0.4 | 0.2 | 2.4 | 2.4 | 2.4 | 1.6 | 0.4 | 9.2 |
| | wb | 5:25am-12:54am | 15 | 30 | 15 | 30 | 60 | 18 | | 18 | | 18 | | 18 | | 18 | | 1.2 | 0.6 | 1.2 | 0.6 | 0.3 | 3.6 | 3.6 | 3.6 | 2.4 | 0.6 | 13.8 |
| | Total | | | | | | | 100 | 20 | 93 | 12 | 100 | 20 | 93 | 27 | 93 | 27 | 8.0 | 6.0 | 8.0 | 4.0 | 2.0 | 24.0 | 36.0 | 24.0 | 16.0 | 4.0 | 104.0 |
| **51. SHANNON** | | | | | | | | | | | | | | | | | | *3.0* | | *3.0* | | | | | | | | *31.1* |
| Dockyard/BridgeTerminal | nb | 3:10pm - 4:10pm | | | 15 | | | | | | | 13 | 2 | | | | | | | 1.0 | | | | | 0.7 | | | *0.7* |
| | sb | 6:07am - 7 :18am | 15 | | | | | 7 | 8 | | | | | | | | | 1.0 | | | | | 0.5 | | | | | *0.5* |
| Bridge Terminal/Windmill&Princess Margare | nb | 6:10am - 12:25am | 15 | 30 | 15 | 30 | 30 | 7 | | 7 | | 7 | | 7 | | 7 | | 0.5 | 0.2 | 0.5 | 0.2 | 0.2 | 1.4 | 1.4 | 1.4 | 0.9 | 0.5 | 5.6 |
| | sb | 6:19am - 12:40am | 15 | 30 | 15 | 30 | 30 | 8 | | 8 | | 8 | | 8 | | 8 | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 1.6 | 1.6 | 1.6 | 1.1 | 0.5 | 6.4 |
| Windmill& P.M.-P.M.&Killkee Gate and BIO | nb | 6:17am -11:32am | 15 | 30 | 15 | 30 | 30 | 7 | | 7 | | 7 | | 7 | | 7 | | 0.5 | 0.2 | 0.5 | 0.2 | 0.2 | 1.4 | 1.4 | 1.4 | 0.9 | 0.5 | 5.6 |
| | sb | 6:22am -11:37am | 15 | 30 | 15 | 30 | 30 | 3 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 1.6 | 1.6 | 1.6 | 1.1 | 0.5 | 6.4 |
| | Total | | | | | | | 32 | 13 | 25 | 5 | 38 | 7 | 25 | 5 | 25 | 5 | 3.0 | 1.0 | 3.0 | 1.0 | 1.0 | 6.5 | 6.0 | 6.7 | 4.0 | 2.0 | 25.2 |
| **52 CROSSTOWN** | | | | | | | | | | | | | | | | | | *9.0* | | *9.0* | | | | | | | | 110.4 |
| Chain Lake-Lacewood Terminal | nb | 6:08am-12:10am | 15 | 30 | 15 | 30 | 60 | 15 | | 15 | | 15 | | 15 | | 15 | | 1.0 | 0.5 | 1.0 | 0.5 | 0.3 | 3.0 | 3.0 | 3.0 | 2.0 | 0.5 | 11.5 |
| | sb | 5:58am-11:55pm | 15 | 30 | 15 | 30 | 60 | 10 | 5 | 10 | | 10 | 6 | 10 | 3 | 10 | 5 | 1.0 | 0.3 | 1.1 | 0.4 | 0.3 | 3.0 | 2.0 | 3.2 | 1.7 | 0.5 | 10.4 |
| Lacewood Terminal-Mumford Terminal | nb | 5:53am-12:25am | 15 | 30 | 15 | 30 | 60 | 16 | | 15 | | 15 | | 15 | | 15 | | 1.1 | 0.5 | 1.0 | 0.5 | 0.3 | 3.2 | 3.0 | 3.0 | 2.0 | 0.5 | 11.7 |
| | sb | 6:32am-11:40pm | 15 | 30 | 15 | 30 | 60 | 17 | | 15 | | 17 | | 15 | | 15 | | 1.1 | 0.5 | 1.1 | 0.5 | 0.3 | 3.4 | 3.0 | 3.4 | 2.0 | 0.5 | 12.3 |
| Mumford Terminal-Bridge Terminal | nb | 6:09am-12:40am | 15 | 30 | 15 | 30 | 60 | 16 | | 15 | | 15 | | 15 | | 15 | | 1.1 | 0.5 | 1.0 | 0.5 | 0.3 | 3.2 | 3.0 | 3.0 | 2.0 | 0.5 | 11.7 |
| | sb | 6:12am-11:25pm | 15 | 30 | 15 | 30 | 60 | 19 | | 15 | | 20 | | 15 | | 15 | | 1.3 | 0.5 | 1.3 | 0.5 | 0.3 | 3.8 | 3.0 | 4.0 | 2.0 | 0.5 | 13.3 |
| Bridge Terminal-Highfield Termina | nb | 6:25am-12:55am | 15 | 30 | 15 | 30 | 60 | 11 | | 10 | | 11 | | 10 | | 10 | | 0.7 | 0.3 | 0.7 | 0.3 | 0.2 | 2.2 | 2.0 | 2.2 | 1.3 | 0.3 | 8.1 |
| | sb | 6:01am-11:15pm | 15 | 30 | 15 | 30 | 60 | 11 | | 10 | | 11 | | 10 | | 10 | 10 | 0.7 | 0.3 | 0.7 | 0.3 | 0.3 | 2.2 | 2.0 | 2.2 | 1.3 | 0.7 | 8.4 |
| Highfield Term.-Burnside Terminal | nb | 6:36am-10:05pm | 15 | 30 | 15 | 30 | | 15 | 3 | 15 | 3 | 15 | 3 | 15 | | | | 1.2 | 0.6 | 1.2 | 0.5 | | 3.6 | 3.6 | 3.6 | 2.0 | | 12.8 |
| | sb | 6:46am - 9:36pm | 15 | 30 | 15 | 30 | | 12 | | 12 | | 12 | | 12 | | | | 0.8 | 0.4 | 0.8 | 0.4 | | 2.4 | 2.4 | 2.4 | 1.6 | | 8.8 |
| Burnside Terminal-Commodore & Countryvie | nb | 7:05am - 9:35pm | 15 | 30 | 15 | 30 | | 7 | 2 | 7 | 2 | 7 | 2 | 7 | 2 | | | 0.6 | 0.3 | 0.6 | 0.3 | | 1.8 | 1.8 | 1.8 | 1.2 | | 6.6 |
| | sb | 7:24am - 9:54pm | 15 | 30 | 15 | 30 | | 6 | | 6 | | 6 | | 6 | | | | 0.4 | 0.2 | 0.4 | 0.2 | | 1.2 | 1.2 | 1.2 | 0.8 | | 4.4 |
| | Total | | | | | | | 155 | 10 | 145 | 5 | 154 | 11 | 145 | 5 | 105 | 15 | 11.0 | 5.0 | 11.0 | 5.0 | 2.0 | 33.0 | 30.0 | 33.0 | 20.0 | 4.0 | 120.0 |
| 53 NOTTING PARK | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | 25.5 |
| Summer Street-Bridge Terminal | nb | 4:13pm-5:33pm | - | - | 15 | - | - | - | - | - | - | 20 | | - | - | - | - | | | 1.3 | | | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | 2.7 |
| | sb | 6:54am-8:39am | 15 | - | - | - | - | 20 | | - | - | - | - | - | - | - | - | 1.3 | | | | | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 |
| Bridge Terminal-Highfield Termina | nb | 6:10am-11:55pm | 15 | 15 | 15 | 15 | 30 | 7 | 1 | 7 | 6 | 7 | 1 | 7 | 10 | 7 | 10 | 0.5 | 0.9 | 0.5 | 1.1 | 0.6 | 1.6 | 5.2 | 1.6 | 4.5 | 1.1 | 14.1 |
| | sb | 5:52am-12:02am | 15 | 15 | 15 | 15 | 30 | 17 | 0 | 17 | | 17 | 0 | 13 | | 13 | | 1.1 | 1.1 | 1.1 | 0.9 | 0.4 | 3.4 | 6.8 | 3.4 | 3.5 | 0.9 | 17.9 |
| | Total | | | | | | | 44 | 1 | 24 | 6 | 44 | 1 | 20 | 10 | 20 | 10 | 3.0 | 2.0 | 3.0 | 2.0 | 1.0 | 9.0 | 12.0 | 9.0 | 8.0 | 2.0 | 40.0 |
| **59. COLBY** | | | | | | | | | | | | | | | | | | *4.0* | | *5.0* | | | | | | | | *44.5* |
| Bridge Terminal - Portland Hills Terminal | eb | 6:44am-11:37pm | 15 | 15 | 15 | 30 | 30 | 23 | 2 | 22 | 6 | 24 | 4 | 24 | 19 | 24 | 19 | 1.7 | 1.9 | 1.9 | 1.4 | 1.4 | 5.0 | 11.2 | 5.6 | 5.7 | 2.9 | 30.4 |
| | wb | 5:44am-1:11am | 15 | 15 | 15 | 30 | 30 | 20 | | 17 | | 17 | | 17 | | 17 | | 1.3 | 1.1 | 1.1 | 0.6 | 0.6 | 4.0 | 6.8 | 3.4 | 2.3 | 1.1 | 17.6 |
| Portland Hills Terminal-Ashgrove&Cole Harb | eb | 5:21am-12:49am | 15 | 30 | 15 | 30 | 30 | 4 | 7 | 4 | 9 | 4 | 9 | 4 | 9 | 4 | 9 | 0.7 | 0.4 | 0.9 | 0.4 | 0.4 | 2.2 | 2.6 | 2.6 | 1.7 | 0.9 | 10.0 |
| | wb | 5:25am-12:54am | 15 | 30 | 15 | 30 | 30 | 19 | | 17 | | 17 | | 17 | | 17 | | 1.3 | 0.6 | 1.1 | 0.6 | 0.6 | 3.8 | 3.4 | 3.4 | 2.3 | 1.1 | 14.0 |
| | Total | | | | | | | 66 | 9 | 60 | 15 | 62 | 13 | 62 | 28 | 62 | 28 | 5.0 | 4.0 | 5.0 | 3.0 | 3.0 | 15.0 | 24.0 | 15.0 | 12.0 | 6.0 | 72.0 |
| 60. EASTERN PASSAGE | | | | | | | | | | | | | | | | | | *4.0* | | *4.0* | | | | | | | | *53.0* |
| BridgeTerm-Hospital(/WoodsideFerryTerm P | sb | 5:42am - 12:25am | 15 | 15 | 10 | 30 | 60 | 16 | | 8 | | 16 | | 8 | | 8 | | 1.1 | 0.5 | 1.6 | 0.3 | 0.1 | 3.2 | 3.2 | 4.8 | 1.1 | 0.3 | 12.5 |
| | nb | 5:53am - 1:05am | 15 | 15 | 10 | 30 | 60 | 14 | | 14 | 6 | 14 | | 14 | 8 | 14 | 7 | 0.9 | 1.3 | 1.4 | 0.7 | 0.4 | 2.8 | 8.0 | 4.2 | 2.9 | 0.7 | 18.6 |
| HospitalWoodsideFerryTerm.- Pleasant&Co | sb | 5:55am - 12:38am | 15 | 15 | 10 | 30 | 60 | 11 | | 10 | | 11 | | 10 | | 10 | | 0.7 | 0.7 | 1.1 | 0.3 | 0.2 | 2.2 | 4.0 | 3.3 | 1.3 | 0.3 | 11.2 |
| | nb | 5:48am - 12:54am | 15 | 15 | 10 | 30 | 60 | 12 | 11 | 11 | | 12 | | 9 | | 9 | | 1.5 | 0.7 | 1.2 | 0.3 | 0.2 | 4.6 | 4.4 | 3.6 | 1.2 | 0.3 | 14.1 |
| **60A: Pleasant&CowBay/Caldwell&Short** | sb | 5:36am - 12:48am | 30 | 30 | 30 | 30 | 60 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.6 | 1.2 | 0.6 | 0.8 | 0.2 | 3.4 |
| | nb | 5:42am - 12:53am | 30 | 30 | 30 | 30 | 60 | 6 | | 6 | | 6 | | 6 | | 6 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.6 | 1.2 | 0.6 | 0.8 | 0.2 | 3.4 |
| **60B: Pleasant&CowBay/HeritageHills** | sb | 5:48am - 6:44pm | 30 | 30 | 30 | | | 4 | | 4 | | 4 | | | | | | 0.1 | 0.1 | 0.1 | | | 0.4 | 0.8 | 0.4 | | | 1.6 |
| | nb | 5:57am - 6:53pm | 30 | 30 | 30 | | | 4 | 2 | 4 | 2 | 4 | 2 | | | | | 0.2 | 0.2 | 0.2 | | | 0.6 | 1.2 | 0.6 | | | 2.4 |
| | Total | | | | | | | 73 | 13 | 63 | 8 | 73 | 2 | 53 | 8 | 53 | 7 | 5.0 | 4.0 | 6.0 | 2.0 | 1.0 | 15.0 | 24.0 | 18.1 | 8.1 | 2.0 | 67.2 |
| 159 PORTLAND HILLS METROLINK | | | | | | | | | | | | | | | | | | *5.0* | | *5.0* | | | | | | | | *47.2* |
| Portland Hills Terminal - Duke&Barrington | nb | 6:13am-9:43pm | 10 | 30 | 10 | 30 | | 24 | 6 | 20 | 4 | 20 | 6 | 20 | 4 | | | 3.0 | 0.8 | 2.6 | 0.8 | | 9.0 | 4.8 | 7.8 | 3.2 | | 24.8 |
| | sb | 6:30am-10:00pm | 10 | 30 | 10 | 30 | | 20 | | 20 | | 24 | | 20 | | | | 2.0 | 0.7 | 2.4 | 0.7 | | 6.0 | 4.0 | 7.2 | 2.7 | | 19.9 |
| | Total | | | | | | | 44 | 6 | 40 | 4 | 44 | 6 | 40 | 4 | | | 5.0 | 1.5 | 5.0 | 1.5 | | 15.0 | 8.8 | 15.0 | 5.9 | | 44.7 |
| **165 WOODSIDE METROLINK** | | | | | | | | | | | | | | | | | | *1.0* | | *1.0* | | | | | | | | *6.5* |
| Portland Hills& Penhorn Terminals-Woodside | nb | 6:22am-6:07pm | 30 | 30 | 30 | 30 | | 14 | 3 | 14 | 3 | 14 | 3 | 14 | 3 | | | 0.6 | 0.6 | 0.6 | 0.6 | | 2.3 | 3.4 | 1.7 | 2.3 | | 9.6 |
| | sb | 6:39am-6:22pm | 30 | 30 | 30 | 30 | | 10 | 3 | 10 | 3 | 10 | 3 | 10 | 3 | | | 0.4 | 0.4 | 0.4 | 0.4 | | 1.7 | 2.6 | 1.3 | 1.7 | | 7.4 |
| | Total | | | | | | | 24 | 6 | 24 | 6 | 24 | 6 | 24 | 6 | | | 1.0 | 1.0 | 1.0 | 1.0 | | 4.0 | 6.0 | 3.0 | 4.0 | | 17.0 |
| **XXX New and restructured routes** | | | | increased frequencies | | | | | | | | | | | | | Proposed | 53.0 | | 54.1 | | | | | | | | 621.7 |
| | | | | | | | | | | | | | | | | | 2008 | 49.0 | | 49.0 | | | | | | | | 568.5 |

**EXHIBIT D-5: 2010-2014 SERVICE PLAN FOR METRO TRANSIT'S DARTMOUTH ROUTES (Fall Weekday )**

| ROUTE | | SPAN OF SERVICE | HEADWAY (minutes) | | | | | RUNNING TIME (minutes) | | | | | | | | | | VEHICLES | | | | | VEHICLE SERVICE HOURS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM | MID | PM | | LT | AM PEAK | | MID-DAY | | PM PEAK | | EVE | | LATE EVE | | AM | MID | PM | | LT | AM | MID | PM | | LT | |
| | | | PEAK | DAY | PEAK | EVE | EVE | Dr. Time | Rec Time | Dr. Time | Rec Time | Dr. Time | Rec Time | Dr. Time | Rec Time | Dr. Time | Rec Time | PEAK | DAY | PEAK | EVE | EVE | PEAK | DAY | PEAK | EVE | EVE | TOTAL |
| **LOCAL ROUTES** | Dir. | | | | | | | | | | | | | | | | | | | | | | 3.0 | 6.0 | 4.0 | 3.0 | 2.0 | 18.0 |
| 41. DARTMOUTH - DALHOUSIE | | | | | | | | | | | | | | | | | | *3.0* | | *3.0* | | | | | | | | *31.9* |
| Bridge Terminal - South & LaMarchant | sb | 6:50am-5:55pm | 15 | 30 | 15 | | | 23 | 7 | 23 | 7 | 23 | 7 | | | | | 2.0 | 1.0 | 2.0 | | | 4.0 | 6.0 | 6.0 | | | 16.0 |
| | nb | 7:15am-7:09pm | 15 | 30 | 15 | | | 23 | 7 | 23 | 7 | 23 | 7 | | | | | 2.0 | 1.0 | 2.0 | | | 4.0 | 6.0 | 6.0 | | | 16.0 |
| | Total | | | | | | | 46 | 14 | 46 | 14 | 46 | 14 | 0 | 0 | | | 4.0 | 2.0 | 4.0 | | | 12.0 | 12.0 | 12.0 | | | 32.0 |
| 54 MONTEBELLO | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | *21.7* |
| Alderney Ferry Term.-Mic Mac Terminal | nb | 6:30am-9:00pm | 30 | 30 | 15 | 60 | - | 10 | | 10 | | 10 | | 10 | | - | | 0.3 | 0.3 | 0.7 | 0.2 | - | 1.0 | 2.0 | 2.0 | 0.7 | | 5.7 |
| | sb | 6:43am-9:45pm | 30 | 30 | 15 | 60 | - | 10 | 7 | 10 | 6 | 10 | 9 | 10 | 5 | - | - | 0.6 | 0.5 | 1.3 | 0.3 | - | 1.7 | 3.2 | 3.8 | 1.0 | | 9.7 |
| Mic Mac Terminal-Appian&Caledonia | nb | 6:10am-9:10pm | 30 | 30 | 30 | 60 | - | 14 | 1 | 15 | 2 | 15 | | 15 | 2 | - | - | 0.5 | 0.6 | 0.5 | 0.3 | - | 1.5 | 3.4 | 1.5 | 1.1 | | 7.5 |
| | sb | 6:25am-9:27pm | 30 | 30 | 30 | 60 | - | 18 | | 18 | | 18 | | 18 | | - | | 0.6 | 0.6 | 0.6 | 0.3 | - | 1.8 | 3.6 | 1.8 | 1.2 | | 8.4 |
| | Total | | | | | | | 52 | 8 | 53 | 7 | 53 | 7 | 53 | 7 | - | - | 2.0 | 2.0 | 3.0 | 1.0 | - | 6.0 | 12.2 | 9.1 | 4.0 | | 31.3 |
| 55 PORT WALLACE | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | *21.6* |
| Bridge Terminal-Mic Mac Termina | nb | 6:10am-9:25pm | 30 | 60 | 30 | 60 | | 10 | | 10 | | 10 | | 10 | | | | 0.3 | 0.2 | 0.3 | 0.2 | | 0.7 | 1.0 | 1.0 | 0.7 | | 3.4 |
| | sb | 6:00am-9:08pm | 30 | 60 | 30 | 60 | | 10 | 7 | 10 | 7 | 10 | 7 | 10 | 7 | | | 0.6 | 0.3 | 0.6 | 0.3 | | 1.6 | 1.7 | 1.5 | 1.0 | | 5.8 |
| Mic Mac Term.l-Portobello Turning Loop | nb | 5:27am-9:35pm | 30 | 60 | 30 | 60 | | 12 | 1 | 12 | 1 | 12 | 1 | 12 | 1 | | | 0.4 | 0.2 | 0.4 | 0.2 | | 1.3 | 1.3 | 1.3 | 0.7 | | 4.6 |
| | sb | 5:40am-9:48pm | 30 | 60 | 30 | 60 | | 20 | | 20 | | 20 | | 20 | | | | 0.7 | 0.3 | 0.7 | 0.3 | | 2.0 | 2.0 | 2.0 | 1.0 | | 7.0 |
| | Total | | | | | | | 52 | 8 | 52 | 8 | 52 | 8 | 52 | 8 | | | 2.0 | 1.0 | 2.0 | 1.0 | | 5.5 | 6.0 | 5.8 | 3.3 | | 20.8 |
| **56 BURNSIDE/DARTMOUTH CROSSING** | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | *33.0* |
| Burnside Terminal - Mic Mac Termina | sb | 6:45am-9:45am | 30 | 30 | 30 | 30 | | 15 | 5 | 15 | 5 | 15 | 5 | 15 | 5 | | | 0.7 | 0.7 | 0.7 | 0.7 | | 1.7 | 4.0 | 2.0 | 2.7 | | 10.3 |
| | nb | 6:32am-9:32pm | 30 | 30 | 30 | 30 | | 15 | | 15 | | 15 | | 15 | | | | 0.5 | 0.5 | 0.5 | 0.5 | | 1.3 | 3.0 | 1.5 | 2.0 | | 7.8 |
| Mic Mac Terminal-Penhorn Termina | sb | 6:51am-9:51am | 30 | 30 | 30 | 30 | | 6 | | 6 | | 6 | | 6 | | | | 0.2 | 0.2 | 0.2 | 0.2 | | 0.5 | 1.2 | 0.6 | 0.8 | | 3.1 |
| | nb | 6:24am-9:24am | 30 | 30 | 30 | 30 | | 8 | | 8 | | 8 | | 8 | | | | 0.3 | 0.3 | 0.3 | 0.3 | | 0.7 | 1.6 | 0.8 | 1.1 | | 4.1 |
| Penhorn Terminal -Gaston Turning Loop | sb | | 30 | 30 | 30 | 30 | | 4 | | 4 | | 4 | | 4 | | | | 0.1 | 0.1 | 0.1 | 0.1 | | 0.3 | 0.8 | 0.4 | 0.5 | | 2.1 |
| | nb | | 30 | 30 | 30 | 30 | | 7 | | 7 | | 7 | | 7 | | | | 0.2 | 0.2 | 0.2 | 0.2 | | 0.6 | 1.4 | 0.7 | 0.9 | | 3.6 |
| | Total | | | | | | | 55 | 5 | 55 | 5 | 55 | 5 | 55 | 5 | | | 2.0 | 2.0 | 2.0 | 2.0 | | 5.0 | 12.0 | 6.0 | 8.0 | | 31.0 |
| **58. WOODLAWN** | | | | | | | | | | | | | | | | | | *5.0* | | *5.0* | | | | | | | | *36.0* |
| Dorothea&Lucien-Penhorn Termina | wb | 5:55am-12:25am | 30 | 30 | 30 | 30 | 30 | 15 | | 15 | | 15 | | 15 | | 15 | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.5 | 3.0 | 1.5 | 2.0 | 1.0 | 9.0 |
| | eb | 5:40am-12:10pam | 30 | 30 | 30 | 30 | 30 | 12 | 3 | 12 | 3 | 12 | 3 | 12 | 3 | 12 | 3 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.5 | 3.0 | 1.5 | 2.0 | 1.0 | 9.0 |
| | Total | | | | | | | 27 | 3 | 27 | 3 | 27 | 3 | 27 | 3 | 27 | 3 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 3.0 | 6.0 | 3.0 | 4.0 | 2.0 | 18.0 |
| **62. WILDWOOD** | | | | | | | | | | | | | | | | | | *3.0* | | 3.0 | | | | | | | | *38.7* |
| Bridge Terminal-Penhorn Termina | eb | 6:29am-10:27pm | 30 | 30 | 30 | 30 | | 10 | | 10 | | 10 | | 10 | | | | 0.3 | 0.3 | 0.3 | 0.3 | | 0.7 | 2.0 | 1.0 | 1.3 | | 5.0 |
| | wb | 6:27am-11:23pm | 30 | 30 | 30 | 30 | | 10 | 5 | 10 | 5 | 10 | 5 | 10 | 5 | | | 0.5 | 0.5 | 0.5 | 0.5 | | 1.5 | 3.0 | 1.5 | 2.0 | | 8.0 |
| Penhorn Terminal - Cole Harbour Place | eb | 6:49am-10:47pm | 30 | 30 | 30 | 30 | | 17 | | 17 | | 17 | | 17 | | | | 0.6 | 0.6 | 0.6 | 0.6 | | 1.7 | 3.4 | 1.7 | 2.3 | | 9.1 |
| | wb | 6:09am-11:05pm | 30 | 30 | 30 | 30 | | 18 | | 18 | | 18 | | 18 | | | | 0.6 | 0.6 | 0.6 | 0.6 | | 1.8 | 3.6 | 1.8 | 2.4 | | 9.6 |
| | Total | | | | | | | 55 | 5 | 55 | 5 | 55 | 5 | 55 | 5 | | | 2.0 | 2.0 | 2.0 | 2.0 | | 5.7 | 12.0 | 6.0 | 8.0 | | 31.7 |
| **57. RUSSELL LAKE (NEW)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Portland Hills Term. - PenhornTerminal via P | wb | 9:54am-9:24pm | 30 | 30 | 30 | 30 | | 15 | | 15 | | 15 | | 15 | | | | 0.5 | 0.5 | 0.5 | 0.5 | | 1.5 | 3.0 | 1.5 | 2.0 | | 8.0 |
| | eb | 9:42am-9:12pm | 30 | 30 | 30 | 30 | | 15 | - | 15 | | 15 | | 15 | | | | 0.5 | 0.5 | 0.5 | 0.5 | | 1.5 | 3.0 | 1.5 | 2.0 | | 8.0 |
| Penhorn Mall Terminal -Woodside Ferry Terr | wb | 9:54am-9:24pm | 30 | 30 | 30 | 30 | | 13 | 4 | 13 | 4 | 13 | 4 | 13 | 4 | | | 0.6 | 0.6 | 0.6 | 0.6 | | 1.7 | 3.4 | 1.7 | 2.3 | | 9.1 |
| | eb | 9:42am-9:12pm | 30 | 30 | 30 | 30 | | 13 | - | 13 | | 13 | | 13 | | | | 0.4 | 0.4 | 0.4 | 0.4 | | 1.3 | 2.6 | 1.3 | 1.7 | | 6.9 |
| | Total | | | | | | | 56 | 4 | 56 | 4 | 56 | 4 | 56 | 4 | | | 2.0 | 2.0 | 2.0 | 2.0 | | 6.0 | 12.0 | 6.0 | 8.0 | | 32.0 |
| 63. WOODSIDE | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | *20.4* |
| Woodside Ferry Terminal - Bridge Termina | wb | 6:46am-9:45pm | 30 | 30 | 30 | | | 14 | | 14 | | 14 | | | | | | 0.5 | 0.5 | 0.5 | | | 1.4 | 2.8 | 1.4 | | | 5.6 |
| | eb | 6:25am-9:25pm | 30 | 30 | 30 | | | 16 | | 16 | | 16 | | | | | | 0.5 | 0.5 | 0.5 | | | 1.6 | 3.2 | 1.6 | | | 6.4 |
| | Total | | | | | | | 30 | | 30 | | 30 | | | | | | 1.0 | 1.0 | 1.0 | | | 3.0 | 6.0 | 3.0 | | | 12.0 |
| **64. AKERLEY** | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | *8.0* |
| Bridge Terminal - Highfield Termina | nb | | 30 | | 30 | | | 5 | | | | 5 | | | | | | 0.2 | | 0.2 | | | 0.3 | | 0.3 | | | 0.7 |
| | sb | | 30 | | 30 | | | 7 | 12 | | | 7 | 12 | | | | | 0.6 | | 0.6 | | | 1.3 | | 1.3 | | | 2.5 |
| Highfield Terminal - Burnside Termnal via Ak | nb | | 30 | | 30 | | | 18 | | | | 18 | | | | | | 0.6 | | 0.6 | | | 1.2 | | 1.2 | | | 2.4 |
| | sb | | 30 | | 30 | | | 18 | | | | 18 | | | | | | 0.6 | | 0.6 | | | 1.2 | | 1.2 | | | 2.4 |
| | Total | | | | | | | 48 | 12 | | | 48 | 12 | | | | | 2.0 | | 2.0 | | | 4.0 | | 4.0 | | | 8.0 |
| **65. ASTRAL** | | interlined with 68 at Portland Hills Termina | | | | | | | | | | | | | | | | *3.0* | | *3.0* | | | | | | | | *23.5* |
| Atholea&Caldwell - Portland Hills Term. | wb | | 30 | 30 | 30 | 60 | | 15 | 2 | 15 | 2 | 15 | 2 | 15 | 2 | | | 0.6 | 0.6 | 0.6 | 0.3 | | 1.7 | 3.4 | 1.7 | 1.1 | | 7.9 |
| | eb | | 30 | 30 | 30 | 60 | | 13 | | 13 | | 13 | | 13 | | | | 0.4 | 0.4 | 0.4 | 0.2 | | 1.3 | 2.6 | 1.3 | 0.9 | | 6.1 |
| | Total | | | | | | | 28 | 2 | 28 | 2 | 28 | 2 | 28 | 2 | | | 1.0 | 1.0 | 1.0 | 0.5 | | 3.0 | 6.0 | 3.0 | 2.0 | | 14.0 |
| **66. BEDFORD?BURNSIDE** | | interlined with 16 at Highland Termina | | | | | | | | | | | | | | | | *4.0* | | *4.0* | | | | | | | | *39.0* |
| Cobequid Terminal-Burnside Terminal | sb | 6:35am-5:35pm | 30 | 30 | 30 | 30 | | 23 | | 23 | | 23 | | 23 | | | | 0.8 | 0.8 | 0.8 | 0.8 | | 1.9 | 4.6 | 1.9 | 3.1 | | 11.5 |
| | nb | 7:21am-6:48pm | 30 | 30 | 30 | 30 | | 23 | | 23 | | 23 | | 23 | | | | 0.8 | 0.8 | 0.8 | 0.8 | | 1.9 | 4.6 | 1.9 | 3.1 | | 11.5 |
| Burnside Terminal - Highfield Terminal | sb | 6:46am-5:46pm | 30 | 30 | 30 | 30 | | 22 | 15 | 22 | 15 | 22 | 15 | 22 | 15 | | | 1.2 | 1.2 | 1.2 | 1.2 | | 3.1 | 7.4 | 3.1 | 4.9 | | 18.5 |
| | nb | 7:05am-6:32pm | 30 | 30 | 30 | 30 | | 22 | | 22 | | 22 | | 22 | | | | 0.7 | 0.7 | 0.7 | 0.7 | | 1.8 | 4.4 | 1.8 | 2.9 | | 11.0 |
| | Total | | | | | | | 90 | 15 | 90 | 15 | 90 | 15 | 90 | 15 | | | 3.5 | 3.5 | 3.5 | 3.5 | | 8.8 | 21.0 | 8.8 | 14.0 | | 52.5 |
| **68 CHERRYBROOK** | | interlined with 65 at Portland Hills Termina | | | | | | | | | | | | | | | | *3.0* | | *4.0* | | | | | | | | *47.3* |
| Portland HillsTerminal-Lake LoonMcLaughli | eb | 7:24am-10:27pm | 30 | 30 | 30 | 30 | | 16 | 1 | 16 | 1 | 16 | 1 | 16 | 1 | | | 0.6 | 0.6 | 0.6 | 0.6 | | 1.7 | 3.4 | 1.7 | 2.3 | 0.0 | 9.1 |
| | wb | 5:22am-10:55pm | 30 | 30 | 30 | 30 | | 13 | | 13 | | 13 | | 13 | | | | 0.4 | 0.4 | 0.4 | 0.4 | | 1.3 | 2.6 | 1.3 | 1.7 | 0.0 | 6.9 |
| | Total | | | | | | | 29 | | 29 | 1 | 29 | 1 | 29 | 1 | | | 1.0 | 1.0 | 1.0 | 1.0 | | 3.0 | 6.0 | 3.0 | 4.0 | 0.0 | 16.0 |
| **72 TACOMA BURNSIDE** | | | | | | | | | | | | | | | | | | *2.0* | | *2.0* | | | | | | | | *19.0* |
| Portland Hills Terminal -Mic Mac Terminal | nb | 6:03am-10:03pm | 30 | 30 | 30 | 30 | - | 16 | | 16 | | 16 | | 16 | | - | | 0.5 | 0.5 | 0.5 | 0.5 | - | 1.6 | 3.2 | 1.3 | 1.9 | - | 8.0 |
| | sb | 6:42am-10:12pm | 30 | 30 | 30 | 30 | - | 16 | | 16 | | 16 | | 16 | | - | - | 0.5 | 0.5 | 0.5 | 0.5 | - | 1.6 | 3.2 | 1.3 | 1.9 | - | 8.0 |
| Mic Mac Terminal-Highland Terminal | nb | 6:19am-10:19pm | 30 | 30 | 30 | 30 | - | 10 | | 10 | | 10 | | 10 | | - | | 0.3 | 0.3 | 0.3 | 0.3 | - | 1.0 | 2.0 | 0.8 | 1.2 | - | 5.0 |
| | sb | 6:34am-10:04pm | 30 | 30 | 30 | 30 | - | 10 | | 10 | | 10 | | 10 | | - | - | 0.3 | 0.3 | 0.3 | 0.3 | - | 1.0 | 2.0 | 0.8 | 1.2 | - | 5.0 |
| Highland Terminal - Burnside Terminal | nb | 6:19am-10:19pm | 30 | 30 | 30 | 30 | - | 18 | 4 | 18 | 4 | 18 | 4 | 18 | 4 | - | | 0.7 | 0.7 | 0.7 | 0.7 | - | 2.2 | 4.4 | 1.8 | 2.6 | - | 11.0 |
| | sb | 6:34am-10:04pm | 30 | 30 | 30 | 30 | - | 16 | | 16 | | 16 | | 16 | | - | - | 0.5 | 0.5 | 0.5 | 0.5 | - | 1.6 | 3.2 | 1.3 | 1.9 | - | 8.0 |
| | Total | | | | | | | 86 | 4 | 86 | 4 | 86 | 4 | 86 | 4 | - | | 3.0 | 3.0 | 3.0 | 3.0 | - | 9.0 | 18.0 | 7.5 | 10.5 | - | 45.0 |
| **COMMUNITY ROUTES** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **67. GRAHAM'S CORNERS (NEW SHUTTLE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Penhorn Terminal - Alderney Ferry Termina | sb | 6:21am-10:45pm | 30 | 30 | 30 | 30 | | 13 | | 13 | | 13 | | 13 | | | | 0.4 | 0.4 | 0.4 | 0.4 | | 1.3 | 2.6 | 1.3 | 1.7 | | 6.9 |
| | nb | 6:34am-10:32pm | 30 | 30 | 30 | 30 | | 13 | 4 | 13 | 4 | 13 | 4 | 13 | 4 | | | 0.6 | 0.6 | 0.6 | 0.6 | | 1.7 | 3.4 | 1.7 | 2.3 | | 9.1 |
| | Total | | | | | | | 26 | 4 | 26 | 4 | 26 | 4 | 26 | 4 | | | 1.0 | 1.0 | 1.0 | 1.0 | | 3.0 | 6.0 | 3.0 | 4.0 | | 16.0 |
| **61. NORTH PRESTON** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Portland HillsTerm-North Preston Recreation | sb | 6:24am-12:04am | 30 | 30 | 30 | 60 | | 24 | 3 | 24 | 3 | 24 | 3 | 24 | 3 | | | 0.9 | 0.9 | 0.9 | 0.5 | | 2.7 | 5.4 | 2.7 | 1.8 | | 12.6 |
| | nb | 5:25am-12:14am | 30 | 30 | 30 | 60 | | 33 | | 33 | | 33 | | 33 | | | | 1.1 | 1.1 | 1.1 | 0.6 | | 3.3 | 6.6 | 3.3 | 2.2 | | 15.4 |
| | Total | | | | | | | 57 | 3 | 57 | 3 | 57 | 3 | 57 | 3 | | | 2.0 | 2.0 | 2.0 | 1.0 | | 6.0 | 12.0 | 6.0 | 4.0 | | 28.0 |
| **XXX New and restructured routes** | | | | increased frequencies | | | | | | | | | | | | | Proposed | 29.5 | | 30.5 | | | | | | | | 388.3 |
| | | | | | | | | | | | | | | | | | 2008 | 33.0 | | 34.0 | | | | | | | | 340.1 |
| | | | | | | | | | | | | | | | | | Total All Routes Proposed | 222 | | 226 | | | | | | | | 2,605 |
| | | | | | | | | | | | | | | | | | Total All Routes 2008 | 192 | | 193 | | | | | | | | 2,131 |

**EXHIBIT E1**

**OPERATING CHARACTERISTICS OF WEEKEND SERVICE PLAN FOR METRO TRANSIT'S HALIFAX ROUTES**

| ROUTE | Dir. | SATURDAY SPAN OF SERVICE | HEADWAY DAY | HEADWAY EVE | RUNNING TIME DAY Dr. Time | RUNNING TIME DAY Rec Time | RUNNING TIME EVE Dr. Time | RUNNING TIME EVE Rec Time | VEHICLES DAY | VEHICLES EVE | VEH.SERVICE HRS. DAY | VEH.SERVICE HRS. EVE | VEH.SERVICE HRS. TOTAL | SUNDAY AND HOLIDAYS SPAN OF SERVICE | HEADWAY DAY | HEADWAY EVE | RUNNING TIME DAY Dr. Time | RUNNING TIME DAY Rec. Time | RUNNING TIME EVE Dr. Time | RUNNING TIME EVE Rec. Time | VEHICLES DAY | VEHICLES EVE | VEH.SERVICE HRS. DAY | VEH.SERVICE HRS. EVE | VEH.SERVICE HRS. TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1. SPRING GARDEN** | *Core* | | | | | | | | | | *17* | *1.5* | *18.5* | | | | | | | | | | *12.0* | *5.5* | *17.5* |
| Mumford Terminal-Bridge Terminal | eb | 6:05am - 12:05am | 15 | 30 | 32 | 5 | 32 | 12 | 2.5 | 1.5 | 41.9 | 2.2 | 44.1 | 6:40am - 11:40pm | 15 | 30 | 29 | 1 | 29 | 1 | 2.0 | 1.5 | 24.0 | 8.1 | 32.1 |
| | wb | 6:00am - 12:25am | 15 | 30 | 33 | 5 | 33 | 13 | 2.5 | 1.5 | 43.1 | 2.3 | 45.4 | 6:55am - 11:46pm | 15 | 30 | 29 | 1 | 29 | 1 | 2.0 | 1.5 | 24.0 | 8.4 | 32.4 |
| | Total | | | | 65 | 10 | 65 | 25 | 5.0 | 3.0 | 85.0 | 4.5 | 89.5 | | | | 58 | 2 | 58 | 2 | 4.0 | 3.0 | 48.0 | 16.5 | 64.5 |
| **2. WEDGEWOOD** | *Core* | | | | | | | | | | *12.0* | *6.5* | *18.5* | | | | | | | | | | *12.0* | *5.5* | *17.5* |
| WaterStreetTerm.-KearneyLake via Du | nb | 6:52am - 11:58pm | 30 | 60 | 45 | 5 | 37 | 4 | 1.7 | 0.7 | 15.8 | 4.4 | 20.2 | 7:00am - 11:00pm | 60 | 60 | 39 | 4 | 39 | 6 | 0.7 | 0.8 | 10.0 | 2.6 | 12.7 |
| | sb | 6:32am - 12:57pm | 30 | 60 | 35 | 5 | 45 | 4 | 1.3 | 0.8 | 15.8 | 4.9 | 20.7 | 7:40am - 11:40pm | 60 | 60 | 43 | 4 | 40 | 5 | 0.8 | 0.8 | 11.0 | 2.6 | 13.6 |
| | Total | | | | 80 | 10 | 82 | 8 | 3.0 | 1.5 | 31.5 | 9.3 | 40.8 | | | | 82 | 8 | 79 | 11 | 1.5 | 1.5 | 21.0 | 5.3 | 26.3 |
| **4. ROSEDALE** | *Core* | | | | | | | | | | *12.0* | *6.5* | *18.5* | | | | | | | | | | *12.0* | *5.5* | *17.5* |
| WaterStreetTerm.-KearneyLake via Pa | nb | 6:22am - 11:28pm | 30 | 60 | 45 | 5 | 37 | 4 | 1.7 | 0.7 | 20.0 | 4.4 | 24.4 | 7:30am - 11:30pm | 60 | 60 | 41 | 5 | 41 | 5 | 0.8 | 0.8 | 9.2 | 4.2 | 13.4 |
| | sb | 6:04am - 12:09am | 30 | 60 | 35 | 5 | 45 | 4 | 1.3 | 0.8 | 16.0 | 5.3 | 21.3 | 7:11am - 12:11am | 60 | 60 | 39 | 5 | 39 | 5 | 0.7 | 0.7 | 8.8 | 4.0 | 12.8 |
| | Total | | | | 80 | 10 | 82 | 8 | 3.0 | 1.5 | 36.0 | 9.8 | 45.8 | | | | 80 | 10 | 80 | 10 | 1.5 | 1.5 | 18.0 | 8.3 | 26.3 |
| **6. QUINPOOL** | *Local* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| WaterStreetTerminal-Mumford Termina | wb | 5:57am-10:57pm | 30 | 60 | 18 | 3 | 18 | 3 | 0.7 | 0.4 | 8.4 | 2.1 | 10.5 | no service | | | | | | | | | | | |
| | eb | 6:35am-11:35pm | 30 | 60 | 19 | 2 | 19 | 2 | 0.7 | 0.4 | 8.4 | 2.1 | 10.5 | | | | | | | | | | | | |
| MumfordTerm-Fairmount/Glenmor&Stc | wb | 6:15am-11:15am | 30 | 60 | 8 | | 8 | | 0.3 | 0.1 | 3.2 | 0.8 | 4.0 | 6:50am-10:50pm | 60 | 60 | 9 | 1 | 9 | | 0.2 | 0.2 | 2.2 | 0.6 | 2.8 |
| | eb | 6:25am-11:25pm | 30 | 60 | 10 | | 10 | | 0.3 | 0.2 | 4.0 | 1.0 | 5.0 | 7:00am-11:00pm | 60 | 60 | 10 | | 10 | 1 | 0.2 | 0.2 | 2.2 | 0.7 | 2.9 |
| | Total | | | | 55 | 5 | 55 | 5 | 2.0 | 1.0 | 24.0 | 6.0 | 30.0 | | | | 19 | 1 | 19 | 1 | 0.3 | 0.3 | 4.3 | 1.3 | 5.7 |
| **7. ROBIE** | *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| North Ridge-Robie&Quinpool-North Ri | ccw | 6:15am - 11:45pm | 30 | 30 | 36 | 7 | 36 | 7 | 1.4 | 1.4 | 17.2 | 8.6 | 25.8 | 6:20am - 11:35pm | 30 | 30 | 35 | 8 | 35 | 8 | 1.4 | 1.4 | 17.2 | 7.2 | 24.4 |
| | cw | 6:33am - 12:03am | 30 | 30 | 40 | 7 | 40 | 7 | 1.6 | 1.6 | 18.8 | 9.4 | 28.2 | 6:38am - 11:53pm | 30 | 30 | 39 | 8 | 39 | 8 | 1.6 | 1.6 | 18.8 | 7.8 | 26.6 |
| | Total | | | | 76 | 14 | 76 | 14 | 3.0 | 3.0 | 36.0 | 18.0 | 54.0 | | | | 74 | 16 | 74 | 16 | 3.0 | 3.0 | 36.0 | 15.0 | 51.0 |
| **9. BARRINGTON** | *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| PointPleasantPark/Mumford Terminal | nb | 6:30am - 11:30pm | 30 | 30 | 28 | | 28 | | 0.9 | 0.9 | 11.2 | 5.6 | 16.8 | 6:40am - 11:35pm | 60 | 60 | 28 | | 28 | | 0.5 | 0.5 | 5.6 | 2.3 | 7.9 |
| | sb | 7:00am - 12:10am | 30 | 30 | 28 | 4 | 28 | 4 | 1.1 | 1.1 | 12.8 | 6.4 | 19.2 | 7:20am - 12:10am | 60 | 60 | 28 | 4 | 28 | 4 | 0.5 | 0.5 | 6.4 | 2.7 | 9.1 |
| | Total | | | | 56 | 4 | 56 | 4 | 2.0 | 2.0 | 24.0 | 12.0 | 36.0 | | | | 56 | 4 | 56 | 4 | 1.0 | 1.0 | 12.0 | 5.0 | 17.0 |
| **14A. HALIFAX/LEIBLIN PARK** | *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | | | |
| Leiblin&Juniper-Barrington&Duke | eb | 6:46am -10:46pm | 30 | 60 | 54 | 14 | 54 | 14 | 2.3 | 1.1 | 27.2 | 6.8 | 34.0 | 6:46am -10:46pm | 30 | 60 | 54 | 14 | 54 | 14 | 2.3 | 1.1 | 27.2 | 6.8 | 34.0 |
| | wb | 7:48am - 10:48pm | 30 | 60 | 52 | | 52 | | 1.7 | 0.9 | 20.8 | 5.2 | 26.0 | 7:48am - 10:48pm | 30 | 60 | 52 | | 52 | | 1.7 | 0.9 | 20.8 | 5.2 | 26.0 |
| | Total | | | | 106 | 14 | 106 | 14 | 4.0 | 2.0 | 48.0 | 12.0 | 60.0 | | | | 106 | 14 | 106 | 14 | 4.0 | 2.0 | 48.0 | 12.0 | 60.0 |
| **15. PURCELL COVE** | *C.Rte* | | | | | | | | | | *12.0* | *3.0* | *15.0* | | | | | | | | | | | | |
| Mumford Terminal/York Redoubt | sb | 7:40am - 10:40pm | 60 | 60 | 14 | 6 | 14 | 6 | 0.3 | 0.3 | 4.0 | 1.0 | 5.0 | 8:00am - 10:55pm | 60 | 60 | 14 | 6 | 14 | 6 | 0.3 | 0.3 | 4.0 | 1.0 | 5.0 |
| | nb | 7:55am - 10:55pm | 60 | 60 | 19 | 6 | 19 | 6 | 0.4 | 0.4 | 5.0 | 1.3 | 6.3 | 8:15am - 11:10pm | 60 | 60 | 19 | 6 | 19 | 6 | 0.4 | 0.4 | 5.0 | 1.3 | 6.3 |
| | Total | | | | 33 | 12 | 33 | 12 | 0.8 | 0.8 | 9.0 | 2.3 | 11.3 | | | | 33 | 12 | 33 | 12 | 0.8 | 0.8 | 9.0 | 2.3 | 11.3 |
| 16. PARKLAND<br>Highfield Terminal - Lacewood Terminal. | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| **18. UNIVERSITIES** | *Core* | | | | | | | | | | *14.0* | *4.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| Lacewood Terminal-SaintMary's&Dalhc | sb | 6:20am - 12:20am | 30 | 30 | 30 | | 30 | | 1.0 | 1.0 | 14.0 | 4.0 | 18.0 | 7:05am - 12:05am | 30 | 30 | 30 | | 30 | | 1.0 | 1.0 | 12.0 | 5.0 | 17.0 |
| | nb | 7:02am - 12:02am | 30 | 30 | 30 | | 30 | | 1.0 | 1.0 | 14.0 | 4.0 | 18.0 | 7:38am - 11:38pm | 30 | 30 | 30 | | 30 | | 1.0 | 1.0 | 12.0 | 5.0 | 17.0 |
| | Total | | | | 60 | 0 | 60 | 0 | 2.0 | 2.0 | 28.0 | 8.0 | 36.0 | | | | 60 | 0 | 60 | 0 | 2.0 | 2.0 | 24.0 | 10.0 | 34.0 |
| 19. GREYSTONE<br>Greystone - Mumford Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| **20. HERRING COVE** | *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| MumfordTerminal - HerringCove | wb | 5:30am - 11:40pm | 30 | 30 | 27 | | 27 | | 0.9 | 0.9 | 10.8 | 5.4 | 16.2 | 6:35am - 11:35pm | 30 | 60 | 29 | | 29 | | 0.9 | 0.5 | 10.8 | 2.3 | 13.1 |
| | eb | 6:00am - 12:10am | 30 | 30 | 27 | 6 | 27 | 6 | 1.1 | 1.1 | 13.2 | 6.6 | 19.8 | 7:05am - 12:05am | 30 | 60 | 25 | 6 | 25 | 6 | 1.1 | 0.6 | 13.2 | 2.8 | 16.0 |
| | Total | | | | 54 | 6 | 54 | 6 | 2.0 | 2.0 | 24.0 | 12.0 | 36.0 | | | | 54 | 6 | 54 | 6 | 2.0 | 1.0 | 24.0 | 5.0 | 29.0 |
| **21. LAKESIDE/TIMBERLEA** | *Local* | | | | | | | | | | *16.0* | *2.0* | *18.0* | | | | | | | | | | | | |
| Lacewood Term.- Glengary Gardens | wb | 5:55am - 12:00am | 30 | 30 | 25 | | 25 | | 0.8 | 0.8 | 13.3 | 1.7 | 15.0 | 6:15am - 11:15pm | 60 | 60 | 25 | 7 | 25 | 7 | 0.4 | 0.4 | 6.3 | 0.8 | 7.1 |
| | eb | 6:25am - 12:30am | 30 | 30 | 20 | | 20 | | 0.7 | 0.7 | 10.7 | 1.3 | 12.0 | 6:45am - 11:45pm | 60 | 60 | 20 | 8 | 20 | 8 | 0.3 | 0.3 | 5.0 | 0.7 | 5.7 |
| | Total | | | | 45 | 0 | 45 | 0 | 1.5 | 1.5 | 24.0 | 3.0 | 27.0 | | | | 45 | 15 | 45 | 15 | 0.8 | 0.8 | 11.3 | 1.5 | 12.8 |
| 22. ARMDALE<br>Ragged Lake Garage - Mumford Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 23. TIMBERLEA/MUMFORD<br>Upper Wallis/Cornwallis-Glengarry Gardens | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| **24. REGENCY PARK** | | | | | | | | | | | *12.0* | *3.0* | *15.0* | | | | | | | | | | | | |
| Lacewood Terminal - Susie Lake&ChainLake | | 7:40am - 10:40pm | 60 | 60 | 13 | | 13 | | 0.2 | 0.2 | 2.6 | 0.7 | 3.3 | no service | | | | | | | | | | | |
| | | 7:55am - 10:55pm | 60 | 60 | 12 | 5 | 12 | 5 | 0.3 | 0.3 | 3.4 | 0.9 | 4.3 | | | | | | | | | | | | |
| | | | | | 25 | 5 | 25 | 5 | 0.5 | 0.5 | 6.0 | 1.5 | 7.5 | | | | | | | | | | | | |
| 31. MAIN EXPRESS<br>Summer&Bell/LacewoodTerminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 32. COWIE HILL EXPRESS<br>Summer&Bell/SouthCentreMall | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 33. TANTALION<br>LacewoodTerminal/Tantallon(Hubley Centre) | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 34. GLENBOURNE EXPRESS<br>Summer&Bell/Lacewood Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 35. PARKLAND EXPRESS<br>Hollis Train Sta/Lacewood Terminal | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 42. LACEWOOD-DALHOUSIE<br>LacewoodTerminal-South&La Marchant | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 131. CLAYTON PARK METROLINK<br>Lacewood Terminal - Scotia Square | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 132. SPRYFIELD METROLINK<br>Herring Cov&Greystone - Scotia Square | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 330. TANTALON METRO EXPRESS<br>Hubley Centre - Scotia Squiare | | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| Service Changes | | | | | ***HALIFAX ROUTES*** | | | | ***29*** | ***21*** | ***376*** | ***98*** | ***474*** | | | | | | | | ***21*** | ***17*** | ***256*** | ***82*** | ***338*** |

**EXHIBIT E2**

**OPERATING CHARACTERISTICS OF WEEKEND SERVICE PLAN FOR METRO TRANSIT'S BEDFORD-SACKVILLE ROUTES**

| ROUTE | Dir. | SATURDAY SPAN OF SERVICE | HEADWAY DAY | HEADWAY EVE | RUNNING TIME DAY Dr. Time | RUNNING TIME DAY Rec Time | RUNNING TIME EVE Dr. Time | RUNNING TIME EVE Rec Time | VEHICLES DAY | VEHICLES EVE | VEH.SERVICE HRS. DAY | VEH.SERVICE HRS. EVE | VEH.SERVICE HRS. TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **80. SACKVILLE** | *Core* | interlined with 87 | | | | | | | | | *16.0* | *2.0* | *18.0* |
| UpperWater&Cornwallis-Sackville Term | nb | 6:15am - 12:07am | 30 | 60 | 59 | | 63 | | 2.0 | 1.1 | 31.5 | 2.1 | 33.6 |
| | sb | 5:45am - 1:07am | 30 | 60 | 67 | 24 | 60 | 25 | 3.0 | 1.4 | 48.5 | 2.8 | 51.4 |
| | Total | | | | 126 | 24 | 123 | 25 | 5.0 | 2.5 | 80.0 | 4.9 | 84.9 |
| **81A. HEMLOCK RAVINE** | *Local* | | | | | | | | | | *16.0* | *2.0* | *18.0* |
| Nottingham&Bridge(Burnside)-Bayers I | sb | 6:43am - 9:40pm | 30 | 60 | 28 | | 28 | | 0.9 | 0.5 | 14.9 | 0.9 | 15.9 |
| | nb | 6:30am - 10:30pm | 30 | 60 | 28 | 4 | 28 | 4 | 1.1 | 0.5 | 17.1 | 1.1 | 18.1 |
| | | | | | 56 | 4 | 56 | 4 | 2.0 | 1.0 | 32.0 | 2.0 | 34.0 |
| 81B. MILLVIEW SouthgateDr(Millview) - Bayers Rd. Term. | | no service | | | | | | | | | | | |
| 82. MILLWOOD | *Local* | interlined with 83 | | | | | | | | | *16.0* | *2.0* | *18.0* |
| CobequidTerminal/SackvilleTerminal | nb | 7:08am - 10:08pm | 60 | 60 | 30 | | 30 | | 0.5 | 0.5 | 8.0 | 1.0 | 9.0 |
| | sb | 6:25am - 10:35pm | 60 | 60 | 43 | 17 | 43 | 17 | 1.0 | 1.0 | 16.0 | 2.0 | 18.0 |
| | Total | | | | 73 | 17 | 73 | 17 | 1.5 | 1.5 | 24.0 | 3.0 | 27.0 |
| 83. SPRINGFIELD | *C.Rte* | interlined with 82 | | | | | | | | | *12.0* | *3.0* | *15.0* |
| SackvilleTerminal/SpringfieldEstates | nb | 6:14am- 9:14pm | 60 | 60 | 15 | | 15 | | 0.3 | 0.3 | 3.0 | 1.0 | 4.0 |
| | sb | 6:34am - 9:34pm | 60 | 60 | 15 | | 15 | | 0.3 | 0.3 | 3.0 | 1.0 | 4.0 |
| | Total | | | | 30 | 0 | 30 | 0 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 |
| 84. GLENDALE EXPRESS Summer&Bell-Sackville Terminal | | no service | | | | | | | | | | | |
| 85. DOWNSVIEW EXPRESS Summer&Bell-Cobequid Terminal | | no service | | | | | | | | | | | |
| 86. BASINVIEW Summer&Bell - Rockmanor Dr. | | no service | | | | | | | | | | | |
| **87. DOWNSVIEW** | *Core* | interlined with 80 | | | | | | | | | *16.0* | *2.0* | *18.0* |
| Bridge Terminal-Sackville Terminal | nb | 6:35am-12:05am | 30 | 60 | 43 | | 43 | | 1.4 | 0.7 | 17.2 | 1.4 | 18.6 |
| | sb | 6:50am-12:50am | 30 | 60 | 41 | 6 | 41 | 6 | 1.6 | 0.8 | 18.8 | 1.6 | 20.4 |
| | Total | | | | 84 | 6 | 84 | 6 | 3.0 | 1.5 | 36.0 | 3.0 | 39.0 |
| 88. DUKE | *Local* | | | | | | | | | | *12.0* | *4.0* | *15.0* |
| CobequidTerminal/Duke&Damascus | eb | 6:30am- 9:30pm | 60 | 60 | 25 | | 25 | | 0.4 | 0.4 | 5.0 | 1.7 | 6.7 |
| | wb | 6:06am- 10:06pm | 60 | 60 | 25 | 10 | 25 | 10 | 0.6 | 0.6 | 7.0 | 2.3 | 9.3 |
| | Total | | | | 50 | 10 | 50 | 10 | 1.0 | 1.0 | 12.0 | 4.0 | 16.0 |
| 89. BEDFORD Copequid Term.- Lacewood Term. | | no service | | | | | | | | | | | |
| 185. SACKVILLE LINK Sackville Terminal- Barrington&Duke | | no service | | | | | | | | | | | |
| Service Changes | | ***BEDFORD-SACKVILLE ROUTES*** | | | | | | | ***13.0*** | ***8.0*** | ***190*** | ***19*** | ***209*** |

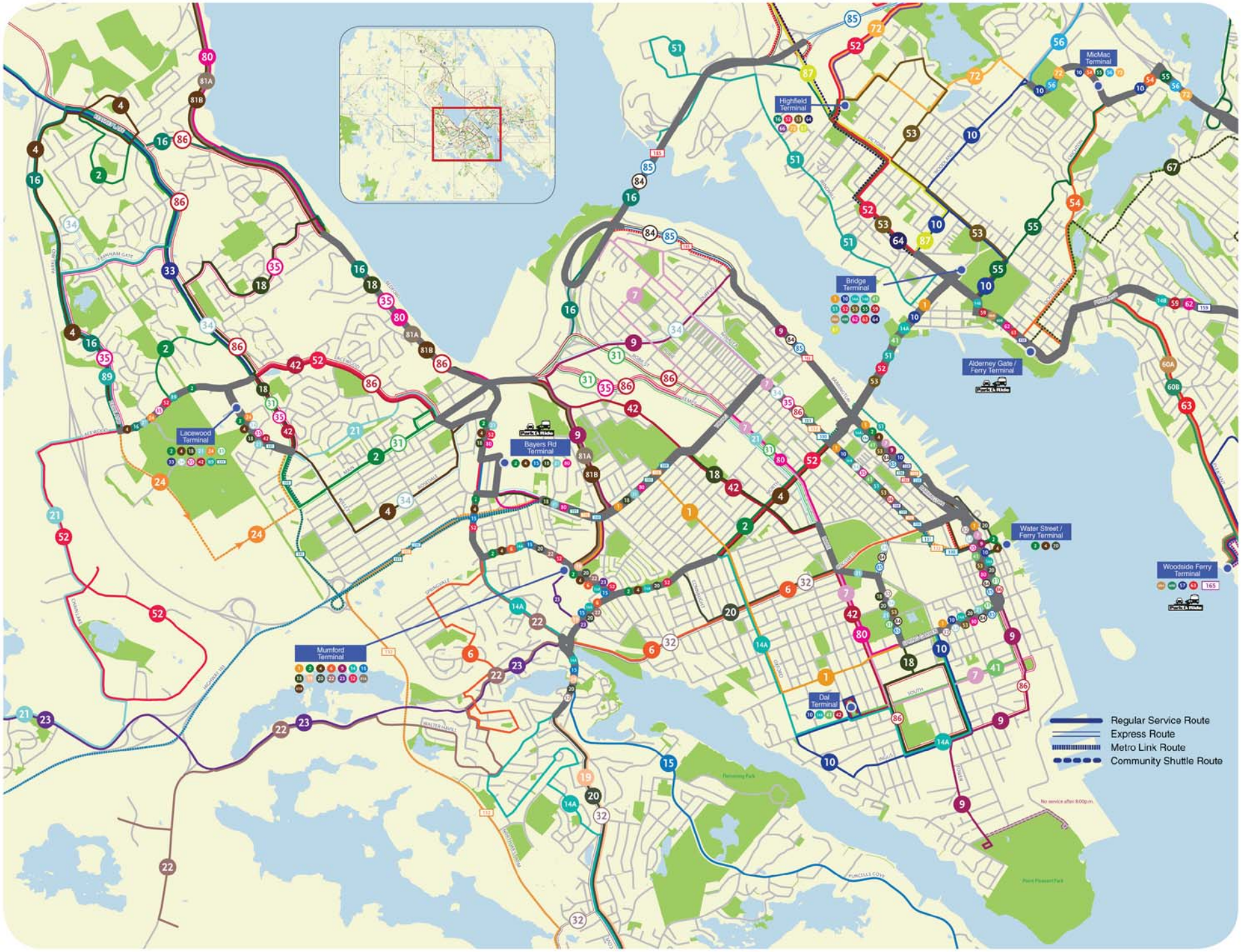
| ROUTE | Dir. | SUNDAY AND HOLIDAYS SPAN OF SERVICE | HEADWAY DAY | HEADWAY EVE | RUNNING TIME DAY Dr. Time | RUNNING TIME DAY Rec. Time | RUNNING TIME EVE Dr. Time | RUNNING TIME EVE Rec. Time | VEHICLES DAY | VEHICLES EVE | VEH.SERVICE HRS. DAY | VEH.SERVICE HRS. EVE | VEH.SERVICE HRS. TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **80. SACKVILLE** | *Core* | interlined with 87 | | | | | | | | | *12.0* | *5.0* | *17.0* |
| UpperWater&Cornwallis-Sackville Term | nb | 6:57am - 9:57am | 30 | 60 | 60 | | 60 | | 2.0 | 1.0 | 24.0 | 5.0 | 29.0 |
| | sb | 5:45am - 11:15pm | 30 | 60 | 67 | 23 | 67 | | 3.0 | 1.1 | 36.0 | 5.6 | 41.6 |
| | Total | | | | 127 | 23 | 127 | 0 | 5.0 | 2.1 | 60.0 | 10.6 | 70.6 |
| **81A. HEMLOCK RAVINE** | *Local* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| Nottingham&Bridge(Burnside)-Bayers I | sb | 6:43am - 9:40pm | 30 | 60 | 28 | | 28 | | 0.9 | 0.5 | 11.2 | 2.3 | 13.5 |
| | nb | 6:30am - 9:30pm | 30 | 60 | 28 | 4 | 28 | 4 | 1.1 | 0.5 | 12.8 | 2.7 | 15.5 |
| | | | | | 56 | 4 | 56 | 4 | 2.0 | 1.0 | 24.0 | 5.0 | 29.0 |
| 81B. MILLVIEW SouthgateDr(Millview) - Bayers Rd. Term. | | no service | | | | | | | | | | | |
| 82. MILLWOOD | *Local* | interlined with 83 | | | | | | | | | *12.0* | *5.0* | *17.0* |
| CobequidTerminal/SackvilleTerminal | nb | 7:24am - 9:24pm | 60 | 60 | 27 | | 27 | | 0.5 | 0.5 | 5.4 | 2.0 | 7.4 |
| | sb | 6:55am - 9:55pm | 60 | 60 | 27 | 6 | 27 | 6 | 0.6 | 0.6 | 6.6 | 2.5 | 9.1 |
| | Total | | | | 54 | 6 | 54 | 6 | 1.0 | 1.0 | 12.0 | 4.5 | 16.5 |
| 83. SPRINGFIELD | *C.Rte* | interlined with 82 | | | | | | | | | *12.0* | *5.0* | *17.0* |
| SackvilleTerminal/SpringfieldEstates | nb | 6:30am - 9:30pm | 30 | 60 | 14 | 1 | 14 | | 0.5 | 0.2 | 6.0 | 1.2 | 7.2 |
| | sb | 6:45am - 9:45pm | 30 | 60 | 15 | | 15 | 1 | 0.5 | 0.3 | 6.0 | 1.3 | 7.3 |
| | Total | | | | 29 | 1 | 29 | 1 | 1.0 | 0.5 | 12.0 | 2.5 | 14.5 |
| 84. GLENDALE EXPRESS Summer&Bell-Sackville Terminal | | no service | | | | | | | | | | | |
| 85. DOWNSVIEW EXPRESS Summer&Bell-Cobequid Terminal | | no service | | | | | | | | | | | |
| 86. BASINVIEW Summer&Bell - Rockmanor Dr. | | no service | | | | | | | | | | | |
| **87. DOWNSVIEW** | *Core* | interlined with 80 | | | | | | - | | | *12.0* | *5.0* | *17.0* |
| Bridge Terminal-Sackville Terminal | nb | 7:40am -9:40pm | 30 | 60 | 43 | | 43 | | 1.4 | 0.7 | 17.2 | 3.6 | 20.8 |
| | sb | 7:05am-10:27pm | 30 | 60 | 41 | 6 | 41 | | 1.6 | 0.7 | 18.8 | 3.4 | 22.2 |
| | Total | | | | 84 | 6 | 84 | 0 | 3.0 | 1.4 | 36.0 | 7.0 | 43.0 |
| 88. DUKE | *Local* | | | | | | | | | | | | |
| CobequidTerminal/Duke&Damascus | eb | no service | | | | | | | | | | | |
| | wb | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | |
| 89. BEDFORD Copequid Term.- Lacewood Term. | | no service | | | | | | | | | | | |
| 185. SACKVILLE LINK Sackville Terminal- Barrington&Duke | | no service | | | | | | | | | | | |
| Service Changes | | ***BEDFORD-SACKVILLE ROUTES*** | | | | | | | ***12.0*** | ***6.0*** | ***144*** | ***30*** | ***174*** |

**EXHIBIT E3**

**OPERATING CHARACTERISTICS OF WEEKEND SERVICE PLAN FOR METRO TRANSIT'S DARTMOUTH ROUTES**

| ROUTE | SATURDAY | | | | | | | | | | | | | SUNDAY AND HOLIDAYS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SPAN OF SERVICE | HEADWAY | | RUNNING TIME | | | | VEHICLES | | VEH.SERVICE HRS | | | SPAN OF SERVICE | HEADWAY | | RUNNING TIME | | | | VEHICLES | | VEH.SERVICE HRS. | | |
| | | DAY | EVE | DAY | | EVE | | DAY | EVE | DAY | EVE | TOTAL | | DAY | EVE | DAY | | EVE | | DAY | EVE | DAY | EVE | TOTAL |
| | | | | Dt | Rt | Dt | Rt | | | | | | | | | Dt | Rt | Dt | Rt | | | | | |
| **10. DALHOUSIE** *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| South&LaMarchant-Inverary&Strath eb | 6:38am -12:10am | 30 | 30 | 56 | | 50 | | 1.9 | 1.7 | 22.4 | 10.0 | 32.4 | 7:12am-11:12pm | 30 | 60 | 58 | | 58 | | 1.9 | 1.0 | 23.2 | 4.8 | 28.0 |
| wb | 6:03am -12:00am | 30 | 30 | 57 | 7 | 57 | 13 | 2.1 | 2.3 | 25.6 | 14.0 | 39.6 | 7:12am-12:12am | 30 | 60 | 54 | 8 | 54 | 8 | 2.1 | 1.0 | 24.8 | 5.2 | 30.0 |
| Total | | | | 113 | 7 | 107 | 13 | 4.0 | 4.0 | 48.0 | 24.0 | 72.0 | | | | 112 | 8 | 112 | 8 | 4.0 | 2.0 | 48.0 | 10.0 | 58.0 |
| **14B. DARTHMOUTH AUBURN** *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| Barrington&Duke - Auburn&Serroco eb | 6:40am - 12:40am | 30 | 60 | 50 | | 50 | | 1.7 | 0.8 | 20.0 | 5.0 | 25.0 | 7:19am-10:19pm | 30 | 60 | 50 | | 50 | | 1.7 | 0.8 | 20.0 | 4.2 | 24.2 |
| wb | 6:25am - 12:42am | 30 | 60 | 50 | 20 | 50 | 20 | 2.3 | 1.2 | 28.0 | 7.0 | 35.0 | 7:27am-11:27pm | 30 | 60 | 50 | 20 | 50 | 20 | 2.3 | 1.2 | 28.0 | 5.8 | 33.8 |
| | | | | 100 | 20 | 100 | 20 | 4.0 | 2.0 | 48.0 | 12.0 | 60.0 | | | | 100 | 20 | 100 | 20 | 4.0 | 2.0 | 48.0 | 10.0 | 58.0 |
| 41 DARTMOUTH-DALHOUSIE | | | | | | | | | | | | | | | | | | | | | | | | |
| South&LaMarchant-Bridgre Terminal | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| **51. SHANNON** *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| BridgeTerm/- Princ.Marg.& KillkeeGate nb | 6:25am-12:25am | 30 | 60 | 14 | | 14 | | 0.5 | 0.2 | 5.6 | 1.4 | 7.0 | 7:15am-11:25am | 30 | 60 | 13 | | 13 | | 0.4 | 0.2 | 5.2 | 1.1 | 6.3 |
| sb | 6:39am-12:39am | 30 | 60 | 14 | 2 | 14 | 2 | 0.5 | 0.3 | 6.4 | 1.6 | 8.0 | 7:28am-10:28am | 30 | 60 | 12 | 5 | 12 | 5 | 0.6 | 0.3 | 6.8 | 1.4 | 8.2 |
| Total | | | | 28 | 2 | 28 | 2 | 1.0 | 0.5 | 12.0 | 3.0 | 15.0 | | | | 25 | 5 | 25 | 5 | 1.0 | 0.5 | 12.0 | 2.5 | 14.5 |
| **52 CROSSTOWN** *Core* | | | | | | | | | | *14.0* | *4.0* | *18.0* | | | | | | | | | | *14.0* | *4.0* | *18.0* |
| ChainLake-Isley (Metro Transit)-Countr nb | 7:10am-12:10am | 30 | 60 | 70 | | 70 | | 2.3 | 1.2 | 32.7 | 4.7 | 10.3 | 8:00am-12:30am | 30 | 60 | 70 | | 60 | | 2.3 | 1.0 | 32.7 | 4.0 | 10.3 |
| sb | 6:10am-11:10am | 30 | 60 | 75 | 5 | 75 | 35 | 2.7 | 1.8 | 37.3 | 7.3 | 10.3 | 6:50am-11:20am | 30 | 60 | 75 | 5 | 60 | | 2.7 | 1.0 | 37.3 | 4.0 | 10.3 |
| Total | | | | 145 | 5 | 145 | 35 | 5.0 | 3.0 | 70.0 | 12.0 | 110.4 | | | | 145 | 5 | 120 | 0 | 5.0 | 2.0 | 70.0 | 8.0 | 110.4 |
| **53 NOTTING PARK** *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| Bridge Terminal-Highfield Terminal nb | 5:55am-11:55pm | 30 | 60 | 7 | | 7 | | 0.2 | 0.1 | 2.8 | 0.7 | 3.5 | 6:45am-11:45pm | 30 | 60 | 7 | | 7 | | 0.2 | 0.1 | 2.8 | 0.6 | 3.4 |
| sb | 6:02am-12:02am | 30 | 60 | 17 | 6 | 17 | 6 | 0.8 | 0.4 | 9.2 | 2.3 | 11.5 | 6:52am-11:52pm | 30 | 60 | 17 | 6 | 17 | 6 | 0.8 | 0.4 | 9.2 | 1.9 | 11.1 |
| Total | | | | 24 | 6 | 24 | 6 | 1.0 | 0.5 | 12.0 | 3.0 | 15.0 | | | | 24 | 6 | 24 | 6 | 1.0 | 0.5 | 12.0 | 2.5 | 14.5 |
| **54 MONTEBELLO** *Local* | | | | | | | | | | | | | | | | | | | | | | *9.0* | | |
| Alderney Ferry Term.-Appian&Caledon nb | 7:00am-10:00pm | 60 | 60 | 25 | | 25 | | 0.4 | 0.4 | 5.8 | 0.8 | 6.7 | 8:00am-5:00pm | 60 | | 25 | | | | 0.4 | | 3.8 | | 3.8 |
| sb | 6:27am-10:27pm | 60 | 60 | 28 | 7 | 28 | 7 | 0.6 | 0.6 | 8.2 | 1.2 | 9.3 | 8:27am-5:27pm | 60 | | 28 | 7 | | | 0.6 | | 5.3 | | 5.3 |
| Total | | | | 53 | 7 | 53 | 7 | 1.0 | 1.0 | 14.0 | 2.0 | 16.0 | | | | 53 | 7 | | | 1.0 | | 9.0 | | 9.0 |
| **55 PORT WALLACE** *Local* | | | | | | | | | | | | | | | | | | | | | | *14.0* | *1.0* | *15.0* |
| Bridge Terminal-Portobello Turning Loc nb | 7:15am-9:15pm | 60 | 60 | 21 | | 21 | | 0.4 | 0.4 | 4.9 | 0.4 | 5.3 | 7:15am-9:15pm | 60 | 60 | 21 | | 21 | | 0.4 | 0.4 | 4.9 | 0.4 | 5.3 |
| sb | 6:38am-9:38pm | 60 | 60 | 28 | 11 | 28 | 11 | 0.7 | 0.7 | 9.1 | 0.7 | 9.8 | 6:38am-9:38pm | 60 | 60 | 28 | 11 | 28 | 11 | 0.7 | 0.7 | 9.1 | 0.7 | 9.8 |
| Total | | | | 49 | 11 | 49 | 11 | 1.0 | 1.0 | 14.0 | 1.0 | 15.0 | | | | 49 | 11 | 49 | 11 | 1.0 | 1.0 | 14.0 | 1.0 | 15.0 |
| **56 DARTMOUTH CROSSING** *Local* | | | | | | | | | | *12.0* | 6.0 | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| Burnside Terminal - Penhorn Terminal sb | 6:45am-11:45am | 30 | 60 | 22 | | 22 | | 0.7 | 0.4 | 8.8 | 2.2 | 11.0 | 6:45am-10:45am | 30 | 60 | 22 | | 22 | | 0.7 | 0.4 | 8.8 | 1.8 | 10.6 |
| nb | 6:15am-11:15pm | 30 | 60 | 26 | 12 | 26 | 12 | 1.3 | 0.6 | 15.2 | 3.8 | 19.0 | 6:15am-10:15pm | 30 | 60 | 26 | 12 | 26 | 12 | 1.3 | 0.6 | 15.2 | 3.2 | 18.4 |
| Total | | | | 48 | 12 | 48 | 12 | 2.0 | 1.0 | 24.0 | 6.0 | 30.0 | | | | 48 | 12 | 48 | 12 | 2.0 | 1.0 | 24.0 | 5.0 | 29.0 |
| **57. RUSSELL LAKE** *Local* | | | | | | | | | | *12.0* | 6.0 | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| Portland Hills Term. - Woodside Ferry T wb | 6:54am-10:24pm | 60 | 60 | 27 | | 27 | | 0.5 | 0.5 | 5.4 | 2.7 | 8.1 | 6:54am-10:24pm | 60 | 60 | 27 | | 27 | | 0.5 | 0.5 | 5.4 | 2.3 | 7.7 |
| eb | 7:42am-10:12pm | 60 | 60 | 28 | 5 | 28 | 5 | 0.6 | 0.6 | 6.6 | 3.3 | 9.9 | 7:42am-10:12pm | 60 | 60 | 28 | 5 | 28 | 5 | 0.6 | 0.6 | 6.6 | 2.8 | 9.4 |
| | | | | 55 | 5 | 55 | 5 | 1.0 | 1.0 | 12.0 | 6.0 | 18.0 | | | | 55 | 5 | 55 | 5 | 1.0 | 1.0 | 12.0 | 5.0 | 17.0 |
| **58. WOODLAWN** *Local* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| Dorothea&Lucien-Bridge Terminal wb | 6:25am-12:25am | 60 | 60 | 30 | | 30 | | 0.5 | 0.5 | 6.0 | 3.0 | 9.0 | 8:15am-12:15am | 60 | 60 | 25 | | 25 | | 0.5 | 0.5 | 6.0 | 2.5 | 8.5 |
| eb | 5:55am-11:55pm | 60 | 60 | 27 | 3 | 27 | 3 | 0.5 | 0.5 | 6.0 | 3.0 | 9.0 | 7:45am-11:45pm | 60 | 60 | 25 | 10 | 25 | 10 | 0.5 | 0.5 | 6.0 | 2.5 | 8.5 |
| Total | | | | 57 | 3 | 57 | 3 | 1.0 | 1.0 | 12.0 | 6.0 | 18.0 | | | | 50 | 10 | 50 | 10 | 1.0 | 1.0 | 24.0 | 10.0 | 110.4 |
| **59. COLBY** *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| Bridge Terminal-Ashgrove&Colby eb | 6:25am-11:25am | 30 | 60 | 28 | | 28 | | 0.9 | 0.5 | 11.2 | 2.8 | 14.0 | 6:25am-11:25am | 30 | 60 | 28 | | 28 | | 0.9 | 0.5 | 11.2 | 2.3 | 13.5 |
| wb | 6:54am-11:54pm | 30 | 60 | 34 | 28 | 28 | 4 | 2.1 | 0.5 | 24.8 | 3.2 | 28.0 | 6:54am-11:54pm | 30 | 60 | 28 | 4 | 28 | 4 | 1.1 | 0.5 | 12.8 | 2.7 | 15.5 |
| Total | | | | 62 | 28 | 56 | 4 | 3.0 | 1.0 | 36.0 | 6.0 | 42.0 | | | | 56 | 4 | 56 | 4 | 2.0 | 1.0 | 24.0 | 5.0 | 29.0 |
| **60. EASTERN PASSAGE** *Core* | | | | | | | | | | *12.0* | *6.0* | *18.0* | | | | | | | | | | *12.0* | *5.0* | *17.0* |
| BridgeTerm/Hospital-Pleasant&CowBa sb | 6:10am - 12:25am | 30 | 60 | 22 | | 22 | | 0.7 | 0.4 | 8.8 | 2.2 | 11.0 | 6:45am - 11:45am | 30 | 60 | 22 | | 22 | | 0.7 | 0.4 | 8.8 | 1.8 | 10.6 |
| nb | 6:47am - 12:46am | 30 | 60 | 22 | 1 | 22 | 1 | 0.8 | 0.4 | 9.2 | 2.3 | 11.5 | 7:22am - 12:21am | 30 | 60 | 22 | 1 | 22 | 1 | 0.8 | 0.4 | 9.2 | 1.9 | 11.1 |
| A. Pleasant&CowBay/Caldwell&Shore sb | 6:32am - 12:32am | 30 | 60 | 6 | | 6 | | 0.2 | 0.1 | 2.4 | 0.6 | 3.0 | 7:07am - 12:07am | 30 | 60 | 6 | | 6 | | 0.2 | 0.1 | 2.4 | 0.5 | 2.9 |
| nb | 6:38am - 12:38am | 30 | 60 | 9 | | 9 | | 0.3 | 0.2 | 3.6 | 0.9 | 4.5 | 7:13am - 12:13am | 30 | 60 | 9 | | 9 | | 0.3 | 0.2 | 3.6 | 0.8 | 4.4 |
| B. Pleasant&CowBay/HeritageHills | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| Total | | | | 59 | 1 | 59 | 1 | 2.0 | 1.0 | 24.0 | 6.0 | 30.0 | | | | 59 | 1 | 59 | 1 | 2.0 | 1.0 | 24.0 | 5.0 | 29.0 |
| **61.NORTH PRESTON** *C.Rte* | | | | | | | | | | *12.0* | *4.0* | *16.0* | | | | | | | | | | *12.0* | *3.0* | *15.0* |
| Portland Hills Terminal-North Preston F sb | 7:40am-10:19pm | 60 | 60 | 13 | | 13 | | 0.2 | 0.2 | 2.6 | 0.9 | 3.5 | 7:19am-10:19pm | 60 | 60 | 13 | | 13 | | 0.2 | 0.2 | 2.6 | 0.7 | 3.3 |
| nb | 6:42am-10:42pm | 60 | 60 | 13 | 4 | 13 | 4 | 0.3 | 0.3 | 3.4 | 1.1 | 4.5 | 7:27am-11:27pm | 60 | 60 | 13 | 4 | 13 | 4 | 0.3 | 0.3 | 3.4 | 0.9 | 4.3 |
| Total | | | | 26 | 4 | 26 | 4 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 | | | | 26 | 4 | 26 | 4 | 0.5 | 0.5 | 6.0 | 1.5 | 7.5 |
| **62. WILDWOOD** *Local* | | | | | | | | | | *12.0* | *4.0* | *16.0* | | | | | | | | | | *12.0* | *3.0* | *15.0* |
| Gaston-Penhorn Terminal-Cole Harbou eb | 7:25am-10:25pm | 60 | 60 | 21 | | 21 | | 0.4 | 0.4 | 4.2 | 1.4 | 5.6 | 7:00am-10:00pm | 60 | 60 | 21 | | 21 | | 0.4 | 0.4 | 4.2 | 1.1 | 5.3 |
| wb | 6:59am-10:59pm | 60 | 60 | 25 | 14 | 25 | 14 | 0.7 | 0.7 | 7.8 | 2.6 | 10.4 | 7:34am-10:34pm | 60 | 60 | 25 | 14 | 25 | 14 | 0.7 | 0.7 | 7.8 | 2.0 | 9.8 |
| Total | | | | 46 | 14 | 46 | 14 | 1.0 | 1.0 | 12.0 | 4.0 | 16.0 | | | | 46 | 14 | 46 | 14 | 1.0 | 1.0 | 12.0 | 3.0 | 15.0 |
| 63. WOODSIDE | | | | | | | | | | | | | | | | | | | | | | | | |
| Bridge Terminal-Woodside Ferry Terminal | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 64. AKERLEY | | | | | | | | | | | | | | | | | | | | | | | | |
| Bridge Terminal-Burnside Terminal | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| **65. ASTRAL** Local | interlined with 68 | | | | | | | | | *12.0* | *4.0* | *16.0* | interlined with 68 | | | | | | | | | *12.0* | *3.0* | *15.0* |
| Portland Hills Term.- Athoiea&Caldwell eb | 6:46am-10:46pm | 60 | 60 | 15 | | 15 | | 0.3 | 0.3 | 3.0 | 1.0 | 4.0 | 6:46am-9:46pm | 60 | 60 | 15 | | 15 | | 0.3 | 0.3 | 3.0 | 0.8 | 3.8 |
| wb | 7:29am-11:29pm | 60 | 60 | 13 | 2 | 13 | 2 | 0.3 | 0.3 | 3.0 | 1.0 | 4.0 | 7:29am-10:29pm | 60 | 60 | 13 | 2 | 13 | 2 | 0.3 | 0.3 | 3.0 | 0.8 | 3.8 |
| Total | | | | 28 | 2 | 28 | 2 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 | | | | 28 | 2 | 28 | 2 | 0.5 | 0.5 | 6.0 | 1.5 | 7.5 |
| 66. BEDFORD/BURNSIDE | | | | | | | | | | | | *37.7* | | | | | | | | | | | | |
| Cobequid Terminal-Highfield Terminal | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| **67. GRAHAM'S CORNER SHUTTLE** *C.Rte* | | | | | | | | | | *12.0* | *4.0* | *16.0* | | | | | | | | | | *12.0* | *3.0* | *15.0* |
| Penhorn Terminal - Alderney Ferry Terr sb | 7:25am-10:25pm | 60 | 60 | 13 | | 13 | | 0.2 | 0.2 | 2.6 | 0.9 | 3.5 | 7:00am-10:00pm | 60 | 60 | 13 | | 13 | | 0.2 | 0.2 | 2.6 | 0.7 | 3.3 |
| nb | 6:59am-10:59pm | 60 | 60 | 13 | 4 | 13 | 4 | 0.3 | 0.3 | 3.4 | 1.1 | 4.5 | 7:34am-10:34pm | 60 | 60 | 13 | 4 | 13 | 4 | 0.3 | 0.3 | 3.4 | 0.9 | 4.3 |
| | | | | 26 | 4 | 26 | 4 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 | | | | 26 | 4 | 26 | 4 | 0.5 | 0.5 | 6.0 | 1.5 | 7.5 |
| **68 CHERRYBROOK** | interlined with 65 | | | | | | | | | *12.0* | *4.0* | *16.0* | interlined with 65 | | | | | | | | | *12.0* | *3.0* | *16.0* |
| Portland Hills Terminal-LakeLoon&McL eb | 6:46am-10:46pm | 60 | 60 | 16 | | 16 | | 0.3 | 0.3 | 3.2 | 1.1 | 4.3 | 6:46am-9:46pm | 60 | 60 | 16 | | 16 | | 0.3 | 0.3 | 3.2 | 0.8 | 4.0 |
| wb | 7:29am-11:29pm | 60 | 60 | 13 | 1 | 13 | 1 | 0.2 | 0.2 | 2.8 | 0.9 | 3.7 | 7:29am-10:29pm | 60 | 60 | 13 | 1 | 13 | 1 | 0.2 | 0.2 | 2.8 | 0.7 | 3.5 |
| Total | | | | 29 | 6 | 85 | 5 | 0.5 | 0.5 | 6.0 | 2.0 | 8.0 | | | | 29 | 6 | 85 | 5 | 0.5 | 0.5 | 6.0 | 1.5 | 7.5 |
| 72 PORTLAND HILLS | | | | | | | | | | *10.5* | | *10.5* | | | | | | | | | | *10.5* | | *10.5* |
| Portland Hills Terminal-Isley (Metro Tra nb | 7:04am-6:04pm | 60 | | 31 | | - | | 0.5 | - | 5.4 | - | 5.4 | 7:04am-6:04pm | 60 | | 31 | | - | | 0.5 | - | 5.4 | - | 5.4 |
| sb | 6:39am-539pm | 60 | | 24 | 5 | - | - | 0.5 | - | 5.1 | - | 5.1 | 6:39am-539pm | 60 | | 24 | 5 | - | - | 0.5 | - | 5.1 | - | 5.1 |
| Total | | | | 55 | 5 | - | | 1.0 | - | 10.5 | - | 10.5 | | | | 55 | 5 | - | | 1.0 | - | 10.5 | - | 10.5 |
| 159 PORTLAND HILL LINK | | | | | | | | | | | | *40.7* | | | | | | | | | | | | |
| Portland Hills Terminal-Duke&Barrington | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| 165 WOODSIDE LINK | | | | | | | | | | | | *5.0* | | | | | | | | | | | | |
| Portland HillsTerm.-WoodsideFerryTerm. | no service | | | | | | | | | | | | no service | | | | | | | | | | | |
| Service Changes | | | | ***DARTMOUTH ROUTES*** | | | | ***30*** | ***20*** | ***373*** | ***99*** | ***500*** | | | | | | | | ***29*** | ***16*** | ***368*** | ***73*** | ***549*** |
| | | | | ***TOTAL 2014 WEEKEND ROUTI*** | | | | ***72*** | | | | ***1183*** | | | | | | | | ***62*** | | | | ***1061*** |
| | | | | *TOTAL 2008 WEEKEND ROUTE* | | | | *62* | | | | *1078* | | | | | | | | *46* | | | | *877* |

# Appendix E
# 2014 Service Plan
# System Maps




## Halifax and Lower Dartmouth

IBI GROUP

HALIFAX REGIONAL MUNICIPALITY

MetroTransit

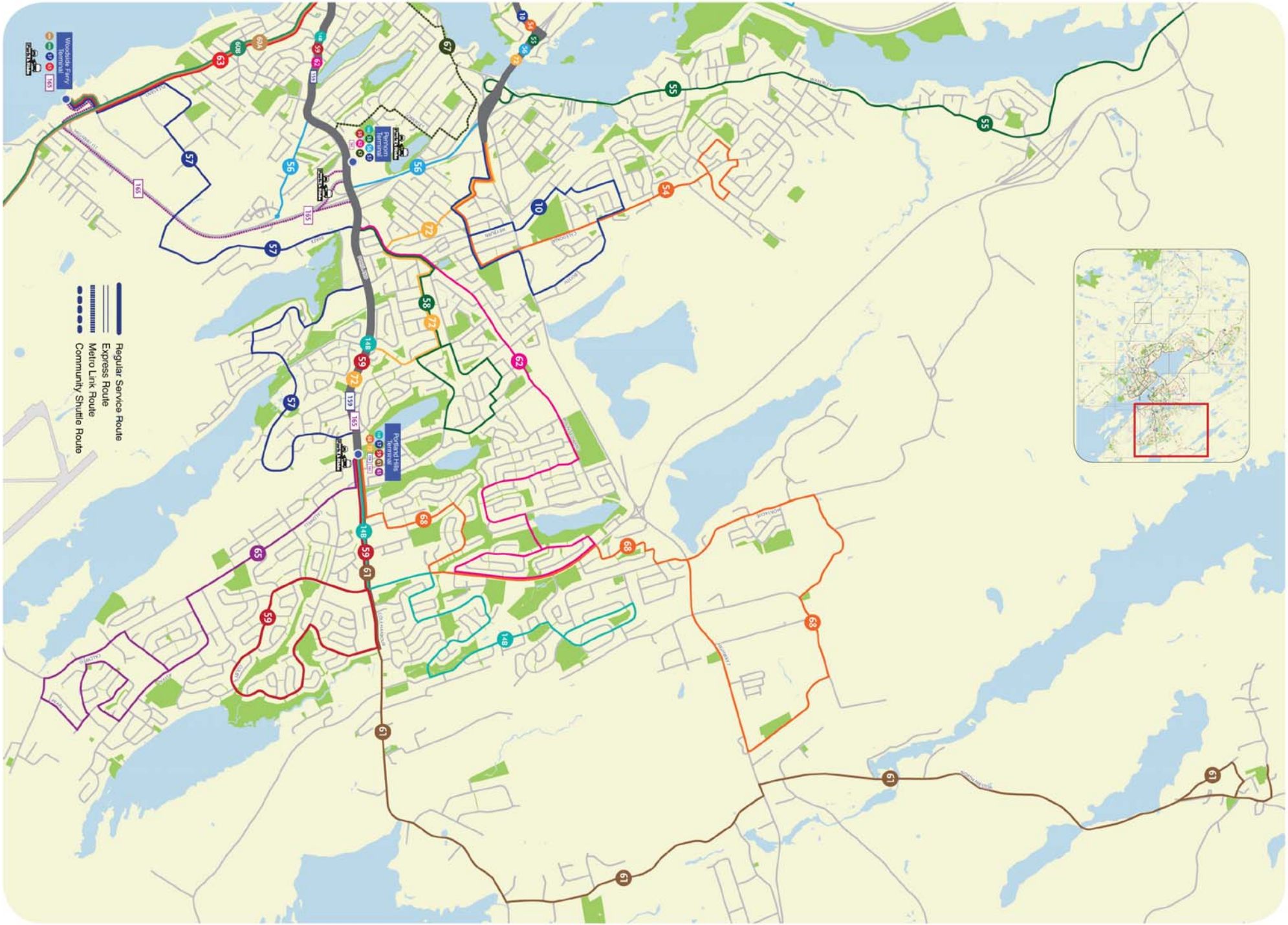
## Sackville

- Regular Service Route
- Express Route
- Metro Link Route
- Community Shuttle Route

IBI GROUP

HALIFAX REGIONAL MUNICIPALITY

MetroTransit




## Eastern Dartmouth

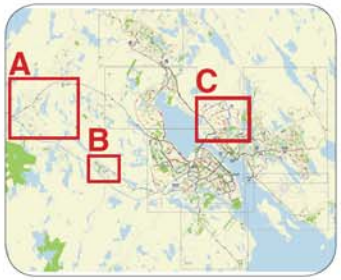
IBI GROUP

HALIFAX REGIONAL MUNICIPALITY

MetroTransit

## C - Burnside Industrial

## A - Tantallon/Stillwater Lake




- Regular Service Route
- Express Route
- Metro Link Route
- Community Shuttle Route

## B- Timberlea

IBI GROUP HALIFAX REGIONAL MUNICIPALITY MetroTransit

## Imperoyal / Southeast Passage

IBI GROUP HALIFAX REGIONAL MUNICIPALITY MetroTransit

## Bedford

IBI GROUP HALIFAX REGIONAL MUNICIPALITY MetroTransit

## Spryfield / Purcells Cove / Herring Cove

# Appendix F
# Service Standards

**AECOM**
275 – 3001 Wayburne Drive, Burnaby, BC, Canada V5G 4W3
T 604.438.5311 F 604.438.5587 www.aecom.com

# Technical Memorandum

| | |
|---|---|
| Date: | June 4, 2009 |
| To: | Chris Prentice<br>Senior Associate and Manager of Metro Transit Strategic Plan Update |
| From: | Bill Lambert, Senior Transit Planner, Transportation |
| Project Number: | 6694-009-00 |
| Subject: | **Metro Transit Strategic Plan Update**<br>**Draft Transit Service Design Guidelines and Standards, Service Warrants and Customer Satisfaction Measures – Revised (only 400 metre distance from last version on April 7,2009)** |

Distribution:

Draft for discussion

## Introduction

This is a revised draft of the proposed directions that Metro Transit could take in regard to expanding and updating its existing transit service standards. This draft responds to comments received from the Metro Transit planning staff, and fills in some missing areas from the previous draft.

This document has used as its foundation or a starting point the existing transit service standards established in the Transit Plan 2002 by IBI Group when there were no Rural Express or MetroLink services. It is recommended that they been renamed "Transit Service Design Guidelines and Standards" to better convey that these service standards are used to design and adjust Metro Transit's services and are flexible in order to adjust to changing needs of customers, and transit system financial opportunities or constraints.

The draft Transit Service Design Guidelines and Standards and the targets/goals related to these standards in terms of performance and other overall objectives for the Metro Halifax the transit system (e.g. ridership, cost-effectiveness, etc.) are intended to build upon the strong foundation today established with the transit system and the 2002 Service Standards, and to take Metro Transit to take the next highest level in terms of ridership, mode share, service guidelines and performance and measurement of customer satisfaction. 2006 Statcan data for the Halifax Region indicated that in 2006 there was a 12.3% transit modal share for work trips (see Table 1 below). Table 2 provides a brief summary context over the 2003-2006 of the growth of the Metro Transit over the period in which the 2002 service standards were used and monitored.

As well this document provides input to the establishment of warrants for new transit services or changes to existing services, and how Metro Halifax could enhance its transit service to its customers by establishing and monitoring customer satisfaction measurement indicators in core areas.

**Table 1: Aggregate Flows of Transit Work Trips as a % of Total Work Trips**

| | Sub Regions | Destinations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Central Halifax | Central Dartmouth | Halifax Urban Ring | Dartmouth Urban Ring | Bedford Area | Sackville Area | Rural East | Rural West | Rural North | TOTAL |
| Origins | Central Halifax | 12.9% | 34.0% | 17.3% | 26.9% | 40.8% | 10.6% | 0.0% | 21.1% | 0.0% | **15.1%** |
| | Central Dartmouth | 37.7% | 14.4% | 4.4% | 15.3% | 0.0% | 16.0% | 0.0% | 4.0% | 0.0% | **22.0%** |
| | Halifax Urban Ring | 23.3% | 13.3% | 8.2% | 13.7% | 5.8% | 22.7% | 0.0% | 20.3% | 15.8% | **18.8%** |
| | Dartmouth Urban Ring | 26.1% | 13.9% | 11.9% | 7.2% | 9.4% | 8.7% | 1.9% | 4.6% | 6.7% | **14.8%** |
| | Bedford Area | 11.6% | 0.0% | 5.3% | 6.4% | 3.3% | 10.4% | 0.0% | 2.1% | 0.0% | **7.0%** |
| | Sackville Area | 25.9% | 10.2% | 4.8% | 6.4% | 7.5% | 6.7% | 0.0% | 0.0% | 0.0% | **12.2%** |
| | Rural East | 5.1% | 2.0% | 4.3% | 2.8% | 0.0% | 0.0% | 0.4% | 0.0% | 0.0% | **2.5%** |
| | Rural West | 2.4% | 0.0% | 1.8% | 0.6% | 0.0% | 0.0% | 0.0% | 1.6% | 0.0% | **1.7%** |
| | Rural North | 10.9% | 5.8% | 0.0% | 1.3% | 1.5% | 4.4% | 0.0% | 0.0% | 0.0% | **4.8%** |
| | TOTAL | **17.3%** | **12.2%** | **7.3%** | **8.3%** | **5.8%** | **7.1%** | **0.5%** | **7.7%** | **1.9%** | **12.3%** |

Source: 2006 Statscan Data for Halifax Region

**Table 2: 2003-2007 Performance of Metro Transit System (Canadian Urban Transit Association Data)**

| Performance Measure | 2003 | 2004 | 2005 | 2006 | 2007 | % change (2002 to 2006) |
|---|---|---|---|---|---|---|
| Active Vehicles | 180 | 193 | 229 | 239 | 242 | 34.44% |
| Total Operating Expenses | $34,427,475 | $40,038,703 | $47,215,305 | $50,887,940 | $57,996,291 | 68.45% |
| Average Fare | $1.47 | $1.40 | $1.64 | $1.64 | $1.46 | -6.80% |
| Total Revenues | $22,247,738 | $23,791,838 | $25,829,739 | $27,914,330 | $28,293,696 | 27.18% |
| Revenue/Cost Ratio | 65% | 59% | 55% | 55% | 54% | -16.92% |
| Revenue Vehicle Kilometres | 8,421,221 | 9,014,995 | 9,955,457 | 11,305,461 | 11,845,860 | 42.67% |
| Revenue Vehicle Hours | 429,637 | 460,368 | 508,158 | 565,912 | 611,497 | 31.72% |
| Rev. Veh. Hrs / Capita | 1.43 | 1.53 | 1.69 | 1.82 | 1.96 | 25.03% |
| Adult Passenger Trips | Na | na | Na | Na | Na | Na |
| Concession Fare Trips | Na | na | Na | Na | Na | Na |
| *Senior Trips* | Na | na | Na | Na | Na | Na |
| *Student Trips* | Na | na | Na | Na | Na | Na |
| Passenger Boardings | 18,631,781 | 19,698,056 | 21,563,297 | 22,471,692 | 23,482,365 | 26.03% |
| Reg. Serv. Pass. / Capita | 52.07 | 55.07 | 56.77 | 58.23 | 59.98 | 15.19% |
| Reg. Serv. Pass. / Rev. Veh. Hrs. | 36.36 | 35.89 | 33.51 | 32.04 | 30.64 | -15.73% |
| Number of Routes | 48 | 47 | 53 | 54 | 56 | 16.67% |

Note: Information for ferry is included in this table

## Current Transit Service

Currently there are 266 buses in the fleet (including spares), 160 of them low-floor vehicles, operating on 56 routes, including three Community Transit routes and three express routes (Bus Rapid Transit) operating as MetroLink. Metro Transit currently operates 52 conventional transit routes within the metropolitan region of Halifax Regional Municipality (HRM) (Halifax, Dartmouth, Bedford and Sackville), including the areas of Eastern Passage, North Preston, Cherry Brook, Tantallon and Herring Cove. Routes are numbered according to the region or type of service provided. Routes in the *00's*, the *10's* and the *20's* are all primarily Halifax-based routes, routes in the *30's* are rush-hour only routes serving Halifax, routes in the *40's* are university routes serving the Dalhousie University campus operating during the academic calendar only, routes in the *50's*, the *60's* and *70's* are Dartmouth-based routes, routes in the *80's* are Sackville and Bedford routes, and routes in the *100's* are the MetroLink routes. The Rural Express route will be designated as 3xx routes For example, Route 103 in the Highway 103 corridor will be 33x and Route 101 on the Highway 101 corridor will be 31x.

## Metro Transit Bus Routes

- 1 Spring Garden
- 2 Wedgewood via Main
- 3 Manors
- 4 Farnham Gate via Rosedale
- 5 Chebucto
- 6 Quinpool
- 7 Robie / Gottingen
- 9 Barrington
- 10 Dalhousie
- 14 Leiblin Park
- 15 Purcell's Cove
- 16 Parkland
- 17 Saint Mary's
- 18 Universities
- 19 Greystone
- 20 Herring Cove
- 21 Lakeside / Timberlea
- 23 Timberlea / Mumford
- 53 Notting Park
- 54 Montebello
- 55 Port Wallace
- 56 Dartmouth Crossing
- 58 Woodlawn
- 59 Colby
- 60 Eastern Passage / Heritage Hills
- 61 Auburn / North Preston
- 62 Wildwood
- 63 Woodside
- 64 Akerley
- 65 Astral
- 66 Penhorn
- 68 Cherry Brook
- 72 Portland Hills
- 80 Sackville
- 81 Hemlock Ravine
- 82 Millwood
- 83 Springfield

- 31 Main
- 32 Cowie Hill
- 33 Tantallon
- 34 Glenbourne
- 35 Parkland
- 41 Dartmouth - Dalhousie
- 42 Lacewood - Dalhousie
- 51 Shannon
- 52 Crosstown
- 84 Glendale
- 85 Downsview (via MacKay Bridge)
- 86 Basinview
- 87 Downsview / Halifax (via the Angus L. Macdonald Bridge)
- 88 Duke
- 89 Bedford
- 159 Portland Hills Link
- 165 Woodside Link
- 185 Sackville Link

Notes:

*Wheelchair - Accessible Low Floor (ALF) route.*

*Rush Hour Service Only.*

*MetroLink Service.*

(University) *Routes 41 and 42 are university routes, and only operate during the academic calendar.*

## A. Transit Service Design Guidelines and Standards

Transit Service Design Guidelines and Standards are an integral component of the development of Metro Transit's new Five-Year Strategic Plan Update (2010-2011 to 2014-2015). The Service Design Guidelines and Standards should be applied to the entire family of services provided by Metro Halifax which exist now or that are contemplated as being implemented as part of the new five year transit service plan. The Service Design Guidelines and Standards are intended to bring clarity and consistency to the process of continually adjusting and improving Regional transit services to meet varied and changing customer needs.

Service Design Guidelines and Standards define the conditions that require action when standards are not met, but allow flexibility to respond to varied customer needs and community expectations in an accountable, equitable and efficient manner. This document is intended as an overview of the detailed service design guidelines and standards to be used and monitored by Metro Halifax.

### Purposes

The transit service design guidelines and standards serve several purposes:

***Service Development*** - form a consistent basis for service planning and particularly establishing minimum levels of service. Flexibility remains but the guidelines assist in the development of new services and the refinement of existing services.

***Evaluation*** - provide targets in the form of indicators and standards that enable the performance of the individual routes and brands to be evaluated and monitored, as well as the performance of overall transit system and targets.

***Budgeting*** - enables preparation of annual and longer term program plans and budgets that will reflect the goal of providing service to the policy levels established in the service design guidelines and standards which, in turn, will enable the Halifax Regional Council to focus on the policy and service impacts of budget adjustments.

***Public Accountability*** – enables political decision-makers, transit customers and the general public to be able to identify the minimum levels of service and performance that are to be provided. The allocation of the resources of the transit system should be seen to be based on equitable and rational criteria that are explicit and available for public scrutiny.

The Transit Service Design Guidelines and Standards are intended to be flexible in interpretation and application, and to be continuously refined over time. Flexibility in application and interpretation should be maintained, as the environment in which these standards will be applied is not static and will continue to change as the region grows and transportation demand increases. As new types of services and data sources are introduced, revisions to the Transit Service Design Guidelines and Standards may become appropriate.

**Policy Framework and Halifax Regional Municipality Mission and Objectives and Goals of the Transit Service Design Guidelines and Standards**

**Vision and Policy Framework**

The vision for this new five year transit plan should be to move Metro Transit up to the next level in terms of significantly increasing transit modal share and build on the success it has had in the last five years in increasing transit ridership (approximately 20% to 25%), and increase the overall regional transit modal share of work trips from 12.3% to 14%. To accomplish this vision, the transit system will have to continue to improve its service levels (i.e., service frequency, coverage and directness), reliability and timeliness, comfort/convenience, and customer responsiveness. The transit system will also have to continue to build ridership with service and fare products from its existing strong base-students, commuters and choice riders, and the growing number of seniors, immigrants and customers who do not have access to a vehicle. It will need to improve and expand service to its strongest markets - downtown Dartmouth and Halifax, the universities and colleges (students, faculty and staff), and other major employers in business parks and other locations such as a medical centres and shopping centres.

**Mission Statement**

A mission for the Halifax Regional Council Transit Services has been developed and adopted as follows:

> ***To ensure personal mobility and provide an alternative mode of transportation to the single occupant vehicle, Halifax Regional Council Transit Services provide sustainable,***

***equitable, and affordable public transportation to residents, businesses and visitors within the transit service area regardless of age, income or physical ability.***

**Goals and Objectives**

To realize its mission and vision over the next five years (2010-2011 to 2014-2015), the following goals and objectives have been established for the Transit Service Design Guidelines and Standards:

***Efficient Service*** - Each transit service and mode should be reasonably cost-efficient by providing a level of service appropriate to the level of customer demand. The recommended guideline ensures that each transit service maintains a minimum level of productivity as measured by the average percentage of seats occupied. Services falling below the standards and guidelines would be reviewed for possible adjustments to schedules, routing, frequency or vehicle type to improve their productivity. In most cases, this productivity guideline will take precedence over other guidelines.

***Comprehensive Service*** – Transit service should be a short walking distance for most Halifax Region residents within the service area, and provide convenient access to work, medical, entertainment, shopping centres, recreational and other major destinations. Guidelines specify the maximum walking distance to a MetroLink station or bus stop.

***Frequent Service*** – Transit service should be frequent, particularly during rush hours and the mid-day period, to improve convenience and minimize customer waiting times. Standards and guidelines establish minimum bus stop spacing, and minimum service frequencies and hours of service.

***Convenient Service*** – Transit service should be available from early morning to late night, seven days a week, particularly on major routes serving work, medical, entertainment, shopping centres, recreational and other major destinations, and allow convenient transfers between services. Employees' working hours today have become more varied than in the past, and peak period trips times have become more stretched, especially in the pm period (i.e. starting earlier in mid-afternoon and finishing later). Standards and guidelines establish the minimum hours of service including evening periods, and the scheduling of services to allow convenient transfers between services and modes.

***Comfortable Service*** - Customers should be provided with adequate space for a comfortable ride on board transit vehicles and most customers should not have to stand for most service periods, with the exception being during peak periods for short durations of time -10 to 15 minutes. Standards and guidelines have been defined for the maximum number of passengers to be carried on transit vehicles and minimum customer standing times.

***Reliable Service*** - Transit services should be designed to ensure on-time performance, avoid early running and minimize late running. Guidelines have been established for on-time arrivals and departures of transit vehicles at route terminuses and mid-route scheduled timing points.

***Accessible Service*** - Conventional transit services should be accessible as possible in terms of the buses and the stops (i.e. curb cuts, landing pads, even surface sidewalk connections, easy entrance shelters,

etc.), and conventional services should be integrated with specialized transportation services as much as possible.

The Metro Transit Service Design Guidelines and Standards will be applied to the entire family of transit services being provided by Metro Halifax. Since the last transit plan update in 2002, MetroLink and Rural Express services have been added to the family of transit services. As well, new transit services such as fast ferry (e.g. to Bedford), Community Shuttle (Urban) and Urban Express routes could be added in the future within the next 5 years. These potential new service categories are discussed on pages 7 to 9.

**Higher Order Services**

**MetroLink - BRT**

MetroLink is Metro Transit's BRT (Bus Rapid Transit) express bus service which only operates during weekdays. The system consists of three limited-stop fully accessible express routes, connecting downtown Halifax's Scotia Square bus terminal, with the Portland Hills terminal in Cole Harbour on the Dartmouth side, and the Sackville Terminal in Lower Sackville. The third route links the Portland Hills Terminal to the Woodside ferry terminal in Dartmouth. This service is designed to provide frequent, limited stop service using distinctive vehicles, intelligent technology systems, upgraded stations and transit priority measures (i.e. transit signal priority, queue-jump lanes, integrated with Metro's regular route service). Currently MetroLink only operates on weekdays which is very unusual for BRT services in other parts of North America such as Metro Vancouver's B-Line and York Region's Viva services which operate very efficiently and effectively seven days a week.

**Potential New Category - Urban Express Bus Routes**

A potential new service category - Urban Express Routes - could be established to carry significant numbers of passengers between two distinct points between which there are a significant number of trips, such as a transit terminal with or without parking, and a major employer or educational institution (e.g. Dalhousie University, St Mary's University) with limited stops along the corridor between major activity centres. These Urban Express Routes would use the fastest route (in terms of overall travel time) between two points, which may vary from time to time. These services would be operated without all the branding and special features of the MetroLink BRT services. The express service should be scheduled to save at least 15 percent of the regular route travel time (minimum 5 minutes) over a primary network / core service route. Limited stop service may be used to meet the passenger access requirements. Urban Express services should provide access to 75% of passengers in corridor with a minimum savings of 15%. These Urban Express services may initially only operate in peak periods, and be extended to other time period as corridor demands grow.

**Core Services/Primary Network**

Throughout the Metro Halifax system, specific routes and services will be designated as Core Services/ Primary Network, to ensure a basic level of access throughout the service area. In the areas of the Halifax Region which have higher employment and residential densities, the Core Services/Primary Network will form a basic core route network of fixed routes, connecting major trip origins and destinations and operating

on the region's major arterial roadways. The Primary Network will operate seven days per week in all operating periods. These routes are designated in the major Halifax Region growth corridors and nodes on the main arterial roads to ensure that 90 percent of all major residential and employment areas are within 400 metres of the core services/primary transit service network.

In the low density urban areas, designated portions of the Primary Network will operate in all service periods, but in addition to a conventional fixed route service, may take the form of one of the other Metro Halifax services [i.e. potential future Community Shuttle (Urban)]. This later service category would use small buses (e.g. 24 seats) in low density suburbanized areas within the urbanized area of the Halifax Region, or use shared ride taxis or vans in very low density and rural community areas, to ensure the balance of service effectiveness and cost-efficiency.

**To ensure that Metro Transit can differentiate Local Routes from the Core Services/Primary Network, it is suggested that defined branches of core services not operating on major arterial roadways should be classified as part of the Local Bus Route Network.**

### Rural Express Routes - MetroX

Metro Transit is in the process of introducing MetroExpress, or MetroX for short, which will be classified as a higher order service like MetroLink. These routes will service the rural commutershed of the Metro Transit Services Area. All routes are planned to terminate at Scotia Square in downtown Halifax. The four rural express routes and their order of priority of implementation are:

- Highway 103 corridor servicing Tantallon, and Hubley with operation commencing in August 2009. (Pushed back from the fall of 2008 so the Halifax Regional Council can fund the route in the new fiscal year using different budgets.)
- Highway 101 corridor serving McCabe Lake and Middle Sackville.
- Highway 102 corridor servicing Fall River, Halifax Stanfield International Airport, and Enfield.
- Highway 107 corridor servicing Preston, Lake Echo, Porters Lake and Musquodoboit Harbour.

### Local Bus Network

In addition to the Cores Services/Primary Network, a support network of Local Bus Network routes will serve as a feeder or neighbourhood circulation function in the transit system. These routes will operate within the various communities connecting these communities to the major local activity centres or corridors, to the arterial roadway network for transfers between routes, and to the Core Service/ Primary Network. The Local Bus Network routes will operate mostly on minor arterial roads and collector roads to serve local destinations, such as a transit focal point (a terminal), and to connect to major arterial roads on which the Core Services/Primary Network are operating. Local routes should only operate on minor local roads when required for operational needs (such as a turn-around), or to serve major passenger destinations.

**Community Shuttle (Urban)**

These new services would operate in low density suburbanized areas of the Halifax Region in the urban transit service area, and may use smaller community shuttle-like buses which are up to 30 feet in length (i.e. 20 to 28 seats) on short and frequent routes to provide connections to the MetroLink BRT network or the Core Service/Primary Network.

**Community Transit (Rural)**

Metro Transit runs a Community Transit service, allowing residents in some rural community's access to the regular and existing Metro Link services operated by Metro Transit, and to a potential future Urban Express Bus system which could be operated by Metro Transit. Currently there are two Community Transit routes:

- *Preston/Porters Lake/Grand Dessert,* offering service - leave Portland Hills Terminal, to Portland Street, Cole Harbour, Forest Hills Parkway, Auburn Drive, Hillsboro Dive, Main Street, Highway #7, exiting to East Preston (Exit 17), Brooks Drive, East Preston Road, Upper Partridge River Road, Highway #7, to the Lakeview Shopping Centre.
- *Beaver Bank*, offering service between the Sackville Terminal and Beaver Bank Villa in Beaver Bank via the Beaver Bank Road.

These Community Transit (Rural) routes serve these smaller communities and rural areas outside the urban transit service area, where population and transit demand are served by fixed-route or demand responsive services where there is sufficient demand, or are long standing routes which existed before amalgamation in 1996 and are grandfathered. Some of these routes may not meet the standards established in this document for the updated Transit Service Design and Performance Standards, and warrant having to be examined for modifications/changes to a demand responsive mode, or discontinued if their performance does not meet these new service design guidelines.

These routes should operate on arterial and collector roads focused on transit terminals or main activity centres. Where the population served does not meet requirements for fixed-route service but does justify an alternative service, demand-responsive service will be provided, possibly as part of specialized transit service. This demand-responsive service could be marketed to both low demand areas and the specialized service market with the same service and provide a better chance of performance standards being met. Rather than follow conventional routing patterns, they would be designed to provide better access to facilities oriented to this customer market, such as senior's residences, medical facilities, community centres and shopping areas.

**Access-A-Bus** ♿

Metro Transit also provides Access-A-Bus service which is a dial-a-ride service for elderly and disabled residents in the region not able to use the conventional transit system.

## B. Transit System Performance Standards

### Transit System

Performance of the Metro Halifax system is measured differently for system-wide performance and the performance of individual routes. At the system-wide level, the ridership per capita, cost-recovery ratio, total service hours and hours of service per capita are the four key indicators. These measures show how effective the service is at attracting riders to the system, how cost-effectively they are being run, and how much service is provided. The four measures must be considered together, not individually, with the goal to strike a balance between them, since improvements in one measure can often come at the expense of performance in the other.

The performance of individual transit services is also important as well and is discussed on pages 19 to 21 in terms of ridership and cost recovery on alternative types of transit services.

### Goal 1: Improve Ridership and Mode Share

Future ridership growth, however, should be in the 4% annual range over the next five years if Metro Transit continues to build ridership, generate more new riders for the transit system and increase transit modal share. There is significant potential for ridership growth of this magnitude as transit's main markets are experiencing growth, including the student, seniors and commuter markets, and higher parking and energy costs over the five years will slow growth of auto trips. As well, new BRT services and enhancements to existing services [such as the potential introduction of new urban express routes and new rural express and community transit and community shuttle (urban) services]. Also, service levels will continue to be improved in many areas (frequency, service coverage of new and growth areas), and service reliability will be improved with the implementation with the aggressive introduction of more targeted transit priority measures in choke/congestion points which should also have a positive effect on ridership. To successfully attract these markets and get ridership growth, an aggressive program of service improvements will be required over the next five years (2010-2011 to 2014-2015).

The objectives of the program will be focused on:

- ***Service Levels*** *– increase annual vehicle service hours from 703,000 to 835,000, by 2014.* This translates to about a 3% to 4% per annum increase in hours, and an annual net operating cost increase (including fares so the overall transit system revenue cost ratio is 50%-55%) averaging about $2.38 million per year in increased operating costs (in constant dollars), which is needed to achieve the higher ridership levels.
- ***Ridership*** *– increase annual revenue passengers from 26.7 million in 2008 to 31.5 million by 2014.* This represents about a 4% per annum ridership increase and revenue passenger increase averaging about 1.0 million per year. The annual ridership increases will be less than the rate of increase for service levels in the earlier years, but will be greater in later years on the basis that ridership will take some time to catch up to the higher service levels.

- ***Modal Split*** *- increase overall regional weekday work trips modal split from 12.3 percent in 2008* to 14 percent in 2014. This is approximately equivalent to increasing annual per capita ridership from 60 in 2008 to 70 by 2014-2015.
- ***Hours of service per capita –*** *increase the hours of service per capita from an estimated 2.05 in 2009/2010 to 2.50 in 2014/2015.*

The objectives are to be accomplished through the following range of means which will be confirmed through the development of the Metro Halifax new transit service plan for the next five years:

- new and improved route structures in the urban and suburban areas;
- higher frequencies particularly on the core services/primary network;
- faster and more reliable high order services in the main travel corridors from the introduction of more transit priority measures such as bus lanes, bus queue jumpers and transit signal priority;
- the introduction of more higher order services such as new BRT (MetroLink) routes, rural express routes and/or new urban limited stop peak period express routes;
- introduction of frequent community shuttles (urban) make quick linkages to MetroLink or the primary/core services network;
- new and enhanced services into underserved areas;
- reallocating resources from poor performing routes to routes which are operating at capacity today and have significant potential for ridership increases;
- targeted marketing to universities, large employers, medical centres, large shopping and entertainment centres and to downtown Halifax and Dartmouth;
- increased integration of other modes with transit - walking and cycling networks and facilities; and
- increased use of fare media that can encourage the greater use of transit (university passes - for staff and faculty as well as students, employer pass, community pass, corporate passes, and smart card).

**Goal 2: Maintain Good Productivity and Cost-Effectiveness**

Maximizing the efficient use of resources including manpower, equipment and vehicles, facilities, and systems will enable the Metro Transit to be functionally effective and fiscally prudent.

The objectives are focused on financial policies and the productivity of Metro Transit resources for the next five years:

- **System Financial Policy** – attain an overall cost recovery of 55% exclusive of capital costs by 2014.

The current cost recovery rate for conventional transit services is about 54%, as additional costs have been added to the system to expand service and to improve existing service to the 2002 service design guidelines and standards, and fare increases have not increased on a regular basis (last cash and fare increase was

2005). Metro Halifax wants to get the transit system to the next highest bar in terms of the quality of service and growth in ridership over the next five years. This should be accomplished with more regular fare increases as service is improved and the introduction of additional and new sources of funding (i.e. gas tax, bridge tools, parking levies) to provide more sustainability to the transit funding. These steps – the increase in ridership from both the introduction of new services and enhancement of existing services, and the introduction of more higher order services and more regular fare increases combined with new funding sources - should be used to bring the transit system to a have a consistent 55% cost recovery rate by 2014-2015. This should occur while Metro Transit is still expanding service, exclusive of capital costs by 2006, as there will be a concerted effort on increasing ridership and transit mode share.

- **Fare Policy** – the fare structure will be adjusted regularly according to the inflationary increases in operating costs and consistent with the 55% target Revenue Cost Ratio financial policy.
- **Service Utilization** – maintain overall transit system service utilization at 45 revenue passengers per service hour as a minimum.

**Goal 3: Improve Service Quality and Customer Satisfaction**

In order to become more competitive with the convenience of the automobile, Metro Transit will need to continually improve the quality of the service it provides customers. This effort will enable it to retain and increase the frequency of use by current riders and to attract new riders.

The objectives of a service quality program will be focused on the following elements of the operation:

- **Transfer Connections** – Schedule designated timed transfers at transfer points to achieve a transfer within a maximum of 5 minutes waiting time between buses, 95% of the time, with connecting buses not having to wait longer than 3 minutes. This objective recognizes that not all transfers will be designated timed transfers.
- **Schedule Adherence** - Improve schedule adherence so that buses are on-time 95% of the time. Buses should never operate ahead of schedule or be more than 3 minutes behind schedule at identified time points.
- **Service Reliability/Maintenance** - Improve maintenance reliability by providing buses so that 99.9% of the scheduled service is delivered on a daily basis as a minimum. This objective is not intended to apply to the ferries, where the small fleet size and lack of spares make this objective impractical.
- **Service Interruptions/Maintenance** - Improve maintenance reliability so that on-road service interruptions due to vehicle breakdowns do not exceed a maximum of 2 per 10,000 vehicle kilometres.
- **Passenger Safety** – Improve on-street operations so that vehicle accidents do not exceed a maximum of 2 collisions per 1,000,000 vehicle kilometres.

The objectives are to be accomplished by increasing on-road monitoring of schedule adherence, improving route and schedule design, and vehicle maintenance and the cleaning of passenger facilities.

## C. Transit Route Performance Standards

Transit route service performance standards are fundamental to the operation of any public transit organization as they provide the rationale for making decisions on the transit services and associated allocation of resources. Standards provide the basis for evaluating such key service parameters as route coverage, service levels (frequencies) and ridership performance.

Formal transit service performance standards have been in place since 2002 and were adopted by the Halifax Regional Council. The standards are for the conventional transit services (not including specialized transportation - access services) of the municipality, and have been updated to reflect the Halifax Regional Council vision for transit and the changing market in which it is operating. The standards are intended to guide the design and operation of Metro Transit's conventional services over the next five years to 2014.

As a tool for evaluation purposes, service standards should not necessarily imply a specific action if a standard is not met. For example, if a route does not meet a ridership performance standard, there is not an automatic requirement that the service be cut or eliminated, but it does suggest some remedial action, such as a route re-structuring or a change in service frequency, should be considered. A route may not be able to meet both a minimum frequency and a performance standard, in which case, a sub-standard frequency or a sub-standard performance may have to be accepted if a suitable remedial action is not available. Also, bringing service levels up to meet a standard does not necessarily have to happen immediately, but can be phased in according to such things as resource availability and anticipated ridership performance. For example, local services in new developments may start as peak-hour-only services and be upgraded to all day services at a later date.

On the other hand, it is generally desirable to introduce transit services into new developments as early as possible in order to encourage transit use and potentially prevent or affect the development of automobile travel habits, perhaps eliminating the need for new residents to purchase a second car. Service should be introduced or extended only after detailed investigation to forecast demand, revenues and costs.

A minimum six month trial period, and ideally twelve to eighteen months, should be established for service in any new area, with a reasonable (modest) ridership objective, in order to give the service an adequate chance to reach the regular performance targets identified in these standards.

### Service Coverage

Metro Transit will provide conventional fixed route transit services within the built-up urban areas of the Metro Transit Service Area. The transit routes will be located so that 90% of all residences, places of work, secondary and post secondary schools, medical and shopping centres, and public facilities in the urban area are within a walking distance of not more than:

Residential Areas

- 400 metres of a bus stop during the daytime Monday through Saturday; and during the evening and all day Sundays and holidays.

Industrial Areas

- 400 metres walking distance

The objective of this standard is to provide service to approximately 90 percent of the urban industrial area.

Rural Areas and Small Communities

Rural areas and small communities with population densities over 1,000 persons per square kilometre will be considered for Community Transit services provided that 90% of the population is within a 1 kilometre walk of roads on which a community transit route can be operated. ***Service will not necessarily be provided to all rural and small communities.*** A decision to serve a specific area will depend on whether the service can meet the ridership standards in this section and whether or not the community decides to pay for transit.

**Route Structure**

Transit service in urban areas will be provided by a network of the following fixed routes described as follows:

- ***Higher Order Routes*** included MetroLink, Rural Express, and the ferries - existing or future or potential New Urban Express Routes. These are higher order transit services serving the core areas of the Region, operating in the major travel corridors on the main arterial roads in the urban area, and providing higher frequency service in peak and off-peak periods. They form the primary spine of the Core Services/ Primary Network.
- ***Core Services/ Primary Route Network*** - These are the primary services of Metro Transit, operating in the major travel corridors on the main arterial roads in the urban area. They form a primary route network, focused on the main transit centres in the urban area including the Halifax and Dartmouth central business districts and the designated transit terminals at major non-downtown destination points. The ferries and certain crosstown routes may also be considered core routes where they connect to key activity centres or transit focal points. **Branches of core routes which are interlined with these routes and mainly operating on minor arterial and collector roadways should not be considered part of the Core Services/ Primary Route Network.**

  The core or primary route network provides a basic level of mobility to all residents in the urban area and 90% of all residents should be within 400 metres of a core route/ primary network. Route structure and minimum service level standards are very important for core routes as they need to be direct, relatively fast, and available to all residents. Some core routes may be future potential candidates for higher-order transit services including Urban Express Bus and "MetroLink" services.

- ***Local Routes*** - These routes circulate within the various communities in the urban area and provide a feeder function in the transit system by connecting communities to a transit centre or major local activity centres where transfers can be made to the core network. Local routes operate primarily on collector roads and supplement and feed the core or primary or core route network to bring most residences within 400 metres of a transit route. Certain routes may interline at transfer points and have both a core route portion and a local route portion (or branches). Local routes could include alternative forms of

community circulators or feeder shuttles and could comprise the local portion of express bus services to major activity centres and employment concentrations.

- ***Community Routes*** - These are routes that serve smaller communities and rural areas outside the urban transit service area, where population and transit demand are sufficient to justify fixed route or demand responsive services (see above on page 14). The community transit services will operate on arterial and collector roads, focused on the nearest transfer point to connect with the core route network (usually at a transit centre or main activity centre). If service is provided, alternative forms of service, such as dial-a-ride, vans, taxis or other forms of community transit service may be used to reflect a lower demand level and provide a better chance of performance standards being met.

**Minimum Service Levels**

The following are minimum service frequency standards and minimum spans of service for the various route types. As noted above, all services also should meet ridership performance standards, otherwise remedial actions need to be considered. All routes can start earlier or operate later than the designated minimum hours if a minimum performance level of 20 passengers per vehicle service hour (30% cost recovery) can be maintained after a one year to eighteen month trial period.

**Higher Order Routes - MetroLink, Rural Express, Urban Express - Minimum Frequencies and Spans of Service** (including ferries):

**MetroLink**

| | | |
|---|---|---|
| Weekdays | 10 to 15 minutes | 6:00 am to 9:00 am / 3:00 pm to 6:30 pm |
| | 20 to 30 minutes | 9:00 am to 3:00 pm / 6:30 am to 1.00 am |
| Saturdays | 20 to 30 minutes | 6:00 am to 1.00 am |
| Sundays/Holidays | 30 minutes | 6:00 am to 1:00 am |

**Urban Express (initially Weekday Peak Periods only)**

| | | |
|---|---|---|
| Weekdays | 10 to 15 minutes | 6:00 am to 9:00 am / 3:00 pm to 6:30 pm |

**Rural Express - MetroX**

| | | |
|---|---|---|
| Weekdays | 30 minutes | 6:00 am to 9:00 am / 3:00 pm to 6:30 pm |
| | 60 minutes | 9:00 am to 3:00 pm / 6:30 am to 1.00 am |
| Saturdays | 60 minutes | 6:00 am to 1.00 am |
| Sundays/Holidays | 90 minutes | 6:00 am to 1:00 am |

**Ferries**

| | | |
|---|---|---|
| Weekdays | 12 to 15 minutes | 6:00 am to 9:00 am / 3:00 pm to 6:30 pm |
| | 30 minutes | 9:00 am to 3:00 pm / 6:30 pm to 1.00 am |
| Saturdays | 15 minutes | 6:00 am to 6.00 pm |
| Saturdays | 30 minutes | 6:00 pm to 1.00 am |
| Sundays/Holidays | 30 minutes | 6:00 am to 1:00 am |

**Core Services / Primary Network - Minimum Frequencies and Spans of Service**

| | | |
|---|---|---|
| Weekdays | 15 minutes | 6:00 am to 9:00 am / 3:00 pm to 6:30 pm |
| | 30 minutes | 9:00 am to 3:00 pm / 6:30 am to 12 midnight |
| Saturdays | 30 minutes | 6:00 am to 12 midnight |
| Sundays/Holidays | 30 minutes | 6:00 am to 12 midnight |

In general, it is more important for core routes and primary route network to meet minimum frequency standards, so that the overall integrity of the route network is maintained and passengers maintain confidence in the system.

**Local Route - Minimum Frequencies and Spans of Service**:

| | | |
|---|---|---|
| Weekdays | 30 minutes | 6:00 am to 9:00 am /3:00 pm to 6:30 pm |
| | 30 minutes | 9:00 am to 3:00 pm |
| | 60 minutes | 6:30 pm to 12 midnight |
| Saturdays | 30 minutes | 6:00 am to 6:30 pm |
| | 60 minutes | 6:30 pm to 12 midnight |

**Community Shuttle (Urban) - Minimum Frequencies and Spans of Service** (when operating):

| | | |
|---|---|---|
| Weekdays | 15 to 20 minutes | 6:00 am to 9:00 am / 3:00 pm to 6:30 pm |
| | 30 minutes | 9:00 am to 3:00 pm |
| | 30 minutes | 6:30 pm to 12 midnight |
| Saturdays | 30 minutes | 6:00 am to 6:30 pm |
| | 30 minutes | 6:30 pm to 12 midnight |
| Sundays/Holidays | 60 minutes | 7:00 am to 12 midnight |

**Community Transit (Rural) - Minimum Frequencies and Spans of Service** (when operating):

| | | |
|---|---|---|
| Weekdays | 60 minutes | 6:00 am to 9:00 am / 3:00 pm to 6:00 pm |
| | 120 minutes | 9:00 am to 3:00 pm |
| | 120 minutes | 6:00 pm to 12 midnight |
| Saturdays | 120 minutes | 6:00 am to 12 midnight |
| Sundays/Holidays | 120 minutes | 7:00 am to 11:00 pm |

The following thresholds are applied to determine whether Community Shuttles (Urban) or Community Transit (Rural) should be operated:

- Minimum density of 30 residents per hectare or 30 jobs per hectare measured over a minimum developed area of 10 hectares.
- There is an adequate road width and surface for the vehicles providing the service and pedestrian access system (i.e. sidewalks) that provides for safe and efficient operation of Community Shuttle (Urban) or Community Transit (Rural) service, and safe access by customers.
- It is projected that the area would generate at least 200 total person trips (by all modes) for each additional Community Shuttle (Urban) or Community Transit (Rural) service hour that would be required to provide new service to the area.

Note: In some communities in North America where the service design guidelines and performance standards cannot meet shared ride taxis or vans not on a fixed route structure may be considered. They would provide service to rural or urban areas with low density areas and meet scheduled Community Transit (Rural) or Community Shuttle (Urban) vehicles.

For example in the City of Hamilton in the lower density suburban municipalities (e.g. in Glanbrook and Stoney Creek) arrangements have been made with local taxicab services to connect riders from areas beyond the Hamilton bus service area with Hamilton Street Railway core bus services via the use of shared ride taxis or vans. Started in 1998 as a pilot project to service northern Stoney Creek, “Transcab” service has proven to be successful in cost-effectively connecting residents of areas not dense enough to warrant bus service with main transit lines. The service currently operates Monday to Saturday during the day, and costs an additional 50¢ above regular bus fare. Residents are required to call only an hour before their desired travel time when going toward transit lines, and service is provided at all bus arrivals at the transit stops. In Glanbrook, Transcab services are also accessible, upon customer request. Part of the reason for the limited service in some former municipalities is a result of what is known as area rating. Historically, municipalities could opt out of transit services or receive lower transit service levels with the result being lower property taxes. This practice is being reviewed by the City of Hamilton, starting with the establishment of an area rating committee. Addressing the issue of area rating is an essential requirement prior to any expansion of services to ensure equity among taxpayers and to inhibiting the development of a more comprehensive regional transit system.

**Peak-point Ridership**

For all bus services, average maximum peak-point ridership per bus will not exceed the following standards and service frequencies will be increased or larger buses will be used if these standards are exceeded:

| | |
|---|---|
| Regular routes (all stops) - peak periods | Articulated 60 ft. Bus - 125% of seating capacity over a 60 minute period (75 passengers per bus)<br>Regular 40 ft. Bus - 125% of seating capacity over a 60 minute period (50 passengers per bus)<br>Community up to 30 ft. Bus - 100%of seating capacity over a 60 minute period (20 to 28 passengers per bus depending upon the length of bus) |
| Express routes – peak periods | Articulated 60 ft. Bus - 125% of seating capacity over a 60 minute period (75 passengers per bus)<br>Regular 40 ft. Bus - 125% of seating capacity over a 60 minute period (50 passengers per bus)<br>Community 30 ft. Bus - 100% of seating capacity (20 to 28 passengers per bus) with no standing customers |
| Ferries - all times | 100% of seating capacity over a 60 minute period (390 passengers per ferry) |
| All routes - off-peak periods including midday and evening | 100% of seating capacity over a 60 minute period |

These passenger standards are calculated on the basis of an average over one hour in the peak period, at the busiest point on the route. For instance, if a service operates at 15-minute intervals, then 4 buses would pass the busiest point in an hour. The average number of passengers for these 4 buses must fall within the service standards, even though any one bus may be more crowded than the average. If the standard is exceeded for the average calculation, Metro Halifax will consider larger vehicles, or more frequent service to improve the situation.

**Ridership Performance of Individual Transit Services**

Transit routes are expected to equal or exceed the following performance targets. If they cannot meet these targets, possible remedies could include route changes, lower service levels or cancellation. These standards do not apply to the ferries because of their high capacity.

- Higher Order Routes-MetroLink,or Urban Express Targets:

  | | |
  |---|---|
  | Weekdays Daytime | 80 passengers per service hour in peak direction |
  | Evenings and Weekends | 35 passengers per service hour in peak direction |

- Rural Express Performance Targets:

  | | |
  |---|---|
  | Weekdays Daytime | 40 passengers per service hour |
  | Evenings and Weekends | 20 passengers per service hour |

- Core Services or Primary Route Network Performance Targets:

| | |
|---|---|
| Weekdays Daytime | 40 passengers per service hour in peak direction |
| Evenings and Weekends | 20 passengers per service hour in peak direction |

- Ferries Performance Targets:

| | |
|---|---|
| Weekdays Daytime | Seated load per service hour in peak direction |
| Evenings and Weekends | 75% of seated load per service hour in peak direction (390 passengers on current ferries is a seated load - so 75% is 292) |

In general, the core routes should maintain minimum service level standards even if they cannot meet these performance standards, although restructuring or other remedial actions may be required.

- Local Route Performance Targets:

| | |
|---|---|
| Weekdays Daytime | 25 passengers per service hour |
| Evenings and Weekends | 15 passengers per service hour |

- Community Shuttle (Urban) Performance Targets:

| | |
|---|---|
| Weekday Peak Hours | 20 passengers per service hour (fixed route) |
| | 15 passengers per service hour (demand responsive) |
| Other times and days | 15 passengers per service hour (fixed route) |
| | 10 passengers per service hour (demand responsive) |

- Community Transit (Rural) Performance Targets:

| | |
|---|---|
| Weekday Peak Hours | 15 passengers per service hour (fixed route) |
| | 10 passengers per service hour (demand responsive) |
| Other times and days | 10 passengers per service hour (fixed route) |
| | 5 passengers per service hour (demand responsive) |

**Cost Recovery of Individual Transit Services**

To achieve the system financial target, each transit route will recover a minimum percentage of its operating costs from the operating revenues attributed to the route (based on boardings). The minimum percentage depends on the financial target established for the transit system as a whole, which is a minimum 50% recovery of operating costs by 2010-2012, increasing to 55% by 2014-2015. Targets for individual routes

vary by type of route, time of day and day of the week, and take into account that some routes will exceed the targets.

- Higher Order Route Cost Recovery (including MetroLink and Urban Express):

  | | |
  |---|---|
  | Weekdays Daytime | 55% to 65% (60% average of all core routes) |
  | Evenings and Weekends | 40% to 50% (45% average all core routes) |

- Rural Express Cost Recovery:

  | | |
  |---|---|
  | Weekdays Daytime | 50% to 60% (55% average) |
  | Evenings and Weekends | 30% to 40% (40% average all core routes) |

- Core Service/ Primary Route Network Cost Recovery (including ferries):

  | | |
  |---|---|
  | Weekdays Daytime | 55% to 60% (55% average all core routes) |
  | Evenings and Weekends | 35% to 50% (45% average all core routes) |

- Local Route Cost Recovery:

  | | |
  |---|---|
  | Weekdays Daytime | 40% to 45% (40% average all local routes) |
  | Evenings and Weekends | 30% to 35% (30% average all local routes) |

- Community Shuttle (Urban) Cost Recovery:

  Rural community transit services (fixed route or demand responsive) should have a minimum cost recovery of 40% for the period of operation. To achieve this recovery level, the service may need to charge a premium fare or be operated by a lower cost operator such as a local taxi company.

- Community Transit Cost Recovery:

  Rural community transit services (fixed route or demand responsive) should have a minimum cost recovery of 30% for the period of operation. To achieve this recovery level, the service may need to charge a premium fare or be operated by a lower cost operator such as a local taxi company.

**Bus Stops and Shelter Standards**

The bus stop access and the quality of the stops in terms of the size of shelters and facilities at the shelter (e.g. benches, garbage bins, telephones, bike storage depending upon the volumes at stops) are very important to attracting customers. The costs for these facilities, including making stops accessible in terms of landing pads, improving sidewalk connections, etc. should be included in terms of budgeting for transit services.

Bus stops should be placed at most intersections, passenger generators, and bad weather locations (e.g. windy) and transfer points subject to minimum spacing criteria. The spacing of stops should not

normally be less than 250 metres in developed areas (except in downtown Halifax and within major trip generators where closer spacings may be warranted), and 500 metres in les dense areas. Development around the major stops should be encouraged at greater density and follow transit supportive design principles – closer to the street, favour pedestrian connections, and customer friendly uses in commercial areas such as coffee shops, or passenger amenities.

As a general rule, bus stops at intersections should be located at the far side of the intersection for safety considerations although the actual location will depend on traffic and street conditions. Where possible, stops should be located close to signalized intersections. Stops and the area around them should be made accessible to people with disabilities, including wheel-chairs and other mobility aids. Stops and the area around them should also have a high priority for snow clearing.

Bus bays should generally not be used, because of the difficulty for buses trying to re-join the traffic flow. They may be considered in certain instances, however, such as for stops located on higher-speed arterials or near major trip generators, transfer points, timing points and terminus locations where a bus is likely to have an extended stop time.

Today, approximately 18% of the 2,224 stops have shelters. Even allowing for the potential of close spacing of some stops, the percentage of shelters per bus stop is low, particularly when considering the local climate. Many transit systems have a percentage rate in the 25 to 30 percent range, with many targeting to have 1/3 (33%) of their stops equipped with shelters. To achieve a rate of 30%, HRM would need to have 672 shelters.

As a minimum, shelters should be placed at all bus stops when the passenger activity exceeds 100 passenger boardings on weekdays. Stops with lower volumes may also be considered, if other criteria are met and resources are available. Other warrants for shelters can include such things as all terminals and transfers points, exposure to inclement weather, significant transfer activity or proximity to certain land uses with special needs (e.g. seniors' manors, community centres).

The shelters should be a minimum of five square metres and should be enclosed on three sides. As a general rule, the shelters should be located a minimum of one metre behind the curb and no more than 10 metres from the bus stops. Benches and schedule information should be provided in all shelters.

## D. Establishing New Transit Service and Determining Whether Service is Warranted

Metro Halifax Transit Service Design Guideline and Standards dealing with route coverage, service levels (frequencies), vehicle loading and route performance will be used for evaluating transit routes and will be the basis for making decisions about introducing new services.

Service warrants (i.e. investigating whether a route should be provided or not) for Core/ Primary Network, Local Routes, Rural Express - MetroX, Urban Express or Community Bus are determined by performance levels.

**Service Expansion into New Areas**

Services introduced in new areas not previously served should be guaranteed for a minimum 12 months of operation to ensure enough time for travel patterns to adjust and for recording of four-season ridership patterns. At the end of the 18 months, the service must meet the minimum Route Performance thresholds required for its type of service. Within this trial period, interim targets are set to ensure that a service that is clearly not capable of meeting the ultimate targets is identified as early as possible. Monitoring at three, nine and 12 months is completed to ensure that the new service is moving towards the appropriate standard. Targets for these interim periods are set at 25 percent, 50 percent and 75 percent of the ultimate target, respectively. If the performance at the end of each period has not reached at least 75 percent of the target value, the route should be re-examined to identify potential changes to improve its performance. If the same standard is not met in the next period, the changes should be recommended.

**Service in New Operating Periods**

Routes that introduce service in new operating periods where routes already exist, or modify the existing route are subject to similar evaluation, but over a shorter six-month period. If the service change is substantial, staff may recommend a longer trial period at the service introduction stage. Interim targets are established at two months and four months, with target levels of 33 percent and 66 percent of the ultimate target.

**Warrants for Transit Services in New Areas**

Peak period service implementation in new residential or employment areas should be initiated when the catchment area of a proposed route reaches a population or employment of 500. The type of transit service to be introduced should relate to the likelihood of reaching the targets established for alternative types of service, and should be subject to the 18 month period of monitoring the performance of the service. The service may be initially a Community Transit or Community Shuttle (Urban) service and may use a small bus or van/shared ride taxi. Service for these areas in – off-peak periods can be considered when peak period ridership and cost recovery targets are achieved.

**Route Deviations**

For a route deviation, the walking time saved by customer boardings and alightings for the new added route section should be greater than the increased travel time increase for customers riding through the added section. This will occur when the adjusted deviation factor is less than 1. The adjusted deviation factor is defined as the through passengers added time divided by the amount of walking time saved by passengers boarding and alighting in the deviated section less the amount of added walking time of passengers in the section of the original route (if sections were abandoned).

## E. Customer Satisfaction Measures

It is recommended that Metro Halifax use an on-going consultation and feedback process with customers to determine a list of service attributes from the customers who are important to them and their weighting of these service attributes. This research would be conducted through a series of focus groups, where

customers would be requested to describe the ideal service in detail. Customers would then be asked to list their basic service requirements, starting with primary requirements and continuing through the secondary and tertiary components of each of these requirements and their weighing of these requirements. These requirements are then further refined until a final list of quality customer satisfaction measures is developed.

These customer satisfaction measures can be grouped into a number of key categories, known as "service quality determinants" which can be ranked on a 1 to 10 scale, and weighted and monitored through regular customer surveys (i.e. by quarter) to determine how the customer perceives the quality of the Metro Transit service and how customers are reacting to quarterly service changes

The broad range of potential customer satisfaction measure categories and specific areas of measurement in each category are listed below. The 14 specific measures that may be used by Metro Transit to initiate customer satisfaction monitoring, due to simplicity and ease of understanding by customers and other users of this data, are **bolded**. These customer satisfaction levels and standards would be established for the HRM, and not compared against other transit systems.

1. **Timeliness and Reliability** involves consistency of service in terms of it timeliness performance and dependability.
    - **Overall bus service**
    - Providing on-time, reliable bus and ferry service
    - **Trip duration from the time you boarded the bus to the time you got off the bus**
    - Reliable ferries/buses that come on schedule

2. **Responsiveness** involves timeliness of service in term of frequency, time of transfers at terminals and service duration.
    - **Frequency of service in peak periods**
    - **Timeliness of making transfers at transit terminals**
    - **Frequency of service in off-peak periods and weekends**
    - Frequency of service
    - Acceptability of when service stops in weekday evenings
    - Acceptability of when service stops in weekend evenings

3. **Comfort of rides** on different modes in transit system - buses and ferries.
    - Smoothness of ride and stops
    - Temperature on ferry/bus — not hot/cold
    - Not being overcrowded
    - **Having an operator who drives safely & professionally**
    - The ferry/bus traveling at a safe speed
    - Ferry/buses that are not overcrowded
    - **Availability of shelter and benches at stations/stops**
    - Cleanliness of interior, seats, windows
    - Comfort of seats on ferry/bus
    - Quietness of the vehicles and system

4. **Access** involves approachability and ease of contact and accessibility of the overall transit system.
   - Availability and accessibility of stops and shelters
   - Having a direct route
   - **Accessibility of buses and bus stops to handicapped and disabled**
   - Availability of handrails or grab bars on ferries/buses
   - Cost of making transfers
   - Availability of fare media
   - **Cost effectiveness, affordability, and value**
   - Fairness/consistency of fare structure

5. **Courtesy** involves politeness, respect, consideration, and friendliness of contact personnel.
   - **Friendliness and courtliness of drivers**
   - Having a courteous bus operator

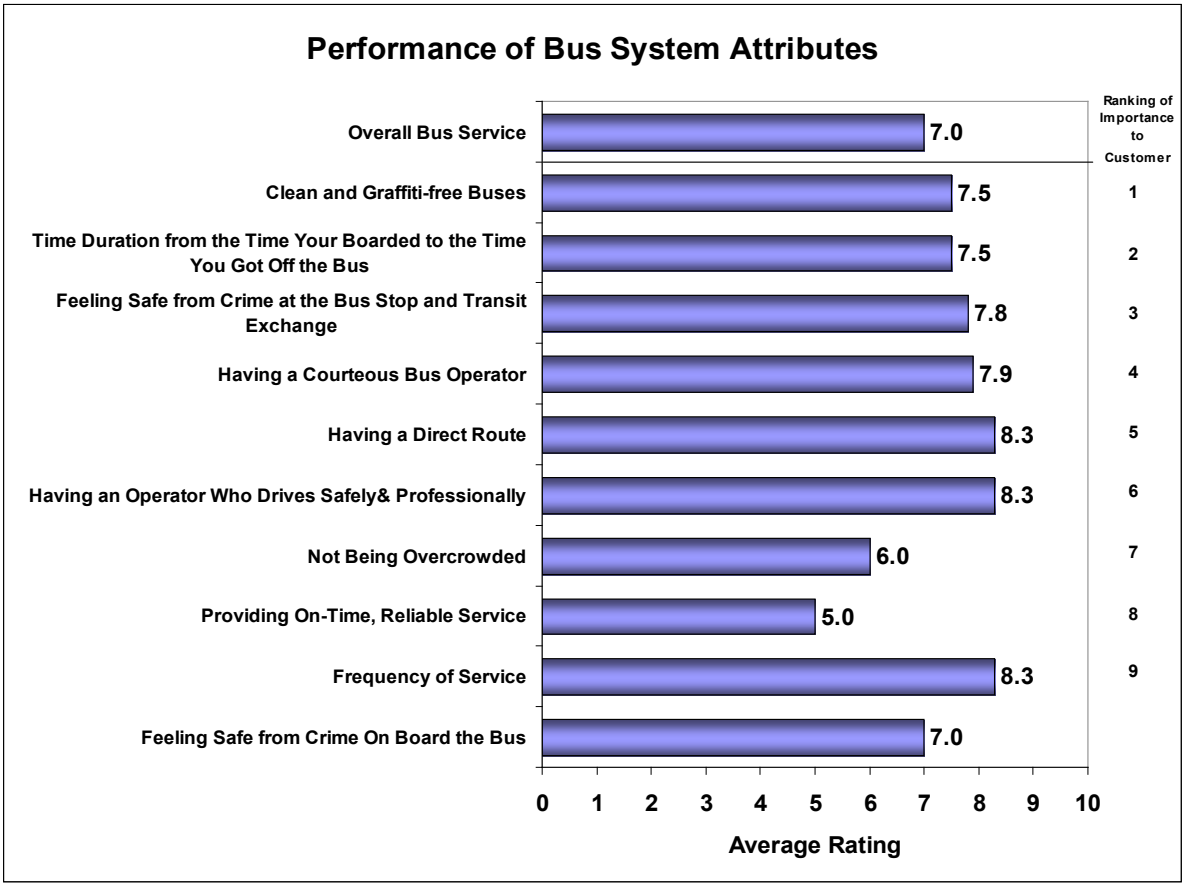
6. **Communication** means keeping customers informed in language they can understand and listening to them. It may mean that the company has to adjust its language for different consumers - increasing the level of sophistication with a well educated customer and speaking simply and plainly with a novice.
   - **Availability of schedule information on website, at stations/stops and by phone/mail**
   - Ease of contacting transit system for requesting complaints and compliments and getting replies back
   - Station/stop names visible from ferry/bus
   - Clear and timely announcements of stops
   - Explanations and announcement of delays

7. **Safety and Security** is the freedom from danger, risk, or doubt.
   - Safety from crime at stations/stops
   - **Safety from crime on ferries/buses**
   - Safe from crime on board the Bus
   - Feeling safe from crime at the bus stop and transit terminal

8. **Tangibles** include the physical environment and representations of the service.
   - Cleanliness and physical condition of stations/stops
   - **Clean and graffiti-free buses**
   - Cleanliness of bus exterior
   - Absence of offensive odours
   - **Physical condition of stations/stops**
   - Physical condition of vehicles and infrastructure

An illustration of how these customer satisfaction measures can be displayed is shown in Table 3.

**Table 3: Illustration of How Customer Satisfaction Data can be Displayed**



# Appendix G
# Vehicle Maintenance

## Preventive Maintenance program

**Bus Number** _____ **Date:**_____

**Inspected By: (Print)** _____ **Signature:**_____

***Note: Circle Yes or No if service is required***

| | | | |
|---|---|---|---|
| **Lube** | | | Lube complete chassis<br>Lube Drive shaft<br>Lube Steering Shaft |
| **Engine oil & filter** | | | Change engine oil & all filters<br>Check level & adjust |
| **Transmission oil & Filter** | **YES** | **NO** | Change transmission oil & filter<br>Check level & adjust<br>**NOTE**: Change interval depends on type of fluid & Vehicle type – see chart |
| **Cooling System** | **YES** | **NO** | Filter change<br>Check level & adjust<br>Check pressure relief cap<br>Check reservoir tank fill door<br>Check latch mechanism<br>Warning decal in place |
| **Fuel filters** | **YES** | **NO** | Change fuel filters |
| **Power Steering** | **YES** | **NO** | Change fluid & filter |
| **Hydraulic System** | **YES** | **NO** | Change fluid & filter<br>Check and adjust oil level |
| **Air Dryer** | **YES** | **NO** | Change desiccant<br>Test heater for voltage |
| **Air Cleaner** | | | Visual check of system<br>Check air filter gauge<br>If gauge shows 18 to 20 H2O – change filter |

| | | | |
|---|---|---|---|
| **Differential** | **YES** | **NO** | Change oil<br>**Note**: change interval depends on vehicle type – see chart<br>Check level, fills as required<br>Check for leaks<br>Clean vent |
| **Heater & Defroster** | | | Clean screens<br>Lube hinges & latches |
| **Record Brake Stroke** | | | See Inspection Sheet |
| **Brake Test** | | | Do Bowmonk<br>Attach test results |
| **Brake Pedal** | | | Lube brake valve plunger<br>Lube pedal |
| **Codes** | | | Check vehicle for codes & record |
| **Webasto Heater** | **YES** | **NO** | Change-Air & Fuel Filter (if equipped)<br>Check operation |
| **Headlights** | | | Check Alignment |

***Bus Type*** ***Fluids and Intervals***

| Bus Group | Engine Oil | Transmission Oil | Hydraulic Oil | Differential Oil | Power Steering Oil | Coolant Fluid Anti-Freeze |
|---|---|---|---|---|---|---|
| Classic New Look | HD 30<br>*10,000km* | Dexron<br>*Annual* | Dexron<br>*Annual* | 80W-90<br>*Annual* | Dexron<br>*Annual* | Green |
| N.F.- Invero | 15W-40<br>*10,0000km* | Dexron<br>*Annual* | Dexron<br>*Annual* | 80W-90<br>*Annual* | Dexron<br>*Annual* | Green |
| N.F.- D 40 | 15W-40<br>*10,000km* | Syntrans<br>*Two year cycle* | Dexron<br>*Annual* | 80W-90<br>*Annual* | Dexron<br>*Annual* | Nye<br>Cool-Pink |
| Orion V | HD 30<br>*10,000km* | Dexron<br>*Annual* | Dexron<br>*Annual* | 80W-90<br>*Annual* | Dexron<br>*Annual* | Green |
| Bluebird | 15W-40<br>*10,000km* | *Dexron*<br>*Annual* | Dexron<br>*Annual* | 80W-90<br>*Annual* | *Dexron*<br>*Annual* | Green |
| Elf | 15W-40<br>*10,000km* | Dexron<br>*Annual* | Dexron<br>*Annual* | 80W-90<br>*Annual* | *Dexron*<br>*Annual* | Green |
| Glaval | 15W-40<br>*10,000km* | Dexron<br>*Annual* | Dexron<br>*Annual* | 80W-90<br>*Annual* | Dexron<br>Annual | Zerex-<br>Gold |
| Glaval 8088/89 | 15W-40<br>*10,000km* | Dexron<br>*Annual* | Dexron<br>*Annual* | 80W-90<br>*Annual* | Dexron<br>*Annual* | Flo-Perm<br>Red |

| INSPECTION CHEKLIST | √ | Remarks: |
|---|---|---|
| **BODY** | | |
| 1. Bumpers, mud flaps, mouldings, etc. all securely mounted , no hazardous bends or protruding edges | | |
| 2. Flooring & Stepwells – not cracked or loose to cause a tripping hazard | | |
| 3. Stanchions, grab rails, and seat backs – all secure with no missing bolts | | |
| 4. seats – all securely mounted, none cut or badly soiled | | |
| 5. Driver's seat – full range adjustment, seat belt operational and all seat features operate<br>Lube tracks – on safety inspections | | |
| 6. sun visor operational | | |
| 7. License plate – on and in good condition | | |
| 8. Roof hatch – must have potential to operate, and signs in place | | |
| 9. Emergency windows – signs in place | | |
| 10. Check fire extinguisher and fire suppression system | | |
| 11. Check body exterior for accidents and condition | | |
| 12. Check for flares, check if shelf life date exceeds 20 years – 2 per bus | | |
| 13. Check first aid kit – seal and ownership, insurance, CVOR & bike rack permits | | |
| **MIRRORS** | | |
| 1. All mirrors must be securely mounted, must maintain adjustment, no cracks or significant deterioration of silver. Check operation of power mirrors | | |
| 2. Destination sign heat grid winter only | | |
| 3. defrost system (Heated Mirrors) | | |
| **WINDOWS** | | |
| 1. No sharp edges, no cracks, cloud or fog to materially interfere with the operator's vision | | |
| 2. No crack, chip, or star in area swept by driver's wiper that interferes with operator's vision | | |
| 3. Operator's side window must readily open to permit hand signals | | |
| 4. Emergency push out signs must be in-place and release mechanisms operational | | |
| 5. Window latches shall operate as intended | | |
| 6. Window slides shall not be excessively loose | | |
| **HORN** | | |
| 1. Horns shall be securely mounted and function as intended | | |
| **WIPERS** | | |
| 1. Arms and blades in proper alignment and condition | | |
| 2. Washers shall work as intended | | |
| **HEATER, DEFROSTER AND AIR CONDITIONING** | | |
| 1. Function as intended | | |
| 2. Hoses and pipes – no cracks, leaks or abrasions | | |
| 3. Check temperature in coach | | |

| **LIGHTS** | √ | **Remarks:** |
|---|---|---|
| 1. All exterior lights and signals must operate properly when activated | | |
| 2. All interior and step well lights must work | | |
| 3. Turn signal and flasher must work | | |
| 4. Lenses and reflectors must be in good condition | | |
| **BATTERIES** | | |
| 1. Service batteries and check condition of tray | | |
| 2. Clean and tighten connections and check disconnect switch | | |
| 3. Lube sliders | | |
| 4. Ensure hold downs are secure | | |
| **DOORS** | | |
| 1. Door hinge covers on and in good condition | | |
| 2. Sensitive edges and alarms, including "drunk alarm" (where applicable) | | |
| 3. Accelerator and brake interlocks work on rear door, and front door (if equipped) | | |
| 4. Compartment doors work and latch securely | | |
| 5. Check door speed sensor for proper operation (if so equipped) | | |
| **CHASSIS** | | |
| 1. No visible cracks or rust perforation or loose joints | | |
| 2. No underbody rust holes for exhaust gases to enter | | |
| 3. Check walking beams for corrosion and cracks (92 and 94 only) | | |
| **DRIVE SHAFT** | | |
| 1. no missing, loose or damaged fasteners | | |
| 2. all guards or hanger brackets on and secure | | |
| 3. Check universal joints | | |
| **FUEL / EXHAUST SYSTEM** | | |
| 1. Tank attachments and mountings are in good condition and secure | | |
| 2. No leaks and lines are secured and not rubbing | | |
| 3. Muffler and pipes are in good condition and secured | | |
| 4. Not located to allow heat damage to wiring, fuel, air lines | | |
| 5. Check fuel cap and gasket | | |
| **STEERING** | | |
| STEERING BOXES AND COLUMN | | |
| 1. Mounted securely and check for leaks | | |
| 2. No excessive spline or coupling play | | |
| 3. Check steering shaft U-joints and slip join | | |
| 4. Check tilt and telescopic operation<br>POWER STEERING | | |
| 1. Belt tight and in good condition | | |
| 2. Fluid level full and no leaks. Check lines and hoses for rubbing | | |
| 3. Must operate as intended | | |
| **STEERING LINKAGE** | | |
| 1. Front wheels not visibly out of alignment | | |
| 2. Steering wheel free play 2.75 inches maximum | | |

| | |
|---|---|
| 3. No excessive play in any linkage joint | √ |
| 4. No linkage damaged, loose or modified | **Remark:** |
| 5. No nut, bolt, or key worn, loose or missing | |
| 6. Check king pins and bearings | |
| 7. Wheels on ground – turn left and right to lock, no roughness<br>Turn full left – check tire not rubbing or any componen<br>-Turn full right – check tire not rubbing or any component | |
| **SUSPENSION** | |
| 1. Ball joints | |
| 2. Check front and rear lateral rod bushings | |
| 3. Front and rear air springs, radius rods, control arms, shock absorbers, stabilizers, equalizers, walking beams – none loose, bent, cracked, broken, disconnected, rust perforated or missing | |
| 4. Air suspension must support body clear of axles with no excessive leaks | |
| 5. When built up from 0 pressure, no air may flow to suspension before 55 psi reached in brake system | |
| 6 McPherson – check struts and bushings | |
| **ACCELERATOR** | |
| 1. Engine running, transmission in neutral, engine must readily return to idle when pedal released. Ensure engine only starts in "Neutral" | |
| 2. Visually check accelerator, return spring and base pivot pins | |
| **ENGINE AND COMPARTMENT** | |
| 1. Check operation of rad shutters – lubricate | |
| 2. Check hydraulic fan for leaks | |
| 3. check engine & transmission mounts for condition | |
| 4. Check cradle mounts for condition | |
| 5. Check water pump for leaks | |
| 6. Check condition and tension of all belts | |
| 7. Check condition of sheaves and idlers | |
| 8. Check hydraulic systems for leaks and tank mounts | |
| 9. Check air conditioning operation | |
| 10. Check for transmission leaks – check condition of lines | |
| 11. Check muffler thermal blankets | |
| 12.Record engine operation temperature while road testing (180 º F)<br>Degrees F: _____ | |
| 13. Check governed road speed – maximum 100 kph record _____<br>**WHEELS** | |
| 1. Torque wheel nuts to manufacturers specifications | |
| GMC/MCI/OBI V – 500 to 550 foot pounds<br>Low Floor – Steel Wheels 475 foot pounds<br>Low Floor – Aluminum Wheels 450 foot pounds | |
| 2. No visible cracks, elongated bolts holes, no welding repairs, no bent wheels | |
| 3. No mismatched wheel nuts allowed | |
| **TIRES** | |
| 1.Front tires must have 3 mm tread on 2 adjacent major grooves | |
| 2. No exposed cord, no sidewall or tread cuts or snags deep enough to expose cords | |

| | |
|---|---|
| 3. No bulge, knot or visible bump | √ **Remarks:** |
| 4. rear tires must have 3 mm tread depth on 2 adjacent major grooves | |
| 5. check and adjust tire pressure | |
| GMC/ MCI/ OrionV -- 110 psi<br>Low Floor – Steel Wheels -- 120 psi<br>Low Floor – Aluminum Wheels -- 120 psi | |
| **AIR SYSTEM** | |
| 1. Governor cut out 125 psi. maximum on all models | |
| 2. Drain all tanks completely, where possible. All valves shall work | |
| 3. Air pressure build up from 50-90 psi in less than 3 minutes at engine governed speed | |
| 4. Air pressure alarm must activate by 55 psi – check light and buzzer | |
| 5. Air drop not to exceed 2 lb/minute – brake on or off | |
| **PARKING AND EMERGENCY BRAKE** | |
| 1. When applied, must hold against momentary slight throttle application | |
| 2. Must fully release when button released | |
| 3. Must have more pedal reserve when applied | |
| 4. Check retarder operation | |
| **MISELLANEOUS** | |
| 1.Test kneeling operation and alarm | |
| 2. Test wheelchair ramp operation, warning lights, alarms and wheelchair belts | |
| 3. Check radio, driver's seat and destination sign alarms – advise control prior to testing | |
| 4. Check destination sign operation – manual signs only | |
| 5. Check bike rack operation and ensure it is secure | |
| 6. Check speedometer operation (on hoist or on road test) | |
| 7. Check engine fast idle – if equipped | |
| **BRAKES**<br>1. Visually inspect all brake components: Spring, stack adjuster, inspect position of brake roller on cam seals<br>2. Check condition of brake air line hoses – No wear / Rubbing<br>3. Check brake chambers and pins and clevises – lube if necessary | |
| 4. Record brake stroke measurements – after inspection is completed | |
| LR LR | |
| RF RR | |
| 5. Check brake retarder operation – on road test<br>6. No mismatched brake chambers allowed | |

**Annual Brake Inspection**

| **Bus No. _____**<br><br>**Inspection Date: _____** | | **Condition** | **Good** | **Repairs Required** |
|---|---|---|---|---|
| 1 | Check brake drums / rotors for cracks | | | |
| 2 | Check cooling fins | | | |
| 3 | Measure drum diameter / rotor thickness and record measurements<br>L/F _____ R/F _____<br>L/R _____ R/R _____ | | | |
| 4 | Check and re-pack wheel bearings and replace all wheel seals with new parts | | | |
| 5 | Check brake lining / pads thickness: ( record actual thickness ) minimum for bolted linings – 5/16"<br>L/F _____ R/F _____<br>L/R _____ R/R _____ | | | |

| | | | | |
|---|---|---|---|---|
| 6 | After front wheel installation, check the following:<br>- Wheel bearing proper adjustment – no signs of problems when rotating<br>- Check king pins – maximum play 0.5 inches at outside of tire<br>- Steering linkage – with wheels off the ground, not over 0.5 inches free play left and right at front and rear of tire | | | |
| 7 | Automatic slack adjusters must function properly | | | |
| 8 | Record push rod travel<br>L/F _____ R/F _____<br>L/R _____ R/R _____ | | | |
| 9 | Road test vehicle and perform brake test with Bowmonk of Tabley Meter<br>Bowmonk test should be performed at 36 km/h (20 mph)<br>Test: 20km/h – full pedal – rear wheel must slide (other then ABS equipped)<br>Test: 30km/h – must stop without skidding<br>All wheels must release immediately, no component failure<br>No pulling – left or right | | | |

***Comments and Remarks:***

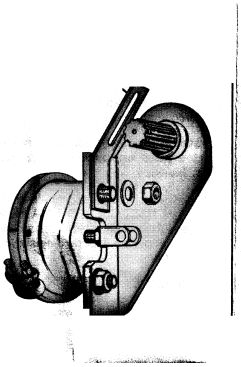
# *Standard Operating Procedures*
# *Maintenance Department*

**Type -- Haldex Auto Slack Adjusters**
**Vehicle Model – All Models with Haldex Auto Slacks**
Date _____
Prepared By _____ Approved By _____

Safety First - Prior to starting any work, ensure the vehicle is locked out and or the battery is disconnected to avoid accidental start-up

## Installation and Adjustment

1- Check to make sure that the brake chamber pushrod is fully retracted. If a rear slack is to be checked or changed, ensure that the brake system air is fully charged in order to release the spring brake / service brake.
2 – Loosely install the anchor bracket.



3 – Apply anti-seize lubricant to the camshaft splines.
4 – Fit slack adjuster onto the camshaft. Use at least one inner washer and enough outer washers to allow no more than .060 movement of the adjuster on the camshaft. Be sure the adjusting hex nut is facing away from the brake chamber (see fig 2 ). Secure the slack adjuster onto the camshaft.

5 –Rotate the 7/16” adjusting hex clockwise (fig 2 ) until the clevis holes line up with the brake adjuster arm hole.

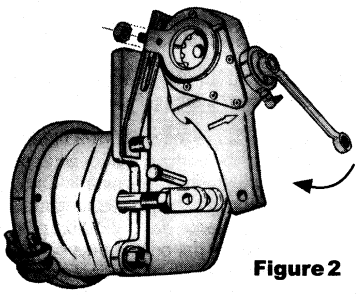
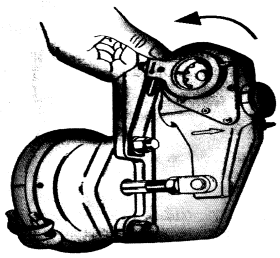


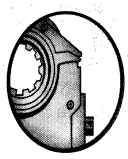
Figure 2

6 –Insert the clevis pin, but leave the cotter pin out. The clevis pin will have to be removed later to ensure proper installation.

***Caution***
***If the control arm is not positioned properly,***
***The brakes will drag when released.***

7 – Rotate the control arm away from the adjusting hex (toward the brake chamber) until the control arm comes to a definite internal stop.





8 – Most adjusters will be equipped with an “Installation Indicator”. The indicator (see above ) must fall within the slot for proper installation with the brakes fully released.

9 – Tighten all anchor bracket fasteners - make sure the control arm does not move from its position while tightening fasteners.

10 – The adjuster must be manually adjusted at this time.

***Caution***
***Do not use impact wrench or damage to the***
***Internal mechanism will occur***

11 – A minimum of 13 ft. lbs. Is required to overcome the internal clutch.
A ratcheting sound will be present.
12 – Rotate the adjusting hex **clockwise** until the lining contacts the drum.
13 – Back off the adjuster by turning the adjuster hex **counter-clockwise ½** a turn.
14 – With the brakes fully released (if rear, ensure system full air pressure to release the spring / service brake) check that the control arm "Installation Indicator" is within the slotted area. If not, repeat from step # 7 on.
15 – Remove the clevis pin and check that the clevis and brake adjuster holes remain in alignment. If the clevis pulls into the brake chamber, repeat from step # 7 on.
16 – Apply anti-seize lubricant to the clevis pin. Install and secure with a cotter pin.

# Appendix H
# Pick Procedure

Halifax Regional Municipality/Metro Transit

# REVIEW OF PICK PROCESS

TECHNICAL MEMORANDUM #6

JULY 2009

# TABLE OF CONTENTS

**1. INTRODUCTION ..... 1**

**2. KEY ISSUES ..... 1**

**3. CURRENT SITUATION ..... 2**

**4. PICK PROCESS ..... 2**

**5. COLLECTIVE AGREEMENT ..... 3**

**6. EFFORTS TO REVISE PICK PROCESS ..... 4**

**7. PICK PROCESS IN PEER SYSTEMS ..... 4**

**8. CONCLUSIONS ..... 6**

**9. RECOMMENDATIONS ..... 7**

**EXHIBITS**

Exhibit 1: Summary of Operator Work Selection Process – Peer Transit Systems ..... 5

**APPENDICES**

A - Metro Transit Pick Process – Section 11, Policy and Procedure Manual
B - Memo from Janice Millett/David Al-Molky re Posting of Pick Process
C - Draft Operator Work Pick Policy and Procedure

# 1. INTRODUCTION

This Technical Memorandum reviews Metro Transit's Operator (bus driver) work assignment selection process, or "Pick" process which is the method by which Operators select or "pick" their daily work assignments, and recommends a revised approach both to streamline the process and to prepare a basis for future needs.

# 2. KEY ISSUES

The key issues with the current Pick process are five-fold:

- Length of time taken to complete each Pick;
- Complexity of the Pick process;
- Resources required for the current pick process;
- Having to provide Operators with personal letters advising them of the date, time and location that they have to make their pick rather than a posting of a comprehensive list; and
- The need to establish a separate pick process for the new Ragged Lake facility.

**Timeline** – The Pick process is taking approximately 19 days to sign up 400 Operators and has taken as along as 30 days. Some comparable transit systems complete their Pick process in as little as 5 days.

**Complexity** – The Pick process involves staff going out to meet Operators on the road while in revenue service, if they are unavailable be at the office, and relieve them of their duties to have them select their work. This process requires extensive planning, is complicated depending on the location of Operator, and adds to the timeline for completing the Pick process.

**Resources** – As a result of the above process, up to four staff are involved, including a Union representative, to travel out to relieve the Operator, supervise the selection of work and days off, record and confirm the selection and then update the list of available work and days off. A vehicle is required to transport the Pick personnel to meet the Operators. Although present, the Union representative is not paid by the Municipality for the time spent. Nevertheless, the Union representative must be relieved of regular duties and his/her work filled by a spareboard operator at a cost to the Municipality. With a minimum of four Picks per year, and at an average of 19 to 30 days per Pick to complete the sign-up process, a total of 76 to 120 days per person, or 304 to 480 person-days are involved. The resulting labour cost is significant plus the capital and operating costs of a vehicle.

**Notice to Operators** – providing individual personal letters to Operators advising them of when they are to pick involves issuing up to some 500 letters. This will increase as the size of the transit system increases.

With a second facility on the horizon, the Pick process should be revised in order to permit work assignments to be selected at the second facility separate from the existing (Ilsley Avenue) facility. It is not practical, nor desirable, to have Operators work out of both facilities during their workday or workweek.

# 3. CURRENT SITUATION

Bus operators operate all buses used in scheduled public transit service. Transit service is provided between approximately 6:00AM to 1:00AM seven days per week, 52 weeks per year on a network of some 54 routes. The frequency of transit service (time between buses) on these routes varies by route and time of day with more frequent service generally being provided during weekday peak hours and less frequent service during evenings and on Sundays and Holidays based on the demand for the service. Between 500 and 2,000 revenue-hours of service are provided each day for a total of some 670,000 revenue-hours annually. Operators also operate certain buses in non-revenue service which includes special shuttles to take Operators between the bus garage and their start or finish point on a route or at a terminal.

All of this scheduled and non-scheduled operation of buses is arranged into work assignments ("duties", "runs", "crews" or "shifts") which are generally based on 8 hours of work although there are some 10 hour work assignments. The work schedules can include straight or split shifts. Straight shifts are those where the Operator works continuously without a break other than time off for a meal break. A split shift consists of two pieces separated by a number of hours where the Operator is "off duty". The hours of work and design of the Operator shifts are based on transit service levels, particularly the peak hour needs, provincial employment standards and hours of work legislation as well as certain guidelines set out in the collective agreement between HRM and the transit union.

Metro Transit's planning staff arrange the scheduled/non-scheduled work into shifts based on individual route schedules developed as part of the overall planning process and management of the transit service to meet customer needs. Work schedules also include assignments to replace drivers who are off on vacation, illness or drivers required each day to fill spare assignments or service extras and to replace drivers who become unavailable for work. These are known as "Spare Board" drivers or "Vacation Relief" drivers. A computer using a 'run-cutting" software system ("Trapeze") is used to efficiently divide the work into shifts based on parameters established by the Metro Transit planning and operations departments and in accordance with provincial legislation and the collective agreement. Work is pre-packaged into four days/10 hours per day or five days/8 hours per day of work. Off days are selected individually in what is known as the "cafeteria" style process.

Once the work schedules are designed, drivers must be assigned to each shift or piece of work. Currently there are approximately 370 work schedules. The work is assigned to drivers on the basis of the drivers being permitted to select, or "pick" the work according to their seniority (length of service). Due to variations in service levels throughout the year and to provide the opportunity for drivers to select different pieces of work, the work assignment process occurs four times per year. At the time of work selection, drivers also pick their days off each week.

Metro Transit services are currently operated out of one facility located at 200 Ilsley Avenue. Beginning in 2010, a second facility located in the Ragged Lake industrial park will be opened. It is intended that this facility would function on a "stand alone" (ie. separate) basis from Ilsley Avenue and that bus operators would be assigned to that garage for work and work selection purposes.

# 4. PICK PROCESS

The Operator work selection or Pick process essentially consists of Operators being contacted and asked to select work and days off in order of seniority, which is a standard process in the transit industry. Once the work and days off are selected, the work shift is confirmed. The process is directed by a member of Transit management ("Pick Administrator") with participation by the union.

In the Pick process, at the time of making their work selection, Operators select both their daily work and their days off for the duration of the Pick (approximately 3 months) "cafeteria" style, in that, they are able select their four or five days of work (depending on whether they are working a 4 day/10 hour workweek or a 5 day/8 hour workweek) on an individual-day basis, as opposed to the work being pre-packaged into blocks of 4 or 5 days work by management. Similarly, they are able to select their two days off separately rather than being pre-packaged or included with the blocks of work. This latter process, that is, blocks of work with assigned days off, was once common in the industry.

Metro Transit does not have a policy or standard operating procedure document setting out the parameters of how Operators select their work. There is an internal, technical document (see attached Appendix A – 11. Pick Process) that describes the tasks to be done, but not a policy document. The technical document indicates that "Operators pick their duties in accordance with the collective agreement…" and therefore leaves the assumption that the CA describes the process. In fact, the CA does not describe the process; instead it sets out certain base conditions such as the number of Picks per year and that selection is based on seniority (although this is not directly specified). Further, the use of the words "in accordance with the collective agreement" are misleading and incorrect for the reasons cited, in that the CA does not include a specific description of the Pick process. Instead, the document should read "consistent with" the collective agreement. The lack of precision in the CA is advantageous to management and provides management with the latitude to set out the Pick process. However, it is understood that a long standing past practice does exist that will need to be overcome by providing notice and engaging in meaningful discussions with the Union.

# 5. COLLECTIVE AGREEMENT

Section 29 of the Collective Agreement sets out a variety of guidelines and conditions pertaining to the Pick process such as the number of Picks per year (4), the role of a Pick Committee (to review and discuss the content of the Pick), an Operator's choice to become a regular shift or a Spareboard Operator, and the process for filling vacant work. However, there is no wording which sets out how the Pick process is to be conducted other than by seniority according to whether the Operator chooses to be a "regular" operator (one who selects a run or route) or to be Spareboard (who is assigned work on a daily or weekly basis). Even the wording in section 29.08 concerning picking work by seniority is not explicit.

Section 29.05 provides a limited description of the Pick process in terms of:

- The time required to have the work assignments posted prior the Pick commencing (4 days);
- Giving notice in writing to Operators of the date, time and place they are to make their selections (2 days); and
- In the event an Operator misses his/her scheduled time and does not file a selection sheet, the Union will make the selection.

It is notable that the section makes reference to Operators filing a "selection sheet" if they are unable to make their selection at their assigned time. There is no other reference in the collective agreement to this item.

Article 3.05 refers to the need for a master sign-up but without any context. For example, why would a master sign-up be required? The answer is that it is generally understood, in the event of the establishment of second garage, that a master sign-up, whereby employees (chiefly bus operators) would choose whether they wanted to work at the existing Ilsley garage or the new garage, would be required. Thus, there is recognition that such a mechanism would be required although the

details of the process are to be discussed with the union (a minimum of) "three months prior to a new facility opening". It should be noted that while the CA appears to specifically indicate discussions would occur three months before a new facility opens (that is, no earlier), in fact, discussions and finalization of the process should be undertaken sooner than three months.

In all respects, therefore, there are few encumbrances (limitations) upon management to design the Operators' work assignments or to how the Pick process should be conducted.

As a result, the current Pick process and any perceived or actual limitations which affect how effectively, efficiently and quickly it is conducted are the result of past practice and not restrictions contained in the collective agreement. At the same time, Article 3 of the collective agreement, Management Rights, generally allows management the right to manage the operation and to establish rules and regulations and, by extension, procedures and processes although the CA is not clear in this regard.

# 6. EFFORTS TO REVISE PICK PROCESS

Metro Transit management has periodically attempted to make changes to the Pick process in order to reduce the time required to complete it and to simplify the process. The most recent attempt was with regard to giving notice to the Operators regarding their time to make their work selection. Management attempted to implement a master sign-up schedule to be posted on the Operator's bulletin boards so that all operators knew in advance when they were to pick their work. This was to be in lieu of issuing individual letters to Operators. This attempt was resisted by the Union on the basis that the interpretation of "…in writing..." in clause 29.05 meant that individual letters had to be provided to Operators. The fact that "in writing" was meant to be in deference to telling an Operator "orally" was not explored. An undated memo and recommendation from Janice Millett and Dave Al-Molky summarizes the attempted change in procedure (Appendix B).

In the 2006 collective agreement, Clause 29.14 was introduced with the aim of establishing a joint sub-committee of the Pick Committee "to explore the efficiencies of scheduling, improvement of shifts and improvement of the quality of life" for employees within the Operations Division.

There are no other examples on record although it is understood that there have been periodic discussions with the Transit Union to modify the pick procedures but these were not pursued.

The current practices related to going out to and relieving Operators on the road to make their work selections, and issuing individual letters to Operators advising them of their work selection times is not sustainable in the long term in view of the projected growth in the size of the transit system and number of employees. Steps need to be taken to simplify the Pick process, reduce the resource requirements and contain costs. In addition, a master sign-up process must be developed and implemented as soon as possible. Article 3.01 of the CA does provide support for this: "It is agreed that it is in the interest of the employees, as well as the Employer, that the welfare of the business be promoted and maintained."

# 7. PICK PROCESS IN PEER SYSTEMS

Five peer transit systems, Brampton, Hamilton, London, Mississauga and Waterloo as well as the large transit system in Toronto were contacted to ascertain how their pick processes were handled with regard to duration, frequency of picks per year, process and administrative support. Four of the peer systems, Toronto, Mississauga, Waterloo and Brampton, currently have more than one operating facility. A fourth peer system, London, is in the process of constructing a second facility. Exhibit 1 summarizes the key characteristics of the Pick processes at these systems.

**Exhibit 1: Summary of Operator Work Selection Process – Peer Transit Systems**

| Transit System | Union | # of Operators | # of Garages | # of Picks Per Year | Pick Duration | Operator Signup Time | Selection Slip | Selection Time Notice | Operators Relieved | Mgt Goes to Employee | Staff Involved | Sign up Admin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **London** | ATU | 330 | 1 * | 5 | 10 days | 2 min | Yes | Sched Posted | No | No | 2 | Union |
| **Waterloo** | CAW | 350 | 2 | 5 | 5 days | 10 min | Yes | Sched Posted | No | No | 2 | Mgt/Union |
| **Mississauga** | ATU | 750 | 2 | 6 | 3-5 days | 3 min | Yes | Sched Posted | No | No | 2 / garage | Union |
| **Brampton** | ATU | 440 | 2 | 8 | 3-5 days | 3 min | Yes | Sched Posted | No | No | 2 | Union |
| **Hamilton** | ATU | 380 | 1 | 4 | 22 days | 5 min | Yes | Sched Posted | No | No | 2 | Union |
| **Toronto** | ATU | 4,500 | 8 (bus) | 9 | 5 days | 3 min | Yes | Sched Posted | No | No | 2 / garage | Mgt/Union |
| ***Halifax*** | *ATU* | *430* | *1** | *4* | *19 – 30 days* | *No limit* | *Yes* | *Letter to Employee* | *Yes* | *Yes* | *3* | *Mgt/Union* |

*In the process of constructing a second facility

This survey indicates that, except for Hamilton, the other transit systems including Toronto sign up their Operators in considerably less time compared to Halifax. They also assign their Operators a specific amount of time to make their pick and pre-schedule them by means of a schedule posted on the Operators' bulletin board. Individual letters to advise them of their sign-up time are not provided to Operators. The number of employees directly involved in the sign-up is less at the peer systems. Additionally, Halifax is the only one of the systems surveyed that goes out to the Operators to sign them up. This supports the concerns in Halifax about the length of time taken to by Operators to select their work and the resource commitment.

The systems with more than one facility conduct a "master pick" each year wherein Operators decide which garage they want to work out of for one year. Subsequently, the Operators at each garage then select their work based on the work available at that garage in order of seniority for the following year.

# 8. CONCLUSIONS

The Operator work selection process followed in each of the peer systems as well as in Halifax is generally similar – operators pick according to seniority and leave selection slips if they cannot be available at their assigned time to select work. The key differences between Halifax and the other~~s~~ systems lie in the length of time required to sign up Operators for each pick, travelling out to and relieving Operators from duty in order to complete their work selection, and giving Operators individual letters to advise them of their work selection time. For transit systems with more than one garage, they each conduct a master pick annually.

Of the systems surveyed, Brampton is most similar to Halifax in that Brampton has recently introduced a second garage which required the introduction of a master sign-up. This was accomplished successfully and was based on the practices in other transit systems notably Mississauga, Edmonton and Toronto. Recognizing that Clause 3.05 in the Halifax collective agreement recognizes the need for a master pick, proceeding in this direction should not be controversial or difficult since there are numerous precedents in other transit systems. This process should commence soon in view of the notice period required under Clause 3.05 (3 months) and the planned opening of the new garage in mid 2010.

The other issues noted by Metro Transit staff as items of concern, such as: the time required to sign up operators, having to issue individual letters to Operators advising them of their time to select work versus posting a daily list of scheduled times, and having to go out to Operators and relieve them from duty to complete the sign up, can be addressed through the preparation of a "Pick Policy" or "Standard Operating Procedure" document. The absence of restrictive language in the collective agreement permits management to develop appropriate policies and procedures in this regard. However, in accordance with standard labour-manage practices for changing long-standing practices, Metro Transit management would need to prepare the new policy and procedure and "serve notice" on the Union of the intention to implement it by a specific date and to discuss the matter with the Union to answer any questions or concerns and to finalize any details.

As there is no specific "Pick" policy or Standard Operating Procedure document currently in existence, a new document will need to be prepared. A suggested document is attached herewith (Appendix C) and is based on the policy in place at Brampton Transit.

# 9. RECOMMENDATIONS

It is recommended that:

1. Metro Transit management develop a comprehensive "Operator Work Pick" standard operating procedure document and policy which addresses all areas of concern – giving notice of Operator selection times via a notice posted on bulletin boards, not going out to Operators and relieving them on the road to make their pick, and implementing a "master" sign up process for operation out of both Ilsley and the new satellite garage;

2. Serve notice on the Union of Metro Transit's intention to revise the Pick process in accordance with the new "Operator Work Pick" policy; and

3. Implement the new Pick process at the earliest opportunity in advance of the opening of the second garage.

# APPENDIX A

## METRO TRANSIT PICK PROCESS – SECTION 11, POLICY AND PROCEDURE MANUAL

## 11. <u>Pick Process:</u>

(Pick Run System Process, otherwise known as "The Pick")
(Quarterly Task)

**Definition:**

The process by which each Operator selects their initial duties and corresponding days off for the upcoming three month period.

**Purpose:**

To have each Operator pick their duties in accordance with the collective agreement to ensure all duties required to run the transit service are allocated prior to a set out quarterly period.

**Preparing a New Pick:**

**Tools Required:**

1. Calendar for the current year
2. Annual Vacation List
3. Seniority List
4. Blank Work Acceptance form
5. Paddle Cards
6. Run Cut

**Process:**

< A **Notice to Operators** is posted that contains information for the upcoming pick. (Include such information as when the pick commences, the cut off

point for afternoon extras, general pick information, etc.) Reference: Notice #08-275

< Open the folder containing the **PREVIOUS** Pick information at the following link: *H:\ADMINISTRATIVE SUPPORT\Picks____ 08 Pick*.. Locate the pick schedule. Clear previous driver information, keeping all headings. (*This will become the upcoming pick schedule*). Create a new folder for the new pick, once all changes are made to the pick schedule, save document in new pick folder.

< Open current seniority list. Copy operator information into pick schedule template that you just created. Hide the address columns and commence removing Operators using the information provided to you by Employee Services.(see below)

< Prompt the appropriate Employee Service Supervisor to identify all of the Operators that will not be picking (those Operators who are or will be off due long term absences, leave of absence, term positions that extend through the duration of the pick, maternity/paternity leave, ATU President seconded to National position, upcoming retirees, etc.) Delete the names of those Operators who are not eligible to pick from the Work Acceptance form. Forward the number of those Operator's eligible to pick in the upcoming quarter to the Planning Division (Don

Scribner as of Nov. 2008).

< Obtain the number of working days (Monday - Friday excluding Holidays) from Planning that will be required to conduct the upcoming pick process as well as the number of Operators which need to be scheduled to pick (which you provide to Scheduling after Employee Services determines.)

- LTD
- Term positions that will last for the duration of the pick
- Leave of Absence
- President of the Union
- Retirees
- Absences over 6 months

**Posting the Pick:**

**Tools Required (obtain from Planning):**

, Weekday Runcut
, Saturday Runcut
, Sunday Runcut
, 8 Hr. Operator's Days Off
, 10 Hr. Operator's Days Off
, Spareboard Operator's Days Off
, HRSB School Calendar
, Extras Listing
, Seniority List

**Process:**

< Remove current Pick information Sign located above the bulletin board labelled 'CURRENT PICK' and move it over to the bulletin board labelled 'NEW PICK". Remove the sheets from the bulletin board originally labelled current pick, and post the "NEW PICK" sign.

< Post a copy of 'Runcut' for the upcoming Pick on the 'NEW PICK' bulletin board. **Note:** The employee conducting the Pick will populate this form on a daily basis.
WEEKDAY, SATURDAY, SUNDAY& HOLIDAY AND NEW YEARS RUNCUTS
-provided by scheduling department

< Post a copy of Operator Seniority (only operator's names, and only operators picking from the pick schedule) on the 'NEW PICK' bulletin board.

**Paperwork for Upcoming Pick (to be presented to person conducting the Pick):**

An individual is designated by an Employee Services Supervisor to conduct the Pick each quarter. This person is responsible to meet with each individual Operator (in person, via phone or via pick slip) in order to acquire their duty selection for the upcoming quarter. The Administrative Support position is responsible to provide this person with all documents required to conduct an efficient Pick.

< Meet with designated Pick Person to discuss the Administrative Support requirements.

**SUMMARY of Pick Person duties:**

On a quarterly basis, records work selections for over 450 bus operators, according to the ATU contract. The pick process is administered by following a set schedule provided by Administrative Support to the best of ability. With the assistance of an assigned spareboard operator, locates each operator on the schedule, obtains their preferred work selections and reports back to Administrative Support on a daily basis.

**DUTIES AND RESPONSIBILITIES**

> Meets with Administrative Support to obtain directions, materials and schedule
> Obtains cell phone from Employee Services Supervisor
> Obtains keys to Administration car
> Highlights 10 hour shifts on Pick Board located at the 200 Ilsley Ave. location
> With the assistance of an assigned Spareboard Operator and/or Service Supervisor, physically locates each operator (in operations vehicle) as close to set schedule as possible, obtains work selection and advises Operator of the process where necessary. For those operators picking via paper selection slip, records selection and carries on with schedule (which is in seniority order)
> Maintains the selections in an organized and legible form (hard copy)
> On a daily basis, performs a system of checks and balances for errors in the work including a matching of the number of days off left compared to operators left to pick
> When operator whose turn it is to make his/her work selection is unavailable, contacts the Union and has a representative pick his/her work as per clause 29.05
> Delivers daily pick selections and retrieves schedules and/or other relevant information affecting the pick via a mail slot located within 2nd floor Administration Office
> On a daily basis, updates Pick Board located in the Thornhill & Ilsley lobbies with operator selections to date
> Disposes of all operator material submitted to them (shreds) cleans out carry case, and returns all items to Administrative Support

< At the meeting, distribute the materials required to conduct the quarterly pick:

i. **Work Acceptance** (created by opening old work

acceptance from last pick, change old dates and holidays, copy the names of Operators from pick schedule spreadsheet into new work acceptance - saved into new Pick folder - keep title on each page),

ii. **Updated Seniority List**
iii. **Pick Schedule** (when filled in)
iv. **Complete set of paddle cards**, and
v. **All sets of Runcuts** (Weekdays, Saturdays, Sundays & Holidays, New Year's Eve, and Days Off).

*The last two are provide by the scheduling department. (iv & v)*

**Creating the Weekly Pick Schedule:**

It is the responsibility of Administration Support to create a three day schedule of where and when the Pick Person is to meet with the Operator to pick their duties. Although a schedule is created, posted in accordance with the c/a, and distributed, Operators are expected to pick their duties when they are approached by the Pick Person to do so (even if it is earlier than originally stated on the schedule). As of *November 2008*, this Pick process itself is currently under review by Employee Services in an effort to make it a more efficient process.

**Tools Required:**

To create the three day pick schedule you will need the reference the following documents:

, current seniority list

, current pick's work acceptance
, the current pick's runcut
, the current pick's paddle cards (available on line)

< Open the Pick Schedule.

< Enter the date the Operator is scheduled to be pick on in the " Date" column; commencing with the first day of the Pick. This is done on an individual basis; one Operator at a time.

< Any Operator(s) that are on vacation must be indicated on the pick schedule. Check the appropriate **Vacation List** for the week being scheduled and type the word 'Vacation' into the 'Shift' column.

< Starting with the most senior Operator on the Seniority List, look up their current shift/duty on the "**Work Acceptance**" that corresponds to the day of the week the Operator is being scheduled to pick on. Place that shift # in the 'Shift' column.

< Next, use the **Runcut** of the current pick (paper copy) to look up the Block (or Run) number associated to that shift/duty and place the Block number in the "block" column. **Note:** Pay close attention to the runcut to ensure that the Block number relates to the appropriate time of day being scheduled.

< Next, identify the **paddle card** that corresponds with the Block number. This will show you the physical location of where the Operator is expected to be at any given time during that shfit/duty. In Adobe - open H:\GIO\Current Pick\Paddles\pcCurrent Pickwkdays, use search function in Adobe to find corresponding Block

< Determine an appropriate time and location for the Operator to pick and fill in the "Time" and "Location" columns in the pick schedule. Note: It is important in scheduling to keep the following items in mind:

i. it can take up to 20 minutes for an Operator to pick their shift/duty

ii. travel time for the Pick Person to get to where they are currently picking to the location being scheduled for the next Operator. Note: the Pick Administrator will take the Operator off of the bus, the assistant will take over the route and the Pick Person will follow the bus until the pick has been completed. At this time the Operator will once again take over the bus.

< Move to the next Operator and repeat the process until all of the Operators have been scheduled to pick. (At present time, pick is being scheduled 5 days in advance, rescheduling every 3 days, in an effort to have more accurate Pick times)

< On the third day of the schedule find out how far ahead

they pick is and reschedule again 5 days in advance

**Work Acceptance:**

The Work Acceptance paper document is populated by the Pick person as each Operator selects their shifts throughout the pick process. The shift pick information contained in this document is delivered by the Pick Administrator on a daily basis. The shift selections must be entered into Hastus Bid software and into a Lotus spreadsheet immediately upon receipt. The BID software will examine the pick data entered by Administrative Support to ensure that the duties selected by the Operator are not in conflict with any c/a clauses (i.e. 8-hour rule). The Lotus spreadsheet contains the most up-to-date "Work Acceptance" and will be used in the daily operation of the service by Dispatch upon commencement of the new Pick. **Note:** The 'Work Acceptance' does **not** include Operators that fall under the following categories as they were not eligible to pick, as determined by Employee Services.

**Tools Required:**

- BID Software
- Photocopy of completed 'Work Acceptance' form

**Process:**

As stated earlier, to make create a blank new work acceptance, you must: open current work acceptance from current pick, change dates and holidays accordingly - copy operator information from pick schedule spreadsheet into new work

acceptance form you are creating and 'save as' the new file name into a new Pick folder - keep title on each page)

**Enter into BID software:**

To prepare BID for a new pick - double click Hastus icon on desktop ( this program takes up to 10 minutes to open)

-To Activate a new pick in Hastus BID, go to File - Session- Activate Booking , in drop down menu choose the new pick

- To make employee lists in BID, go to Employees- Copy Registered- make sure that Source is current pick and Target is the new pick, then copy

- Refer to list of operators picking from Employee Services and either register or unregister and create absences for operators

- The Pick Administrator will pass in the pick selections on a daily basis. The selections must be entered into BID software to ensure accuracy of the data and that there are no violations of the 8 hour rule. Open up HASTUS BID from your desktop. On the toolbar, click on Employees/BID/Employee Choices.

- Enter the employee #, role (8 hr, 10 hr, or Spareboard) and the shift # selected for each day of the week. Also enter the shifts selected for any holidays included on the Work Acceptance form.

- Next, from the toolbar, select File/User defined fields and input whether or not an Operator has elected 'extra work' for their day's off and their regular working days. **Note:** You must enter 'yes' or 'no' in each field and then click on 'close'. (*See explanation of 'Qualifying for Extra Work' below*)

- Click on BID Status and choose 'complete'. Save the record by clicking on the 'Save' button or 'File/Save'.

- To advance to the next Operator, click on the 'next operator' button (icon of a blue man with an arrow beside him).

- Repeat process until all selections made to date are input.

**PLEASE NOTE THAT SELECTIONS ARE ENTERED SUNDAY TO SATURDAY, BUT IN LOTUS ARE ENTERED MONDAY TO SUNDAY**

**Enter into Lotus Spreadsheet:**

- Enter the shift selections made into the electronic version of the'Work Acceptance' form. **Note:** For Sparboard enter the code **'999'** in the column on each day of the week (other than their day off) for Operators who have selected the Spareboard as their shift. (This code is later utilized in creating the Spareboard list at a late date).

- Days off quotas - Scheduling Dept. originally makes these.

You re-save them into the upcoming pick folder. Each operator's name is placed in column - which reflects their days off chosen.

**Qualifying for Extra Work:**

Some duties qualify for extra work. The parameters used to identify these shifts are determined and communicated to Operators by the Planning Division in the Pick Notice. The affected shifts are normally identified at the same time the 'Start of Pick' Notice to Operators is posted.

In the original Pick Notice, duties that qualify are listed. The last 2 columns on the runcut have either Yes or No, indicating if a shift qualifies for extra work or not.

- Go to the last 2 columns of the runcut, it is faster to change both columns to all No's, and then just change the certain no's to yes. (The majority of the cells will say no).
  Path = current runcut for up and coming pick i.e.

H:\GIO\4_Nov\05_EmpSer\rc08wdE.123

**Pick Packages:**

Once the Pick Process is complete, various divisions must be notified that all data has been verified and that it is available for their use on the shared H: drive.

The specific location of all Pick related documents on the H:

\ADMINISTRATIVE SUPPORT\ CURRENT PICK PACKAGES.

## 12. <u>Backpicks:</u>

**Definition:**
The process by which an Operator can put in for work that has opened up since the implementation of the pick.

Purpose:
To give Operators the opportunity to work a more accommodating work selection. Work posted for backpick must be available for at least thirty (30) days.

### 12.1 <u>Posting Notice to Operators for Backpicks</u>:

**Tools Required:**

| | |
|---|---|
| Notice Numbers | Name of Originating Operator |
| List of Open Work | Date to be Posted |
| Date Backpick takes Effect | Date to be Removed |
| Work Acceptance | |

**Process**:

- Prompt the proper Employee Service Supervisor (Kyle Wilcox) to identify all of the sets of shifts required to be posted for backpick.

- Count how many sets of shifts will be posted and get

notice number(s). One notice number (Notice to Operator) is required for each set of shifts. All notice numbers are assigned through the receptionist. (Louise Roma)

- Create the to Notice to Operators containing all of the pertinent information using the Work Acceptance (Open work, Days off, Originating Operator, Date the backpick takes effect, Date the notice is posted, Date & time the backpick is closed and the Notice Number).

- Sign all of the notices at the bottom.

- Once the notice has been produced make enough photocopies so there is one (1) for each lobby in accordance with the "Notice to Operator" book. The original is posted on the main lobby bulletin board.

- Email an electronic copy of the backpicks to the receptionist for filing.

- Post copy of backpicks on Lobby board and send copy out to each of the operator lobbies

## 12.2 **Backpick Process:**

**Tools Required:**

Lotus 1-2-3 blank printed Spreadsheet Backpick Workbook
Alphabetical Seniority List Original Notices

Red Pen Shift Selection slips
Work Acceptance Backpick Book

**Process:**

- Using a lined scribbler set up the "Backpick Book" using the following process:
  - Place the name of the original Operator(s) name on the top line of the scribbler along with their seniority number
  - Skip approximately fifteen (15) lines and repeat the process. Do this for each Operator that has a shift being backpicked. (Should result in two Operators being listed per page)

- Once the backpick notice is posted, on a daily basis pick up all "Shift Selection" slips from the Dispatch office.

- Using the alphabetical seniority list put each Operators seniority number on the front of each individual "Shift Selection" slip in large red numbers. **Never change the seniority list through a course of backpicks or your seniority will be incorrect.**

- Place the "Shift Selection" slips in a pile in order of seniority with the most senior Operator being the first slip in the pile.

- Incorporate the "Shift Selection" slips that are picked up

daily into the existing pile in proper order of seniority.

- On the final posting day of the backpicks at the time indicated on the notice, remove the backpicks from the main lobby bulletin board and gather the last of the "Shift Selection" slips from the Dispatch office.

- Produce a spreadsheet with one (1) column for each of the notice numbers and as many rows as the sheet will hold. At the top of each column place the notice number along with the seniority number of the Operator whose shifts correspond to the notice.

- Starting with the senior most Operator who completed a "Shift Selection" slip input their Seniority number along with the order of choice (1st, 2nd, 3rd, etc.) under each of the corresponding notice numbers within the spread sheet. Do this for all of the "Shift Selection" slips. *See Example below - (Completed/ awarded)*

- After all of the information has been gathered and input into the spread sheet award the backpick to the first Operator whose seniority number is closest, but junior, to that of the Operator whose shifts are up for backpick. When awarding a shift selection, if you are going to award a selection that is not the Operator's first choice, check to make sure that the Operator's preferable choices are not available

- Highlight the seniority number of the successful Operator.

- Move to the next notice and repeat the previous step paying close attention to previously awarded backpicks in order to avoid awarding the same Operator two different sets of shifts.

***<u>Rules of the Backpick Process:</u>***

1. *Any one (1) Operator is only entitled to switch shifts via a backpick twice (2) in any one pick period.*
2. *When a backpick is opened there are only six (6) rounds of backpicks permitted to be generated from any one backpick. This includes the original Operators set of shifts.*

- Get the "Backpick Book" and place the name of the successful Operator along with their seniority number under the name of the Operator whose shift they picked.

- Draft an e-mail to send to Dispatch, payroll, and all other personnel who receive a pick package. The e-mail must

include the following information :

- the successful Operators name(s)
- the new shifts and corresponding days off
- the original shifts and corresponding days off
- the e-mail the date the backpick will take effect.

- The Operations Department will notify the Employee Services Administrative Support when all of the information required has been attained.

- Then and only then put the new backpick information into the "GIO" file. The information must be uploaded into the "GIO" file prior to the date the backpicks take effect.

**<u>Undoing a Backpick</u>**: (sample return to work notice)

Sometimes, an awarded backpick has to be undone (unawarded). This could occur for many reasons, such as an operator who is was off sick for more than 30 days comes back to work.

**Process**:

< Use Backpick book and work acceptance for reference. Look up the operator who is returning to work in the Backpick book. Find the shift that he/she had originally picked. Write it down on note paper. Using work acceptance, find each person's shift who are affected in the same list as the operator returning. Write them down also.

< Each operator will be returning to their originally picked shift.

< Make notice to reflect these changes and e-mail notice to Support Services Clerk, Transit Dispatch and Payroll.

< Enter the changes into GIO.

April 16, 2007

To: Dispatch **(Please do not post)**

cc: Employee Services Dept.
Payroll
Operations Dept.
W. Hinks

From: Janice Millett, Employee Services Department

Please notify the following Operator(s) of their shift change effective **Sunday, January 21, 2007:**

| | NEW SHIFT | ORIGINIAL SHIFT PICKED |
|---|---|---|
| Kurt Vonaghan | **1067** Mon - Thurs<br>**1060** Fri<br>Sat / Sun Off | **1112** Mon - Fri<br>Sat / Sun Off |
| Daniel Day Lewis | **1189** Wed & Thurs<br>**1192** Fri<br>**6059** Sat<br>Sun / Mon / Tues Off | **Spareboard**<br>Sun Off |
| Gary Oldman | **1087** Mon- Fri<br>Sat / Sun Off | **1127** Mon & Wed<br>**1131** Tues<br>**1124** Thurs<br>**1099** Fri<br>Sat / Sun Off |
| Tim Roth | **1122** Tues & Thurs<br>**1121** Wed & Fri<br>**6049** Sat<br>Sun / Mon Off | **1142** Mon<br>**1202** Tues<br>**1188** Wed<br>**6084** Sat<br>**7020** Sun<br>Sun / Mon Off |

For your information,

Janice

# APPENDIX B

## MEMO FROM JANICE MILLETT/DAVID AL-MOLKY RE POSTING OF PICK PROCESS

**Recommendation from Janice Millett/Dave Al-Molky re: Posting of Pick Schedule and Pick Slips**

**Facts:**
In reviewing the collective agreement - it states *"Operators will be given at least two working days notice, in writing of the date, time and place they are to make their selections."*

It is an Operator's responsibility to read bulletin boards on a daily basis for operational information (bulletin boards are located in all lobbies.

**Recommendation:**
Prepare a 'schedule' and post it on the notice boards one week at a time, in keeping with the time line requirements of the c/a versus the current procedure of printing and reprinting pick slips for 483 Operators. A plastic holder containing blank pick slips would be mounted next to the bulletin board containing the schedule for those who wish to utilize them.

**Benefits of adopting recommendation:**

- Placing the Pick schedule on the board eliminates the requirement to print and produce 483 individual Pick slips; reducing the use of paper and frees up valuable time for other work
- Dispatch's responsibility to distribute pick slips to individual Operators is eliminated and frees up valuable time for other work Note: Bulletin boards are located at all lobbies- that would eliminate dispatch trying to locate drivers that do not start or finish at the Ilsley lobby. It would take a considerable workload off of dispatch and Admin..

# APPENDIX C

## DRAFT OPERATOR WORK PICK POLICY AND PROCEDURE

# APPENDIX A

# METRO TRANSIT – STANDARD OPERATING PROCEDURE

## TITLE: DRAFT Operator Work Pick Policy and Procedure

## Purpose:

To define the rules and regulations for Operators to select work assignments ("Pick" process).

## Scope:

This procedure applies to the selection of all regular work assignments, or "Pick" and applies to Bus Operators and to all Picks for Two-Division operation commencing in 2010.

## Procedure:

Management will assist the Union in conducting the Pick process by providing the union with the appropriate documentation and equipment necessary to ensure that this work selection policy is adhered to.

**Bidding Procedure**

1. The Work Selection ("Pick") process will occur a minimum of four (4) times per year at times and cover a period of approximately three (3) months as determined by Metro Transit management and in consultation with the Union. General dates for conducting the Picks will be September, December, March and June.

2. Bus Operators will select their work on the basis of seniority and may select individual work on a daily basis to form a week of work for the duration of the Pick period. Bus Operators may choose a workweek of either 5 days of approximately 8-hours or 4 days of approximately 10 hours. Operators may not mix 8-hour and 10-hour workdays. Bus Operators will also select their days off at the time of selecting their work assignments.

3. A master sign-up covering all Bus Operators will be conducted annually to allow Operators to decide which transit garage they wish to work at, either Ilsley Avenue or Ragged Lake. Once selected, the Operator is required to work out of the selected garage for a minimum of one (1) year. Operators at each garage will then be listed in order of seniority applicable to that garage and this list shall be known as the Divisional Seniority List.

4. The work assignments for the period of the Pick will be posted two (2) weeks prior to the implementation date. Management will post a daily bid list identifying the start time, location, employee names and badge numbers of the operators that will be selecting work. Selection of work will commence one (1) calendar week following the posting of the work. Selections will take place in the bid room that is located in close proximity to the operators' lounge.

5. Work selection will be conducted concurrently in each division over a three (3) to five (5) day period according to the posted schedule. Operators will sign in order of divisional seniority. On a daily basis, work selection will commence at mutually agreeable times and will conclude once the final operator identified on the daily bid list has made a selection or has been assigned work.

6. Operators present for work selection shall be provided a maximum of three (3) minutes to select their work and days off before moving to the next available operator. Operators must make a selection within the given time allowance. Once the work has been selected, the Operator must sign the selection slip provided to them by the Management or Union representative. The operator will then be given a copy of their selected crew with any other relevant information.

7. Operators who will not be available to personally select their work must indicate his/her preference on the Work Selection slip which will be left in the operators' lounge next to the drop-in Pick box. Preferences will be left on crew selection slips and a maximum of ten (10) selections will be provided in which the operator will indicate their preference in order of priority. Space #l will indicate first choice. **Preferences will only be considered if the operator's signature and badge number are placed in the space provided.**

8. In the event that an operator does not leave a selection slip, or all of his/her preferences have been taken, then **one** phone call will be placed to the operator with the phone number left on the operator's selection slip, or if no number is provided, then the phone number on file. The operator will then be informed that it is their time to bid and will be given an opportunity to make a selection. Operators will not be contacted by cell phone while on duty and driving a vehicle. Operators will not be allowed to make work selections by radio. Under no circumstances will a collect call be accepted related to the work selection process.

9. If the work selection is not achieved through the process outlined in item 8, then Union and Management representatives will assign work and days off to the operator. The assigned work will be as close to the past schedule of work as possible. The pick summary will reflect that the work was assigned and will be initialled by the Union representative and operator's supervisor or designate.

10. The Union will be responsible for maintaining a continuous flow when operators are selecting work; this includes calling the appropriate number of operators into

the pick room when it is their time to make a selection. A maximum number of three (3) operators will be permitted to be in the pick room at any given time; the operator making his/her work selection and the two (2) operators that follow in seniority order. All three (3) operators will be permitted to view the available work however, only the operator with the most seniority shall be allowed to select their work.

11. The list of operators eligible to sign up for work for each Board Period will be established in accordance with the procedures outlined in Standard Operating Procedure XXX, entitled, Criteria for Establishing Operators Pick List. Any operator, who is not on the list of eligible operators, will not be entitled to select work.

12. An operator who returns to work from an extended absence (i.e. sick leave, WSIB, suspension, etc.) during the bid period, and has not selected a crew, shall be placed on the relief board list in the appropriate seniority order. All crews, which become vacant or are newly created during the sign-up period, shall be placed on the relief board.

In the event of unforeseen circumstances that might impact on the processes outlines above, the Union and Management will work cooperatively and will mutually agree to any resolution of these issues.

# Appendix I
# Fare Strategy Framework

**AECOM**
275 – 3001 Wayburne Drive, Burnaby, BC, Canada V5G 4W3
T 604.438.5311 F 604.438.5587 www.aecom.com

Attachment

**Recommended Framework for Metro Transit Fare Strategy and Policies**

## I. Fare Purpose

The purpose of this Fare Policy is to establish guidelines for setting and/or restructuring public transit fares for Metro Transit. Staff will use this policy to monitor fare collection and to make future decisions about adjusting fares. The information outlined in this policy includes:

- Fare Policy Goals: describing the overall intent of this policy;
- Fare Policy Objectives: more details on the overall fare policies;
- Fare Payment: including the types of fare media and passes that will be used;
- Fare Structure: establishing full fares and discounts for various services and ridership groups;
- Fare Box Return or Revenue/Cost Ratio: determines the portion of operating costs that will be supported by users of the system;
- Public Notice and Solicitation of Comment: outlining the procedures that will be used to ensure adequate public input is provided to support decisions regarding fares.

## II. Fare Policy Goals

A relationship exists between the amount of government support provided for operating a public transit system and the amount of revenue collected from the actual users of the system. The relationship of subsidy verses user fee varies in each community and is based on policy decisions made by the local governing board. This relationship is measured by comparing the revenue collected from the fare box relative to the operating expenditures of the system and is known as the fare recovery or fare return rate, or revenue/cost ratio. Fare recovery is influenced by three main factors:

1. **Fare levels** – The fare levels or structure influence the average fare collected per passenger and, in turn, the overall fare revenue collected. By increasing the fares (or reducing the discounts) set for each of the rider categories, fare revenue can be increased. Similarly, reductions in fares will result in a net loss of revenues. Changes in the fare structure also impact riders, with increased fares reducing ridership and reduced fares increasing ridership. Given this, fare adjustments should be made with consideration to how different transit customer groups or classes are affected.
2. **Productivity** – The productivity of transit service is typically measured in terms of ridership per kilometre or hour of service. Transit systems typically attempt to balance the obligation to maximize route productivity with service policies aimed at developing new markets, serving remote communities

or accommodating disadvantaged populations. Decisions regarding route productivity should be made with consideration to social needs of the community and the transit customers affected.

3. **Efficiency** – Operational costs (fuel, labour, scheduling) are partly within control of the transit system and partly a result of prevailing economic conditions. Cost efficiencies are achieved through careful budgeting, monitoring and controlling of expenditures. Cost efficiencies can be measured by operating costs per hour.

The goal of this Fare Policy is to identify a prudent balance between the various factors influencing public transit.

## III. Fare Policy Objectives

The objectives are classified as those that focus on consumer issues and those that support business related matters. The nature of these objectives reflects the desire to develop a Fare Structure that balances affordability for our customers with the need to generate sufficient fare revenue to help maintain and expand transit operations.

1. **Customer/Community Related Objectives**
   The following three objectives directly support Metro Transit's desire of operating high quality public transportation service. When a fare increase or restructuring is proposed, all fare strategies considered for achieving these three objectives should be carefully weighed in relation to each other, as some possible strategies may achieve one objective at the expense of another. Metro Transit should strive to meet all of these objectives.
   a. **Increase Use of Public Transportation-Ridership**
      As a mobility manager, Metro Transit exists to provide transportation solutions that meet the mobility needs of the public. The transit systems success in this regard, is somewhat reflected through increases in ridership. Increased use of public transit also supports the broad social efforts of improving economic competitiveness, ensuring a reasonable quality of life for residents, reducing traffic congestion and decreasing greenhouse gas emissions and air pollution. It is, therefore, important to adopt fare strategies that will encourage ridership by making public transit more attractive and convenient to use, and seamless between alternative modes (e.g. ferry, BRT, express services, etc.)
   b. **Establish Equitable Support from Regional or Provincial Interests**
      Metro Transit realizes the benefits of providing accessible transportation options to its citizens. To ensure a level of equity, fares can take into account the needs of various populations of users. To this extent, a fare structure should be established that supports, encourages and enables travel choices for our most needy **citizens. However, this equity should be funding by regional and/or provincial agencies and not Metro Transit**.
   c. **Enhance Mobility & Access**
      The fare payment system should enhance the ability of riders to access the system and move through it with ease. To do so, the fare structure should be easy to understand. It should also provide adequate choices for customers to select the payment option that suits their travel needs.

2. **Financial & Administrative Objectives**
   All fare strategies under consideration must also meet the following three financial and administrative objectives to ensure the continued operation of Metro Transit services:
   a. **Maintain/Increase Fare Revenue Stream**
      Fare revenue is a critical component of the operating budget. Any increase or restructuring of fares should ensure that the total fare revenue stream is maintained at an appropriate level to meet the economic needs of the system.
   b. **Increase the Efficiency of Fare Revenue Collection**
      To improve efficiencies, a fare collection system should reduce opportunities for fare abuse, minimize the costs associated with fare collection and reduce the associated administrative costs. Metro Transit can accomplish this by taking advantage of developments in fare collection technologies.
   c. **Streamline Fare Collection Process**
      A process should be established that minimizes the fare categories to eliminate confusion between the customers and Metro Transit staff. In addition, fare collection should allow drivers to track and regulate inequities and expedite the boarding process.

## III. Fare Payment

Based on the existing equipment available on Metro Transit vehicles, the following fare payment options will be available for use on the fixed route and paratransit system:

- Annual, monthly and day passes will be made available for purchase at authorized outlets.
- Single-boarding tickets for the fixed route system as well as the Metro Transit paratransit system will be available for advance purchase at authorized outlets.
- Miscellaneous coupons and passes may also be introduced periodically as part of a special promotion or service. These will generally be specially printed fare passes associated with a specific event and will only be accepted during a limited time span.

## IV. Fare Structure

It is recognized that Metro Transit primarily serves a transit dependent population within Metro Halifax's service area. The fare prices are developed with sensitivity to the needs of the transit ridership and with particular consideration of specific subgroups. The following fare types will be used to encourage ridership:

- Fixed Route Full Adult Fare: A full fare price will be established for adult passengers boarding a fixed route vehicle.
- Fixed Route Reduced Fare: Reduced fares will be approximately 15 % to 20% of the full fare option for fixed route riders. Reduced fares will be offered for seniors, youths, and persons with a disability Reduced fare options will be made available for full fare as well as multi-ride passes. Reduced fare options apply to fixed route service only.

- Multi-Ride Passes: multi-ride passes will be established for time periods that offer a variety of options for Metro Transit customers. The price of each pass will be set at a level that offers an average fare value to the customer over the full fare. At a minimum, Metro Transit should offer an all day pass and a 31-day pass.
- Promotional Fares: Metro Transit has the option to offer deeply discounted fares-U-pass, Employer Pass, and Community Pass to encourage new riders, reward existing riders and to promote or recognize specific services.
- Transfers: Metro Transit will issue transfers for the fixed route system with a 1.5 hour time limit

## V. Fare Box Return

The predominant funding source used to support public transit operations in Metro Transit's service area Region comes from local government through property taxes. A portion comes from user fees in the forms of fares. Fare box return, which is the fare box revenue collected/operating expenditures, is influenced by several factors including the overall ridership on the system and the fare structure as outlined in the previous section. To ensure consistent decision-making is applied over time, Metro Transit will:

- Monitor the overall fare box return annually and present this information for during the budget development and review process for the regional council
- Monitor efficiency of the operations.
- Establish route productivity goals such as passengers per hour and passengers per local funding dollar for the route, and will monitor the service to ensure these goals are met.
- Target the overall fare box return rate to **approximately 50% for the overall fixed route system**. When the rate drops below this level, route level analysis will be performed and areas of potential improvement will be identified for possible corrective action. In addition, operating efficiencies will be assessed to determine areas of potential deficiency.
- The Halifax Regional Council recognizes the value of setting a threshold for fare recovery. However, the Council also recognizes that a base recovery standard that is set too high may limit the ability to introduce new services. Given this balance of system performance and policy oriented decisions, the Council reserves the option for flexibility in responding to actual market conditions, community needs, and service when the fare box returns are reported.

## VI. Fare Change Process and Public Comment Considerations

A comprehensive public outreach effort is essential to ensure that the decisions being made about transit fares reflect the needs and desires of the community. A well rounded public involvement effort consists of notifying the public as well as soliciting feedback regarding the proposed changes. Metro Region will include the following activities when a determination is made to institute a fare change:

- **Public Notice Procedures**: At a minimum, Metro Transit will place legal advertisements in local newspapers to announce the proposed fare changes and describe how the public may provide comment. Halifax Region will also prepare notices in the form of press releases and provide written notices on-board buses. Other efforts may include posting notices on the public display boards at key

community destinations; posting information on the Metro Transit web site; notifying agency and business partners directly via e-mail or facsimile; and participating in interviews with local newspaper, radio, or television programs to reach additional audiences.

- **Solicitation of Public Comment Practices**: To ensure public comment is considered, Metro Transit will schedule public meetings to gather input during the development of a fare change proposal. A formal public hearing of the County Council will also be scheduled during a regularly scheduled Council meeting. Additional efforts may include placing comment forms on-board buses and posting comment forms on the Metro Transit's website. Staff will document all comments and suggestions submitted during this period.
- **Implementation**: As a part of the process, Metro Transit will also develop an implementation plan for proposed fare changes. The plan will outline ongoing public outreach and education needed to ensure a smooth transition.

# Appendix J
# Funding Strategy

**TECHNICAL MEMORANDUM**
**Metro Halifax Transit Plan**
**Funding Strategy**

The five year transit service plan for Metro Transit proposes to increase revenue service hours from 700,000 in 2009 to 875,000 in 2014, a 25% increase, which in turn is projected to create a cumulative operating funding gap of $16.3 million.

Apart from the increase in service expansion, the operating funding gap will also be a result of wage increases, rises in fuel costs, additional debt changes from new buses required to replace older buses and for service expansion, and from other transit capital investments (e.g., transit priority measures to improve travel times and reliability).

The above-noted projected gap in transit operating funding for Metro Transit could be funded by a number of means both within and outside the direct control of Metro Transit

## 1. Financing Means Under Metro Halifax Council Control

The means within the control of Metro Halifax Council could include the following:

i) Increase Fares - Raise fare levels to maintain a revenue cost-ratio of around 50%;

ii) Develop New Transit Passes: Develop new types of fare media which could in turn could be used to increase ridership and fare revenues. Such new fare media include the employer and community passes. As well, the U-Pass Program could be expanded.

*Employer Pass*
A broad based Employer Pass is where employers would sign up their employees for transit passes for one year and the costs are deducted through payroll. When employees combine these employee pass discounts (which are usually in the 15 to 18% range) with the federal tax credit for transit passes, they can receive up to a 30% discount. Employer Transit Passes have been implemented in many transit systems of similar size to Halifax Metro Transit and they have successfully captured new riders and fare revenues. The Metro Vancouver experience has shown that employer passes are growing in popularity. Together with monthly passes, the sale of these discounted passes has steadily increased (e.g., it grew by 8.2% between 2007 and 2008), and the use of prepaid fare media continues to exceed growth in cash sales. In 2008, 197,000 employer passes were sold, generating $18,170,000 in revenue. If Halifax was to establish such a program, given that its population size is about 17% that of Metro Vancouver, up to $3 million in revenue could be generated from it annually.

*Community Pass*
A Community Bus Pass is where developers of large multi-family residential developments (i.e., apartments) or well defined areas developed by a common development corporation (i.e., subdivisions) are provided with incentives (e.g., density bonuses or reduced parking requirements) and in exchange provide households with Community Transit passes for

household members. Community Pass systems have been developed in Metro Vancouver (e.g., in Simon Fraser University's newest on-campus residential neighbourhood, UniverCity). The Community Pass at SFU is available to residents at a discounted monthly rate of $29.67 compared to a regular three-zone monthly pass of $136 and a three-zone monthly Employer Pass of $117, and allows unlimited travel within the TransLink service area). BC Transit has also developed similar Community Pass Programs for higher density and multi-family developments in the City of Victoria. These Community Pass Programs have been successful in attracting new riders and revenues for their respective transit systems. In the agreement for the Community Pass at Simon Fraser University, the corporation responsible for developing UniverCity (the SFU Community Trust) was able to negotiate with TransLink a discounted rate for the community pass by guaranteeing at least 50% of the residents would commit to purchasing this pass. If the take-up for the program in any one year is not 50% of the residents living in UniverCity, the SFU Community Trust makes up the difference in fee payments to TransLink

A similar Community Pass program could be established in communities with higher densities (e.g., Bishop's Landing in downtown Halifax) and good access to transit, and monthly passes could be priced at approximately $25 (providing deep discounts for pass holders). In Bishop's Landing alone, approximately $61,800 (assuming each apartment unit purchases one pass) to $123,600 (assuming each apartment unit purchases two passes) in revenue could be collected each year.

*Expand U-Pass Program to Staff and Faculty*

The current U-Pass systems developed for Dalhousie, St. Mary's and other colleges in Metro Halifax could be extended to include staff and faculty. Together with the excellent transit services already being provided to these post secondary schools (and will be further enhanced through the implementation of the proposed service plan in the next five years), this would increase transit ridership and revenues. If the post-secondary schools in the Halifax Region were to offer the U-Pass to their faculty and staff, up to approximately 5,310 faculty and staff could be provided with a pass. If each faculty/staff U-Pass costs $200 per academic year, depending on whether this program is voluntary (e.g., staff and faculty can choose to buy a pass) or mandatory (i.e., all staff and faculty will automatically have the cost of the transit pass deducted from their paycheck each month), this pass could generate $531,000 (with a 50% uptake) to $1.1 million (with a 100% uptake) of revenue each year. Alternatively, Metro Transit could require institutions to have at least 50% of their staff and faculty purchasing the pass.

iii) <u>Increase Property Taxes</u> - the taxes for residential, commercial, and industrial properties could be raised to generate more funding for transit (currently, approximately $29 million of the property tax revenue collected annually is used to fund transit). However, this is not seen to be a viable or equitable option for increasing, as not all property owners benefit from the improved transit services equally. More appropriate alternatives would be capital cost charges and value capture taxes.

iv) <u>Advertising</u> – the most common forms of transit advertising include posters at transit stops/stations, inside and outside transit vehicles, vinyl bus wrapping (which generates a $13,200 of revenue per year for Calgary Transit). Earlier in 2009, a study was conducted through the Transit Cooperative Research Program to gain a better understanding of advertising decision

makers' perceptions of transit advertising and to develop strategies for improving these perceptions and increasing transit advertising revenues.[1] Their findings and recommendations can be found in the Appendix.

Currently, most systems use advertising revenues to cover 1-2% of the annual operating costs. If, however, aggressive campaigns are made to improve transit advertising programs, the revenue that could be generated could increase. In other regions of comparable sizes, advertising revenue is typically $500,000 to $700,000.

v) Increase Parking Fees in the region - parking fees at lots or at meters could be increased/implemented to generate funding for transit. As well, an area parking tax could be developed and applied against all lands surfaced for parking in shopping centres, churches, municipalities, schools, etc. TransLink in Metro Vancouver has a 7% charge on fees paid for off-street parking and this tax generates approximately $15 million annually. TransLink implemented an area parking tax in 2006 of $1.02 per square metre or approximately $30.00 per parking stall. This area parking tax generated approximately $25 million annually, but was removed by the province of BC in 2007 after intense pressure from the business community. Their major objection to the tax was that it was not been applied to parking areas of municipalities, churches and all schools.

Currently, each year $2.57 million of revenue is collected from parking meters in the Halifax Region. If this was increased by 10%, additional annual revenue of $257,000 would be collected, which could then be used to fund transit. If an area parking tax was also applied, and assuming that the number of parking stalls at shopping centres, churches, municipalities, etc**. per person** is approximately the same between the two regions, approximately $4.0 to 4.3 million of annual revenue could be collected from this area parking tax. Together, these two sources would equate to approximately $4.6 million.

vi) Implement a Capital Cost Levy - a levy could be charged against new land developed to help pay for the capital costs required to fund transit services to these lands, and these revenues could be used to reduce debt charges for new buses. Currently, York Transit on Ontario collects development charges to help cover a portion of their operating costs. Each year, York Transit gets approximately $1 million of the development cost charges collected. Given that the population size of the York Region is more than two times the size of the Halifax Region, approximately $430,000 could be potentially collected in the Halifax Region.

## 2. Financing Means Not Under Metro Halifax Council Control

The means of obtaining additional operating funding for transit which are not under the control of Metro Halifax include the following:

i) Increase Bridge Tolls - the current tolls could be increased on the two main bridges between Halifax and Dartmouth. Currently, the bridge toll rate $0.50. If this was increased by $0.25 on

[1] Alper, J. (2009). *Practical Measures to Increase Transit Advertising Revenues. TCRP Report. 133.* Washington, DC: Transportation Research Board. http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_133.pdf

both bridges, an additional $8 million could be generated each year. In initial discussions with representatives of the authority responsible for the bridges on this use of toll revenues for transit, it was indicated that all the projected bridge toll revenues would be required to fund required bridge maintenance work. The advantage of using toll revenues for transit improvements is that these improvements will assist in delaying the timeframe required for an additional major bridge crossing in the Halifax-Dartmouth area.

ii) Vehicle Registration Tax - a vehicle tax based on the weight of the vehicles and the type of driving for which it is insured (e.g., used regularly for work or just for pleasure trips) could be included in the annual registration fee for all vehicles in Metro Halifax.

Since 1997, the Central Puget Sound Regional Transit Authority in the State of Washington has implemented a 0.3% motor-vehicle tax to fund transit expansion. In 2008, combining this with a car rental tax, approximately $71 million of revenue was collected. In the case of the Halifax Region, given that its population size is 10% that of the Puget Sound Region, approximately $5.0 million to $7.1 million could be generated each from the implementation of similar taxes.

iii) Property Value Capture Tax – as transit service enhances an areas' economic, cultural, and social accessibility, the value of properties within the vicinity of a transit terminal/exchange typically increases. A property value capture tax allows some of this increased value to be captured and used to fund the necessary public amenities to support the community. This type of taxing system has been used in the UK and US for many decades. Boston, for example, collects a "betterment tax" to fund public infrastructure costs. The tax is individual assessed and is based on the overall cost of the betterment and parcel-specific factors such as length of frontage and the parcel's land area. A 2001 study conducted by Gihring also looked at the potential revenue that could be generated at the Broadway station area in Seattle if the Sound Transit LINK rail line was built and if a land value gains tax was applied in the transit benefit district area. The conclusion was that $24 million of revenue could potentially be generated. Depending on the land value premium that is generated around Halifax's major transit terminals/exchanges (typically 5-10% for residential properties and 10-30% for commercial properties), and taking into account the average land value as compared to Seattle and the fact that bus stations may not increase land values as much as rail stations, approximately $5 million to $10 million could be generated from each terminal area.

iii) Cargo Tax - truck traffic carrying cargo places a significant strain on the roads of the Halifax Region. There are congestion costs, as well as increased road infrastructure and maintenance costs. Therefore, a tax on all cargos coming in to or out of the Metro Halifax port could be charged on a per tonnage basis, and this could be used to fund transit. If, for example, each tonne of cargo was charged $0.10, in 2008 (when almost 10.3 million tonne of cargo came in/out through the Halifax Port) over $1 million could have been collected from the shipping sector.

iv) Sales Tax - since 1997, the Central Puget Sound Regional Transit Authority has used a 0.4% sales tax to fund transit expansions. If a similar percentage was applied in Metro Halifax, approximately $14.5 million (in 2008/09, the **per capita spending** on goods and services within the Region is predicted to be **approximately $9,460**) could be collected to fund transit infrastructure each year.

v) Gasoline Tax – Currently, the province of Nova Scotia collects a gasoline tax of 15.5 cents per litre, and approximately 1280 litres of gasoline was purchased per person in 2008. Currently, TransLink in Metro Vancouver receives 12 cents in revenue from the provincial government for each litre of gasoline and diesel sold in the region (a 6 cents per litre transit tax is matched by the provincial government, who remits an additional 6 cents/litre to the region). If a similar agreement can be reached for Halifax, approximately $59 million in revenue could be generated for Halifax each year.

vi) Carbon Tax - Carbon taxes are taxes based on fossil fuel carbon content, and therefore a tax on carbon dioxide emissions. However, they require provincial or federal legislation to be implemented. If such as tax is implemented, the following recommendations have been made by Durning and Bauman (1998) and the Carbon Tax Center: [2,3]

- *Broad coverage*. Carbon taxes should apply to all fossil fuels, based on their carbon content. This makes them credible and efficient to administer compared with taxes that vary depending on where or by whom fuel is consumed.
- *Gradual and predictable implementation.* Such taxes should increase gradually and predictably so consumers and businesses can take higher future energy costs into account when making long-term decisions, such as vehicle purchases and building locations.
- *Revenue-neutrality.* Revenues generated by the tax should be returned to individuals and businesses through reductions in other taxes.
- *Protection for lower-income households.* Tax reductions and rebates should be structured to aid lower-income households and other disadvantaged groups.

However, instead of making it a revenue-neutral tax, the funds collected could be used to finance public transit, further encouraging people to be less dependent on private automobiles.

In 2008 a carbon tax was introduced in BC. In the first year, $10 was charged for every tonne of carbon, and this rate will increase by $5 per tonne annually for at least four years. Over the first three years, approximately $1,849 million is expected to be collected. If a similar tax was introduced in Nova Scotia, the revenue from the Halifax Region could be remitted to the Region. Assuming the tonne of carbon produced per person is the approximately the same between the two provinces and a similar rate was charged ($10/tonne in the first year, $15/tonne in the second year, and $20/tonne in the third year), approximately $3.6 million would be generated in the first year. In the third year, this will increase to $5.4 million.

vii) Employer Tax – employers are a major beneficiary of improved transit systems as they are able to attract a wider range of employees and they can reduce the parking spaces they provide to employees. However, employers are often not required to financially contribute to transit systems. Recognizing this, Washington State currently allows regional transit authorities to levy

---

[2]Alan Durning and Yoram Bauman. (1998). "Tax Shift". *Sightline Institute.* www.sightline.org/publications/books/tax-shift/tax.

[3] *Carbon Tax Center* (www.carbontax.org).

$2.50 per employer per month to fund transit operations. A similar rate could be pursued by the Halifax Region, which currently has 23,606 businesses. Doing so would generate $708,180 of annual revenue.

viii) Room or Occupancy Tax – the current 2% municipal hotel room tax, which is applied on a per room basis for all accommodations in the Halifax Region, can be increased by 1% and the additional funds raised could be used for transit. This would generate ___ of revenue each year.

ix) A Car Rental Tax - similar to the vehicle registration tax, there could be a car rental tax that is also based on the weight and type of vehicles. As mentioned earlier, in 2008, the Central Puget Sound Transit Authority collected approximately $71 million of revenue from the vehicle registration tax and the car rental tax (was 0.8%). If Halifax was to implement similar taxes, approximately $5.0 to 7.1 million could be generated.

A summary of the revenue that would be generated from the above sources is presented in Table 1.

**Table 1 - Revenue from the Various Potential Funding Sources**

| Funding Source | Potential Annual Revenue |
|---|---|
| **Under METRO control** | |
| Employer Pass | $3 million |
| U-Pass | $531,000 to $1.1 million |
| Community Pass | Depends on number of pass holders |
| Increased Property Tax | Not a viable option |
| Advertising | $500,000 to 700,000 |
| Increased Parking Fees | $4 to 4.5 million |
| Capital Cost Levy | $430,000 |
| **Not Under METRO Control** | |
| Increased Bridge Tolls | $8 million |
| Vehicle Registration Tax and Car Rental Tax | $5 to 7.1 million |
| Property Value Capture Tax | $5 to 10 million (total revenue for each station area, not annual) |
| Cargo Tax | $1 million |
| Sales Tax | $14.5 million |
| Gasoline Tax | $59 million |
| Carbon Tax | $3.6 to 5.4 million |
| Employer Tax | $708,180 |
| Room/Occupancy Tax | |

The criteria which are used to evaluate these alternative financing methods include:

- Transparency-ease of understanding the revenue source and its application to funding transit
- Revenue generating potential - amount of new revenue generated
- Ease of implementation - difficulty of implementing the measure and whether or not it requires legislative changes, extensive consultation, and approval from numerous agencies
- Transportation demand management (TDM) effects - relationship of new funding source to transit and transportation patterns

- Environmental/social benefits – this includes equity in the application of the alternative funding to different income and demographic groups, and the potential for environmental benefits to result (due to auto trips being diverted to transit trips)
- Cost efficiency - in terms of distractive costs, compliance costs and evasion levels
- Technical feasibility
- Popular or political acceptability
- Consistency of revenue stream - sustainability and consistency of revenue stream from the source

Using these criteria, Table 2 provides the evaluation results of the above funding sources.

**Table 2 Evaluation of Financing Means to Bridge Operating Funding Gap with Metro Transit**

| Revenue Source | Transparency | Revenue Generating Potential | Ease of Implementation | TDM Effects | Environ. / Social Benefits | Cost Efficiency | Technical Feasibility | Popular/ Political Acceptability | Consistency of Revenue Stream |
|---|---|---|---|---|---|---|---|---|---|
| **Means Within Metro Control** | | | | | | | | | |
| Property Taxes | ◒ | ◒ | ● | ○ | ○ | ● | ● | ○ | ● |
| Raise Fares | ● | ○ | ● | ○ | ◒ | ◒ | ● | ○ | ◒ |
| Parking Levies | ● | ◒ | ◒ | ● | ◒ | ● | ● | ◒ | ◒ |
| Capital Cost Levy | ◒ | ◒ | ◒ | ◒ | ● | ● | ◒ | ◒ | ◒ |
| New Fare Media | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Advertising | ● | ◒ | ● | ○ | ○ | ● | ● | ● | ● |
| **Means Not Within Metro Control** | | | | | | | | | |
| Sales Taxes | ○ | ● | ○ | ○ | ○ | ● | ◒ | ◒ | ◒ |
| Gas Taxes | ● | ● | ◒ | ◒ | ◒ | ● | ◒ | ● | ◒ |
| Carbon Tax | ◒ | ● | ○ | ◒ | ◒ | ● | ◒ | ○ | ◒ |
| Value Capture | ● | ● | ◒ | ● | ● | ● | ◒ | ◒ | ● |
| Hotel/Occupancy Tax | ◒ | | ◒ | ○ | ○ | ● | ◒ | ◒ | ● |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Container Tax | ● | ◒ | ○ | ○ | ◒ | ● | ◒ | ◒ | ● |
| Vehicle Registration Levy | ● | ● | ◒ | ◒ | ◒ | ● | ◒ | ◒ | ● |
| Employer Tax | ◒ | ◒ | ○ | ◒ | ○ | ● | ◒ | ◒ | ● |
| Bridge Tolls | ● | ● | ○ | ● | ◒ | ● | ◒ | ○ | ◒ |
| Rental Car Tax | ● | ● | ○ | ◒ | ◒ | ● | ◒ | ● | ◒ |

**● Best Suited to meet Criteria** **◒ Adequately Suited to meet Criteria** **○ Poorly Suited to meet Criteria**

## Recommendations

Based on the evaluation results, it is recommended that the Halifax Regional Council pursue the sources of funding listed below, which are presented in order of overall feasibility and effectiveness. These sources were selected based on the number of criteria they could achieve, and the timeliness in which they could be implemented.

1. New fare media
2. Capital cost levy
3. Gas tax revenue
4. Value capture
5. Vehicle registration levy

## Appendix

The study conducted by Alper (2009) for the Transit Cooperative Research Program found that transit advertising is poised to grow. However, there are several barriers preventing this, the main one being the common negative perception about the effectiveness of transit advertising (due to the lack of product innovation and lack of promotion to media planners and advertisers). They also found that the growth of digital and other non-traditional formats of advertising will continue to grow. As a result, they have made the following recommendations:

- *Reposition Transit Advertising to Differentiate it from Billboards, Elevate its Importance and Update its Image* **–** an advertising message should "touch" the captive audience through repeated eye-level encounters multiple times during their daily travels.
- *Promote and dispel negative beliefs and imagery about transit media among Both Media Planners and Advertisers* **–** this can be accomplished by conducting campaigns communicating the new positioning of the transit marketing program. Done properly, this could raise media planners or advertisers' interest in transit advertising.

- *Develop a Credible Audience Measurement System* – this would be a useful tool to evaluate the effectiveness of different forms of transit advertising.
- *Introduce Digital and Interactive (Experiential) Technologies to Transit Advertising*
- *Address Transit Media's Product and Image Deficiencies* – examples of issues to address include maintaining the cleanliness of posters and boards.
- *Develop Specific Strategies to Promote Ad Sales of Transit Agencies Outside of the Top 20 Markets* - The first step for non–top 20 markets is to tailor communications to the correct target audience. Another strategy is to bundle non–top 20 markets (e.g., post-secondary institutions) together and provide them with high-value promotional packages.

# Appendix K
# Marketing Audit

# HRM METRO TRANSIT MARKETING AUDIT

## 1 INTRODUCTION

Metro Transit is the public transportation agency that operates in the Halifax Regional Municipality. It was created in 1981 with the merger of the transit agencies of Halifax and Dartmouth. Metro Transit operates Conventional Buses, MetroLink, Community Transit Buses, Access-A-Bus, the Harbour Ferries and Fred.

This marketing audit is intended to review the existing marketing materials and activities of Metro Transit. The document refers to materials that were supplied to the consultant and may not be a complete list. For a list of the items supplied and analyzed, see Appendix A.

## 2 MARKETING

### 2.1 Graphics

There are two Graphic Standards Manuals - Metro Transit and MetroLink. Both have very clear and thorough instructions on logo usage. Each displays colours, logo fonts and how graphics are to be used on vehicles and signage.

The bus stop signs are standardized with GOTime information located clearly at the bottom of the sign. In addition, there are guidelines for vehicle branding including: Metro Express, Metro Transit's articulated bus, cars, and ferries.

Neither manual contains information on logo placement or standard typeface which is important in keeping the brand appearance uniform across different marketing and communications materials.

The Metro Transit manual does not have any recommendations on layout, design, sizing for collateral, such as the GO Times, the UPass, nor any mapping standards. Including this information in the Graphic Standards Manuals would be helpful in standardizing the materials and ensuring each piece is identifiable as collateral from Metro Transit. Also helpful would be recommendations on imagery style.

The MetroLink manual is more extensive and includes logo usage on uniforms and collateral design. There are layouts for the 'Behind the Driver' sign and a notice/flyer.

### 2.2 Collateral

#### 2.2.1 GO Times Pamphlets

The GO Times pamphlets are a source of information for transit users. They list routes and schedule changes. Special editions are produced for Events and Holidays.

On the regular GO Times pamphlets, older editions had a different GO Times logo but the new logo is used on later editions. The placement of the Metro Transit logo and Halifax Regional Municipality logo is not in the same position every time.

GO Times is printed in two different formats – a six panel and an eight panel but is folded into approximately 3.5" x 8.5". The layout does not always follow the pamphlet format, with the copy sometimes running across two panels.

On the Special Editions, three different GO Times logos are used. The Metro Transit and Halifax Regional Municipality logos do not have a standardized placement. As well, different fonts and graphics are used.

The GO Times pamphlets should be standardized, whether they are the regular editions or the special editions. Care should be used with logos, logo placement, layout, fonts and generally should have the same look and feel.

### 2.2.2 GoTime System

The GoTime system provides real-time next bus information to transit passengers and was recently updated. To keep transit patrons notified of changes, an informational card, a flyer and an ad were produced. All three items had consistent information and clear instructions as to how to use the new system.

### 2.2.3 Visitor Information

Metro Transit is involved in the tourism industry. Free Rides Everywhere Downtown, also known as Fred, is operated by the Downtown Halifax Business Commission, in partnership with Metro Transit. On one of the Fred informational pamphlets, it contains a map, points of interest, and coupons. But the Metro Transit logo used on the pamphlet is not per graphic standards.

Also produced is a Harbour Ferry Service informational pamphlet and an advertisement for a Getaway Cruise for the Greater Halifax Visitor's Guide.

A brochure with Bus Charter Services information and rates is available; it is unsure whether the service still exists. But there is no Metro Transit logo on the pamphlet, nor does it follow the brand guidelines.

### 2.2.4 Environmental Concern

There are two flyers that express environmental concern but seem to be outdated as a different logo was used. On the "Searching for a vehicle to show your environmental concern" flyer there are a number of interesting statistics and facts but gets lost in the copy. People tend to be more visual and so a graphic in place of the copy would be more powerful and effective in getting the message out.

Also produced is a magnet with the tag "Be part of the solution/ Take Transit". This has a great, simple message.

### 2.2.5 Special Events Materials

Metro Transit produces a number of Special Events materials – advertisements, radio advertisements, and PSA's for events such as the Tall Ships, New Years Eve, Stuff a Bus, and Concerts. It is uncertain of the advertising medium but all ads appear to be different. On one of the New Years' Eve schedules, a four fold flyer was used but the layout does not match. Also the bus routes are not laid out in sequential order. A common format should be standardized so that these materials are easily recognizable and identifiable with Metro Transit.

### 2.2.6 MetroLink

The MetroLink service is a limited stop, premium bus commuter option that travels between two major commuter areas to downtown Halifax and Dartmouth. It started in 2005 and a number of marketing materials were produced to introduce the new service and to encourage ridership. MetroLink is a project of Halifax Regional Municipality in collaboration with the Government of Canada. Transport Canada produced an informational postcard that highlights features of the service.

Metro Transit has produced a variety of materials for MetroLink including a magnet, postcard, card holder, guide to using the bike rack, informational sheets and brochures and advertisements. All materials follow the brand guidelines and are clearly identifiable as MetroLink.

As a premium service, MetroLink has enclosed shelters and distinctive display panels that are illuminated and provide information on routes and schedules. All these elements create the custom MetroLink identity.

### 2.2.7 Metro Transit

A Riders' Guide for Metro Transit Bus and Ferry contains schedules, routes, and fare structures. It is a clear and complete guide. There may be confusion with route names as bus designations are not listed at all times. For example, Route 1 is named Spring Garden but the destinations are Dartmouth and Mumford. The Riders' Guide contains no system or route maps. Although this information is accessible through the website, there are some people who do not have access to a computer and/ or internet on a regular basis.

A 'Did You Know' pamphlet is produced. It follows the brand guidelines and is informative with great facts but there are no graphics that help the reader to understand the content. Essentially, it is only a list of facts.

A brochure on Accessible Low Floor (ALF) contains comprehensive information for passengers who have mobility challenges.

A small leaflet was produced when Metro Transit introduced a new transfer system. It explains the new system clearly.

A Request Stop service flyer was produced. It is unsure whether this service is still available as there is no mention on the website and the flyer seems to be outdated. It does not display the Metro Transit logo nor does the appearance follow the Metro Transit brand.

Brochures on route and schedule adjustments are also produced. On the May 25, 2008 version, there is also additional information on new and expanded services, coloured transfers, and accessible buses.

An advertisement or flyer was produced for a new accessible route (#89). It contains a map which clearly identifies the route.

Some materials are available for the Community Transit Services. A fare transfer brochure was printed on December 3, 2007. This particular brochure was printed in a blue tone, while most others are printed in full colour.

### 2.3 Website

The Metro Transit website is part of of the Halifax Regional Municipality website (www.halifax.ca). Residents of the HRM may access the Metro Transit website by typing in the full url or they may have it bookmarked. But through the homepage of Halifax.ca there is no direct link to the Metro Transit homepage, although the Schedules page is listed as one of the Top 5 Links.

The Metro Transit website is comprehensive and contains detailed information on services.

The GoTime system provides real-time information on the next bus service but this service is only available by phone. Another service that could be offered is GoTime through SMS text messaging, as messaging is more popular with teenagers and young adults. On one of the GoTime flyers, it notes that next bus information is also available online. However, the website does not offer this service. It is uncertain whether the online real-time departure information is in the process of being set up.

Another popular service being offered by many other transit agencies is an online trip planner. While Metro Transit does not offer a trip planner through their website, this service is available through Google maps.

In 2007 78% of households in Halifax have internet. Halifax has a high number of students and professionals which relates to a higher rate of internet use. The website should be always up-to-date. None of the 2008 GoTimes Newsletters have been uploaded to the website.

## 3 COMMUNICATIONS

### 3.1 Media

For a potential Metro Transit strike, a list of possible questions and answers has been produced for the HRM call center. A media release was drafted for the increase to transit security with the Mobile Surveillance System.

## 4 METRO TRANSIT MARKETING ACTIVITIES OVERVIEW

For the 2008/2009 year, Metro Transit has budgeted $133,000 for Advertising and Promotions, and $99,000 for Maps and Schedule Production.

There is a high involvement in a number of event promotions every year, including activities and events such as Fred and Canada Day festivities.

For Transit Branding and MetroLink, Metro Transit uses an agency for design. However, many other materials are designed and produced in-house.

# 5 CONCLUSIONS

Some of the materials supplied were produced some time ago and are no longer used. But it was noted that the Metro Transit logo is not used on all marketing materials. Going forward, the current version of the Metro Transit logo should be on each piece. Typeface should be specified for communications and marketing materials. Logo position and typeface should be consistent and standard for all materials as it is important to projecting a unified identity.

The website is comprehensive but should also provide real-time services such as a 'Next Bus' planner. All materials and information on the website should always be up-to-date.

The variety of marketing and communications materials used and produced is expansive and informative. The marketing materials that were produced for MetroLink should be taken as a benchmark. The materials are cohesive and identify the brand.

# APPENDIX A

| | Condition |
|---|---|
| **MARKETING** | |
| **Graphics** | |
| *Graphic Standards* | |
| MetroTransit Graphic Standards Manual | Excellent - very clear and thorough |
| MetroLink Graphic Standards Manual | Excellent - very clear and thorough |
| Metro Transit logo | |
| Metro Transit Template | |
| MetroInfo Kit envelope | |
| MetroPass Design Project | |
| *Vehicle/ Fleet Branding* | |
| Metro Express - vehicle branding | Consistent use of MT colours, different design |
| Metro Transit - Access a Bus branding | |
| Metro Transit - articulated bus branding | |
| Metro Transit - car branding | |
| Metro Transit - ferry branding | |
| *Signage* | |
| Metro Transit Bus Stop signs | |
| **Collateral** | |
| *GO Times Pamphlets* | |
| GO Times -route/schedule changes; events listing | In past versions, use of GO Times logo is different but later versions are the same; placement of the MetroTransit logo is different; trifold/four fold-keep layout consistent |
| GO Times - Special Edition - Special Events | Special Edition-different layout/appearance. Should standardize format. |
| GO Times - Holiday Edition | |
| *GoTime System* | |
| GO Time info card | Consistent information; clear instructions on system use |
| GO Time flyer | |
| GO Time System Upgrade ad | |
| *Visitor Information* | |

| | |
|---|---|
| FRED pamphlet-map, points of interest, coupons | MetroTransit logo not per graphic standards |
| Harbour Ferry Service flyer - info/schedule/map | |
| Bus Charter Services brochure- info/rates | Does this service still exist? No MT logo. Does not follow other MT material. |
| Greater Halifax Visitor's Guide-Getaway Cruise/ferry ad | |
| *Environmental* | |
| Searching for a vehicle to show your environmental concern?' info flyer | Outdated. Different logo used. Good stats |
| Environmental Concern flyer | Outdated. Different logo used. |
| Be part of the solution/Take Transit' green magnet + url | Clean, direct message |
| *Special Events Materials* | |
| MetroTransit ad - special events (Tall Ships) - use transit | Uncertain of advertising medium but all ads appear different. |
| MetroTransit ad - special events (New Year's Eve) - use transit | |
| Free Designated Drivers New Years Eve' flyer - schedule | Layout does not match four-fold flyer; bus routes not laid out in order |
| Stuff-A-Bus/ Feed Nova Scotia Bus Ad | MT logo (older version?) |
| Stones Shuttle-concert service radio ad | |
| Metro Transit-Special Shuttle Service PSA | |
| *MetroLink* | |
| MetroLink-Urban Transportation Showcase Program postcard | |
| MetroLink arrow flyer-new service + incentive | Informative |
| MetroLink Bike Rack - user guide pamphlet | Clear instructions |
| MetroLink info magnet-phone number + url | |
| MetroLink card holder-map; fares, phone, url | |
| MetroLink-ThinkLink inaugural run ad | |
| MetroLink-ThinkLink-Phase1 ad | |
| MetroLink street signage/shelters | Enclosed shelters, prominent signage |
| MetroLink Info sheet flyer | Also available to download from website. |
| MetroLink info-features brochure | |
| MetroLink website material | |
| *Metro Transit* | |

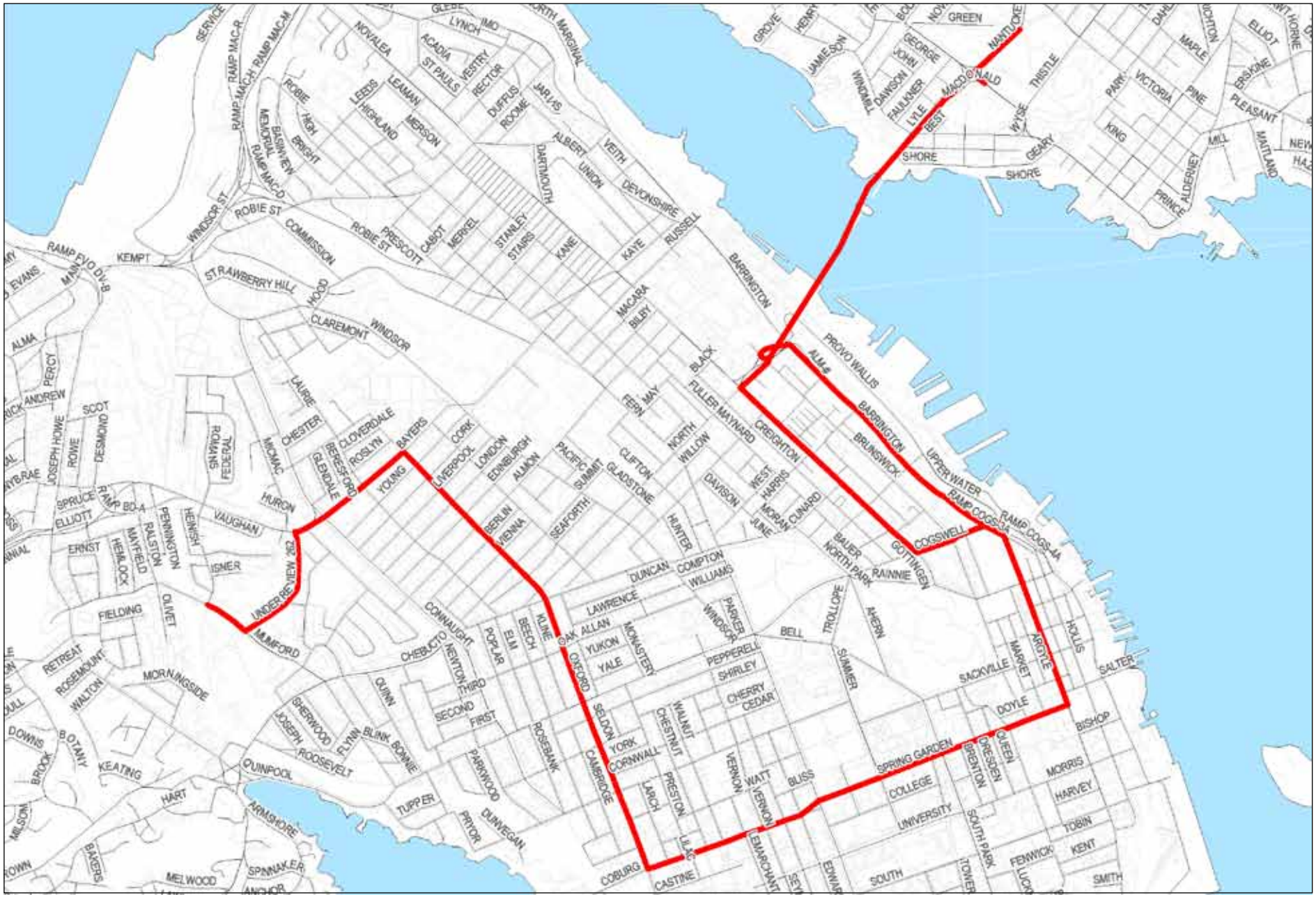
| | |
|---|---|
| Riders' Guide (Schedules) - Bus & Ferry | Confusion with route names; Bus destinations not listed. Ie. Route 1 Spring Garden. (To Darmouth/ To Mumford) |
| MetroTransit + url post-it notes | |
| Community Transit Fares big sticker | |
| MetroTransit 'Did you know?' - fact sheet | Informative, great facts |
| ALF-Accessible Low Floor info/routes brochure | |
| Metro Transit Transfer System is Changing Colour' info flyer | |
| Route/Schedule Adjustments brochure | Good layout, easy to read |
| MetroTransit - new accessible route ad | |
| Introducing fare transfers for Community Transit Service!' schedule/info flyer | |
| Request Stop Flyer | MT logo not used |
| Metro Watch flyer | MT logo not used |
| Route Map - Bus & Ferry | Downloadable from website |
| *HRM Listens* | |
| GO Times - Feb/09 | |
| Media Release - Feb/09 | |
| HRM employees message | |
| Downtown Halifax Business mailer | |
| HRM Metro Transit Newsletter | |
| **Website** | |
| halifax.ca/metrotransit website | Information easily accessible; no trip planner; GoTime/ next bus avail online? |
| **COMMUNICATIONS** | |
| CUTA Annual Conference brochure-Halifax,NS Program (MetroTransit host/reps/sponsor) | |
| HRM Annual Report-includes Metro Transit | |
| Metro Transit Committees list | |
| Safe Ride Committee ppt | Good template |
| MetroTransit Kiwanis Club ppt | Good template |
| *Media* | |
| HRM call center-Q/A for potential Metro Transit strike | |
| Media Release-transit security to be increased with Mobile Surveillance System | |

# Appendix L
# Individual Route Maps

# 1 Spring Garden BRT

## Metro Transit Service Plan

IBI GROUP



# 2 WEDGEWOOD

Metro Transit Service Plan

IBI GROUP

# 4 ROSEDALE

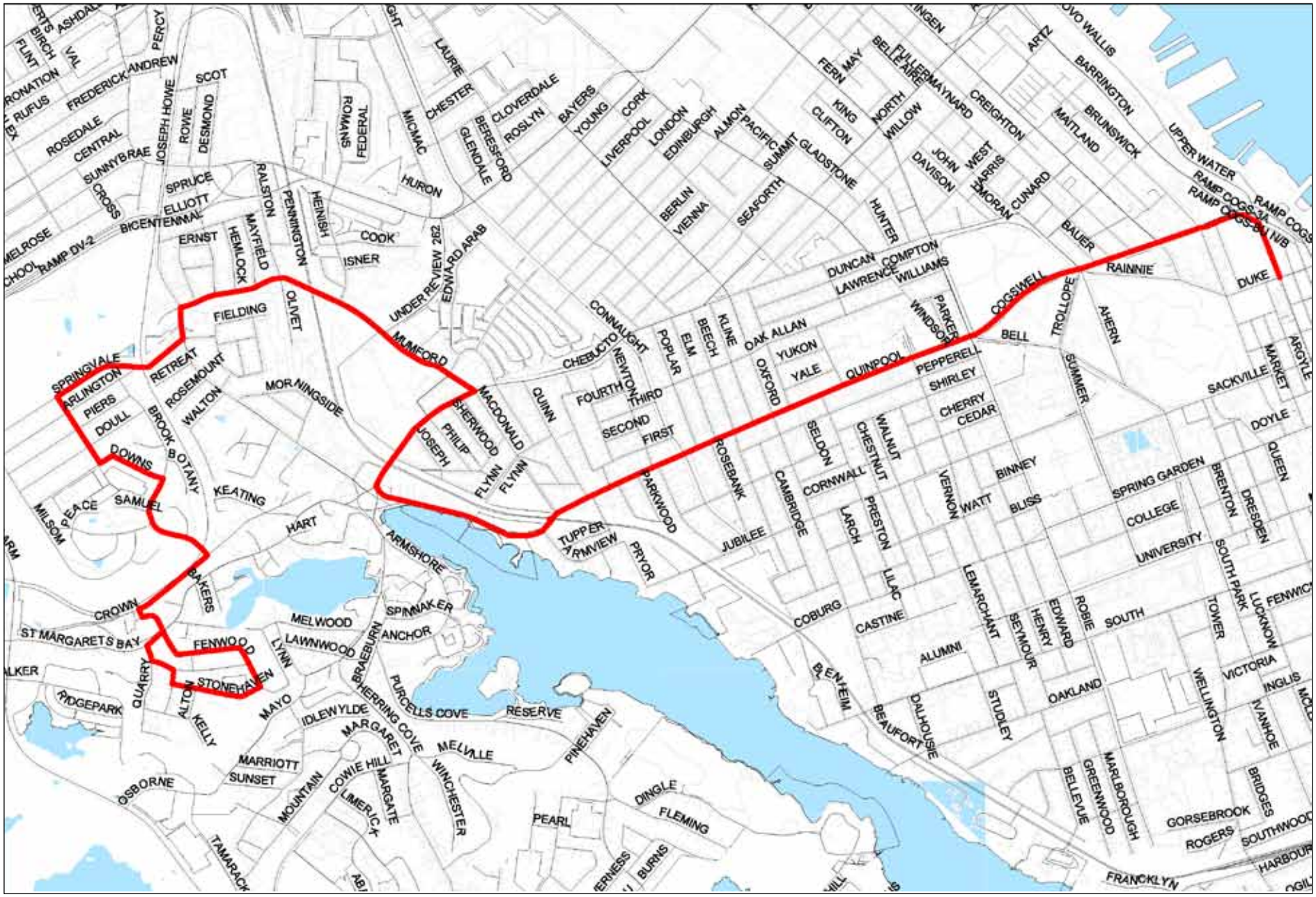
Metro Transit Service Plan

IBI GROUP

# 6 QUINPOOL

Metro Transit
Service Plan

IBI GROUP



# 7 ROBIE

Metro Transit Service Plan

IBI GROUP

# 9 BARRINGTON

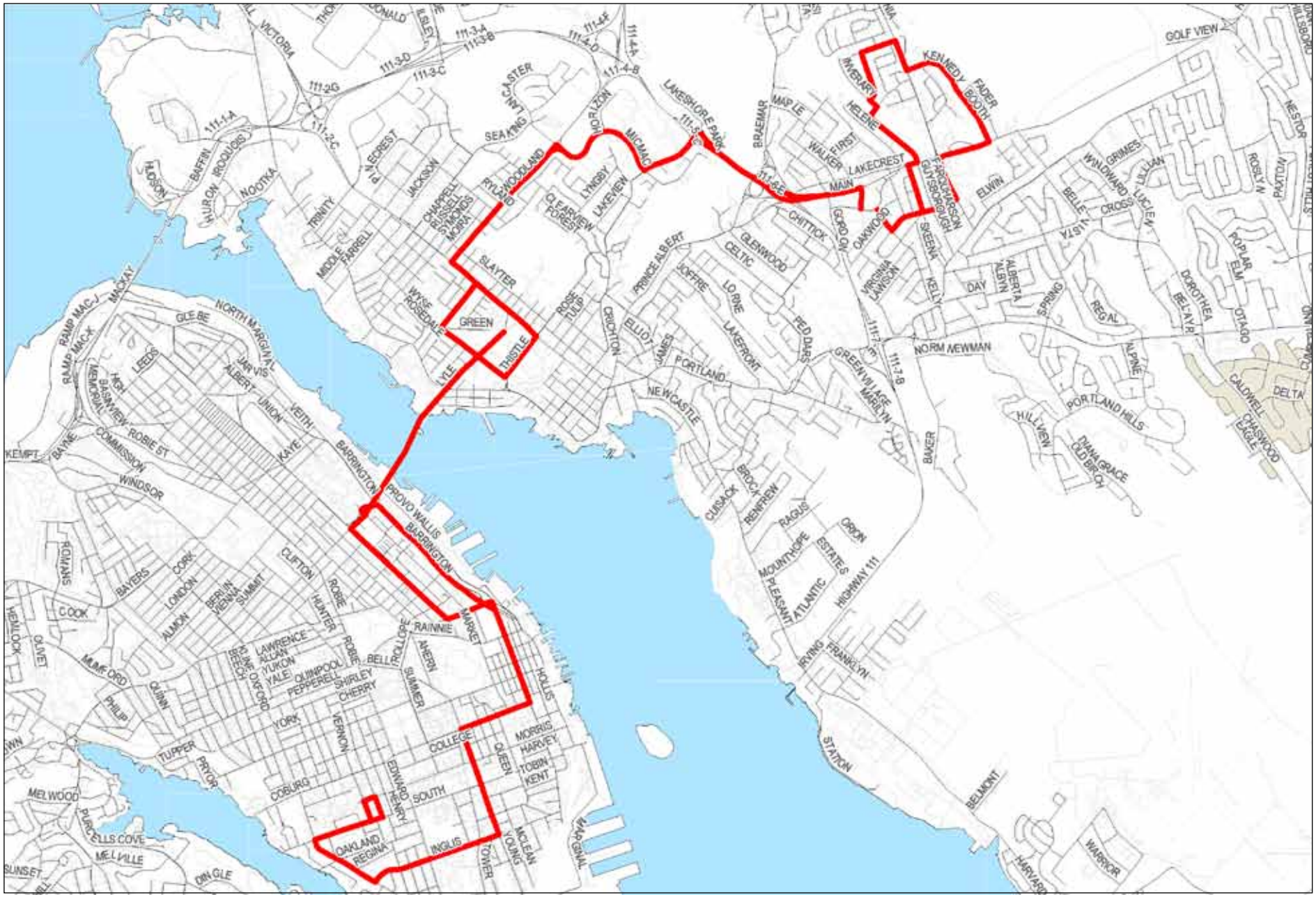
Metro Transit
Service Plan

IBI GROUP

# 10 DALHOUSIE

Metro Transit
Service Plan

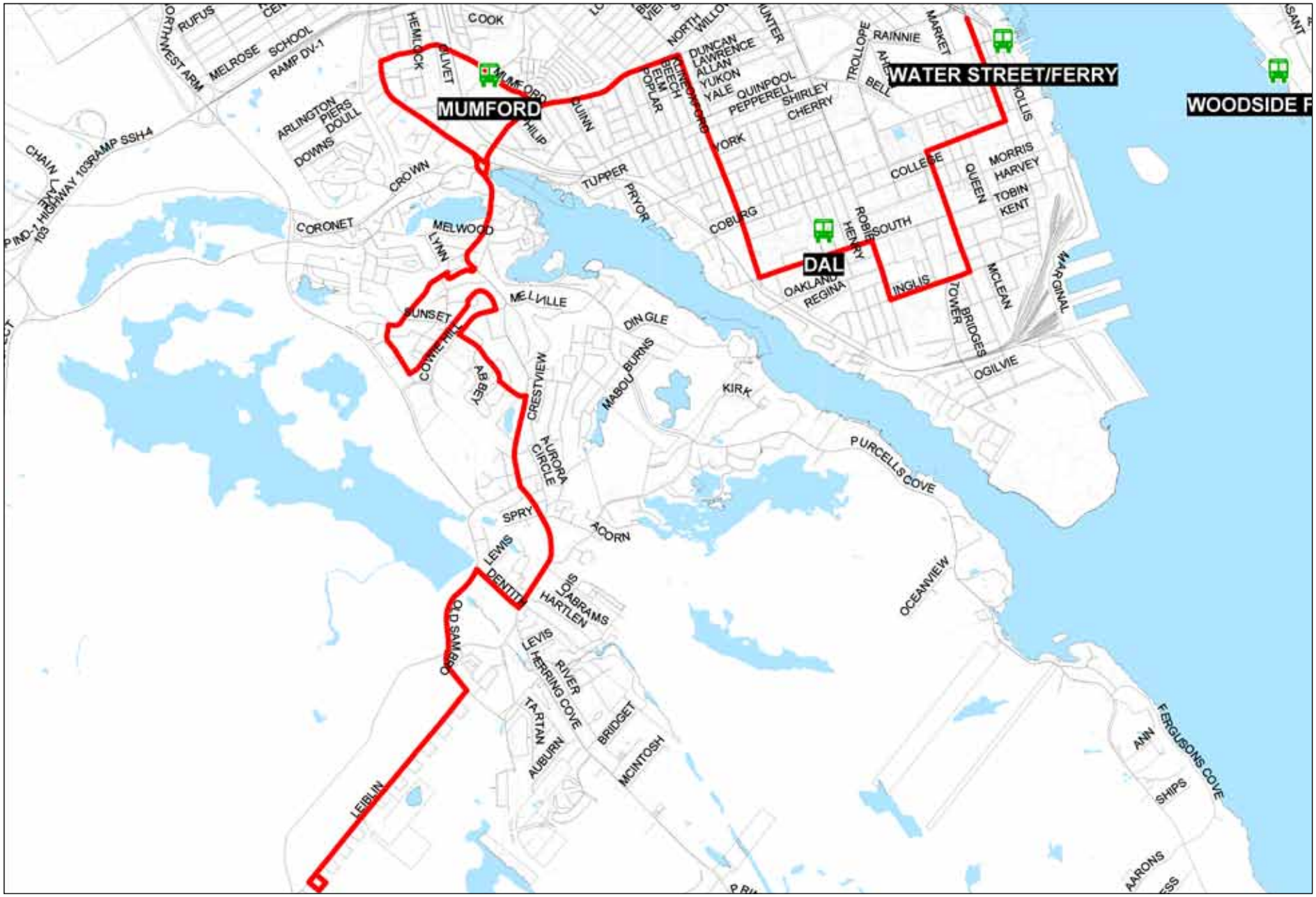
IBI GROUP



# 14A HALIFAX LEIBLIN PARK

Metro Transit Service Plan

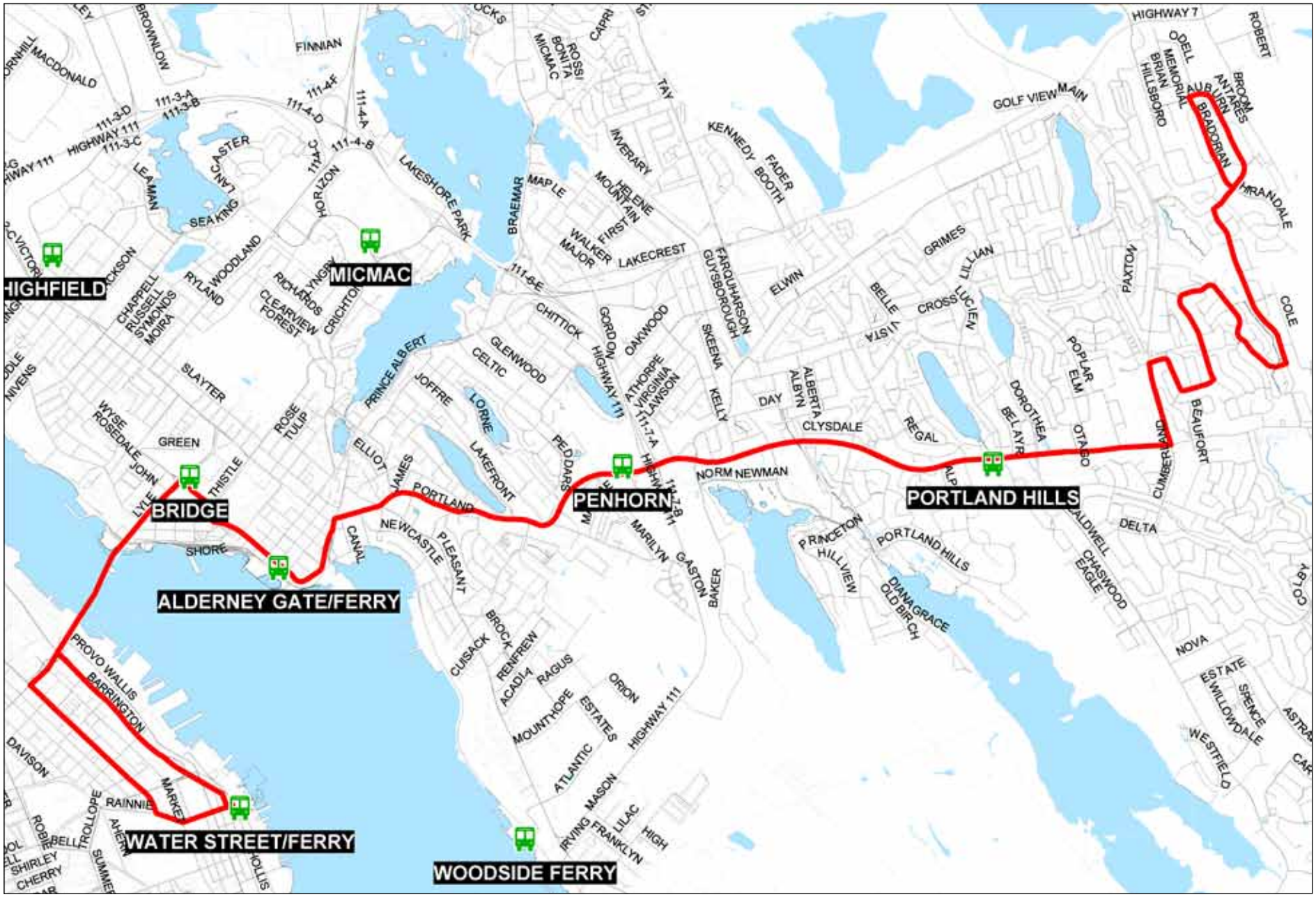
IBI GROUP



# 14B DARTMOUTH AUBURN

Metro Transit
Service Plan

IBI GROUP



# 15 PURCELL'S COVE

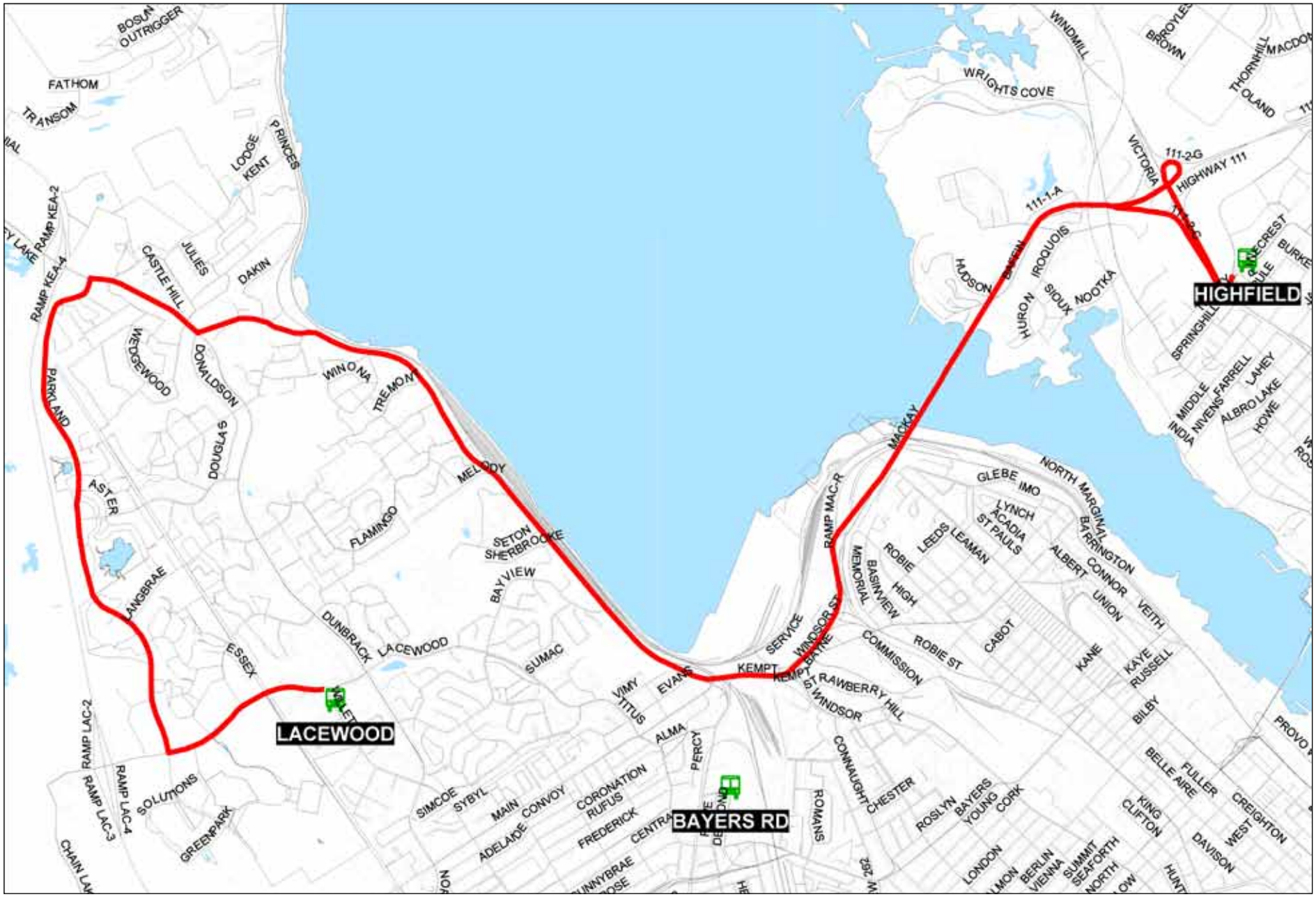
Metro Transit
Service Plan

IBI GROUP

# 16 PARKLAND

Metro Transit Service Plan

IBI GROUP



# 18 UNIVERSITIES

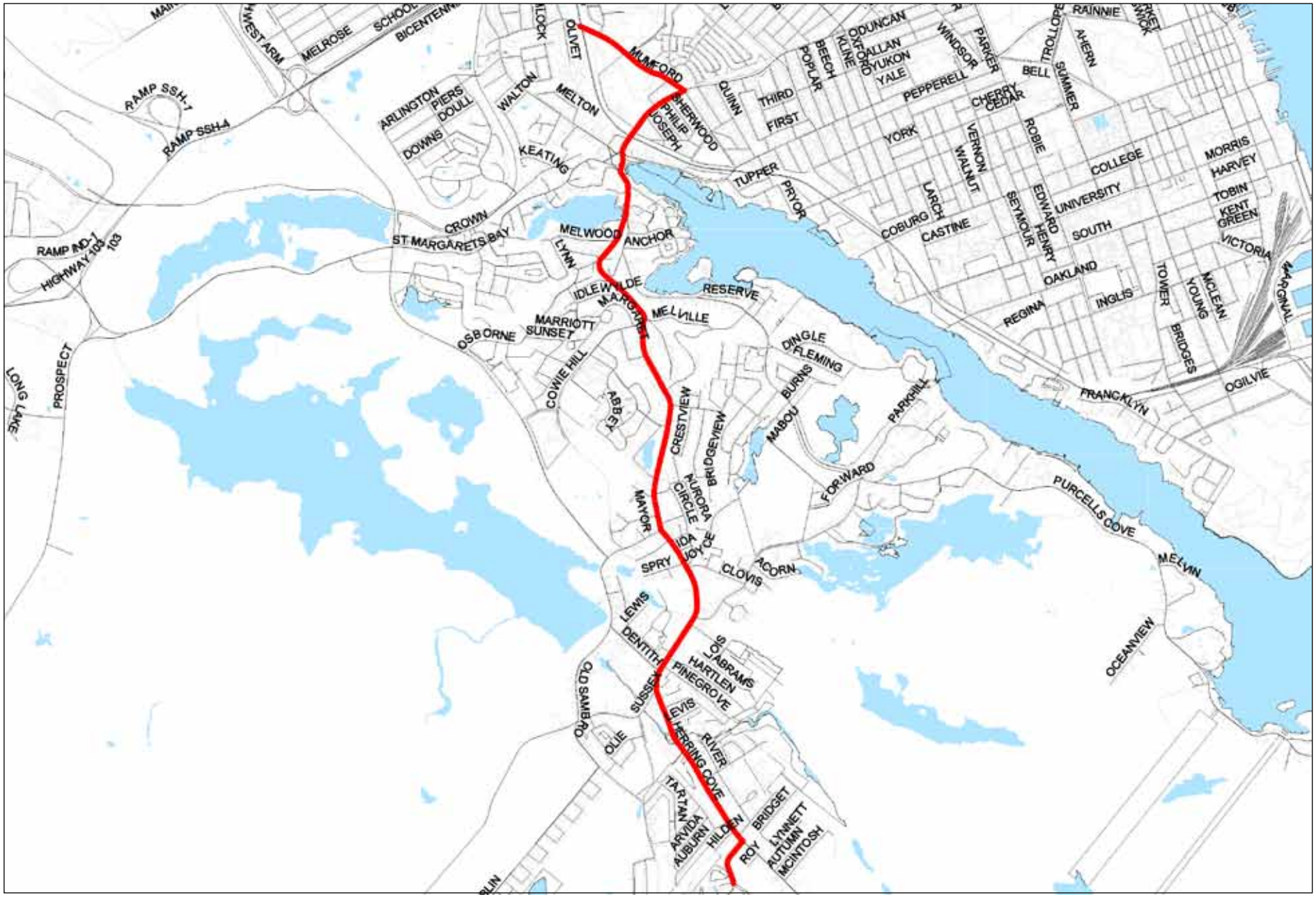
Metro Transit Service Plan

IBI GROUP

# 19 GREYSTONE

Metro Transit
Service Plan

IBI GROUP



# 20 HERRING COVE

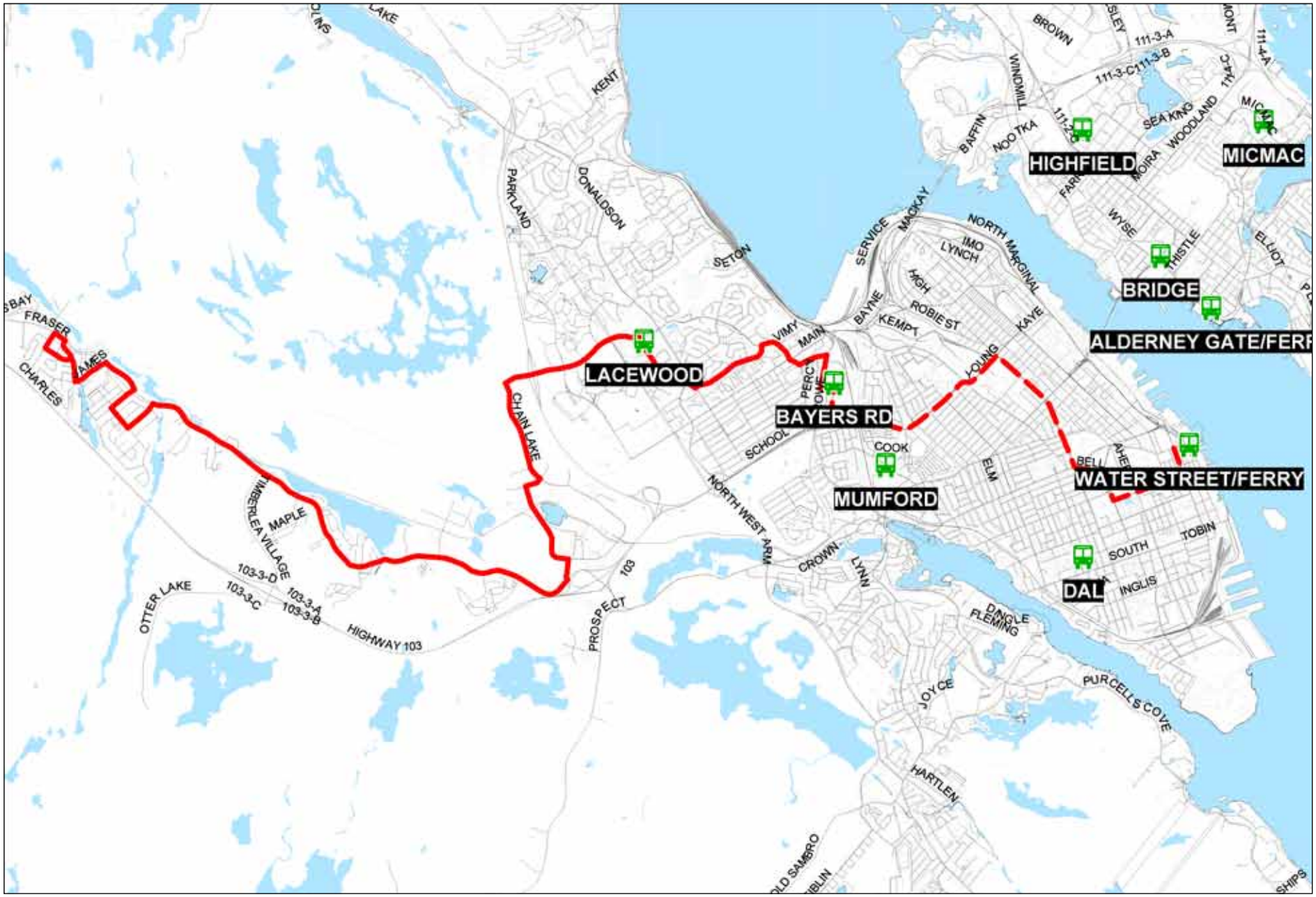
Metro Transit
Service Plan

IBI GROUP

# 21 TIMBERLEA

Metro Transit Service Plan

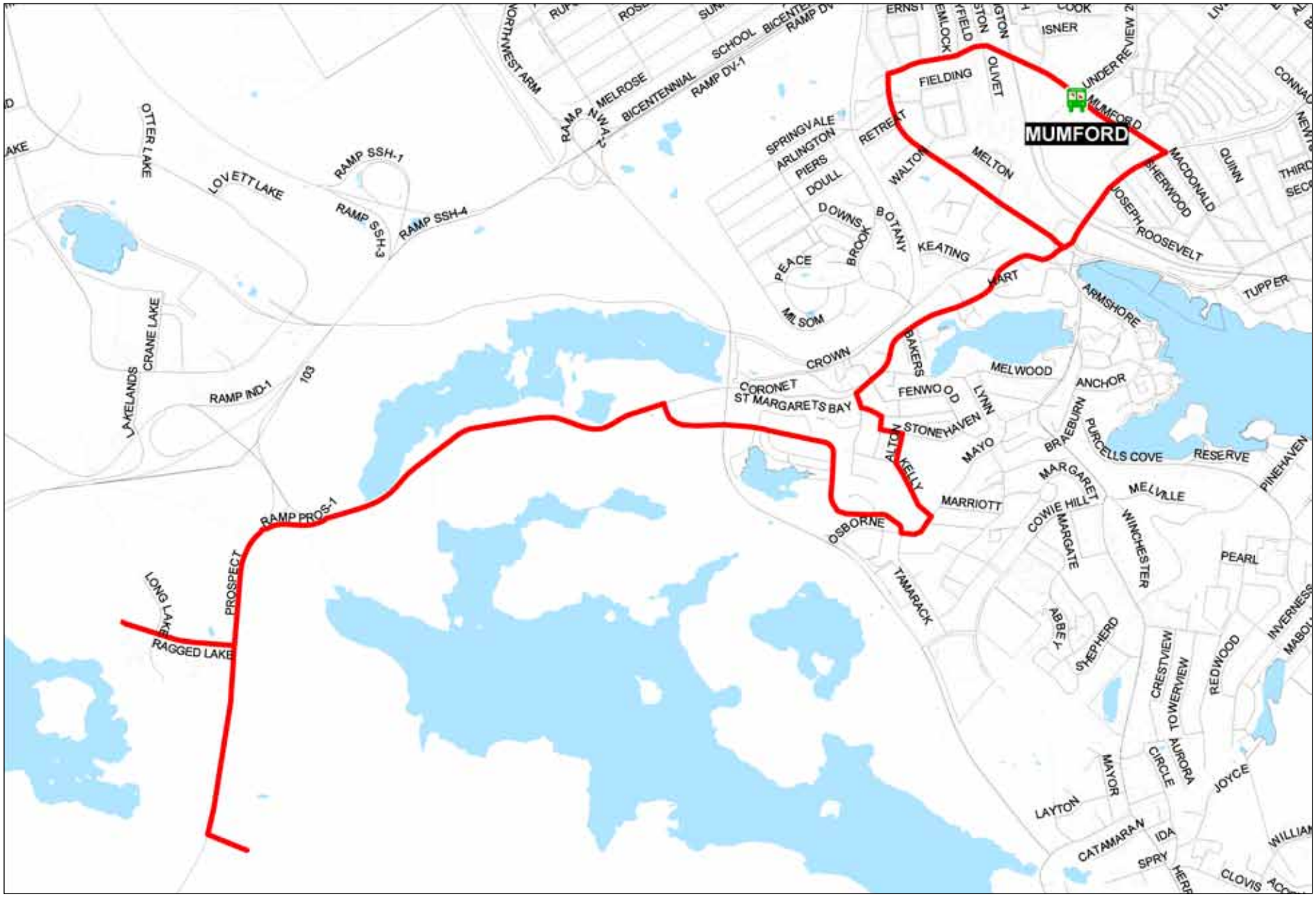
IBI GROUP



# 22 ARMDALE

Metro Transit Service Plan

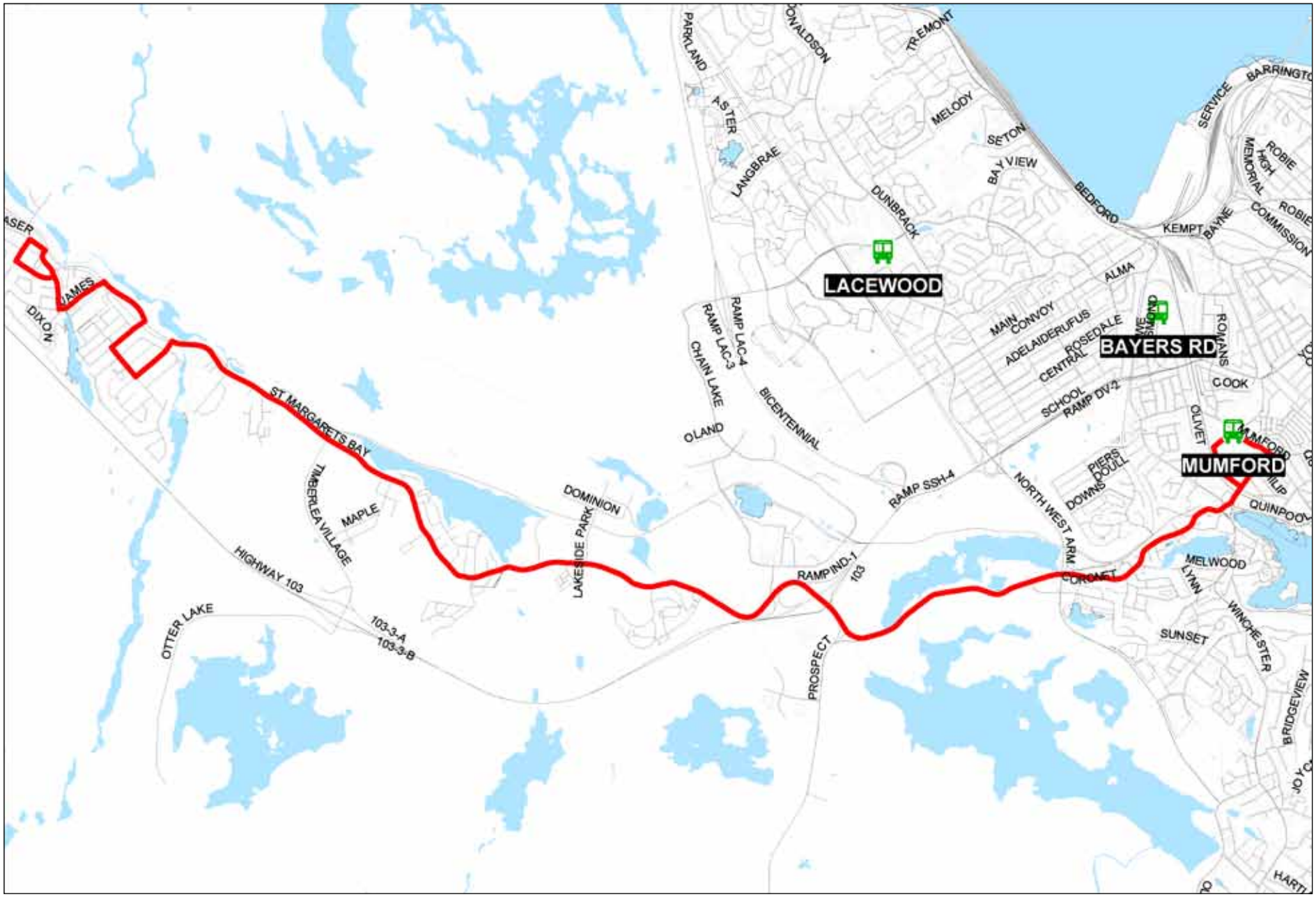
IBI GROUP



# 23 TIMBERLEA
## VIA MUMFORD

Metro Transit
Service Plan

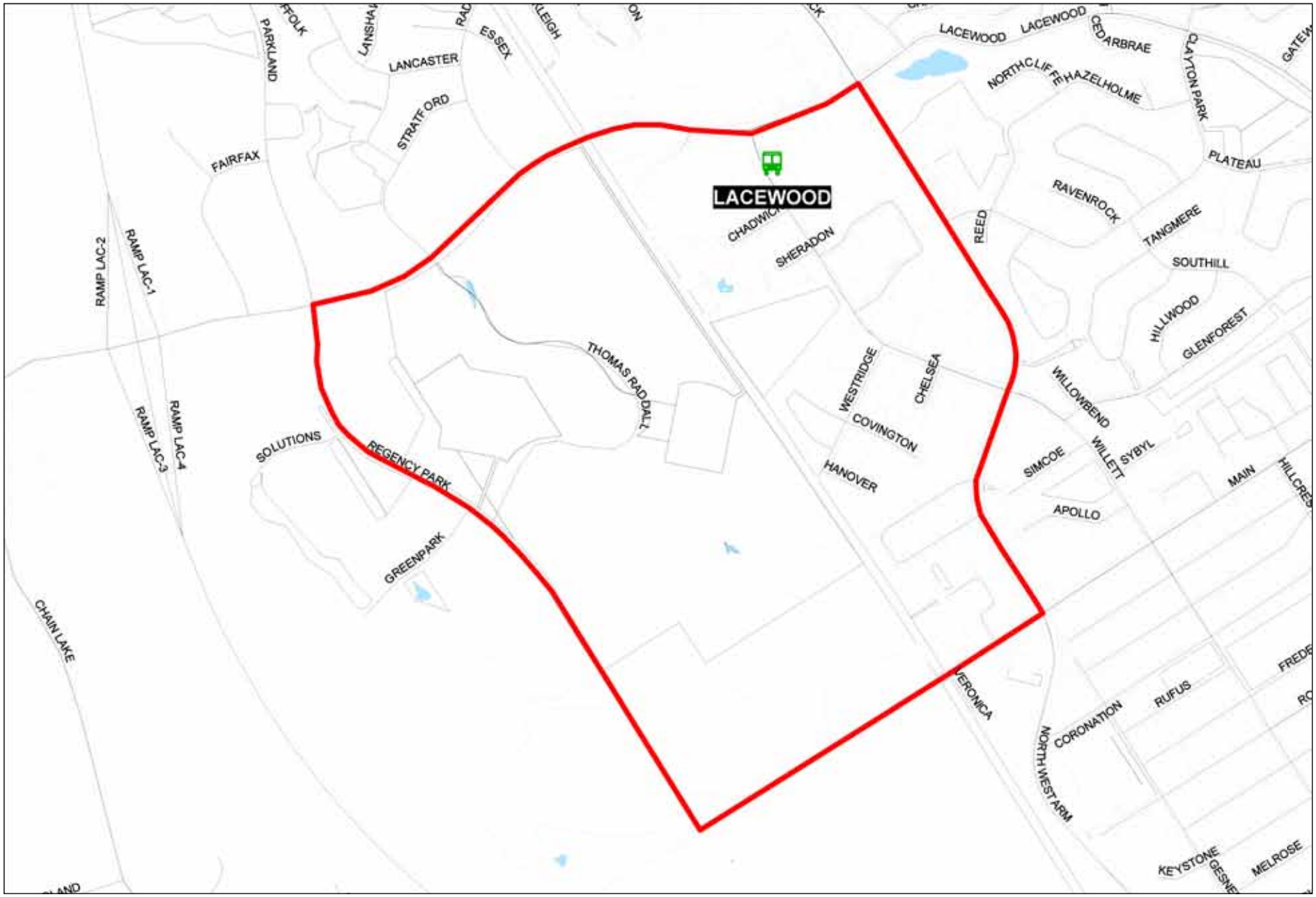
IBI GROUP



# 24 Regency Park Community Shuttle

Metro Transit Service Plan

IBI GROUP



# 31 Main Express

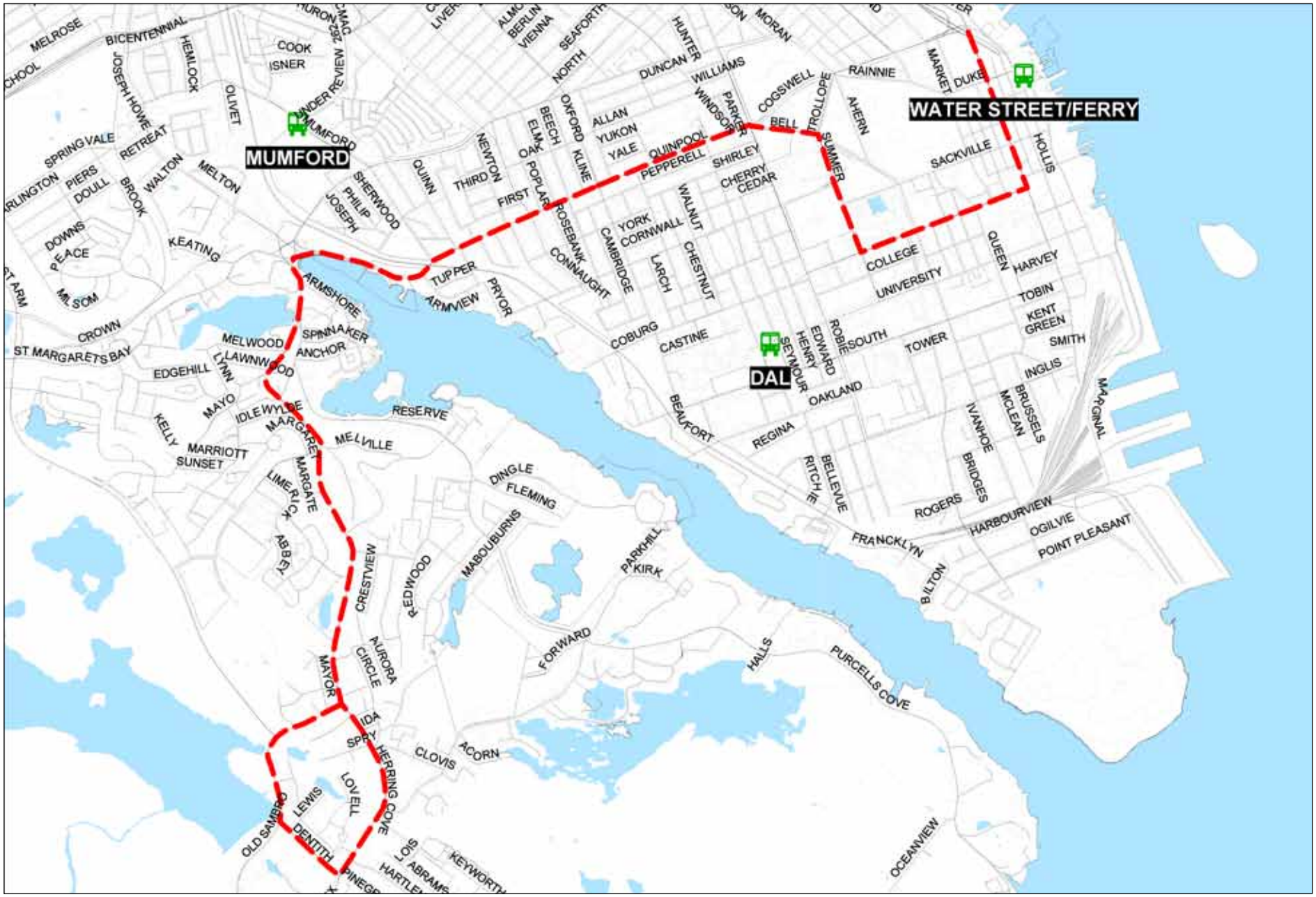
Metro Transit Service Plan

IBI GROUP

# 32 Cowie Hill Express

Metro Transit Service Plan

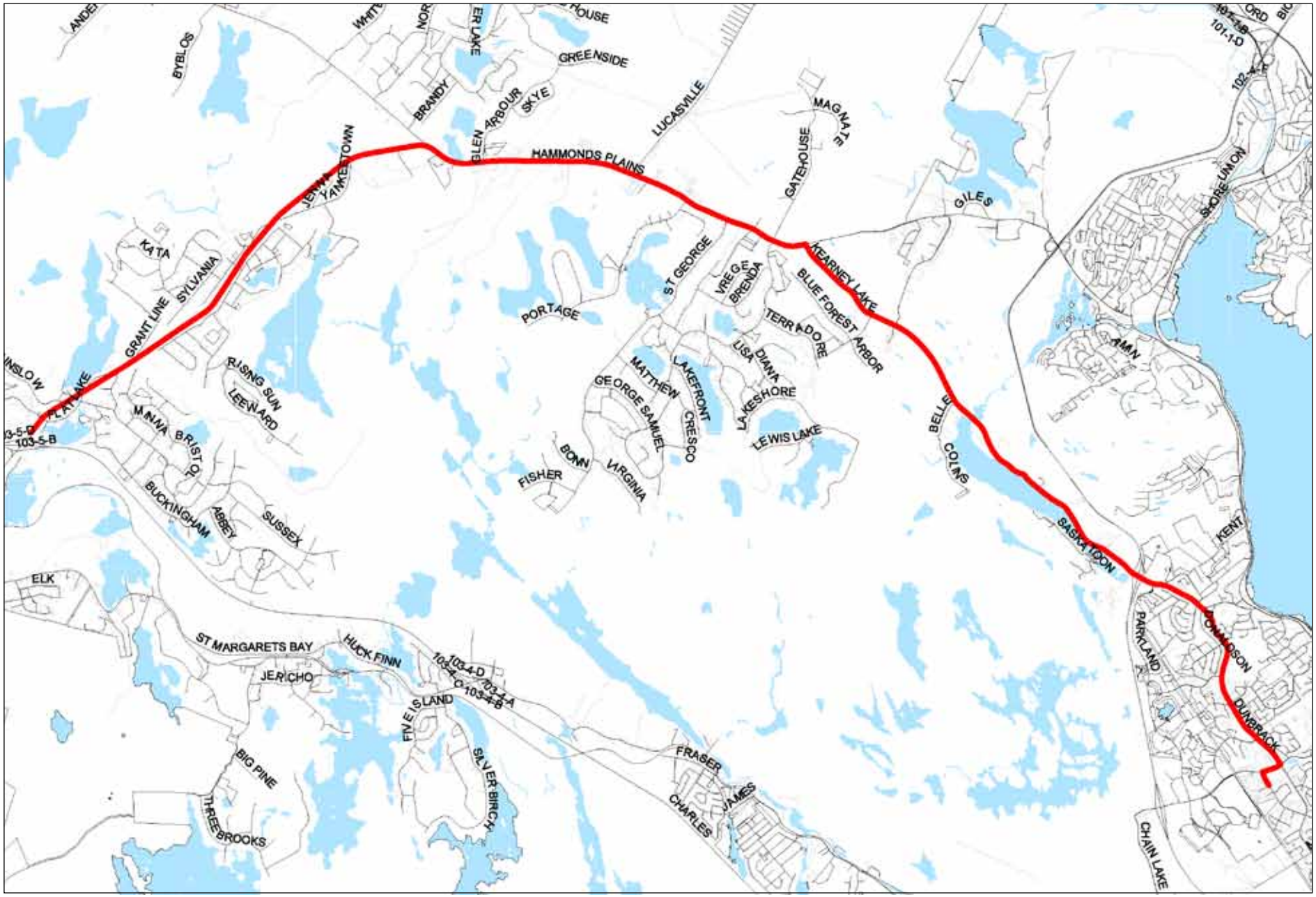
IBI GROUP



# 33 TANTALLON

Metro Transit
Service Plan

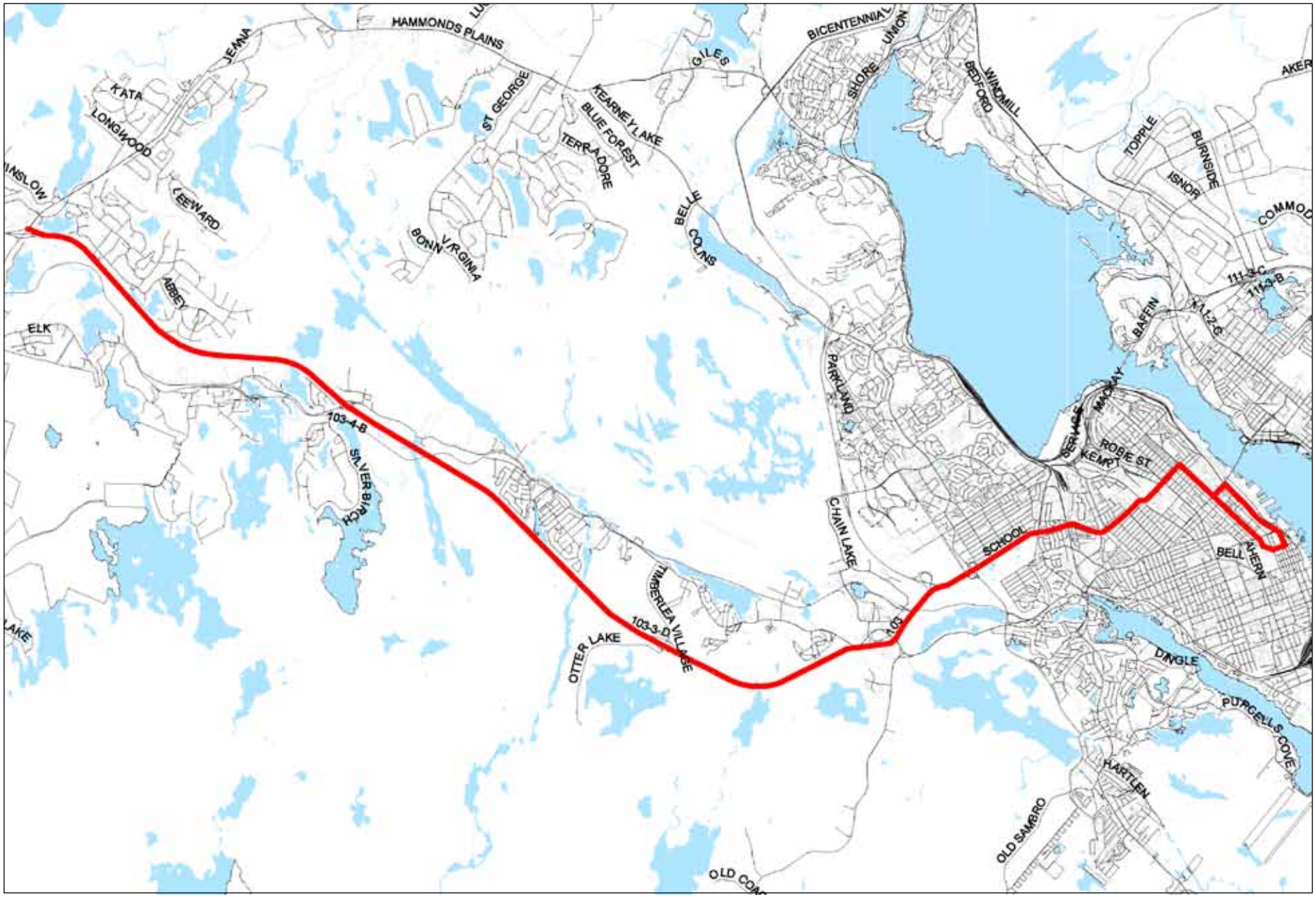
IBI GROUP



# 330 TANTALLON METRO X

Metro Transit Service Plan

IBI GROUP



# 34 GLENBOURNE EXPRESS

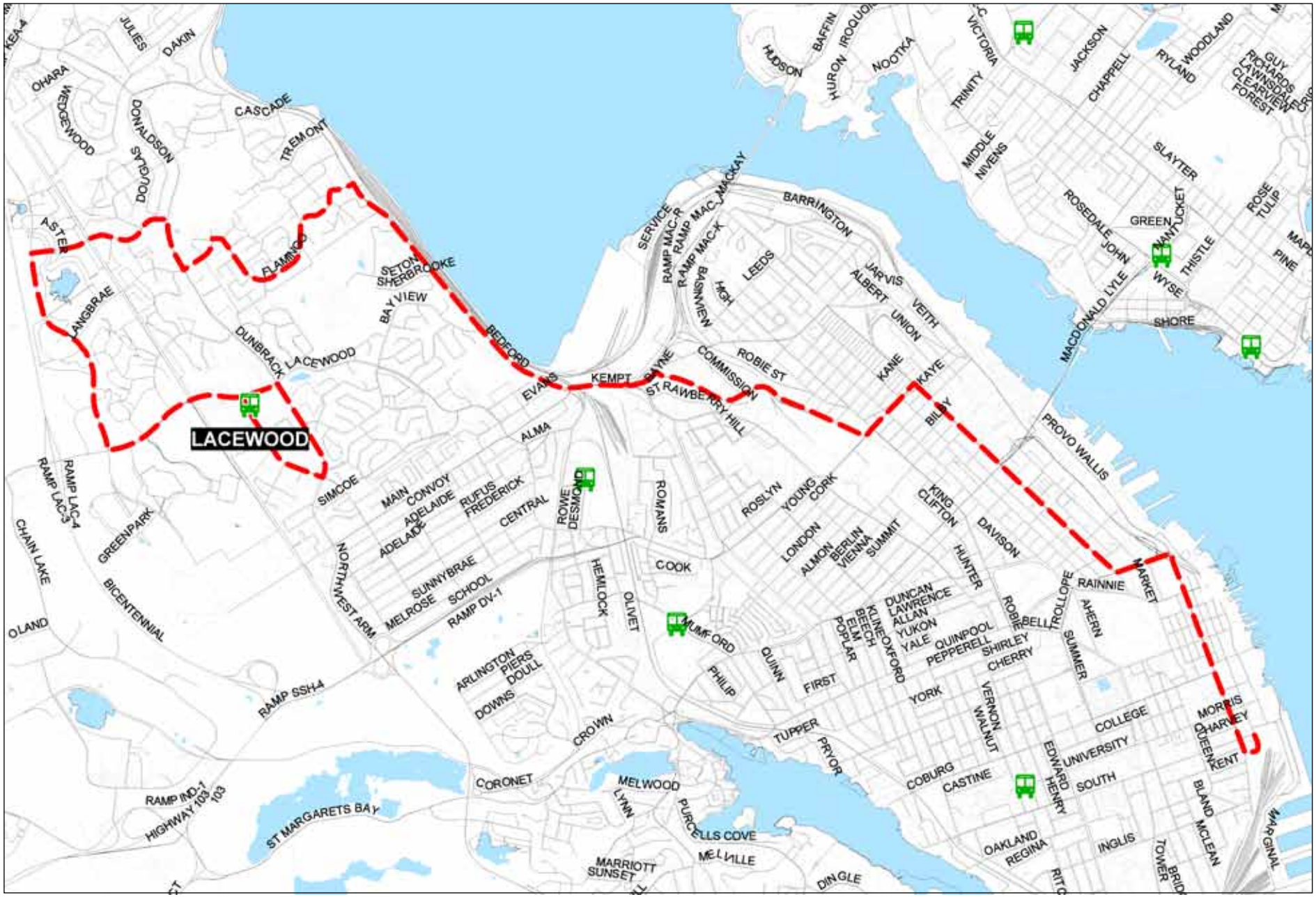
Metro Transit Service Plan

IBI GROUP

# 35 PARKLAND EXPRESS

Metro Transit
Service Plan

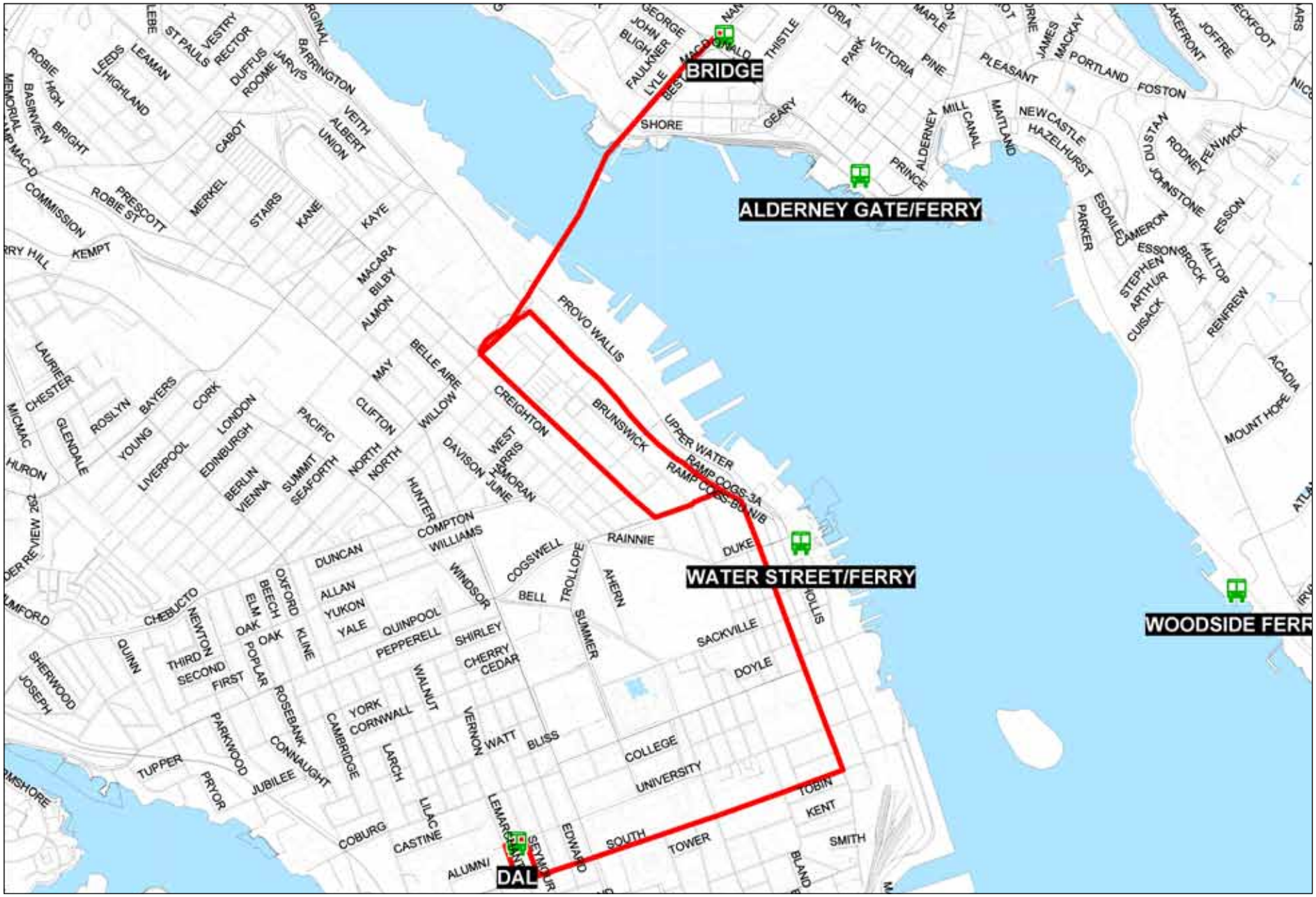
IBI GROUP



# 41 DAL-DALHOUSIE

Metro Transit
Service Plan

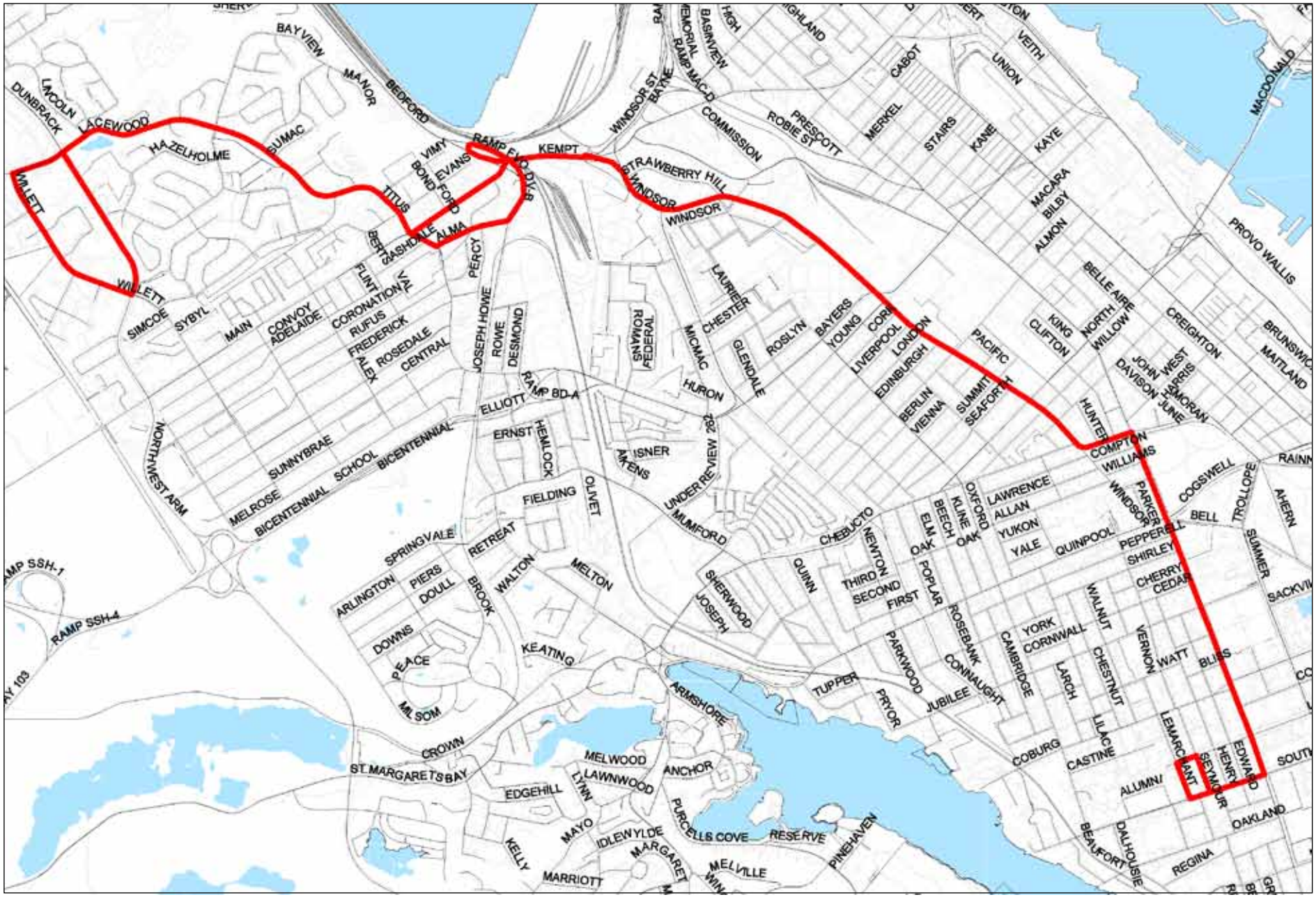
IBI GROUP



# 42 DAL-LACEWOOD

Metro Transit
Service Plan

IBI GROUP



# 51 SHANNON

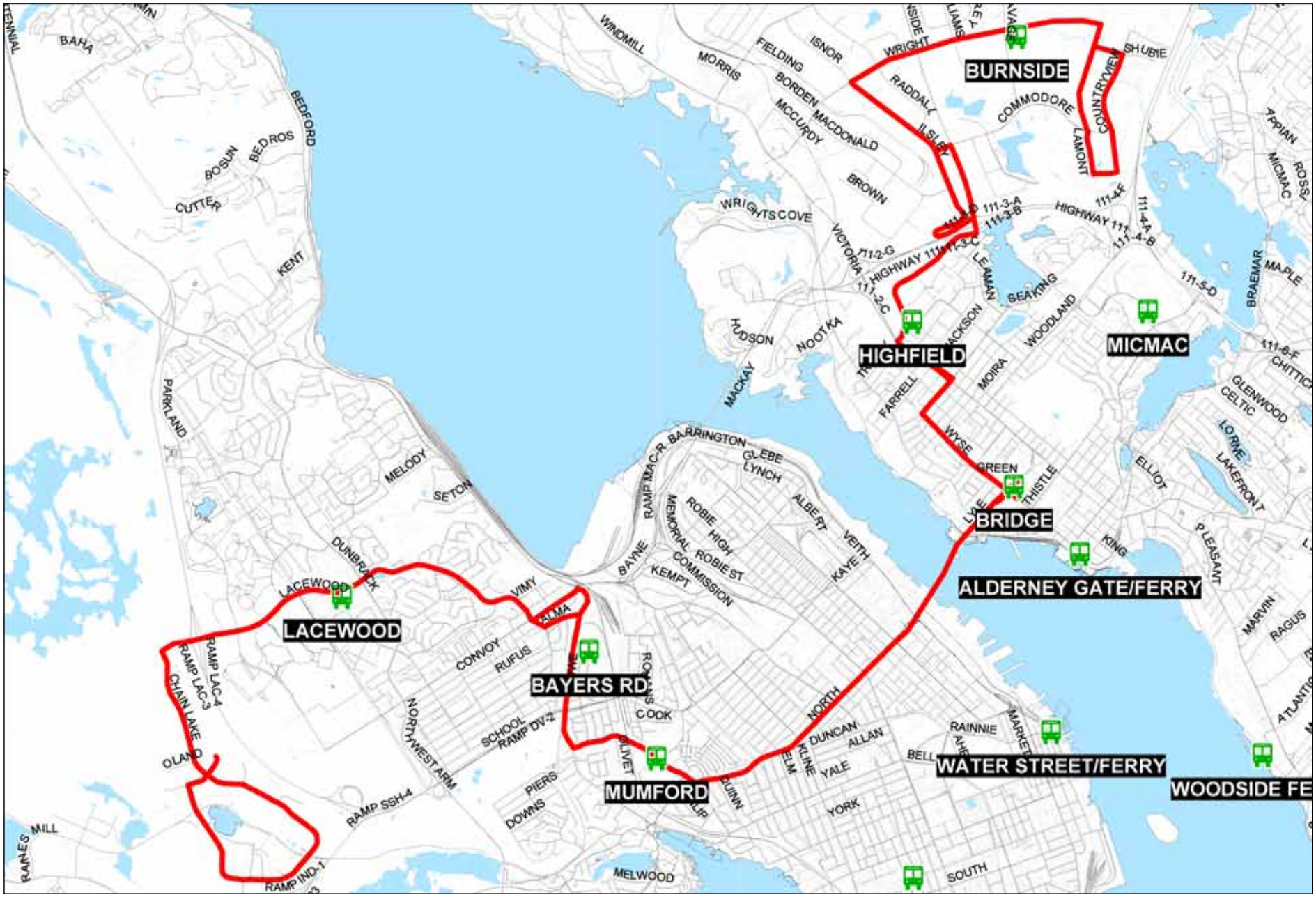
Metro Transit
Service Plan

IBI GROUP

# 52 CROSSTOWN

Metro Transit Service Plan

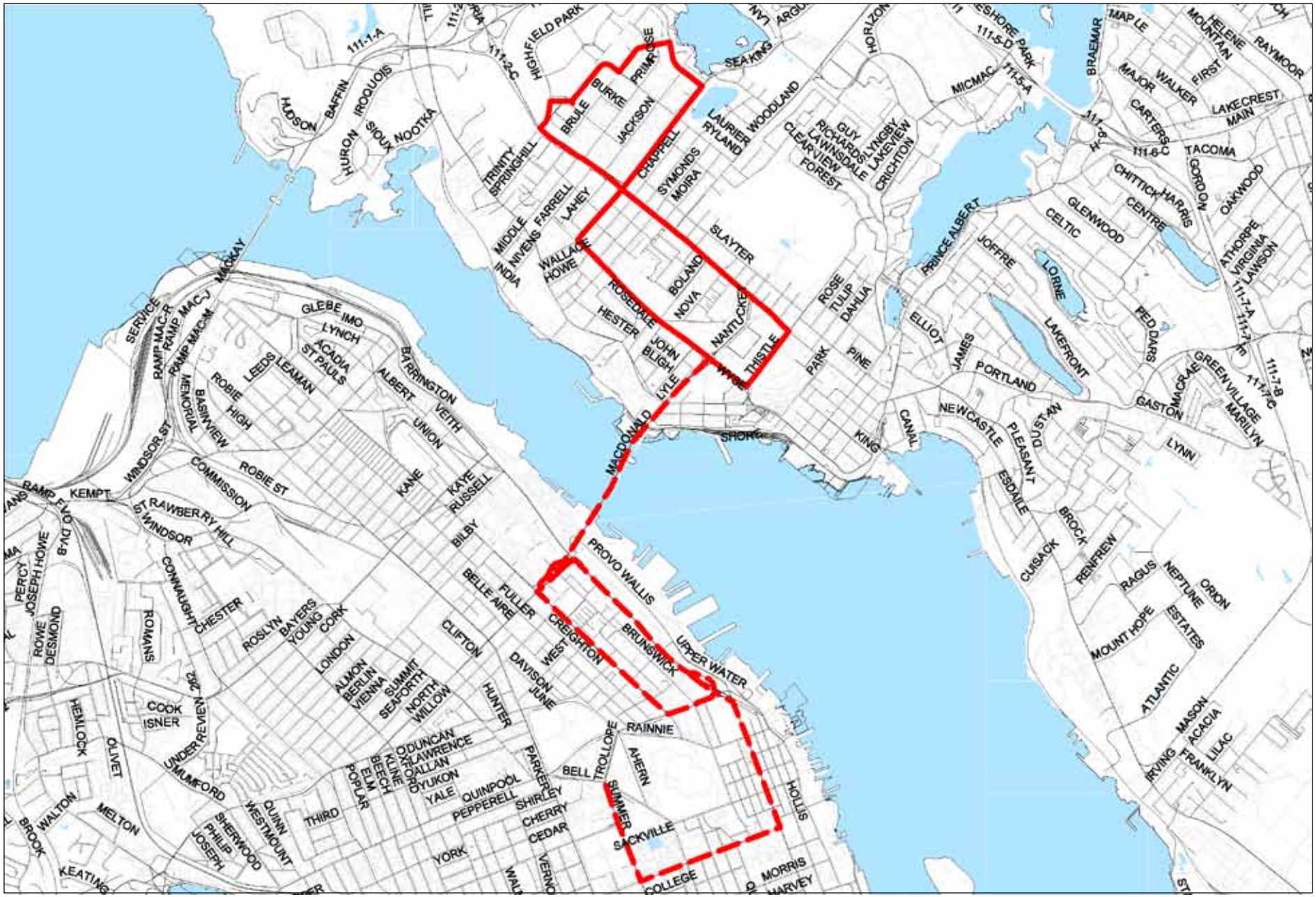
IBI GROUP



# 53 NOTTING PARK

Metro Transit
Service Plan

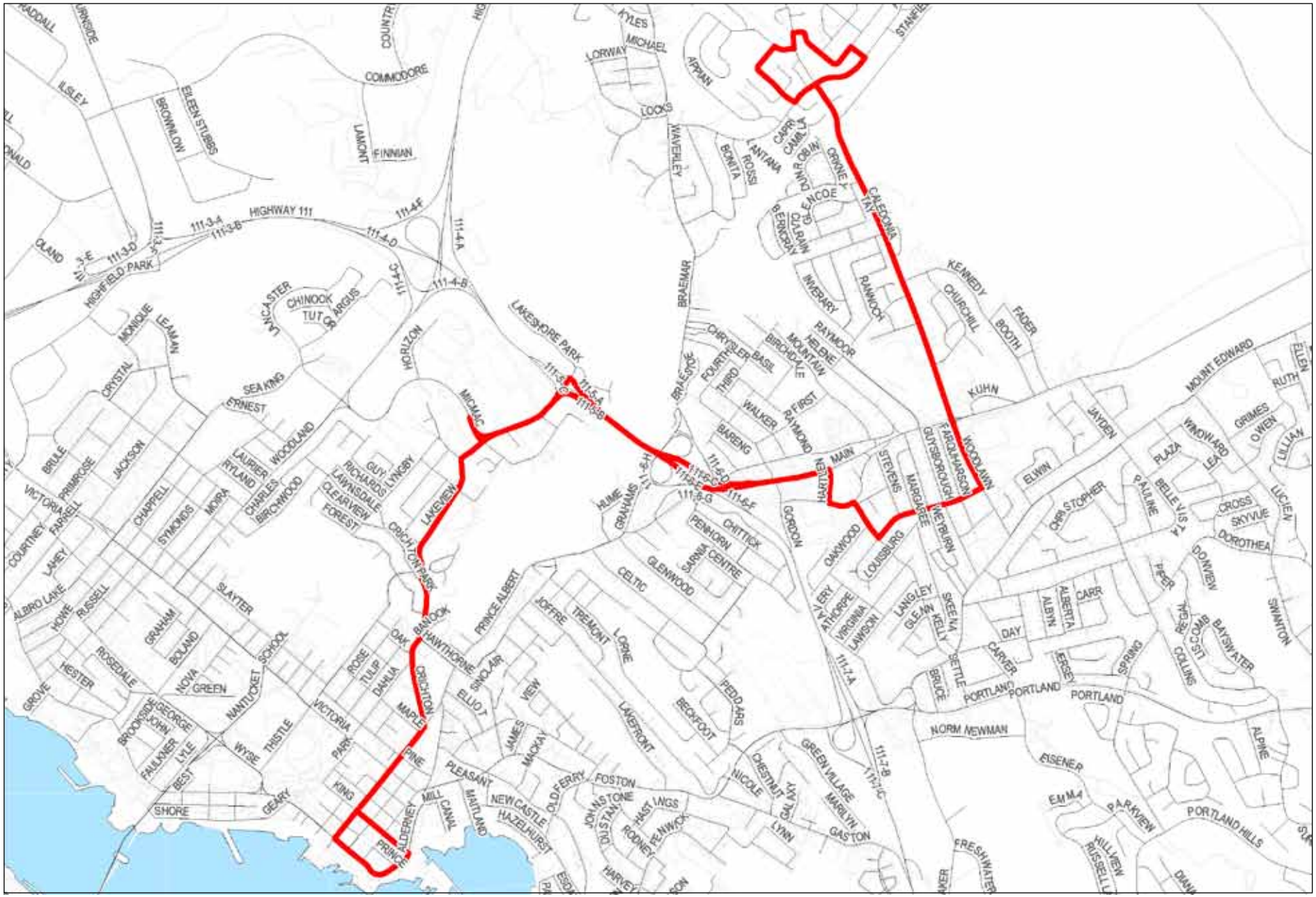
IBI GROUP



# 54 MONTEBELLO

Metro Transit
Service Plan

IBI GROUP



# 55 PORT WALLACE

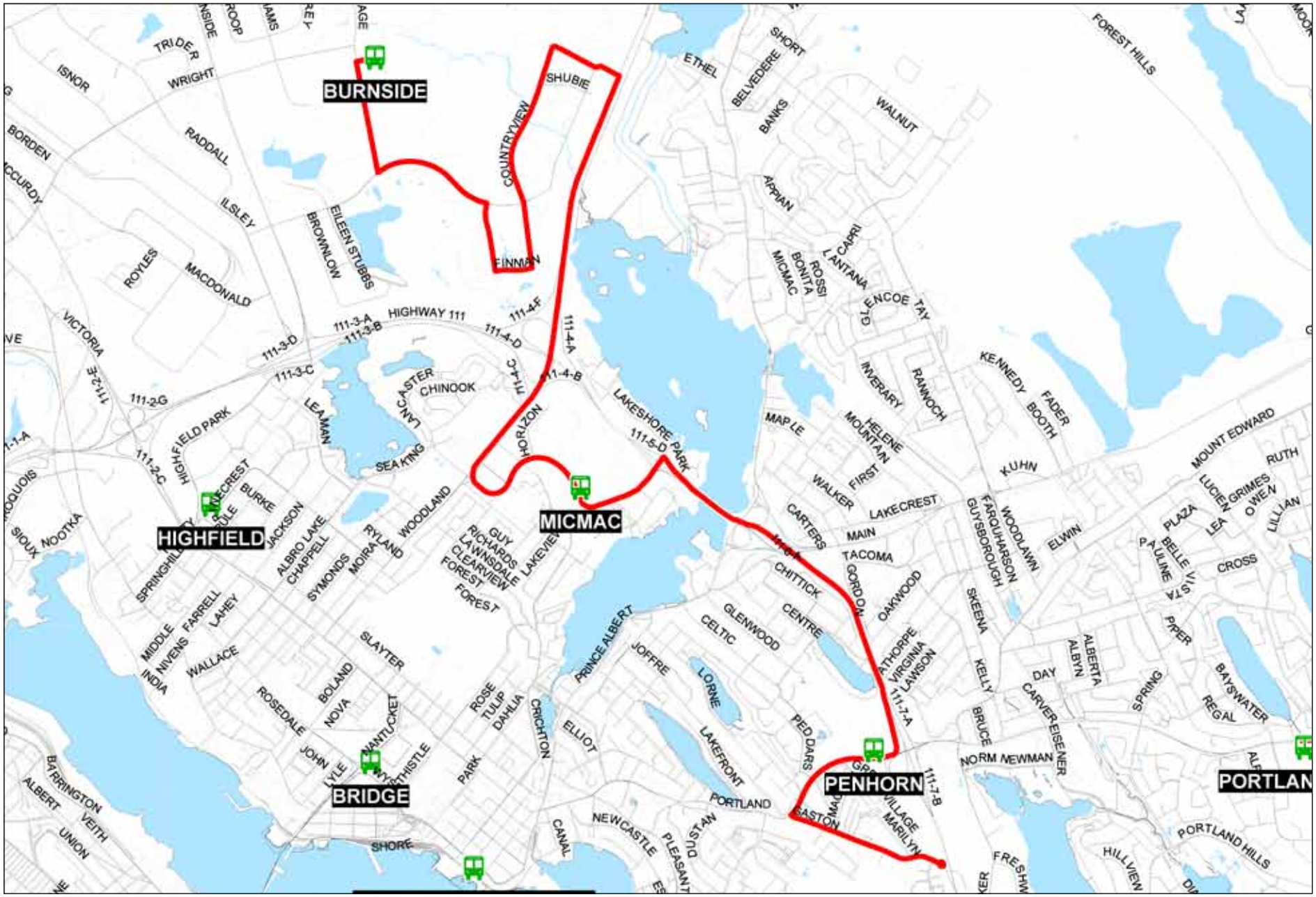
Metro Transit
Service Plan

IBI GROUP

# 56 DARTMOUTH CROSSING

Metro Transit Service Plan

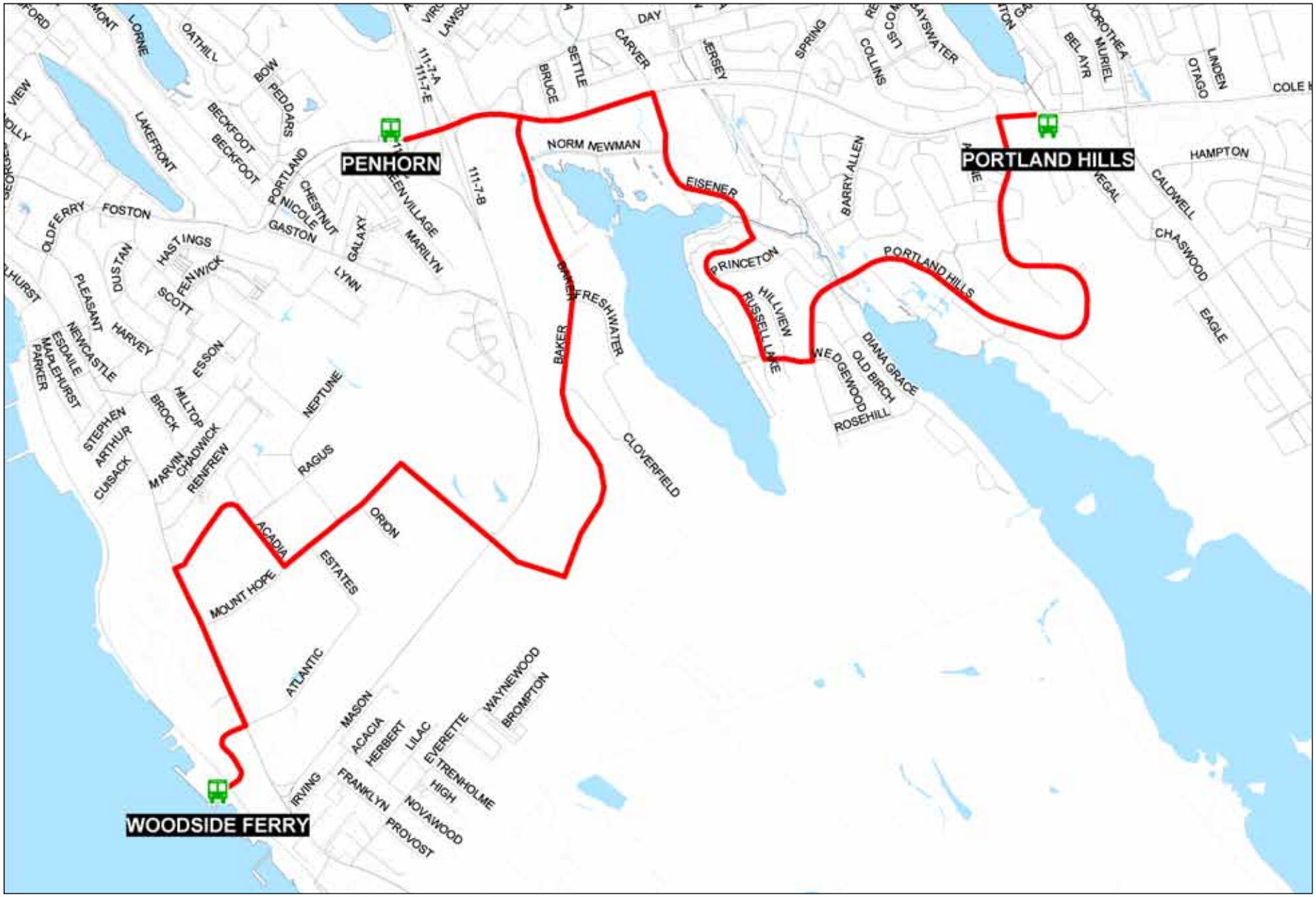
IBI GROUP



# 57 RUSSELL LAKE

Metro Transit
Service Plan

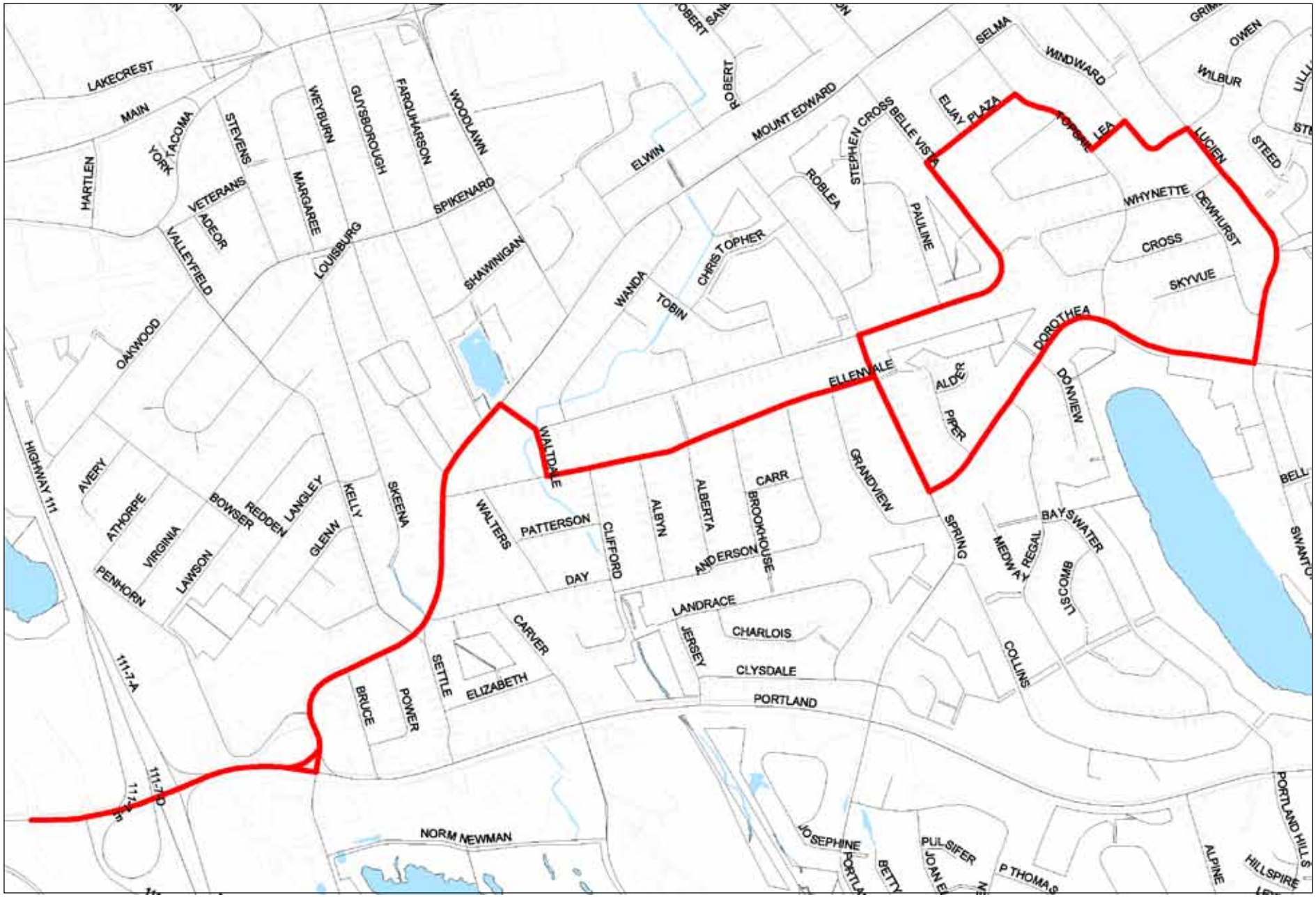
IBI GROUP



# 58 WOODLAWN

Metro Transit Service Plan

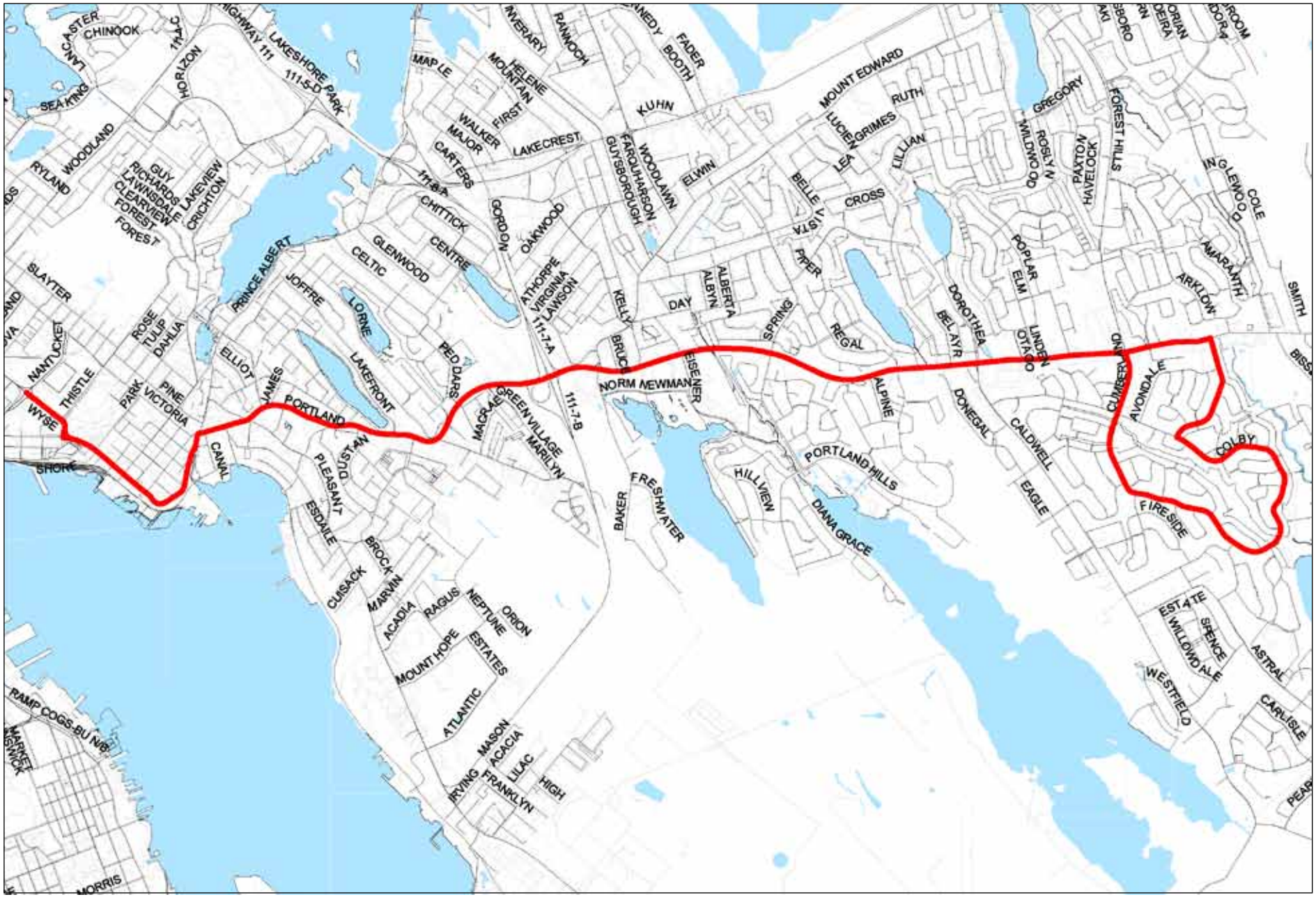
IBI GROUP



# 59 COLBY

Metro Transit
Service Plan

IBI GROUP



# 60A EASTERN PASSAGE

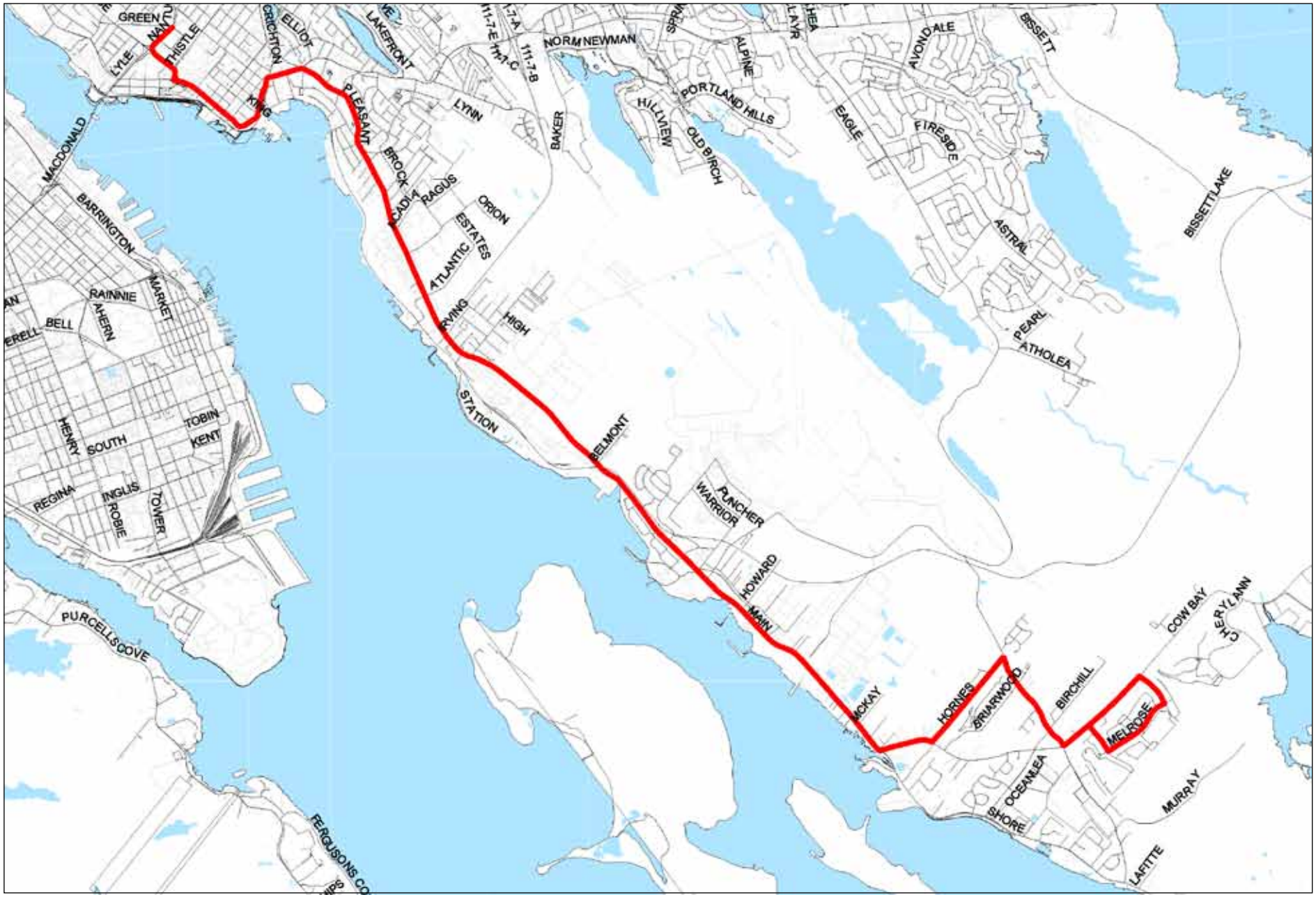
Metro Transit
Service Plan

IBI GROUP

# 60B EASTERN PASSAGE

Metro Transit Service Plan

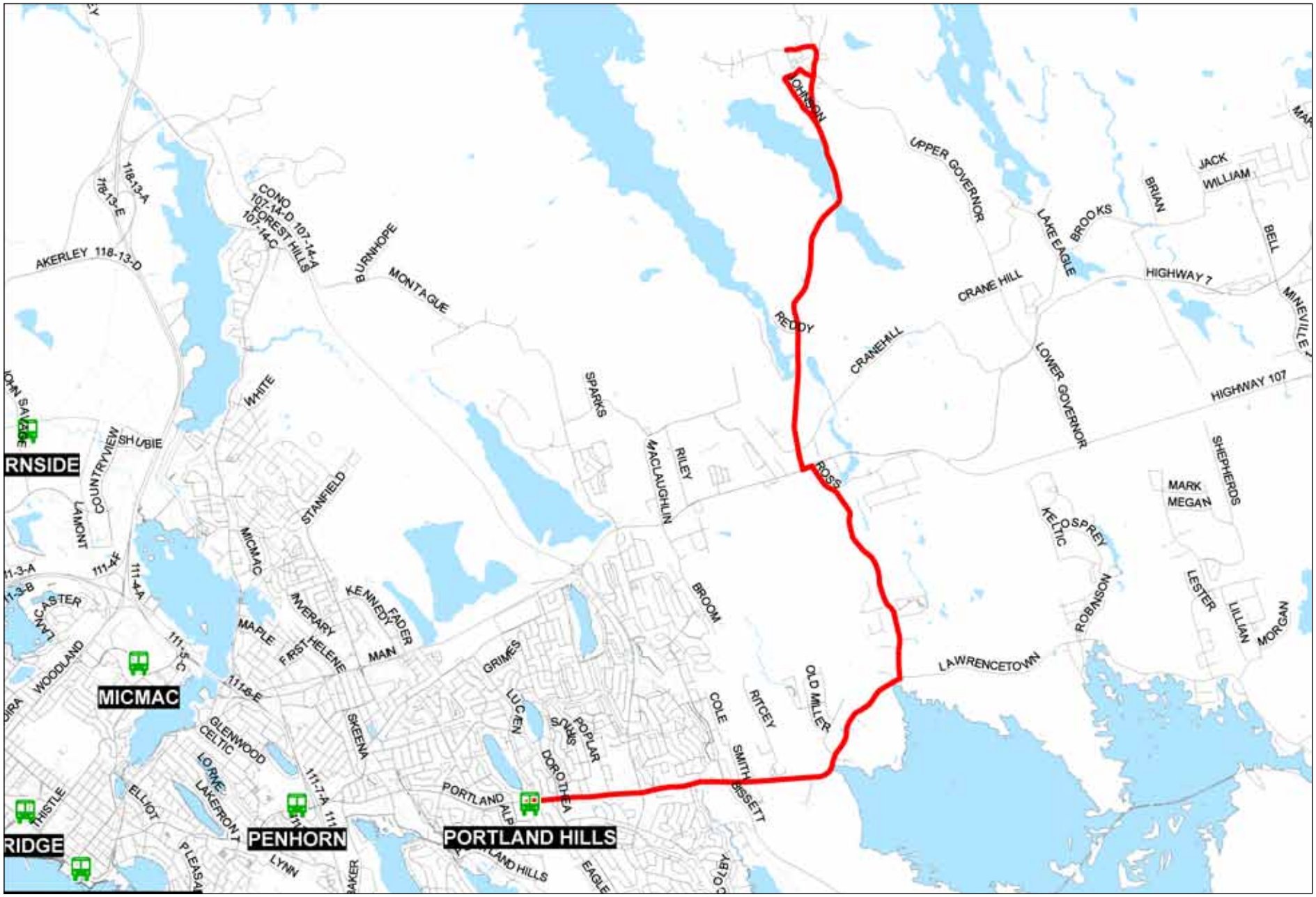
IBI GROUP



# 61 North Preston

Metro Transit Service Plan

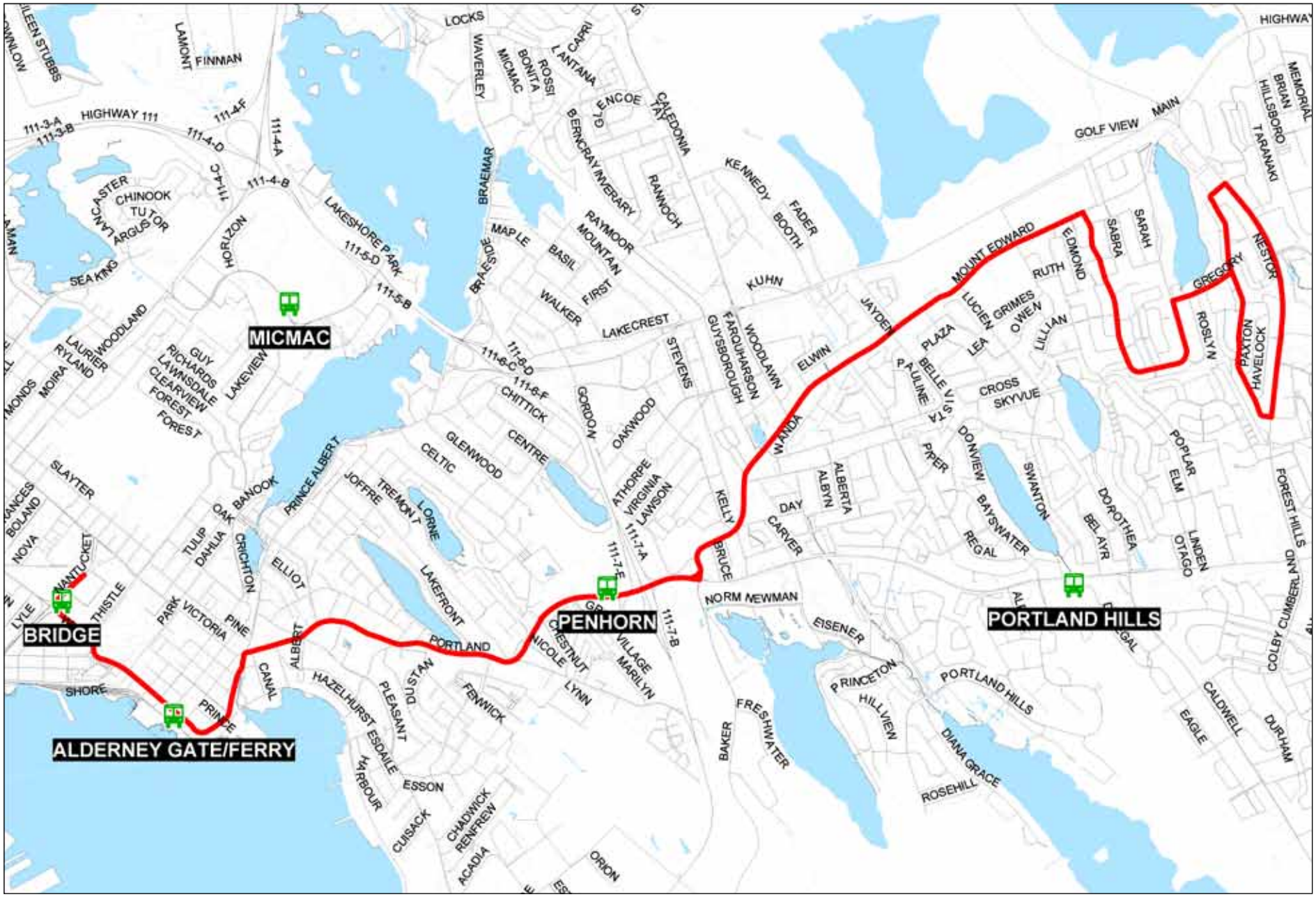
IBI GROUP



# 62 WILDWOOD

Metro Transit Service Plan

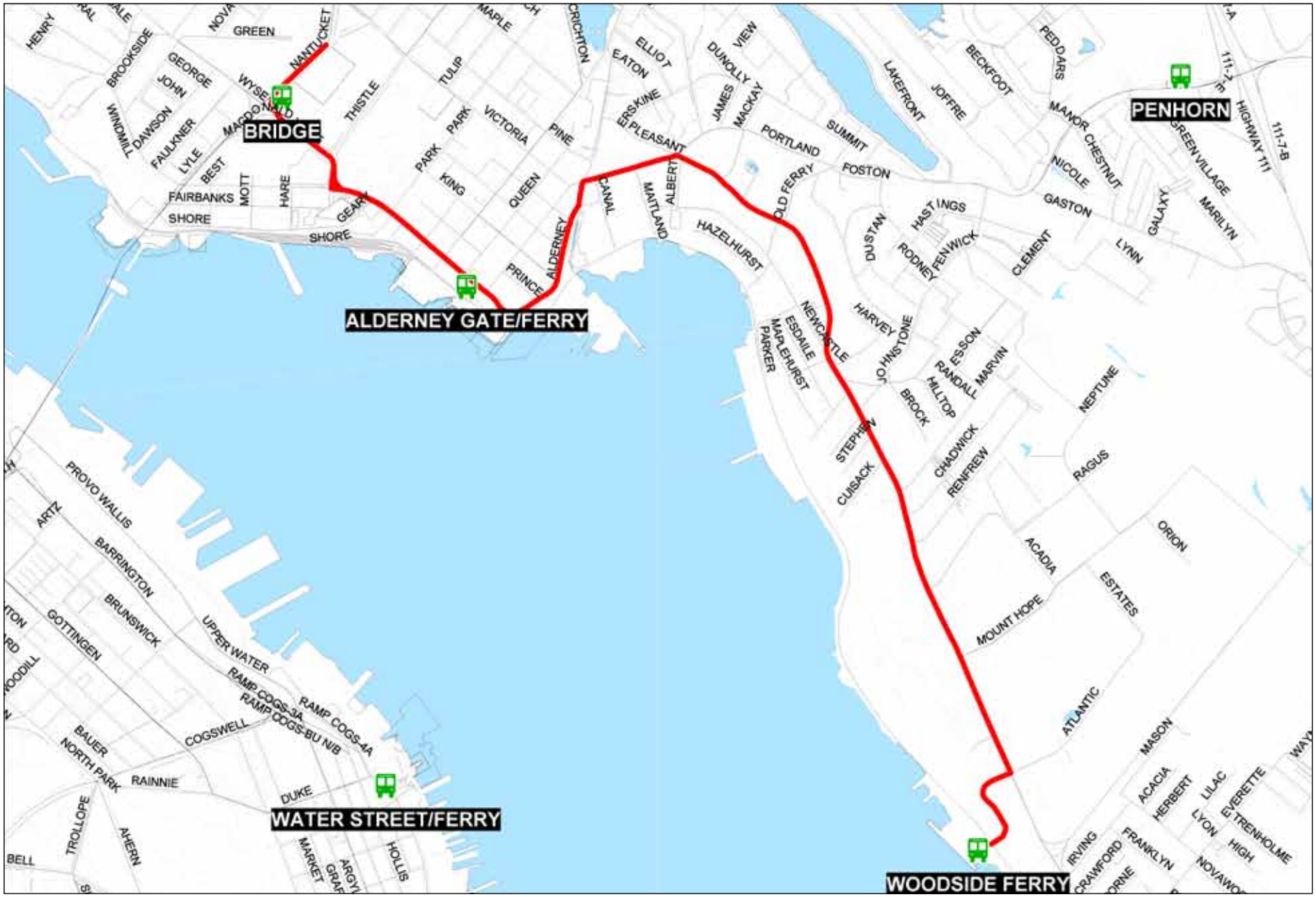
IBI GROUP



# 63 WOODSIDE

Metro Transit Service Plan

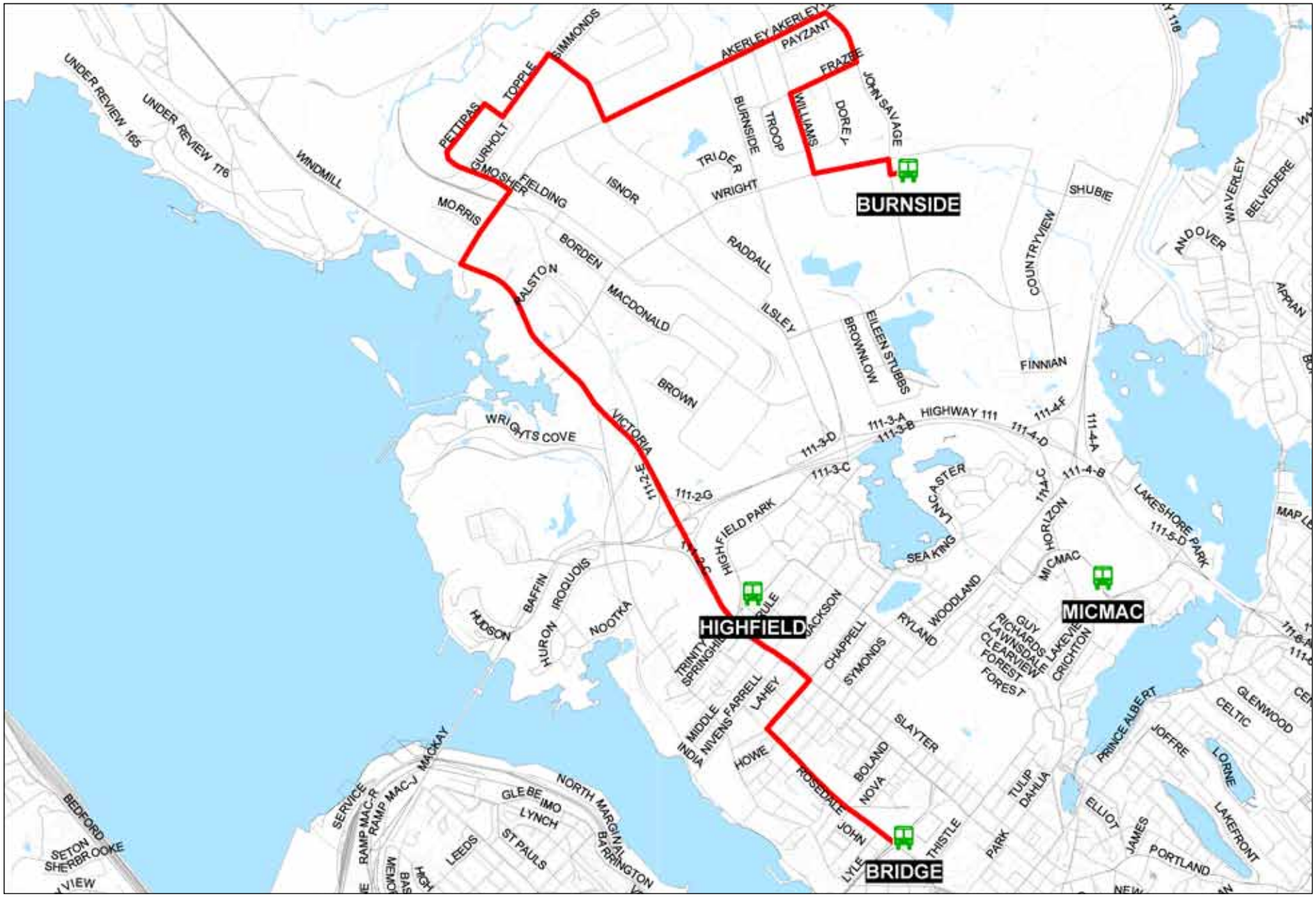
IBI GROUP



# 64 AKERLEY SHUTTLE

Metro Transit
Service Plan

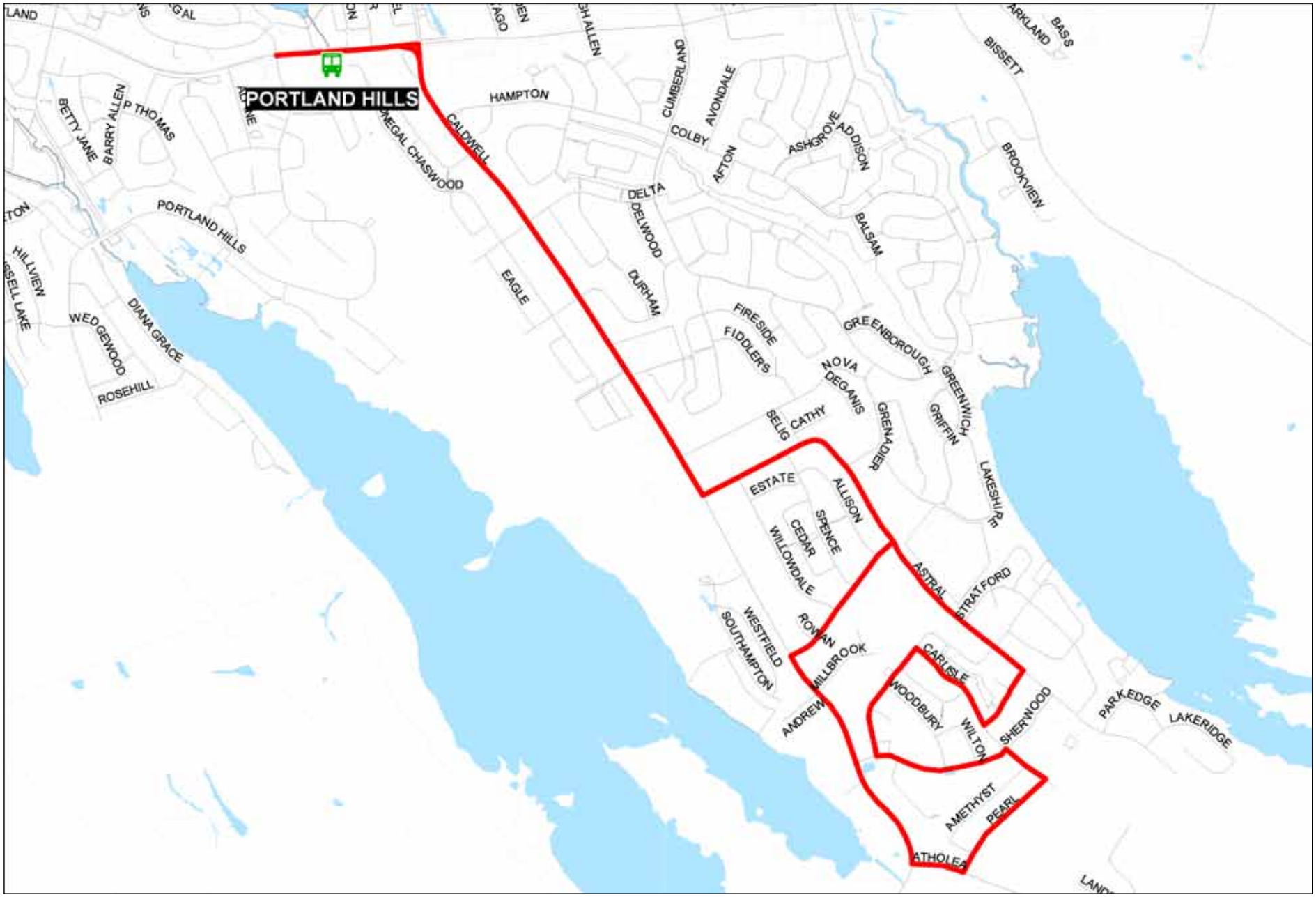
IBI GROUP



# 65 ASTRAL

Metro Transit Service Plan

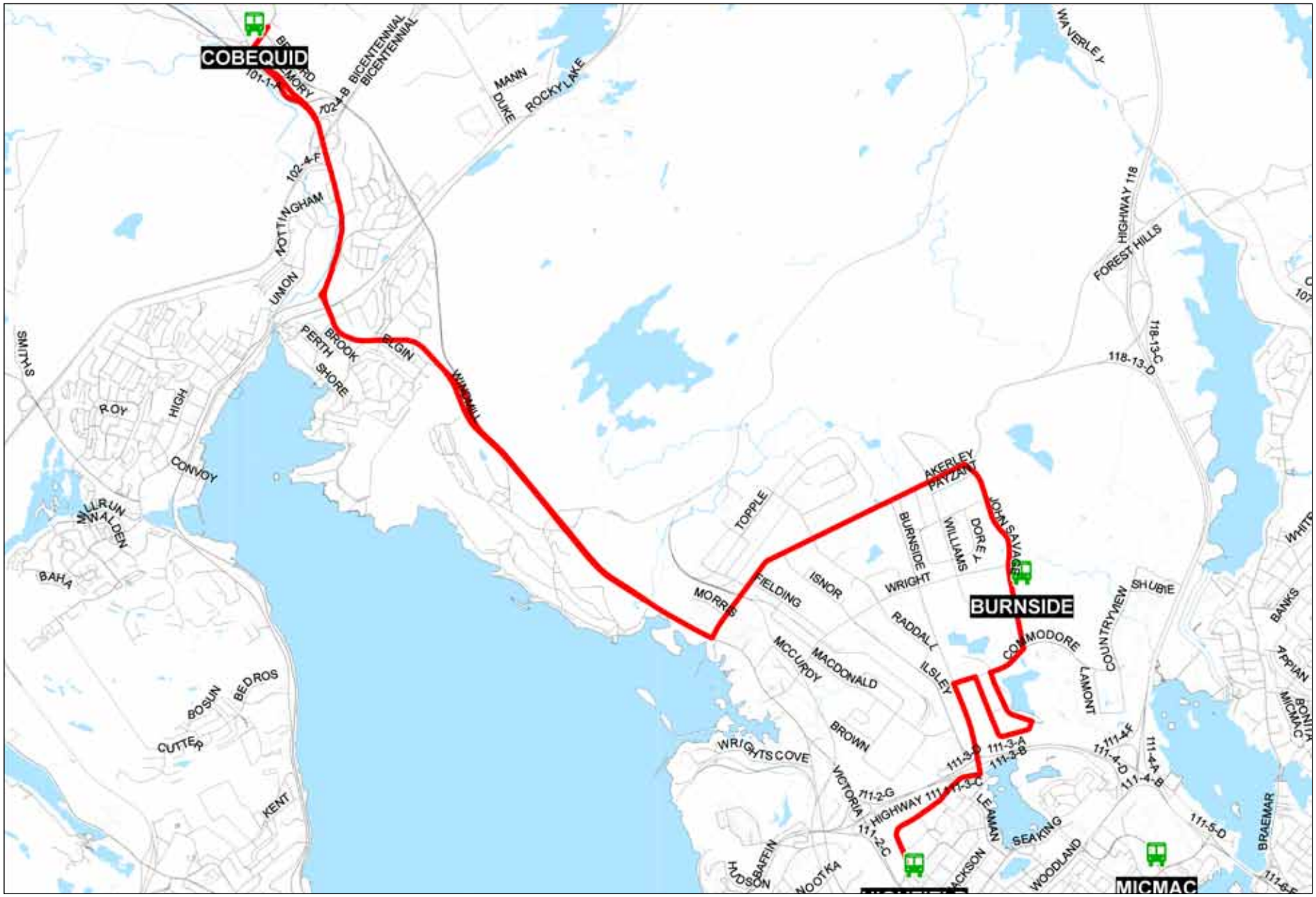
IBI GROUP



# 66 BEDFORD / BURNSIDE

Metro Transit Service Plan

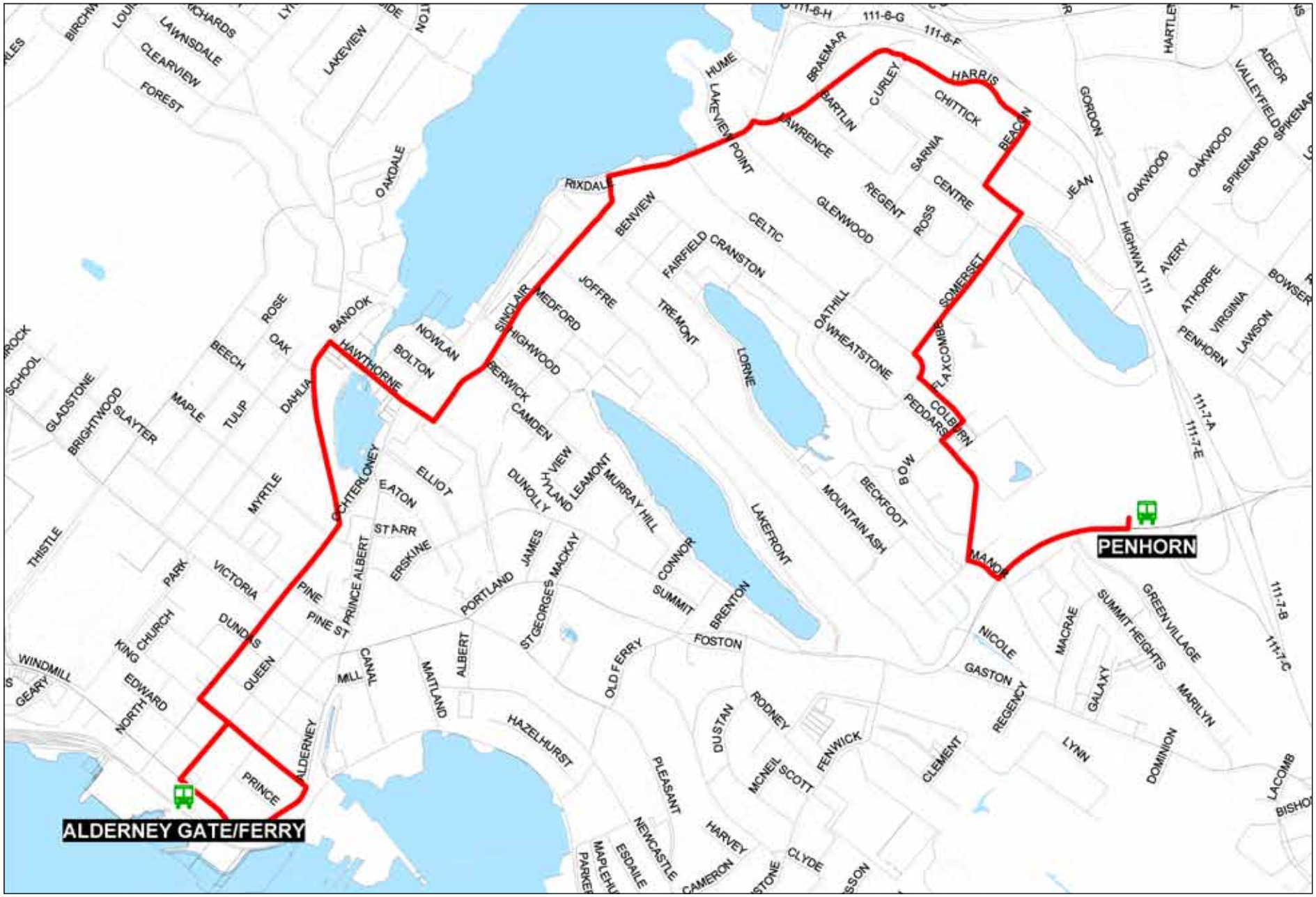
IBI GROUP



# 67 Graham's Corner Community Shuttle

Metro Transit Service Plan

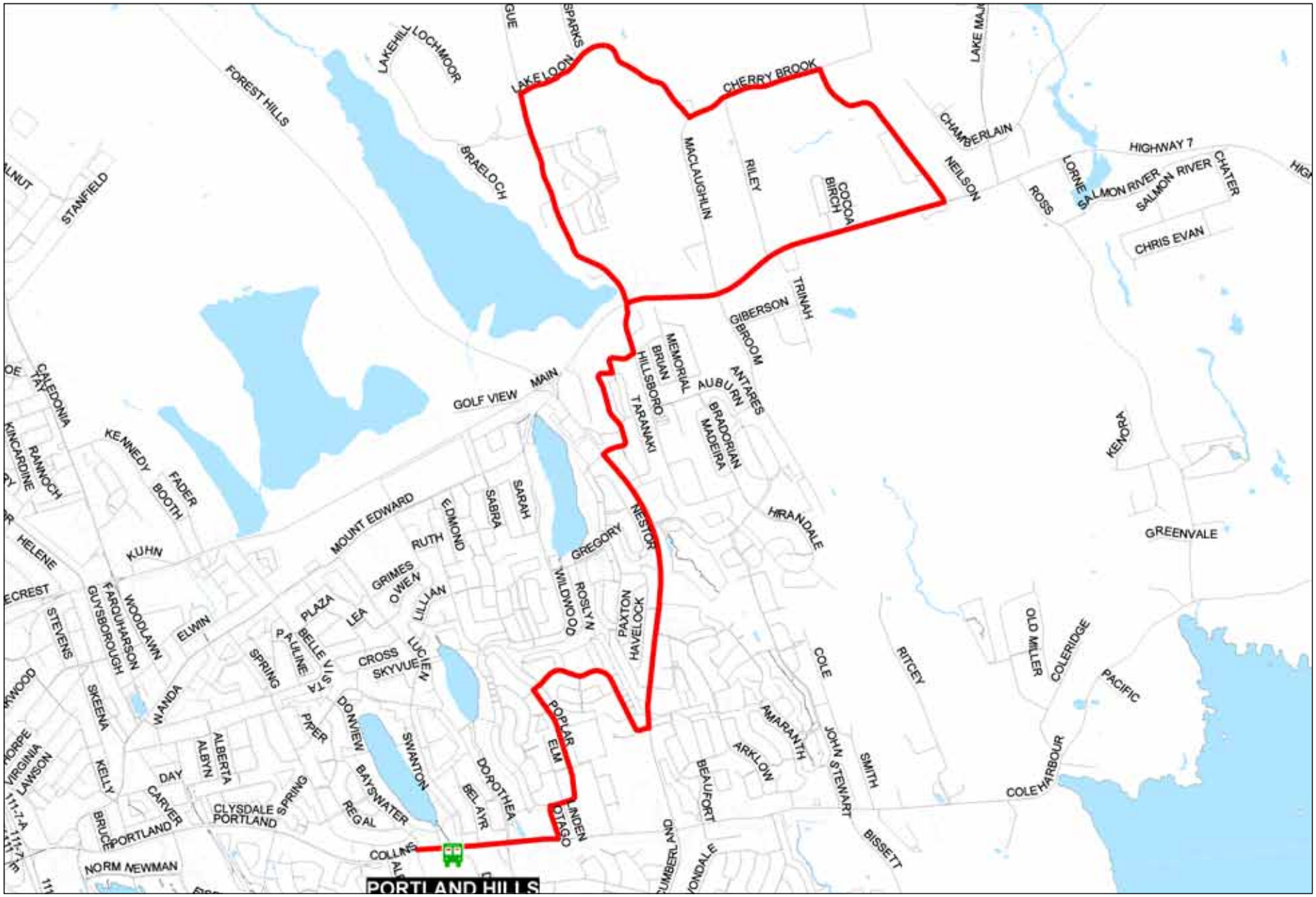
IBI GROUP



# 68 CHERRY BROOK

Metro Transit
Service Plan

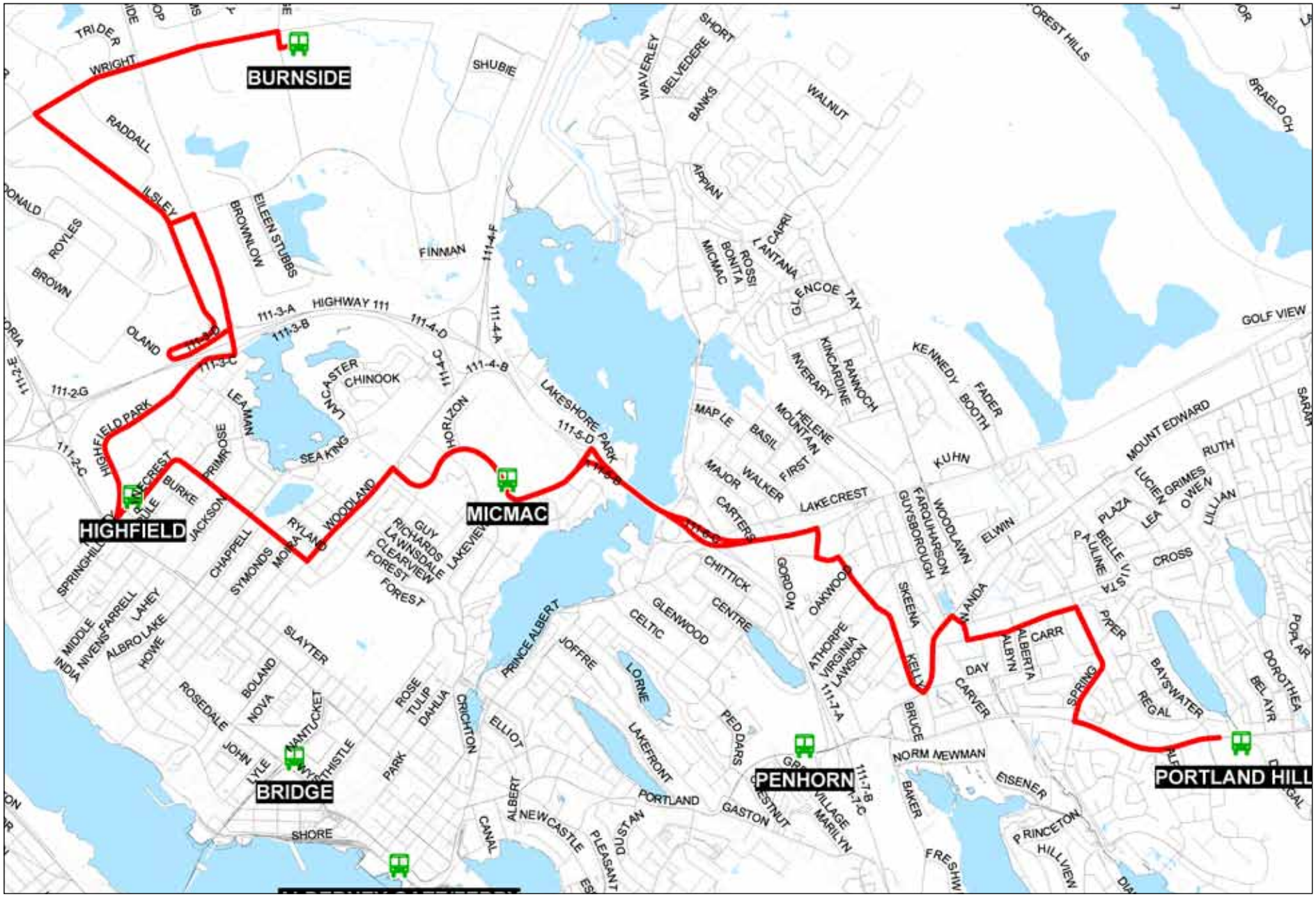
IBI GROUP



# 72 TACOMA BURNSIDE

Metro Transit
Service Plan

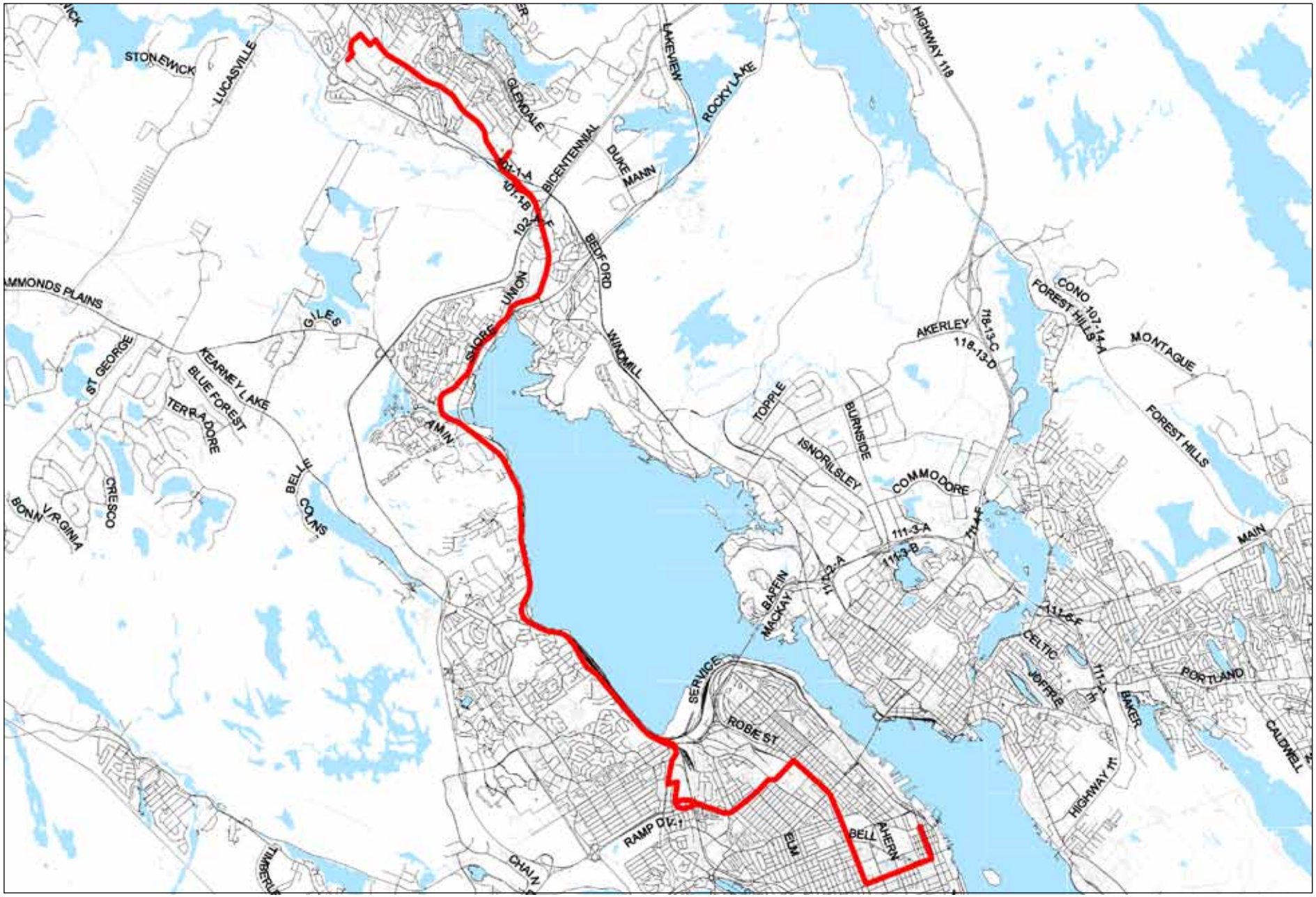
IBI GROUP



# 80 SACKVILLE

Metro Transit
Service Plan

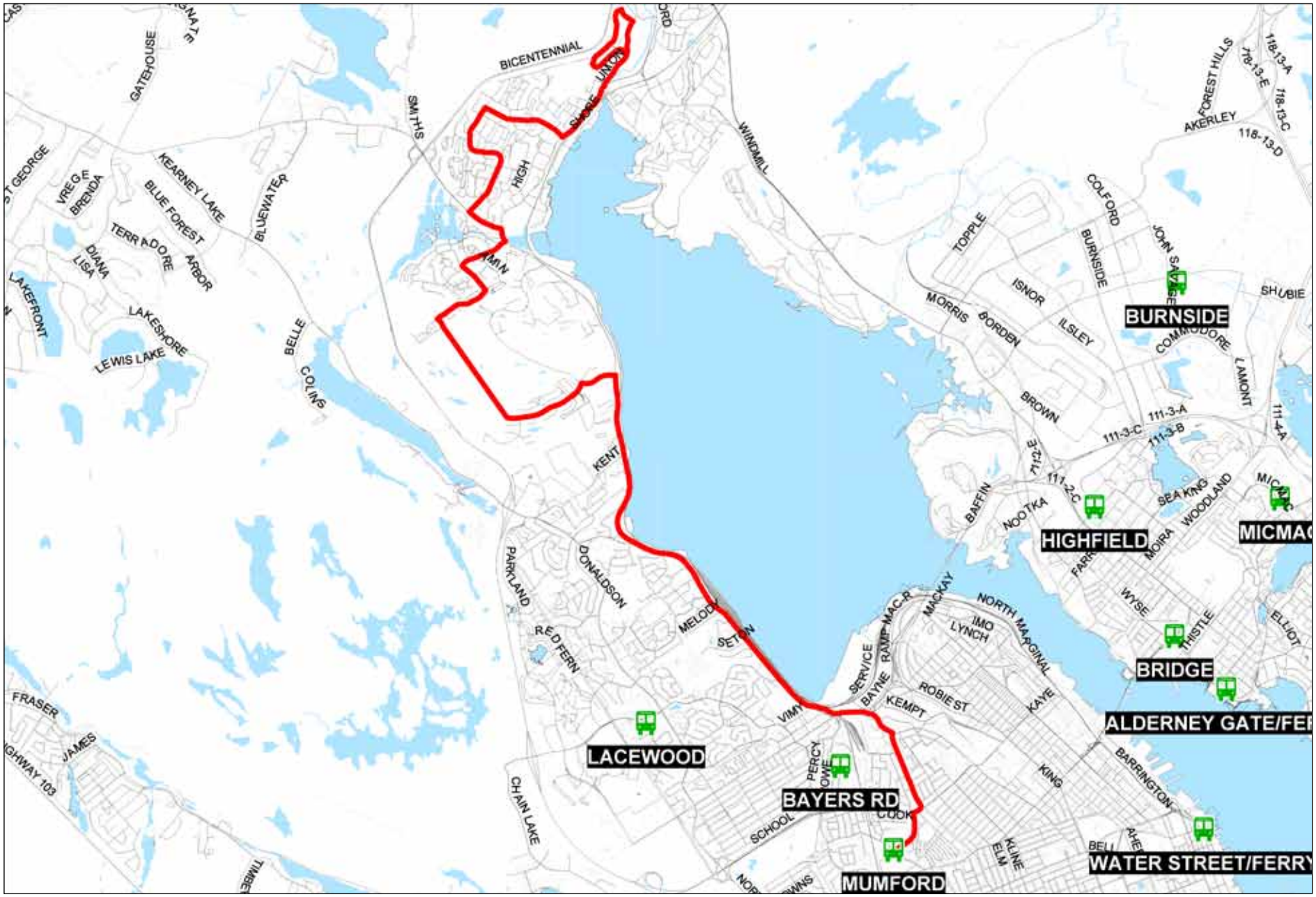
IBI GROUP



# 81A Hemlock Ravine / Glen Moir

Metro Transit Service Plan

IBI GROUP



# 81B MILLVIEW

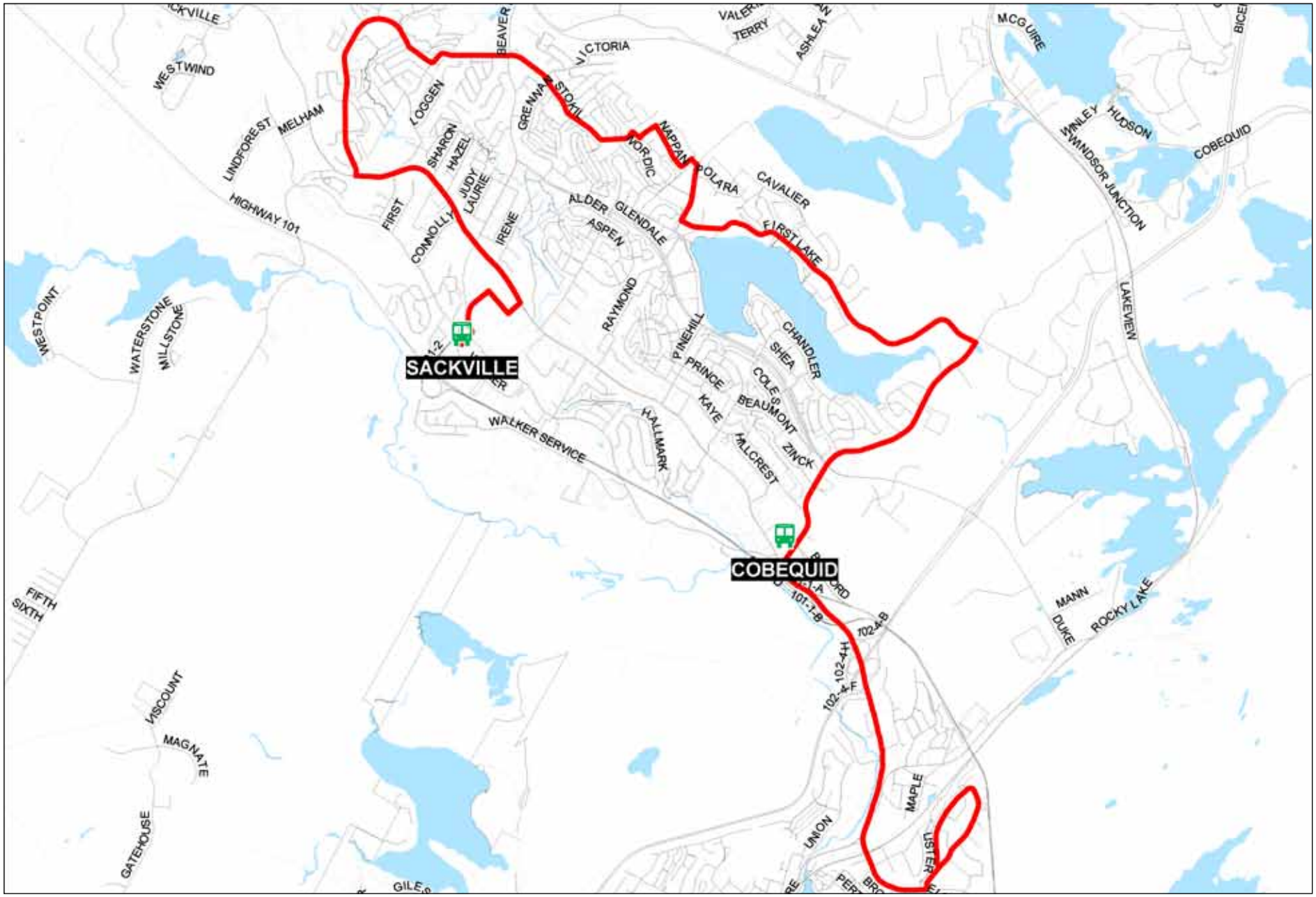
Metro Transit Service Plan

IBI GROUP

# 82 MILLWOOD

Metro Transit
Service Plan

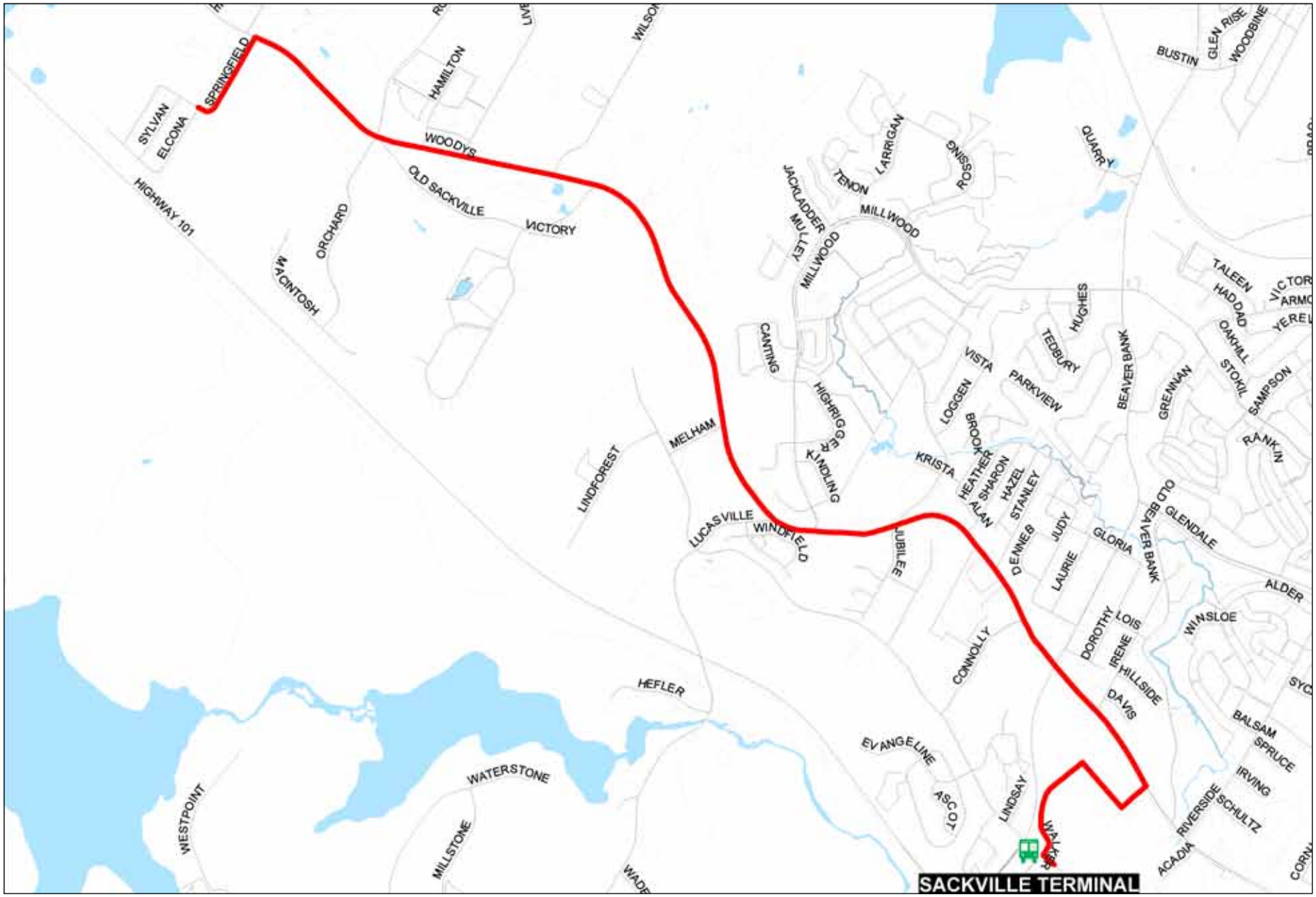
IBI GROUP



# 83 SPRINGFIELD

Metro Transit Service Plan

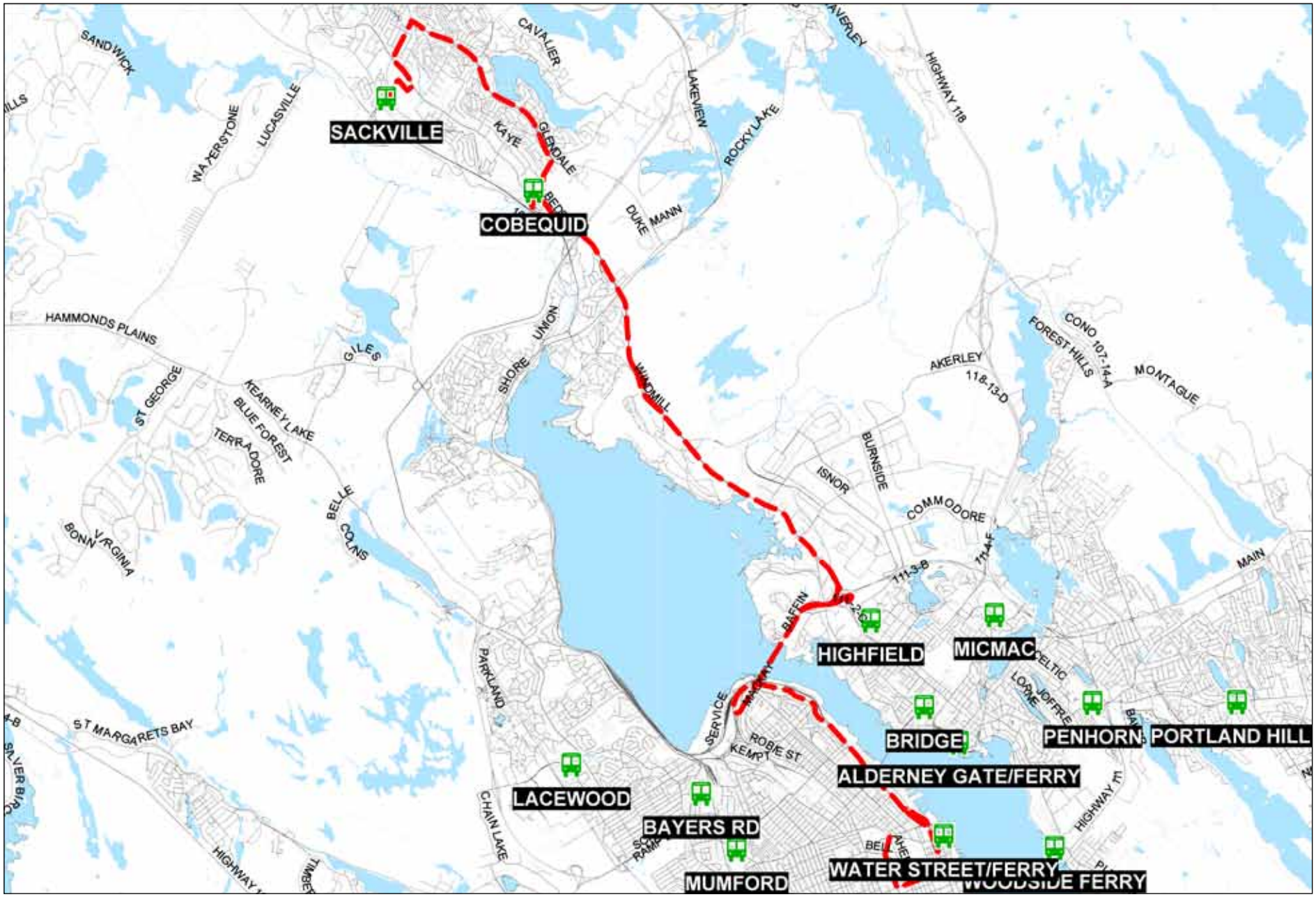
IBI GROUP



# 84 GLENDALE EXPRESS

Metro Transit Service Plan

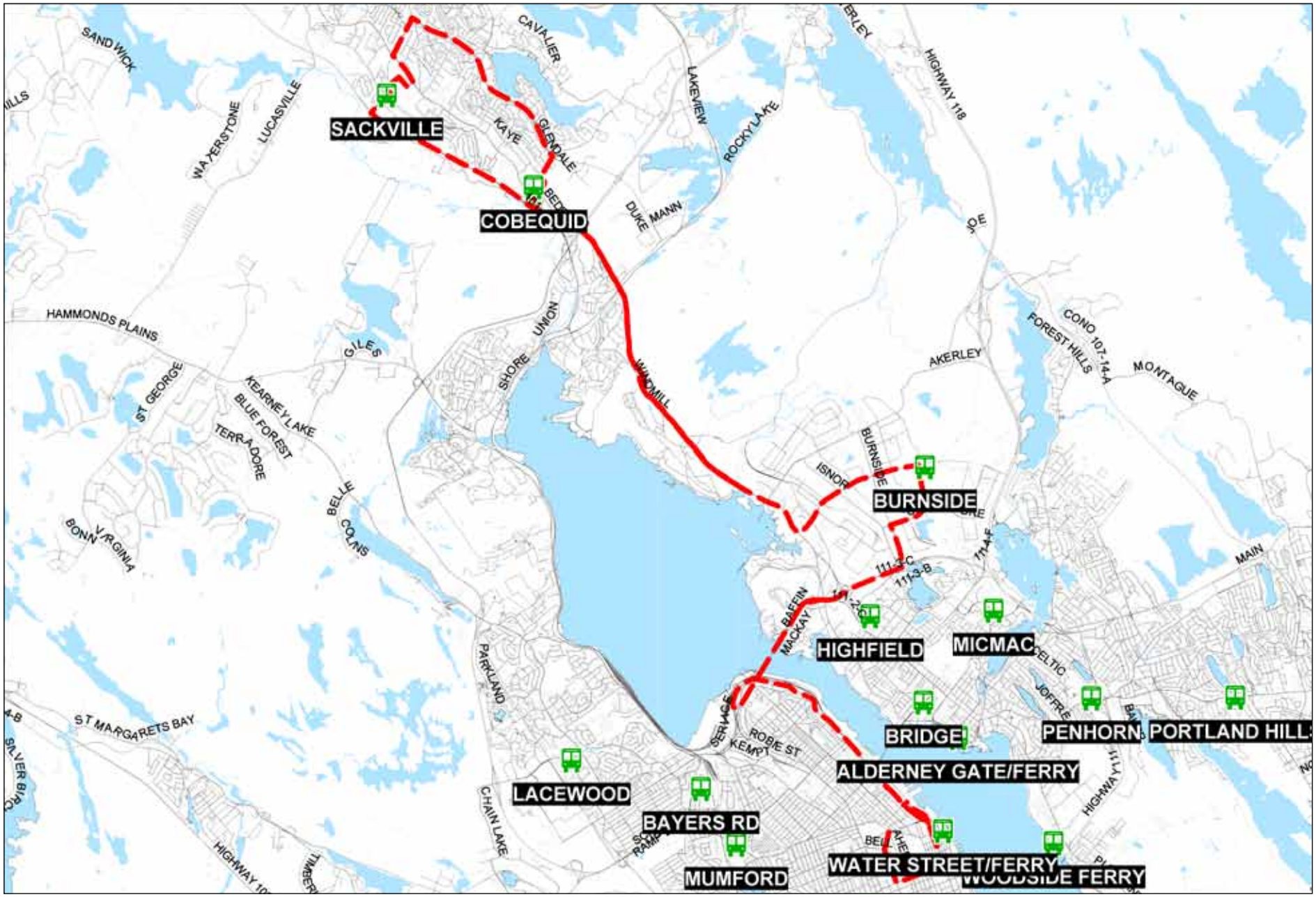
IBI GROUP



# 85 Downsview Express

Metro Transit Service Plan

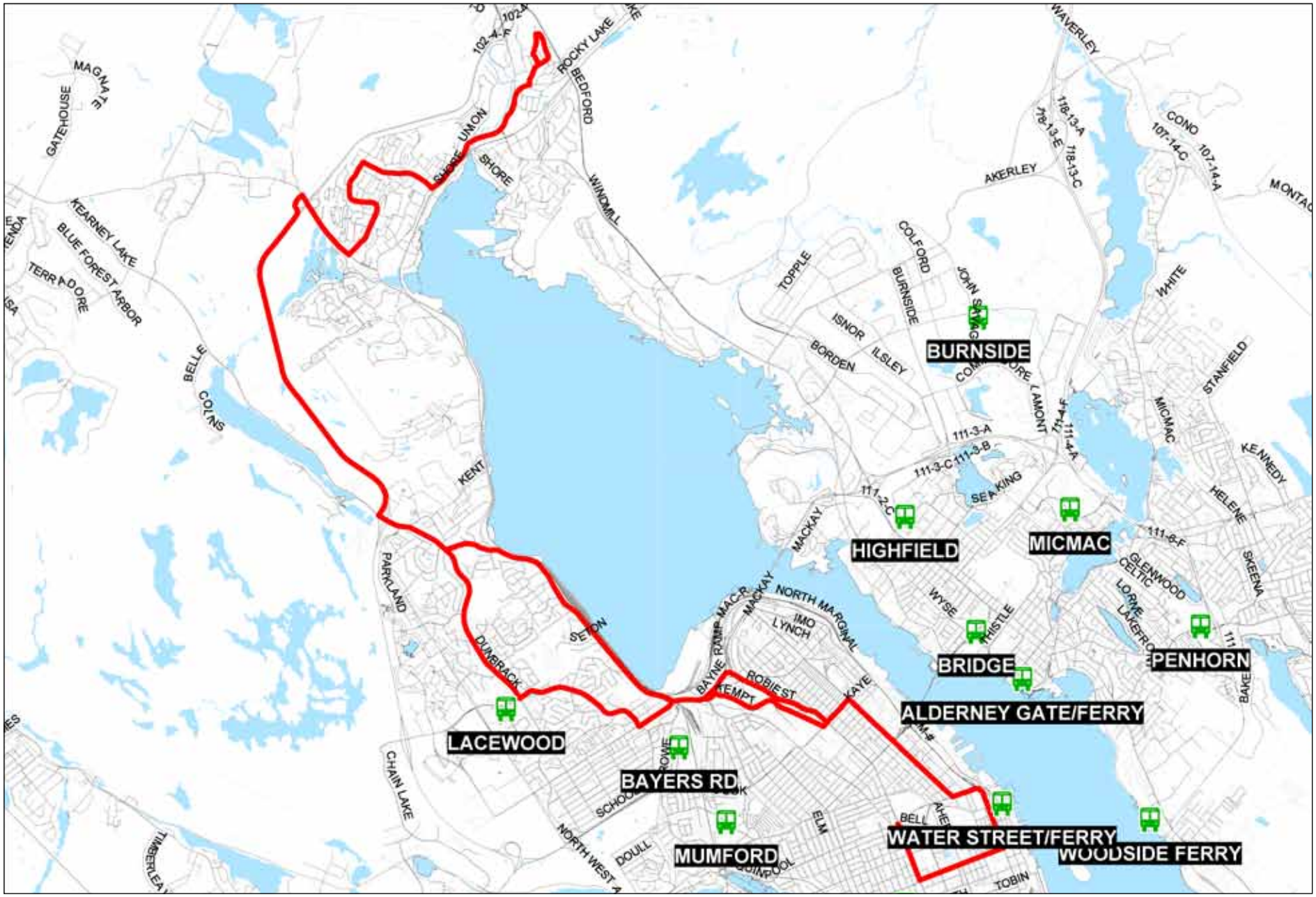
IBI GROUP



# 86 BASINVIEW

Metro Transit Service Plan

IBI GROUP

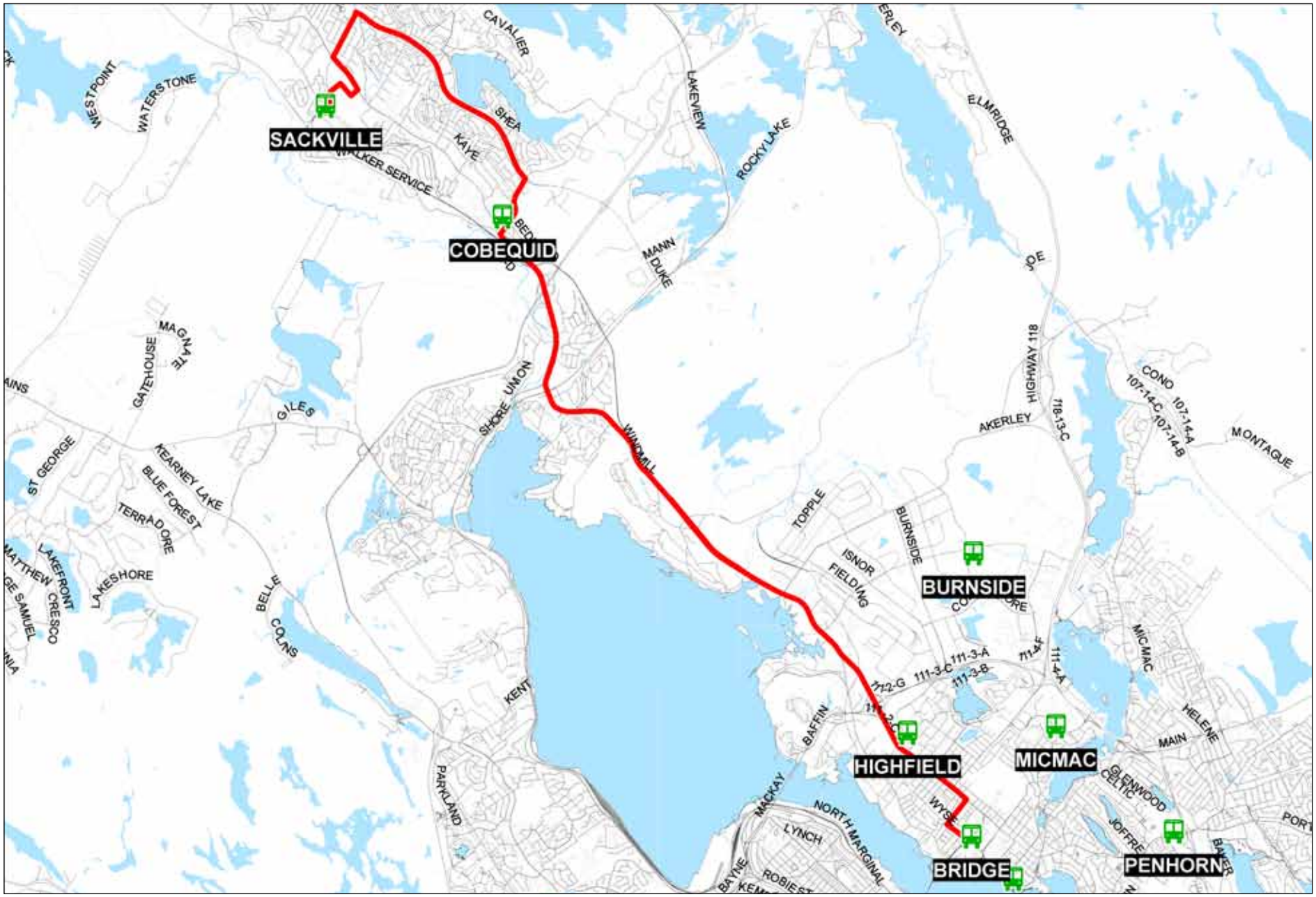


# 87 DOWNSVIEW

## VIA BRIDGE TERMINAL

Metro Transit
Service Plan

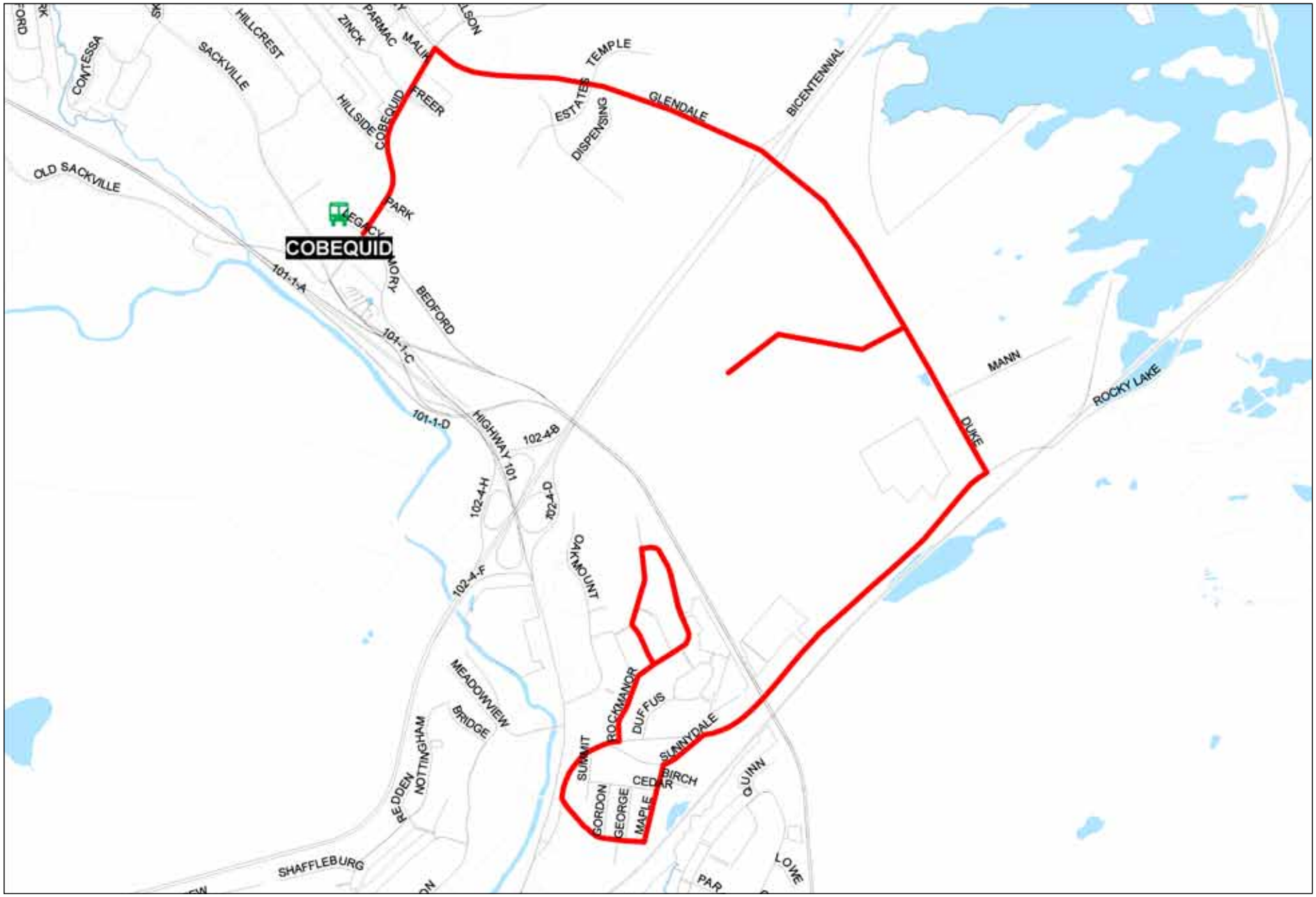
IBI GROUP



# 88 DUKE

Metro Transit
Service Plan

IBI GROUP



# 89 BEDFORD

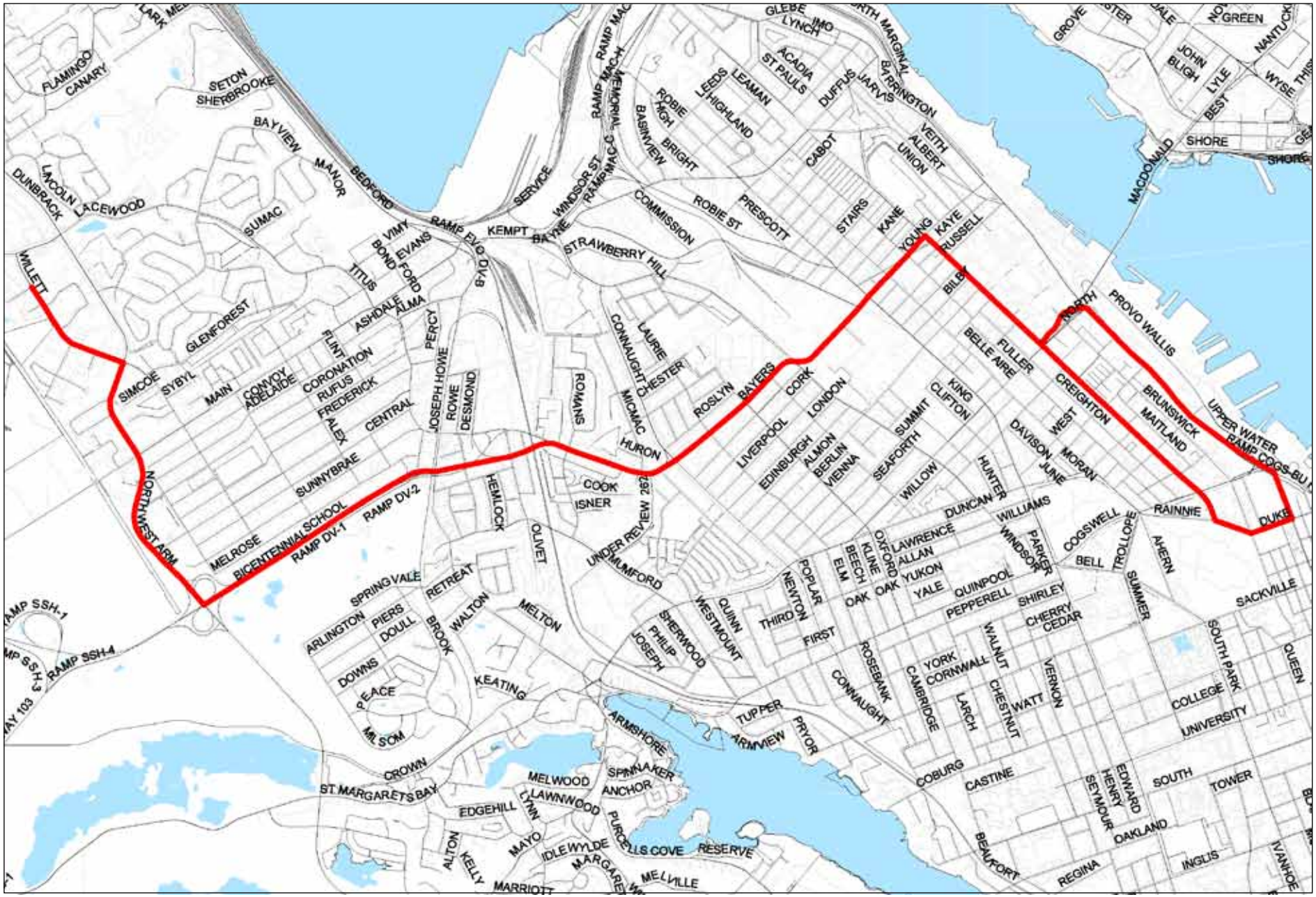
Metro Transit
Service Plan

IBI GROUP

# 131 CLAYTON PARK LINK

Metro Transit
Service Plan

IBI GROUP



# 132 SPRYFIELD LINK

Metro Transit
Service Plan

IBI GROUP

# 159 PORTLAND HILLS LINK

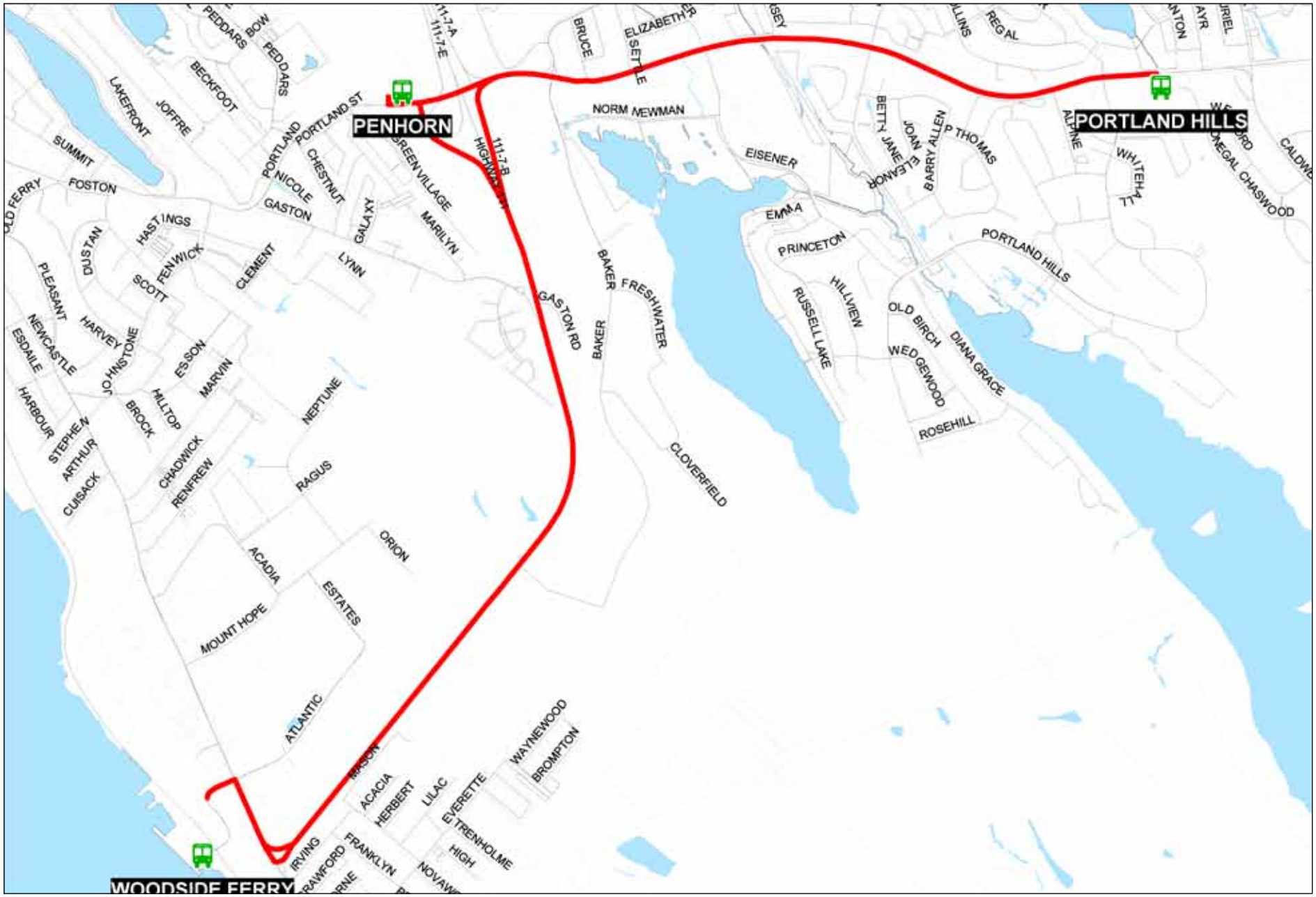
Metro Transit
Service Plan

IBI GROUP

# 165 WOODSIDE LINK

Metro Transit Service Plan

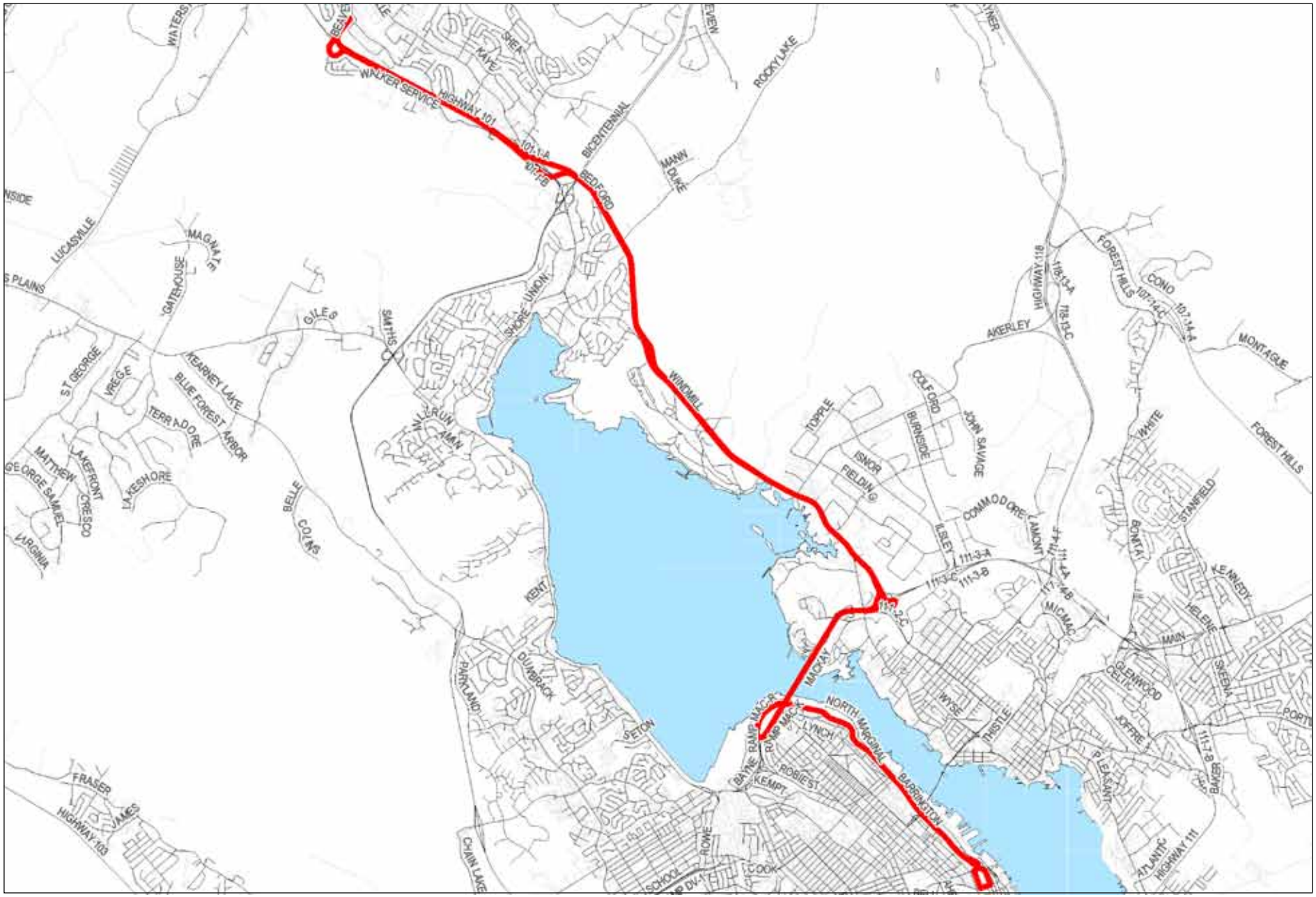
IBI GROUP



# 185 SACKVILLE LINK
## VIA MACKAY BRIDGE

Metro Transit
Service Plan

IBI GROUP



# Beaver Bank

## Metro Transit Service Plan

# Preston / Porters Lake / Grand Desert

## Metro Transit Service Plan