

2006 Canadian Bus Industry Human Resources Study

**Detailed Report** 



# For more information contact:



9555 Yonge Street Suite 306 Richmond Hill, Ontario L4C 9M5

Tel: (905) 884-7782 Fax: (905) 884-8335

info@buscouncil.ca www.buscouncil.ca

Statistics Canada information is used with the permission of Statistics Canada. Users are forbidden to copy the data and re-disseminate them, in an original or modified form, for commercial purposes, without permission from Statistics Canada. Information on the availability of the wide range of data from Statistics Canada can be obtained from Statistics Canada's Regional Offices, its World Wide Website at http://www.statcan.ca and its toll-free access number 1-800-263-1136.

Accuracy, Completeness and Reliability of Study Data

The data referenced and/or produced in this Study has been obtained from sources believed to be authoritative and/or reliable, and the MCPCC and its various consultants have made every reasonable effort to ensure data accuracy.

All data in the Study originating with third parties is provided on an "as is" basis, and conclusions drawn from or actions undertaken on the basis of such data and information are at the sole responsibility of the user.

### Acknowledgements

"On the Move" examines current and future trends and demands for all sectors of the motor carrier passenger industry including urban transit, intercity bus services, tour and charter providers and school bus transportation. While presenting economic and business challenges and concerns, the Study focuses on their implications for the people working in the industry. It provides a consolidated understanding of the human resources challenges facing the industry and the actions necessary to address these challenges.

The Steering Committee acknowledges, with great appreciation, the sponsorship of the Study by the *Motor Carrier Passenger Council of Canada (MCPCC)* and the financial support from Human Resources and Social Development Canada (HRSDC).

The Study would not have been produced without the collaboration and co-operation of companies, unions and workers across the bus industry as well as government representatives, manufacturers and educators.

The project management and research groups deserve special acknowledgement. This includes the MCPCC staff and Project Manager, Mr. Ron Steeves, the HDP Group, Mr. Michael Hicks, Dr. Denis Dufour and Professor David Cape, all of whom conducted research, consultations, interviews, carried out and analyzed surveys, compiled databases and drafted the report.

This project was funded in part by the Government of Canada Sector Council Program.

The opinions and interpretations are those of the authors and do not necessarily reflect those of the Government of Canada.

Copyright © 2006 Motor Carrier Passenger Council of Canada

All rights reserved. The use of any part of this publication, whether it is reproduced, stored in a retrieval system, or transmitted in any form or by means (including electronic, mechanical, photographic, photocopying or recording) without the prior written permission of the **Motor Carrier Passenger Council of Canada** is an infringement of copyright law. Authorized use of the data contained in this Study is limited to informational and educational purposes only, and is not designed for operational or commercial application.

Published December 2006



# Steering Committee Members

### Sheilagh Beaudin

Executive Director Canadian Bus Association

#### Dan Bichel

\_\_\_\_

President Local 615 Amalgamated Transit Union (ATU)

#### Joan Crawford

Executive Director & CEO Motor Carrier Passenger Council of Canada

### **Brian Crow**

President

Motor Coach Canada

#### **Richard Donaldson**

**Executive Director** 

Ontario School Bus Association

### **Ken Foster**

Canadian Director Amalgamated Transit Union

#### **Ray Frost**

President Local 1624 Amalgamated Transit Union

### **Robert Gendron**

2e Vice-président, CSN Réseau de transport de la Capitale

### Eric Gillespie

Director Transit Services Region of Waterloo

### John Hollick

Peel Central Service Manager Laidlaw Education Services

### **Bill Holmes**

Coordinator Organizational Development Program Human Resources OC Transpo

### Winston Ingraham

Academic Chair School of Trade & Technology Nova Scotia Community College

### John King

Transit Manager Lethbridge Transit

### Michel Larocque

Gérant Régional

Autobus Transco (1988) Inc.

# **Sylvain Langis**

Président et directeur général Groupe Orléans Express Inc.

### Frank Marasco

North Okanagan-Shuswap School District No. 83 Manager of Transportation and OH&S

#### Barbara Martin

Senior Analyst

Human Resources and Social Development Canada

### Ginette Milord

Directrice du transport

Réseau de transport de la Capitale

### **Jim Pattison**

Manager of Human Resources Pacific Western

#### Michael Roschlau

President and Chief Executive Officer Canadian Urban Transit Association

### Lisa Trueman

Director Human Resources Greyhound Canada Transportation Corp.

### Robin West

President Local 508 Amalgamated Transit Union

### **Project Direction**

Joan Crawford

Executive Director & CEO

Motor Carrier Passenger Council of Canada

### Ron Steeves

Project Manager

Nancy Allen Deane

Director of Administration

Motor Carrier Passenger Council of Canada

### Research

HDP Group and Associate Consultants Mike Bradshaw David Cape D'Arcy Kirk Louis-Paul Tardif

### Other Researchers

Denis Dufour Michael Hicks Ron Steeves

### Creative and Graphic Design

Jackson Marketing Darryl Jackson Colin McRae Paul Gallant

### **Translation**

Communications Norris-Villemaire Inc. Yasmine Norris

	Acknowledgements	3
	Steering Committee Members	4
	Introduction	.11
	Canadians on the Move	.11
	Background	.12
	Study Purpose and Objectives	.13
	Methodology	.14
l.0The	Evolving Economic, Business and Regulatory Environment	.17
1.1	Profile of the Motor Carrier Passenger Industry	.17
	1.1.1 Data on the industry	.17
	1.1.2 Numbers of Service Providers	.18
	1.1.3 Fleet Size	.19
	1.1.4 Fleet Age	.20
	1.1.5 Employment	.22
	1.1.6 Union Representation	.26
	1.1.7 Revenues, Government Contributions and Profit Margins	.26
	1.1.8 Stage of Development	.30
1.2	Labour - a Key Force in Canada's Bus Industry	.36
	1. 2. 1 Overview	.36
	1. 2. 2 The Unions	.37
	1. 2. 3 Current Issues	.38
	1.2.4 Collective Bargaining	.40
	1.2.5 Grievances and Dispute Resolution	.42
	1.2.6 Labour's Influence on the Future of the Motor Carrier Passenger Industry	.42
1.3	The Industry's Changing Structure	.43
	1. 3. 1 Industry Consolidation	.43
	1. 3. 2 Inter-modal Alliances	.43
	1. 3. 3 Public/Private Partnerships	.44
1.4	Current Policies Regulating the Industry	.44
	1. 4. 1 Canadian Economic Regulation	.44
	1. 4. 2 International Economic Regulation	.45
	1.4.3 Deregulation Viewpoints	.45
	1.4.4 Safety Regulation	.46
1.5	Public Sector Investment and Its Impact	.47
	1.5.1 Intercity and Charter	.47
	1.5.2 Public Transit	.48
	1.5.3 Student Transportation	.49
1.6	Emerging Trends and Implications	.50
	1.6.1 Shift of Canadian Population Demographics	.50

1.6.2 Impacts of an Ageing Population on Ridership	
1.6.3 Impacts of Accessibility	
1.6.4 Greater Immigration and Ethnic Diversity	56
1.6.5 Border Security	56
1.6.6 Environmental Awareness	
1.7 Strategies to Defend and Increase Urban Transit Ridership	59
1.7.1 Passenger Counting and Route Profiling	59
1.7.2 Parity in Tax Treatment of Parking and Transit Benefits	60
1.7.3 Influencing Modal Choice	
1.7.4 Approaches to Increase Ridership in Practice	
1.7.5 Road Pricing	
1.8 Role of the Canadian Motor Carrier Passenger Industry within the Global Transportation Industry	64
1.8.1 International Competition	
1.8.2 Competition for Funding	
1.8.3 Sector-Level Competition for Ridership	
1.8.4 Performance Relative to Other Countries	
2.0 The Impact of Technology	
2.1 Introduction	
2.2 Emerging Technologies	69
2. 2. 1 Real-time Communications	
2. 2. 2 Operator Warning and Control Systems	
2. 2. 3 Payment Systems	
2. 2. 4 Video Monitoring	
2.2.5 Operator Protection	
2. 2. 6 Infrastructure	
2. 2. 7 Training Tools	
2. 2. 8 Propulsion Systems and Fuels	
2.2.9 Bus Construction	
2.3 Human Resources Implications	79
2.4 Summary	80
3. 0 Employment Analysis	
3.1 Employment Profile	
3.1.1 Key Industry Occupations	
3. 1. 2 Skill Requirements	
3.1.3 Educational Background of Employees	
3. 1. 4 An Ageing Workforce	
3. 1.5 Employment Equity	
3.2 Human Resources Supply	

3. 2. 1 Traditional and Alternate Sources of Supply
3. 2. 2 Competition for Skills and Human Resources
3. 3 Transferability of Skills
3.4 Culture of the Industry
3. 4. 1 Safety
3. 4. 2 Customer Service
3. 4. 3 Work-Life Balance
3. 4. 4 Absenteeism
3. 4.5 Training and Development
3.5 Occupational Health and Safety
3.5.1 Occupational Stress
3.6 Career Development
3.7 Management Challenges and Effectiveness
3.7.1 Communication and Labour/Management Relations
3.7.2 Leadership
3.7.3 Finance and Operations Management
3.7.4 Implementation of New Technology
3.7.5 Workforce Management
4.0 Workforce/Skills Demand Forecast to 2016
4.1 Module Objectives
4.2 Background
4. 2. 1 Industry Evolution since 1997
4. 2. 2 Workforce Changes Since 1997 Study
4.3 Forecast Considerations
4. 3. 1 Population and Demographic Trends
4. 3. 2 Legislative/Regulatory Environment
4. 3. 3 Role of the Automobile
4. 3. 4 Technology
4. 3. 5 Environmental Issues
4. 3. 6 Workforce Demand vs. Supply
4.3.7 Workforce Retirements
4. 3. 8 Urban Transit Trends
4. 3. 9 Trends in School Transportation
4. 3. 10 Funding
4.4 Methodology
4. 4. 1 Scope and Structure
4. 4. 2 Data Development
4. 4. 3 Calculation Elements
4.5 Urban Transit Forecast

4.5.1 Research Context	128
4.5.2 Urban Profile (selected data)	128
4.5.3 Scope of Data	129
4.5.4 Urban Transit Summary	143
4. 6 School Sub-Sector Forecast	145
4.6.1 Research Context	145
4. 6. 2 Sub-Sector Profile	146
4. 6. 3 School-Age Population	147
4.6.4 Registered Students	149
4.6.5 Forecast Elements and Tables	150
4.6.6 Summary	153
4.7 Intercity Forecast	154
4.7.1 Research Context:	154
4.7.2 Sub-Sector Profile	154
4.7.3 Intercity Forecast Elements	154
4.8 Charter/Tour Forecast	157
4.8.1 Research Context	157
4.8.2 Sub- Sector Profile	157
4.8.3 Ridership Considerations	157
4.8.4 Charter/Tour Forecast Elements	158
4.8.5 Summary	159
4.9 Industry Totals 2006 - 2016	159
4.9.1 Quantitative Impact of Retirements	161
4. 10 Capital Costs of Expanding Fleets	161
4.10.1 Urban	161
4. 10. 2 School	162
4. 10. 3 Intercity and Tour/Charter	162
4. 10. 4 Fleets Expansion Capital Costs Forecast	162
5.0 Human Resources Development, Training, Recruitment and Retention	167
5.1 Overview	
5.1.1 Objectives	
5.1.2 Methodology	
5.2 Human Resources Development Programs	
5. 2. 1 Programs Offered	
5. 2. 2 Training and Career Progression	
5. 2. 3 Extent of Training	
5. 2. 4 Apprenticeships and Co-op Programs	
5. 2. 5 Top Training Development and Delivery Programs	
5. 2. 6 Reasons for Conducting Training	178

	5.3 The Changing Skill Requirements of the Industry	.178
	5. 3. 1 Training Development and Delivery Options	.180
	5. 3. 2 The Role of Third Party Institutions	.180
	5. 3. 3 Costs of Training	.180
	5.4 Compensation and Benefits	.181
	5. 4. 1 Compensation	.181
	5. 4. 2 Benefits	.182
	5.5 Key Recruitment and Retention Issues	.183
	5. 5. 1 Recruitment	.183
	5. 5. 2 Absenteeism	.184
	5.5.3 Retention	.187
	5.5.4 Workforce Renewal	.190
	5.6 Impact of Industry Trends	.190
	5. 6. 1 Organizational Structures	.190
	5.6.2 Career Progression	.190
5. (	Synthesis and Recommendations	.193
	6. 1 Recent Trends	.193
	6.1.1 Urban Transit	.194
	6. 1. 2 School Bus	.195
	6. 1. 3 Intercity, Charter and Tour	.195
	6.2 Growth Prospects	.195
	6.3 Changing Skills Needs	.196
	6.4 Workforce Planning and Recruitment	.196
	6.5 Critical Areas of Focus	.197
	6. 5. 1 Working in Partnership	.197
	6.5.2 Innovation	.197
	6.5.3 Security	.197
	6.5.4The Environment	197
	6.5.5 Customer Service and Social Inclusion	.198
	6.5.6 Labour/Management Collaboration	.198
	6.5.7 Information Management	.198
	6.5.8 Human Resources Quality and Quantity	.198
	6.6 Vision	.199
	6.7 Recommendations	.199
	Strategy A: Workforce Planning and Recruitment	.200
	Strategy B:Training, Life Long Learning and Resources	.200
	Strategy C: Retention and Working Conditions	
	Strategy D: Industry Advocacy	.200
	6.7.1 Strategy A - Workforce Planning and Recruitment	.201
	6.7.2 Strategy B - Training, Life Long Learning and Resources	.207

	6.7.3 Strategy C - Retention and Working Conditions	.211
	6.7.4 Strategy D - Industry Advocacy	.215
7.0 Cas	se Studies	.219
	OC Transpo "Let's Talk" and "Peer Support" Programs - Workplace Health	.219
	Stock Transportation, Kingston - Workforce Planning and Recruitment	.224
	Edmonton Transit System - Strategic Approach to Recruitment / Retention	.228
	Atlantic School Bus Procurement Committee - Pooling of Procurement and	222
	Purchasing of School Buses	.233
Referen	nce List	.239

### Introduction

### Canadians on the Move

Moving millions of people daily and representing 92% of all public transportation journeys by all modes, the motor carrier passenger industry is critical to Canada's economy, to the sustainability of our social framework and to our commitments as a nation to a sustainable environment.

The many benefits include:

- **Mobility** public access to employment, travel safety, service for seniors and persons with disabilities, rural service
- **Economic** cost-efficient transportation, stimulates economic development and employment
- Environmental Quality eases traffic congestion, reduces energy consumption, and improves air quality

Despite the essential role it plays, and the quality and competence of its more than 90,000 employees, this industry has become increasingly vulnerable to public funding adequacies as increased numbers of our workforce move toward retirement, and as high automobile usage continues despite factors such as gridlock and fuel prices.

To assess these effects, the *Motor Carrier Passenger Council of Canada* commissioned an independent, national Study to consider the role and challenges of the motor carrier passenger industry within Canada, to examine its competitiveness and progression internationally, and to determine the impact of a number of key factors on the industry and its workforce. The report identifies workforce demographics, skill and competency requirements, occupational supply and demand, key human resources challenges, selected best practices, the impact of technology and the business environment on human resources.



## **Background**

A human resources Study completed in 1997, herein referred to as the Price Waterhouse (PW) Study, identified a *number of major strategic human resources issues* with respect to the industry's ability to manage its human resources. These were as follows:

- managing an ageing workforce
- developing interpersonal skills and a customer service focus
- ensuring employee safety
- improving communications
- recruiting and retaining well-qualified employees
- enhancing the image and professionalism of drivers/operators
- reducing absenteeism
- addressing employment equity for women and visible minorities

The following recommendations were put forward to provide a foundation for further concrete action by the industry as a whole, as well as by individual service providers, to address human resource issues:

- create an industry-wide human resources forum
- encourage the industry to acquire new skills
- facilitate the management of change
- foster joint labour-management actions at the local level
- build readiness for managing change at local level
- plan and develop a strategic approach to human resources management

In the years since the PW Study, the industry has faced unprecedented events that have made a lasting impact on the way it conducts its business. These include, but are not limited to: *increased security threats, SARS and other pandemics, environmental issues, restrictive legislation and increased workplace violence.* Many of the recurring human resources issues identified in that Study continue to resonate within the industry today along with the need to address and cope effectively with this changing environment.

Progress has been made on a number of fronts, for example, the MCPCC was created in 1999 as the industry-wide forum and has focused on addressing many of the recommendations such as enhancing the image and professionalism of bus operators with national programs such as *Occupational Standards*, *Accreditation*, *Certification*, *Career Awareness and Recruitment best practices*. Furthermore, associations and unions have taken a stronger role in advocating the bus industry to governments, and developing and delivering effective education programs. Individual companies have progressively addressed many issues and have been more open in the sharing of best practices and policies — a number are outlined in the **Case Studies** section of the detailed report.

Further progress on these areas is compared and discussed throughout the **On the Move** Study.

# **Study Purpose and Objectives**

The key objectives of this Study were:

- to assess the current and future business environment
- to identify, assess and forecast technology trends and developments in the context of emerging human resource skills requirements
- to develop a workforce profile, including changing skills requirements, and identify the steps needed to ensure future skilled workforce sufficiency
- to examine current workforce planning and development activities and recommend recruitment, retention and return on training investment strategies
- to identify industry "best practices" with respect to key issues recognized by the industry
- to develop an encompassing vision and recommendations to create a targeted human resource strategy for the sector

# Methodology

As indicated in the chart below, the Study is structured in six parts dealing with specific issues, concerns and challenges.

Parts	Objectives
Part One: The Evolving Economic, Business and Regulatory Environment	To assess the current and future business environment and to assess the economic, business and regulatory factors, trends and developments that will affect the future structure, business prospects, growth and practices, particularly as they relate to human resource issues and workers.
Part Two: The Impact of Technology	To identify and assess technology trends and developments in the context of emerging human resource skills requirements.
Part Three: Employment Analysis	To develop a workforce profile including changing skills requirements and identifying the steps needed to ensure future skilled workforce sufficiency.
Part Four: Workforce/Skills Demand Forecast to 2016	To establish a skilled worker demand profile and forecast over 5 to 10 years.
Part Five: Human Resouces Development, Training, Recruitment and Retention	To assess industry recruitment, training, development and retention strategies and practices, and examine current levels and types of training in the industry.
Part Six: Synthesis and Recommendations	To summarize previous Parts and research to produce an analysis and understanding of the key human resource challenges faced by the motor carrier passenger industry and develop an Action Plan of recommendations.

Findings are based on extensive research activities, including:

- six regional consultation sessions with over 150 participants from industry employers and employees, labour, associations, education, manufacturers and governments
- over 50 interviews with key stakeholder groups including employers, industry associations, union representatives, education institutions, manufacturers, government agencies and international contacts
- eight site visits conducted throughout Canada with urban transit, intercity, school bus and tour and charter transportation service providers
- web and paper surveys of a representative sampling of employers, owners, managers and human resources practitioners covering all sub-sectors in all provinces and territories
- telephone data collection activities for four case studies
- extensive telephone interviews to build reliable data relative to the school and intercity sub-sectors
- a comprehensive review of secondary sources, databases and internet searches





# Part 1

The Evolving Economic, Business and Regulatory Environment



# 1.0 The Evolving Economic, Business and Regulatory Environment

## 1.1 Profile of the Motor Carrier Passenger Industry

The motor carrier passenger industry of Canada, the *bus industry*, is a significant force in the Canadian economy, not only because of the business activity of the close to 1,500 companies, which generated more than \$7.6 billion in 2004 revenues and employed over 90,000 full-time equivalent people, but also because it is a critical component of Canada's transportation infrastructure. The motor carrier passenger industry is responsible for moving more than 1.5 billion passengers annually *(Statistics Canada, 2005)*.

The industry encompasses five primary sub-sectors:

- urban transit systems
- scheduled intercity bus carriers
- school bus services
- · tour and charter carriers
- accessible services (paratransit)

Though the industry as a whole is generally categorized into these five sub-sectors, service providers offer a range of services that may span several of the sub-sectors.

# 1. 1. 1 Data on the industry

To describe the sector, *Statistics Canada* tabulates data along the lines of the North American Industrial Classification System codes (NAICS). The four primary categories and their respective NAICS codes are:

- urban transit systems (4851)
- interurban and rural bus transportation (4852)
- school and employee bus transportation (4854)
- charter bus industry (4855)

The business activities associated with these categories generate the vast majority of the industry's revenues and are closely linked with the general scope of the motor carrier passenger industry as earlier referenced. Two primary distinctions exist: school and employee transportation services are grouped together, and the broad category of *other transit and ground passenger transportation* (4859) is also included in the data tabulation. Employee transportation services, other transit and ground transportation and special needs transportation services, with the exception of those operated by organizations whose primary line of service falls within the four primary sub-sectors, are not currently actively represented in the activities of the industry Sector Council. Additionally, wherever *Statistics Canada* data is used in this Study to present their tabulations of cumulative industry information, totals will necessarily include NAICS category 4859, which is not represented by the MCPCC.

Due to recent modifications in the survey methodologies employed by Statistics Canada, historical statistical descriptions of the industry are not totally comparable from year to year and trending must be done very cautiously with this data. Also, use of this

### Modes of Urban Transit

Transit Bus: a bus with front and centre doors, normally with a rearmounted engine, low-back seating and without luggage compartments or restroom facilities for use in frequent-stop service; may also be an Articulated Bus — a bus usually 55 feet or more in length with two connected passenger compartments that bend at the connecting point when the bus turns a corner.

Trolley Bus: an electric, rubber-tired transit vebicle, manually steered, propelled by a motor-drawing current through overhead wires from a central power source not on board the vebicle. It may also be known as "trolley coach" or "trackless trolley."

Light Rail: an electric railway with a "light volume" traffic capacity compared to heavy rail. Light rail may use shared or exclusive rights-of-way, high or low platform loading and multi-car trains or single cars. It may also be known as "streetcar," "trolley car" or "tramway."

Heavy Rail: an electric railway with the capacity for a "beavy volume" of traffic, and characterized by exclusive rights-of-way, multi-car trains, high-speed and rapid acceleration, sophisticated signalling and high platform loading. It may also be known as "rapid rail," "subway", "elevated (railway)" or "metropolitan railway (metro)."



Commuter Rail: railroad local and regional passenger train operations between a central city, its suburbs and/or another central city. It may be either locomotive-hauled or self-propelled and is characterized by multi-trip tickets, specific station-tostation fares, railroad employment practices and usually only one or two stations in the central business district. It may also be known as "suburban rail".

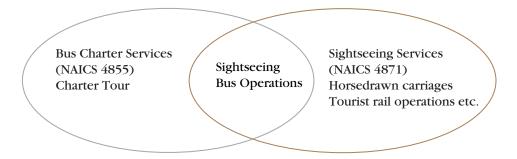
Paratransit: comparable transportation service ... for individuals with disabilities who are unable to use fixed-route transportation systems.

Source:American Public Transportation Association (APTA), 2001

# Other Ground Transportation Services

- special needs transportation (i.e., transportation services for the persons with disabilities, senior citizens with reduced mobility and other members of the community with special transportation requirements)
- sbuttle
- carpool
- vanpool

data to describe the industry is slightly limited by the fact that service providers may conduct diversified business which is reported under only one *primary* NAICS code reflecting their primary business activity, when portions of their business activities could be expressed more accurately under another/others.



# 1. 1. 2 Numbers of Service Providers

As of 2004, there were approximately 1,469 industry service providers with over 68% of these entities operating in the school bus services sub-sector (table 1-1).

**Table 1-1:** Number of service providers by industry sub-sector (2004)<sup>1</sup>

	School and Employee	Other Transit Shuttle	Charter	Urban Transit	Interurban and Rural	Total
Service Providers	1004	223	125	86	31	1,469
Percent of Total	68.30%	15.20%	8.50%	5.90%	2.10%	100%

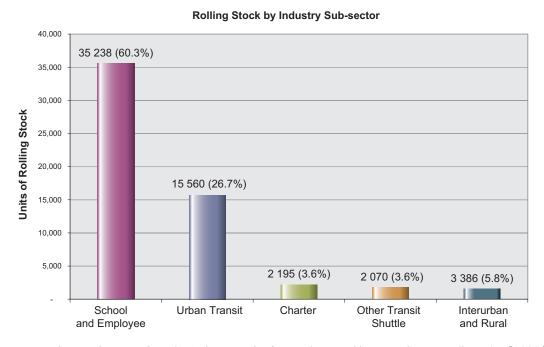
Source: Statistics Canada, Preliminary Surface and Marine Transport Service Bulletin<sup>®</sup>, 2006.

<sup>1</sup>The information presented by *Statistics Canada* is an estimate drawn from a sample survey. The sampling strategy includes a "take-all" strata of companies having revenues of at least \$1 million and a "take-some" stratum below this threshold. The resulting figures should be interpreted as a reasonable representation of the Industry.

# 1. 1. 3 Fleet Size

The industry's 2004 fleet of 58,449 units of rolling stock (i. e., buses, vans, cars, subway units, streetcars, locomotives, etc.) was concentrated predominantly in the school and Employee sub-sector, which operates more than 60% of the industry's fleet (figure 1-1).

Figure 1-1: Industry Rolling Stock (2004)



Source: Statistics Canada, Preliminary Surface and Marine Transport Service Bulletin data®, 2006.

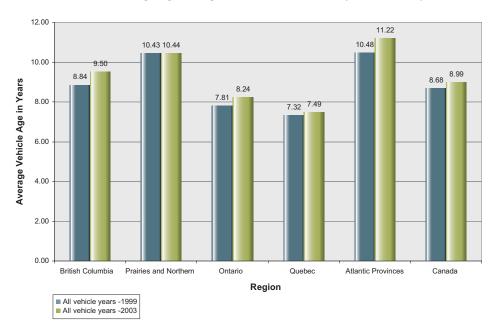


# 1. 1. 4 Fleet Age

Increasing slightly between 1999 and 2003, the average age of all buses registered in Canada—including those not part of the industry—is significantly lower in Ontario and Québec than in other regions (figure 1-2).

**Figure 1-2**: Age of buses in Canada

### Average Age of Registered Buses in Canada (1999 and 2003)



Source: Statistics Canada, Canadian Vehicle Survey, Catalogue 53F0004XIE, Fourth quarter® 1999; Catalogue 53-223-XIE, Annual® 2003 (Revised)

A closer examination of the 2003 figures reveals significant regional disparities in the age distribution of vehicles. Most notable is the concentration of vehicles of model years 1985 or earlier. In Québec and Ontario, these older vehicles represent only 2.9% and 5.6% of provincially registered buses, respectively. In British Columbia, this cluster of older buses represents 9.9% of all buses. This figure jumps to 15.1% in the Prairies and Northern region and 18.7% in the Atlantic Provinces (table 1-2).

Table 1-2: Registered buses by region (2003)

Vehicle Model Year	British Columbia	Prairies and Northern Canada or Territories	Ontario	Québec	Atlantic Provinces	Canada
pre-1986	9.90%	15.10%	5.60%	2.90%	18.70%	8.90%
1986	1.60%	2.40%	0.90%	0.90%	2.40%	1.50%
1987	2.00%	3.80%	1.50%	0.70%	2.20%	2.00%
1988	3.10%	4.30%	2.10%	1.00%	2.80%	2.60%
1989	4.70%	4.70%	2.70%	1.90%	3.90%	3.30%
1990	4.80%	5.00%	4.30%	3.00%	7.40%	4.50%
1991	6.00%	4.70%	5.00%	4.90%	6.60%	5.10%
1992	4.50%	4.60%	5.40%	5.70%	6.20%	5.20%
1993	4.00%	4.40%	4.80%	5.00%	4.90%	4.70%
1994	4.40%	3.70%	4.30%	8.20%	2.30%	4.80%
1995	5.60%	4.10%	6.30%	5.30%	6.40%	5.50%
1996	6.80%	3.70%	6.70%	6.90%	2.00%	5.60%
1997	4.40%	5.00%	5.50%	6.60%	5.00%	5.40%
1998	7.60%	5.40%	6.90%	6.30%	7.50%	6.50%
1999	6.50%	6.00%	8.30%	8.20%	4.60%	7.20%
2000	7.70%	5.90%	9.20%	7.70%	5.90%	7.70%
2001	7.30%	6.10%	8.10%	8.60%	4.20%	7.30%
2002	4.60%	6.40%	6.00%	8.50%	4.40%	6.40%
2003	3.60%	3.80%	5.40%	5.20%	1.30%	4.40%
2004	0.80%	0.80%	1.00%	1.90%	1.20%	1.20%
Unknown	0.00%	0.00%	0.00%	0.60%	0.00%	0.10%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

In comparing the average age of urban transit system vehicles in Canada to those in the U.S.A., there appears to have been a significant divergence in trends (figure 1-3). Over the 10 years beginning in 1994, U.S. figures for the average age of full-size buses show a steady downward trend. From just under 9 years in 1994, they rest at only 7.2 years in 2004. Canadian figures for standard and low floor buses, on the other hand, move from an average age of 10 years in 1994 to a peak of more than 11.5 in 1997 before moving back downward to 10.3 in 2004.

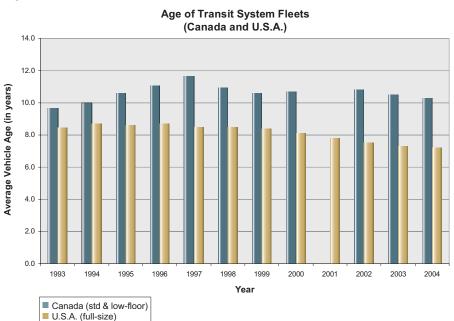


Figure 1-3: Age of urban transit buses in Canada and the U.S.

Source: United States Department of Transportation, Bureau of Transportation Statistics®, 2006; CUTA, personal communication; McCormick Rankin Corporation®, 2002.

### 1. 1. 5 Employment

The motor carrier passenger industry employs over 90,000 Full-Time Equivalent (FTE) people across the country (table 1-3). Employees tend to be most highly concentrated in larger urban transit organizations. School and employee transportation services, the industry's second largest sub-sector by number of FTEs, employs operators/drivers mostly on a part-time and seasonal basis, as does charter and tour; consequently, the number of actual persons employed in the industry is far greater than that indicated by the FTE figure. On an FTE basis, urban and school sub-sectors employ 85.6% of total industry employees.

**Table 1-3:** Full-Time Equivalent employees by job category by sub-sector (2004)

Job Category	Urban Transit	School and Employee	Interurban and Rural	Charter	Other Transit Shuttle	Total
Operators / drivers	24,249	29,431	4,249	2,645	2,347	62,920
Mechanics	3,265	1,539	447	215	80	5,547
Other	16,771	2,593	2,051	566	508	22,489
Total	44,285	33,563	6,747	3,426	2,934	90,956
Reporting Companies	86	1004	31	125	223	1,469

Source: Statistics Canada, Preliminary Surface and Marine Transport Service Bulletin data®, 2006.



# 1.1.5.1. Industry Employment Trends

Only urban transit data are reliably available for the period 1998-2004 inclusive. All regions show employment growth during this period, producing a cumulative Canadian increase of +18.23% (figure 1-4). Regionally, British Columbia shows the highest growth rate totalling +25.4%, followed by the Prairie Provinces at +20.1%, and Atlantic at 13.7%.

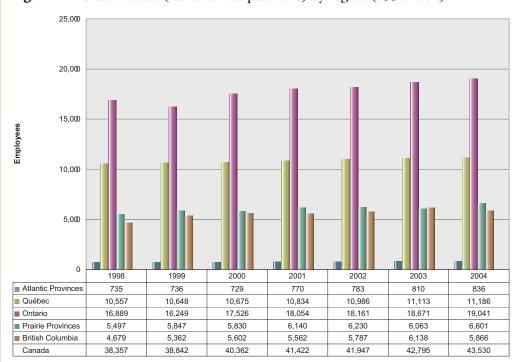


Figure 1-4: Urban transit (full-time and part-time) by region (1998-2004)

Source: CUTA Data - 2006

# Competition and Compensation

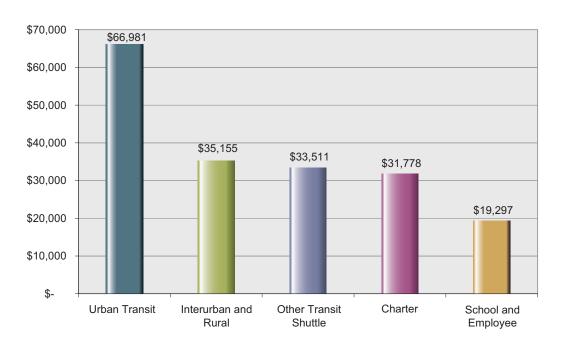
There is some concern among industry stakeholders that in the absence of innovative recruitment and retention measures, increased competition for employees and managers in tightening labour markets may simply result in rising wages, significantly worsening already challenging economic positions.

### 1.1.5.2 Industry Compensation

Available data (2004) blend the average annual compensation (wages, salaries and benefits as well as other expenses such as subcontracting, training, uniforms, meals and other human resource related costs) of operators/drivers, mechanics and other employees to produce cumulative figures for each industry sub-sector (figure 1-5). Urban transit and school and employee sub-sectors account for 47.2% and 39.9% of industry employees respectively. This information is clearly indicative of sub-sector operational differences including urban transit subsidies and degree of unionization, charter bus seasonality and school bus seasonal and part-time employment. Other factors influencing compensation data are not so obvious. For example, the presentation does not identify the significant wage rate differences within the school sub-sector between those provinces where services are provided by the private sector and those where they are provided by the public sector.

**Figure 1-5:** Average annual compensation by industry sub-sector (2004)

Average Annual Compensation



Source: Statistics Canada, Preliminary Surface and Marine Transport Service Bulletin data®, 2006.

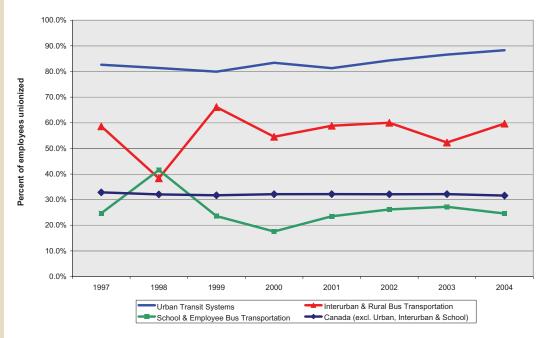


## 1. 1. 6 Union Representation

The levels of union representation in the industry differ significantly by sub-sector. By far, the most highly unionized workforce belongs to the urban sub-sector where almost 90% of all employees were represented by a union in 2004, a figure that has risen from a low of just under 80% in 1999. Though fluctuating, figures show that roughly 60% of intercity employees are unionized, as are 25% of school bus employees (figure 1-6).

Figure 1-6: Union representation in the Bus Industry





Source: Labour Force Survey, custom tables for HRSDC®, 2005.

## 1. 1. 7 Revenues, Government Contributions and Profit Margins

# 1. 1. 7. 1 Industry Revenues and Government Contributions

The bus industry generated more than \$7.6 billion in total revenues in 2004. As illustrated in figure 1-7a, urban, predominantly publicly operated, is the sub-sector with the greatest revenues, producing 67.8% of total industry revenues. However, 51.6% of urban revenues are operating and capital contributions from government. Figure 1-7a and table 1-4 illustrate the dependence of urban on these contributions, which subsector would have lost more than \$2.0 billion in 2004 without them.

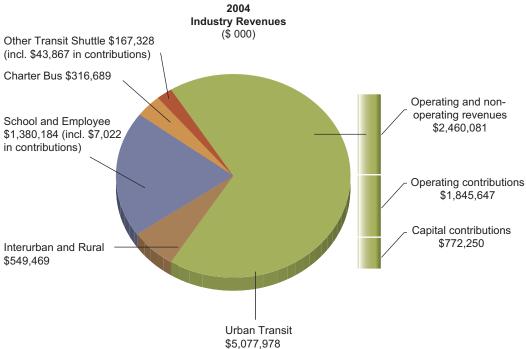


Figure 1-7a: Industry revenues and government contributions-2004

Source: Statistics Canada, Preliminary Surface and Marine Transport Service Bulletin data®, 2006.

# 1. 1. 7. 2 Industry Profit Margins

As the following preliminary 2004 and most currently available *Statistics Canada* data indicate, the bus industry functions on very low profit margins and specific sub-sectors require government contributions to maintain current operating and service levels.

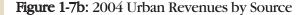
Table 1-4: Sub-sector Profits and Contributions Impact (in \$'000s) - 2004

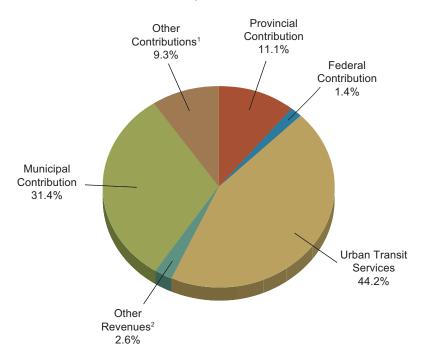
	Urban Transit	Interurban and Rural	School and Employee	Charter	Other Transit Shuttle
Net Income Including Subsidies	591,880	(2,546)	102,114	26,566	10,767
Net percent of Total Revenue	11.66%	N/A	N/A	8.39%	6.43%
Net Profit/(Loss) Without Government Contributions	(2,026,017)	(2,546)	95.092	26,566	(33,100)

Source: Statistics Canada, Preliminary Surface and Marine Transport Service Bulletin data<sup>®</sup>; 2006.

As noted in table 1-4, urban transit is particularly dependant on government contributions as the dominant source of revenues, greatly attributable to the complexity of the urban infrastructure combined with the essential nature of urban services.

"From 1996 to 2004, government contributions (to urban) increased an average of +3.8% annually. Over the same period, urban transit systems operating revenues grew by (an average of) +5.2% annually. As a result, government's total contribution to urban transit revenues decreased from 56% to 53% (during this period). "[Transport Canada – Transportation in Canada 2005]; this is also the source of the following two figures. Figure 1-7b details 2004 government contributions to urban and other urban revenue sources.





- $1. \, Other \, contributions \, include \, dedicated \, taxes, transfers \, from \, regional \, agencies \, and \, reserve \, funds$
- 2. Other revenues include charter, school bus and other passenger bus services

Source: Transport Canada tabulation, adapted from Canadian urban transit Association (CUTA) data.

Transport Canada has taken another approach to presenting industry revenue data. By categorizing by sub-sector, the revenues generated by the various service lines of carriers active in more than one sub-sector; they suggest that the resulting data, as presented in the following Figure 1-7c, more accurately represent the revenues generated by any/all carriers carrying on activities in any/several sub-sector(s). Due to prior changes in Statistics Canada survey criteria, the 2001 – 2004 data are presented as most reliable.

Figure 1-7c: Bus Industry Revenues by Service Lines, 1997 - 2004

	(Millions of dollars)							
	1997	1998	1999	2000	2001 1	2002	2003 2	2004 3
Number of companies	877	1,110	1,062	968	1,813	1,715	1,497	1,500
Business Lines								
Urban transit services	1,672	1,694	1,817	1,956	2,092	2,234	2,317	2,500
School bus transportation	826	894	915	964	1,112	1,220	1,233	1,250
Charters, shuttle & sightseeing services	316	369	352	449	469	506	552	540
Scheduled intercity services	241	240	236	271	332	329	319	370
Other passenger/operating revenues	191	216	219	225	246	283	197	190
Parcel express delivery	79	87	88	96	98	100	101	105
Total (excluding government contributions)	3,326	3,499	3,627	3,961	4,349	4,672	4,719	4,955
Government contributions <sup>4</sup>	2,137	2,386	2,562	2,271	2,355	2,440	2,774	2,780
Total	5,463	5,885	6,189	6,231	6,703	7,112	7,493	7,735

<sup>1.</sup> From 1997 to 2000: Includes bus operators with annual revenues greater than \$200,000. Starting 2001, a new Passenger bus and urban transit survey was initiated by *Statistics Canada* covering a greater number of bus companies (no threshold revenues).

Sources: Transport Canada, adapted from Statistics Canada, Passenger bus and urban transit statistics, Cat. 53-215.

<sup>2.</sup> Preliminary data for 2003

<sup>3.</sup> Data estimated by Transport Canada

<sup>4.</sup> Includes operating and capital government contributions for urban transit



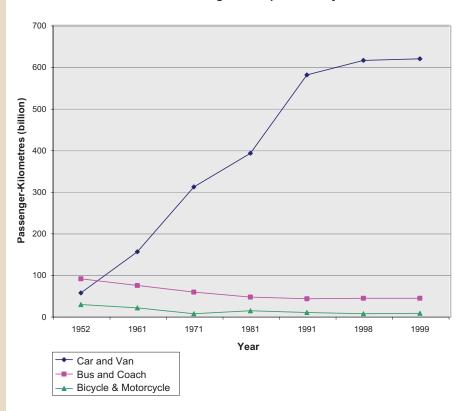
Passenger-kilometre: a unit of measure of the carriage of one passenger through a distance of one kilometre. For example, a bus that carries 50 passengers a distance of 10 kilometres has logged 500 passenger-kilometres. A car with a single occupant would have to travel 500 kilometres to accumulate an equivalent number of passenger-kilometres

# 1. 1. 8 Stage of Development

The motor carrier passenger industry is a mature industry that stretches back to the turn of the last century. Since the mid 1900's, however, the bus industry has faced tremendous challenges from its principal competitor — the automobile.

In the absence of comparable Canadian data, statistics from both the U.K. and the U.S.A., figures 1-8 and 1-9 respectively, illustrate the extent to which the automobile has assumed, over time, the dominant share of passenger transportation on the roads of those countries, implying a similar trend in Canada.

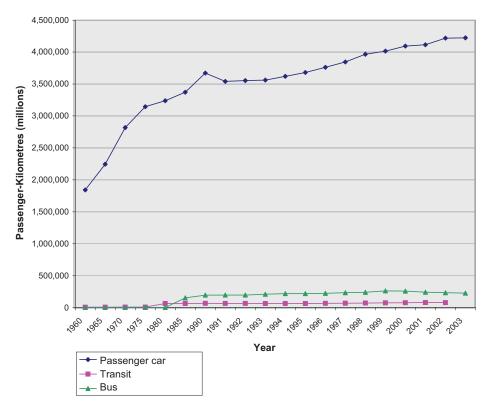
**Figure 1-8:** Long-term passenger transportation trends in the U.K. U.K. Passenger Transportation by Mode



Source: Office for National Statistics, 2005

**Figure 1-9:** U. S. passenger transportation trends

U.S. Passenger Transportation by Mode



Source: U.S. Department of Transportation, Bureau of Transportation Statistics®, 2005.

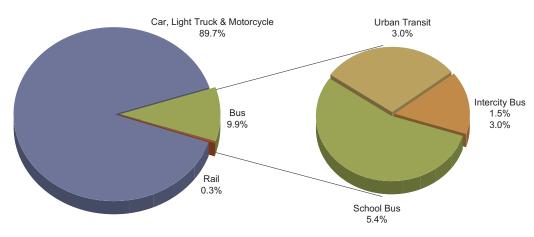


# 1.1.8.1 Market Share of the Canadian Bus Industry

Recent Canadian figures from Natural Resources Canada estimate the Canadian bus industry's position within the passenger surface transportation market in terms of its relative market share, currently and over the past decade. Generally, the size of the bus industry is dwarfed by the dominance of the automobile in its various forms. In 2002, buses accounted for 9.9% of road and rail passenger-kilometres (figure 1-10).

Figure 1-10: 2002 Passenger Surface Transportation Market Share

Passenger Surface Transportation Market Share (2002) (percent of total Passenger-kilometres)

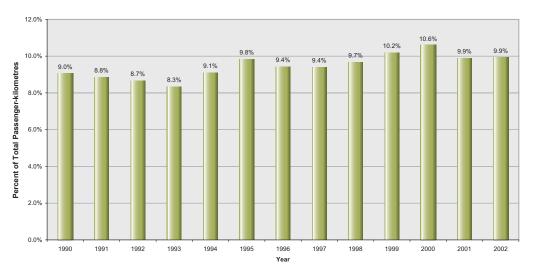


Source: Natural Resources Canada®, 2004.

Despite the automobile's historically consistent growth trend, these data point to an improvement in the bus' share of passenger transportation. Over the last decade, the bus' share has risen roughly 10% (figure 1-11). This improvement of the bus industry's share of Canada's total road and rail passenger transportation activity is mirrored by an overall increase and largely consistent growth trend in the number of passenger-kilometres travelled by bus since 1990 (figure 1-12). Conversely, despite significant growth in the early 1990s, the personal automobile (car, light truck and motorcycle) has made no significant gains in passenger-kilometres travelled between 1994 and 2002 (figure 1-13).

**Figure 1-11:** Bus passenger transportation market share (1990-2002)

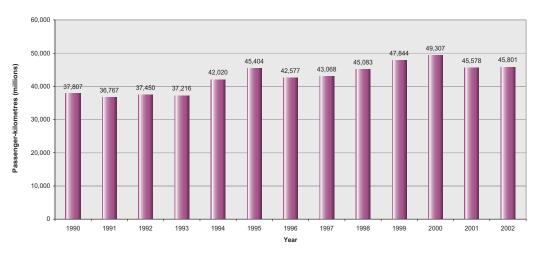
Bus' Passenger Transportation Share (1990-2002)



Source: Natural Resources Canada, 2004

Figure 1-12: Bus passenger-kilometres (1990-2002)

ALL BUSES (UrbanTransit, Intercity, School)

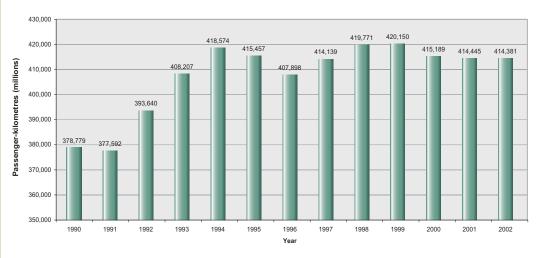


Source: Natural Resources Canada, 2004



Figure 1-13: Automobile passenger-kilometres

AUTOMOBILE (Car, Light Truck,Motorcycle)



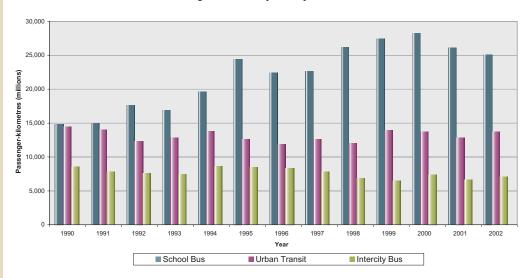
Source: Natural Resources Canada, 2004

Broken down by industry sub-sector (figure 1-14):

- school bus passenger-kilometres have trended significantly upward in the period 1990-2000, but have since receded
- urban transit passenger-kilometres have shown relative stability over the period surveyed
- intercity bus passenger-kilometres continue to trend slightly downward since 1994

**Figure 1-14:** Passenger-kilometers by Industry sub-sector (1991-2002)

Passenger-kilometres by Industry Sub-sector



Source: Natural Resources Canada, 2004

In terms of ridership, table 1-5 shows the evolution of ridership for the intercity and urban transit sub-sectors of the bus industry. It is characterized by ups and downs over a 10-year period.

Table 1-5: Intercity and Urban Transit Passengers Carried in the Bus Industry, 1985-2004

Year	Intercity Passengers <sup>1</sup> (millions)	Growth Rate (percent)	Urban Transit Passengers <sup>2</sup> (millions)	Growth Rate (percent)
1992	14.9		1,432.10	
1993	10.9	-27	1,396.50	-2.5
1994	11.4	5.3	1,360.70	-2.6
1995	12.5	9.3	1,361.10	0
1996	13.6	8.8	1,352.90	-0.6
1997	14.7	8.1	1,382.20	2.2
1998	14.3	-2.7	1,388.40	0.4
1999	13.9	-2.8	1,442.00	3.9
2000	14.3	2.9	1,493.90	3.6
2001	15.2	6.2	1,481.10	-0.9
2002	15.1	-0.6	1,537.10	3.8
2003	14	-7.4	1,559.70	1.5
2004 3	15.5	10.9	1,598.20	2.5

Source: Transport Canada, 2004g

<sup>&</sup>lt;sup>1</sup> Passengers using intercity scheduled services

<sup>&</sup>lt;sup>2</sup> Passengers carried by urban transit operators only

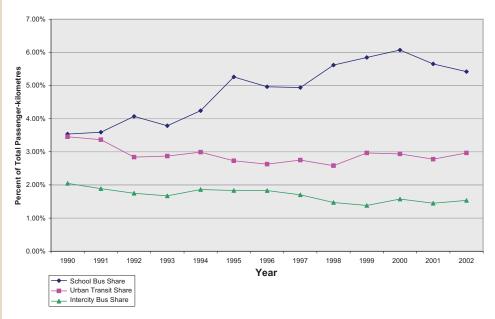
<sup>&</sup>lt;sup>3</sup> Intercity estimated by Transport Canada



Figure 1-15 further illustrates that the school bus sub-sector posted significant gains in passenger surface transportation share over the past decade.

Figure 1-15: Passenger surface transportation share (bus)





Source: Natural Resources Canada®, 2004.

### 1. 2 Labour – a Key Force in Canada's Bus Industry

In the process of developing the following material, stakeholders commented that the relationship between management and labour throughout the industry is generally positive and co-operative. This relationship is expected to continue, particularly as these parties build on recognizing the need to work together in order to effectively address major on-going common concerns such as violence and security.

### 1. 2. 1 Overview

A vital part of the transportation industry for over a century in many Canadian communities, organized labour in the motor carrier passenger industry is working to modernize and re-orient its efforts on behalf of its membership, in an environment that has changed dramatically since its beginnings standing for decent working conditions and fair wages.

Today, the several unions representing workers in the motor carrier passenger industry are sophisticated organizations with research, tactical lobbying, and policy development capabilities. Unions are strategic, well-informed, and politically shrewd.

For example, ATU Canada has made yearly representation before the Federal Finance Committee for the past decade, presenting its case for increased funding for transit and incentives such as employer-provided tax exempt bus passes, which the union feels will help increase ridership.

ATU also studies Human Rights legislation, the Canada Labour Code, and other laws/regulations with a view to bringing these broad rulings to bear in even the smallest local situation.

Labour's key focus remains on the welfare of the individual worker within a single bargaining unit or local, and the most common expression of that focus continues to be the local Collective Bargaining Agreement, or CBA.

As noted under *Section 1.1.6*, the levels of union representation in Canada's motor carrier passenger industry differ significantly by sub-sector.

Members include operators, maintenance workers and mechanics, dispatchers, inspectors, training personnel, sales and office personnel, and others.

#### 1. 2. 2 The Unions

Each of the following unions has experienced involvement with the MCPCC through board, committees, Study groups or advisory levels.

## ATU (Amalgamated Transit Union)

Established in 1982, the ATU Canadian Council is the leading authority and voice in Canada for the Amalgamated Transit Union on all issues of Canadian interest including legislation, political, educational, health and safety, cultural and social welfare matters. The ATU in Canada represents over 25,000 public transit and inter-city bus workers, through 41 bargaining units across the country.

Proud of a committed involvement in the *Motor Carrier Passenger Council of Canada*, this union's membership includes a culturally diverse group of operators, maintenance technicians (primarily mechanics and bus maintenance workers) supervisory, security and sales personnel.

ATU Canada is committed to improving the working conditions and the quality of life for all of its members through education, training and lobbying.

#### COPE (Canadian Office and Professional Employees Union)

A Canadian Labour Congress (CLC) affiliate, COPE members include 34,000 employees in 49 locals across Canada. Formerly OPEIU (the Office and Professional Employees International Union), COPE represents office workers, technicians, professionals and sales representatives both in the private and public sectors. COPE members work in many areas of industry, such as Crown corporations, school boards, banks and credit unions, insurance and power companies, paper mills, transit operations, community centre and trade union offices, and other employers.

COPE represents approximately 500 transit employees on Vancouver Island and in the Lower Mainland, most of who are trainers, schedulers, transit police, office administration staff and clerical workers.

## **CAW (Canadian Auto Workers)**

The CAW is the largest private sector union in Canada, with an overall membership of 250,000 people in 282 local unions operating in 1,600 workplaces. Through its



members and its departments, the CAW works on collective bargaining processes, and has on-going involvement in, and commitment to, a variety of workplace, economic and social justice issues.

Best known for its dominant presence in the automotive sector with over 40,000 members, CAW represents about 5% of the organized labour force in Canada's bus industry. Key bargaining units include Coast Mountain Bus, the urban transit provider in British Columbia's Lower Mainland (3,100 workers, 90% of whom are operators) and a number of *Laidlaw* employees in the school bus sector in various parts of Canada (1,250 workers).

## **CUPE (Canadian Union of Public Employees)**

With 550,000 members, and 2500 locals in 12 divisions, CUPE is one of the dominant labour unions in Canada. CUPE represents workers in health care, education, municipalities, libraries, universities, social services, public utilities, transportation, emergency services and airlines. In addition to Local 301, representing Montreal's urban transit operators, CUPE's presence in the bus industry involves members in parts of Ontario, Québec, and in the Atlantic Provinces in urban and school bus sub-sectors.

#### UTU

The United Transportation Union—through the Brotherhood of Railroad Trainmen (BRT), one of its predecessor unions—entered the bus industry in 1928, about the same time that many of the first bus companies were being formed by the railroads.

United Transportation Union has 5,500 members in the transportation industry in Canada, and a total North American membership of over 80,000. The union's activities are directed in three primary fields of service to the members: protective, legislative and financial. Collective bargaining units include Ontario Northland and the rail portion of GO Transit in the Greater Toronto Area.

#### **CSN**

The Conseil Syndicale National is a Québec-based confederation of nine groups, including unions, central councils, and federations. CSN is committed to the creation of democratic social, economic, political, and cultural structures that guarantee quality of life for their members.

CSN represents approximately 1,100 operators in Québec's motor carrier passenger industry, in collective bargaining units in Québec City and Laval.

## Other

Small numbers of motor carrier passenger industry employees are also represented by the International Brotherhood of Electrical Workers (IBEW) and the United Steel Workers of America (USW).

#### 1. 2. 3 Current Issues

A sampling of union representatives were asked what issues were either paramount or emerging as the most important items to be included in upcoming collective bargaining processes and/or during day-to-day relations with employers. Beyond the

almost universal concern about violence against operators, there was no clear consensus on which was the most important or pressing issue. Therefore, these issues are presented in alphabetical order.

#### Absenteeism

Absenteeism is a somewhat larger issue in the motor carrier passenger industry than in other similar industries. Labour representatives argue that increased absenteeism relates primarily to the physical health of operators, citing that operators experience a significant amount of close physical contact with the riding public and increased exposure to rapid temperature changes as bus doors open and close in inclement weather.

Across Canada in organized workplaces, rates of absence are generally determined in a "Bargaining Unit Average". This is a formula provided by the employer based on the average amount of hours worked and the number of hours absent, and is reviewed actively when collective bargaining units are negotiated. It has been stated by labour representatives that many employers do not share the data regarding absences on a regular basis, making it difficult for unions to examine and analyze trends.

In a medium-sized urban operation, operators have an absence 'threshold' of 20 days per year. When this is significantly exceeded, both the employer and the union local become involved in determining causes and, in some cases, exacting disciplinary action.

Labour believes firmly that absenteeism will remain at current levels and likely grow, as stresses on the operators increase.

#### • Pandemic flu and other health hazards

Labour has researched this issue thoroughly, and recommends, as part of collective bargaining, implementing systems to monitor staff health; training and equipping in-house influenza teams; means to help staff that have fallen ill; wage continuity for those who have been stricken; facilitating the return of staff to the workplace post-quarantine; ensuring that the workplace has adequate hygiene and cleaning procedures and supplies; and ensuring adequate ventilation is present in buildings and vehicles.

#### • Privatization & Public/PrivatePartnerships

The twin issues of privatization and public/private partnerships continue to be a focus for organized labour in Canada's bus industry, since the unions place high priority on job protection at collective bargaining time.

Increasingly tight cost control requirements have resulted in many properties turning to sub-contracting jobs both behind the wheel (paratransit, for instance) and in the shop (bus cleaners and maintenance personnel).

Labour regards effective public/private partnerships as those where government invest in equipment, technology, safety, and public education about the advantages of ridership and behaving appropriately on buses. Unions have expressed concerns that third party companies will cut corners and lower the quality of service.

## • Reconciling Work and Family Life

In addition to the Canada Labour Code, individual provinces have varying labour standards regarding hours of service. It is hours of service that forms the basis upon which the "work/life balance" discussion begins for the unions. Canadian unions believe that a number of factors including violence, the pressure and stress caused by inappropriate route planning, bad weather, and traditional structures like split shifts and spare boards are contributing factors to increasing dissatisfaction with this career choice for those who wish to have some form of work/life balance.

In urban transit, women with children have significant difficulty with the demands of scheduling—yet they are increasingly sought after as the industry tries to secure its labour pool.

## Technology

Unions believe that advanced technologies have a lot to do with the future of security in transit. The presence of GPS technology and in-bus cameras has grown significantly and will continue to do so as the industry harnesses the potential for increased service capacity.

While labour maintains that it is essential that employers not use these technologies for punitive or disciplinary measures, it recognizes that technology is here to stay and that it can be a positive force for workers.

## • Violence Against Transit Operators and Other Staff

This is an issue receiving great attention by the unions and is the focus of on-going research on their part. Unions believe the primary deterrent for incidents of violence against operators is effective prosecution, and in almost all current and recent collective bargaining sessions, violence prevention has emerged as an increasingly important issue.

In the early summer of 2006, ATU Canada hosted the first Conference on Violence and Security for the motor carrier passenger industry. The Conference underscored the need to collect meaningful data on a national level and to keep the data current, so unions and management can more effectively lobby governments at all levels to initiate programs and legislation with the objective of decreasing the growing incidence of violence.

## 1. 2. 4 Collective Bargaining

Collective Bargaining Agreements are the responsibility of union locals who put together contract negotiating teams that typically include the local President, a financial representative and representatives from specific work areas like operators or maintenance personnel.

Labour action between 1999 and 2005 involved 47 stoppages, involving 18,856 workers, representing 355,030 person-days lost—a significantly higher number than in modes like air, rail, water, taxi and trucking industries.

In general, **the three most important** issues on the table when CBA negotiations take place between bus companies or government properties and the unions in Canada are:

- **Job protection:** in a time of increasing privatization and public/private partnerships, this is the most important bargaining item in current negotiations and is seen as the critical factor in negotiations to come over the next five to ten years.
- Wages: wages in the industry, most particularly in urban transit and intercity modes, meet contemporary standards with the exception of certain provinces like Alberta and British Columbia, where the extraordinary wages offered in resource industries continue to draw the labour pool away from the motor carrier passenger industry. Wage issues include base rates and wage progression, and overtime pay issues (shift premiums, shift differential pay, spread pay, et al). Witness pay and pay for accident reports, almost unique to this industry because operators behind the wheel are witness to a variety of accidents and incidents, is often discussed as part of negotiation.
- Safety and security of personnel: as the incidence of violence against bus operators increases, particularly in urban transit, and as the issue becomes more complex and far-reaching, involving transit police, maintenance workers, and other staff, labour seeks firm commitments and specific financial allocation for training, on-the-job protection, public awareness campaigns, and help for those who have been victims. An excellent and current example of union pro-action on the issues of public violence and workplace security is the March 2006 ATU commitment, emanating from a "Conference on Violence and Security in the Public Transit and Intercity Bus Industries," to implement the following:
  - formulate and promote a "zero tolerance" policy and a public awareness campaign
  - create a standardized assault reporting form for all of the properties represented
  - distribute "Right to Refuse Work" brochures under health and safety statutes to all locals
  - set up databases to record both incidents of violence against members and case law for assaults against transportation workers
  - work with the industry through the creation of joint management-labour committees to address these problems
  - · consult with magistrates and law enforcement
  - lobby federal and provincial governments for criminal code amendments and increased funding for system security

A review of approximately 60 urban transit collective agreements shows that additional items on the collective bargaining table include tool allowance and tool insurance, supply and cleaning of uniforms, leave (bereavement, parental leave, etc.), benefits (sick leave, dental, optical, prescriptions, etc.), negotiations around probationary periods, report time, turn-in time, and pensions.



#### 1. 2. 5 Grievances and Dispute Resolution

Grievances are seen as labour's traditional negotiating tool outside of the collective bargaining process. Unresolved grievances can result in a variety of actions by labour, including work stoppages.

While many employers and union locals in Canada have developed a range of alternative dispute resolution mechanisms and other processes that allow for "informal" negotiation of shop floor issues, grievances generally revolve around disconnects between a local's and an employer's interpretation of specific clauses of an existing CBA.

It was also observed by labour officials interviewed that there are more grievances and an increased number of arbitration situations when either the employer or union representatives involved are inexperienced, limiting the desired effectiveness of the negotiating process in these situations.

## 1. 2. 6 Labour's Influence on the Future of the Motor Carrier Passenger Industry

Because of a strong focus on security and safety of personnel, it is expected that unions in Canada undergoing collective bargaining processes in the next several years will insist on an increasingly large commitment from employers to increased protection of the men and women of the industry including assurances of:

- a range of safety measures in place at all times to protect workers in the event of a pandemic health crisis
- investment in significant public education regarding behaviour and comportment in and around public transit with a focus on consequences;

The immediate future will see increased and more sophisticated influence on policy development by unions. This will include:

- increased presence at the federal level in order to influence policy development regarding public transportation. Beyond issues directly related to transportation funding and policy, labour interests will include lobbying on privacy and personal information fronts.
- collaborative lobbying with employers at the local, provincial, and national level for severe prosecution of those who commit assault and other violent acts against bus industry employees.

Labour sources state that the local job of securing a satisfactory collective bargaining agreement remains a key role for unions. They also see the survival of Canada's bus industry as one of their critical co-responsibilities.

## 1. 3 The Industry's Changing Structure

## 1. 3. 1 Industry Consolidation

The structure of the industry has changed significantly as a result of widespread industry consolidations. Laidlaw, in particular, pursued an aggressive growth strategy in the 1990s. Some of Laidlaw's most notable acquisitions include the purchase of Canadian Greyhound in 1997, American Greyhound and Voyageur Colonial Bus Lines in 1998 and Penetang-Midland Coachlines in 2000. They also acquired several school bus transportation companies.

According to the Report to the Senate Standing Committee on Intercity Bus Services (Fraser, 2002), Laidlaw companies indicated in a written submission to the Committee that their group's share of the ridership market was 45%. Greyhound Canada Transportation Corporation's market share alone was identified as being 40%.

Much of the discussion in the Fraser report centres on an uneven economic regulatory environment, which plays a major role in how corporate structural strategy is played out. One of the report's main concerns is how organizational change resulting from restructuring vis-à-vis merger, acquisition or other platforms, has had a substantial impact on organizational culture. This is an issue that affects professionalism, recruitment and retention in key demographic sectors as noted by the U. S. Transportation Research Board (2001c), the Price Waterhouse Human Resources Sector Study (1997) and the MCPCC Shortage of Skilled Labour Report (2003).

Orléans Express, a scheduled intercity bus company, has also been very active in mergers and acquisitions. Orléans Express employs 500 individuals and carries 1.7 million passengers annually and close to 1 million parcels. A major French conglomerate, Keolis, now owns Orléans Express. Recently, Orléans Express acquired the Group SMT/Acadia and is now the main scheduled bus operator in Québec, New Brunswick and Nova Scotia. Foreign ownership was also a factor in Ontario, where Coach Canada acquired Trentway-Wagar. Coach Canada is part of the Stagecoach Group, which operates motor coach services in the U. K., the U. S.A., Canada and New Zealand.

Though there is little literature documenting the impact of consolidation on the Canadian school bus industry, this sub-sector has seen significant consolidation as a result of Laidlaw's expansion strategy. And a recent investment analysis of the sub-sector highlights market fragmentation and the price-sensitive nature of the industry, concluding that required margin improvement would likely come as a result of the further centralization of activities (Oppenheimer & Co. Inc., 2004).

#### 1. 3. 2 Inter-modal Alliances

There are several good examples of the growth in inter-modal strategic alliances between the bus industry and other modes of transportation. The Pacific Central Station in Vancouver, B. C. is probably Canada's first example of inter-modalism in action. In 1992, following a change in terminal ownership, Greyhound, with partners VIA Rail and CN Rail, completely refurbished and repaired the facility. The work included seismic reconstruction and interior and exterior renovations.

#### **Industry Consolidation**

Industry stakeholders agreed that the tightening economics of the industry are driving the concentration of service providers. Larger providers are more able to capitalize on economies of scale and keep pace with rising costs and downward pressure on revenues. The impact in numerous communitiesnoted as particularly worrisome in Atlantic Canada—is significant as many comparatively small, local enterprises, despite their strong community ties and long bistories, are forced out of the market. Often there is simply nobody in the community willing or able to take over the business when the current owner looks to retire.

Evidence in the working groups and interviews of significant movement on inter-modal initiatives was limited. Participants did nonetheless provide examples of current initiatives designed to address a range of modal links:

- integration of cycle parking to facilitate rider access:
- park-and-ride to ease parking demand in downtown cores;
- the expansion of light rail as a compliment to urban transit bus service; and
- vehicle capacity sharing across subsectors.



#### Public/Private Partnerships

"A public/private partnership is a cooperative venture for the provision of infrastructure or services, built on the expertise of each partner that best meets clearly defined public needs, through the most appropriate allocation of resources, risks, and rewards.

In a public/private partnership, the public sector maintains an oversight and quality assessment role while the private sector is more closely involved in actual delivery of the service or project.

Public/private
Partnerships can be
categorized based on the
extent of public and
private sector involvement
and the degree of risk
allocation between the
two."

Source: P3 Office, Service Industries Branch, Industry Canada The bus services of Trans-Cab of Peterborough, Ontario, for example, are augmented with taxi use for a nominal premium. This is a particular advantage in areas of low population density (Skelly, 1996). Motor Coach Canada (MCC) has reported contracting agreements between private companies and Pearson International Airport totalling over \$90 million. In the event of weather or mechanical problems where air or rail service is not available, coaches are used to transport passengers to various destinations. Intermodal terminals, which link municipal transit and the intercity sector, have also facilitated seamless service in Québec City and St-Catharines, Ontario; however this level of co-operation is not successful in all cities. Intercity/coach terminals in Toronto are generally segregated from other transportation services including VIA Rail, Go Transit and the subway, though intercity GO buses do run from the new (2002) Union Station bus terminal. Efforts are underway to correct this situation and the Toronto Economic Development Corporation (TEDCO) is working with GO Transit, Greyhound and other stakeholders to develop a new Toronto inter-modal terminal.

## 1. 3. 3 Public/Private Partnerships

Public/private partnerships in the industry have proven challenging in terms of maintaining service levels. Performance-based contracts are a commonly used method of achieving positive outcomes for those responsible for service in the public and private sectors, contractors, operating personnel and the riding public. One regime proposes a system that rewards service providers for both a minimum service level (MSL) and patronage increases (subsidy dollar per passenger) based on government service obligations and expected user and external benefits. This provides incentives for service providers to not only improve performance, but also to seek out new opportunities for growth, based on their knowledge of the market (Hensher, 2003a). As Savas and Cantarella (1992) found, it is easier to hold contractors to performance standards than a public agency. The development of a Service Quality Index (SQI) to measure service satisfaction from a customer perspective is another way service providers and regulators can ensure that service levels meet established benchmarks (Hensher, 2003b).

## 1. 4 Current Policies Regulating the Industry

#### 1. 4. 1 Canadian Economic Regulation

Governmental regulation in the bus industry is a much-discussed topic among bus agencies, particularly in the intercity/coach sector. Much of the industry literature focuses on economic regulation through restrictive entry and route cross-subsidies. The passing of the federal Motor Vehicle Transport Act (MVTA 1954) confirmed federal jurisdiction on extra-provincial bus companies (those crossing provincial and international borders). Through the MVTA 1954, the federal government transferred the responsibility of regulating extra-provincial bus service providers to provincial governments and legislated that they be regulated in like manner to those under the control of provincial governments. It did not, however, create any type of consensus among the different jurisdictions on how rigid the regulations would be. Over the years, a wide variation of economic regulation developed throughout the country. Prince Edward Island, the North West Territories and Nunavut have deregulated routes. Ontario, Alberta, New Brunswick, Newfoundland and Labrador and Yukon have retained

some economic regulation. British Columbia, Saskatchewan, Manitoba, Québec and Nova Scotia have significant economic regulation (Fraser, 2002).

Proponents for governmental regulation argue that the cross subsidization of rural routes enforced by this type of framework is a fair trade-off for protection from competition on more profitable routes. Those in favour of opening up the market suggest that competition will allow the industry to grow, to lower fares, to foster innovation and to improve services to patrons. In addition to provincial consent, deregulation of the industry would likely require incentives for private operators to maintain services on unprofitable rural routes. These incentives would, as recommended in the Report to the Senate Standing Committee on Intercity Bus Services, cost upwards of \$30 million (Fraser, 2002).

Recently, modifications to Québec's Bus Transport Regulation have eliminated a 200-kilometre round trip limit on school bus charters. While still required to meet all other conditions of the regulation, school bus operators are now permitted to operate as charters to points across the province without kilometre restriction. It is felt that this regulatory change will not only help maximize the usage of the province's bus fleet, but also stimulate competition in outlying areas that are largely under-serviced by traditional charter operators (Lafrance, 2002).

## 1. 4. 2 International Economic Regulation

Economic Regulation internationally is also varied. Harvie (2000) compares urban bus services in Scotland with those in Germany. In Germany, scheduling, acquisition and subsidies are public, yet the companies remain private. There has been a 300% increase in ridership over the past twenty years and the introduction of new, quiet, low-floor/multi-floor buses that load and unload quickly, an efficient ticketing system, bus-only lanes and dial-a-bus service for after-hours. Scotland, on the other hand, has seen little investment or innovation in services in the ten years following deregulation. Over that period, bus miles driven have increased by 25%, and passenger miles driven have decreased by the same amount.

## 1. 4. 3 Deregulation Viewpoints

Deregulation has not been a panacea to stem the ridership decline. After a post-deregulatory spate of route closures, ridership has been found to return to its old rates. Although deregulation led to cost reductions per bus mile of 30% in the U.K., wage reductions were an observed consequence (Stark & Krashinsky, 1998). In their Study of competitive tendering in Italy (giving the subsidy to the carrier bidding lowest for a given service), Cambini and Filippini (2003) determined that competitive tendering in a monopolistic way is a better system than the side-by-side competition created by the deregulation of individual routes. In the United States, a report by the United States General Accounting Office (GAO) found that deregulation led to a sharp reduction in services to rural communities, in phases. The GAO Study also found that more than 50% of U.S. communities lost all scheduled bus service in the initial seven years after the 1982 deregulation (United States General Accounting Office, 1992). Many senior industry stakeholders have pointed out that even under regulation Canada has nonetheless seen a significant loss of rural service across the country.



"Applicants for licences to a provincial board would get approval without a bearing, unless some person made the case that granting the licence would likely be detrimental to the public interest."

Source: Fraser, 2002

In recent decades, deaths and hospitalizations due to motor vehicle traffic collisions have declined markedly in Canada. For example, since 1982 the road traffic death rate has declined by almost 50%. This decrease has occurred despite increasing numbers of vehicles and licenced drivers on our roads.... Government interventions such as laws mandating the use of seatbelts and child restraints, as well as more stringent drinking and driving sanctions, public education and enforcement campaigns, safer vehicles and road infrastructure enbancements bave all contributed to the increased safety of Canadian road users. Improvements in emergency medical response and trauma care have also helped to reduce

Source:Transport Canada, 2004b

fatalities.

Although there is an abundance of literature to support either side of the deregulation argument, a joint industry committee comprised of MCC, Canadian Bus Association, The Québec Bus Owners Association and The Ontario Motor Coach Association concluded that "the decision to deregulate or continue to regulate the industry is one that must be made by the [Federal] government based on what is in the public interest" (MCC, 2002, 2003b).

The Fraser report of 2002 outlines the situation in which the industry finds itself. Without a consensus among industry and the provinces, the government will not change current policies. As that consensus is unlikely among the involved parties, regulatory frameworks will probably remain fragmented in the foreseeable future. Development of an industry model based on the deregulation of the extra-provincial trucking industry was a joint industry committee consideration. It was also recommended that current policies should be amended to introduce a reverse-onus principle to granting licences. This was a significant change of perspective, in that in order to defend against potential new entrants, service providers in the 1970s oversupplied routes by 25% or more, claiming that additional competition was unnecessary as they guaranteed adequate services from termini.

#### 1. 4. 4 Safety Regulation

The passenger/public safety record of the Canadian bus industry is exceptional. For the five year period 2000 – 2004 inclusive, only 186 of 20,417 (0.91%) vehicles of all types involved in Canadian traffic accidents in which a fatality occurred were buses. Only 28 of 14,135 (0.20%) of the traffic fatalities that occurred during this period were attributed to bus involvement in an accident. (Transport Canada 2005).

In particular, intercity and tour/charter companies are affected by and must comply with safety legislation applicable to inter-provincial carriers.

- the 1987 National Safety Code consolidated and supplemented provincial and territorial motor carrier safety legislation and regulations with the objective of ensuring the application of consistent safety standards across Canada for motor carrier industries
- effective January 2006, the Motor Vehicle Transport Act was amended by the Motor Carrier Fitness Certificate Regulation, which provides a national framework for provincial implementation of a safety rating system for interprovincial carriers, including the requirement that a safety compliance profile of each carrier must be maintained by the province in which the carrier is domiciled
- effective January 2007, revisions to the Hours of Service Regulations come into force. Applicable to inter-Provincial drivers, the new rules reduce the maximum daily driving time with the objective of enhancing operator cognizance/alertness

Relative to the school bus sub-sector, contextual data is indicative of the positive effect of the numerous requirements placed on bus manufacturers to ensure student-rider safety. Over the 10-year period 1991 – 2001, a total of 26,039 school buses were involved in 25,806 collisions resulting in 145 fatalities. Only seven of the 145 fatalities

were school bus occupants. During the eight-year period 1997 - 2004, of 33,352 Canadian vehicles involved in fatal collisions, only 108 ( 0.32% ) were school buses. (Transport Canada)

**Seatbelt safety**, particularly the implementation of child restraint systems (CRS) on school buses has been a public issue since seatbelts became a widely accepted safety solution for automobile occupants. The findings of the U. S. National Transportation Safety Board and the National Academy of Science (NHTSA) in late 1980s, however, could not support the implementation of CRS's on school buses. The NHTSA Study concluded that "school bus crash data show that a federal requirement for belts on buses would provide little, if any, added protection in a crash."

In addition, it was determined that the comprehensively designed passenger protection system introduced in 1980 by Canadian Federal Motor Vehicle Safety Standards (CMVSS) 217, 220, 221, 222 and 301 provide adequate protection. Transport Canada testing shows that add-on seatbelts introduce different potential hazards, such as neck and facial injury, unless seats are redesigned for a different dynamic (Transport Canada, 2004c).

Experiences where CRS's are available, such as in Etobicoke Ontario, suggest that very young children will use them as instructed, but use diminishes with older elementary school children and in the secondary-school age group. This is also found to be the case with intercity bus passengers of all ages. In a report examining safety issues related to intercity buses, Transport Canada concluded that seatbelts would be of potential benefit in only a very few cases. Their use would need to be managed actively by bus service providers ensuring reliable use by passengers to achieve an acceptable level of effectiveness. Therefore, it appears that the benefit is too uncertain to impose the use of seatbelts without a clear demand for a standard from the public and the motor carrier industry (Transport Canada, 2004b).

Between June 1999 and June 2000, Transport Canada held regional consultations on school bus and motor coach safety regulations. The consensus of the sessions showed that seatbelts for school buses and motor coaches were not a priority issue. Other safety issues were listed as more important, including operator training and recruitment, passenger management and special needs transportation. Over the course of this Study, industry stakeholders emphasized the fact that the sector implementation of CRS's would raise issues similar to the Etobicoke experience illustrated above.

However, as of April 2007, Transport Canada regulation will require that all new school buses be equipped with a specific number of CRS anchorages, depending on the manufacturer's rated seating capacity of the vehicle. This requirement is initially oriented to accommodate the use of infant and small-child seats on buses.

#### 1. 5 Public Sector Investment and Its Impact

#### 1. 5. 1 Intercity and Charter

Public sector funding for intercity service providers exists in the form of small subsidies at the provincial level; the sub-sector receives no direct federal assistance. The area of sub-sector funding is contentious because urban transit operations, which are heavily

#### School Bus and Motor Coach Safety Consultation Participant Recommendations

- make training programs (including upgrading and certification) mandatory for all motor coach operators across the country
- display operator certification to make passengers feel safer
- launch an advertising campaign that depicts the motor coach profession as professional and rewarding
- examine the working conditions ... and compensation packages to address some of the recruitment and retention issues
- launch a public education campaign to belp curb improper passenger behaviour and shape public attitudes.

Source:Transport Canada, 2001a



#### The User Pay Principle

The degree to which public resources should be used to support a particular mode of transportation is a key policy question, particularly as sustainable development concerns are encouraging a shift from the personal automobile of today toward more socially and environmentally sound forms of transportation. Accounting for the full infrastructure, social and environmental costs of a form of transportation, and charging users accordingly, would significantly alter the transportation choices people and businesses make to the benefit of the bus industry.

"Achieving the efficient amount of road use—and a balanced use among all modes—is a question of charging users for the real costs they impose."

Source: Canada Transportation Act Review Panel, 2001 subsidized through large provincial and municipal funding arrangements, often intrude upon intercity markets (MCC, 2002). It is also highly contentious due to the magnitude of federal subsidies given to VIA Rail by the federal government. The Senate (Fraser, 2002) report outlines a few options for future programs to assist intercity service providers including operating subsidies, such as those provided to VIA Rail and to ferry operators, or a subsidy based on revenues to support remote routes. The report also identifies additional gasoline taxes and Transport Canada's existing subsidy program as potential sources of funding.

#### 1. 5. 2 Public Transit

Public transit systems receive funding through the provinces or territories and directly from municipalities. Provincial investment in transit has generally strengthened over the last few years (CUTA). In addition, the recent federal and provincial decisions to allocate substantial gas tax revenues to transit investment with particular emphasis on ridership growth represent a tangible increase in sub-sector funding commitments. Ten out of thirteen provinces/territories invest directly in public transit, and governments usually invest more heavily in specialized rather than conventional transit. Six provinces (Alberta, British Columbia, Manitoba, Ontario, Québec and Saskatchewan) invest in both. Prince Edward Island, Northwest Territories and Nunavut do not provide any funding.

While most provinces provide some funding, the monetary value of some grant programs is small. Indirect funding such as unallocated grants from provinces to municipalities (general revenue that may be used for transit) and dedicated taxes or fees (e.g., fuel taxes and vehicle registration fees) is common. Overall, funding is growing, but is still considered inadequate by many jurisdictions (CUTA – 2003/2005).

**Urban Transit Operations Funding**: In 2004, operating contributions from governments exceeded \$1.845 Billion, representing 43.2% of total operating revenues. (*Statistics Canada* preliminary data).

**Urban Transit Infrastructure Funding**: For 2004, capital contributions from Governments amounted to in excess of \$772 Million. (*Statistics Canada* preliminary data).

The Canadian Urban Transit Association (CUTA) estimates that transit infrastructure needs for the period 2006-2010 will reach \$20.7 billion (CUTA, 2006). These findings were based on a 2005 survey of CUTA members who were asked to identify their capital infrastructure needs, divided into four categories:

- · currently planned rehabilitation/replacement
- rehabilitation/replacement contingent on external funding
- currently planned expansion/ridership growth
- expansion/ridership growth contingent on external funding

Responses indicated a greater preference for expansion or ridership growth rather than rehabilitation (56% to 44%, respectively), based on the expected mobility needs of the Canadian population. A significant shortfall in funding for the period is expected, however, as many investments have yet to be budgeted by municipalities and

authorities. Projects that are part of current plans total 79% of identified funding, and the balance (21%) remain contingent on external funding. The CUTA survey highlights the need for long-term reliable government funding to meet the Canadian population's (growing and forecasted) transportation needs (CUTA, 2004b). Recent federal and provincial government commitments to transfer funds from federal gas taxes to transit will help address the shortfall, but at present this is viewed as neither a long-term nor a sustainable solution (Metro Magazine, 2005a). Furthermore, the allocation of federal funds specifically to transportation initiatives is subject to provincial and municipal discretion.

## 1. 5. 3 Student Transportation

Student transportation funding also occurs at the provincial level, however funding formulae vary by province. While funding comes primarily from the general revenue of the provinces, Nova Scotia and Saskatchewan rely on partial municipal funding, and Manitoba school districts earn extra revenue by taxing transportation. In some provinces, allocation of funds occurs on a per student basis, whereas others are based on a total price submitted by the contractor (Boudreau, 2003). In Ontario, a new funding formula is being proposed in which total funding is considered the starting point rather than the outcome of the equation (Ontario School Bus Association (OSBA), 2003b & 2003c).

This new model addresses "general transportation; mobility accessible transportation; transportation for special education programs; other special transportation needs; and allowances for safety programs, administration, local priorities and local hazards" (Hartman, 2003). The formula follows recommendations made by the Education Equality Task Force chaired by Dr. Mordechai Rozanski. Rozanski not only recommended the development of a transportation grant, but also the immediate direction of funds to school boards with the greatest need in order to promote stability in the sector. The development of regional transportation consortia and the implementation of regional service boards were also recommended. According to the Ontario School Bus Association, the new funding model is still being assessed at the provincial level. The new model replaces a system that based allocation of funds on historical spending patterns. Those boards that traditionally spent more money received more funding, yet those which were cost effective were penalized, as they were given less (OSBA, 2003a).

In Québec, school bus transportation is funded by the Ministry of Transportation and is governed by the concept of a "global envelope" given to school boards. The global envelopes are fixed, but allow for escalator clauses in case of possible increases in fuel prices or other extraordinary items. The school boards negotiate school bus transportation contracts with private school bus companies, contracts that can be for periods as long as three years.

Generally speaking, in most parts of the country, school bus transportation contracts are offered through tenders to private contractors by local school boards with budgetary envelopes determined by a central agency. There is a general recognition that local school boards have a better sense of the local requirements. There are also several jurisdictions—school boards and in some cases provinces, like New Brunswick—where

The topic of funding proved to be one of the most critical buman resource and business issues raised by industry stakeholders across the country. In both the urban and school sub-sectors, it is widely held that funding is not keeping pace with the increasing requirements of operations. While the province of Québec has been beld up as a model for other provinces for school bus funding, Ontario continues to feel the effects of an inadequate funding model. Urban systems across the country are challenged to ensure that both current operational needs and future capital requirements are met.

school bus transportation is a public service operated by the school boards or a government agency.

Unfortunately, much of the literature surrounding funding of student transportation was at the descriptive rather than strategic or operational level. School bus transportation is an activity managed by provincial and territorial governments, and to date, a formal nation-wide association for school bus services does not exist.

## 1. 6 Emerging Trends and Implications

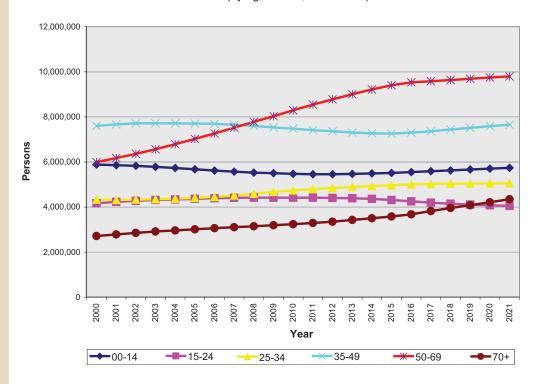
## 1. 6. 1 Shift of Canadian Population Demographics

As illustrated (figure 1-16), the age distribution of the Canadian population will change dramatically over the next 15 years. The only significant growth in population cohort will occur in those aged fifty years and more (table 1-6).

**Figure 1-16:** Projection of Canadian population growth

Canadian Population

(by age cohort, 2000-2021)



Source: The Centre for Spatial Economics, unpublished data®, 2004.

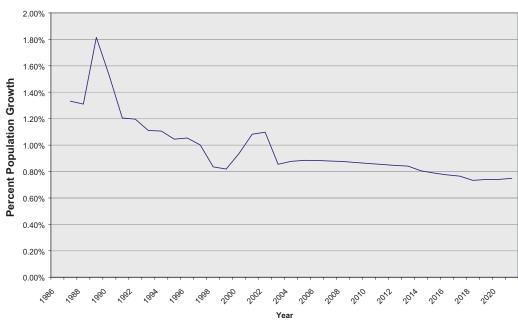
**Table 1-6:** Projected shift in Canadian population between 2000 and 2016 by age cohort

Age Cohort	00-14	15-24	25-34	35-49	50-69	70+
Change in Population	-333,900	83,845	667,103	-302,660	3,537,067	963,629
Percent Change	-5.68%	2.01%	15.40%	-3.98%	59.00%	35.54%

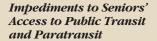
Source: The Centre for Spatial Economics, unpublished data®, 2004.

In contrast to the rapid rise in the number of elderly Canadians, overall population growth rate estimates point to an ever more slowly growing population. The growth rate, currently at just under 0.9%, will dip below 0.8% by 2014 and is expected to continue to decrease (figure 1-17). A significant proportion of the marginal growth in general population will be directly attributable to immigration, offsetting the Canadian population's declining net natural increase (Conference Board of Canada, 2004).

**Figure 1-17:** Projected growth rate of the Canadian population Population Growth Rate Estimates



Source: The Centre for Spatial Economics, unpublished data®, 2004.



- absence and poor design of bus shelters
- adverse climate conditions
- wait times
- walking distances
- evening and weekend service schedules
- lack of awareness of information and options
- poor personal longterm transportation planning

Source: Kerschner, 1999

## 1. 6. 2 Impacts of an Ageing Population on Ridership

The impact of an ageing population on the motor carrier passenger industry's ridership demographics is difficult to quantify accurately: "[Senior citizens'] travel behaviour ... has been and is expected to continue changing. However, the precise implications of these trends for transit ridership... and other travel patterns remain unclear" (Thomas and Deakin, 2001).

Data cited by Thomas and Deacon and the U. K. Commission for Integrated Transport (2004) clearly illustrate that preceding generations of adults 65 years of age and older show increasing rates of personal vehicle use. In other words, seniors are driving more than ever.

Furthermore, focus groups undertaken in the U. S.A. (Kerschner, 1999) revealed several themes that may mitigate the popular notions of the impact that a rising proportion of seniors will have on the motor carrier passenger industry:

- the private automobile is the dominant mode of transportation for seniors
- the inadequacies of other transportation options are both real and perceived
- seniors say they "will do just about anything to continue to drive," fearing that taking away their mobility will adversely affect their quality of life significantly
- many seniors who have stopped driving for health reasons are not fit enough, due to their preceding dependence on the automobile, to subsequently easily access other forms of conventional transportation and may be forced to rely on more expensive paratransit

Nonetheless, the bus industry will likely see increases in demand for services from seniors over the next ten years. In addition to devices that accommodate limited mobility, buses will also have to cater to the needs of those with other disabilities such as hearing and sight impairments (CUTA, 2004b). Transportation innovations specifically developed for the physically challenged and elderly include the low-floor urban bus, which is suspended nine inches off the ground, making curb-side boarding easier, and a 23-passenger bus that can accommodate up to nine wheelchairs (Walle, 2001).

Coaches are also equipped with lift technology. The larger intercity bus operators have at least 10% of their fleet fitted with lift equipment. A federal program designed to financially assist bus companies to retrofit existing buses or equip new ones had been operative, but has since been terminated.

## 1. 6. 3 Impacts of Accessibility

Most countries estimate that about 12-14% of their population is disabled in some way and 5-10% has walking or mobility difficulties. In 2001, 3.6 million Canadians, or nearly 13% of the country's population of over 31 million, lived with a disability; by 2011 this number is expected to grow to 5 million. Typically, 0.5-1% of the population uses a wheelchair, though often only for part of the time or for particular activities. By the year 2025, 23% of the Canadian adult population will be aged 65 years or more, 21% will be disabled and 12% will have a specific transportation disability (Transport Canada, 1997a, 1997b).

The development of accessible transport has been a long process of improving the physical design and the operation of transport systems to progressively remove barriers to particular sectors of the population. In recent years the emphasis has been on transport that caters to all users in a single integrated system rather than providing segregated accessible systems for particular groups of users, such as people in wheelchairs.

During the 1980s, research established the capabilities of persons with disabilities and elderly populations and the ergonomic requirements for the physical design of cars, buses, terminals and walking areas. Subsequent research has addressed the requirements of people with sensory impairments and provided guidance on the supply and display of information. It is expected that further improvements in the accessibility of transport will involve the use of electronic technologies.

In a recent report produced by Transport Canada it was emphasized that the following research and development tasks are necessary if Information Technology Systems (ITS) are to achieve their potential of increasing the accessibility of transport to the elderly and persons with disabilities:

- extend smart payment cards to enable a single card to cover public transport service providers in many communities plus railways and public telephones
- investigate the use of smart cards to carry optional information on traveler requirements, to help service providers provide services required
- develop equipment for a communication system between passengers and bus operators to help a passenger hail a community bus
- establish a system that provides transit, travel and business directory information using cable to a home computer or television, the internet or broadcasts to a portable receiver
- look for other low-cost ways to use ITS to help persons with disabilities. One possibility is the use of inductive loops in transit vehicles to enable people with impaired hearing to hear announcements direct through their hearing aid without interference from other conversations and background noise (Transport Canada, 2004d)

Transport Canada developed the Access to Travel (ATT) website to provide information on accessible transportation services across Canada to persons with disabilities, their caregivers and seniors in order to make their travelling experiences easier and more enjoyable. The ATT website is a communication tool that supports the Canadian policy of removing undue obstacles to federally regulated transportation services and facilities and encompasses broader accessibility objectives as well. On the site, users can find practical information on accessible transportation providers, along with their contact information, services and any restrictions. There is also information on policies and procedures, as well as mechanisms for making inquiries or complaints and providing feedback.

The ATT website also connects the user to another federal website, the Persons with Disabilities (PWD). This PWD website offers a wealth of information on government services and regulations. Users can find information on employment options, how to adapt a home to accommodate a wheelchair user and tax credit programs.



## The Intercity Bus Code of Practice

The Intercity Bus Code of Practice sets out best practices for providing services in a safe and dignified manner to travellers with disabilities. Championed by Transport Canada's Advisory Committee on Accessible Transportation (ACAT), the Code was developed over two years by a group of industry stakeholders and consumer representatives.

Under the provisions of the Code of Practice, persons with disabilities providing advance notice of travel (24, 48 or 72 hours, depending upon the service required) are guaranteed accessible bus services. Persons with disabilities who require the assistance of a personal aide may bring their companion free of charge.

Passengers who experience barriers can initiate a 3-step complaint process with ultimate recourse to Transport Canada. Complaints are extremely rare, even though accessible coach bookings are increasing rapidly for this growing market.

Source: Greybound Canada, 1999 Canada currently adopts a voluntary approach to improving accessibility. The Intercity Bus Code of Practice, effective October 1, 1998, is a good example of this approach (Transport Canada, 1998a). It is designed to remove barriers to access for travellers with disabilities when using scheduled intercity bus services in Canada. It was developed by bus companies and consumers and is monitored by Transport Canada.

The provisions of special lift technologies and services at terminals were examined by Transport Canada. Users with accessibility concerns and bus terminal service providers were surveyed in terms of how the Code is implemented. Transport Canada's report recommended an American approach; in this approach the number of buses with lift capabilities is stipulated by regulations; however, bus service providers have strongly opposed any regulation on this issue and continue to support a voluntary approach. As the industry strives to make transportation systems more accessible and the demographic patterns of our communities change, demands placed on bus operators to contend with passengers' special needs will increase, as will the corresponding training requirements (HLB Economics, 2002). MCPCC's *Special Needs Rider Program* and CUTA's Ambassador Program have already addressed the need for this specialized training.

At a provincial level, there are many efforts to respond to the needs of people with special mobility needs. As an example, Ontario adopted the Accessibility for Ontarians with Disabilities Act, 2005 replacing previous 2001 legislation. The new law will require government to work with the disability community and the private and public sectors to jointly develop standards to be achieved in stages of five years or less, leading to an accessible Ontario in 20 years. Standards will be set in both the public and private sectors to address the full range of disabilities—including physical, sensory, mental health, developmental and learning.

Ontario public transportation providers are required to consult with people with disabilities and examine all aspects of their operations to identify barriers and the steps to be taken over time to remove these barriers and prevent new ones. Organizations need to take into consideration their roles as service providers and employers when preparing plans. Accessibility plans must be developed annually in consultation with people with disabilities. The first of these plans was due by September 30, 2003. To assist urban transit systems, the Ontario Community Transportation Association (OCTA) has developed a guide to accessibility planning for public transportation organizations called the Transit Accessibility Blue Print.

In Québec, it is estimated that special transport services are available to 95% of the province's population. More than 60,000 persons use these services; in total that translates into more than 4.5 million trips per year (table 1-7).

 Table 1-7: Québec Accessible Transportation 1998-2002

	1998	1999	2000	2001	2002
Service Providers	102	104	104	106	102
Municipalities	881	911	893	845	783
Persons Transported	50,033	52,963	55,836	59,609	62,786
Passenger trips	4,085,760	4,314,469	4,427,573	4,534,853	4,804,712
Vehicles	327	347	364	381	394
Subsidies	37,960,000	41,400,000	44,210,000	46,380,000	49,220,000

Source: Québec Ministry of Transportation®, 2005.

In other provinces, like Alberta, Nova Scotia and New Brunswick, the province provides information about the services available in the communities across their respective provinces.

In all municipalities across Canada, the objective of the service providers has been to make the service more affordable and more inclusive. The following statistics (table 1-8) show that the people with special mobility needs are responding well to the new services. At the moment it represents less than 1% of the total ridership for urban transit systems across Canada and has an average annual growth rate of 3%. The number of registrants (i. e., persons who meet the eligibility criteria and have registered to use specialized/accessible transit services) shows a constant progression.



**Table 1-8:** Operating Statistics - Specialized Urban Transit Services (1994-2004)

Year	Service Population	Service Area (sq. metres)	Registrants	Ridership	Total Vehicle Kilometres	Total Vehicle Hours	Average Adult Cash Fare
1994	13,705,836	9,796.80	161,038	8,019,800	43,154,188	2,214,648	\$1.63
1995	14,371,390	11,115.40	175,230	8,665,024	46,537,387	2,317,571	\$1.68
1996	14,291,793	11,317.20	166,690	8,625,883	46,034,481	2,274,051	\$1.74
1997	14,500,386	11,839.90	175,520	8,846,485	46,761,999	2,339,514	\$1.84
1998	14,758,468	13,112.50	161,053	9,109,898	45,254,869	2,275,553	\$1.90
1999	16,185,118	20,174.70	187,787	10,364,999	50,629,636	2,591,523	\$1.99
2000	17,442,062	21,153.00	205,003	10,872,901	54,148,617	2,761,906	\$1.99
2001	18,478,383	28,934.60	208,847	11,126,423	52,524,934	2,801,192	\$2.05
2002	18,249,063	29,183.40	218,771	11,612,074	55,555,949	2,894,969	\$2.12
2003	18,457,405	30,975.90	237,665	11,794,969	55,689,393	2,914,933	\$2.18
2004	18,528,390	30,325.40	245,138	12,490,525	59,585,921	3,034,041	\$2.28

Source: CUTA®, 2005

#### 1. 6. 4 Greater Immigration and Ethnic Diversity

The U.S.Transportation Research Board Results Digest (2001c) and the Price Waterhouse Study (1997) recommended for the implementation of better techniques in the handling of ethnic diversity among both riders and operators. New immigrants are a growing source of industry potential labour. The Conference Board of Canada (2004) predicts an increase in annual immigration levels from 235,500 in 2003-2004 to 252,800 in 2015, but claims little is currently being done by Canadian employers to access this resource pool. Greater efforts and outreach are needed to overcome the language and cultural barriers and facilitate job access. The report concluded that Canadian industry needs to provide instruction in understanding diversity, develop courses that will assist new immigrants with language skills and overall skill development and work with government agencies to encourage new immigrant populations to participate in industry.

#### 1. 6. 5 Border Security

The effects of recent reactions to Canada-U.S. border security concerns, particularly the Western Hemisphere Travel Initiative (WHTI), which will require all travellers to present a passport or other appropriate secure documents when entering or reentering the U.S.A., will pose significant challenges to the charter and tour sub-sectors. From ensuring that all cross-border employees and travellers are prepared and legally permitted to cross the border, to dealing with the scheduling challenges posed by any delays or disruptions in service, the industry will need to manage both the perception and the reality of border crossing-related delays, annoyances and risks.

#### 1. 6. 6 Environmental Awareness

"In Canada, transportation is the single largest source of greenhouse gas emissions, accounting for 25% of the total" (Transport Canada, Kyoto Protocol - 2004).

The growing awareness of the environmental effects of automobile emissions and greenhouse gases (GHG) may potentially contribute to increasing bus ridership, as the industry is clearly a leader in fuel efficiency and greenhouse gas emissions as compared to all other modes of transportation (figure 1-18). The most significant GHG, in quantity and effect, is carbon dioxide (CO2), which comes primarily from the burning of fossil fuels. The international community has responded with the Kyoto Protocol, under which participating nations are legally bound to reduce GHG emissions by 2012. Canada agreed to a 6% reduction relative to 1990 levels (Hartman, 1998). As our emissions have grown significantly since 1990, Canada is now facing a reduction need of about 30% (National Round Table on the Environment and the Economy, 2004).

In May 1998, the federal, provincial and territorial Ministers of Transportation established the Transportation Climate Change Table as part of a national process to develop a climate change strategy in response to the Kyoto Protocol. The table was comprised of transportation sector experts from a broad cross-section of business and industry, government, environmental groups and non-governmental organizations. It was mandated to identify specific measures to mitigate greenhouse gas emissions from Canada's transport sector (Transport Canada, 2000). Strategies to reduce emissions in the transport sector relate to reducing private vehicle travel and include:

- transit investment
- designating high occupancy vehicle lanes
- traffic-flow improvements
- dense, transit-oriented development
- building park-and-ride facilities
- fuel, road and parking pricing adjustments
- providing operator education (Grant et al., 1998)

#### **FleetSmart**

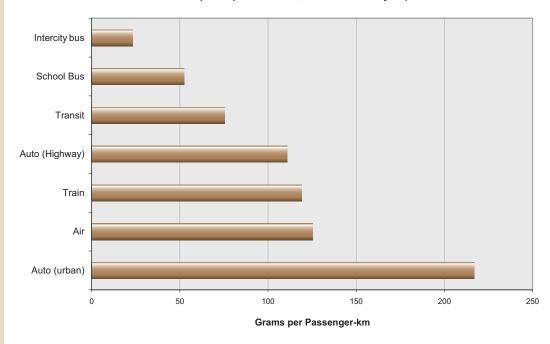
FleetSmart offers free practical advice on how energy-efficient fleets of trucks, buses and other commercial vehicles can reduce operating costs, improve productivity and increase competitiveness.

#### **SmartDriver**

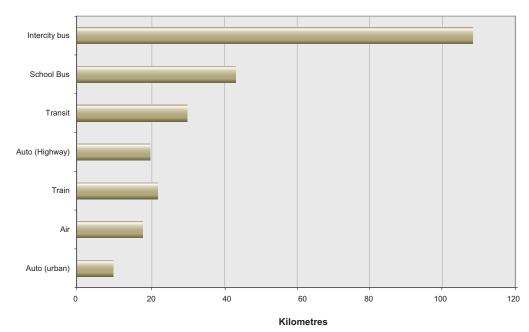
Through a unique combination of coaching and on-the-road training, these innovative training modules can demonstrate how a driver can reduce fuel consumption significantly.

Figure 1-18: The Bus Industry's Environmental Advantage

## Greenhouse Gas Emissions per Passenger-kilometre (Transport Canada, Economic Analysis)



## Passenger-kilometre per Litre of Fuel (Transport Canada, Economic Analysis)



Source: Transport Canada, 2001b

A survey of 1,974 adult Canadians on issues surrounding climate change showed that environmental issues are important to individuals and the majority believe individual action can make a difference. However, almost half could not name any action they could take. Most respondents are looking to industry, scientists and the government to take a lead, inform the public, enact change and play a leadership role domestically and internationally. Of the proposed individual actions to reduce climate change, the most common response (30%) was a reduction in car use. As the climate change issue becomes more prominent in the minds of the general public, the alternatives to car use can be recognized as a contribution the individual can make to climate change reduction and amelioration (Marzolini, 1998).

At the political level, strategies to develop a transportation system promoting environmental sustainability include the provision of long-term sustainable funding for public transportation systems and investment in integrated, multi-modal transportation systems. Canada had been the only G7 country without a national transit investment program because of constitutional barriers until the Prime Minister's Caucus Task Force on urban issues recognized urban transit as a new area of long-term national investment (Prime Minister's Caucus Task Force on urban Issues, 2002).

Through the work of the Transportation Table on Climate Change, it was established that training was one of the major measures that could influence GHG emissions in the transportation sector. Natural Resources Canada (NRCAN), Office of Energy Efficiency has been charged with the development of dedicated training and awareness programs on fuel efficiency for the bus industry and with encouraging voluntary participation. The MCPCC has partnered with NRCAN to engage the industry in programs development and implementation.

## 1. 7 Strategies to Defend and Increase Urban Transit Ridership

## 1.7. 1 Passenger Counting and Route Profiling

Passenger counting is becoming an important function at transit agencies. Profiling routes and journeys can help service providers understand the needs, characteristics and opinions of riders and potential riders in order to improve planning, marketing and promotion, policy-making and image building. Research points to the importance of individual and household characteristics in defining current transit users. Three non-service factors stratify and profile travelers and their trip choices: vehicle access, destination land use/location and origin land use/location. Other factors influencing trip-making and mode of choice are: age or stage of life, employment status and the quality of the transit connection between the origin and destination.

Two marketing strategy approaches were identified to encourage greater ridership, one focusing on frequent riders, the other on occasional riders. It is argued that it is easier to target and encourage current riders, who are already familiar with the system, than to attract new riders (Crowley, 2000). Frequent riders, those who purchase pre-paid passes, should be surveyed and have strategies designed to appeal to their needs (e.g., preferential treatment and targeted promotional materials). Occasional riders should be encouraged to use the transit system more frequently through discounted fares on pre-paid ticket prices.

#### EcoPasses: Employerbased Transit Passes

Programs currently being implemented to increase service and ridership include the Eco Pass, Youth Pass and U-Pass (CUTA 2003d). Geared toward unique target markets, these programs are designed to encourage transit use by offering members of a specific group, such as employees or students, discounted or even free monthly transit passes. Costs assumed by the employer or school are recovered in the form of reduced parking infrastructure requirements or tax avoidance. The transit service provider in turn gains ridership and obviates the development of more car-friendly infrastructure. Canadian universities currently operating a U-Pass program include, Calgary, Victoria, Guelph, Trent, McMaster, Queen's, Dalhousie and University of British Columbia.



## 1. 7. 2 Parity in Tax Treatment of Parking and Transit Benefits

Though employer-provided parking and employer-provided transit benefits are both considered taxable under the Federal Income Tax Act, efforts are continually being made to have the federal government allow transit cost exemptions from income taxes. Studies have shown that the implementation of employer-provided income tax exempt transit benefits, as has existed in the U. S.A. for more than 20 years, shows significant positive impacts on transit ridership levels (CUTA, 2005c).

## 1. 7. 3 Influencing Modal Choice

Though argued that it may be easier to increase ridership by targeting current riders, the benefits of successfully encouraging commuters to leave their cars at home are far more significant. Given the 75% ridership share of the automobile (i. e., three car riders to one non-car rider), "the switch of a very small proportion of trips from car to public transport would mean very significant increases in demand" (Commission for Integrated Transport, 2004). In terms of the strategies that would be required to encourage a modal switch from the car, "if the transit system wants to attract significantly more riders and reduce automobile travel, however, fares will need to decline and service improve to attract more price-sensitive discretionary riders" (Litman, 2004).

An examination of various transit ridership initiatives published by the Transit Cooperative Research Program revealed that most systems experiencing major ridership increases attribute the increases to various combinations of strategies (Transit Cooperative Research Program, 1998b). This review suggests that approaches taken can generally be categorized as follows:

- service adjustments
- fare and pricing adaptations
- marketing and information initiatives
- planning orientation
- service co-ordination, collaboration and market segmentation

Key findings from a comprehensive review of academic literature on factors influencing transit ridership are found below.

## The Factors Influencing Transit Ridership

- transit functions in most places for most trips as an "inferior good" to private vehicles, such that the **demand for transit services is largely determined by the supply of private vehicle access**
- as transit systems in most metropolitan areas have lost market share for most trips to private vehicles, the importance of two transit markets has grown: travellers with limited access to private vehicles (children, the elderly, the disabled and the poor) and commuters to large employment centres
- taken as a whole, variables which directly or indirectly measure automobile access and utility (including auto ownership and parking availability) explain more of the variation in transit ridership than any other family of factors
- with respect to internal factors, improvements in service supply—for example, frequency, coverage and reliability—have been shown to be more important than price in determining ridership
- [Studies] that have measured service quality have found that service quality is a more significant factor than both quantity and price
- focused fare programs that target populations, including student and transit-dependent, with relatively high price-elasticities of demand have been very effective in attracting riders
- while many of the factors which most affect transit ridership are outside the control of transit managers, they are not beyond the bounds of public policy. Policies which support private vehicle use—such as extensive arterial and freeway systems, relatively low motor fuel taxes, policy which require parking to be provided to satisfy all demand at a price of zero—affect transit use more than policies such as substantial public transit subsidies which encourage transit use

Source: Taylor and Fink, 2003



## 1. 7. 4 Approaches to Increase Ridership in Practice

Though available research on ridership is predominantly focused on the urban transit sub-sector, American publication Metro Magazine has profiled some of the approaches service providers in the North American transit, intercity and charter and tour sub-sectors are currently using to improve their service and market share (see illustration).

As a Canadian initiative, in June 2002, the region of York entered into a Public/Private Partnership (P3) agreement with a group of seven companies known as the York Consortium 2002. The objective was to design, build and operate a state of the art bus rapid transit system (VIVA) in York region and develop a long-term plan to bring a full-scale rapid transit network to York beginning in 2005. The award-winning bus manufacturer Van Hool constructed the Viva rapid transit vehicles in Belgium. These new, modern rapid transit vehicles are fully accessible, with wide doors, low floors and ramps to accommodate wheelchairs and strollers. They operate on clean burning fuel and meet the latest government emission standards. Today, there are 40 rapid transit vehicles delivering the VIVA service, and that number is expected to increase to 85 vehicles by the time the system is fully operational.

## 1. 7. 5 Road Pricing

The issue of road pricing and user pay needs to be raised, as their implementation would certainly affect the bus industry. Although we are far from a national consensus on the matter, these issues have been raised on several occasions, and more particularly, they were debated during the Canadian Transportation Act Review exercise in 2000-2001. The Canadian Transportation Act Review commissioned reports on the question of user pay and in its final report also made some specific recommendations on the issue. The recommendations call for charges for road usage based on costs imposed, differentiated so far as practical by the nature of the vehicle, the type of roads and the amount of congestion in the city core. Some cities such as London and Hong Kong have introduced new schemes for road pricing to limit congestion. While this approach has not been implemented in Canada, it suffices to say at this time that the issues of road pricing and user pay will not vanish from the national scene, as further studies are being conducted in selected markets.

#### **Innovative Motor Coach Operators 2005**

## Metro Magazine, January 2005

## **TECHNOLOGY**

- Creating a positive on-line image by offering customers on-line ticket purchasing capability, surveys and other information
- Improving communications and establishing better relationships with drivers through on-line communication of future route assignments and information on pay and hours worked
- Improving customers' tour experience with DVD presentations to complement operator narration

## **M**ARKETING

- Exploring complementary markets Increasing community involvement Partnering with tour companies and destinations
- Offering special-needs tours
  Exploring high-profile, high-publicity jobs to improve image

#### **HUMAN RESOURCES**

- Improving customer service through an emphasis on training (drivers, sales associates and mechanics) and better communications with clients (thank you cards and customer surveys)
- Providing enhanced driver training on vehicle operations,
- maintenance, geography and public speaking
  Offering cutting-edge maintenance by offering mechanics continuous updates and training and modern equipment
- Providing 24-hour-a-day assistance and support to staff
- Improving drivers' sense of ownership and pride by assigning each driver to only one coach

#### **INNOVATIONS**

- Offering luxury, first-class service to fill the gap left by the declining luxury and weakening image of air travel
- Expanding relationships into rural markets by partnering with local transit agencies and small private operators to create networks that feed into one another

## 1. 8 Role of the Canadian Motor Carrier Passenger Industry within the Global Transportation Industry

The bus industry plays a critical role in the Canadian economy. It contributes to creating:

- a more mobile workforce, which is of value to both employers and employees
- a more inclusive workforce and society, reducing transportation barriers to numerous groups
- more sustainable, more efficient and healthier communities

Its sustainability is of vital importance to not only the service providers and their employees, but also to the people they serve, both directly and indirectly.

## 1. 8. 1 International Competition

Competition for the ownership of Canadian service providers is significant. Some examples include: Laidlaw International Inc. 's operations, including its Greyhound operations; the buy-out of Coach Canada by Stagecoach Group PLC of Perth, Scotland; and the acquisition of Orléans Express by the French firm Keolis.

## 1. 8. 2 Competition for Funding

Funding is integral to the operation of a great proportion of the Canadian bus industry; it can also cause competitive friction between different sectors and modes of transportation. Specific to the intercity sub-sector, expansion of municipal transit boundaries and competition from highly subsidized government operated entities (e.g., VIA Rail) place significant competitive challenges on the intercity bus sub-sector. "In fact, while highly illogical in these days of municipal budget shortfalls, some communities operate subsidized competition with non-subsidized services provided by private sector bus companies, forcing the private carrier out of the market" (MCC, 2002). The position taken by MCC states that public (subsidized) transportation should be prohibited from competing with private carriers and should not be allowed to operate beyond their municipal borders.

Government involvement, according to MCC, should be limited to planning. Expansion plans that displace private carriers should be rejected and replaced with plans to expand existing services for the benefit of both parties (MCC, 2003b). Private carriers are often unable to compete with the low fares set by transit systems supported by government subsidies.

## 1. 8. 3 Sector-Level Competition for Ridership

As previously illustrated, competition in the surface transportation industry is dominated by the automobile. In studies of efforts to encourage greater use of public transport (both bus and rail), and given that it is in the public interest to do so, the U. K. Commission for Integrated Transport (2004) has concluded that:

- public passenger transport modes **must compete more effectively with the private car** and have no alternative but to do so.
- maximum benefits will come through the minimization of costs—keeping fares as low as possible and reducing the time elements of public transport (waiting, journey time, access time to end destinations).
- co-ordination between providers and between transport modes reduces costs—perceived and actual journey times as well as the fare price of journeys (where a change of mode or service is required).
- inter-provider competition can reduce costs (predominantly through the fare price), but does not give the types of **enhancements to service delivery offered through greater cooperation.**
- common ownership of different modes is not a necessary precondition for co-ordination and integration.

A Study on an integrated transport network's ability to compete with the private car, particularly with respect to the co-ordination of services required between modes (Wardman, 2001), revealed that car users prefer service improvements in public transportation to measures designed to persuade them from their cars (i. e. , improvement in a mode's reliability, frequency and speed of services). However, they consistently estimated, accurately or otherwise, that their potential commute would take a long time. The Study concluded that more effective communication strategies to persuade car users and inform existing users of the actual levels of service, reliability and frequency are needed.

#### 1. 8. 4 Performance Relative to Other Countries

Canada and the U.S.A. face similar problems in their efforts to recruit and retain a skilled workforce, driven primarily by changes in technology, demographics and industry growth. A Study commissioned by the American Public Transportation Association (APTA) identified the efforts of the Motor Carrier Passenger Council of Canada (MCPCC) as an innovative organized approach to dealing with workforce issues, which could be used as a model for U.S. action.

A comparison of personal vehicle ownership statistics illustrates not only the more dominant position of the automobile in the U.S.A., but also how considerably more costly car ownership is in Canada, a potential comparative advantage for the Canadian bus industry (table 1-9).

#### The Most Important Facilities at Interchange Locations

- good shelters
- real-time information
- printed timetable information
- good signage

Source: Wardman®, 2001



## Urban Transit in Canada and the United States

Interestingly, with a population of approximately 10 times that of Canada, U.S. urban transit statistics and performance do not reflect the same ratio. For example, while the per capita use of transit in Canada is 50% higher than in the U.S., the number of vehicles used is bigher only by a factor of 7 (30% less) and the level of service by a factor of 8 (20% less). This indicates that transit systems in Canada have a higher productivity level than those in the U.S. in terms of kilometres travelled per vehicle and passengers carried per kilometre.

Noteworthy also is the level of government investment in public transit in the U.S.A. compared to Canada. In absolute terms, government funding for urban transit in the U.S.A. totals CDN \$24.5 billion compared to \$2.0 billion in Canada, 12 times the rate in Canada. On a per capita basis, U.S. government support is approximately \$86.70 versus \$66.67 for Canada, a difference of \$20 per capita or \$600 million.

Source: IBI Group®, 2002

Table 1-9: Canadian and American car ownership statistics

Statistic	Canada	U.S.A.	
Vehicles per driving age population (2004)	0.694	1.009	
Vehicles per driving age population (1960)	0.44	0.545	
Annual km driven per vehicle (2004)	19,037	20,906	
Annual km driven per vehicle (1960)	16,495	17,047	
Vehicle Durability (2004)	230,000 - 250,000	300,000 – 320,000 km	
Vehicle Durability (1970s)	150,000 - 160,000	170,000 – 180,000 km	
Passenger Car Affordability - weeks of post tax income (2004)	26	18.6	
Passenger Car Affordability - weeks of post tax income (1991)	21	22	

Source: DesRosiers, 2004a





# Part 2

The Impact of Technology



## 2.0 The Impact of Technology

#### 2. 1 Introduction

The motor carrier passenger industry encompasses a broad array of existing and emerging technologies primarily related to vehicles, vehicle systems and communications systems.

In this context, the Canadian bus industry has taken a progressive stance as related to technology innovation and implementation in many areas (e.g., low floor buses now account for over 24% of urban transit fleets compared to only 2.3% in 1995). In fact many, if not most, of the technologies referenced herein are already deployed or undergoing field evaluation in Canada.

It also appears that the industry has not yet optimized this diversity of technology for maximum human resources benefit and, specifically, to help meet the prevalent and significant challenges of recruitment, selection, training and retention.

For example, some of these technologies contribute to service providers' economic viability, hence employee job security, some to a safer, less stressful working environment. There are technologies that enhance and promote the industry or service provider's image. Still others elevate training opportunity and effectiveness and promote good employer-employee relations.

The incorporation of all of the technologies discussed in this review in a well-planned industry/corporate promotional human resources agenda could contribute substantially to stabilizing and upgrading the industry's essential operating ingredient, human resources.

#### 2. 2 Emerging Technologies

Emerging technological applications of note include real-time communications, smart cards, smart shelters, bus-rapid-transit systems, sophisticated simulators for operator training, and surveillance systems. Less-discussed but similarly relevant technologies include intelligent automatic vehicle technology and smart-traffic systems. These technologies are discussed in the following sections, with consideration to the impacts they may present.

#### 2. 2. 1 Real-time Communications

Real-time communications technology has the potential to make public transport considerably more appealing to passengers. Real-time technology is used to input and display up-to-the-minute travel information in bus stations. Instead of wondering when the next bus will arrive, passengers can access this information directly through kiosks in bus shelters or stations (Computing and Control Engineering, 2004). It has been increasingly applied by urban public transportation systems in the U. K. and the U. S.A. Government spending and research on real-time communications equipment is on the rise (Chabrow, 2004; Transport Canada, 2004e). York region, Ontario, proposes to have such a system fully operational by 2006, supported by global positioning system tracking of buses (Toronto Star, 2004).

## Involving Employees in Technology Integration

Working closely with its Drivers'Association, Pacific Western has embarked on a program that makes the presence of in-bus cameras into a bit of fun. Should there be nothing to download (no incident which prompted the camera to record because of a motion threshold being exceeded) a green light is visible on the recording module.At the end of an operator's shift, be or she can collect "green points", and trade them in for coupons, movie passes, meals at Swiss Chalet. In addition, operators bave belped Pacific Western build some flexibility into the program. For instance, some events, like going over railroad tracks at certain perfectly legal and accepted speeds, may be interpreted by the software as a "red light" (event recorded).



The same technology is already being deployed in the school bus and intercity subsectors, but for end-use applications that differ from those in the urban sub-sector. The real-time communications technology will likely play a more significant role in safety and scheduling applications in the school and intercity sub-sectors, instead of a serving as a constant communications interface with end-users, as in the urban transit applications.

European cities are already incorporating real-time multi-media communications into their terminals called **Smart shelters**. Passengers can easily plan, change and pay for their trip through a kiosk and may soon be able to access needed information through their cell phone, personal digital assistant (PDA) or computer (Giannopoulos, 2004). In fact, Surrey County Council (England) is currently initiating a program called "Buses 4 U" that allows residents to book buses using text-messaging (Monro, 2004), a feature which is offered by all mobile phone service providers in Canada.

Bus shelters have the potential to do even more, including allowing passengers to check their e-mail and pay for their tickets using credit and debit cards. Another feature of smart-shelters is their attractive contemporary appearance (Knecht, 2004). It is only a short step to providing wireless internet access (wi-fi hot spots) in these shelters.

Real-time communications also benefit business operations in that they allow service providers to access operator, route and bus maintenance information, in addition to speed and route tracking data (Computing and Control Engineering, 2004, Electronic News (North America), 2004).

While real-time technologies primarily affect urban public transport, they may also be used to track school buses. For example, Gecko Micro-solutions offers software that monitors the location of operators, buses and even children. Card readers and other devices track students as they enter and exit the bus and may assist operators in student monitoring (School Transportation News, 2002). Adding on-board wi-fi facilities, such as VIA Rail has added in the Toronto-Montreal corridor (2004) could reasonably be expected for intercity buses in the near future. This would add to the attractiveness of intercity bus service.

## 2. 2. 2 Operator Warning and Control Systems

Warning technologies are being developed to enhance safe driving. For example, the **Lane Departure Warning (LDW)** systems used in commercial trucks warn the operator when the truck unintentionally crosses lane markings (Business Wire, 2004a).

Some automakers are building **control systems** that communicate through sound or touch/vibration with the operator without requiring the operator to look away from the road to acquire information that would traditionally be displayed on the dashboard (Business Wire, 2004b).

School bus embarkation/disembarkation is an area where warning technology is progressively being addressed. A Study funded by Transport Canada's ITS (Information Technology Systems) research and development program set out to identify the optimum point/perimeter at which a **proximity warning system** would warn the operator and thereby enhance the personal safety of children or other pedestrians

around a stationary school bus. Transport Canada's Transport Development Centre will be testing three such systems in 2005 (Transport Canada, 2004). Currently-available systems can detect the presence of children in most of the safety-critical zones around the school bus. Operators have found such devices helpful in situations where their mirrors could not assist them and particularly helpful in warning them of in-coming traffic in poor visibility situations such as snow and fog (L-P Tardif & Associates, 2004).

**Vehicle reversing systems**, which are SONAR based, "talk" to the bus operator, warning him or her if someone walks between vehicle and stationary object, or warning if there is any other type of object in the rearward path of the vehicle. The warning system recognizes changes in information hundreds of times a second, transmitting to the operator when any "data" changes regarding the rearward path. It is thought that this type of system is better than reversing cameras, because drivers still need to work with their mirrors, something research has shown they tend not to do when a TV-style monitor is on the dashboard. This type of system is also thought to be more appropriate for Canadian weather conditions than reversing cameras, whose performance tends to suffer in conditions of snow, ice and sleet.

In addition to bus shelter technologies discussed above, other smart shelters are designed in ways that have a direct effect on bus operators. For example, the **i-bus stop**, a Canadian-designed solar-powered bus stop, provides a flashing beacon that signals the operator when a passenger is waiting, of particular benefit in situations of reduced visibility such as darkness, fog or snow (Daily Commercial News and Construction Record, 2002).

#### 2. 2. 3 Payment Systems

The **Smart card** has potential for simplifying the bus-boarding process and is considered a convenient fare-payment option. Smart card balances can be transferred from or to a credit or debit card, making payment incredibly simple. Passengers can even enjoy the convenience of using their card in newspaper stands and snack shops in bus stations (Hesseldahl, 2004). While Smart cards are currently most prevalent in the urban transit systems, the intercity sector can also use the Smart card as an alternative to traditional fare collection methods (Canadian Bus Association & L-P Tardif and Associates, 2000). While the cards may have been designed with the passenger in mind, they also assist operators by simplifying and speeding up the boarding process (Carter, 2001).

## 2. 2. 4 Video Monitoring

Perhaps the most controversial piece of technology is the video monitoring system, or closed-circuit television (CCTV), now used in many urban public transportation and school bus systems (Lathrop, 1998). The quality of such systems has been vastly improved with the recent advent of digital video monitoring.

#### 2. 2. 4. 1 Passenger Monitoring

Video monitoring systems focused on bus boarding, payment and seating areas have the potential to assist the driver/operator by deterring passenger violence, verbal abuse and vandalism and by providing evidence in defence of unfair complaints or lawsuits

(Issacs, 2003). Indeed the threat of abuse and violence is very real, and video monitoring is a typical response. In New York City in response to terrorist activities, new security technologies have emerged, including tabletop scanners to detect chemicals and extensive combat-simulation systems, as has the more prevalent use of traditional methods and technologies such as CCTV, fencing and bomb-sniffing dogs.

A Study by Andre et al. (1997) determined that urban bus operators are frequently assaulted, a fact that likely deters some people from applying for employment. Monitoring systems may therefore work as a recruitment tool, demonstrating the service provider's commitment to maintaining a safe and secure working environment.

Monitoring systems may be the most beneficial to school bus operators, who have the heavy responsibility of monitoring children while driving. A small camera that sits inside the bus may deter children from misbehaving.

## 2. 2. 4. 2 Driver/Operator Monitoring

Video monitoring systems that record driving activity as well as sights and sounds inside and outside the vehicle can be invaluable in reconstructing the details of an incident, particularly when tied in to bus system activity monitoring (vehicle speed, acceleration, braking, etc.) and GPSs. Such systems can be controversial, and installation should be carefully discussed with staff prior to implementation, as they can be perceived as a threat to operator privacy and autonomy and convey a sense of distrust. In addition to providing objective evidence of incidents, some transit companies use such systems specifically to monitor their employees' work, often in the form of formal driving behaviour management systems. For example, James River Bus-Lines monitors operator compliance with speed regulations and other rules (School Transportation News, 2002). Though it reports excellent employee relations, Meridian Transportation Services goes so far as to use a combination of GPS (global positioning system) and wireless technology to automatically notify supervisors of a speeding bus—and to issue its own speeding tickets (Metro Magazine, 2005b). One supervisor has related that supervision equipment is used as a learning tool and that operators have been receptive to the supervision; however, the operators' attitudes about the use of video cameras have not been studied (Jones, 2004).

## 2. 2. 5 Operator Protection

Operator protection, in the form of shatterproof plastic shields, has also come into use. In the U. S.A., Greyhound Lines has developed and begun installing **driver lateral shields**, which it plans on installing in 1700 of its 2400 buses, to protect drivers from physical confrontation (U. S. House of Representatives Committee on Transportation and Infrastructure Subcommittee on Highways, Transit and Pipelines, 2004; Fickes, 2003). *Greyhound Canada* has recently announced that it will be introducing a similar shield in all new vehicle purchases.

## 2. 2. 6 Infrastructure

**Bus-Rapid Transit** (BRT) is defined as "a rubber-tired rapid transit services that combines stations, vehicles, running ways, a flexible operating plan and technology into a high-quality, customer-focused service that is fast, reliable, comfortable and cost

efficient" (CUTA, 2005a). BRT systems often run on separate, dedicated corridors and combine technological enhancements with unique operating and marketing plans (Federal Transit Administration, 2004, Kang et al., 2000). They offer several benefits to passengers and the environment, including increased safety and reliability, easier payment strategies, increased accessibility and congestion-relief. The advantages to transit systems include:

- incremental implementation
- operational flexibility
- potentially lower costs
- higher capacity
- encourages land use change
- improved service speed and reliability
- increased ridership

(CUTA, 2005a)

The use of buses makes BRT extremely flexible, and depending on the implementation, these systems can be easily modified or even dismantled by shifting modular concrete barriers; rail rapid transit is far more permanent and more costly to implement. Furthermore, a BRT line can be fully operational years before an LRT carries its first passenger.

BRT is being implemented in cities around the world, and the U. S. Federal Transit Authority is currently funding 10 demonstration projects for thorough evaluation. In Canada, Ottawa's Transitway has been in operation since 1983 and Vancouver's B-Line has become a successful component of the regional transit system since its inception in 1996. The first phase of Calgary Transit's BRT service began operation on August 30, 2004.

The input of operators on BRT appears to be lacking, and so any impact on recruitment and retention is still unknown; nevertheless, BRT systems do represent an emerging trend for public transportation systems.

Smart Traffic Centres, already implemented in some U.S. cities, are intended to improve traffic flow. Cameras installed throughout intersections are connected to a central operation station, where service providers are immediately informed of accidents and malfunctioning equipment (U.S. Department of Transportation Federal Highway Administration, 2004). Access to this data by service providers may be used in real-time to adjust bus routes if an intersection is blocked. Furthermore, many cities use traffic lights controlled by approaching transit vehicles, much like Toronto's streetcars.

# 2. 2. 7 Training Tools

Attracting suitable employees who have a good understanding of the job is an important part of retention. Both **simulation** and **web-based assessment** and training technologies can aid in recruitment and retention processes.

**Bus simulators**, similar in concept to those used in other sectors for ship navigation and aircraft operation training, are a technology new to the bus industry. This

# Existing and Planned BRT Projects in Canada

- Québec city (Métrobus)
- Montreal (contraflow reserved bus lanes, Viabus de l'est)
- Ottawa (Transitway)
- Vancouver (B-Line)
- Calgary (BRT route)
- Gatineau (Rapibus)
- Toronto (Oakville to Pickering BRT)
- Mississauga (bus-only roads, stations offering BRT to local transit/transportatio n connections)
- Toronto (TTC reserved bus lanes)
- Winnipeg
- York Region, ON (Viva)
- Halifax (MetroLink mixed-traffic operations)
- Brampton (acceleride)
- Edmonton (High-Speed Transit, BRT Study)
- Victoria (Victoria-Langford BRT)

Source: CUTA, 2005a



technology provides an online video-based assessment that realistically simulates driving scenarios, giving trainees a demonstrable "hands-on" preview of what the job entails. Meanwhile, the company gets an idea of how candidates perform in job situations. Instructors can customize training content to replicate numerous operating conditions/requirements, and to evaluate and develop specific operator skills.

New York City Transit reports that since implementing the use of bus driving simulators within their training operation, they have reduced accident rates within the first ninety days after bus operator title appointment by 43% and have reduced trainee washout rates by 35% (FAAC Inc., 2005).

Canada's first interactive driving simulator was delivered to *GO Transit* Toronto in 2005, and the technology is currently being evaluated by several other Canadian systems. *GO Transit* has found this tool to be a very successful investment, and uses it as a key component of both new operator training and with their Professional Driver Improvement Program for experienced operators.

The *GO Transit* simulator has room for one operator and three "passengers", generally two other trainees and a trainer. The opportunity for interaction when more than one operator or trainee is in the simulator has been a positive as well. *GO Transit* states that this informal "peer critique" approach helps the trainees "catch" the little things it is often difficult for a trainer to communicate.

GO Transit's single simulator was installed for approximately \$300,000 CAD. A range of simulators are on the market, offering various options and costing up to \$1 million or more.

An effective **interactive website** can facilitate training and aid retention by providing staff feedback, follow-up, evaluation and coaching (Williams, 2001). Employees can take on line training courses, access and reserve their place in training programs and quickly assemble project teams through an intranet (Huntington, 1998). Canadian real estate company *Royal LePage* increased recruitment leads by 300% by adding an on line simulator to their website (Abelman, 2003). Although author Deryck Williams (2001) argues that simulation is the most effective system, web-based technologies are far less expensive and can also improve recruitment (Singh and Finn, 2003).

# 2. 2. 8 Propulsion Systems and Fuels

Despite clear evidence of the bus industry's superior fuel efficiency at transporting people in comparison to other modes of urban and intercity transportation (Price Waterhouse, 1997), there is public and political pressure to ensure that the industry adopt more environmentally friendly propulsion technologies.

Canada accounts for approximately 2.1% of global greenhouse gas emissions, making us the world's 9th largest contributor. The Government of Canada ratified the Kyoto Protocol in 2002; this accord, which came in to effect February 16, 2005, commits Canada to reducing greenhouse gas emission levels to 6% below 1990 levels by 2010. In 2001, 26% of our greenhouse gas emissions came from road transportation (Transport Canada). By 2001 Canada was almost 30% above its 1990 levels, so very significant reductions will need to be implemented between now and the 2008-2012 deadline.

# 2. 2. 8. 1 Current Propulsion Systems

In part motivated by the preceding context, the push for environmentally-friendly propulsion systems has yielded a wide range of developing technologies, from improvements to the current diesel engine to the much talked about hydrogen fuel-cell. Though the diesel engine and fuels will be present in the bus industry for many years to come, their ability to compete over the long-term with newer technologies appears limited.

Despite advances in diesel engine and fuel technologies, diesel suffers from what has been referred to as the "diesel dilemma." Diesel engine emissions include NOx and particulate matter. Reductions in one typically result in increases in the other, with a similar trade-off occurring between NOx emissions and fuel economy (Brodrick, Sperling and Dweyer, 2002). Though bio-diesel fuels partly address environmental concerns in that they demonstrate improved emission performance and are derived from renewable resources, they also suffer from the same trade-off between particulate matter and NOx emissions in addition to being roughly 10% less efficient than conventional diesel fuel derived from fossil sources (U. S. Department of Energy, Energy Efficiency and Renewable Energy, 2004a). Similarly, compressed natural gas (CNG) engines, though more efficient than modern diesel engines, also contribute to adverse health effects, as there is evidence that they produce even greater amounts of very fine particulate matter than do diesel engines (Brodrick et al., 2002).

# 2. 2. 8. 2 The Impact of Emissions on People

Though popular discussions of bus propulsion systems often highlight their impact on the ecosystem, the choice of technology can have a particularly direct impact on operators and passengers. Due to their daily exposure to diesel fuel emissions, operators are at an increased risk of developing several types of cancers (Whitelegg, 1995; Soll-Johanning, Bach, Olsen and Tüchsen, 1998). Similarly, passengers, notably children who regularly take school buses, are exposed to substantially higher than normal levels of pollutants (Wargo, 2002).

# 2. 2. 8. 3 Replacements for the Diesel Engine

In the search for a replacement to the diesel engine, numerous alternative propulsion system technologies have been and are being developed. The most prominent emerging technology is the **hydrogen fuel-cell**. Though clearly seen as the propulsion system of the future, it currently has neither a level of commercial development, nor the required refuelling infrastructure, to permit wide-scale deployment feasibly in the immediate future (U. S. Department of Energy, Energy Efficiency and Renewable Energy, 2004b). Overcoming the significant technical, economic, policy and administrative/operational challenges in transitioning to the fuel-cell in Canada will require the participation and coordination of transit systems, vehicle manufacturers, fuel-cell suppliers, hydrogen fuelling and storage suppliers, training institutions and governments (MARCON-DDM HIT, 2005).

Significant international government support and prototype validation are nevertheless steadily advancing this technology. The European Commission is allocating  $\leqslant$ 18.5 million to the CUTE (Clean urban Transport for Europe) demonstration project to



support nine European cities in introducing hydrogen into their public transport system: Amsterdam, Netherlands; Barcelona, Spain; Hamburg, Germany; London, England; Luxembourg, Madrid, Spain; Porto, Portugal; Stockholm, Sweden; and Stuttgart, Germany. Under this program, Ballard Power Systems delivered 30 heavy-duty fuel-cell engines in 2003 to power demonstration vehicles in 10 selected European cities. In the U. S.A., the Department of Energy is contributing to fund fuel-cell demonstration programs in several major transit markets; AC Transit, Oakland, California, which operates 800 vehicles and transports 65 million passengers annually, will take delivery of four 40-foot fuel-cell hybrid buses beginning in September 2005 (U. S. Department of Energy, 2005; Weststart-Calstart, 2003; Ballard Power Systems Inc., 2004). Other in service transit demonstrations of fuel-cell technology include buses run Vancouver and Chicago between 1998 and 2000, as well as Palm Desert, California, between 2000 and 2001.

The most popular proven alternative technology, the **diesel-electric hybrid** powered bus, uses a battery-powered electric system to assist a scaled-down diesel engine and is gaining in popularity in cities across Europe and North America. Cities such as Seattle and New York have already deployed or ordered several hundred vehicles each. BC Transit, with three hybrid buses in Kelowna and three in Victoria, is the first urban transit system in Canada to put hybrid buses into regular service. Purchases by other transit systems across Canada, including Toronto, Saskatoon, Ottawa and Vancouver, are either in process or pending. Two Canadian companies, Orion Bus of Mississauga, Ontario, and New Flyer of Winnipeg, Manitoba, are dominant manufacturers of this technology (New Flyer Industries, 2004).

Each of these technologies offers improvement in fuel efficiency and noise levels. However, the initial cost of even the more fully developed technology, such as the diesel/electric hybrid engine, is currently roughly 50% greater than that of the modern diesel engine (Battery and EV Technology, 2004). Favourably, the Canadian federal government will now contribute 1/3 of the cost of purchasing alternative-fuel and hybrid vehicles, making such fleet conversion a more economically viable option (Toronto Star, 2005).

#### 2. 2. 8. 4 Alternative Fuels

It is also notable that transit buses powered by **compressed natural gas** (CNG) now account for over 25% of the collective U.S. urban bus fleet and are in common use globally (e.g., Beijing, China, operates over 2200 natural-gas-fuelled buses and is expanding fleet application). Benefits of natural gas propulsion engines include reductions in both operating costs and emissions as compared to traditional diesel engines (Weststart-Calstart, 2003; Globe and Mail, 2005). The popularity of CNG, however, is not as strong in Canada, particularly as continually improving diesel engine and exhaust after-treatments "reduce air pollutant emissions to levels that are competitive with CNG-fuelled engines for many categories of emissions" (MARCON-DDM HIT, 2005).

Bio-diesel fuel, widely employed in Europe and the U. S.A., is being progressively adopted as a fuel option in Canada, where use ranges from significant in Toronto, Montreal and Halifax, to pilot projects, such as in Saskatoon. Mixed with diesel fuel in concentrations ranging from 5% to 20% bio-diesel to 80% to 95% traditional diesel, it

can usually be burned without engine modification and benefits from being cleanerburning and a renewable resource. Sources include vegetable oils, fish oils, animal fats and restaurant grease.

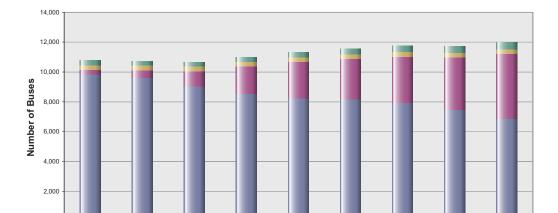
# 2. 2. 9 Bus Construction

#### 2. 2. 9. 1 Transit Buses

1995

Low-floor buses have improved safety and services for people with disabilities and are intended to increase passenger-friendliness and ridership (Transportation Research Board-National Research Council, 1999a). In 1995, low-floor buses represented only 2.3% of Canadian urban transit fleets. As of 2003, this percentage had increased to 29%, a rate of uptake that lags behind fleet renewal rates, which suggest that roughly 50% of sub-sector vehicles could have been replaced over the last decade (figure 2-1). Though all future bus purchases will be accessible low-floor vehicles, Canada is far behind the U. S.A., where transit systems are required to provide service accessible to persons with disabilities and 96.9% of reported vehicles are accessible (APTA, 2006).

Figure 2-1: The growth of low floor bus fleets



**Urban Bus Fleet Composition** 

Year

■ Standard motor bus ■ Low-floor bus ■ Trolley coach ■ Articulated bus

Source:Transport Canada, 2004g

2003

Plans are underway to build prototypes of **modularly constructed transit buses**, entire sections of which could be interchanged (Altair Engineering, 2004). This could allow mechanics to perform repairs to only the affected module, returning buses to service with replacement modules and potentially lessening the requirement to perform repairs outside of peak ridership hours.

The modern **double-deck transit bus**, which can hold up to 96 people, first came to North America when BC Transit placed them in service in 2002 and is continuing to make inroads. Fifty double-deck buses will be put into service in Las Vegas, with 26 arriving in May of 2005. Transit agencies in Portland, OR, and Oakland, CA are also considering their use (Bryan, 2005). BC Transit places their fleet of double-deck buses,

now approaching 45 units, "on the highest demand regional routes, providing increased capacity and service quality in areas where the system is near or at capacity in peak periods" (BCTransit, 2005).

#### 2. 2. 9. 2 School Buses

The conventional front-engine, rear-wheel drive school bus design is based on a ladder frame chassis with the engine in front of the operator. Rolling chassis are supplied to manufacturers who build the passenger compartments on these five-ton frames. This configuration holds from 48 to 72 passengers. Flat-nosed, rear-engine school buses are also on the road in Canada, with larger (72-84 passenger) capacities. Smaller buses, carrying up to 20 passengers, are based on ¾ ton or 1-ton rolling chassis from major manufacturers and are prepared by bus manufacturers in the same way as the larger ones. School bus designs continue to evolve, just like designs in other modes. Today, the preponderance of school buses—both large and the smaller, van-based buses use diesel engines.

#### 2. 2. 9. 3 Motor Coaches

Motor coach construction is now highly sophisticated, and efforts are being deployed to reduce the tare weight of the buses. **Lightweight designs** have the potential to make vehicles more fuel-efficient, but weight savings are also necessary to compensate for the ever-increasing array of customer-oriented features being installed on modern coaches (IBI Group, 2002; Transport Canada, 2003). In addition, some newer coaches have highly sophisticated transaxles with 12 forward speeds or more, controlled by computers with adaptive programming capabilities, active stability management and traction control systems. The **double deck motor coach** design, which offers seating for up to 100 people and potential operating efficiencies, is popular elsewhere in the world, but has yet to penetrate the North American market.

# 2. 2. 9. 4 Environmental Requirements and Diesel Engine Design

With the 2007 model year, vehicle manufacturers will be required to meet new comprehensive emissions requirements laid out by the U.S. Environmental Protection Agency (EPA). Beginning in June, 2006, the EPA will also require that oil refiners produce diesel fuel with no more than 15 parts per million of sulphur. In addition to increasing the refining costs of diesel fuel, it is estimated that this program will add significantly to the cost of a new vehicle, as meeting the EPA emission standards will require significant advances in diesel engine technology, such as improved catalytic exhaust control devices (EPA, 2000). Though continuing advances in engine design will affect the ultimate vehicle price, recent estimates have put the cost of meeting the 2007 EPA exhaust emission limits at between \$5,000 and \$6,000 for medium-duty trucks and school buses and between \$7,000 and \$10,000 for heavy duty vehicles (Fleet Manager, 2005).

# 2. 2. 9. 5 Human Resources Management Technology

The most prevalent piece of technology being used by human resources (HR) managers is the **intranet-based HR system**. Instead of using paper documents for all transactions, needed information and tools are provided on an intranet with little HR

personnel participation, resulting in improved efficiency and cost-effectiveness (Brown, 2000). Of most significance is the potential for improved relationships between HR departments and employees; HR personnel are more available to help employees create career plans, develop training paths, deal with real or perceived issues and otherwise focus on individual workers needs (Wellner, 2000; Alexander, 2001; Lengnick-Hall, 2003; and Hendrickson, 2003). Providing more individual attention may have a side benefit of improving retention (Alexander, 2001).

Also, allowing employees to access personal data, information about benefits, payment, training programs and learning and development opportunities gives employees a sense of independence and a sense of being in control of their work lives (Alexander, 2001). Enhanced production and innovation have even been cited as benefits to implementing these programs (Lengnick-Hall, 2003).

There are some cautionary notes that should accompany consideration of the deployment of intranets. Some HR specialists have argued that people read web documents differently from paper documents, and many individuals haven't learned how to use intranets effectively. Intranets can become information dumping grounds that are difficult to navigate. HR departments have been known to shrink as a result of the implementation of intranets, and HR personnel may fear being replaced by technology (Wellner, 2000). e-HR technology has also been blamed for shifting HR responsibilities onto employees. Transit companies will have the additional challenge of providing intranet access to employees on the road without negatively impacting their time both on and off the job (Lengnick-Hall, 2003).

There are many e-HR systems available, from enterprise-wide programs to small business programs that could be of great benefit to the transportation industry. CUTA has already implemented e-Learning technologies, including a web-based multi-media training system and an e-Coach, an "innovative e-mail referral system" (CUTA, 2004a).

Similarly, intercity bus service providers are monitoring the use of on-board technologies to follow the driver's hours of service and monitor compliance with the regulations as a technology that may have, should it be made mandatory, a significant impact on that sub-sector of the industry. At the moment, the use of on-board technology is voluntary, and there are no indications that this will change over the next five years.

# 2. 3 Human Resources Implications

The deployment of new technology will increase the skill and training requirements for the user. For example, global positioning systems (on which real-time technology is based) are subject to signal blockage, signal interference. In an urban area, where there are many signal-blocking obstacles, there is a potential for the signal to fail (Ochieng et al, 1999). Carroll (2003) argues that because of the potential for GPS signal blockage, operators should be trained to understand the limitations and vulnerabilities of the system and to recognize degradation of the technology and how to switch to an alternative navigation method.

Changes in bus industry technology also have a direct impact on the technical skills required of the industry's mechanics and will, by extension, impose on the industry the

requirement to attract or train people with these new skills.

Where the upgrading of skills is required for handling new technologies, on-line training courses, simulation techniques and other technologically enhanced training programs may help provide employees with the needed skills and training.

Technology deployment has favourably influenced the health of operators. A U. S. Study by Rydstedt et al. (1998b), found that operators' health improved when technologies were used to improve the traffic environment of the bus route. In addition, Gobel et al. (1998) found that redesigning the operators' workplace environment (e.g., expanding roads and providing buses with a separate lane) substantially reduced operators' stress levels and associated health problems. By implementing technology that increases operator satisfaction and decreases stress-levels (e.g., shelter beacons, surveillance/warning systems and smart cards) the likelihood that individuals will see the transportation industry as an attractive place to work is enhanced.

There have been several important publications and studies conducted on the process of selecting appropriate technology. They highlight the importance of involving operations staff in all aspects of implementing a new technology; from defining technology needs, selecting the appropriate technology, identifying the effects and impacts of new technologies and so forth (Bronson Consulting Group, 1999; Transportation Research Board-National Research Council, 2002; Transportation Research Board-National Research Council, 1999a; Transport Canada, 1999). Recognizing this significance, the MCPCC has consistently involved all levels of employees in the development of all programs, with positive results, and the quality of driver/mechanic contributions has been significant.

# 2. 4 Summary

In general, the technologies affecting the bus industry are being developed in the following themes:

- those that are directed towards a **better rider experience**. These include the real-time technologies, kiosk improvements, Smart cards and bus designs
- those that directly influence **operator competence**. Technologies that enhance operator and general operations safety such as lane departure warning systems, and video surveillance systems, are such examples
- **system-wide technologies** that benefit overall operational and organizational effectiveness. These include the integrated bus-rapid transit and web-based intranet and internet systems

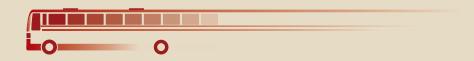
Based on a thorough review of relevant literature and related material to date, there is reasonable evidence that the committed application by the bus industry of the technologies referenced herein should be expected to favourably impact:

- industry/company image and hence the career appeal of the industry
- recruitment, selection, training, job satisfaction, career commitment and retention
- operations' safety, efficiency and communications
- ridership and profitability





# Part 3 Employment Analysis



# 3.0 Employment Analysis

# 3. 1 Employment Profile

The industry is composed of numerous occupations, each with its own skills and responsibilities and each dependent on the others to ensure that it's respective service providers are capable of meeting customers' demands. The list of those employed in the industry includes, but is not limited to:

- bus & streetcar operators
- dispatchers
- supervisors and inspectors
- mechanics, technicians and maintenance workers
- training and safety personnel
- sales and service personnel
- finance and administration personnel
- planners and schedulers
- management and other professionals
- subway train and light rail transit operators
- subway traffic controllers

The occupation most commonly associated with the industry, and by far the most visible, is that of the operator. Based on *Statistics Canada* data for 2004, 69.2% of the industry's employees are drivers/operators. Mechanics, the second most sizeable occupational group, represent only 6.1% of employees.

The range of occupations varies with the size of the organization. Larger organizations have both the need and the wherewithal to make use of specialized resources, such as human resource specialists, dedicated training and educational staff, customer service and marketing professionals and more varied administrative and managerial positions. Smaller organizations are composed of people who are often relied upon to be multitalented employees whose actual workday activities cross the boundaries of conventional job descriptions. Refer to table 3-1 to learn more about organization size.



Table 3-1: Breakdown of Industry Employment by Occupation - 2001 v. 1991

	20	01	19	91	
Occupations	Total Workforce (FTE)	Percent of Total	Percent of Total	Total Workforce (FTE)	Occupations
Bus Drivers and Subway and Other Transit Operators (NOC 7412)	57,090	66.00%	65.10%	55,730	Operators
Mechanics (NOC 7321)	6,195	7.20%	6.30%	5,375	Maintenance and Mechanics
Business, Finance and Administration	6,145	7.10%	8.30%	7,110	Administrative Staff
Sales and Service	4,380	5.10%	2.50%	2,160	Marketing and Customer Services
Management	3,075	3.60%	3.70%	3,150	Management
Other Equipment / Vehicle Operators	2,845	3.30%	-	-	-
Supervisors (NOC 7222)	1,935	2.20%	3.20%	2,710	Supervisors and Inspectors
Other Trades	1,815	2.10%	_	-	-
Other	1,400	1.60%	9.00%	7,680	Other Occupations
Professionals	1,230	1.40%	2.00%	1,700	Professionals
Trades Contractors and Supervisors	350	0.40%	_	-	_
Total	86,460	100%	100%	85,615	Total

Source: Statistics Canada, special tabulation, unpublished data, Census, 2001; Price Waterbouse 1997

Though differences by specific occupation may be attributed to changes in tabulation methods, comparing industry workforce composition between 2001 and 1991 reveals a shift toward leaner administration (table 3-1). The proportion of mechanics and operators has increased, and that of all other occupations combined has declined (table 3-2). Stakeholders contacted suggest that, while figures do indeed show the shrinking number of managers, this shift is likely more reflective of a general management skills shortage than of an effort to streamline operations.

Table 3-2: 2001-1991 Comparison of Industry Employment

Occupation	Percent of Industry Workforce (2001)	Percent of Industry Workforce (1991)
Operators	66.00%	65.10%
Mechanics	7.20%	6.30%
Management	3.60%	3.70%
Other	23.20%	24.90%

Source: Statistics Canada, special tabulation, unpublished data, Census, 2001; Price Waterbouse® 1997

#### 3. 1. 1 Key Industry Occupations

# 3. 1. 1. 1 Operators and drivers (NOC 7412)

Besides simply driving, **Operators** rely on their skills to ensure the safe operation of their vehicles and to provide quality customer service.

An operator's ability to meet even the most basic driving requirements is dependent upon becoming familiar with policies, procedures and regulations, especially if travelling between jurisdictions. Fundamental training and operating manuals are supplemented on a daily basis by other information such as schedules, itineraries, student lists, or even commentary and historical information of tour destinations (Essential Skills, 2005).

Reporting—a critical element of any program, particularly maintenance— is a key responsibility of the operator. Some of the reports for which operators are responsible include inspection reports, maintenance logs, vehicle defect reports and accident reports. Details of operators' current shifts are also subject to reporting requirements. Though they may vary by sub-sector and by organization, reports in the form of time sheets, shift summary reports or logbooks may include information on the following:

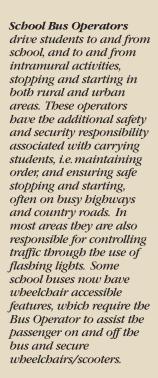
- · hours worked
- passengers
- · vehicle information
- route information
- ticket/sales information
- mileage

Ultimately, the most important roles that the effective driver/operator must play rely on solid communication and interpersonal skills. In addition to making announcements and responding to the questions of their passengers, operators may need to intervene and take control of often critically important situations. Being called upon to resolve conflicts with or between passengers, parents or even passers-by and to provide emergency response to protect the health and safety of their passengers are all responsibilities that operators and drivers routinely assume.

# Operators' Profiles

**Urban Bus Operators** travel prescribed routes in towns, cities and the suburbs picking up passengers at designated stops according to defined schedules. Often they must deal with heavy traffic and congested streets while collecting fares, issuing transfers and validating passes. Many urban buses now have wheelchair accessible features, which may require the Bus Operator to assist the passenger on and off the bus by operating ramps or lifts and securing the wheelchair.

Intercity Bus Operators typically pick up passengers at inner-city bus terminals and drive them directly to bus terminals in other cities. However, some Intercity Bus Operators make frequent stops to pick up and drop off passengers and parcels at local agencies. Parcel pick-up and delivery is an important component of the Intercity Bus Operator's work, which may entail some beavy lifting and maintaining careful records.



Tour and Charter Bus **Operators** convey passengers from point to point for specific purposes, such as sightseeing tours, transporting passengers from their botel to the airport or rail station, or transporting groups, i.e. sports teams or the elderly. Tour and Charter Bus Operators often have the additional responsibility of acting as Tour Guides, and as such, they must be knowledgeable of the sights and places of interest.

Accessible Services Bus
Operators transport
passengers using vehicles
specially equipped to
accommodate wheelchairs,
scooters and people with
special needs. They provide
a door-to-door service
assisting passengers from
and to their doors and on
to and off the bus.

Source: MCPCC NOS, 2006

There is a broad, industry-wide concern about the safety and well-being of the men and women in the motor carrier passenger industry in the light of a dramatic increase in violence against operators. Across the country, programs designed to address this alarming issue are expressed in two ways: training and awareness programs for operators/drivers (e. g. CUTA's Violence Against Transit Operators Program, rolling out nationally in 2006); and public education programs aimed at increasing respect for the operator's role and for fellow passengers.

# 3. 1. 1. 2 Mechanics (NOC 7321)

Mechanics and technicians inspect, diagnose, repair and service mechanical, electrical and electronic systems and components of the industry's various vehicles (www.jobfutures.ca, 2005). Their work involves not only the act of repairing equipment, but also problem analysis and determining appropriate solutions. With the help of various technical documents (e.g., shop manuals, specification sheets), mechanics and technicians use a variety of tools and technologies to manage and execute maintenance activities (e.g., routine maintenance, overhaul) in repair shops and/or working in the field using mobile repair trucks. Mechanics are also responsible for documenting repairs and the condition of equipment through work orders and other related paperwork (Essential Skills, 2005a).

A key factor in mechanics' ability to successfully meet the requirements placed upon them is continuous learning. As technology continues to evolve, mechanics must ensure that their skills keep pace and are expected to continue to upgrade their skills through reading, courses and hands-on work. This is especially important because transportation technologies are evolving rapidly and more sophisticated computerized equipment is replacing traditional systems. It has been said that the laptop is becoming the most important tool in the bus mechanic's "toolbox."

# 3. 1. 1. 3 Dispatchers / Subway Traffic Controllers

**Bus dispatchers** dispatch bus drivers and monitor routes to make sure that drivers meet schedules. They also co-ordinate responses to countless operating problems as they occur, from crew scheduling, delays and route changes to equipment breakdowns and accidents. Additionally, dispatchers maintain logs and reports on shift activities by logging run, vehicle and driver information and reporting on calls received, accidents and emergencies (occupationalinfo. org, 2005). **Subway traffic controllers** provide similar problem solving services in operating and monitoring signal/track switch control panels (Job Futures, 2005).

# 3. 1. 1. 4 Supervisors (NOC 7222)

**Supervisors** of motor transport and other ground transit operators supervise, coordinate, and schedule the activities of workers who operate trucks, buses, subway trains, light rail transit, taxicabs and other transport vehicles (Job Futures, 2005).

#### 3. 1. 2 Skill Requirements

#### 3. 1. 2. 1 Operators

The basic requirements for drivers/operators of buses include a valid appropriate **driver's licence**, a minimum of one year of clean driving record and an air brake endorsement, if driving air brake-equipped vehicles. Some employers may require a grade twelve education and up to three months of on-the-job training.

In addition to basic licensing requirements, operators benefit from having certain **related skills** that may enhance their ability to perform. These essential bus-driving skills include (MCPCC Essential Skills Profile; MCPCC, 2005; HRDC, 2001a, b; Underwood, G., Chapman, Brocklehurst, Underwood, & Crundall, 2003):

- cognitive abilities such as spatial orientation
- · mechanical reasoning
- problem solving
- arithmetic
- communication
- motor co-ordination
- manual dexterity
- visual attention ability

Being able to read, use documents, plan job tasks, organize and make significant use of memory recall are essential for operators (MCPCC, 2004). School bus drivers in particular, given their unique and important responsibilities for the passengers they carry, require pupil management skills (TRB, 1999c).

**Personality characteristics** are also deemed important to an individual's likelihood of success as an operator. Jacobs et al. (1996) identified five main personality factors:

- emotional stability for coping with stressful situations
- extraversion
- intellect
- agreeableness
- conscientiousness

These specific personality characteristics appear to predict performance in time sensitive situations, such as keeping a bus on schedule. When combined with tasks, cognitive abilities and biographical information, these can be used in a composite model to predict operator performance or to recruit new operators more likely to have a good attendance record and fewer accidents (Jacobs et al., 1996).

The main factors currently influencing operator skill requirements are technology and changing population demographics. Operators will require additional training and skill development specific to the use of new technologies, and they will also need to develop the abilities to communicate effectively with riders from a growing and

Supervisors in transport are generally responsible for establishing methods to meet work schedules, coordinating work activities with other units, and requisitioning materials and supplies. They also resolve work problems, recommend measures to improve performance, and make recommendations regarding birings, promotions and other personnel actions. Supervisors in transport may also be responsible for preparing work reports and for training staff in job duties, safety procedures and company policy.

Source: www.saskjobfutures.ca 2005

#### The Red Seal Program

Through the Red Seal Program, apprentices who bave completed their training and certified journey persons are able to obtain a "Red Seal" endorsement on their Certificates of Qualification and Apprenticeship by successfully completing an Interprovincial Standards Examination. The "Red Seal" allows qualified tradespersons to practice the trade in any province or territory in Canada where the trade is designated without having to write further examinations.

Source: www.red-seal.ca

changing range of demographic and cultural backgrounds. These changes and pressures will add to the skills required of the effective and efficient operator.

# 3. 1. 2. 2 Subway and Light Rail Operators, Inspectors and Dispatchers

Given that to become a **subway or light rail operator** candidates require prior experience as a public transit bus operator (HRDC, 2001a) and that these resources are typically hired from within an organization, the entry skills of these resources are largely equivalent to those of experienced operators. Similarly, in larger unionized organizations where a career progression is determined largely by seniority, those in positions such as **dispatcher** and **inspector** have similar backgrounds. The ability to communicate well, particularly orally, is an asset in these positions, as is relying on experience and a sound knowledge of operations for problem solving and quick and effective decision-making (Essential Skills, 2005b).

# 3. 1. 2. 3 Supervisors, Railway and Motor Transportation Occupations (NOC 7222)

The basic employment pre-requisites to becoming a supervisor of operations typically include several years of experience as a driver/operator and completion of secondary school. Though this offers operators more mobility and opportunity for career progression within the industry, those already in supervisory positions have far more limited advancement prospects.

# 3. 1. 2. 4 Motor Vehicle Mechanics (NOC 7321)

Success as a motor vehicle mechanic is predicated largely on mechanical aptitude; however, patience, reliability, co-ordination and agility are also required, as are lightness of touch and an attention to detail. There may also be a requirement for physical strength, depending on the specific environment. Strong skills in mathematics and computers are becoming more and more important, as the technology deployed throughout the industry evolves (Nova Scotia Department of Education, 2003).

The career path of a certified motor vehicle mechanic begins with a minimum high school education requirement as per province of residence. Prospective certified mechanics enrol in an apprenticeship program in which they work under the tutelage of a journey person until completing a set number of hours of work and successfully passing an examination (written and/or practical) in order to become a certified journey person themselves. A combination of work experience in the trade and the completion of approved exemption tests may also be acceptable for trade certification (red-seal.ca, 2004)

Though there is no national trade certification for mechanics, the *Red Seal* Program Certification provides trades people with the opportunity to complete an interprovincial standards examination, which facilitates movement between those provinces where the trade is designated.

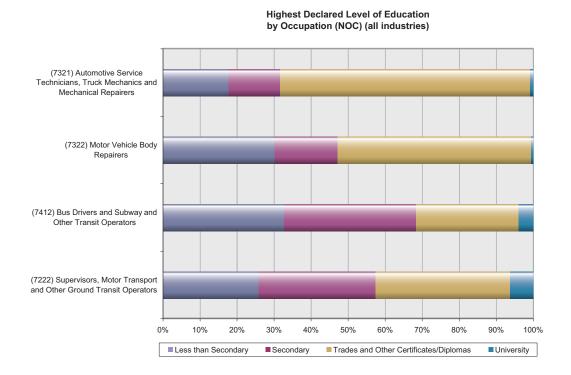
The trade of motor vehicle mechanic, however, is an extremely broad grouping of skills and does not distinguish between specializations, such as diesel or automotive, or the major systems of which individual mechanics may have a command (fuel, brake, steering and suspension, transmission, differentials, drive axles and shafts, emission

control and exhaust, engines, electronics and electrical, cooling and climate control). This very broad categorization makes identification of available skills and the balancing of industry-specific supply and demand more challenging.

# 3. 1. 3 Educational Background of Employees

Of the three primary distinct occupations that make up the industry (operators, mechanics and supervisors), operators and supervisors appear to have generally similar educational backgrounds (figure 3-1). Supervisors, however, are on average slightly more highly educated; proportionally fewer tend to have not finished high school and a greater share have a non trade-related certificate or degree. Not surprisingly, given broader expectations of certification, mechanics are far more likely to have completed a specialized training program. In more than 65% of cases, they possess a trades certificate or diploma, and only 18% of mechanics do not possess a high school certificate.

Figure 3-1: Level of education by industry occupation

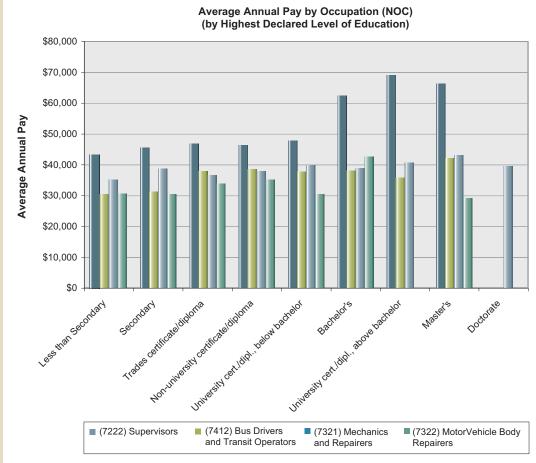


Source: Statistics Canada, special tabulation, unpublished data, Census, 2001

In the case of both mechanics and operators, there is limited evidence of greater pay with greater education. Supervisors, however, show significant gains in pay with university level education (figure 3-2).



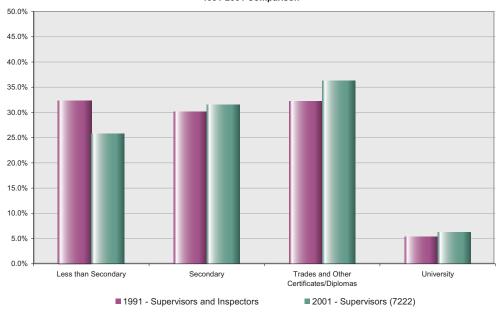
When comparing the declared levels of education identified in the 1997 Study to those of 2001 identified above, there is evidence trending towards operators and supervisors having greater education (figure 3-3).



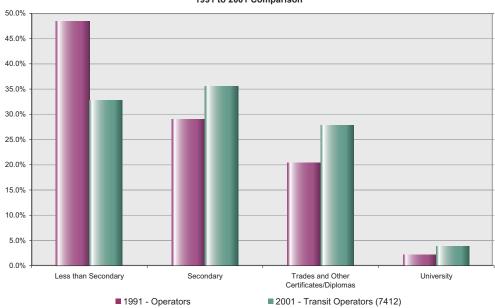
Source: Statistics Canada, undergraduate special tabulation, unpublished data, Census, 2001

Figure 3-3: Level of education comparison (1991-2001)

#### Supervisors' Declared Levels of Education 1991-2001 Comparison



#### Operators' Declared Levels of Education 1991 to 2001 Comparison

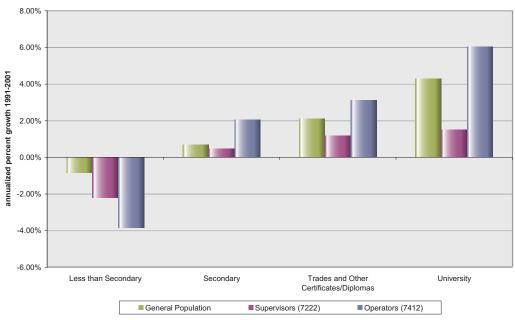


Source: Statistics Canada, special tabulation, unpublished data, Census, 2001; Price Waterbouse 1997

When compared to the general population 15 to 65 years of age, operators have shown a significantly larger shift toward greater education between 1991 and 2001 (figure 3-4). The shift in the education levels of the supervisor group is far less dramatic than both operators and the general population, as in 1991 they were already largely evenly distributed between three primary educational groupings (less than secondary, secondary and trades and other).

Figure 3-4: Shifting levels of education (1991-2001)

Shift Toward Greater Education (1991-2001 growth in educationlevels)



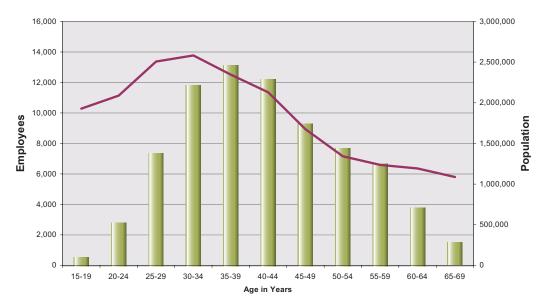
Source: Statistics Canada, special tabulation, unpublished data, Census, 2001; Price Waterbouse 1997; Statistics Canada, http://www40.statcan.ca/l01/cst01/educ45.htm, February 8, 2006

#### 3. 1. 4 An Ageing Workforce

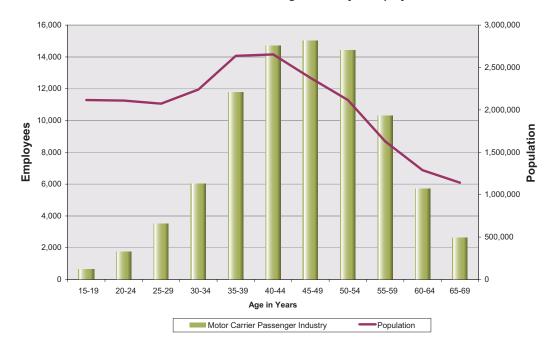
The ageing of the general population is likely to have an impact on the makeup and needs of the industry's market base and its ridership. Though the ageing pattern that appears in the demographic distribution of the industry's employees is similar to that of the general population, there is a greater prevalence of older workers in the range of 40-59 years of age in the industry than in the population at large. When compared to similar statistics from 1991, it becomes clear that there has been a significant shift in the age distribution of workers in the industry (figure 3-5). Though the school bus subsector views retirees as a potential labour pool, the effect in the urban and intercity sub-sectors, where employees either voluntarily or as decreed in collective bargaining agreements typically retire as they reach their 60s, suggests cause for concern. Alternately, the entry age of employees new to the industry has progressively increased due in part to more vigorous regulatory, licensing and employer requirements.

Figure 3-5: Age of Industry employees

1991 Demographic Distribution
of the Motor Carrier Passenger Industry's Employees



2001 Demographic Distribution of the Motor Carrier Passenger Industry's Employees

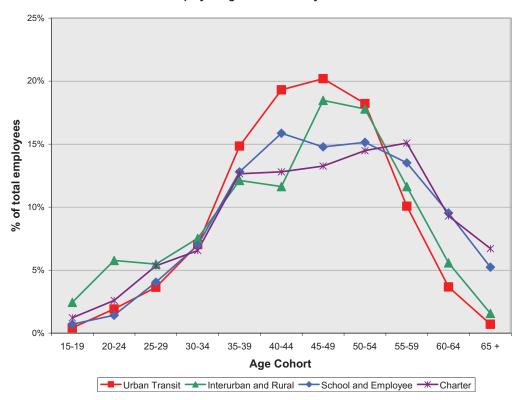


Source: (industry employee data) Statistics Canada, special tabulation, unpublished data, Census, 1991 and 2001; (population data) The Centre for Spatial Economics®, 2004

When broken out by industry sub-sector (figure 3-6), it becomes clear that a significant share of the workforce age profile is attributable to the urban and interurban sub-sectors, which show greater peaks and a more precipitous drop off in the age distribution of employees. The school bus and charter sub-sectors' profiles are flatter and retain a greater percentage of older employees.

Figure 3-6: Age of sub-sector employees

#### **Employee Age Distribution by Sub-Sector**

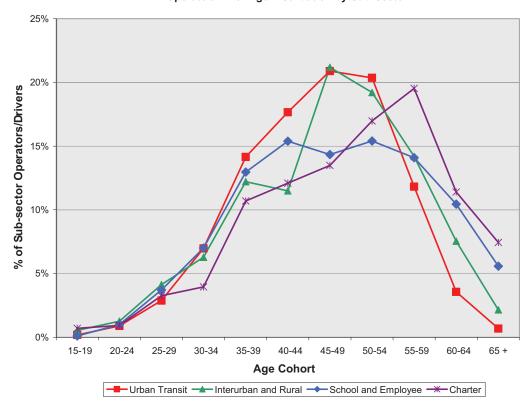


Source: Statistics Canada, special tabulation, unpublished data, Census, 2001

Examining the age profiles of each sub-sectors' operators/drivers (figure 3-7), one can see that the urban, interurban and charter sub-sectors all show operator age profiles peaking later than the overall employee distribution. The peak is particularly dramatic in the charter sub-sector. The school bus sub-sector, on the other hand, continues to show a comparatively more balanced distribution.

**Figure 3-7:** Age of sub-sector operators/drivers

# Operator/Driver Age Distribution by Sub-Sector



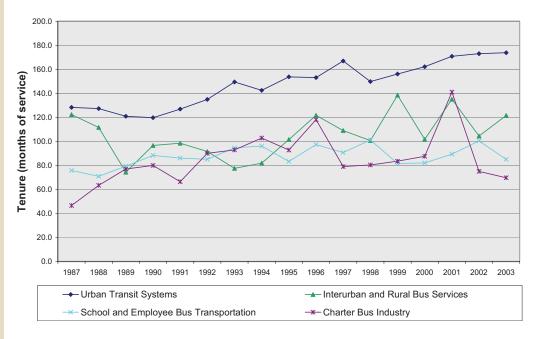
Source: Statistics Canada, special tabulation, unpublished data, Census®, 2001

Additionally, the number of months of service of the urban sub-sector's employee base has trended steadily upwards over the past 15 years (figure 3-8), whereas the other sub-sectors have shown less stability.



**Figure 3-8:** Industry employee tenure

Average Tenure (by Industry Sub-sector)



Source: Statistics Canada, special tabulation, unpublished data, Labour Force Survey®, 2005

# 3. 1. 5 Employment Equity

In focus groups, interviews and questionnaire responses, the industry's stakeholders have recognized the need to build a workforce more reflective of Canadian society's gender and diverse ethnic composition. Although the gender and ethnic diversity of the industry have shown positive change since the Price Waterhouse (PW) Study of 1997, several contributing factors minimizing the rate of change include, but are not limited to:

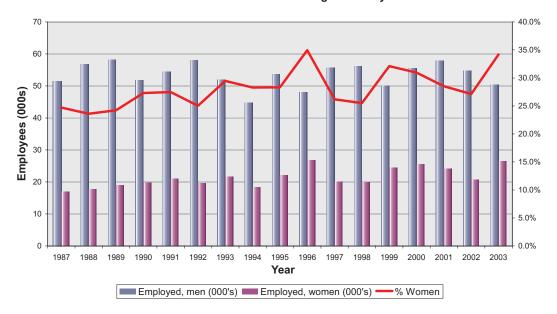
- employment stability/tenure
- working conditions applicable to the drivers/operators' role, which represents over 69% of the industry workforce (e.g. shift work, extended overnight, travel, situational risk)
- official language requirements
- skills requirements
- increased marketplace competition for job applicants due to progressively stronger Canadian economy

#### 3. 1. 5. 1 Gender

The industry's overall efforts at building a more gender-inclusive workforce, however, have shown inconsistent results (figure 3-9).

Figure 3-9: Women employed in the Industry

Gender Breakdown of Employment
in the Motor Carrier Passenger Industry



Source: Statistics Canada, special tabulation, unpublished data, Labour Force Survey®, 2005

On an occupation-specific level, however, some progress has been made. In comparing the 1991 Census data reported in the initial Sector Study of 1997 to the most recent 2001 census data, one can see that women are beginning to assume a more prominent role in many industry occupations (table 3-3).

Table 3-3: Gender by Employment Category - 1991 v. 2001

Employment Category	Women (Per cent of category workforce)		
	1991	2001	
Operators	34%	36%	
Mechanics	0.60%	2%	
Administrative Occupations	56%	62%	
Management	21%	23%	
Professionals	24.80%	27%	
Supervisors/Inspectors	16%	18%	
Workforce	33%	33%	

Source: Statistics Canada, special tabulation, unpublished data, Census, 2001; Price Waterbouse 997.

Across the industry's sub sectors, there is a large disparity in the ratio of men to women. As an example, the 36% of female industry operators are predominantly in the school bus sub-sector representing 56% of that sub-sector's operators while fewer than 15% of each of urban transit and intercity operators are women (figure 3-10).

The urban transit sub-sector employs the smallest workforce percentage of female employees.

Furthermore, though there are regular fluctuations in the available data values, figures show that men consistently earn more than women across all sub-sectors (figure 3-12). This is due to the fact that women continue to be more highly represented in lower paid positions.

The earnings differential is smallest in the urban sub-sector, which is perceived to be substantially attributable to collective bargaining agreements.

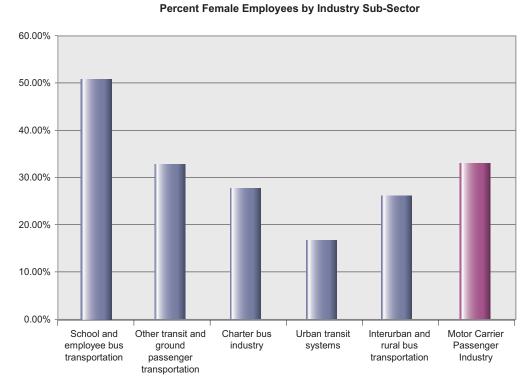
Figure 3-10: Sub-sector breakdown of women operators/drivers in the Industry

# 60.00% 50.00% 40.00% 30.00% 20.00% 10.00% 0.00% Other transit and Charter bus Motor Carrier School and Urban transit Interurban and industry rural bus Passenger employee bus ground systems Industry transportation passenger transportation transportation

#### Percent Female Operators/Drivers by Industry Sub-Sector

Source: Statistics Canada Special Tabulation, unpublished data®, 2001 census

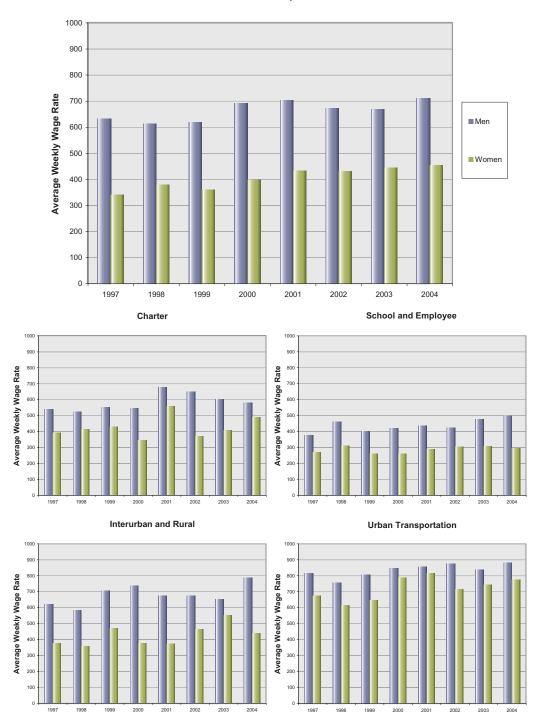
Figure 3-11: Sub-sector breakdown of the employment of women in the Industry - 2001



 $Source: Statistics\ Canada\ Special\ Tabulation,\ unpublished\ data^{\circ},\ 2001\ census$ 

**Figure 3-12:** Industry Wages - Men vs. Women

All Transit and Ground Transportation Sub-sectors



 $Source: Statistics\ Canada,\ special\ tabulation,\ unpublished\ data,\ Labour\ Force\ Survey^{\odot},\ 2005$ 

As noted, the percentages of women employed by the industry in all designated employment categories except "Administrative Occupations" increased only marginally for the period of 1991-2001. Study participants expressed recognition of, and concern for these results, and indicated that for all job openings, female applicants are encouraged and received equal opportunity consideration. However, it also appears that recruitment activities specifically targeted to attract female applicants are more commonly employed by the school sub-sector.

Certain lifestyle limitations and choices in part explain the high school sub-sector level of female operator employment vs. a much lower level within the other sub-sectors. Since the 1997 PW Study, the vocation with the most notable gender disparity, although one of the most desirable industry positions, has continued to be that of the urban bus operator.

# 3. 1. 5. 2 Ethnic Diversity in the Industry

As the industry continues to build an employee population more reflective of the diversity of cultures in both the ridership it serves and the general population, it has become apparent that effecting rapid change is problematic given the tenured nature of many of the industry's positions.

The latest available data (table 3-4) indicates that in 2001 Aboriginal people and visible minorities made up 10.6% of the industry's workforce, an increase of +3.1% over the 1991 figure. The gains were most evident in visible minority representation, which increased from 4.9% to 7.9%, reasonably proportional to the increase in the visible minority portion of the Canadian workforce. The representation of Aboriginal people in the industry remained stable over that same time period, despite a drop in the relative size of the Aboriginal workforce in Canada.

The 2001 industry percentages for both groups reflect progress by the industry toward greater integration of hiring, training and development of Aboriginal People and visible minorities.

**Table 3-4:** Aboriginal People and Visible Minorities in the Industry Workforce

Group	Canadian Workforce (1991)	Industry Workforce (1991)	Canadian Workforce (2001)	Industry Workforce (2001)
Aboriginal People	2.90%	2.60%	2.60%	2.60%
Visible Minorities	9.20%	4.90%	12.60%	7.90%
Total	12.10%	7.50%	15.20%	10.60%

Source: Statistics Canada, special tabulation, unpublished data, Census, 1991, 2001; Price Waterbouse® 1997

The Canadian Bus Association (CBA) and the MCPCC offer an example of ways in which representation of specific communities may be improved. A memorandum of Understanding has been signed with the Congress of Aboriginal Peoples to improve Aboriginal youth's access to training and positions in the industry (Canadian Bus Association, 2004b). It is anticipated that this will help Aboriginal youth gain access to valuable employment opportunities while helping the industry address issues of labour availability and workforce diversity.

Visible Minorities in Canada's Metropolitan Areas

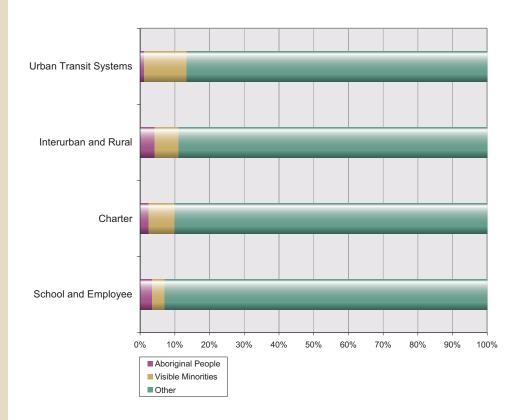
- 37% of the populations of Toronto and Vancouver are visible minorities
- More than 90% of Québec's visible minorities live in Montréal
- More than 91% of Alberta's visible minorities live in Calgary or Edmonton

Source: Statistics Canada, 2003

When broken down by occupation and industry sub-sector, however, dissimilarities become apparent (figure 3-13). The urban transit sub-sector by far, the most multicultural and school and Employee the least. This may, however, be partly explained by immigrant settlement patterns and the concentration of visible minorities in major metropolitan areas.

Figure 3-13: Representation of visible minorities and Aboriginal people - 2001

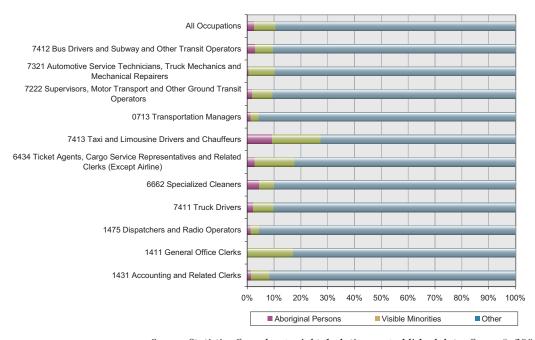
# **Cultural Diversity Across Industry Sub-Sectors**



Source: Statistics Canada, special tabulation, unpublished data, Census, 2001

**Figure 3-14:** Representation of Visible Minorities and Aboriginal People by Industry Occupation - 2001

# Cultural Diversity in the Motor Carrier Passenger Industry (leading occupations)



 $Source: Statistics\ Canada,\ special\ tabulation,\ unpublished\ data,\ Census^{\circledcirc},\ 2001$ 



A number of service providers have found that an ideal short-term solution to finding the best mix of skills is to seek out industry retirees, even those from within their own ranks. This labour pool potentially provides employers with candidates that have an ideal mix of skills, both technical and interpersonal, that can be immediately leveraged.

#### Camo-route Initiatives

In promoting the transportation industry within Québec and supporting the development of a qualified source of human resources to meet the current and future needs of the industry, Camo-route has successfully undertaken a number of initiatives to maintain the industry's competitiveness, including:

- Standardized training in technical and interpersonal skills for the motor carrier passenger industry;
- Provincially subsidized training to improve the skills and marketability of prospective industry employees;
- Promotion of industry careers to local employment centres, school guidance councillors and visitors to transportation conferences and job fairs;
- Bus mechanic work/Study programs.
- Bus driving vocational study qualification (through the Centre de formation en transport de Charlesbourg, a publicly funded transportation school)

Source: Camo-route, 2005b

# 3. 2 Human Resources Supply

# 3. 2. 1 Traditional and Alternate Sources of Supply

As shown in the initial Sector Study in 1997, the industry has broadened its recruiting focus for operators to include a greater emphasis on interpersonal and customer service skills. These required skills of potential bus operators far outweigh initial technical driving skills in determining the suitability of candidates for a position in the industry.

Though proven media vehicles of print, transit and outdoor advertising (e.g., billboards, sandwich boards) continue to produce results, as do employee referrals and various government programs, new tools are being developed and implemented throughout the industry to address most effectively the need for skilled employees. Just as web-based tools are improving the training process, as described in Part 2, the use of corporate and employment websites to attract and initiate contact with candidates is expanding. Also, the scope of its use is expanding beyond the capabilities of traditional methods. Web-based tools are moving from information dissemination to information collection and pre-screening, as potential candidates are now given the opportunity to learn more about the organization and the job and even to apply online. Such on-line applications allow the employer to quickly and automatically screen candidates in an effective manner while reducing costs.

In markets where applicant potential is limited, specifically targeting the ideal candidate profile is becoming a necessity. Whether it is fleet management appealing directly to schools and their students, organizations encouraging their own skilled employees to delay retirement or focusing recruitment efforts in specific, including ethnic communities (often so as to find the candidates most able to serve that very same community), organizations are targeting specific employee markets.

This need to expand the recruitment target market is obviously most acute for occupations within the bus industry that are reliant on the pre-existence of specific scarce skills or characteristics in candidates.

Many employers in the industry have become skilled at screening and qualifying candidates. Though the ability to recognize potentially successful employees from great numbers of applicants has become essential, the industry must also ensure that the pool of applicants it is choosing from is sufficiently large to satisfy its needs.

#### 3. 2. 2 Competition for Skills and Human Resources

# 3. 2. 2. 1 Operators

Competition for applicants with operator potential is evident by the publicized shortages/demand within several sectors of the Canadian economy (e. g. trucking) for employees with industry-compatible qualifications. The long-declining level of unemployment in Canada (e. g. from 9.3% - May 1996 to 6.1% - May 2006 - Statistics Canada) indicates the degree of labour pool diminishment. In addition, due to more vigorous hiring criteria including legislative requirements, the available pool of prospects has been even further reduced. In this context, even industry sub-sectors have become inter-competitive for operators.

#### 3. 2. 2. 2 Mechanics

Acute shortages of mechanics have prevailed for some time in multiple sectors of the Canadian economy. The supply of mechanics in many markets has not been and will not be sufficient to satisfy the demands of the industry. As a result, industry employers must seek to secure supply either by purchasing it in the open market (competing to hire qualified mechanics on the basis of compensation and work environment) or by building their own capacity through the promotion of apprenticeships with individual employers or industry-wide partnerships with training institutions.

# 3. 2. 2. 3 The Impact on the Industry

With this need to attract candidates, particularly those with the skills that will allow them to be satisfied and successful employees, comes the recognition within the industry of the importance of the employers' or the industry's value proposition to potential employees. Where prospective employees are more plentiful, or conversely have fewer employment opportunities and choices, the power balance remains with the employer. In many of today's labour markets, where prospective candidates may be less plentiful or more likely to move to a competing employer, the demands and requirements of candidates must also be considered. In direct competition for the ideal candidate with other industries, the value proposition of bus industry employers becomes more important.

The ability of industry employers to attract and select most suitable candidates competitively is contingent on the astute management of the hiring process through a combination of workforce planning, well-defined recruit-qualifying criteria, knowledge/use of recruitment media options, targeted marketing and efficient/effective screening/processing systems.

# 3. 3 Transferability of Skills

Provincial certification standards exist for mechanics as well as an inter-provincial endorsement of skills through the *Red Seal* Program allowing for national recognition. Operators have voluntary access to the MCPCC Certification Program, which relates to the essential performance criteria required by all sub-sectors. This Program is designed to formalize/standardize operator training while providing greater inter-sector and/or geographic mobility.

# 3. 4 Culture of the Industry

The traditional culture of the industry has been driven by the essential nature of the services it must provide. While maintaining exemplary safety standards on the road and in the bus, the industry has always focused on delivering strong financial performance and reliable, punctual service.

Today, the shift to a stronger customer service modality has had an impact on the culture of the industry, and more training is devoted to aspects of this, including communications skills, conflict resolution skills, and diversity awareness.

#### Best Practices for the Planning, Recruitment and Orientation of Bus Operators

To address the industry need for more competitive HR practices, The MCPCC has developed Behind the Wheel, a Guide to best practices for the planning, recruitment and orientation of Bus Operators:

"The Guide is an ideal resource for managers and recruiters and focuses on the critical areas necessary for hiring the right people." Behind the Wheel" gives you the information you must have to take a long-term perspective on your organization to anticipate and respond to emerging industry, customer and competitive forces."

Source: MCPCC<sup>©</sup>, 2002

# Operator Skills and Competency Standards

In addressing the issue of skills and competency standards, the MCPCC has made considerable progress in the advancement of Industryaccepted occupational standards and the certification and accreditation of driver/operator training. The newly launched operator Certification program is a professional designation that provides operators with industryrecognized credentials through a formal process of assessment. Accreditation is a mark of distinction demonstrating a company's pride in its employees, its service and its place as a leader in a highly visible industry.

Source: MCPCC

The SmartDriver series of training programs for professional drivers for transit, motor coach and school bus are a unique combination of coaching, on-the-road and classroom training and include vebicle spec'ing, maintenance, fuel efficient driving techniques, use of alternative fuels and stateof-the art transportation technologies. The training package has also been enhanced with defensive driving techniques, recognizing that fuelefficient drivers are also safe drivers.

Operators learn techniques to reduce idling time, maintain consistent speeds, accelerate/ decelerate, and apply brakes efficiently thereby providing a smoother ride.

The programs are seen as a win/win for everyone and will help Canada to meet its Greenhouse Gas (GHG) emissions reduction targets.

Source: MCPCC and NRCAN

In addition, the following are identified to be of critical importance:

- defensive driving training
- endorsement of competency standards
- customer service
- · emergency response and management
- work-life balance
- managing absenteeism
- · occupational health and safety

# 3. 4. 1 Safety

When comparing the fatality rates of car passengers to that of transit passengers, transit is by far the safer mode of urban transportation (CUTA 2002b). The same is true of all the sub-sectors; passengers of all bus modes combined, consistently account for less than 0.35% of all road fatalities (Transport Canada, 2005).

The safety culture in the industry is promoted through management programs of best practice interventions (Moser, 2001). For example, the Industry, *The Motor Carrier Passenger Council* of Canada and Natural Resources Canada have worked together to produce **SmartDriver** fuel efficiency driver training programs for urban transit, motor coach and school bus sub-sectors. These programs are currently being promoted throughout the industry and are achieving a high level of support. Natural Resources Canada is in the process of implementing an evaluation program to document cost and energy efficiencies realized.

Best practice examples from the U. S.A. also emphasize a safety culture that minimizes operators' risks and reduces accident rates, a philosophy mirrored in the Canadian industry. Published training packages with survey tools can assist in developing and maintaining a workplace safety culture and safety standards (Moser 2001; Mejza, m. , Barnard, R. , Corsi, T. , & Keane, T. , 2003).

Maintaining such a safety culture can increase net revenues for the industry by reducing costs related to accidents, personal injury, compensation and disability claims and by increasing productivity.

#### 3. 4. 2 Customer Service

An expanding focus on customer service has been resoundingly expressed in the consultations carried out throughout this Study. The industry recognizes the importance of not only providing safe and efficient transportation but doing so in a customer friendly manner. While much publicity focuses on negative public behaviour, the industry acknowledges that the vast majority of passengers want and deserve quality service. Furthermore, research demonstrates a strong correlation between service and ridership.

The hiring practices of the industry's members are now firmly centred on the importance of customer service, to which the industry has responded in a number of ways:

- developed National Occupational Standards (NOS) for Professional Bus Operators setting a high level of interpersonal competency (MCPCC)
- developed a national Accreditation Program whereby organizations must demonstrate comprehensive customer service training based on the NOS to receive this mark of distinction
- similarly, individuals being granted Certification must demonstrate performance at the NOS level
- association training programs, for example, CUTA's Transit Ambassador Program

# 3. 4. 3 Work-Life Balance

Over and above operational requirements, the industry is becoming more aware of employees' needs for a balanced lifestyle. Traditionally, this issue has contributed to recruitment and retention challenges, absenteeism and disability, as well as job dissatisfaction. Today, most workers are acutely aware of the impact that working conditions can have on their quality of life. Many are actively seeking work that offers them a degree of work-life balance. Job security and compensation are just two factors people consider when deciding where to work. Research reveals that jobs providing some measure of autonomy, decision-making authority and opportunity for self development are highly attractive. Further, with the increase in dual-income families and single parents, organizations that offer special accommodations and flexible work arrangements gain competitive advantages in recruiting (*Belcourt, Monica: Recruitment and Selection in Canada*).



To address this, some companies have implemented more sophisticated recruitment and orientation practices to ensure that people are prepared for the demands of the industry. As well, labour has been active in pursuing solutions with management and making representation to government.

In commenting on proposed driver hours of service, Motor Coach Canada (MCC) gives expression to the complexity of balancing both the economic consequences of operators taking more time off for rest and the necessity of providing for drivers' needs (MCC, 2003a).

A 2004 Study funded by Health Canada examined the link between work-life conflict and the demand on Canada's health care system. Almost one in five workers rated his or her health as fair or poor. Canadian companies are struggling to control benefit costs and establish what portion they can reasonably pass on to the employees. A potential solution is for companies to actively invest in the health of their workers by providing wellness programs that help workers cope with their work-life demands. The Human Resources Association of Ontario (HRPAO) estimates that there is a \$2 to \$6 return on investment for every \$1 spent on introducing wellness initiatives.

#### 3. 4. 4 Absenteeism

A major concern in the bus industry is the rate of absenteeism, principally among bus operators/drivers. As a symptom of other problems, it is part of a cyclical process—absenteeism leads to other organizational problems and inefficiencies that reduce employee morale and job satisfaction that in turn lead to increased absenteeism—that needs both intervention and prevention programs at various points in the cycle (Jacobs et al., 1996; Kompier et al., 2000). Implementing intervention and preventative programs and policies has been shown to decrease absenteeism, increase productivity, foster improved staff retention and ultimately decrease costs (Jacobs et al., 1996; Kompier et al., 2000). As these costs can be very high (Jacobs et al., 1996), it is important that management and labour collaborate to find solutions to reduce absenteeism.

Open communication between managers and bus operators is important in gaining the commitment of both parties to address workplace issues. This collaborative relationship is essential to managing organizational change, especially for an industry faced with mergers, acquisitions and technological advancement. Operators, if they perceive a lack of freedom, lack of recognition and a confrontational stance between themselves and management, may not feel committed to work, implying that management strategy has a high impact on organizational commitment (Brewer 1996, 1998).

Management practices that contribute to reducing absenteeism in operators are (Jacobs et al., 1996; Kompier, M., Aust B., Van Den Berg A., Siegrist, J., 2000):

- more flexible scheduling
- better control of overtime
- positive sick leave policies
- programs that encourage attendance

#### 3. 4. 5 Training and Development

Encouraging a culture of learning, training and skills development for all employees is becoming increasingly important. An effective strategy for improving levels of basic skills is a key prerequisite to enabling the industry to access non traditional labour pools to meet replacement and growth demands. While the industry traditionally provides the majority of its training in-house, broadening the scope of education sources and training delivery methods is critical. The Canadian changing demographics, customer demands and diverse cultures make training partnerships a way of the future. The industry-developed Accreditation program through the MCPCC provides organizations with the tools to assess their programs based on national Occupational Standards designed as "a benchmark of excellence." The employment and promotion of accredited industry-wide programs creates both industry and public recognition of professionalism across all sectors of the industry and maximizes the return on training investment (ROI).

#### 3. 5 Occupational Health and Safety

The occupational health and safety of operators is an area that has received a great deal of attention. As previously discussed, the technologies at play in the industry can contribute significantly to the well-being of operators, and infrastructure and equipment design and implementation can have significant impacts on operators' physical and mental health. Physically, operators, find themselves prone to many lifting, handling and strain injuries that often demand comprehensive disability management and modified work programs. The most notable issue specifically affecting bus operators is that of occupational stress.

#### 3. 5. 1 Occupational Stress

Occupational stress in operators/drivers is a result of various situations:

- negative social interactions with passengers, which could include both verbal abuse and physical violence
- time pressures of tightly planned schedules
- traffic congestion
- high demand work environments

Situational job demands increase stress, and the need to meet the demand of fast, punctual, friendly and safe service in poor driving conditions can easily exacerbate stress levels (Rydstedt et al., 1998b, Rydstedt et al., 1998a, Kompier et al., 2000). In addition to the stressors associated directly with the performance of the occupation, job stressors also include:

- isolation from co-workers
- · irregular work schedules
- low level of job support
- poor ergonomic bus design (Kompier et al., 2000)
- a lack of worker and family oriented policy (Grosswald 2002)

The results of occupational stress are physical and mental health problems that affect the cardiovascular and musculoskeletal systems and include rates of fatigue and gastrointestinal disorders higher than those in comparable professions. Such health problems lead to greater rates of absenteeism, more disability claims, lower work effort and an increased safety risk while driving (MCC 2003b; Rydstedt et al., 1998, B; Rydstedt et al., 1998, A; Kompier et, al., 2000).

Data from studies conducted in several different countries consistently find urban transit operators, differentiated from other industry operators/drivers due to "a uniquely severe combination of occupational stressors," to be among the unhealthiest of occupational groups, often demonstrated by high rates of absenteeism and attrition (Evans, 1998). Work-life imbalance, isolation, lack of control over work, split shifts that require inordinately long work days and stressors related to traffic congestion and customers/passengers are noted as critical issues. In a 1997 Study of stress management in operators, Aust, Peter and Siegrist found that a worksite management program that combines both individual and structural measures of reducing stress is feasible and exerts beneficial effects on critical, health adverse coping behaviours of operators. An industry best practice in the development and maintenance of healthy work environments is discussed in the appendix to this Study.

# 3. 5. 1. 1 Prevention and Mental Health

To date, little has been written regarding prevention and mental health in the workplace, specifically for bus operators. Prevention is different from intervention in that it is an attempt to prevent individuals from becoming hurt or affected by a given incident as opposed to intervening once an incident has occurred.

The U. S. National Institute for Occupational Safety and Health, Division of Safety Research published a bulletin (57) in July 1996 discussing violence in the workplace, investigating risk factors and prevention strategies. This report identified that risk factors that might increase a worker's risk for workplace assault include: contact with the public; exchange of money; delivery of passengers or goods; working alone or in small numbers; working in high crime areas; working in community-based settings (Violence in the Workplace (Current Intelligence Bulletin 57; Risk Factors) all of which are applicable to the industry.

Although not speaking specifically of bus operators, prevention strategies included such ideas as cashless transactions; physical separation from customers; visibility and lighting; security devices and personal protective equipment. Administratively, policies and procedures for assessing and reporting incidents were suggested as helpful to tracking and assessing threats and violent incidents. These can also be used to develop particular prevention strategies necessary for a particular area, as well as assessing effectiveness of such strategies. Further, training in non-violent response and conflict resolution was suggested to reduce the risk of volatility within a given incident.

# 3. 6 Career Development

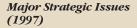
Given that over 69% of employees are in one job [bus operator], it follows that promotional opportunities are limited. The ratio of management to other employees has declined from census to census (2001 = 1:13 versus 1991 = 1:11). Therefore, career enhancement strategies and lifelong learning programs need to be created within that job. For example, technology is playing an increasing role in the industry's operations, opening the way for learning opportunities.

More recently, recognizing both the values of job rotation and mentoring, many organizations across the industry are giving employees the opportunity to take on different roles. Organizations have begun to take advantage of vast amounts of knowledge and occupational skills within their workforce by enabling current experienced employees to contribute to the training of newer employees. The opportunity to step outside of traditional roles is often perceived as a reward by participating employees. There is evidence, however, that many employees within the industry are not attracted to supervisory or management positions as they bring with them different work schedules, greater responsibility and remuneration packages that do not always enhance those of the positions being left behind.

# 3. 7 Management Challenges and Effectiveness

Over the course of this Study, members of the industry and its stakeholders were provided the opportunity to comment on the work of the industry and the issues that continue to shape it. In 1997, a number of *major strategic issues* were raised with respect to the industry's ability to manage its human resources.

In the years since the Price Waterhouse Study the industry has faced unprecedented events that have made a lasting impact on the way it conducts its business. These include but are not limited to: *increased security threats, SARS and other pandemics, environmental issues, restrictive legislation and increased workplace violence*. Many of the recurring human resources issues identified continue to resonate within the



- Instituting a commitment to change
- Training managers and union representatives to respond effectively to change
- Fostering collaboration between employers and labour organizations
- Developing innovative interpersonal and organizational skills
- Emphasizing the strategic planning focus in Human Resources Management

industry today along with the need to effectively address and cope with this changing environment.

Progress has been made on a number of fronts, for example, the MCPCC was created in 1999 and has focused on enhancing the image and professionalism of bus operators/drivers with national programs such as Occupational Standards, Accreditation, Certification, Career Awareness and Recruitment best practices. Furthermore, associations and unions have taken a strong role in advocating the bus industry to governments and developing and delivering effective education programs while individual companies have been more open in the sharing of best practices and policies—a number are outlined in the *Case Studies* section of this Study.

## 3. 7. 1 Communication and Labour/Management Relations

Across the industry, important communications issues continue to exist. Study participants shared their concerns regarding strained management/labour relations over such issues as cost control requirements—most specifically with respect to subcontracting work to third parties, the use of part-time workers, compensation expectations, working conditions and lack of recognition.

Still, the work that the members of the industry have done has yielded considerable improvements since 1997. A number of organizations have maintained very cooperative relationships with their unions. The health of these relationships will continue to be important to both sides in addressing such issues as absenteeism, work schedule allocation and flexibility, seniority rights, the use of contract workers and the unit cost of operations. Favourably, Study participants have indicated that there is prevalent recognition within the industry that labour and management are collaboratively responsible for resolving mutually relevant issues.

Many systems/companies have demonstrated the ability and will to implement more effective communications programs within their organizations. These initiatives ranged from formal to informal, but centred on the recognition that communications at all levels—colleague to colleague or employee to management—help improve the working environment and performance. Underpinning examples of successful union/management relationships (identified over the course of this Study) is an understanding that labour and management are collaboratively responsible for resolving current organizational issues.

# 3. 7. 2 Leadership

Leadership is a culmination of vision, skills, attitude and applied knowledge. There are many examples of participative leadership approaches that are transforming the way the industry is perceived as well as traditional top down management styles. Study participants have identified that there is a notable absence of well-developed skills relating to people and information management, business, financial and marketing acumen as well as proficiency in negotiation. Participants also commented on a general lack of formalized management training, development and succession planning programs.

Industry leaders are also represented within the ageing workforce demographic. It is critical that companies place high priority on developing workforce planning programs that include succession planning, mentoring and management development.

# 3. 7. 3 Finance and Operations Management

The stature, economic value, and essential nature of industry services have amplified the industry profile not only with the public but with all levels of government. Federal, provincial and municipal governments have increased their focus on and financial support to the industry, particularly the urban sub-sector. As a result, financial/fiscal accountability has become paramount. Organizations must ensure that managers are equipped with superior financial management skills.

# 3. 7. 4 Implementation of New Technology

The industry has implemented much technological advancement as outlined in Part 2. Some technologies are government imposed, others are manufacturer imposed, but the optional remainder relies on industry choice and acceptance. In this latter situation, the industry must become more collaborative with manufacturers in the conceptual development phase of the emerging technology to ensure that the end-product has reasonable cost-benefit value to the industry. Commonly cited reasons for not adopting new technologies are costs, both capital and maintenance, and replacement cycles. Furthermore, the industry is reluctant to implement costly technologies without proven return on investment (ROI).

# 3. 7. 5 Workforce Management

The industry's successes at managing its human resources have evolved considerably since 1997. Though not consistent across the industry, there are progressive management practices in place in many systems/companies which facilitate the ability of these service providers to remain competitive and profitable.

The school bus sub-sector, under considerable financial pressures in much of the country, has become very resourceful in finding new candidates. It has developed recruitment practices that identify and very successfully target specific segments of the labour market. The leading members of this sub-sector are capable of sustaining a productive recruitment funnel, the output of which exceeds that of many other organizations of similar size. Furthermore, it is also successful at leveraging the intangible rewards of the job—the responsibility of stewarding the future of the country—to attract and retain employees that are particularly influenced by values, principles and altruism.

Urban systems are beginning to demonstrate the ability to successfully manage to their advantage the relatively large numbers of applications they receive. In the face of increasingly demanding skill expectations, many urban systems have moved beyond a numbers game—from recruiting just to fill positions—to extracting the best candidates with specific skills from their pool of applicants.

Similarly, as the development of skills has become increasingly important, organizations have invested in an internal capability to generate knowledge, skills and competencies



# Recurring Specific HR Issues (1997)

- Managing an ageing workforce
- Developing interpersonal skills and customer-service focus
- Ensuring employee safety
- Improving communications
- Recruiting and retaining well-qualified employees
- Enhancing the image and professionalism of drivers
- · Reducing absenteeism
- Addressing employment equity for women and visible minorities
- Upgrading basic skills

that are specifically required for their operations including, those skills that employees and managers need to function most effectively as a unit. The industry's expanded focus on, and increased investment in the management of working conditions and effective organizational relationships will have a positive effect on the critical issues of stress and absenteeism.

The most pressing issues identified for industry attention are managing the ageing workforce, succession planning, increasing representation of women and visible minorities and implementing effective recruitment and retention strategies.





# Part 4

Workforce/Skills Demand Forecast to 2016



# 4.0 Workforce/Skills Demand Forecast to 2016

## 4. 1 Module Objectives

The purpose of this module is to provide quantitative estimates of skills demand by occupational category over a 10-year prospective timeline.

## 4. 2 Background

#### 4. 2. 1 Industry Evolution since 1997

The 1997 Study suggested a number of future scenarios that the sector might experience, but did not have the mandate to develop an in-depth workforce demand forecast.

Since then, the industry has been shaped more by external forces than by internal change. Demographic, economic, and societal influences have all played a part.

Demographically, continued Canadian urbanization and predominantly-urban immigrant settlement have substantially benefited the urban sub-sector, whereas lower birth rates plus this same urbanization have contributed to decreased school demand.

Economically, constantly escalating vehicle and operating costs (e.g. fuel, insurance) have challenged the business margins of all sub-sectors.

From a societal perspective, prevalent global terrorism, the most horrific example being the September 11, 2001 destruction of New York's World Trade Centre; and crisis events such as the SARS pandemic in Toronto, have negatively impacted primarily non-essential travel; certainly to the detriment of tour and charter.

Identification of ridership demand trends since 1997 is also significant, since quantifying ridership demand, both existing and potential, is foundational to determining current and estimating future workforce and vehicles demand.

Since 1996 through 2005, urban transit has produced an annualized ridership growth rate exceeding 2% per year. Intercity, after experiencing four weak ridership years (1993 -1996) has shown a modest total ridership increase of +4.7% for the period 1997-2004. The school sub-sector has experienced a -5.33% decrease in student ridership over the past five years. Reliable tour and charter data is not available, but it is a reasonable presumption that the significant decline of visitors to Canada has been a negative ridership influence.

#### Future Scenarios Identified in 1997

- changes in focus for some urban transit organizations
- significant restructuring in the intercity sub-sector
- reduction or elimination of services, especially to rural areas
- the charter market will offer additional growth opportunities for transportation providers
- student transportation services will continue to fuse with urban transit
- restructuring of school transportation will continue

#### **Industry Trends**

- changing role of provincial and municipal governments
- changes in models of governance
- regulatory changes
- changes in market share
- ecological pressures
- integration of transportation modes



# Opportunities Identified in 1997

- new sources of revenues and new services;
- optimizing fleet utilization;
- larger establishments (ergo economies of scale, scope, and/or density); and
- new customer profiles.

#### Threats Identified in 1997

- possible declines in ridership;
- · job security; and
- growth of alternative modes of transportation.

# 4. 2. 2 Workforce Changes Since 1997 Study

Via a 1996 Price Waterhouse telephone survey, stakeholders in each sub-sector were asked to forecast employment change for their sub-sector over the following five years, with the following results, expressed as percentages of respondents.

	Increase	Decrease	No Change
Urban	35	29	36
Intercity	28	20	52
Charter	53	10	37
School	24	32	45
Sector Average	35	22	43

It is notable that 65% of Sector respondents were not anticipating an increased demand for services sufficient to require an increased workforce. Only charter was dominantly positive.

In actuality, since 1996 through 2004 the urban Total Workforce has increased by +11.52%. Reliable historical data is not available for the other sub-sectors, an issue that has prevalently impeded authoritative analysis of these sub-sectors.

The 1997 report outlined that vehicle Operators made up by far the largest group of employees within the bus industry, accounting for 65. 1% of the total workforce as of the 1991 Study reference year. Maintenance workers and mechanics accounted for 6.3% of the workforce.

As of Census 2001, the percentage of operators had risen to 66.0% and mechanics to 7.2% (table 3-2). For 2004, Statistics Canada reports that drivers/operators now account for 69.3% of the industry workforce, reflecting a progressive percentile increase in this segment of the industry workforce since 1991. Conversely, the percentage of mechanics has returned to a 6.1% level.

The 1997 Study also identified that approximately 40% of the industry workforce was over 45 years old. Figure 3-5 shows that this percentage increased dramatically over the period 1991-2001, indicating a progressively greater demand over the Forecast period to replace workers eligible for retirement.

The following sections of this Part will focus on the identification of the workforce demand (for the sector, sub-sectors, and, where possible, regionally) which can be a reasonable expectation over the Forecast period 2004 – 2016.

#### 4. 3 Forecast Considerations

The general elements considered for Forecasts development include, without being limited to:

- all relevant issues expressed by industry participants in the Study
- economic and demographic factors which have bearing on the industry
- authoritative historical trends/data
- published and other media research material
- selected external consultations (e.g. legislative and academic authorities)
- distinctive sub-sector and regional characteristics

The Forecast will then project, for each sub-sector for the next decade: Operator Demand; Mechanic Demand; Other Employee Demand; Total Workforce Demand; Vehicle Demand; and Capital Costs of Vehicles. (Certain exclusions apply to several of these sections and are detailed in related narrative.)

The end-product is designed to be a demonstrably credible tool that can be used by the industry as a 10-year (2006 – 2016) "compass" in the context of workforce, fleet, and financial planning.

#### 4. 3. 1 Population and Demographic Trends

As discussed previously, the demographic make-up of Canada's population is changing, and the demand for transportation services across the sub-sectors is influenced significantly by general trends in population growth/contraction and composition.

As referenced in Part 1, Canada's annual population growth rate, which reached +1.80% in 1990, has subsequently declined to a current level of less than +1.0%, with some further decline predicted for the next decade; however, the urban population has shown growth for many years, primarily due to a combination of rural-to-urban migration and the predisposition of immigrants to settle within "like" urban ethnic neighbourhoods. Accordingly, the urban sub-sector, and to a lesser extent the school sub-sector, have proven and will continue to be the primary beneficiaries of these trends.

The ageing of the population is expected to benefit charter and tour services, where increasing numbers of elderly people have demonstrated a tendency to select buses for their tourism and vacation needs. However, as noted earlier, seniors consider retention of their driving ability extremely important to their quality of life and are generally unwilling to voluntarily give up that mobility and independence in favour of the bus, particularly within communities with less frequent and/or inconvenient urban and/or intercity service.

# 4. 3. 2 Legislative/Regulatory Environment

The federal government has regulatory authority over inter-provincial and international carriers, whereas the provinces regulate their provincial jurisdictions. The regulation of the motor carrier passenger industry typically forms part of legislative/regulatory frameworks that address all wheeled road vehicle transportation with most of the focus being on truck transportation.

During the Study, representatives of federal and provincial governments were contacted in an effort to identify and evaluate any emerging or contemplated policy issues/changes that might impact the industry.

Federal revisions relative to vehicle safety fitness, driver/operator hours of service, and the streamlining of inter-provincial carrier regulations are already in the process of implementation. Provincially, no significant changes to existing requirements for the industry are anticipated.

Industry proposals to governments to amend legislation have also been considered (e.g. the 2005 ATU Submission regarding the Canada Labour Code).

Forecasted capital costs have compensated for the added vehicle expense of adapting to new regulatory (e.g.: engine emissions) as well as voluntary (e.g.: low-floor vehicles) standards. Otherwise, there are no emerging legislative/regulatory issues, which will impact capital cost forecast projections.

# 4. 3. 3 Role of the Automobile

The primary competitor of the bus industry has been and will continue to be the automobile.

Canadian per-capita auto ownership continues to grow, greatly motivated by the real and perceived social, practical, and in many instances economic benefits of owing an automobile or comparable vehicle. For the period 1997 – 2005, road vehicle ownership per capita for the Canadian population increased from 0. 45 to 0. 56 (various Statistics Canada sources). In certain provinces, the trend/ratio is greater (e. g. Ontario: 0. 85 to 0. 97 for the period 1997 – 2002: Ontario Ministry of Transportation).

Also, Canadian automobile commuting patterns have not changed for well over a decade. The 2006 Statistics Canada General Social Survey on home-to-work commuting encompasses 1992, 1996, and 2005 data. Conclusions are that since 1992, over 80% of Canadian workers used an auto, either as driver or passenger, for commuting to/from work, whereas only approximately 12% (a constant figure for the Survey period) used the bus and/or subway for part or all of their round trip commute. "However, the proportion of workers using public transit to get to work is higher in large urban areas where service is accessible to most workers. In 2005, 20% of workers residing in the six largest metropolitan areas used the bus or subway for part or all of their commute. Once again, this proportion did not vary between 1992 and 2005."

There is little indication that economic factors (e.g. rising fuel prices, traffic congestion, parking shortages/rates) have influenced or will influence auto users to take public transportation, nor are there existing or foreseeable incentives sufficient to motivate significant numbers of auto users to do so.

In summary, there is no evidence to suggest that any sub-sector can expect to see growth as a direct result of auto drivers converting or diversifying to a bus mode; although the loss of, or decision to forego driving privileges due to general population ageing could have minimally positive effect on tour/charter and intercity ridership.

#### 4. 3. 4 Technology

The 2005 CUTA publication "Understanding the Transit Procurement Process" reports that over the past 17 years, the Canadian price for the average transit bus has increased by an average of +9.82% per year. Identified contributing factors include various new features/technologies now specified as standard equipment (e.g.: GPS systems, air conditioning, anti-lock, traction control, etc.). However, low-emission standards and low-floor technology were highlighted by members as paramount causes, whereas OEMs suggested on-board electronics and customization as the primary causes.

Pricing and contributing factors were similarly investigated for each other sub-sector. Accordingly, forecasted Capital Cost vehicle pricing reasonably incorporates the higher current standards applicable and common to new vehicle purchases for each sub-sector. Maintenance workforce projections compensate for the higher maintenance requirements necessitated by the rising level of technological complexity within the industry.

#### 4. 3. 5 Environmental Issues

Though environmentalism and the rising costs of fuel have been cited by many stakeholders as potentially having positive impacts on ridership, there is little to suggest that without unanticipated significant political intervention they will have substantial effect. Environmental issues are unlikely to encourage major modal shifts toward buses during the time-window for this forecast, but will likely only result in rising costs to operators of both buses and automobiles.

#### 4. 3. 6 Workforce Demand vs. Supply

Due to a stronger economy for much of the last decade, Canada's unemployment rate has progressively declined over this time to a mid-2006 "32 year low of 6.1%" (*Statistics Canada* 2006 – Labour Force Survey commentary). This diminished worker pool has contributed to a much more competitive market for qualified applicants/workers in many industries including the bus industry, and there is no indication that this situation will change in the near/intermediate term.



Representatives from all sub-sectors who participated in Working Groups, interviews and surveys unanimously highlighted a prevailing shortage of mechanics. All groups except urban also commented that driver/operator recruitment has become more difficult. Filling management/administration positions was also seen by many as becoming increasingly challenging.

Historical workforce "turnover" data for industry sub-sectors was not available for this Study, but is assumed to be recognized/quantified by all carriers as an essential component of workforce planning to ensure that operating efficiency is sustained.

Accordingly, in the current and foreseeable environment of workforce "high demand and short supply", this forecast will be limited to estimating changes in the existing workforce necessitated by sub-sector growth or contraction. Except for the school sub-sector where further consolidation is expected, forecasted data will primarily highlight the increased recruitment demand/challenge represented by the additional workforce that will be required to implement/sustain the expansion of services.

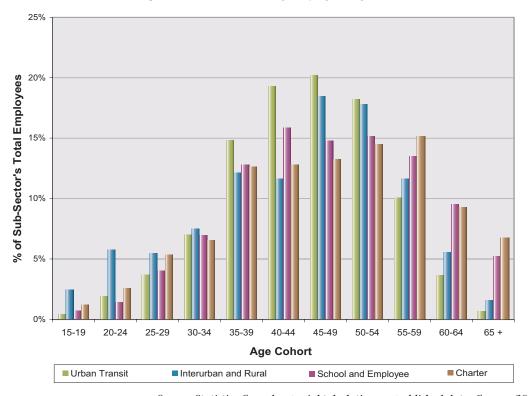
## 4. 3. 7 Workforce Retirements

Workforce retirements warrant special consideration by all sub-sectors. A combination of industry workforce ageing and the social trend toward earlier retirement has already increased worker-replacement demand, and will continue to do so over the forecast period.

Statistics Canada data on employees of urban transit systems, interurban and rural bus transportation, school and employee bus transportation and the charter bus industry (NAICS 4851, 4852, 4854 and 4855 respectively) provide age distributions for employees as of 2001 (figure 4-1).

**Figure 4-1:** Age Distribution of Industry Employees, 2001

Age Distribution of Industry Employees by Sub-Sector



Source: Statistics Canada, special tabulation, unpublished data, Census, 2001

Unfortunately, it is not possible to predict the actual attrition rate due to retirements for the industry, as this depends on a number of factors and would require more detailed demographic age information than is available.

However, between 1997 and 2000, 43% of all Canadians who retired did so before the age of 60; up from only 29% 10 years earlier (Certified General Accountants Association of Canada, 2005). By the end of the 2016 forecast period, all employees shown in figure 4-1 aged 40+ could potentially have retired at age 55 or older, representing more than 70% of the 2001 industry workforce. These ongoing retirements will need replacing and are **in addition to** forecasted workforce demand resulting from projected service increases.



#### 4. 3. 8 Urban Transit Trends

For the period 1996 – 2004, urban transit annual ridership increased from 1.353 billion to 1.598 billion passengers, representing total growth of +18.11%, averaging +2.26% per year, for this period.

Underlying this trend is the growth pattern of the Service Area Populations of urban areas ( the population living within 400 metres of a regular stop ), which has also progressively increased (+24.99% 1996-2003 ) due to factors including continued urban in-migration, continued annexation of surrounding municipalities, expansion of urban services to new areas and urban sprawl. Service Area Population estimates are assembled from Members each year by CUTA. Service Area Populations trends are very relevant to the forecasting of urban transit demand.

Urban vehicle demand considerations are diverse. As greater metropolitan residential densities emerge, some urban carriers are increasing the use of high-capacity vehicles to service high-demand corridors including Bus Rapid Transit (BRT) routes. Others have opted to increase service frequency by downsizing to a larger number of standard vehicles. The reduced seating capacities of low-floor buses are also adding to vehicle demand just to accommodate existing ridership.

In this fluid context, urban transit workforce demand during the Forecast period is expected to be slightly more than vehicular demand to satisfy expanded service levels including extended equipment utilization and the operating/service requirements of technological change.

# 4. 3. 9 Trends in School Transportation

In recent years, the Canadian student population has been, and now continues to be in a decline, which is demographically forecasted to continue through 2016.A 2006 MCPCC research activity, which included a national survey of provincial departments of education identified a -5.32% decrease in the registered student population during the period 2000 – 2005.The U. S National Centre for Educational Statistics reported similar U. S. student enrollment experience over the period 1997 – 2002; a decline of 5% (NCES – 2005).

Canadian educational authorities expect this trend to continue, but at a reduced rate. A further decrease of -3. 22% is estimated for the period 2005 – 2010.

Conversely, impending legislative changes regarding the construction specifications of new school buses for operation in Canada will potentially reduce vehicle seating capacities and are expected to create a need for additional vehicles in some school districts.

In this evolving context, school sub-sector demand Forecasts represent conservative change projections.

## 4. 3. 10 Funding

Intercity and tour/charter rely almost totally on passenger fares for Operating Revenues and Capital Debt Service. Conversely, urban and school are substantially reliant on government funding.

Urban transit depends primarily on municipal taxpayers to cover approximately 40% of operating costs, and on government funding from various levels to subsidize virtually all capital costs. Since the 90's, government transit funding support has increased coincident with the greater government emphasis on promoting transit ridership, but still falls far short of the sub-sector's estimate of "demand" requirements.

For the period 2006 - 2010, CUTA members estimated total transit infrastructure needs at \$20.7 Billion, including \$4.4 billion for bus refurbishment and purchases, and identified "buses as the clear priority". However, 26% of estimated total funding needs, and 26% of the estimated cost of the new buses required for projected services expansion and ridership growth currently have no funding commitments.

School bus transportation funding is primarily a provincial responsibility. The provincial government is the dominant carrier/operator of school buses in NB, MB, SK, and NL, while school boards and/or municipalities are major participants in BC, NS, and AB. As viewed by school sub-sector participants and sources, student transportation funding has not kept pace with increases in operating costs, including fleet maintenance and replacement, and this appears to be a continuing issue.

However, governments have increasingly prioritized urban and school funding. Urban will benefit from such initiatives as the reallocation of federal gas tax funds, and project-specific public-private partnerships. School funding relief has repeatedly included one-time supplementary grants to keep contracted services intact, and new approaches to more permanent solutions are being explored.

This Forecast recognizes that achievement of workforce and fleet growth to support demand estimates is contingent upon funding sufficiency in each sub-sector.

#### 4. 4 Methodology

#### 4. 4. 1 Scope and Structure

**Sub-Sectors:** The bus industry is analyzed on a sub-sectoral basis, encompassing *urban*, *school, intercity, and tour/charter.* Each sub-sector forecast will estimate/quantify Workforce Demand, Vehicle Demand, and Vehicle Capital Costs, through year 2016. The urban and school forecasts include regional figures. The intercity and charter/tour forecasts present national figures only, due to available data limitations/inconsistencies, and the non-regional nature of these sub-sectors. As there is little segregated data on accessible/paratransit services, this recognized component of the industry can not be separately forecasted, but is referenced in detail in Part One.

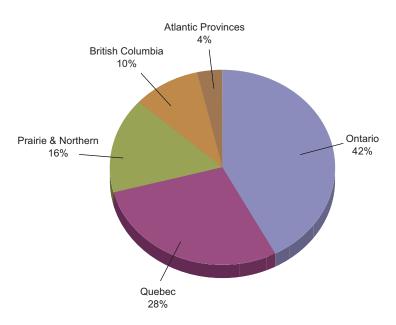
**Regions:** As noted, regional demand analysis is projected for the urban and school subsectors only. The geography of Canada has been divided into five regions: British Columbia; Prairie and Northern (including Yukon, Northwest Territories and Nunavut), Ontario; Québec; and Atlantic.

**Workforce Categories:** The respective industry workforce shares of the five regions analyzed are shown in (*figure 4-2*). Three workforce classifications are used in the forecast; Operators, Mechanics, and Other. Almost 70% of the 2004 industry workforce was operators (Statistics Canada – 2006). Although mechanics have historically represented only 6-7% of the workforce, it is the skills of the mechanic that currently and foreseeably represent highest industry demand. Due to the significance of prevailing demand in these two categories, and inconsistent data on other positions, the workforce remainder are grouped as *Other*.

**Workforce Demand Forecasts:** Workforce data changes beyond 2003 relate only to demand resulting from projected services expansion/contraction. Replacement requirements to compensate for normal attrition including retirements are not estimated due to unavailability of relevant data, but are expected to increase over the next decade as a result of factors including the ageing (pre-retirement) trend within the industry workforce coupled with greater market-competition for recruits and more-selective hiring processes.

Figure 4-2: Industry Workforce by Region

Regional Distribution of Industry Labour - 2001



Source: Statistics Canada, special tabulation, unpublished data, Census, 2001

**Vehicle Demand Forecasts:** Vehicle data changes and cost estimates beyond 2003 relate only to demand resulting from projected services expansion/contraction. These forecasted numbers are the basis for projecting Workforce Demand. Replacement vehicles are quantified only as a component of Capital Costs projections.

**Tables:** The tables embodied in the main text reflect historical statistics from sources considered authoritative, and forecast the most likely and most reasonable demand levels for workforce elements and vehicles through 2016.

## 4. 4. 2 Data Development

**General:** The findings of all Study activities (workshops, key stakeholder interviews, web and paper surveys, literature reviews, etc.) were re-evaluated to ensure consideration of all forecast-related material. Also, external credentialed specialists were engaged where specific expertise was required (e.g.: demographic trends, data analysis/development).

**CUTA Data:** Member transit systems currently represent "approximately 98%" of the Canadian urban transit industry. Accordingly, urban data is substantially derived from CUTA as the authoritative information source for the sub-sector.

**Statistics Canada Data:** Statistics Canada is the primary source of **historical** workforce and fleet data for non-urban sub-sectors via their annual Surface and Marine Transport Report. [Their urban content is substantially sourced from CUTA.] Non-urban revenue-generating carriers are extensively surveyed under a "mandatory response" requirement.

The subject Report is presented as representing "over 95%" of revenue-producing Canadian carriers since 2000 following redesign of format/scope and response criteria. (Comparison with prior years' data is no longer practical.) It does not include not-for-profit carriers (e. g. churches, employers) and buses operated by provincial governments (e. g. 95% of NB school buses are operated by the province). [Due to these and other (e. g. non-operating vehicles) exclusions, the 2003 Report total of 57,989 Sector vehicles is 21,540 fewer (-27.08%) than the 2003 total of Canadian bus registrations as referenced in the Statistics Canada Canadian Vehicle Survey –  $4^{\rm th}$  Quarter. In essence, the Report encompasses approximately 73% of Canadian bus registrations, but most exclusions are in concert with exceptions applicable to the scope of the MCPCC Sector Study. ] Study application of Statistics Canada data for purposes of Forecasts development has considered the limitations expressed herein.

#### 4. 4. 3 Calculation Elements

**Trends:** Demographic trends (e.g.: population growth and settlement patterns, urban service area populations growth, school-age population and student registrations trends, ridership, etc.) in addition to historical operating-data trends have been developed and evaluated to establish a 10-year demand for the new vehicles that will be required to support expansion/changes in service levels.

**Ratios:** Workforce demand for the Drivers/Operators, Mechanics, and other personnel necessary to support projected fleet growth/change is developed on a ratio-to-vehicle basis tailored to the characteristics and operating/performance requirements of each sub-sector.

Workforce analysis is done on a "bodies required" basis rather than on a full-time equivalent (FTE) basis.

#### 4. 5 Urban Transit Forecast

#### 4. 5. 1 Research Context

Although many Study participants and external sources contributed to an understanding and evaluation of the urban sub-sector; predominant support, in the form of data, published and unpublished research, and ongoing consultation was provided by the Canadian Urban Transit Association (CUTA).

CUTA is considered the most authoritative source of urban sub-sector information, having represented a dominant percentage of urban carriers since the late 1990's, with current urban membership, as previously referenced, encompassing "approximately 98% of the sub-sector."

#### 4. 5. 2 Urban Profile (selected data)

#### **Urban Position within Industry**

Urban is by far the dominant sub-sector in the motor carrier passenger industry. For 2004, Statistics Canada (preliminary data) reported that urban represented approximately 49.6% of the FTE industry workforce, and 27.5% of industry vehicles.

#### **Urban Ridership**

Ridership has increased from 1.352 billion passengers carried in 1996 to an all-time high of 1.630 billion passengers carried in 2005; representing a +20.56% ridership increase for the 9 year period 1996-2005, an average annual ridership increase for the period of +2.28%.

Urban ridership growth is projected to continue over the 2006 - 2016 Forecast period.

#### Workforce / Vehicles

For 2004, CUTA reported that the sub-sector encompassed 43,530 employees and 15,236 vehicles.

For the period 1996–2004, the urban sub-sector has shown consistent growth of Total Workforce and Vehicles to enable systems expansion and service public/passenger demand; producing cumulative Workforce growth of +11.52% and cumulative Vehicles growth of +14.14% for the period.

Systems and component growth are expected to continue over the 2006-2016 Forecast period in order to service the demands of current and growth ridership, and the development of new Service Areas.

#### **Fleet Composition**

The urban fleet encompasses a broad spectrum of vehicle types. Rubber-tired bus formats include high-floor, low-floor, trolley, articulated, double-deck, and "community." Rail vehicles include light rail (LRT), heavy rail, commuter rail, and trolley (streetcar) modes. The composition of and trends relating to the cumulative Canadian urban transit fleet are presented in the following table. (Transport Canada Table A7-6-"Transportation in Canada 2005")

U	RBANTR	ANSIT FL	EET COM	POSITION	N, 1996 -	2004 (Nu	mber of v	ehicles)	
	1996	1997	1998	1999	2000	2001	2002	2003	2004
Number of carriers reporting	77	65	62	66	67	66	67	69	69
Standard motor bus	9,622	9,030	8,554	8,234	8,172	7,940	7,466	6,879	6,326
Low floor bus	499	1,019	1,827	2,453	2,724	3,093	3,538	4,347	5,018
Trolley coach	319	322	315	304	303	304	293	290	284
Articulated bus	287	287	297	325	347	437	429	470	495
Light rail vehicle	520	520	520	520	521	530	594	611	613
Heavy rail vehicle	1,373	1,381	1,395	1,419	1,431	1,451	1,451	1,451	1,443
Commuter rail vehicle	359	336	346	505	531	539	579	586	613
Other <sup>1</sup>	70	182	169	262	284	266	315	336	444
Total vehicles	13,049	13,077	13,423	14,022	14,313	14,560	14,665	14,970	15,236

1 Including double-decker bus, small community bus, and other unspecified.

Source: Statistics Canada, Passenger bus and urban transit statistics, Cat. 53-215: 1996-1999; special tabulation based on Canadian Urban Transit Association (CUTA): 2000-2004.

#### 4. 5. 3 Scope of Data

Historically, buses (rubber-tired vehicles) have represented approximately 83% of the cumulative Canadian urban transit fleet. The remainder consists of rail vehicles (light rail, heavy rail, and commuter rail).

It is beyond the scope and ability of this Study to accurately and meaningfully segregate rail vehicles and related personnel from total urban statistics, due to such factors as differing vehicle requirements for operation/servicing on a personnel-to-vehicle-ratio basis, and regional ratio differences in terms of regional use of buses vs. rail vehicles.

Accordingly, urban historical and forecasted data must be presented as though all vehicles are buses and as though all personnel shown relate to these buses.

For recognition purposes, the concluding urban transit table in this study Section 4.5 will show cumulative national data for Vehicles, Operators, Mechanics, and Other employees at 83% of the preceding tables, providing summary data that reasonably represents the bus (non-rail) portion of the urban sub-sector.



# 4. 5. 3. 1 Canadian Population

The Canadian population trend is a foundational consideration to the urban transit Forecast. As detailed in the following tables, population growth is expected to occur in all regions over the Forecast period, but at a slowly declining rate of growth.

**Table 4-1a:** Population by Region, Historical and Forecast to 2016.

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	3,874,276	4,011,342	4,078,447	4,181,547	4,255,690	4,446,940	4,633,723
Prairies/ Northern	5,027,250	5,208,706	5,307,230	5,457,244	5,538,909	5,735,368	5,926,275
Ontario	11,083,052	11,506,359	11,897,647	12,383,934	12,680,153	13,427,632	14,156,497
Québec	7,246,896	7,323,308	7,396,990	7,538,159	7,649,278	7,939,870	8,223,934
Atlantic	2,379,283	2,354,163	2,340,937	2,346,237	2,349,694	2,356,833	2,363,690
Canada	29,610,757	30,403,878	31,021,251	31,907,121	32,473,724	33,906,643	35,304,119

Source: The Centre for Spatial Economics, special compilation, unpublished data 2004.

Table 41b: Average Annual Percentage Population Growth, Historical and Forecast to 2016

Region	1996	1996-1999	1999-2001	2001-2004	2004-2006	2006-2011	2011-2016
British Columbia		1.17%	0.83%	0.84%	0.88%	0.88%	0.83%
Prairies/ Northern		1.19%	0.94%	0.93%	0.75%	0.70%	0.66%
Ontario		1.26%	1.69%	1.34%	1.19%	1.15%	1.06%
Québec		0.35%	0.50%	0.63%	0.73%	0.75%	0.71%
Atlantic		-0.35%	-0.28%	0.08%	0.07%	0.06%	0.06%
Canada		0.88%	1.01%	0.94%	0.88%	0.87%	0.81%

# 4. 5. 3. 2 Service Areas Population

The Service Area Population (SAP) (the population living within 400 metres of a regular stop) refers to that segment of the General Population with greatest ridership potential due to transit services proximity.

The SAP has seen growth in all regions since the 1997 industry Study, and currently represents an estimated 64.5% of the Canadian Population. The BC region is the best served, with the SAP representing 79.3% of the regional population, whereas Atlantic's SAP is least, at 34.1%.

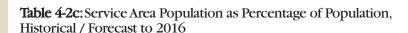
**Table 4-2a:** Service Area Population, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	1,862,248	3,064,635	3,287,201	3,290,872	3,378,590	3,608,360	3,837,587
Prairies / Northern	2,783,779	2,901,789	3,043,053	3,191,001	3,274,799	3,480,212	3,684,943
Ontario	7,396,509	7,650,690	8,211,793	8,769,106	9,084,666	9,897,268	10,711,727
Québec	3,325,610	4,044,565	4,257,899	4,301,201	4,409,263	4,697,022	4,985,534
Atlantic	651,362	694,244	777,787	789,599	801,272	825,884	850,165
Canada	16,019,508	18,355,923	19,577,733	20,341,779	20,948,590	22,508,746	24,069,956

Source: CUTA and the Centre for Special Economics unpublished data estimates - 2004.

**Table 4-2b:** Average Annual Service Area Population Growth Rate, Historical / Forecast to 2016

Region	1996-1999	1999-2001	2001-2004	2004-2006	2006-2011	2011-2016
British Columbia	18.06%	3.57%	0.04%	1.32%	1.32%	1.24%
Prairies / Northern	1.39%	2.41%	1.60%	1.30%	1.22%	1.15%
Ontario	1.13%	3.60%	2.21%	1.78%	1.73%	1.59%
Québec	6.74%	2.60%	0.34%	1.25%	1.27%	1.20%
Atlantic	2.15%	5.85%	0.50%	0.74%	0.61%	0.58%
Canada	4.64%	3.27%	1.28%	1.48%	1.45%	1.35%



Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	48.07%	76.40%	80.60%	78.70%	79.39%	81.14%	82.82%
Prairies / Northern	55.37%	55.71%	57.34%	58.47%	59.12%	60.68%	62.18%
Ontario	66.74%	66.49%	69.02%	70.81%	71.64%	73.71%	75.67%
Québec	45.89%	55.23%	57.56%	57.06%	57.64%	59.16%	60.62%
Atlantic	27.38%	29.49%	33.23%	33.65%	34.10%	35.04%	35.97%
Canada	54.10%	60.37%	63.11%	63.75%	64.51%	66.38%	68.18%

Source: CUTA, Canadian Transit Fact Book, 2004; The Centre for Spatial Economics, unpublished data, 2004; estimation

It is significant that the SAP growth rate, reflecting a combination of services expansion and population trends, has consistently exceeded the growth rate of the General Population, increasing by +26.98% 1996 -2004 vs. a GP growth rate of +7.76% for the same period.

Service Area Population growth is projected to continue over the 2006 - 2016 Forecast period.

# 4. 5. 3. 3 Urban Ridership

As earlier referenced, ridership has increased from 1.352 billion passengers carried in 1996 to an all-time high of 1.630 billion passengers carried in 2005; representing a +20. 56% ridership increase for the 9 year period 1996-2005, an average annual ridership increase for the period of +2.28%.

**Table 4-2d:** National Ridership Compared to National Service Area Population - 1996 - 2016

Urban	1996	1999	2001	2004	2006	2011	2016
Passengers (billions)	1.353	1.442	1.481	1.598	1.639	1.832	2.038
Annual % change		2.15%	1.35%	2.56%	1.28%	2.25%	2.15%
Rides/SAP capita	84.45	78.56	75.65	78.56	78.25	81.4	84.68
Annual % change		-2.38%	-1.87%	1.26%	-0.20%	0.79%	0.79%

Source: Ridership data from CUTA and Statistics Canada (supplied by CUTA)

Regional ridership forecasts are impractical, due to the broad scope of differing regional influences, ranging from the BC region's topography favouring urban densification to the negligible population growth in Atlantic. However, each region has experienced growth during the eight-year period 1996-2004, and is expected to contribute to national urban transit ridership growth over the Forecast period.

**Table 4-2e:** Urban Regional Historical Ridership 1996 – 2004 (000)

Region	1996	1999	2001	2004	% Increase 1996-2004
British Columbia	139,765	159,530	129,220	192,579	37.79%
Prairies/Northern	162,792	175,691	168,434	193,567	18.90%
Ontario	589,280	627,666	680,001	700,159	18.82%
Québec	433,550	454,479	473,795	480,321	10.79%
Atlantic	21,113	20,118	22,264	25,393	20.27%
Canada	1,346,501	1,437,485	1,473,714	1,592,018	18.23%

Source: CUTA - various. Canada totals vary slightly from previous table due to rounding.

#### 4. 5. 3. 4 Urban Historical Data: Workforce and Vehicles

Table 4-3 provides regional and cumulative historic data on the urban transit workforce and vehicles for the period 1996-2004. Though the rates of vehicle and workforce growth or contraction may not move in lock-step with each other (one would not expect the industry to be perfectly fluid and consistent in vehicle purchasing and workforce adjustments), the significant elements considered foundational to the urban workforce forecast relate to the trending of workforce-to-vehicle ratios. As an example, the national figure of Mechanics per vehicle suggests a trend toward a greater requirement for mechanics for each vehicle in use, having moved from 0.166 to 0.192 between 1996 and 2004. Trends in the figures for Operators and Other Employees per bus are less evident, but are also suggestive of ratios to which the industry gravitates. The following tables consider to the extent reasonably possible the significant regional differences/influences which produce regional data variations.

 Table 4-3: Historic Relationships between urban Vehicles and Employees by Region -1996 - 2004

Year	Region	Vehicles	Operators	Vehicle Mechanics	Other Workforce	Total Work- force		Mechanics per vehicle	Worktorce	Total Work- force per vehicle
1996	British Columbia	1,362	2,704	552	1,262	4,518	1.99	0.40	0.93	3.32
	Prairies / Northern	2,343	3,619	344	1,483	5,446	1.54	0.15	0.63	2.32
	Ontario	5,505	8,145	898	7,438	16,481	1.48	0.16	1.35	2.99
	Québec	3,580	5,808	275	5,083	11,166	1.62	0.08	1.42	3.12
	Atlantic Prov.	325	496	106	160	762	1.53	0.37	0.49	2.34
	Total	13,115	20,772	2,175	15,426	38,373	1.58	0.17	1.18	2.93
1999	British Columbia	1,788	3,403	591	1,368	5,362	1.90	0.33	0.77	3.00
	Prairies / Northern	2,526	3,964	438	1,445	5,847	1.57	0.17	0.57	2.32
	Ontario	5,594	8,350	890	7,009	16,249	1.49	0.16	1.25	2.91
	Québec	3,774	5,110	574	4,964	10,648	1.35	0.15	1.31	2.82
	Atlantic Prov.	347	483	111	142	736	1.39	0.32	0.41	2.12
	Total	14,029	21,310	2,604	14,928	38,842	1.52	0.19	1.06	2.77
2001	British Columbia	1,916	3,529	646	1,449	5,624	1.84	0.34	0.76	2.94
	Prairies / Northern	2,647	4,269	453	1,418	6,140	1.61	0.17	0.56	2.32
	Ontario	5,845	8,977	987	8,090	18,054	1.54	0.17	1.39	3.01
	Québec	3,802	5,095	642	5,097	10,834	1.34	0.17	1.34	2.85
	Atlantic Prov.	363	513	86	171	770	1.41	0.24	0.47	2.12
	Total	14,573	22,383	2,814	16,225	41,422	1.54	0.19	1.11	2.84
2004	British Columbia	1,947	3,534	696	1,636	5,866	1.81	0.36	0.84	3.01
	Prairies / Northern	2,774	4,549	477	1,575	6,601	1.64	0.17	0.57	2.38
	Ontario	6,241	9,924	1,006	8,111	19,041	1.59	0.16	1.3	3.05
	Québec	3,897	5,298	651	5,237	11,186	1.36	0.17	1.34	2.87
	Atlantic Prov.	377	562	88	186	836	1.49	0.23	0.49	2.22
	Total		23,867	2,918	16,745	43,530	1.57	0.19	1.10	
1996-1999	% change	6.97%	2.59%	19.72%	-3.23%	1.22%	-4.09%	11.92%	-9.53%	-5.37%
	Avg. ann. % ch	2.27%	0.86%	6.18%	-1.09%	0.41%	-1.38%	3.83%	-3.28%	-1.82%
1999-2001	% change	3.88%	5.04%	8.06%	8.69%	6.64%	1.11%	4.03%	4.63%	2.66%
	Avg. ann. % ch.	1.92%	2.49%	3.95%	4.25%	3.27%	0.56%	2.00%	2.29%	1.32%
2001-2004	% change	4.55%	6.63%	3.70%	3.20%	5.09%	1.98%	-0.77%	-1.25%	0.53%
	Avg. ann. % ch.	1.49%	2.16%	1.22%	1.06%	1.67%	0.66%	-0.26%	-0.42%	0.18%
1996-2004	% change	14.14%	13.74%	30.16%	5.91%	11.52%	-0.35%	14.03%	-7.21%	-2.29%
	Avg. ann. % ch.	5.12%	4.74%	10.29%	2.77%	4.29%	-0.37%	4.88%	-2.23%	-0.79%

Source: CUTA, Canadian Transit Fact Book, 1997-2004

#### 4. 5. 3. 5 Urban Vehicles Tables

The assumptions that drive the forecast of urban transit vehicles and the Workforce are the continued growth of Service Area Populations outpacing that of the provincial populations (tables 4-1b and 4-2b) and increased government support for urban transit. The continuing trend toward urban settlement and municipal amalgamations will extend the obligation of municipalities to provide transit services to a larger and more widely dispersed citizenship. Current government emphasis has also recognized the need to fund expanded service levels to meet existing ridership demand. Both factors contribute to a vehicle growth rate larger than that of the Service Area Population (table 4-4b).

Table 4-4a: Total Urban Vehicle Requirements: Historical / Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	1,362	1,788	1,916	1,947	2,009	2,174	2,341
Prairies / Northern	2,343	2,526	2,647	2,774	2,858	3,065	3,273
Ontario	5,505	5,594	5,845	6,241	6,522	7,258	8,010
Québec	3,580	3,774	3,802	3,897	4,005	4,293	4,584
Atlantic	325	347	363	377	394	431	470
Canada	13,115	14,029	14,573	15,236	15,788	17,221	18,678

Table 4-4b: Annual Growth Rates: Urban Transit Vehicle Requirements - 1996 to 2016

Region	1996-1999	1999-2001	2001-2004	2004-2006	2006-2011	2011-2016
British Columbia	10.43%	3.58%	0.54%	1.60%	1.64%	1.52%
Prairies / Northern	2.60%	2.40%	1.60%	1.51%	1.45%	1.35%
Ontario	0.54%	2.24%	2.26%	2.25%	2.26%	2.03%
Québec	1.81%	0.37%	0.83%	1.38%	1.44%	1.34%
Atlantic	2.26%	2.31%	1.29%	2.23%	1.89%	1.73%
Canada	2.32%	1.94%	1.52%	1.81%	1.81%	1.69%



Table 44c: Additional Urban Vehicle Requirements - Historical / Forecast Periods to 2016

Region	1996-1999	1999-2001	2001-2004	2004-2006	2006-2011	2011-2016
British Columbia	426	128	31	62	165	167
Prairies / Northern	183	121	127	84	207	208
Ontario	89	251	396	281	736	753
Québec	194	28	95	108	288	291
Atlantic	22	16	14	17	37	39
Canada	914	544	663	552	1,433	1,457
Annual		272	221	276	287	291

# 4. 5. 3. 6 Urban Operators Tables

The regional historical Workforce-to-vehicles ratio trends detailed in table 4-3 are the starting point for estimating the future Workforce requirement of the industry.

For Operators, it is expected that there will be continued urban effort to moderate practices such as split shifts, contributing to a continuing increase in Operator-to-vehicle ratios. Also, service level improvements to meet ridership demand (e.g., expanded hours of service, increased service frequency) should also produce greater vehicle use and increased Operator-to-vehicle ratios.

Table 4-5a: Ratio of Operators to Vehicles in Urban Transit, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	1.99	1.9	1.84	1.82	1.82	1.84	1.85
Prairies / Northern	1.54	1.57	1.61	1.64	1.64	1.66	1.67
Ontario	1.48	1.49	1.54	1.59	1.6	1.61	1.63
Québec	1.62	1.35	1.34	1.36	1.36	1.37	1.38
Atlantic	1.53	1.39	1.41	1.49	1.5	1.51	1.52
Canada	1.58	1.52	1.54	1.57	1.57	1.59	1.6

Table 4-5b: Total Urban Transit Operators, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	2,704	3,403	3,529	3,534	3,659	3,990	4,327
Prairies / Northern	3,619	3,964	4,269	4,549	4,700	5,076	5,456
Ontario	8,145	8,350	8,977	9,924	10,417	11,715	13,056
Québec	5,808	5,110	5,095	5,298	5,459	5,893	6,333
Atlantic	496	483	513	562	590	651	716
Canada	20,772	21,310	22,383	23,867	24,825	27,324	29,888

**Table 4-5c:** Changes: Urban Transit Operators, Historical and Forecast Periods to 2016

Region	1996-1999	1999-2001	2001-2004	2004-2006	2006-2011	2011-2016
British Columbia	699	126	5	125	331	337
Prairies / Northern	345	305	280	151	375	380
Ontario	205	627	947	493	1298	1341
Québec	-698	-15	203	161	433	440
Atlantic	-13	30	49	28	61	65
Canada	538	1,073	1,484	958	2,499	2,564

# 4. 5. 3. 7 Urban Mechanics Tables

The growth in the number of mechanics is driven in part by the increasing technical diversity/requirements of the trade attributable to the greater complexity of vehicle maintenance.

Table 4-6a: Ratio of Mechanics to Vehicles in Urban Transit, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	0.41	0.33	0.34	0.36	0.35	0.34	0.33
Prairies / Northern	0.15	0.17	0.17	0.17	0.17	0.18	0.19
Ontario	0.16	0.16	0.17	0.16	0.16	0.17	0.18
Québec	0.08	0.15	0.17	0.17	0.17	0.18	0.18
Atlantic	0.33	0.32	0.24	0.23	0.24	0.25	0.26
Canada	0.17	0.19	0.19	0.19	0.19	0.2	0.2

Table 46b: Total Urban Transit Mechanics, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	552	591	646	696	709	744	778
Prairies / Northern	344	438	453	477	499	554	611
Ontario	898	890	987	1,006	1,074	1,260	1,460
Québec	275	574	642	651	678	752	830
Atlantic	106	111	86	88	94	107	122
Canada	2,175	2,604	2,814	2,918	3,054	3,417	3,800

**Table 46c:** Changes: Urban Transit Mechanics, Historical and Forecast Periods to 2016

Region	1996-1999	1999-2001	2001-2004	2004-2006	2006-2011	2011-2016
British Columbia	39	55	50	13	34	34
Prairies / Northern	94	15	24	22	55	57
Ontario	-8	97	19	68	186	200
Québec	299	68	9	27	74	77
Atlantic	5	-25	2	6	14	15
Canada	429	210	104	136	363	383

# 4. 5. 3. 8 Urban Other-Employees Tables

Although the forecasted demand for Other Employees is reflective of forecasted subsector growth in systems/services over the Forecast period, the ratio of Other Employees to vehicles is expected to decline slowly but progressively.

Table 4-7a: Ratio of Other Urban Transit Employees to Vehicles, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	0.93	0.77	0.76	0.84	0.84	0.82	0.81
Prairies / Northern	0.63	0.57	0.54	0.57	0.57	0.58	0.6
Ontario	1.35	1.25	1.38	1.3	1.29	1.26	1.24
Québec	1.42	1.32	1.34	1.34	1.34	1.32	1.3
Atlantic	0.49	0.41	0.47	0.49	0.5	0.51	0.53
Canada	1.18	1.06	1.11	1.1	1.09	1.08	1.07

Table 4-7b: Total Other Urban Transit Employees, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	1,262	1,368	1,449	1,636	1,678	1,787	1,896
Prairies / Northern	1,483	1,445	1,418	1,575	1,637	1,792	1,952
Ontario	7,438	7,009	8,090	8,111	8,403	9,154	9,908
Québec	5,083	4,964	5,097	5,237	5,353	5,659	5,964
Atlantic	160	142	171	186	197	221	248
Canada	15,426	14,928	16,225	16,745	17,267	18,615	19,968

**Table 4-7c:** Changes: Other Urban Transit Employees, Historical and Forecast Periods to 2016.

Region	1996-1999	1999-2001	2001-2004	2004-2006	2006-2011	2011-2016
British Columbia	106	81	187	42	109	109
Prairies/ Northern	-38	-27	157	62	155	159
Ontario	-429	1081	21	292	752	753
Québec	-119	133	140	116	306	305
Atlantic	-18	29	15	11	24	26
Canada	-498	1297	520	522	1347	1353



# 4. 5. 3. 9 Urban Total Workforce Tables

Tables 4-8a through 4-8c consolidate previous urban workforce tables. In the Part 4 Section "Overall Industry Outlook", Total Workforce numbers will be adjusted downward by -17% to more closely relate historical and forecasted personnel to the bus (excluding rail) component of the urban sub-sector.

Table 4-8d details the relationship significance of the Service Area Population to the sub-sector Workforce. Table 4-8e anticipates a 2004-2011 National Total Workforce increase to accommodate the expected development of Service Area Populations via systems and services expansion resulting from the current funding and focus emphasis from all government levels. This momentum is expected to crest by 2011.

Table 4-8a: Ratio of Urban Transit Workforce to Vehicles, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	3.32	3	2.94	3.01	3.01	3	2.99
Prairies / Northern	2.32	2.31	2.32	2.38	2.39	2.42	2.45
Ontario	2.99	2.9	3.09	3.05	3.05	3.05	3.05
Québec	3.12	2.82	2.85	2.87	2.87	2.87	2.86
Atlantic	2.34	2.12	2.12	2.22	2.24	2.27	2.31
Canada	2.93	2.77	2.84	2.86	2.86	2.87	2.87

Table 4-8b: Total Urban Transit Workforce, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	4,518	5,362	5,624	5,866	6,046	6,521	7,001
Prairies / Northern	5,446	5,847	6,140	6,601	6,836	7,422	8,018
Ontario	16,481	16,249	18,054	19,041	19,894	22,129	24,424
Québec	11,166	10,648	10,834	11,186	11,490	12,304	13,127
Atlantic	762	736	770	836	880	980	1,086
Canada	38,373	38,842	41,422	43,530	45,146	49,356	53,656

Table 4-8c: Changes in Urban Transit Workforce, Historical and Forecast Periods to 2016

Region	1996-1999	1999-2001	2001-2004	2004-2006	2006-2011	2011-2016
British Columbia	844	262	242	180	475	480
Prairies / Northern	401	293	461	235	586	597
Ontario	-232	1,805	987	853	2,235	2,295
Québec	-518	186	352	304	814	823
Atlantic	-26	34	66	44	99	106
Canada	469	2,580	2,108	1,616	4,210	4,300



**Table 48d:** Ratio of Total Workforce to Service Area Population, Historical and Forecast to 2016

Region	1996	1999	2001	2004	2006	2011	2016
British Columbia	0.24%	0.17%	0.17%	0.18%	0.18%	0.18%	0.18%
Prairies / Northern	0.20%	0.20%	0.20%	0.21%	0.21%	0.21%	0.22%
Ontario	0.22%	0.21%	0.22%	0.22%	0.22%	0.22%	0.23%
Québec	0.34%	0.26%	0.25%	0.26%	0.26%	0.26%	0.26%
Atlantic	0.12%	0.11%	0.10%	0.11%	0.11%	0.12%	0.13%
Canada	0.24%	0.21%	0.21%	0.21%	0.22%	0.22%	0.22%

Table 4-8e: Total Urban Transit Workforce Growth Rate, Historical and Forecast to 2016

Region	1996-1999	1999-2001	2001-2004	2004-2006	2006-2011	2011-2016
British Columbia	5.88%	2.41%	1.41%	1.52%	1.52%	1.43%
Prairies / Northern	2.40%	2.47%	2.44%	1.77%	1.66%	1.56%
Ontario	-0.47%	5.41%	1.79%	2.22%	2.15%	1.99%
Québec	-1.57%	0.87%	1.07%	1.35%	1.38%	1.30%
Atlantic	-1.15%	2.28%	2.78%	2.62%	2.16%	2.07%
Canada	0.41%	3.27%	1.67%	1.84%	1.80%	1.68%

## 4. 5. 3. 10 Data Adjustment to 83% of Urban Vehicles / Workforce Totals

This table adjusts Vehicle and Workforce "Canada" Totals presented in previous urban tables to 83% of original figures, to more accurately identify the numbers of vehicles and employees representative of urban bus fleets excluding rail vehicles.

Table 4-9a: Urban Data Adjustment, Historical / Forecast to 2016

Vehicles	1996	1999	2001	2004	2006	2011	2016
Urban - All Vehicles	13,115	14,029	14,573	15,236	15,788	17,221	18,678
Urban Buses -83% of All	10,885	11,644	12,096	12,646	13,104	14,293	15,503
Urban Workforce (All)							
Operators	20,772	21,310	22,383	23,867	24,825	27,324	29,888
Mechanics	2,175	2,604	2,814	2,918	3,054	3,417	3,800
Other Workers	15,426	14,928	16,225	16,745	17,267	18,615	19,968
Total	38,373	38,842	41,422	43,530	45,146	49,356	53,656
Urban Workforce ( 83%)							
Operators	17,241	17,687	18,578	19,810	20,604	22,679	24,807
Mechanics	1,805	2,161	2,336	2,422	2,535	2,836	3,154
Other Workers	12,803	12,390	13,467	13,898	14,332	15,450	16,573
Total	31,849	32,239	34,380	36,130	37,471	40,965	44,534

#### 4. 5. 4 Urban Transit Summary

The Canadian demographic and economic experience and outlook are strongly supportive of ongoing urban transit ridership growth. Supporting factors include, but are not limited to:

# **Population Urbanization:**

Since 1956, Canada's urban population as a percentage of total population has progressively increased from 67% to a current level in excess of 80%. For the period 1986–2004, 20 of 27 designated Census Metropolitan Areas showed annualized growth rates ranging from 0.5% (St. Johns) to 3.2% (Abbotsford). This trend is expected to continue, substantially fuelled by immigration, although the overall rate of urban growth may slow.



# **Immigrant Settlement:**

For the period 1997 – 2004, an average of 218,071 immigrants per year settled in Canada (Statistics Canada). Census Metropolitan Areas are and will be the primary beneficiaries of immigrant settlement. "Without immigrants, these urban centres (Toronto, Montreal and Vancouver) would have incurred a net outflow of people during the past several years" (Quote:The Daily–Sept. 28, 2005).

Statistics Canada, for the period 2001 – 2017, forecasted CMA immigrant population growth in order of the CMAs with the largest 2001 immigrant populations as follows: Toronto +48.3%, Vancouver +57.6%, Montreal +29.1%, Calgary +37.9%, Ottawa/Gatineau +41.7%, Hamilton +20.0%, and Edmonton +6.5%.

#### **Population Ageing:**

Seniors aged 65 and older currently represent approximately 13% of Canada's total population. The percentage of seniors is expected to increase at an accelerated rate between 2011 - 2031, peaking at an estimated 23 - 25% of the total population (The Daily - Dec. 15, 2005).

#### **Economic Factors:**

As one example of economic influence, any significant increase in the rising costs of automobile ownership will cause at least some of the auto-centric segment of the population to consider public transit.

# **Government Focus and Support:**

Since the 1990's, government transit funding support has increased coincident with greater government emphasis on promoting transit ridership. Such initiatives as the reallocation of gasoline tax funds and project-specific public/private partnerships have contributed to the sub-sector's ability to expand systems/services to better meet existing and potential ridership demand. This supportive government posture is seen to be indicative of a long-term trend.

#### **Ridership Outlook:**

Urban transit ridership has increased in 8 of 9 years since 1996 at an average annual rate for the period of +2.28%. In the context of Summary and other supportive Study research and comment, **urban sub-sector ridership growth is expected to continue at an average annual rate exceeding 2% over the 2006 – 2016 Forecast period.** 

# 4. 6 School Sub-Sector Forecast

#### 4. 6. 1 Research Context

Historical and current statistical and related published data on school bus activities has been substantially limited to that developed by Statistics Canada. Since 2000, their methodology and scope have been refined, and their subsequent data, presented herein, now encompasses virtually all school bus carriers except provincially operated and not-for-profit fleets.

Table 4-6a: Statistics Canada School Sub-Sector Historical Data

Canada	2001	2002	2003	2004(1)
Survey Respondents	1232	1151	975	1004
Vehicles:				
Motor Coach	1,223	1,047	689	637
School Bus	29,428	29,890	30,963	32,584
Urban	203	290	108	237
Other Vehicles	3,221	2,955	1,888	1,779
Total Vehicles	34,075	34,182	33,648	35,238
Employees:				
Drivers	30,722	32,244	30,809	29,431
Mechanics	1,690	1,517	1,509	1,539
Other	3,647	3,843	2,776	2,593
Total Employees	36,059	37,604	35,095	33,563
Employee Ratios to Total Vehicles				
Drivers	0.9	0.94	0.92	0.84
Mechanics	0.05	0.05	0.04	0.04
Other	0.11	0.11	0.08	0.07
Totals	1.06	1.1	1.04	0.95

#### (1) Preliminary Data

Additionally, a supplementary telephone survey of relevant authorities and selected school bus carriers in each province was conducted in 2006 by Study consultants to amplify available material so that cumulative data from all sources could be used as the basis for school sub-sector forecasting. On a national basis, the school bus fleets represented by the companies contacted encompassed 41.57% of the aggregate Canadian school bus fleet as quantified by provincial contacts. Research findings are detailed in the following narrative and tables.

# 4. 6. 2 Sub-Sector Profile

# **Sub-Sector Position within Industry:**

For 2003, Statistics Canada reported (June '06 revision) that the school bus sub-sector share of industry totals was as follows: 39.3% of the FTE workforce, 58.4% of vehicles, and 22.2% of Operating Revenues.

#### **Carriers:**

**Government:** The provincial government is the dominant carrier/operator of school buses in several provinces (NB - 95%, MB - 90%, SK - 60%, Nfld - 32%) while school boards and/or municipalities are dominant in others (BC - 63%, NS - 62%, AB - 35%).

**Private:** Laidlaw and Stock each operate in more than one province, and are the dominant private school bus operators in Canada

#### **Vehicles:**

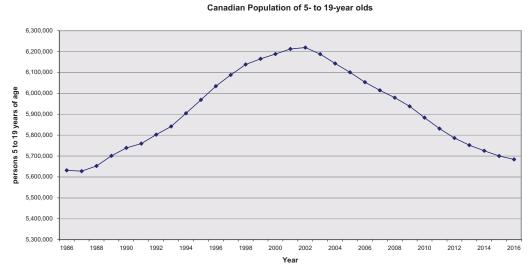
**Purchases:** 96% of school buses recently delivered or on order were/are new vehicles purchased at an average cost of \$85,000. Almost 90% of these purchases were/are diesel powered, with the remainder primarily CNG-fuelled. Seating choices range from 48-84 seats, with a 68-72 configuration the most common. In order of frequency of reference, manufacturers of choice are Thomas, International, Bluebird, Corbeil, Girardin, Freightliner, and GM.

**Wheelchair Access:** Only 6.05% of the cumulative school bus fleets surveyed are wheelchair accessible.

**Life Expectancy:** Only 3 provinces mandate vehicle retirement: NL- 14 years, PQ - 12 years, and BC - 10-15 years depending on vehicle type/size and kilometers. In some other provinces (ON, MB,AB), school boards or municipalities can mandate vehicle retirement, which limit can range from 10-15 years.

# 4. 6. 3 School-Age Population

The demand for school buses is substantially related to the population of school-age children. This population typically encompasses ages 5–19 as related to school years Kindergarten through Grade 12. As detailed in the following graph and tables, the number of school-age children is expected to drop (in some instances significantly) in each region over the forecast period.



Source: Centre for Spacial Economics, unpublished data, 2004



Table 4-6b: School-Age (5-19) Population by Region, Historical and Forecasted to 2016

Region	2001	2006	2011	2016
British Columbia	790,586	749,484	715,018	696,954
Prairies/Northern	1,165,464	1,122,595	1,070,504	1,049,902
Ontario	2,405,964	2,426,212	2,388,802	2,353,061
Québec	1,391,317	1,339,330	1,286,327	1,242,490
Atlantic	458,915	415,560	370,675	341,513
Canada	6,212,246	6,053,182	5,831,326	5,683,921

Table 4-6c: Changes in School-Age (5-19) Population by Region

Region	2001-2006	2006-2011	2011-2016
British Columbia	-41,102	-34,466	-18,064
Prairies/Northern	-42,869	-52,090	-20,602
Ontario	20,248	-37,410	-35,740
Québec	-51,987	-53,003	-43,837
Atlantic	-43,355	-44,885	-29,162
Canada	-159,064	-221,855	-147,405

Table 46d: Annualized School-Age (5-19) Population Change Rate by Region

Region	2001-2006	2006-2011	2011-2016
British Columbia	-1.06%	-0.94%	-0.51%
Prairies/Northern	-0.75%	-0.95%	-0.39%
Ontario	0.17%	-0.31%	-0.30%
Québec	-0.76%	-0.80%	-0.69%
Atlantic	-1.97%	-2.26%	-1.63%
Canada	-0.52%	-0.74%	-0.51%

Source: Centre for Spatial Economics (C4SE) - Graph and Tables, this page.

# 4. 6. 4 Registered Students

Departments of Education and /or related entities were contacted in each province in 2006 to develop the following factual Registered Student data for 2001 and 2006.

 Table 4-6e: Registered Students

Region	2001	2006	2011	2016
British Columbia	632,049	606,401	590,000	575,095
Prairies/Northern	984,165	949,748	923,000	905,237
Ontario	2,143,599	2,129,742	2,125,000	2,093,207
Québec	1,104,035	935,264	841,000	812,339
Atlantic	396,780	359,220	323,575	298,118
Canada	5,260,628	4,980,375	4,802,575	4,683,996

Table 4-6f: Changes in Registered Students

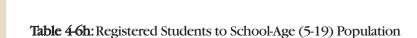
Region	2001-2006	2006-2011	2011-2016
British Columbia	-25,648	-16,401	-14,905
Prairies/Northern	-34,417	-26,748	-17,763
Ontario	-13,857	-4,742	-31,793
Québec	-168,771	-94,264	-28,661
Atlantic	-37,560	-35,645	-25,457
Canada	-280,253	-177,800	-118,579

**Table 46g:** Annualized Percentage Changes in Registered Students

Region	2001-2006	2006-2011	2011-2016
British Columbia	-0.83%	-0.55%	-0.51%
Prairies/Northern	-0.71%	-0.57%	-0.39%
Ontario	-0.13%	-0.04%	-0.30%
Québec	-3.26%	-2.10%	-0.69%
Atlantic	-1.97%	-2.07%	-1.63%
Canada	-1.09%	-0.72%	-0.50%

# **Footnotes: Registered Students**

Registered Students Composition: PQ and AB data includes private schools. ON data includes Catholic schools. All other provinces produce data on public schools only. Most provincial data is limited to a grade range of K-12. The referenced exclusions would account in part for difference between the Registered Students Population (validated) and the School Age Population (estimated) as identified by the following table.



Region	2001	2006	2011	2016
British Columbia	0.7995	0.8091	0.8252	0.8252
Prairies/Northern	0.8444	0.846	0.8622	0.8622
Ontario	0.891	0.8778	0.8896	0.8896
Québec	0.7935	0.6983	0.6538	0.6538
Atlantic	0.8646	0.8644	0.8729	0.8729
Canada	0.8468	0.8228	0.8236	0.8236

**Registered Students Forecast:** Where provincial sources declined forecasting, conservative forecast estimates were used. The decline of the Canadian student population experienced over the past 5 years is expected to continue for the Forecast period, but at a reduced rate. [Over +5 years: -3.57% and over +5-10 years: -2.47%; vs. a historical -5.33%].

#### 4. 6. 5 Forecast Elements and Tables

**Context:** As detailed in preceding tables, the number of Registered Students has declined in each province for the period 2001-2006, and this decline is expected to continue, but at a reduced rate, over the 2006-2016 Forecast period.

# 4. 6. 5. 1 Vehicles Tables

**Vehicles Forecast:** Vehicles are forecasted on the basis of Registered Students per Vehicle, but at a rate of decline 50% below that projected for Registered Students in order to recognize that the sub-sector will need to maintain perhaps many routes carrying fewer students rather than retire vehicles.

**Table 4-6i:** School Bus Vehicle Forecast by Region (2006 Data is actual)

Region	2006	2011	2016
British Columbia	1,818	1,809	1,787
Prairies/Northern	7,463	7,318	7,233
Ontario	16,000	15,981	15,861
Québec	9,675	9,189	9,041
Atlantic	3,910	3,719	3,576
Canada	38,866	38,016	37,498

Table 4-6j: Ratio of Registered Students to School Vehicles

Region	2006	2011	2016
British Columbia	334	326	322
Prairies/Northern	127	126	125
Ontario	133	133	132
Québec	97	92	90
Atlantic	92	87	83
Canada	128	126	125

**Table 4-6k:** Changes in Numbers of School Vehicles

Region		2006-2011	2011-2016
British Columbia		-9	-22
Prairies/Northern		-145	-85
Ontario		-19	-120
Québec		-486	-148
Atlantic		-191	-143
Canada		-850	-518

Table 461: Annualized Rates of Change in Numbers of School Vehicles

Region	2006-2011	2011-2016
British Columbia	-0.10%	-0.24%
Prairies/Northern	-0.39%	-0.23%
Ontario	-0.02%	-0.15%
Québec	-1.03%	-0.32%
Atlantic	-1.00%	-0.78%
Canada	-0.44%	-0.27%

# 4. 6. 5. 2 Workforce Tables

**Workforce Forecast:** The Workforce Forecast is developed on a ratio (employee-to-vehicle) basis. Historical data on the sub-sector is limited to Statistics Canada figures; where imprecise (in the absence of other reliable data) allowances must be made for their exclusions and methodology. The 2006 Survey of representative school bus carriers indicated current national ratios-to-vehicles for Operators @ 1.09 and Mechanics @ .043. The ratios selected also allow for considerations particularly applicable to the sub-sector (such as the maintenance of a "reserve pool" of qualified drivers) to provide a realistically conservative Workforce outlook. Employee ratios-to-vehicles used are: Operators = 1.1; Mechanics = 0.04; and Other = 0.07.



Region	2006 Number	2011 Number	2006-2011 Change	2016 Number	2011-2016 Change
British Columbia	2,000	1,990	-10	1,966	-24
Prairies / Northern	8,209	8,050	-160	7,956	-94
Ontario	17,600	17,579	-21	17,447	-132
Québec	10,643	10,108	-535	9,945	-163
Atlantic	4,301	4,091	-210	3,934	-157
Canada	42,753	41,818	-935	41,248	-570

Table 4-6n: School Bus Mechanics Forecast by Region

Region	2006 Number	2011 Number	2006-2011 Change	2016 Number	2011-2016 Change
British Columbia	73	72	0	71	-1
Prairies / Northern	299	293	-6	289	-3
Ontario	640	639	-1	634	-5
Québec	387	368	-19	362	-6
Atlantic	156	149	-8	143	-6
Canada	1,555	1,521	-34	1,500	-21

Table 4-60: Other School Bus Employee Forecast by Region

Region	2006 Number	2011 Number	2006-2011 Change	2016 Number	2011-2016 Change
British Columbia	127	127	0	125	-2
Prairies / Northern	522	512	-10	506	-6
Ontario	1,120	1,119	-1	1,110	-9
Québec	677	643	-34	633	-10
Atlantic	274	260	-14	250	-10
Canada	2,721	2,661	-60	2,625	-36

Table 4-6p: Total School Bus Workforce Forecast by Region

Region	2006 Number	2011 Number	2006-2011 Change	2016 Number	2011-2016 Change
British Columbia	2,200	2,189	-11	2,162	-27
Prairies / Northern	9,030	8,855	-175	8,752	-103
Ontario	19,360	19,337	-23	19,192	-145
Québec	11,707	11,119	-588	10,940	-179
Atlantic	4,731	4,500	-231	4,327	-173
Canada	47,028	45,999	-1029	45,373	-626

#### 4. 6. 6 Summary

# **Demographics:**

- Reliable data confirms that the school-Age (5-19) Population and Registered Student Population have been in decline in recent years and that this decline is expected to continue over the 2006-2016 Forecast period
- In December 2005, The Daily, summarizing a *Statistics Canada* report "estimate", commented that "around the year 2015, seniors aged 65 and over would become more numerous than children aged less than 15, an unprecedented situation in Canada". The longer-range view suggests that "the national (population) increase would eventually become negative...more deaths than births" and "international net migration would become the only source of population growth"
- There is general consensus from multiple sources that the ongoing national decline in student enrolment could continue even beyond the Forecast period

# Cumulative Net Changes: Employees and Vehicles – 2006 – 2016

As shown in Workforce and Vehicles tables, the forecasted ongoing decline in student ridership is expected to result in cumulative national reductions in employees and vehicles over the 10-year Forecast period as follows: Operators -1505; Mechanics -55; Other employees -96; and Vehicles -1368. As earlier referenced, this is a conservative Forecast.

#### **Conclusion:**

Available data does not support a growth outlook for the school sub-sector over the next decade. However, there is some indication that the rate of student/ridership decline will drop below that experienced over the past five years. Accordingly, the Forecast numbers for the Workforce and Vehicles have been conservatively adjusted to this forecasted scenario and to compensate for such sub-sector characteristics as the expectation that most services must be maintained despite declining ridership.



# 4. 7 Intercity Forecast

#### 4. 7. 1 Research Context:

Historical and current statistical and related published data on intercity activities has been virtually limited to that developed by Statistics Canada.

Additionally, a supplementary telephone survey of intercity carriers was conducted in 2006 by Study consultants to amplify available material so that the cumulative data could be used as the basis for sub-sector forecasting. 22 Companies referenced by several sources as the largest in the sub-sector were selected for telephone interviews. (Only 10 had intercity fleets of 20 or more vehicles). Relative to 2003 Statistics Canada data, interviewees represented 56.2% of sub-sector drivers, 71.7% of mechanics, and 68. 8% of vehicles.

Research findings are detailed in the following narrative and tables.

#### 4. 7. 2 Sub-Sector Profile

# **Sub-Sector Position within the Industry:**

The intercity sub-sector is an essential but smaller component of the industry. For 2003, Statistics Canada reported that the intercity share of industry totals was as follows: 7.44% of the FTE workforce, 5.94% of vehicles, and 7.19% of Operating Revenues.

#### **Service Profile:**

Six of the largest carriers operate in more than one province. Only five identify their dominant service as intercity, while others are involved in school, transit, or tour/charter as their primary activity.

#### **Fleet Characteristics:**

98% of vehicle purchases are new, at an average cost for a typical 45 foot, 55 passenger vehicle of \$550,000. 100% of purchases are diesel powered. Latest upgrades include multiplex electronic control systems, GPS management systems, and automatic 10-15-speed transmissions. In order of referenced frequency, the manufacturers of choice are Prevost, MCI, Orion, and Setra. 12. 29% of the surveyed fleet is wheelchair accessible.

# 4. 7. 3 Intercity Forecast Elements

All relevant sector and intercity sub-sector research has been employed to produce the intercity forecast. **Only national figures are projected**, since the characteristics of this sub-sector do not support a regional approach.

**Table 4–7a:** Intercity Employees and Vehicles Forecast – 2006 – 2016

	1996	2001	2003	2004	2004-2006	2006-2011	2011-2016
Population Canada	29,610,757	30,403,878	31,021,251	31,629,677	32,473,724	33,906,643	35,304,119
Avg Annual % chg		0.53%	1.01%	1.96%	1.33%	0.87%	0.81%
Ages 15-24 plus 55+	10,126,610	11,066,809	11,608,452	11,854,287	12,348,868	13,574,127	14,749,649
Avg Annual % chg		1.79%	2.42%	2.12%	2.06%	1.91%	1.67%
Ridership (millions)	13.60	15.20	14.00	15.50	16.00	17.20	18.40
Avg Annual % chg		2.25%	-4.03%	10.71%	1.50%	1.50%	1.30%
Vehicles							
Total			3,422	3,386	3,400	3,435	3,470
Net ( +/-) changes				-36	14	35	35
Avg Annual % chg				-1.05%	0.21%	0.21%	0.20%
Employees							
Drivers			4,199	4,249	4,267	4,328	4,355
Mechanics			472	447	459	471	486
Other			2,157	2,051	2,040	2,061	2,082
Total			6,828	6,747	6,766	6,860	6,923
Additional Employees							
Drivers				50	18	61	27
Mechanics				-25	12	12	15
Other				-106	-11	21	21
Total				-81	19	94	63
Ratios per vehicle							
Drivers			1.23	1.26	1.26	1.26	1.26
Mechanics			0.14	0.13	0.14	0.14	0.14
Other			0.63	0.606	0.60	0.60	0.60
Total			1.99	1.99	1.99	1.99	1.99

# **Footnotes:**

**Population:** Ages 15-24 plus ages 55 and over (data via Centre for Spacial Economics) were selected as representative intercity ridership target groups within the general population. It is significant that the growth rate of these combined groups has been and is expected to be substantially higher than the general population growth rate.

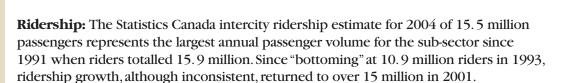


Table 4-7b: Intercity Passengers: 1992-2004

Year	Intercity Passengers <sup>1</sup> (millions)	Growth Rate (%)
1992	14.9	
1993	10.9	-27
1994	11.4	5.3
1995	12.5	9.3
1996	13.6	8.8
1997	14.7	8.1
1998	14.3	-2.7
1999	13.9	-2.8
2000	14.3	2.9
2001	15.2	6.2
2002	15.1	-0.6
2003	14	-7.4
2004 2	15.4	10.9

Source: Transport Canada, 2004

The intercity carriers surveyed, when asked to forecast ridership five years out, predominantly estimated annual growth in the 1.5–2% range.

The Forecast table reflects anticipated ridership growth over the forecast period.

**Summary Workforce and Vehicles:** Reasonably reliable Statistics Workforce and Vehicle historical data is only available for 2003 and 2004. Survey responses suggest that the current intercity fleet is underutilized, and that the expected growth in ridership will require few additional vehicles vs. a disproportionate number of additional employees to maximize fleet performance.

This context is reflected in Additional Employees and Vehicles projections.

<sup>1</sup> Passengers using Intercity scheduled services

<sup>2</sup> Preliminary Estimate

#### 4. 8 Charter/Tour Forecast

#### 4. 8. 1 Research Context

Historical and current statistical published data on charter/tour has been essentially limited to that developed by Statistics Canada. In the absence of other sources, Statistics Canada historical data is used as foundational to charter/tour forecasts.

# 4. 8. 2 Sub- Sector Profile

The charter/tour sub-sector is a highly seasonal component of the industry.Also, charter/tour activities are frequently a secondary business line of school and to lesser extent intercity carriers. For 2003, Statistics Canada reported that the charter/tour sub-sector share of industry totals represented 4.25% of the FTE workforce, 4.55% of vehicles, and 4.23% of Operating Revenues.

# 4. 8. 3 Ridership Considerations

Age 55+: was selected for evaluation as a representative charter/tour target group within the Canadian population. This group is projected to grow at a faster rate than the general population over the forecast period, but this growth is not expected to substantially affect charter/tour ridership, due to the demonstrable historical and prevailing "love affair" of seniors with their automobiles.

**Tourism:** The number of visitors to Canada has declined each year during the period 2001-2005. Particularly significant is the annual/cumulative decline of visitors from the U.S., who represented 90.1% of all visitors during this period.

Considering the imminent changes to U. S. /Canada border security protocol, growing international terrorism sensitivities, and unpredictable travel/tourism-related economic factors such as the currently high Canadian Dollar, a resurgence of the number of U. S. visitors is not foreseeable over the Forecast period. The number of visitors from other countries will likely continue to increase, but will only compensate for a small fraction of the U. S-visitor loss.

**Table 4–8a:** Visitors to Canada: 2001 – 2005 (thousands of person-trips)

	2001	2002	2003	2004	2005
U.S. Residents	42871	40878	35509	34626	31655
% Change		-4.65%	-13.13%	-2.49%	-8.58%
Rest of World	4275	4018	3393	4219	4505
% Change		-6.01%	-15.55%	24.34%	6.78%
Total	47146	44896	38902	38845	36160
% Change		-4.77%	-13.35%	-0.15%	-6.91%

<sup>\*</sup>Transport Canada: Addendum to "Transportation in Canada 2005"

# 4. 8. 4 Charter/Tour Forecast Elements

All relevant sector and charter/tour sub-sector research has been employed to produce the charter/tour forecast. **Only national figures** are projected, since the characteristics of this sub-sector do not support a regional approach.

**Table 4–8b:** Charter/Tour Employees and Vehicles Forecast – 2006 – 2016

	2001	2002	2003	2004	2004-2006	2006-2011	2011-2016
Canada	30,403,878	31,361,611	31,021,251	31,629,677	32,473,724	33,906,643	35,304,119
Avg.Annual % chg		3.15%	2.03%	1.96%	1.33%	0.87%	0.81%
Age 55+	6,839,581	7,073,167	7,299,406	7,518,368	7,958,815	9,162,943	10,500,227
Avg.Annual % chg		3.42%	3.20%	3.00%	2.89%	2.86%	2.76%
Tourism - inbound	2001	2002	2003	2004	2005		
Total	47,146	44,896	38,902	38,845	36,160		
% Change		-4.77%	-13.35%	-0.15%	-6.91%		
Vehicles							
Total	2,527	2,581	2,440	2,370	2,274	2,163	2,109
Net Change (+/-)		54	-141	-70	-96	-111	-54
Avg.Annual % chg		2.14%	-5.46%	-2.87%	-2.05%	-1.00%	-0.50%
Employees							
Drivers	2,434	2,556	2,978	2,844	2,729	2,595	2,531
Mechanics	132	124	246	222	213	203	198
Other	545	506	675	624	599	569	555
Total	3,111	3,186	3,899	3,690	3,541	3,367	3,284
Net Employee Changes (+/-)							
Drivers		122	422	-134	-115	-134	-64
Mechanics		-8	122	-24	-9	-10	-5
Other		-39	169	-51	-25	-29	-14
Total		75	713	-209	-149	-174	-83
Ratios per vehicle							
Drivers	0.96	0.99	1.22	1.2	1.2	1.2	1.2
Mechanics	0.05	0.05	0.1	0.09	0.09	0.09	0.09
Other	0.22	0.2	0.28	0.26	0.26	0.26	0.26
Total	1.23	1.23	1.6	1.56	1.56	1.56	1.56

#### **Footnotes:**

- **Population and Age 55+** material including forecasts were developed by the economic consulting group Centre for Spatial Economics (C4SE)
- **Tourism inbound:** Historical figures shown are actual. Forecast impractical due to scope of influencing factors
- Vehicles and Employees: Historical data developed from various Statistics Canada reports. This information must be treated as indicative rather than conclusive due to ongoing Statistics Canada refinements in data collection and reporting methodologies
- **Vehicles:** The 2004-2006 Average Annual Change per cent averages the 2001-2004 *Statistics Canada* data. For 2006-2016, a progressive but slower reduction in sub-sector fleet size is projected
- **Employees:** Forecasted on the basis of ratios-to-vehicles, with ratios based on an analysis of sub-sector historical patterns and industry trends developed during the Study
- Cumulative Net Changes Employees and Vehicles: 2004 2016: As shown under Net Employee Changes and Vehicles: Net Change; the projected contraction of demand/services over the 12 year Forecast period is expected to reduce cumulative Employee and Vehicle requirements as follows: Drivers -313; Mechanics -24; Other personnel -68; and Vehicles -261

#### 4. 8. 5 Summary

The combination of available historical data plus the referenced Ridership Considerations does not support a growth outlook for the charter/tour sub-sector over the next decade. In this context and in the absence of evidence to the contrary, a progressively diminishing rate of decline has been projected.

However, the sub-sector can contribute to revitalizing at least some demand for charter/tour services. Re-evaluation and expansion of target markets and marketing methods has the potential to mitigate the forecasted scenario, particularly if done on a sub-sector, regional and/or provincial basis, and in collaboration with government and other entities focused on travel/tourism development.

#### 4. 9 Industry Totals 2006 - 2016

The following tables summarize the sub-sector forecasts detailed earlier in this Study Section.

Urban data represents 83% of earlier tables to more accurately present buses and related employees exclusive of rail vehicles.

For school, due to inconsistent historical data, the final column of each table identifies Change from 2006, not from 2004.

Canada Totals are not provided for the years 1996-2004 because of the inadequacy and/or inconsistency of data for all sub-sectors except urban.



**Table 4-9a:** Total Industry Vehicle Requirements - 2004-2016

Total Vehicles	1996	1999	2001	2004	2006	2011	2016	Change from 2004
Urban	10,885	11,644	12,096	12,646	13,104	14,293	15,503	2,857
School	n/a	n/a	n/a	n/a	38,866	38,016	37,498	-1,368
Intercity	n/a	n/a	n/a	3,386	3,400	3,435	3,470	84
Tour / Charter	n/a	n/a	2,527	2,370	2,274	2,163	2,109	-261
Canada	n/a	n/a	n/a	n/a	57,644	57,907	58,580	1,312

**Table 4-9b**:Total Industry Operator Requirements - 2004 - 2016

Total Operators	1996	1999	2001	2004	2006	2011	2016	Change from 2004
Urban	17,241	17,687	18,578	19,810	20,604	22,679	24,807	4,997
School	n/a	n/a	n/a	n/a	42,753	41,818	41,248	-1,505
Intercity	n/a	n/a	n/a	4,249	4,267	4,328	4,355	106
Tour / Charter	n/a	n/a	2,434	2,844	2,729	2,595	2,531	-313
Canada	n/a	n/a	n/a	n/a	70,353	71,420	72,940	3,285

 Table 4-9c: Total Industry Mechanic Requirements - 2004 - 2016

Total Mechanics	1996	1999	2001	2004	2006	2011	2016	Change from 2004
Urban	1,805	2,161	2,336	2,422	2,535	2,836	3,154	732
School	n/a	n/a	n/a	n/a	1,555	1,521	1,500	-55
Intercity	n/a	n/a	n/a	447	459	471	486	39
Tour / Charter	n/a	n/a	132	222	213	203	198	-24
Canada	n/a	n/a	n/a	n/a	4,762	5,030	5,338	692

**Table 4-9d:** Total Industry Other-Employee Requirements - 2004 - 2016

Other Labour	1996	1999	2001	2004	2006	2011	2016	Change from 2004
Urban	12,803	12,390	13,467	13,898	14,332	15,450	16,573	2,675
School	n/a	n/a	n/a	n/a	2,721	2,661	2,625	-96
Intercity	n/a	n/a	n/a	2,051	2,040	2,061	2,082	31
Tour / Charter	n/a	n/a	545	624	599	569	555	-69
Canada	n/a	n/a	n/a	n/a	19,691	20,742	21,835	2,541

**Table 4-9e:** Total Industry Workforce Requirements - 2004 - 2016

Total Workforce	1996	1999	2001	2004	2006	2011	2016	Change from 2004
Urban	31,849	32,239	34,380	36,130	37,471	40,965	44,534	8,404
School	n/a	n/a	n/a	n/a	47,028	45,999	45,373	-1,655
Intercity	n/a	n/a	n/a	6,747	6,766	6,860	6,923	176
Tour / Charter	n/a	n/a	3,111	3,690	3,541	3,367	3,284	-406
Canada	n/a	n/a	n/a	n/a	94,806	97,191	100,113	6,519

#### 4. 9. 1 Quantitative Impact of Retirements

The Figure 4-1 industry Age Distribution profile indicates that at least 70% of the 2001 Statistics Canada Total of 92,861 industry employees will have become eligible for retirement through 2016.

The Total Industry Workforce is projected to increase by +5.60% for the period 2006-2016, representing **demand in addition** to the demand which will be created by retirements and other normal attrition.

The cumulative impact of this demand places the industry in the position of having to recruit a total number of employees that approaches the size of the current workforce between 2006 – 2016.

# 4. 10 Capital Costs of Expanding Fleets

#### 4. 10. 1 Urban

In the urban transit environment, systems can choose from buses as varied as articulated and double-decked; from mini-buses and midi-buses to buses that can carry bicycles on exterior mounted racks. Vehicle cost escalation has been an ongoing challenge. CUTA in 2005 commented "In Canada, over the past 17 years, the average annual bus price has increased +167%", an average of +9.82% per year. Primary factors cited as influencing price increases include low floor technology, low-emissions systems, and on-board electronics. To a lesser extent, stainless steel frames, customer amenities (AC and seating) and customization have also added to vehicle costs. In

today's market, pricing ranges from \$100,000 for a small "Community" bus to a price of \$450,000 for an "off-the-shelf" low floor transit bus to \$700,000 for an articulated bus. The \$450,000 2004-2006 "average cost" used in the following table considers overall vehicle purchase trends and reflects the dominance of standard plus low-floor buses in the sub-sector.

#### 4. 10. 2 School

Typical seating capacities of new school buses range from 48 to 84 seats, with a 68-72 seating configuration being the most common. Options and prices vary. Approximately 90% of new vehicles are diesel-powered with most of the remainder CNG-fuelled. The use of video monitoring and GPS systems is increasing. Effective April 2007, manufacturers are required to provide Child Restraint System anchorages related to vehicle capacity. Quoted new unit prices range from the low \$60's for a 48-passenger to over \$100,000 for an 84-passenger vehicle. Although many if not most operators use a mix of bus sizes, a 2004-2006 average price of \$85,000 for new vehicles has been identified by the sub-sector as reasonably representative.

# 4. 10. 3 Intercity and Tour/Charter

For the intercity and tour/charter sub-sectors, the quality of the ride experience can vary considerably. The range of vehicle types can go from the top-of-the-line, double-deck, luxury, air-conditioned coach with toilet, bar, and video; down to what is basically a city bus with, perhaps, nothing more luxurious than high-backed seating, removed speed governors, and improved suspension. The traditional intercity coach, such as those manufactured by MCI or Prévost is a 41-47-seater with a price averaging \$550,000., but a European tour/charter double-decker from Setra with much greater capacity obviously represents much higher cost. For intercity, 100% of current purchases are diesel powered, and latest upgrades include multiplex electronic control systems, GPS management systems, and automatic 10-15 speed transmissions. Comparable data was not determined for tour/charter.

#### 4. 10. 4 Fleets Expansion Capital Costs Forecast

Only urban and intercity are expected to require net additional vehicles for fleets expansion over the Forecast period, and the following table projects the estimated cost of providing these vehicles during the period 2004-2016. Although the school and tour/charter sub-sectors are projected to produce net vehicle decreases over the Forecast period, estimated pricing structures for each are also presented as budget considerations for applicable systems.

**Table 4-10a:** Estimated Costs of Fleets Expansion - 2004 - 2016

<b>Total Cost</b>		\$213,800,000.00		\$726,010,000.00		\$937,375,000.00
Total Vehicles	472		1,224		1,244	
Average Cost		\$550,000.00		\$700,000.00		\$875,000.00
Tour/Charter	0	\$0.00	0	\$0.00	0	\$0.00
Average Cost		ψ, 7,00,000.00		φ700,000.00		ψο/ ),000.00
Average Cost		\$550,000.00	-	\$700,000.00		\$875,000.00
Intercity	14	\$7,700,000.00	35	\$24,500,000.00	35	\$30,625,000.00
Average Cost		\$85,000.00		\$108,000.00		\$135,000.00
School	0	\$0.00		\$0.00		\$0.00
0.1. 1	0	<b>40.00</b>	0	<b>40.00</b>	0	фо оо
Average Cost		\$450,000.00		\$590,000.00		\$750,000.00
Urban	458	\$206,100,000.00	1,189	\$701,510,000.00	1,209	\$906,750,000.00
	Additional Vehicles	Cost	Additional Vehicles	Cost	Additional Vehicles	Cost
		2004-2006		2006-2011		2011-2016

**Additional Vehicles:** Refers only to those vehicles needed in addition to existing fleets to service systems expansion and/or ridership growth.

**Urban Data:** The numbers of urban "additional vehicles" have been reduced to 83% of table 4-4c projections, to more accurately relate to buses exclusive of sub-sector rail vehicles.

**Average Cost:** Pricing and related considerations were sourced from stakeholders including manufacturers.

**Cost Escalation:** Urban pricing is escalated at a period –averaged +9% per year compound rate to reflect a continuation of urban cost experience for over a decade. A period-averaged +5% per year compound rate has been applied to the other subsectors, based substantially on stakeholder comment.

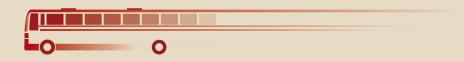






# Part 5

Human Resources Development, Training, Recruitment and Retention



# 5.0 Human Resources Development, Training, Recruitment and Retention

#### 5. 1 Overview

#### 5. 1. 1 Objectives

This Part seeks to identify a range of appropriate human resource development, training, recruitment and retention strategies and practices that will address the evolving needs of workers and the industry. It will examine current levels and types of training and attempt to assess future training needs of workers and the industry.

# 5. 1. 2 Methodology

To identify the broad range of human resources practices that the industry is currently utilizing in the recruitment, training, development and retention of its human resources, this Part makes use of the information gathered throughout this Study via the following: focus groups, interviews, case studies and comprehensive surveys.

# 5. 2 Human Resources Development Programs

# 5. 2. 1 Programs Offered

Tables 5-1 and 5-2 detail the types of training programs offered by the respondents.

Table 5-1: Types of Training Programs Offered (short survey responses)

Type of Training	*	Percent of Respondents Offering Training to the Following Employment Categories					
,,	Driver	Mechanic	Support Staff				
Interpersonal skills	29%	6%	12%				
Customer service skills	71%	6%	29%				
Driving techniques	76%	6%	6%				
Driver refresher training	76%	6%	0%				
New technology	6%	59%	53%				
Personal safety/security	41%	6%	18%				
Occupational/work place health/safety	65%	59%	47%				
Stress management	24%	6%	18%				
Conflict management	29%	18%	18%				
Other	6%	12%	6%				

Question: S21



**Table 5-2:** Types of Training Programs Offered (long survey responses)

Thomas	Percent of Respondents Offering Training to the Following Employment Categorie					
Type of Training	Driver / Mechanic	Garage Staff	Admin.	Driver Trainer	Safety Officer	Dispatch
Interpersonal skills	41%	12%	18%	18%	6%	35%
Customer service skills	82%	18%	53%	24%	6%	47%
Driving techniques	82%	24%	12%	29%	0%	24%
Driver refresher training	94%	18%	12%	18%	6%	18%
New technologies	24%	24%	47%	12%	0%	35%
Personal security	35%	12%	12%	24%	6%	18%
Workplace health and safety	76%	71%	59%	35%	18%	59%
Stress management	35%	12%	24%	24%	6%	29%
Conflict management	53%	24%	24%	24%	0%	35%

Question: L65, L66

Tables 5-1 and 5-2 illustrate the results of separate surveys (short and long), for which responses could not easily be consolidated. As such, the responses each independently illustrate the distribution of training programs offered to their respective respondents' employees.

The training received by industry managers (table 5-3) highlights the emphasis, over and above technical competence, of strong interpersonal skills. Interpersonal skills and conflict management ranked second and third, respectively, behind workplace health and safety as the programs most widely offered to managers.

**Table 5-3:** Types of Training Offered to Managers

Manager Training	Percent of Respondents
Interpersonal skills	59%
Customer service skills	29%
Driving techniques	12%
Driver refresher training	9%
New technologies	41%
Personal security	15%
Workplace health and safety	68%
Stress management	26%
Conflict management	47%

Questions: S2, L65 & L66

# 5. 2. 1. 1 Appropriateness of Offered Programs

The surveys reinforced the findings made during the focus groups and other discussions with operators. The priorities facing the operators are very much oriented toward customer relations, and at the same time, workplace health and safety remains an important factor. The technical skills required of employees are well served by the training offered. As illustrated, a large majority of employers surveyed provide training on the functional requirements of the position: driving and customer service skills for operators; technical skills for mechanics; and conflict management and interpersonal skills for managers. As noted previously, stress is becoming a major factor in the industry, and the types of training offered reflect the desire by the organizations to address this issue: conflict management and interpersonal skills ranked highly on the types of training being offered.

# 5. 2. 2 Training and Career Progression

Comparing the training offered to first-year employees and that offered on an on-going basis reveals that drivers' training is largely consistent, irrespective of the stage of career. The same cannot be said for other positions particularly that of manager, where very few organizations offer any significant training specifically targeted at new hires. Similarly, stress and conflict management training programs figure more prominently in the training offered to existing employees than that offered to new hires. However, with the growing concern over violence in the workplace many employers are looking to augment their programs with "violence in the workplace" training. For example, Edmonton Transit with the assistance of Rutgers University has developed a comprehensive violence in the workplace training program which has been given to all current staff and is given to all new employees during their orientation and training program. As well CUTA has developed a program with OC Transpo on this issue.



**Table 5-4:** Training Offered to New Hires

Type of	Percent of I	Respondents	Offering Tra	aining to the	Following I	Employment	Categories
Training	Manager	Driver / Mechanic	Garage Staff	Admin	Driver Trainer	Safety Officer	Dispatch
Personal security	6%	41%	0%	0%	12%	0%	6%
Work place health and safety	24%	71%	35%	24%	29%	12%	18%
Stress management	0%	29%	0%	0%	0%	0%	0%
Conflict management	6%	41%	0%	0%	12%	0%	0%
Interpersonal skills	6%	53%	6%	6%	18%	0%	0%
Customer service skills	0%	76%	0%	18%	18%	6%	6%
Driving techniques	0%	88%	24%	6%	24%	6%	0%
Driver refresher training	0%	35%	6%	0%	12%	6%	0%
New technology	18%	41%	12%	24%	12%	12%	24%

Question: L66

**Table 5-5:** Training Offered to Existing Staff

Type of	Percent of	Respondents	Offering Tra	aining to the	Following I	Employment	Categories
Training	Manager	Driver / Mechanic	Garage Staff	Admin	Driver Trainer	Safety Officer	Dispatch
Personal security	18%	35%	12%	12%	24%	76%	18%
Work place health and safety	71%	76%	71%	59%	35%	6%	59%
Stress management	29%	35%	12%	24%	24%	0%	29%
Conflict management	59%	53%	24%	24%	24%	6%	35%
Interpersonal skills	53%	41%	12%	18%	18%	6%	35%
Customer Service skills	41%	82%	18%	53%	24%	0%	47%
Driving techniques	6%	82%	24%	12%	29%	6%	24%
Driver refresher training	12%	94%	18%	12%	18%	0%	18%
New technology	53%	24%	24%	47%	12%	0%	35%

Question: L65

# 5. 2. 3 Extent of Training

The amount of entry-level training provided in the first year of employment is far more significant for drivers/operators and mechanics than other positions, as would be expected given the industry's practice and preference for hiring employees from within the organization for positions such as manager, driver trainer, safety officer, dispatch and inspector. The results reveal that at least a quarter of respondents are offering new employees training over a substantial period of time, five weeks or more, for positions other than those of garage staff, administration and sales and service. By comparison, the percentage of respondents offering initial training for a similar length of time for drivers and mechanics exceeds 40%.

4 0 00

**Table 5-6:** Duration of Training for New Hires

Docition	Percent of Respondents Offering Training of the Following Duration						
Position	0-4 weeks	5 to 8 weeks	9 to 12 weeks	13 or more weeks			
Management	72%	14%	10%	3%			
Driver	59%	41%	0%	0%			
Mechanic	53%	37%	0%	10%			
Garage Staff	88%	12%	0%	0%			
Administrative	83%	10%	3%	3%			
Driver Trainer	64%	18%	5%	14%			
Safety Officer	75%	19%	0%	6%			
Dispatch	75%	25%	0%	0%			
Inspector	71%	14%	14%	0%			
Sales & Service	80%	20%	0%	0%			

Questions: S22, L68

On-going training is largely limited to eight days or less per year. Trainers, Inspectors and Safety Officers appear more likely to receive training of a more significant duration than other categories.

Table 5-7: Duration of On-going Training

Position	Percent of Respondents Offering Training of the Following Duration						
POSITION	0 to 4 days	5 to 8 days	9 to 12 days	13 or more days			
Management	44%	48%	4%	4%			
Drivers	43%	40%	14%	3%			
Mechanics	41%	45%	14%	0%			
Garage Staff	55%	40%	0%	5%			
Administrative	54%	46%	0%	0%			
Driver Trainer	33%	46%	17%	4%			
Safety Officer	27%	47%	27%	0%			
Dispatch	60%	40%	0%	0%			
Inspector	0%	80%	20%	0%			
Sales and Service	20%	80%	0%	0%			

Questions: S23, L69

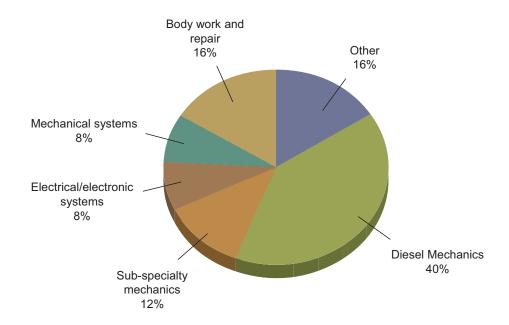
# 5. 2. 4 Apprenticeships and Co-op Programs

The industry indicates that it offers either apprenticeship or co-op programs. Positions for which such programs are offered are chiefly maintenance related, with the most common being that of *diesel mechanic* (figure 5-1). The "Other" category includes the following:

- information technology/computer services
- welder
- · commercial mechanic
- · business analyst
- high school level co-op programs
- environmental or engineering technician

Figure 5-1: Apprenticeship and co-op programs

Occupations for which either co-op or apprenticeship programs are offered (percent of all respondents)



Questions: S18, L57 & l58

The Canadian apprenticeship trend has turned positive since the mid-90s, subsequently reflecting steady increases in the number of new registrants each year.

There were 249,837 registered apprentices in Canada in 2003, an increase of +80,854 (+47.8%) since 1993.As of 2003, registrants in the Motor Vehicle and Heavy Equipment trades group which includes several bus industry trades totalled 49,657, up +14,747 (+42.2%) for the same decade.



Despite the significant MV&HE trade group increase in registrants, there has been only nominal change in the annual number of apprenticeship completions, which averaged 4,050 per year for the decade, but also represented better performance than certain other trade groups.

The number of registrants over age 40 shows the greatest increase (+167.2%) for the 1993-2003 period, producing a 2003 total of 41,721, and contributing to the average 2003 age for all registrants of 30.1 years, and for new registrants of 27.6 years.

Another important trend has been the +83.16% increase in younger registrants aged 16 - 24, producing a 2003 total of 82,687 registrants for this age group. (all preceding data - Statistics Canada sources). This growth has been in part attributed to increased student recognition of their economic limitations without post-secondary education plus an increase in provincially-sponsored programs designed to encourage high-school students to consider apprenticeship-related careers.

For many years the trades had been considered a secondary career choice, the option for students who could not go on to university or college. Such a perception of trade qualification as a 'second rung' education has done little to encourage participation. Such perceptions have been addressed to some degree through public education and awareness initiatives that stress the high level of skill required by skilled labourers in today's workforce. By way of example, studies show that a motor vehicle repair technician spends 70% of his or her time in diagnosis, a far cry from the stereotypical image of the 'grease monkey' changing spark plugs or replacing fan belts.

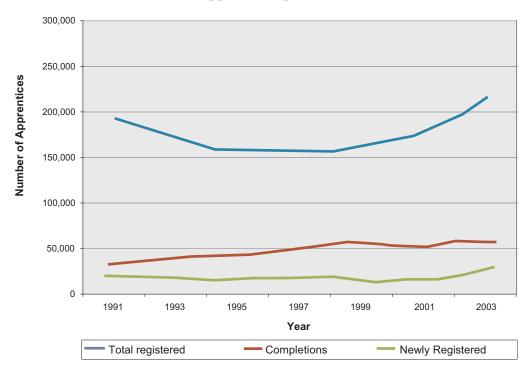


Figure 5-2: Trends in Registered Apprenticeship Training, Canada, 1991 to 2003

 $Source: Statistics\ Canada,\ Registered\ Apprentices bip\ Information\ System$ 

The very structure of the apprenticeship program may be working at cross-purposes to industry needs. The qualification process itself is a barrier. In a report from the Conference Board of Canada (Performance and Potential 2002-03), the nation's apprenticeship programs were described as "a complex system that requires a great deal of initiative by the participants." There is no natural progression from high school to an apprenticeship as there is to college or university.

The industry working conditions for these workers are generally positive, with low levels of exposure to such undesirable external elements as heat, noise and cold. However, many Study participants believe that present shift schedules are negatively impacting their ability to recruit skilled trades workers when compared to related industries where regular working hours complemented by high compensation are available.

The support for apprenticeships among the surveyed members was varied. During the Study several stakeholders relayed concerns over the high cost to the employer in setting up and running the program only to lose apprentices to higher paying organizations when the apprenticeship is completed. It was noted in a joint CUTA/MCPCC Study that respondents to a survey regarding apprenticeships did not have a policy in place relative to reimbursement for leaving employment following the completion of the apprenticeship.

This Study also concludes that there is a lack of any rigorous evaluation of the program benefits by the respondents. None of the surveyed systems/companies use an evaluative process to gauge the return on investment (ROI) for introducing such programs.

Further, a lack of utilization of e-learning technologies to address technical training was noted. None of the respondents had an e-learning strategy. E-learning has been demonstrated to reduce both time and costs over traditional training methods. Research has concluded that time savings associated with computer-based training can range from 20-80%, with 40-60% being the most common without a decrease in training effectiveness.

In addition, employers are often unaware of the federal and other government tax credits and/or incentives available to support delivery of apprenticeship training.

In 2006, the Canadian Council of Learning in a report on Apprenticeship Training in Canada observed that the market for apprenticeships is primarily constrained by employer reluctance to participate, rather than by a shortage of potential apprentices. To capitalize on this underutilized resource, the bus industry must strategize to ensure that this observation does not apply.

# 5. 2. 5 Top Training Development and Delivery Programs

In identifying the preferred methods of developing and delivering training programs, the industry has indicated that it clearly favours the use of training programs developed internally by their own employees—by far the preferred option (figure 5-3). Industry associations surfaced as the leading external source of training programs. The survey responses also indicate that other training development options outside the organization, such as courses developed by manufacturers or educational institutions, do play an important role in industry training. When asked to identify the most effective way to deliver these programs, respondents indicated a clear preference for on-the-job and classroom training (figure 5-4).

Figure 5-3: Most used training development and mechanisms

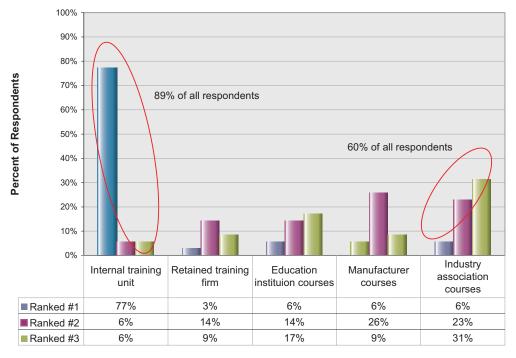
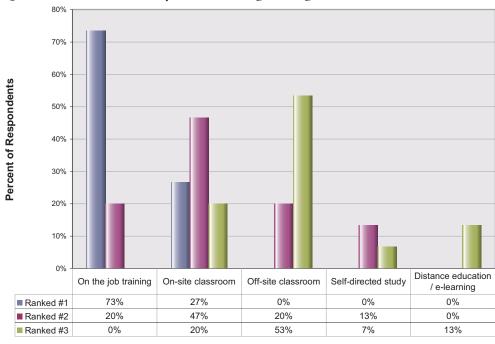


Figure 5-4: Most effective ways of conducting training



Questions: S19 & L60

# 5. 2. 6 Reasons for Conducting Training

Conducting training to meet mandatory licencing or accreditation requirements ranked highest (figure 5-5). More interesting is that survey respondents' second and third reasons for training are refresher training and training that is delivered as part of an on-going skills and knowledge development program, giving credence to the notion that investment in employee training is important to employers.

60% 50% Percent of Total Respondents 40% 30% 20% 10% Disability Mitigate cost of insurance Licencing or Skills New Multi cultura special needs technology knowledge premiums orientatio 0% 6% 0% ■ Ranked #1 54% 17% 9% 3% 0% 3% 3% ■ Ranked #2 6% 34% 23% 17% 3% 0% 6% 3% 0% 3% 17% 17% 0% Ranked #3 3% 6% 31% 3% 11% 3%

Figure 5-5: Top reasons for conducting training

Questions: S20 & L64

# 5. 3 The Changing Skill Requirements of the Industry

The changing skill requirements include the development of coping skills to effectively address the stress and personal security concerns expressed by stakeholder participants in the Study. Continuing to be dominant are customer service, communications and technical competence. Increasing in importance for management are leadership, strategic planning, marketing and communications skills. Table 5-8 highlights participants' response to surveys herein expressed in alphabetical order, regarding the key competencies and skills which will be required over the next 5-10 years, by occupation.

**Table 5-8:** Key competencies/skills demand emerging during the Next 5 to 10 Years

Driver/Operator	Dispa	atcher	Administrative	
Communications	Collective Agreemen	nt acumen	Analytical ability	
Conflict Resolution	Communications		Communications	
Customer Service	Customer Service		Customer Service	
Dealing with Stress	Dealing with Stress		Innovation	
Driving ability	Interpersonal skills		Interpersonal skills	
Interpersonal skills	Labour Relations		Multitasking	
Numeracy	Multitasking		Problem solving	
Respecting Diversity	Regulatory knowled	lge	Technical skills	
Technology/Computer Skills	Service area familia	rity	Technology/Computer Skills	
	Technology/Compu	ter Skills		
	Time Management			
Mechanic	Garaş	ge Staff	Driver Trainer	
Computer skills	Communications		Communications	
New Technology	Customer Service		Information Management	
People skills	Dealing with Stress		Interpersonal skills	
Problem solving	Interpersonal skills	,	Organization	
Technical skills	Problem solving		People skills	
Time Management	Technical skills		Presentation skills	
Troubleshooting	Technology/ Compr	uter Skills	Professional driving skills	
Computer skills	Time Management		Skills assessment	
New Technology			Technology/computer skills	
			Training Methods	
Safety Offic	cer		Management	
Collective Agreement acumen		Business/Systems M	Management	
Communications		Communications		
Coping skills		Customer Focus		
Information Management		Ethics and values		
Interpersonal skills		Fiscal responsibility		
Organization		Innovation	<u> </u>	
Regulatory knowledge		Interpersonal skills		
Safety practices		Labour Relations		
Technology/ Computer Skills		Leadership		
		Marketing		
			g and coaching skills	
		Safety practices		
		Technology/Compu	-to (1-11)	

Question:L22



#### Industry-driven Education

Camo-route, the province of Québec's transportation sector council, has made significant progress in improving the relationship between the transportation industry's requirements and educational institutions' capability and capacity to deliver appropriate educational programs

\_\_\_\_\_

In association with the Québec Ministers of Education and Transport, the Société de l'assurance automobile du Ouébec and two school commissions, Camo-route has belped develop a model of co-managing educational delivery at the Centre de formation en transport de Charlesbourg and the Centre de formation du transport routier Saint-Jérôme to ensure that it is aligned with the requirements of industry

# 5. 3. 1 Training Development and Delivery Options

The preference for in-house training development and delivery suggests that there is a significant knowledge base resident in industry organizations. Several organizations are simultaneously developing comparable training programs without the benefit of access to the vast knowledge contained within the industry. The potential exists to learn from the experience of other industry stakeholders who share the same concerns, potentially even to consolidate program development and delivery. The NOS, Accreditation and Certification Programs developed by the MCPCC have the objective of standardizing training and professional recognition across all industry sub-sectors.

# 5. 3. 2 The Role of Third Party Institutions

Many industry stakeholders are more closely examining the role of private and public educational institutions in training delivery and development. In many instances training of mechanics and technicians already involves a partnership with an education institution. For example, in June 2006, the British Columbia Institute of Technology (BCIT) and The Greater Vancouver Transportation Authority (TransLink) along with Coast Mountain Bus Company and members of the Canadian Auto Workers Union signed a memorandum of understanding to develop, build and operate a joint heavy maintenance and training facility. "The concept is a new, efficient, state-of-the-art heavy equipment maintenance and training centre where skilled automotive trades-people and students can work and learn side-by-side. A shared facility will help TransLink and BCIT reduce costs and at the same time take a major step toward making British Columbia more self-sufficient in trades that are greatly in demand across the province," says TransLink chair Malcolm Brodie (News Release, June 13, 2006).

#### 5. 3. 3 Costs of Training

Because training, operating practices and technologies currently vary across the industry, employers often put newly hired operators, even those with years of experience, through the same training given to novice operators. The application of non-standard practices and technologies in the industry has had the effect of increasing the industry's overall cost of human resource development. Costs are essentially duplicated to re-train an experienced individual.

In response to this concern, the MCPCC working with the industry has developed a National Accreditation Program which recognizes employer training that meets or exceeds National Occupational Standards.

The current practices of representative urban systems illustrate the varied approaches to tackling the cost issue in training new candidate operators. Where some systems continue to provide training in-house, others have opted to download the expense to the candidates themselves by charging for the service and outsourcing its delivery to educational institutions. Similarly, the decision of whether or not to pay candidates for their time while on training or to guarantee a position or a minimum number of hours per week upon completion differs from one system to another. It is obvious that each system has chosen an approach which they believe best maintains their market competitiveness.

#### 5. 4 Compensation and Benefits

#### 5. 4. 1 Compensation

The latest figures from Statistics Canada show a growth in average compensation in the urban, school bus and charter sub-sectors and a drop in the interurban and rural sub-sector. However, due to year-to-year variances in the composition of sub-sectors as reported by *Statistics Canada*, trends in figure 5-6 should be considered as estimates. The figures also clearly illustrate the disparity in annual compensation (inclusive of wages, salaries and benefits and other expenses such as subcontracting, training, uniforms and meals) between the sub-sectors. Responses to the Study surveys illustrated that pay ranges also vary widely between positions and organizations in the sub-sectors and show that there is considerable overlap in pay scales, such that those of the urban sub-sector are not always highest, nor are those of the school bus sub-sector always lowest.

Figure 5-6: Average Annual Employee Compensation

#### 70,000 60,000 50 000 40.000 30,000 20,000 10.000 Urban Transit Interurban & Rural Charter Bus School & Employee Other Transit Shuttle Bus Industry 2002 61.155 40 456 26 913 17.997 30.792 39.950 65,065 37,073 27,931 18,942 37,518 42,736 31,778

#### **Average Annual Employee Compensation**

Source: Statistics Canada, Preliminary Surface and Marine Transport Service Bulletin data, 2006



#### 5. 4. 2 Benefits

The vast majority of survey respondents offer employees a wide range of benefits. In addition to typical benefits such as health and dental care, pensions, disability benefits or employee assistance programs, respondents identified many others including:

- · on-site fitness facilities
- · complimentary transit passes
- · critical incident diffusing
- clothing or tool allowances
- · education allowances
- computer purchase plans

When asked to identify benefits that would likely be added to their company's existing benefit plan within three years, survey respondents indicated the following:

- · family sick days
- salary continuance when on worker's compensation
- recognition & reward programs
- increased cost sharing of benefit programs
- long term sick benefits
- programs promoting healthy life styles
- professional driver certification
- · family driver improvement courses

Respondents have recognized the necessity and value of structuring attractive benefits programs to maintain recruitment competitiveness and retention effectiveness.

It should be noted, however, that the above benefits tend to be offered mostly to those working in a unionized environment. The school bus and charter sub-sectors are segments of the industry where benefits are likely more limited in number and scope.

#### 5. 5 Key Recruitment and Retention Issues

#### 5. 5. 1 Recruitment

Study research reveals that the industry is a conscientious recruiter. Urban systems have become skilled at identifying the ideal candidate from among the many applications they have typically received. The school bus sub-sector has proven itself adept at successfully recruiting on a continuous basis for driver positions that are comparatively far more challenging to fill. Individual service providers across all sub-sectors have demonstrated that with initiative and ingenuity, they meet their specific requirements.

There are indications of challenges ahead, however. Many in the urban sub-sector are finding that what was once a competitive advantage—stability, good pay and good benefits—is no longer attracting as many applicants. The school bus sub-sector is finding it equally difficult to staff their positions. Across the industry, a severe shortage of mechanics is already being felt. Other technical positions such as planners and schedulers are also in short supply. Survey respondents' assessment of their current ability to meet their needs identified emerging difficulties including:

- · attracting mechanics, particularly specialized trades
- · recruiting for supervisory and management positions
- · recruiting suitably qualified drivers
- hiring qualified dispatchers, schedulers and planners

Survey respondents from the urban sub-sector identified the number of vacancies for positions within their organizations (figure 5-7). Mechanics showed the greatest proportion of unfilled positions (5.8%), a figure that echoes the concern that industry focus group and interview participants have with respect to the availability of skilled mechanics. A Study on where job vacancies are most likely to occur also concludes that organizations with fairly high skill requirements (i. e., skilled mechanics) and those in high turnover, low-paid and non-unionized sectors are most likely to suffer (Morissette and Zhang, 2001).

#### The Draw of Employment in the School Bus Sub-sector

 Work hours that closely mirror school hours and calendars (seasonality, holidays), facilitating working and caring for schoolaged children

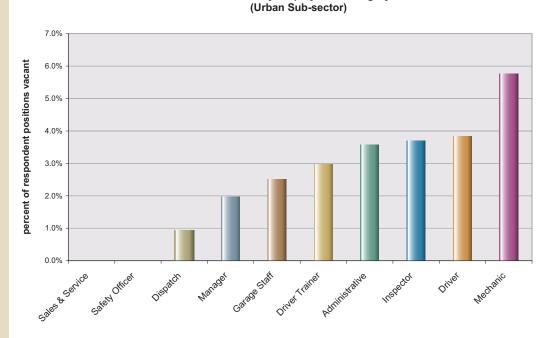
### Deterrents to Employment in the Urban Sub-sector

- Split and irregular or unpredictable shifts that conflict with family schedules
- Personal risks
   associated with
   schedules and routes
   typically assigned to
   new drivers—late
   nights and/or high crime neighbourhoods

Source: focus groups conducted with industry stakeholders

Figure 5-7: Vacancies in respondent organizations

Vacancies by Employment Category



Questions: S16, L14 & L41

#### 5. 5. 2 Absenteeism

#### 5. 5. 2. 1 Factors that Lead to Absenteeism

When asked to identify the top factors that lead to absenteeism, survey respondents from across the sub-sectors provided a wide array of answers that are easily categorized into four basic employee absenteeism factors: physical health problems, structural reasons (culpable absenteeism either encouraged or reinforced by organizational policies or practices), mental health (i. e. , stress) and personal/family issues. Some examples of the structural causes of absenteeism provided by respondents include:

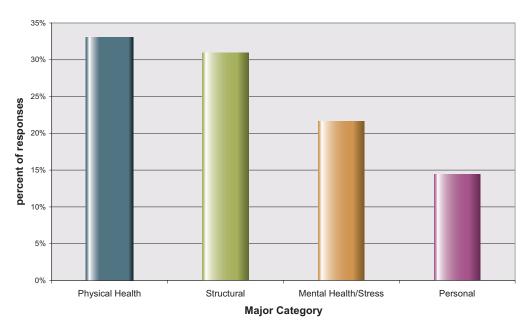
- the inability of employees to get time off when requested or required (typically tied to the hours of work)
- poor employee job satisfaction and weak sense of belonging or being valued
- inadequate absentee management programs
- generous sick leave plans that are open to abuses of benefits
- the inability to discipline those who miss work unnecessarily

#### 5. 5. 2. 2 Strategies to Reduce Absenteeism

Absenteeism can add significant costs to any industry and is often cited as an issue within the bus industry. In some cases, absenteeism has reached rates of over 10%. In general though, the survey data analysis was not conclusive and could not explain the nature of the absenteeism issue, and it certainly cannot alleviate the concerns that some have about the trend in absenteeism.

Figure 5-8: Causes of absenteeism

Principal Factors that Lead to Absenteeism



Questions: S9, L34

The following potential solutions have proven effective for respondents, particularly as part of a formal attendance management program:

#### **Physical and Mental Health**

- provide health and wellness initiatives, stress relief programs
- offer modified duty work to those who are able
- develop protocols and practices, including things like the supply of hand sanitizer to operators and others in contact with the public, in order to reduce transfer of diseases



#### **Structural**

- provide management and staff training to improve workplace morale (respondent cited an 80% reduction in morale-related absenteeism)
- offer employee assistance programs
- · monitor work hours
- provide more schedule flexibility
- provide recognition or bonuses for good attendance
- absentee counselling

Recently though, some in the industry have linked absenteeism to the issue of work/home-life balance. For some, the issue of reconciling work and family life is closely related to addressing the level of absenteeism in an organization. For others, however, it simply represents the reality of busy lives, especially in urban transit systems where split shifts and weekend shifts are common practice.

Although the industry is still in the early stages of addressing this issue, some organizations have identified remedial measures they have put in place, including:

- memoranda of understanding between management and unions to create a joint committee on the issue of reconciling work and family life
- business orientation training for all employees
- alternative work week options such as variable days and hours

#### 5. 5. 3 Retention

Given the increasing difficulty in recruiting employees in competitive labour markets, enhanced employee retention can be a strategic advantage to any organization, and understanding why employees leave is vital.

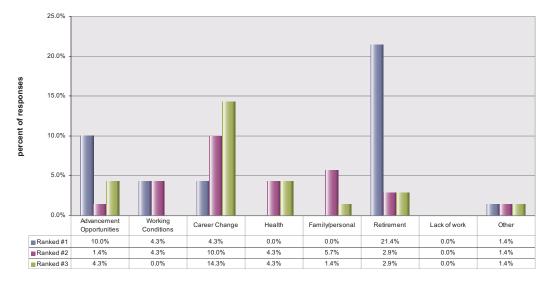
#### 5.5.3.1 Reasons Employees Are Leaving

Though there are obviously many reasons why employees and managers leave their positions, by far the most significant identified by survey respondents is retirement (figures 5-9, 5-10, 5-11). Though retirement can be delayed, the implications for the industry are significant, as retirements are ultimately unavoidable.

The leading motivations to leave, besides retirement, include advancement opportunities and career changes. Health issues, which may include those brought on by working conditions, are also a contributor to early departures, particularly for mechanics.

Figure 5-9: Manager Departures

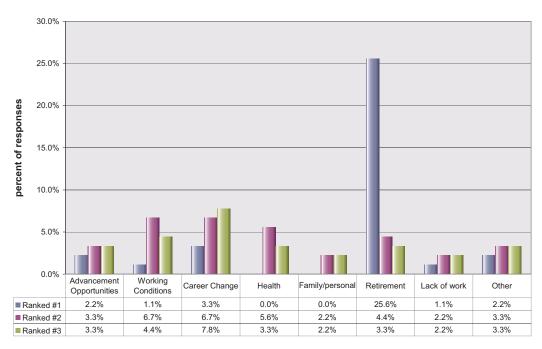




Questions: S15, L51

Figure 5-10: Driver/Operators Departures

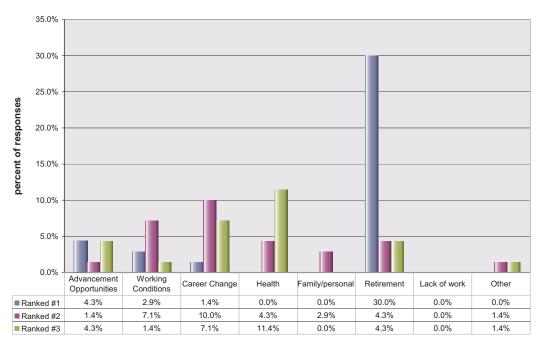
#### Why Drivers/Operators Leave the Organization



Questions: S15, L51

Figure 5-11: Mechanic Departures

#### Why Mechanics Leave the Organization



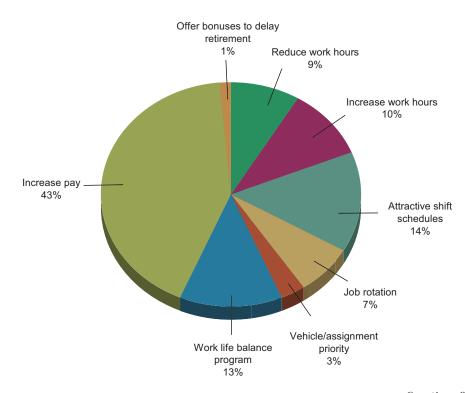
Questions: S15, L51

#### 5. 5. 3. 2 Retention Strategies

Recognizing the significance of retention respondents have implemented a number of retention strategies. By far the most popular across all employment categories is simply to increase pay (figure 5-12). Furthermore, this strategy is employed by survey respondents for all employment categories and is the most popular option within each category.

The risk of relying on pay raises to curb employee departures, particularly in a competitive labour market, is substantial. Though pay raises may be required to remain competitive they do not address the fundamental causes, but contribute to escalating costs.

**Figure 5-12:** Retention strategies across employment categories Sector Retention Strategies



Questions: S15, L51

After pay increases, attractive shift schedules are the most popular retention strategy to survey respondents. Many in the industry are looking toward alternate work patterns (e.g., a four-day work week) in an effort to make positions more attractive and competitive, often as part of a specific work life balance program. Studies have shown that more flexibility in the workplace is a key component of establishing a work environment that is not only attractive to workers, but also healthy and satisfying (Canadian Council on Social Development, 1999).



Proper succession planning is critical to the future vitality of the transportation sector. Several key components are involved in succession planning and they include the following:

\_\_\_\_\_

- Recognizing the need and obtaining top level commitment
- Developing a plan, which involves timing of replacements, including sufficient training and overlap, provides for contingencies (e.g., sudden resignations) and contains mentoring responsibilities
- Making the necessary investments
- Keeping the plan dynamic by periodic updating and periodic assessment of its effectiveness
- Documenting the plan and procedures, its ongoing activities and accomplishments and the lessons learned

Source:Transportation Association of Canada<sup>©</sup>, 2002.

#### 5. 5. 4 Workforce Renewal

As borne out by the significant increase in the age of the industry's workforce, there will be a large-scale renewal of the workforce over the coming years. The need to plan for replacing retiring employees at all ranks within the industry is apparent, but the industry's reaction is less so. Results of the Study's focus groups and interviews suggest that the industry is just beginning to tackle the issue of formal succession planning.

#### 5. 6 Impact of Industry Trends

#### 5. 6. 1 Organizational Structures

Survey results and participant comments suggest that two significant trends have begun shifting the typical organization toward a more inclusive and participatory structure; first, a greater focus on communication and interpersonal relationships, both with customers and colleagues; and second, a shift toward structures that are less bureaucratic.

#### 5. 6. 2 Career Progression

This Study revealed that many organizations are having difficulty staffing management positions. In the case of urban transit, the issue of career progression is made all the more challenging by the recent amalgamation of many transit systems and their respective municipal governments. The risks associated with this organizational restructuring are that career paths have changed opening up more advancement possibilities within the larger organization to transit employees while negatively impacting others as their roles become no longer uniquely transit oriented.

In other sub-sectors such as the school bus sub-sector, the opportunities for progression are limited, as the ratio of management to drivers is extremely low. Furthermore, many employees are not driving a school bus in order to further a career, but as part-time employment or to fill a gap between jobs.

In the intercity sub-sector, scheduled operations offer some career progression options. The Study indicated that, in most cases, it is the long-time employees that often fill the mid-management functions because of tenure and experience. In charter and tour operations, seasonality makes it difficult to sustain a large management structure allowing for career progression.

Many employee Study participants mentioned their lack of interest in joining the ranks of management. They feel the extra pay of a supervisory position does not adequately compensate for the added responsibilities.





# Part 6 Synthesis and Recommendations



#### 6.0 Synthesis and Recommendations

The Study confirms that the motor carrier passenger industry has significant economic and societal influence on Canada and Canadians producing many benefits including public mobility, cost-efficient transportation that stimulates economic development and environmentally sound solutions to traffic congestion, reduction of energy consumption and improved air quality.

In summary, it is evident that this industry is a substantial and indispensable contributor to the economic strength of Canada and to the quality of life enjoyed by our citizens. However, research has also identified that changing national, regional and global demographic, economic, legislative, technological, competitive and fiscal influences continue to represent challenges that require industry adaptation, innovation and investment, particularly in relation to its human resources.

#### 6. 1 Recent Trends

The years since the PW Study have been marked by increased investment, systems and services improvement, technology innovation, stakeholder collaboration and growth within the Sector.

The bus industry, made up of approximately 1500 operators, plays a key role in the Canadian economy from standpoints of employment, passengers carried, revenues generated and capital investment. Nationally the sector employs over 90,000 people in urban transit, intercity, tour and charter, school transportation and ancillary activities. During the years 1995 – 2004 employment grew by over 17%. The industry collectively moved more than 1.8 billion passengers in 2004, exclusive of school bussing. In 2004, the industry also generated more than \$7.6 billion in total revenues, including government operating and capital contributions<sup>2</sup>; and invested over \$1.3 billion in capital expenditures, including \$728 million in vehicles.

While this performance is very encouraging, the industry cannot be complacent. It must constantly strive to improve its services so that increasing customer expectations are reasonably met in the areas of reliability, safety, comfort and affordability. This is seen by many stakeholders as an exceptional challenge as they also must contend with a number of significant business and economic issues, some beyond their operational control. These include, but are not limited to:

- · ageing and/or inadequate fleets and related infrastructure
- automobile competitor dominance
- · funding inadequacies
- · new technology affordability
- prohibitive operating/capital costs escalation
- declining student populations

<sup>&</sup>lt;sup>2</sup>Transport Canada 2005 Annual Report



Recent substantial investment has been made in the urban transit infrastructure including the progressive modernization/upgrading of fleets, to enable this sub-sector to provide a modern, accessible network of bus services to meet 21st century expectations/requirements. This investment will need to be continued over the coming years. Development of quality partnerships with governments, other key stakeholders and capital investors is also a key to further success and these relationships need to be expanded to ensure maximum potential benefit is realized.

All sub-sectors report growing difficulties in recruiting qualified staff in all positions. To some extent this reflects the employment buoyancy of the Canadian market where the unemployment rate has dropped from 9.3% in 1996 to a 32-year low of 6.1% in 2006.

The industry still has substantial work to do to overcome the negative public perception of bus and coach travel, which will have to change appreciably if the industry is to realize its full potential. It is therefore imperative that the industry is enabled to work in a stable and fiscally supportive legislative environment. Most important, that all stakeholders are committed to delivering the high quality of transportation services that meet the legitimate needs and reasonable expectations of the public which it serves.

#### 6. 1. 1 Urban Transit

Urban transit systems will face strong financial pressures caused by various factors, including:

- replacement of ageing fleets in major centres
- a potential infrastructure funding shortfall of \$5.379 billion through 2010, as estimated by CUTA members
- retirement of a huge percentage of their workforce over the next five years
- recruitment of a large number of new recruits and screening an even larger number of applicants

The question of public/private partnerships will continue to divide the sub-sector along management and union lines. To complicate matters further, local politicians are now an intricate part of the decision-making process of almost all urban transit systems in Canada.

Urban transit systems will continue to introduce new technologies into their operations and into their training approaches.

The legacy issue for retired workers—pension funding—is still not resolved for all urban transit systems and deserves appropriate attention, given the significant financial implications.

The federal government is also to be recognized as a player in urban transit, and they are poised to play an increasing role. In 2005, the federal government has also began to inject money into municipalities which in turn have invested some of that money into urban transit.

#### 6. 1. 2 School Bus

The consolidation of service providers in the sub-sector will continue, as it is becoming challenging for some sub-sector service providers to sustain operations due primarily to increasing operating and capital costs versus diminishing student ridership.

This downward pressure on revenues is also forecast to continue. For example, variable prices in fuel costs have shown that, in the absence of contract escalator clauses, the sub-sector is vulnerable to price fluctuations and that it is extremely difficult for service providers to absorb cost increases. Similarly, capital costs are affected by such issues as the Transport Canada regulation that all new school buses be equipped with child restraint anchorages according to vehicle seating capacity by April 2007.

The delicate balance reached by many service providers in supplying both school transportation and charter services is expected to come under more stress as this consolidation continues. Service providers have done well in many instances in being able to balance their dual operations in a generally local and regional service environment. The trend towards a greater concentration of urban student demand combined with a decline in rural and small community school enrolment, will negatively affect certain regional and local transportation service providers.

#### 6. 1. 3 Intercity, Charter and Tour

The stability provided to scheduled intercity bus services by the economic regulation status quo will help. The sub-sector will also likely see little growth because of the changing geographic dispersion of our population. The fact that over 80% of Canada's population lives in urban centres has brought dramatic change to the travel patterns of our society. When this factor is combined with heavily subsidized competing modes on some lucrative routes and attractive airfares between urban centres, we have a recipe for slow growth in revenues and some justification for concerns for the long-term financial prosperity of the sub-sector.

As for the tour and charter sub-sector, it will remain volatile and influenced by factors external to the sub-sector: such as North American security issues, health-pandemic concerns (e. g. SARS), exchange rates, and escalating fuel prices and insurance premiums.

#### 6. 2 Growth Prospects

All sector growth for the next decade is expected to take place in the urban (+8,404 employees, +2,857 vehicles, +440 million passengers) and to a lesser extent intercity (+176 employees, +84 vehicles) sub-sectors. School and tour/charter are forecast to show decreases in employees and vehicles primarily due to social changes which have negatively influenced ridership such as declining birthrates, declining student enrollments and an overall reduction in visitors to Canada.



#### **Key Drivers of Sector Growth**

Where growth is projected in the sector it is attributable in part to a range of developments within the market, including:

- government focus and support. Developments already underway include traffic priority measures (BRT's), income tax deductions for transit passes, reallocation of fuel tax funds and additional infrastructure funding
- urbanization of the Canadian population
- immigration settlement patterns
- · ageing population
- economic factors (e.g. escalating costs of auto ownership)

#### 6. 3 Changing Skills Needs

The key drivers highlighted above have significant implications for the skills required by the industry now and in the future. In particular:

- Proficient *interpersonal, customer service and information management skills* are imperative. Across all sub-sectors there is a need for staff at all levels and in all positions to develop the knowledge and skills required to deal with increasing service expectations, passengers with disabilities and a diverse clientele
- These attributes will need to be complemented by other *improvements in management skills* to meet the demand for more reliable, quality-enhanced services and to cope with the complexity of contemporary transport systems. While bus and coach managers will need to develop their skills in relation to managing people and information, owner-operators will need to develop better business management skills for their enterprise to remain viable in the future. In addition, a greater skills proficiency is required in commercial awareness, project management and partnership development
- Industry requirements are also triggering the need for greater *utilization of diverse new vehicle*, *systems and support technologies* and the development of related operating and maintenance skills. For example, companies are introducing GPS, payment systems, integrated and real-time information systems, CCTV and logistics and route planning systems; all designed to improve efficiency and service quality

#### 6. 4 Workforce Planning and Recruitment

In order to meet the ever-increasing demand for more and better developed skills and to replace the skills and expertise lost to the sector as thousands retire, it is vital that companies are successful in assessing both organizational requirements and resource supply. Most organizations have encountered prevailing difficulties in filling vacancies. This is particularly noted in the skilled trades occupation of mechanic. As well, recruiting bus operators has become more challenging, particularly in the school bus sector and the seasonal tour and charter business.

When asked about the challenges of recruitment, Study participants cited a general lack of applicants and disinterest in working in the sector. Deterrents quoted include working conditions, unsociable hours and limited career advancement opportunity. As a result those individuals applying for jobs often do not have the basic prerequisite skills.

This means that skill gaps and deficiencies in the sector's future workforce could be significant. Many cite that the skills lacking in new applicants are the very areas where employer requirements are increasing; in particular, technical and practical skills, communications and customer service skills, literacy, numeracy and management skills.

Given the problems that the industry is encountering in attracting new recruits, it is vital that applicants are able to access the training they require to enhance their competence and value to the sector. 89%) of survey respondents report that internal training is the most used training delivery method. In light of increased training needs, the industry must exploit all effective training development and delivery approaches, including industry associations, education institutions and cross industry partnerships to ensure the timely provision of adequate and affordable training to meet current and future demands.

#### 6. 5 Critical Areas of Focus

#### 6. 5. 1 Working in Partnership

A reliable, efficient and comprehensive motor carrier passenger transportation network enhances image and reputation, and accommodates the social needs of the community which it serves. The bus industry must be committed to forging lasting relationships with all levels of government and other stakeholders including labour, manufacturers and education to ensure optimization of systems performance, growth and influence.

#### 6. 5. 2 Innovation

Creative thinking and the harnessing of new technology must be at the heart of the industry's vision for modern, dependable and safe bus transportation. Improvements to services and facilities that are driven by exciting new ways of thinking will benefit customers and change public attitudes relative to the industry's image.

#### 6. 5. 3 Security

Passenger and employee safety and security must continue to be paramount within the industry particularly in this age of global-social instability.

The protection of passengers and operators from violent acts has become a critical issue in the light of increased incidents. This issue dominates discussions during collective bargaining sessions, and is the focus of public education campaigns across the industry. Also, growing concerns over potential pandemics require industry preparedness.

#### 6. 5. 4 The Environment

Transportation has a measurable impact on the environment and the industry has both the responsibility and opportunity to reduce greenhouse gas emissions via on-going improvements in vehicle technology and driver training. Energy issues will continue to impact all sub-sectors, as the price of fuel, combined with new environmental regulations, pushes the costs of operations higher. Although fuel prices may ease at some point, experts predict that they will likely remain high for some time to come. Furthermore, no economically viable alternatives are foreseen over the next five to 10 years. Programs such as the recently developed Natural Resources Canada's **SmartDriver** training program for fuel-efficient driving should be implemented as early evidence shows promising operations and maintenance cost efficiencies.

#### 6. 5. 5 Customer Service and Social Inclusion

The social environment in which the bus sector now operates is significantly different to that of ten years ago. Among other influences the population of seniors, persons with disabilities, immigrants including visible minorities and persons with language barriers are all increasing. The industry must focus on the special needs of these groups while also meeting public expectations regarding levels of efficiency and reliability, customer service, comfort, safety, security and cost. This encompasses involving these groups in future planning of service delivery.

#### 6. 5. 6 Labour/Management Collaboration

While wages and related benefits continue to receive labour/management attention, focus at the bargaining table has begun to shift to issues such as operator safety/security and work-life balance. In unionized environments the emphasis must be on collaborative resolution of a broader spectrum of issues than in the past.

#### 6. 5. 7 Information Management

Despite the higher levels of regulation and licencing requirements in the industry there is insufficient data in three of the four sub-sectors to provide meaningful historical trends and sub-sector profiles. Participation by all stakeholders in the process of data development is essential in order for industry needs to be accurately identified and effectively addressed.

#### 6. 5. 8 Human Resources Quality and Quantity

The quality and quantity of the industry's human resources is critical to the performance, influence, competitiveness and image of the industry.

The Study identifies the following as key human resources priorities:

- addressing the diversity of skills and training needs
- improving productivity and performance
- meeting emerging skills requirements
- dealing with an ageing workforce
- · tackling recruitment and retention difficulties
- addressing skill gaps and deficiencies in the workforce
- improving access to training and qualifications
- combating limitations in the supply of qualified resources
- enhancing employee wellness and satisfaction

- increasing participation of women, aboriginals and minorities
- promoting the professionalism of employees
- formalizing both labour demand and supply forecasting

#### 6. 6 Vision

Conducting this Study has provided employers, employees, unions, manufacturers, associations, educators and other stakeholders the opportunity to reflect and comment on the current state of the industry and share their perspectives for its future. In a variety of forums stakeholders discussed what changes must be made to industry culture and philosophy, and what alliances and linkages must be forged in order to ensure and perpetuate a strong, responsive, profitable, safe and secure motor carrier passenger industry in Canada.

Based on this extensive feedback and participation, stakeholder comments, ideas and beliefs have been synthesized into the following *VISION*.

"We envision a healthy, sustainable motor carrier passenger industry which is respected and valued by governments and by the Canadian riding public, and in which careers are given significant stature and desirability.

We envision an industry in which sub-sectors co-operate through sharing of information and best practices affecting all aspects of the industry, and in which the impact of the industry's over 90,000 employees and nearly \$8 billion in economic activity is fairly considered in the transportation and human resources policy decisions by governments.

We envision an industry linked by compatible technologies that allow instant interaction between modes, enabling customers to plan, pay for, and use an integrated motor carrier passenger system.

We envision an industry that is a model for human resources excellence, in which wellness, career skills development, safety and security are considered essential.

Every element of this vision can be attained through the co-ordinated efforts of all players involved.

#### 6. 7 Recommendations

Recommendations are presented as *Strategies* followed by related *Priorities* and *Actions*. The reader should not consider this list complete but rather a presentation of the highest priority issues developed by the Study. Additional and unlimited opportunity exists for creative and innovative contributions, investment and influence from all stakeholders for the betterment of the industry. The process of this Study has shown that there is a great deal of innovative thinking already taking place. MCPCC stands ready to be the "table" at which stakeholders gather for the generation and deployment of a host of additional ideas, strategies, and action steps.

### 66

#### Strategy A: Workforce Planning and Recruitment

- Priority 1: Making workforce planning integral to business planning
- Priority 2: Communicating a compelling recruiting image
- Priority 3: Attracting seasonal and part-time workers
- Priority 4: Accessing and screening applicants efficiently and effectively
- Priority 5: Increasing gender, Aboriginal, and minority work force participation
- Priority 6: Attracting future generations (employees and ridership)

#### Strategy B: Training, Life Long Learning and Resources

- Priority 1: Gaining employer commitment to on-going training as an essential investment
- Priority 2: Meeting on-going demand for skilled trades
- Priority 3: Providing industry access to training programs and resources
- Priority 4: Maximizing training investment and delivery options
- *Priority 5:* Raising the professional status of bus operators through the promotion of certification/accreditation
- *Priority 6:* Developing management and leadership skills

#### **Strategy C: Retention and Working Conditions**

- Priority 1: Orientation of new employees
- Priority 2: Responding to the needs and opportunities presented by the ageing workforce
- Priority 3: Marketplace intelligence
- Priority 4: Career progression strategies
- Priority 5: Building morale and motivating productivity
- Priority 6: Workplace safety and security
- Priority 7: Developing healthier workplaces

#### **Strategy D: Industry Advocacy**

- Priority 1: Strengthening the industry voice at all government levels
- Priority 2: Developing and maintaining international industry intelligence and collaboration

#### 6. 7. 1 Strategy A – Workforce Planning and Recruitment

The future of the motor carrier passenger industry in Canada hinges on its ability to attract the necessary quantity and quality of industry-compatible human resources. Attracting qualified career applicants for roles including operators, mechanics, planners, service and support personnel, management and administration requires dedicated, targeted, and aggressive action. This initiative must encompass comprehensive knowledge of productive target markets, best recruitment sources and media, and the many other factors that will create marketplace-competitive job appeal.

#### 6. 7. 1. 1 Priority: Making workforce planning integral to business planning

- Organizations must commit the necessary resources to develop and implement an effective **workforce plan** as part of their business planning process. This includes both demand and supply forecasts, formal succession planning and integrated apprenticeship programs
- Develop a comprehensive **model workforce plan** incorporating guidelines, strategies, and formulae that can be readily adapted throughout the sector. This could include case studies, analysis of what constitutes a successful employee in each industry position, sourcing and competitiveness
- Actively **promote** the concept and model through management development conferences and by interactive presentations on an individual company basis

Action/Project	Lead	Partners	Activity Duration
Workforce Plan	Employers		On-going
Model workforce plan	МСРСС	Employers External Resources Government	18 months
Promotion	МСРСС	Employers External Resources Government	On-going



#### 6. 7. 1. 2 Priority: Communicating a compelling recruiting image

- Expand the Motor Carrier Passenger Council of Canada's recruitment and career information **website** ("Put Your Career in Gear") to include a broader range of industry positions. Encourage educators to **disseminate information** about the industry
- Partner with relevant federal, provincial and municipal governments and other organizations to promote the industry and industry vocations via their media
- Promote in all recruitment media and activities the professional status of careers in the industry. For example, professional designations including Certification for Professional Bus Operators
- Expand the **Behind the Wheel** guide to recruitment best practices to incorporate more of the "how to" aspects of establishing linkages with diverse audiences. For example, cultural communities and opportunistic labour pools

Action/Project	Lead	Partners	Activity Duration
Website/information dissemination	MCPCC	Employers Government	12 months
Partnering	MCPCC	Associations Employers	On-going
Promoting professionalism	Employers	MCPCC Associations	On-going
Behind the Wheel	MCPCC	Employers	18 months

#### 6. 7. 1. 3 Priority: Attracting seasonal and part-time workers

- Develop a comprehensive list of proven **best sources** of applicants which will then represent target market considerations for sector employers
- Conduct regional **sample-surveys and/or focus group**s of seasonal and parttime employees to determine what workplace benefits and opportunities do and/or would contribute most to the appeal of the job and their job satisfaction
- Initiate influential representation to government for the purpose of negotiating a change in the **Employment Insurance (EI) benefits** qualifying threshold for seasonal and part-time workers to enable uninterrupted income during the "off season", where this need applies

Action/Project	Lead	Partners	Activity Duration
Best sources	MCPCC	Employers External Resources	On-going
Surveys and/or focus groups	MCPCC	Employers External Resources	24 months
E.I. benefits	MCPCC Associations	Employers Labour	On-going

# 6. 7. 1. 4 Priority: Accessing and screening applicants efficiently and effectively

- It is recommended that organizations ensure that all staff involved in the recruitment process be well versed in best practices (qualifications of recruiters) relating to evaluating résumés, transference of skills, and development and assessment of bona fide selection criteria
- Develop a **national inventory** of proven screening tools/media and/or assess existing tools used by industry or other users with similar screening requirements to facilitate screening efficiency and judgment
- Develop and implement **National Occupational Standards (NOS)** and **Essential Skills strategy** for a wider range of jobs in the industry
- Implement an evaluation process to assess recruit success potential

Action/Project	Lead	Partners	Activity Duration
Qualifications of recruiters	Employers	Associations (training) MCPCC (best practices) External Sources	On-going
National inventory	MCPCC	Employers External Sources	24 months
NOS/Essential Skills	МСРСС	Employers Associations Educators Government	On-going
Evaluation process	Employers	Associations MCPCC	On-going

# 6. 7. 1. 5 Priority: Increasing gender, Aboriginal, and minority work force participation

- Develop on-going **relationships and partnerships** with community cultural organizations
- Develop linkages to **cultural placement and employment agencies** that assist in job placement
- Conduct labour market research to **identify** real and perceived **barriers** that inhibit industry career interest from these groups; with the objective of facilitating possible solutions
- Invest in aggressive **marketing** to cultural communities through activities such as industry presence at cultural events, and advertising in cultural media
- Develop a series of "female-focused" career presentations representing various occupations in the industry
- Develop a **Strategy Guide** to assist employers in identifying and addressing language skills needs

Action/Project	Lead	Partners	Activity Duration
Relationships and partnerships	Employers	Cultural Organizations	On-going
Linkages to agencies	Employers	MCPCC Agencies	On-going
Identify barriers	MCPCC	Employers External Resources	24 months
Marketing	Employers	Cultural communities	On-going
Female-focused career presentations	Employers MCPCC	Unions Referrals and Agencies	On-going
Strategy Guide	MCPCC	Educators	On-going



#### 6. 7. 1. 6 Priority: Attracting future generations (employees and ridership)

- Work with **elementary and secondary schools** to incorporate industry-required essential skills and attributes in curricula and qualifications framework
- Raise the profile of road and travel safety and behaviour expectations in learning programs especially in relation to citizenship, personal and social development and tourism courses. The increased emphasis for vocational learning in schools provides an opportunity to embed information about the sector in school curricula
- Outreach employers should seize opportunities to showcase the bus industry, for example presenations at schools, community events

Action/Project Item	Lead	Partners	Activity Duration
Elementary and secondary schools	MCPCC	Education	On-going
Raising profile	MCPCC	Education	On-going
Outreach	Employers	Education	On-going

#### 6. 7. 2 Strategy B – Training, Life Long Learning and Resources

Foundational to the success of any training investment is the employer's recognition of, and commitment to employ the financial and other resources required to deliver on-going profitable results. The Study identified a broad range of quality, quantity and consistency of training and development throughout the industry. Of particular current and on-going concern is the need to address the changing characteristics of Canada and the industry, more specifically as related to an ageing population, the shortage of skilled trades, the rapid evolution of technology and the ultra competitive marketplace relative to similar career opportunities. In this context, an industry culture which values market intelligence, employs a broad diversity of training methods and media to maximize workforce performance, and deliver a measurable return on investment (ROI) is paramount.

### 6. 7. 2. 1 Priority: Gaining employer commitment to on-going training as an essential investment

- Identify "best practices" that clearly outline the benefits and **ROI** offered by continuous learning, including apprenticeship programs
- Maintain currency of **National Occupational Standards (NOS)** and/or competencies as well as **Essential Skills** profiles and provide appropriate training as competency requirements change

Action/Project	Lead	Partners	Activity Duration
ROI	MCPCC	Associations Employers	24 months
NOS/Essential Skills	MCPCC Employers		On-going

#### 6. 7. 2. 2 Priority: Meet on-going demand for skilled trades

- Initiate/develop trade-specific **apprenticeship programs** with qualified institutions.
- Develop **materials** to demonstrate to employers the benefits of offering apprenticeships
- Initiate/develop training **partnerships** with original equipment manufacturers (OEMs)
- Investigate the feasibility of including industry skilled trades as part of the federal government's **Foreign Credential Recognition (FCR)** Program
- Activate the MCPCC-sponsored **Skilled Trades Commission** consisting of stakeholder experts convened to address this challenge including review of the apprenticeship system and setting national standards for apprenticeship in the bus industry

Action/Project	Lead	Partners	Activity Duration
Apprenticeships	Employers	Education Associations	On-going
Materials	MCPCC	Education	On-going
Partnerships	Employers	OEM's Associations	On-going
FCR	MCPCC	Employers	6 months
Skilled Trades Commission	MCPCC	Employers, Unions Associations, Educators, Directors of Apprenticeship, Government	18 Months

### 6. 7. 2. 3 Priority: Provide industry access to training programs and resources

- Develop a dedicated **resource centre** as part of the Council's website to post labour market information, studies, relevant training and other resources including a "best practices" section and maintain currency of information
- Target **government subsidy programs** such as the Employment Insurance System to train workers
- Hold national **cross-industry sessions** to identify changing skill requirements and gaps and determine any training development needed

Action/Project	Lead	Partners	Activity Duration
Resource centre	MCPCC	All stakeholders	On-going
Government subsidies	Employers		On-going
Cross-industry sessions	MCPCC	All stakeholders	Periodically

#### 6. 7. 2. 4 Priority: Maximizing training investment and delivery options

- Engage in a collaborative, **cross-industry strategy** for maximizing industry training. For example, commitment to and employment of the national Accreditation Program
- Initiate and/or strengthen **linkages with educational institutions** which could include joint ventures and the offer of faculty, trainers and speakers; and by inviting institutions to use employer facilities, simulators, and equipment as part of their programs
- Evaluate for potential industry application **international programs** considered "benchmark" in other countries including the UK, USA, Australia and EU

Action/Project	Lead	Partners	Activity Duration
Cross-industry strategy	All stakeholders	MCPCC Associations	On-going
Linkages with educational institutions	Employers Educators	Associations MCPCC	On-going
International programs	MCPCC	Associations International representatives	On-going

### 6. 7. 2. 5 Priority: Raising the professional status of bus operators through the promotion of certification/accreditation

- The entire industry must commit to showcasing the professionalism of operators via unlimited **support of certification and accreditation**. This support and promotion commitment will reinforce the industry 's adoption of national Occupational Standards, will increase training efficiencies and results, attract new entrants and has the potential to improve both operator pride (and potentially, retention) and public confidence in the providers' ability to deliver reliable, courteous and safe transportation
- Consistently integrate the benefits of certification and accreditation into **corporate marketing** with the goal to enhance the image of the industry, increase public recognition of operator professionalism and promote greater utilization of services
- Investigate the feasibility of having the **certification designation registered** with each province/territory
- Submit a proposal for review of the **National Occupational Classification** (**NOC**) for bus operators

Action/Project	Lead	Partners	Activity Duration
Support of certification and accreditation	Employers	Associations MCPCC Educators Unions	On-going
Corporate marketing	Employers	Associations MCPCC	On-going
Certification designation registration	MCPCC	Government	18 months
NOC	MCPCC	Government	On-going

#### 6. 7. 2. 6 Priority: Developing management and leadership skills

- Establish a "**Toolkit**" that sets out national standards for mentoring and succession planning programs and enable organizations to develop their own programs
- Promote management development **sessions** at conferences; develop workshops, seminars or forums

Action/Project	Lead	Partners	Activity Duration
Toolkit	MCPCC	Employers Associations	On-going
Sessions	Associations	External Resources	On-going

#### 6. 7. 3 Strategy C - Retention and Working Conditions

Throughout every phase of this Study, issues of retention and working conditions and their interrelationship have been identified as matters requiring serious consideration. Turnover can be a result of several factors beginning with an improper hire and/or orientation but much can be done to improve employee retention.

#### 6. 7. 3. 1 Priority: Orientation of new employees

- Implement **employer orientation programs** that are used consistently to initiate a mutually-supportive foundational relationship
- Develop a **generic orientation template** encompassing objectives, methods, and scope, which can be adapted by organizations. Include exemplary orientation program outlines as a resource

Action/Project	Lead	Partners	Activity Duration
Employer programs	Employers		On-going
Generic template	MCPCC	Employers External Resources	18 months

# 6. 7. 3. 2 Priority: Responding to the needs and opportunities presented by the ageing workforce

- Identify legislative, insurance, and other **factors and/or potential barriers** that negatively affect:
  - retention of staff beyond specific age ranges or lengths of service
  - employer ability to retain retirees in the workforce, and initiate remedial action, as appropriate
- Develop the capacity to **capture the knowledge** and experience of senior staff before they retire, and use it effectively in orientation, training, and retention programs. Strategies could include mentoring programs, training and formal documentation

Action/Project	Lead	Partners	Activity Duration
Age factors/barriers	Employers	MCPCC	On-going
Capture knowledge	Employers		On-going

#### 6. 7. 3. 3 Priority: Marketplace intelligence

- Initiate a cost/benefit evaluation of the practicality (costs and industry support) of commissioning a periodic **survey** of compensation and benefits to include all sectors, and selected like industries in order to develop a comprehensive database, which can be shared across the industry
- Investigate **retention strategies** "best practices" and publish these on the MCPCC resource centre website
- Periodically conduct employee surveys to evaluate employee workplace satisfaction
- Investigate areas which would benefit from the development of **pilot projects** such as exemplary recruitment, work-based learning initiatives or occupational health and safety
- Hold **focus groups** to increase labour market intelligence and post results on MCPCC resource centre website

Action/Project	Lead	Partners	Activity Duration
Feasibility of survey	MCPCC	Employers	On-going
Retention strategies	MCPCC	External Resources	On-going
Employee surveys	Employers / Employees		On-going
Pilot projects	MCPCC	Associations Employers	Periodically
Focus groups	MCPCC	External Resources	Periodically

#### 6. 7. 3. 4 Priority: Career progression strategies

- Employers must **define** precisely what career progression is and means within their structure, and must effectively communicate opportunity options and related training prerequisites to employees and recruiting markets
- Evaluate what similar industries are doing to create career progression strategies and/or enhancement for application by systems/companies within the sector
- Employers and employees must jointly create an employee **development strategy**, which constantly grooms, evaluates, and recognizes employee progress toward the achievement of their maximum potential

Action/Project	Lead	Partners	Activity Duration
Definition	Employers	Unions	On-going
Evaluate similar industries	MCPCC	Associations	On-going
Development strategy	Employers/Employees	Unions	On-going

#### 6. 7. 3. 5 Priority: Building morale and motivating productivity

- Collect industry and external examples of "best practices", which detail proven
  programs for building morale and motivating productivity, and make these
  available to the sector
- Include motivational **leadership training** as an essential component of management development
- Initiate creative **types and levels of recognitio**n that showcase and reward achievers internally and externally
- Give line staff visibility and showcase them in public advertising
- To the extent reasonably possible, involve employees in **workplace decisions**, which will affect them

Action/Project	Lead	Partners	Activity Duration
Best practices	MCPCC	All stakeholders External Resources	On-going
Leadership training	Employers	Associations MCPCC	On-going
Recognition levels	Employers	Associations MCPCC	On-going
Staff visibility	Employers	Associations MCPCC	On-going
Workplace decisions	Employers	Unions and Employers	On-going

#### 6. 7. 3. 6 Priority: Workplace safety and security

- Develop a national on-going **public education** campaign against public violence and abuse to educate the public on acceptable behaviour in a public transportation environment. This requires enlisting government support (financial and media), forging public education partnerships, holding public forums; and developing creative, sustainable solutions that are citizen and community driven
- Access from industry and external sources exemplary safety and security programs and make these available to industry employers
- Implement the use of **new and emerging technologies** that are designed to increase employee safety and security
- Work with the industry through the creation of **joint management-labour committees** to address workplace health and safety concerns

Action/Project	Lead	Partners	Activity Duration
Public education	All stakeholders	Government	On-going
Exemplary programs	MCPCC	Associations Employers	On-going
Technologies	Employers Unions		On-going
Joint management- labour committees	Employers Unions		On-going

#### 6. 7. 3. 7 Priority: Developing healthier workplaces

- Determine from industry and external sources which providers offer **exemplary health and wellness programs** and make this information available to all industry employers
- **Invest in health and wellness programs** that have been proven to effectively address workplace stress and other identified factors that adversely affect employee health
- Develop **Memoranda of Understanding** between Labour and Employers regarding the reconciliation of work and family life to build policy collaboratively

Action/Project	Lead	Partners	Activity Duration
Exemplary health and wellness programs	MCPCC	Employers External resources	On-going
Invest in health and wellness programs	Employers		On-going
Memoranda of Understanding	Employers Unions		On-going

#### 6. 7. 4 Strategy D - Industry Advocacy

In a global knowledge economy, links with counterparts around the world are essential to optimize knowledge transfer, not only for application within the industry, but as an aid to proactively influence our own governments at every level.

The Canadian motor carrier passenger industry is the first in the world to initiate both workplace Accreditation and Operator Certification on a national level — an excellent example of an initiative that can leverage industry recognition and collaborative exchange in the international community.

From a Canadian legislative perspective, there are numerous Acts of Parliament and a multitude of local, provincial, and regional laws and regulations which have bearing on the motor carrier passenger industry. The industry's ability to yield strong influence on the legislation that affects it is essential for its long-term viability and reasonable autonomy.

#### 6. 7. 4. 1 Priority: Strengthening the industry voice at all government levels

- **Consolidate pertinent human resources** related industry/government initiatives as a resource on the Council resource centre website.
- Build **industry recognition** at all relevant government levels and venues through marketing initiatives, formal presentations, and the cultivation of influential relationships
- **Monitor** the industry-related activity of government Standing Committees (federal and provincial) and municipal/regional transportation committees, etc. to enable an informed proactive industry influence and/or presence on contemplated and pending legislation impacting human resources
- Initiate proactive/timely **submissions** to government on important industry concerns (e.g. disruptive/violent passenger control legislation)
- Leverage the Sector Council collaboration of labour, employers, associations, and other stakeholders to strengthen industry representation to all forms of government

Action/Project	Lead	Partners	Activity Duration
Consolidate government human resources initiatives	MCPCC	Associations, Unions Systems/Companies	On-going
Industry recognition	All Stakeholders		On-going
Monitoring	Associations and other Stakeholders	All Stakeholders	On-going
Submissions	All Stakeholders		On-going
Leverage Sector Council collaboration	All Stakeholders	All Stakeholders	On-going

# 6. 7. 4. 2 Priority: Developing and maintaining international industry intelligence and collaboration

- Initiate and develop centralized collaborative **liaison** with International counterparts operating in progressive economies
- Leverage these relationships to include the **sharing** of research, concepts, methodologies, strategies and technologies. To ensure optimum reciprocity, the industry must be fully committed to reasonably sharing information and strategies with other stakeholders, both international and domestic
- Access **international** industry human resource **intelligence** for dissemination to, and access by stakeholders

Action/Project	Lead	Partners	Activity Duration
Liaison	Associations MCPCC	International Representatives	On-going
Sharing	Associations/MCPCC	International Representatives	On-going
International intelligence	MCPCC	International Representatives Associations	On-going





# Part 7 Case Studies



### 7.0 Case Studies

### OC Transpo "Let's Talk" and "Peer Support" Programs - Workplace Health

### Case Study Snapshot

Two successful and innovative OC Transpo programs, **Let's Talk** and **Peer Support**, relate to ensuring quality working environments for motor carrier passenger employees. These programs were developed to foster a healthy work environment by allowing employees to deal effectively with both work-related and personal issues that may impact mental well being, enjoyment of their work, and capacity to perform to the best of their abilities.

### **About OC Transpo**

OC Transpo is the 397km City of Ottawa public transit system with a typical weekday ridership of 343,000 passengers. It employs over 2200 employees who provide bus, light rail, and accessible services to a population of 750,000. Its fleet includes 920 buses covering 218 routes; an 8km 3-train LRT system; and 130 dedicated ParaTranspo vehicles. City Council, supported by a Transportation Committee which includes nine members of Council, determines and guides the implementation of transit services.

### **About the Programs**

Transportation systems rely on teamwork, communication, and customer service. Two elements, *quality of interpersonal relationships* and *resolution of work-related conflicts* have been identified by OC Transpo as important positive employee influences, contributing to work satisfaction, reduced absenteeism, better productivity, and employee retention.

For OC Transpo and the City of Ottawa, these lessons were brought to light in the most tragic of ways, a 1999 event that took place in the maintenance garage in which a former employee shot and killed 5 people, including himself.

In the aftermath of the incident, a trauma counselling team was brought in to work with staff, not only to help people deal with grief but to also look very carefully at organizational culture in order to determine the roots of the frustration and anger that led to the tragedy.

The combined team of staff and outside professionals identified a "dictatorial" management style and a strong sense that employees had no role in helping to shape the work environment. A prior (1996) organizational audit had also identified that the organization had traditionally focused on service delivery at the expense of the individual.

It was clear that both internal communication and shared responsibility for problemsolving were deficient, and recommendations for both **Let's Talk** and **Peer Support** were a direct result of the process. Each of these programs is designed to address a distinct facet of workers' needs.



### Let's Talk

**Let's Talk** is a process that has been developed to involve people in the organizational decisions that affect them directly. Peer groups – employees who work in one area or similar areas—identify workplace issues and problems that are creating stress or unhappiness, and identify ways to solve those problems, developing solutions jointly with management as appropriate. Often these issues are "pressure points" that have the potential to become grievances.

Though **Let's Talk** is on the surface a venue for issue identification and problem resolution, it is also recognized as way of building a more trusting and mutually-supportive relationship between employees, supervisors and management.

Led by trained "Ambassadors" —personnel at any level and in any part of the organization who have taken specialized facilitator training offered free of charge by OC Transpo, groups of employees meet to:

- · Identify and clarify the issue at hand
- Discuss a range of possible solutions
- Offer a group-developed solution to a vote
- Recommend action and put the solution into place

A typical "group" is composed of representatives from both the operator side and management. Six operators are paid to attend meetings that take place twice monthly. Management participants include representatives from the following groups: Supervisors, representatives of the Superintendent, Program Managers, Trainers, and Managers. All participants receive a three-day training program delivered by the City of Ottawa, and OC Transpo is now adding Meeting Effectiveness training sessions as well.

The program has proven to be an effective counter to negativity in the workplace. It provides an opportunity for all employees to learn new skills and to promote a more satisfying and productive work environment. A key to the process is valuing the input of any person at the table, and integrating the values of respect, cultural sensitivity, and democratic principles into the process.

A senior staff person in the Transit Operations Department explained, "The concept is easy to say, but somewhat trickier to do. Trying to get things accomplished in a timely way while respecting the need for people to be involved takes time, but it's time well spent."

From the beginning, OCTranspo leadership stood firmly behind **Let's Talk** as it found its footing, involved when asked to be, but purposely encouraging delegation to those most directly affected. Generally, **Let's Talk** sessions steer clear of discussion of collective bargaining issues, primarily because there are other mechanisms and processes in place for this purpose.

As the program has evolved, it has become strongly popular and is seen as a core expression of OCTranspo's organizational values. Program self-sufficiency has been strengthened by an on-going renewal process in which new people are trained and take on the cycling leadership role in the process.

Among key successes of **Let's Talk**, OC Transpo's Code of Conduct stands out as a seminal document that has involved countless hours of input and refinement from participants in the group sessions. Another example: **Let's Talk** is the focal point for working groups that have advanced new Vacation Allocation policies to senior management. These policies are now in place, and reflect a stronger sense of fairness and equality.

### **Peer Support**

Another program developed in the aftermath of the 1999 tragedy, **Peer Support** emerged as an alternative to the more formal Employee Assistance Program.

The **Peer Support** network consists of a team of fellow employees who have completed an internally-provided, free of charge training program that gives them core counselling, problem-solving, decision-making and referral skills. Sometimes Peer Supporters provide specific insights and techniques; at other times it's all about a lending a friendly, non-judgmental ear. Peer Supporters offer practical solutions or guidance about what might help, offer advice on how to defuse a stressful situation or provide important information or referral to a professional.

There are currently 36 Peer Supporters who have each received up to 30 hours of initial training in communication, listening, critical incident debriefing, stress management, bereavement, suicide intervention, confidentiality, conflict resolution, anger management, and stress diffusion. Peer Supporters also receive 16 hours a year of additional training in relevant topics.

The screening process is extensive, and a panel reviews applicants in a process which includes interviews. Final decision-making power for approval of new Peer Supporters rests with the Union President and the Director.

Two annual meetings are held in which participants discuss everything from contemporary "hot" issues to training needs. Quality assurance is secured through the intensive screening process and through on-going review. Review mechanisms include a Peer Review Board and an ad hoc group set up to deal with complaints. This group includes three Peer Supporters chosen at random, the Program Coordinator, and a representative of the Director's office.

Peer Support began its "employee-friendly" branding with the development of a program logo designed by a bus operator, and continues today with posters that feature Polaroids of the newest Peer Supporters, hung strategically in all bulletin board locations across the property's physical space.



### **Project Profile Summary**

After a little over five years, **Let's Talk** and **Peer Support** are identified internally by stakeholders as "ours" – and personnel at all levels have enormous respect for these expressions of OC Transpo's commitment to its people. The programs have worked vigorously to maintain a "home grown" feel – and are not seen as having any significant input or connection to senior management.

The future of **Let's Talk** and **Peer Support** will rely heavily on skills development, most importantly the management skills to recognize, implement and sustain effective practices that foster solid working relationships—relationships focused not only on the operational requirements and service delivery, but also on the individual needs of the employees and managers.

### **Case Study Profile**

This initiative has succeeded because the following essential skills and elements of success are present and given high value:

- Leadership/Championing: Senior management and Union leadership are committed to an on-going process of culture change. OC Transpo's experience highlighted the need to constantly invest in two things: 1) a commitment to cultural change that creates a more positive work environment; and 2) enabling resources and time to create and maintain positive "change agents" [ Let's Talk and Peer Support] which promote employee interdependence and employeemanagement collaboration as essential prerequisites to the favourable resolution of workforce team/esprit/morale issues
- Additional Senior-Level Commitments:
  - "Buy-in" from all levels of staff and the Labour structure was secured. Staff at all levels prioritize these programs, making it clear to line managers that employee time devoted to projects of this kind is encouraged
  - Program-supportive financial and human resources are provided
  - Specific investments in training and development have been made in order to increase interpersonal skills – helping people work better in terms of problemsolving while understanding the business aspect as well
- Staffing: In order to be most successful, programs of this kind must operate without on-going involvement from senior management. Program management involves delegation to mid-level managers and to line staff. At OC Transpo, one-third of one full-time staff person co-ordinates both "Let's Talk" and "Peer Support". Human Resources, Training, and Operations departments provide resources to the program and co-ordinate training efforts
- **Training:** Training for these programs was developed internally, drawing from existing resources including EAP training materials

- Marketing, Communications, and Promotion: An investment in program visibility was made at the outset. Program launches, internal posters and flyers, and other mechanisms were developed in order to reach drivers/operators who are on the road as well as staff in administration and in the shops. In order to sustain visibility and interest in the program, regular updates and "refreshes" of promotional programs take place regularly
- Quality Control: Consistent internal review is built in to both programs

### **Proven Benefits**

The following benefits of the programs have been solidly substantiated:

- Improved employee morale and, by extension, performance
- More effective employee/management communications
- More proprietary involvement in the business of the organization from all levels
- Workforce awareness of organizational health, facilitating early issues intervention
- The knowledge and attributes of front-line employees have been leveraged for common good

### **Adaptation Prerequisites**

The purpose of presenting this Case Study is to provide industry stakeholders with a "blueprint" for effectively creating internal programs to promote employee health and wellbeing. An Action Plan should consider the following demonstrated prerequisites:

- A significant organization commitment to re-examine and rebuild/re-vitalize organizational culture driven by the knowledge that it will promote employee job satisfaction and retention, and overall organizational health
- Buy-in from senior management, organized labour, and line staff
- Company-wide support for the development of programs that will express the new culture
- · Clearly defined objectives and goals
- Capital and human resource investment in training, including remuneration for line staff involved in both training and program delivery
- Clearly defined policies, procedures and methodology
- Commitment to on-going investment in the program(s) as organization and human resources needs evolve

### Stock Transportation, Kingston - Workforce Planning and Recruitment

### **Case Study Snapshot**

Maximizing recruitment and retention efforts begins—and is driven—by understanding what attracts successful, long-term employees to the position and specifically targeting the key employee market segments in both recruitment campaigns and retention strategies.

Stock Transportation has invested heavily in understanding the essence of the modern school bus driver—demography, psychography, needs and wants, motivators, "hot buttons"—and in doing so, is able to attract and retain candidates in the right quantities and with the appropriate skills.

### **About Stock**

Stock Transportation is Canada's second largest school bus operator and operates over 3,400 buses in Ontario and Nova Scotia, and covers more than 2000 routes in Ontario, Nova Scotia, New York, Missouri, and Texas.

The Kingston Division consists of 114 student transportation routes in and around the city of Kingston, a largely urban area of just over 110,000 people. There is one full-time driver for each of the routes.

### **Recruitment History**

As with any company in Ontario's school bus sub-sector, financial pressures at Stock Transportation are severe, but the requirement to ensure that children are safely delivered to and from school remains.

The combination of low wages and schedules that are part-time and seasonal poses challenges to the number of applicants that the sub-sector can draw from.

While organizations like the Motor Carrier Passenger Council and a number of school bus properties in Canada promote the job as the "full-time part-time alternative," many people see the job of school bus driver as not sustainable.

For many of those who decide to become school bus drivers, changing financial and family situations do not always lend themselves to the position. Stock's challenge, and indeed that of the entire sub-sector, is to overcome these barriers and sustain recruitment and retention levels so as to continue to be able to provide reliable, high quality service to their clients.

This process begins with constant forecasting, carried on through a formal network of people in the industry. Stock conducts regular "summits" in which internal divisions of the company meet to look at best hiring practices, to continue profiling recruiting targets, and to develop new and innovative ways to build the work force.

In Kingston, annual turnover has increased in last two years, challenging the organization to find new ways to attract – and retain – committed school bus drivers. Analysis of the turnover has shown that many drivers moved away from the company because they were looking for full-time work and benefits. Others were attracted by new industry that has opened up in the Kingston area. It was also noted by a number of

drivers leaving that the job of school bus driver has become more and more demanding and challenging.

Stock Kingston's current work force of 134 drivers includes a mix of "people types," including approximately 25% retirees, 25% parents of young children, and a rising number of "stay-at-home" Dads. The balance of the driver workforce includes those involved in farming and other resource industries.

### **Understanding the Attractors**

Stock believes that it is critical to intimately understand the type of person who can be a competent, happy bus driver. The company has looked carefully at the unique characteristics specific to the people attracted to the job, and have found the following commonalities, school bus drivers:

- Enjoy working with public
- · Have an affinity for children and youth
- Have a lifestyle that allows for a combination of modest remuneration and job satisfaction
- Are mature (regardless of age) and responsible
- · Are motivated by attractors other than money
- Are attracted by the ability to have the bulk or large parts of their days free to pursue other activities, responsibilities, or employment
- Take pride in their job and see value in it beyond the income

Ultimately, as driving a school bus is a part-time job, those whose financial needs outweigh their need or desire for part-time work will leave for full-time opportunities. Stock recognizes this, and the company works with the knowledge that a large majority of drivers see driving school bus as a transient career, one that lasts until there is a financial or family change that makes the hours and pay no longer ideal.

Stock's understanding of these characteristics has led to a number of practices in both recruitment and in creating employment conditions that match the lifestyles and needs of the operators.

### **Creating a Value-added Work Environment**

Based on the proven attractors, Stock recruits potential operators from a route's immediate community, knowing that the opportunity for people to work with and for their neighbours is an important motivator.

Stock allows its operators to take their buses home at night. This approach is built into budgeting and maintenance schedules at Stock in Kingston. This "benefit" provides at least three important advantages:

- Commuting expenses are virtually eliminated, helping to offset the relatively low wages
- Travel time from home to the operator's first pickup is minimized dramatically because operators don't have to commute from home to the garage and back to their route



• For parents who bring their pre-school aged children on bus runs, there is time to affix child safety seats and make other preparations for the run from "home base"

In addition to the benefit of taking buses home, Stock works very hard to provide other benefits beyond the wage to show respect for drivers and to create a sense of community among them, including things like:

- An operator relations program
- Well-appointed operators' rooms
- Fresh coffee always
- · Recognition through informal awards of tough weather conditions
- Monthly Drivers' Committee meetings to air concerns with managers
- Student Management and other training programs
- · Year-end barbecue
- An active Social Club whose events are partially underwritten by the company

Throughout Stock, contact and communications between staff and drivers is considered a high priority. It is expected that managers have a true open door policy, and be available to listen to what drivers have to say. The essence of Stock's approach is a principle that says "We absolutely and unequivocally value the employee." and this philosophy translates into the purposeful creation of an environment with a blend of pay, work circumstances, support and involvement that gives employees an acceptable package.

### **Sustaining the Workforce**

Stock maintains a pool of five drivers who are available at all times. In addition, there is a secondary pool of sixteen additional drivers who are on-call to handle short-notice requirements such as sick-day replacements, and an additional eight drivers in a bank of pre-qualified and trained drivers who can be called upon to assume one of the driving positions, as required.

The reason for such a sizeable pool is a reflection of Stock's understanding of the day-to-day reality of its drivers. With a high percentage of parents with school-aged children in the work force, it is essential to have drivers available who can pick up shifts in order for Stock to accommodate driver absences due to, for instance, sick children. Where this tolerance of absenteeism might be frowned upon in other industries, it is, once again, one of the ways in which Stock keeps its work force loyal and happy.

In order to stay in touch with the human resources need, a Driver Status Report keeps senior management in touch with the work force by spelling out monthly turnover, analyzed in a year on year context.

The organization is continually in "recruitment mode," advertising through exterior "sandwich board" signs, working with local School Board and neighbourhood Parent Groups, putting signage up in local stores in the smaller towns outside of the Kingston metropolitan area, and word of mouth. Stock has an internal referral network of drivers, who are recompensed when a qualified lead provided by an individual is hired.

### **Driver Qualification:**

Applicants are screened for character and competence through thorough interview processes that include scenario-building, the viewing of videos, and screening questions that give a sense of the candidate's natural skill set for dealing with children and adolescents.

All successful candidates must have a valid Ontario driver's licence, a clean Abstract, and a Ministry of Transportation-approved medical must be passed.

### **Project Profile Summary**

Stock's success stems from a thorough understanding of its primary supply of resources—who is likely to want to become a school bus driver—and the reasons they are likely to stay. This initiative has succeeded because the following essential skills and elements of success are present and given high value:

- Leadership/Championing: Stock sees the recruitment and retention of school bus drivers as a key organizational priority, and invests time and resources in the process
- **Structure**, **Management**: One senior member of Stock's Operations Department staff has overall responsibility for developing and executing recruitment and retention strategies
- Staffing and Resources: Senior staff spends significant time and resources researching and developing the strongest possible intelligence about drivers' needs, wants, motivation, and satisfaction. In addition, staff members participate in regional and national forums, sharing intelligence, tools, and techniques available from the broader (national) Stock system
- **Operations:** Flexibility as demonstrated in the Driver pool, and in the allocation of buses for personal transportation by drivers
- Performance Measurement: While annual turnover has increased slightly in the past two years, this approach has contributed to an annual turnover rate of less than 5% for more than seven years running. Stock is committed to constant data collection, examination of trends, and sharing of this intelligence across the broader Stock "network" in order to stay proactive

### **Proven Benefits**

The following benefits of the program have been solidly substantiated:

- Development and maintenance of a "deep" driver spare pool ensures continuity of operation
- Tolerance of leave, significant social benefits, and the ability to bring school buses home at night are among the key attractors for school bus drivers in this region

# Adaptation Prerequisites

The purpose of presenting this Case Study is to provide industry stakeholders with a "blueprint" for more effective driver recruitment and retention. An **Action Plan** should consider the following demonstrated prerequisites:

- Willingness to re-examine corporate culture, traditions, and rules to accommodate the needs of an emerging work force that is non-traditional
- Investment in determining the most likely characteristics of potential recruits and developing marketing and advertising that reaches these people
- A corporate or company-wide attitude that drivers are an immensely valuable part of the organization and its success
- Investment in training that is relevant to the working reality of drivers, offered at times that fit into their lifestyle

### Edmonton Transit System - Strategic Approach to Recruitment / Retention

### Case Study Snapshot

The City of Edmonton has modernized and reorganized its operations, and ETS' recruiting process has evolved into a successful model that meets the Department's staffing needs by ensuring the on-going supply of an adequately skilled/qualified workforce in today's competitive market.

### **Edmonton Transit**

ETS is a public transit System with a typical daily ridership of 100,000. passengers. It employs over 1,600 people, the majority of whom are transit operators. Its fleet includes over 750 diesel and trolley buses and 26 community buses that cover over 140 routes, a 37-vehicle Light Rail Transit (LRT) system; and a Disabled Adult Transit Service. The System is a branch of the City of Edmonton's Transportation and Streets Department.

### **Recruitment History**

As is the case throughout much of the motor carrier passenger industry, Edmonton's urban system has had to adapt recruitment processes to accommodate labour market change. Historically, few staff resources were committed to recruitment – in fact, just one person was responsible for a simple process that consisted of reviewing applications, conducting a 15-minute interview, and making a hiring decision based on that evaluation. In the late 90s, the City introduced shared interdepartmental HR services and three HR Consultants took over responsibility for ETS' staffing as just one of many portfolios. Plagued by poor record-keeping, weak processes and a lack of focus on recruitment, this system did not meet ETS' needs.

By this time, the effects of an unfocused approach were beginning to show at ETS. Performance standards were slipping, complaints and confrontations with drivers were increasing as were problems with customer service, and job applications were down. To compound the problem further, the City's ridership had also changed, and their expectations were rising.

Recognizing that serious problems existed, ETS and the City's HR staff assessed their needs and determined that giving priority to collaboratively modernizing processes and improving data/records management would create a needed framework for better hiring practices.

Today, ETS' recruitment process has evolved into a Corporate Workforce Plan, "a strategic long-term view towards attracting, developing and retaining skills and talent across the organization to ensure the on-going achievement of business objectives". In a market where employer competition for quality job candidates has intensified, ETS is totally committed to being regionally recognized as an "employer of choice."

### **Workforce Planning**

Planning is the responsibility of ETS' Operations Management Team, which dedicates almost a full staff position to forecasting human resources needs. Target numbers are developed by studying both labour market trends and population trends in the Edmonton area, and through careful analysis of local urban growth patterns. The City's urban planning strategies are fed into the process, allowing this assessment of future demands for municipal services to contribute to projections. In addition, careful attention is paid to the identification and monitoring of impending retirements.

### Recruitment

In order to help those aspiring to positions with ETS better understand the hiring process and the requirements of specific jobs, the organization has created a transparent and consistent process that eliminates systemic barriers to finding the best candidates. Rather than simply looking for sheer numbers of applicants, ETS focuses on profiling the specific requirements of each position and seeks to attract qualified applicants by communicating as much as possible about the job via the Web.

Job postings are now tailored specifically to the essential applicant skills/characteristics being sought, and messages and images in postings and advertisements are designed to ensure that these realistically reflect what life "on the job" will be like.

The number one recruitment tool for ETS has become the "ETS Career Opportunities" area of the City of Edmonton's web site (www.edmonton.ca). The site, (which includes a integrated link to the MCPCC industry-careers promotional video "*Put Your Career in Gear*"), takes applicants step-by-step through the hiring process to help them understand what qualifications and preparation are expected of them, clearly spelling out the details in simple bullet points like:

- Job Requirements (prerequisites)
- Job Functions
- Challenges
- The Recruitment and Selection Process

For ETS, this form of "pre-screening" encourages the prospect's self-evaluation relative to the prerequisite skills, knowledge and attitudes, before he/she becomes an applicant. As a result, ETS' investment of time and resources in testing and/or interviewing can be optimized.

Edmonton Transit participates in a number of career fairs annually with a booth presence, promotional material, and videos. Internal postings also play an important role, but, despite its "low-tech" nature, word of mouth referral has emerged as the second most important recruitment source. Recruitment strategies and media are constantly reviewed to ensure maximum visibility /appeal to all segments of the diverse regional population.

### **Evaluation and Testing**

Qualified applicants must pass three competency-based tests: a public relations video test, a written comprehension test, and a driving skills video test. Applicants are advised of their test results and those who pass are scheduled for an interview. Applicants that fail may reapply on a posting after a six-month waiting period. The transit bus operator interview is competency-based and designed to assess candidates in the competencies deemed important by Edmonton Transit.

A question and answer-based screening video, developed in Seattle, Washington, asks fifty multiple-choice questions based on video scenarios. The process takes ninety minutes, and tests applicants' common sense, intuition, instincts, and experience in customer relations, driving, and customer service. "Best Practice" answers are nested within the multiple choices. This tool has become a staple of applicant evaluation, because it is truly reflective of the position.

The location, facilities and group size of administered testing have been consolidated to the point where the process is very efficient, requiring just a handful of administrators and far less time than previous methods. The process, complemented by a slate of standardized tools such as stock participant and administrator guides and PowerPoint presentations, is continually improving.

Successful applicants are interviewed by a three-member panel that assess education, experience, knowledge, skills/abilities, and personal suitability relative to the position to be filled. Selection is based on an interview score of 70% or more, as well as positive references.

Finally, it is important to note that only about 8% of applicants are hired on a permanent basis. In assessing this fairly low hire-to-prospect ratio, Edmonton spokespersons feel that it is a positive reflection on the recruiting, screening, and training programs in place.

### **Recruit Training**

Successful recruits won't necessarily become successful employees, but ETS works hard to give them every opportunity to do well. The operator-trainee training schedule has been tailored to enhance skills and confidence. The original 24-day training format has been reorganized to provide an initial three weeks of training plus two weeks of work experience, followed by one final week of training. This format allows trainees to return for their final training session with practical experience, which facilitates personalized remedial assistance as needed.

Trainers with whom new employees are most familiar, and with whom they've likely built a good relationship, continue to provide support long after formal training has

ended. They, like supervisors and managers, practice an open door policy to encourage better communication at all levels of the organization. As open communication in the workplace is particularly important for new employees, each new recruit is assigned a mentor. Additionally, the ETS performance management program has been refined to include appropriate recognition for achievement, and added support/consideration for employees experiencing personal problems.

### Retention

Furthermore, the organization no longer loses employees as in the past. Now, if people leave, it's for personal reasons unrelated to the job. Complaints on all fronts—from employees, managers and passengers—are down. Supervisors are commenting favourably on the quality of their new employees, and there is a sense that many of he new employees of today have the potential skills and commitment to be the Managers of tomorrow.

### **Project Profile Summary**

As one manager stated, "For the first time in five years, ETS is ahead of the curve with respect to staffing. With the staffing process now front-loaded and cycle times compressed, we have provided for ourselves the luxury of choosing when and how to advertise to get the best candidates."

This initiative has succeeded because the following essential skills and elements of success are present and given high value:

- Leadership/Championing: The evolution of ETS' recruitment and retention practices into an effective and efficient model results from a firm commitment to a philosophy of continuous improvement including the allocation of the resources needed to achieve intended results
- **Staffing:** Municipal personnel in a variety of departments including Planning and Human Resources contribute to the ETS workforce-forecasting and recruitment processes. Trainers are committed to effectively and productively integrate new recruits into the ETS workforce
- **Technology:** The ETS pages of the Edmonton City Website are updated continually. Viewer statistics are reviewed regularly as part of a constant analysis of recruitment media effectiveness
- Communications and Marketing: ETS continually examines new marketing methods to maximize the exposure/reach and impact/results of employed recruitment media
- Performance Measurement: Hiring of bus operators has almost tripled over the past five years (from 50 per year in 2000 to 148 in 2005). It is expected that Edmonton Transit will hire at least 150 drivers per year for the next five years, and that this number will likely increase as the property grows and attrition continues

### **Proven Benefits**

The following benefits of the ETS program have been solidly substantiated:

• Better understanding of market demographics and urban/suburban



development outlook has aided both workforce planning and targeted recruitment strategies

- Improved recruitment efficiency including timeliness of meeting recruitment needs
- Improved quality of new hires
- Creates a supportive environment for new employees which enhances their potential for success and longevity in the industry
- Reduced complaints and better communications, both public and internal
- Reduced turnover and stronger workforce career commitment

### **Adaptation Prerequisites**

The purpose of presenting this Case Study is to provide industry stakeholders with a "blueprint" for effectively developing new recruitment and retention strategies. **An Action Plan** should consider the following demonstrated prerequisites:

- Recognition of the urgent need to develop innovative hiring and retention
  practices in the context of contemporary labour market challenges, and the
  assumption of full responsibility and accountability for the effectiveness of the
  recruitment process
- Determination/commitment of the investment (human resources and capital) necessary to accomplish the desired results, including the employment of appropriate media and current technologies, such as Web-based marketing/screening programs
- Clear methodology, including:
  - Identification of specific "success criteria" for each position to facilitate the selection of applicants most likely to succeed and remain with the Company
  - Use of diverse and targeted media strategies, and focused/refined screening and interviewing techniques to attract and identify qualified applicants
  - Development of process efficiencies in the areas of screening, testing, interviewing, and activities/results evaluation to maximize program productivity.
  - Training tailored to the individual needs of candidates
  - Manager/Trainer "open door policies" and employee mentor programs designed to enhance communications, job satisfaction, and career commitment

## Atlantic School Bus Procurement Committee - Pooling of Procurement and Purchasing of School Buses

### **Case Study Snapshot**

The objective of the participants was the pooling of resources to enable the collective spec'ing, procurement and purchasing of school buses for the purposes of reducing costs, improving vehicle and related safety standards, and creating a platform for the betterment of operating standards throughout the Atlantic Provinces. These founding objectives have been realized.

This best practice is an example of the progressive and collaborative projects being pursued under the auspices of the Council of Atlantic Ministers of Education and Training (CAMET). While this Case Study focuses specifically on the involvement of the New Brunswick Departments of Education and Transportation, it is really about all four Atlantic Provinces, and illustrates what can happen when people and organizations make a commitment to working together to produce the best thinking, the best policies, economies of scale, and best practices.

This best practice also demonstrates how a collective brought together to achieve economies of scale can also generate a variety of other highly beneficial outputs.

### **About the Players**

The **Council of Atlantic Premiers** is an organization that brings all four Maritime Premiers together for the benefit of the residents of Atlantic Canada. The organization's objectives include strengthening the economic competitiveness of the region, and improving both the quality of public services, and the cost-effectiveness of delivering public services to Atlantic Canadians.

The Council of Atlantic Ministers of Education and Training (CAMET) is composed of the Atlantic Ministers of Education and Training, and was established in April 2004, replacing the Atlantic Provinces Education Foundation (APEF) established in 1994. Member provinces are New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island. The purpose of the Council is to provide the framework for joint undertakings of the four provinces relative to addressing common needs in the areas of public education.

The **Atlantic School Bus Procurement Committee** is composed of a group of technical specialists and administrators from the four Atlantic Provinces. The group produces school bus specifications, prepares and review tenders, and recommends the contracting of work for the procurement of school buses for the region.

The **Province of New Brunswick**: In New Brunswick, a fleet of vehicles are owned and maintained by a central organization under the Department of Transportation. The school buses are operated by the Department of Education. The largest school bus operator in the region, they employ 1,053 unionized drivers, and operate and maintain close to 1,200 school buses. New Brunswick orchestrates the procurement process for the region.



### **About the Program**

Over the past two decades, school bus operators of all sizes have witnessed steep increases in the price of school buses and changes in the manner in which school buses are manufactured and assembled. In addition, Transport Canada, the Canadian Standards Association, and manufacturers have adjusted school bus specifications in order to address safety concerns and stay in step with emerging technologies.

On the recommendation of the Council of Atlantic Premiers and CAMET, the idea of pooling the procurement and purchasing of school buses was initiated in 1992 and the mandate and operating procedures for the Committee were established at that time.

Since then, the Atlantic School Bus Procurement Committee has met regularly to develop specifications that are applicable throughout Atlantic Canada, and to manage the procurement process. The Province of New Brunswick handles the responsibility of issuing tender calls related to the specification on NBON (the province's public sector electronic public tendering system).

### The Spec'ing Process

In order to develop appropriate bus specifications, the Atlantic School Bus Procurement Committee has representation from all four Provinces, and a number of key competencies are at the table.

The group includes managers, technical inspectors, Department of Education representatives, fleet managers, and experts in finance. One member is also a key member of the Canadian Standards Association D250 Group—the group that develops national standards for specifications and requirements for school buses all across Canada. His knowledge of the standards, which provide guidance to manufacturers on school bus design and safety features, gives the Committee a significant advantage during the specification development process.

The Committee develops the specification by discussion and agreement, assigning one member the responsibility for making any changes to the document as it is reviewed. After the preliminary meeting, additional changes are made to the document via conference call involving all Committee members. Typically two to three discussion periods are required to finalize the tender documents.

### **The Procurement Process**

Once the Committee has approved the final tender specification document and individual jurisdictions have identified the quantity of buses required, the final tender document is sent to the Province of New Brunswick. The Province takes the lead role in tendering for the goods for the entire Atlantic region under a regional Procurement Agreement.

When tender responses are received, the tender bid information is transferred to a spreadsheet, which is made available for the entire Committee for review. Selection of the successful proponent is based upon the vendor who meets the conditions of the tender document and offers the best economic value for all the Atlantic Provinces. Only one manufacturer will be chosen to supply goods for the entire region.

Each jurisdiction is responsible for determining the final quantity of units to be ordered, identifying options that they would like to see included in their operational units and issuing purchase orders to the manufacturer for their segment of the order. Upon receipt of the order, the manufacturers will establish a date to build a number of prototype buses to the specification of each individual jurisdiction.

Representatives of each jurisdiction visit the chosen manufacturer to review the prototype buses and ensure that they meet the tender specification. The manufacturer makes changes to the production schedule to accommodate any deficiencies encountered in the prototype review process. The manufacturer then advises when the remaining products will be built and delivered to each jurisdiction.

For the 2005-2006 school years the Committee managed the procurement of 259 buses; their largest order to date, with purchases distributed as follows:

• New Brunswick: 99 vehicles

• Nova Scotia: 67 vehicles

• Prince Edward Island: 26 vehicles

• Newfoundland & Labrador: 67 vehicles

According to a Program authority, "We believe this approach is unique in North America. While other services both in Atlantic and other parts of Canada are becoming increasingly privatized, we are still a part of the public sector, and so we're driven by accountability to the taxpayer as well as by the desire for the safety of our students and our drivers. With 3,000 vehicles or more on the road, we have strong understanding of fleet management, and can apply that to the school bus fleet. But perhaps the most important thing is that we can work directly with the manufacturer, who has our undivided attention because our orders are significant in size."

Beyond co-operative buying, the process allows the Committee collectively to develop common operating procedures that incorporate the needs of specific jurisdictions. The group can develop common approaches to technical items like lighting packages, and stop arms, and also make recommendations on other procedures including service schedules, training, and bus operation.

This pooled procurement process has meant changes for bus dealers in Atlantic Canada, who now align themselves with the manufacturers. Local companies are still a key part of the purchase, but now they act more like an agent for the manufacturer.

### **Project Profile Summary**

This initiative has succeeded because the following essential skills and elements of success are present and given high value:

- Leadership/Championing: The Council of Atlantic Premiers enabled this Committee and Program and has supported this initiative for over a decade as an example of the co-operative and knowledge-transfer philosophies that are the core of this inter-provincial group
- **Structure, Management:** The Atlantic-Provinces-wide Committee combines technical expertise and collective operational knowledge into a sound organizational structure that facilitates decision-making and project execution
- **Staffing:** Since the Committee is composed of existing staff people with knowledge/skills directly related to school bus procurement, no additional staffing is required. The group meets several times a year, with very specific agendas and objectives
- Guidelines: Several guidelines drive this process, including pre-existing purchasing and procurement regulations, the CSA D250 School Bus Standard, Transport Canada standards, and provincial safety and Highway Traffic Regulations
- Quality Control: Multiple quality control processes are in place, including evaluation by group members through a set feedback cycle, the testing of prototype buses built by manufacturers prior to line assembly of all orders, and inspection of delivered vehicles by applicable jurisdictions
- Performance Measurement: The Council of Atlantic Premiers has evaluated the performance of this group, and views it as one of the most successful collective programs in operation in Atlantic Canada. The process has enabled effective cost/benefit leveraging of manufacturers, particularly beneficial for small jurisdictions who realize major savings. A Program authority has commented: "Current unit pricing is similar to what was seen a number of years ago" and "savings that accrue to each government as a result of this process are significant"

### **Proven Benefits**

The following benefits of the program have been solidly substantiated:

- Optimizes control of new vehicle purchase costs, enabling participating jurisdictions of any size to realize the advantage of leveraged buying power
- Contributes significantly to uniform vehicle and safety standards within the region
- Effectively employs collective human and other resources of participants for common benefit
- Provides a proven operational framework that can be applied to manage the costs of other selected capital/operating expenses

### **Adaptation Prerequisites**

The purpose of presenting this Case Study is to provide industry stakeholders with a "blueprint" for effectively creating a bulk-purchasing collective. An **Action Plan** should consider the following demonstrated prerequisites:

- A significant capital or service expense common to multiple stakeholders
- Participant commitment to collaborative co-operative consensus
- Green-lighting from senior management
- · Clearly defined objectives and standards
- A Champion to lead and energize the process
- · An organizational structure facilitating decision-making and project execution
- Clearly defined policies, procedures and methodology
- Thorough knowledge of the needs of end-users (drivers, mechanics, riders, etc.)
- Thorough knowledge of applicable legislation, regulations, and standards
- Qualified specialists as appropriate (specifications, procurement, quality control, contract management, etc.)
- Systems for cost-benefit validation/audit, and project monitoring/management/reporting



### Reference List

The attached Reference List is substantially representative rather than totally inclusive of the scope of investigative research conducted to produce this Study. During project development, literally hundreds of Canadian and international Internet sites were audited to access Study-relevant information. In most instances, these Internet sources have been referenced only when quoted or when providing other material incorporated in the body of the Study.

**Abelman, R. and I. Kotlyar.** 2003. Simulation turns recruitment into a two-way street. Canadian HR Reporter. December 1, 2003

**Acemoglu, D. and J.-S. Pishke.** 1999. Certification of Training and Training Outcomes. Cambridge: Massachusetts Institute of Technology.

Alexander, S. 2001. HR e-power to the people. Info World. February 12, 2001.

**Altair Engineering.** 2004. Altair Engineering and Automation Alley Receive Federal Grant to Help Revitalize Public Bus Transportation. 2004.

**American Public Transportation Association (APTA).** 2001. Glossary of Transit Terminology as Defined for NTD Reporting – 2001.

American Public Transportation Association (APTA). 2006. 2006 Factbook.

Andre, C., E Lelord and P. Legeron. 1997. Effectiveness of early intervention on 132 bus drivers who have been victims of aggression: a controlled study. Occupational Health and Industrial Medicine.

**Auditor General of British Columbia.** 1997. BC transit: Managing operator productivity and BC transit: Its success as a market-focused organization. British Columbia: Government of British Columbia.

**Aust, B., R. Peter and J. Siegrist.** 1997. Stress management in bus drivers: A pilot study based on the model of effort-reward imbalance. International Journal of Stress Management.

**BCTransit.** 2005. Capital Projects Update. Memo from R. H. Irwin, President and CEO, BC Transit to Members of the Victoria Regional Transit Commission.

**Baldwin, J. and V. Peters.** 2001. Training as a human resource strategy: The response to staff shortages and technological change. Ottawa: Statistics Canada.

Ballard Power Systems. 2004. Fuel Cell Buses.

**Battery and EV Technology.** 2004 Electric Buses Fueled by Air Concerns. Business Communications Co., Inc.

Beadle, S., J. Devlin, B. Metcalfe, M. Reidy, R. Russwurm and T. Sanders. 2001. Apprentice Retention in the Skilled Trades: A Groundbreaking Study. Hamilton: Industry-Education Council of Hamilton.

**Boudreau, J-P.** 2003. Pupil Transportation in Canada - An Overview. New Brunswick: Government of New Brunswick.



**Brewer, A. and D. Hensher.** 1998. The importance of organisational commitment in managing change: Experience of the NSW private bus industry. Logistics and Transportation Review.

**Brewer, A.** 1996. Developing commitment between managers and employees. Journal for Managerial Psychology.

**Brodrick, C-J., D. Sperling and H. Dwyer.** 2002. Will diesel engines make a comeback? Consumers' Research Magazine.

**Bronson Consulting Group.** 1999. Alternative Fuels Market Research Study, Transportation Climate Change Table. Ottawa: Transport Canada.

**Brown, D.** 2000. The technology is fine, the people are the problem. Canadian HR Reporter.

Bryan, W. 2005. When Two Decks Are Better than One. Bus Ride Magazine. March 2005.

Bus Canada. 2004. The Canadian Bus Industry - A Mode On Its Own.

Business Week Online. 2004. Tomorrow's safer cars. Business Week. September 14, 2004.

**Business Wire.** 2004a. Iteris lane departure warning system receives praise from commercial truck drivers. September 4, 2004.

**Business Wire.** 2004b. Tomorrow's Safer Cars. September 14, 2004.

**Cambini, C. and M. Filippini.** 2003. Competitive tendering and optimal size in the regional bus transportation industry: An example from Italy. Annals of Public and Cooperative Economics.

**Camo-route Inc.** 1998. Diagnostic sur l'industrie du transport routier des personnes au Québec. Québec: Camo-route inc.

**Camo-route Inc.** 2005a. Diagnostique sectoriel:Transport routier de personnes 2004-2005. Québec: Camo-route Inc.

Camo-route Inc. 2005b. Rapport Annuel 2004-2005. Québec: Camo-route Inc.

**Canada Transportation Act Review Panel.** 2001. Vision and Balance: Canada Transportation Act Review. Ottawa: Government of Canada.

**Canadian Bus Association.** 2004a. The Canadian bus industry - A Mode on its own. Ottawa: Canadian Bus Association.

**Canadian Bus Association.** 2004b. Off-Reserve Aboriginal peoples get employment boost. Ottawa: Canadian Bus Association.

**Canadian Bus Association and L-P Tardif & Associates Inc.** 2000. E-Commerce and ITS applications in the intercity bus sector: An overview. Ottawa: Industry Canada & Transport Canada.

**Canadian Council on Social Development.** 1999. Work, Family and Community: Key issues and directions for future research. Ottawa: Human Resources Development Canada. HYPERLINK

"http://www.sdc.gc.ca/asp/gateway.asp?hr=/en/lp/spila/wlb/wfc/01presentation.shtml &hs=wnc"

http://www.sdc.gc.ca/asp/gateway.asp?hr=/en/lp/spila/wlb/wfc/01presentation.shtml &hs=wnc

**Canadian Tourism Commission.** 2005. Canadian Tourism Facts and Figures 2004. Ottawa: Statistics Canada.

**Canadian Trucking Human Resources Council.** 2004a. Profile of driver shortage, turnover and future demand. Ottawa: Canadian Trucking Human Resources Council.

**Canadian Trucking Human Resources Council.** 2004b. Review of driver training and employment assistance programs. Ottawa: Canadian Trucking Human Resources Council.

**Canadian Urban Transit Association (CUTA).** 2002a. Employer Provided Income Tax-Exempt Transit Benefits. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2002b. Public transit and quality of life: Building better communities. Issue paper no. 3, October. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2002c. Promoting better health through public transit use. Issue paper no. 2, May. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2003a. Provincial and territorial funding of urban transit in Canada. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2003b. Summary of collective agreements of Canadian transit systems (operating and maintenance personnel). Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2003c. Transit means business: Economic case for public transit in Canada. Issue paper no. 5, May. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2003d. Transit's leading edge: Innovations in service and technology. Issue paper no. 7, November. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2004. Canadian Transit Fact Book: 2003 Operating Data. Toronto: CUTA.

Canadian Urban Transit Association (CUTA). 2004a. About e-learning. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2004b. Report on a survey of transit infrastructure needs for the period 2004 – 2008. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2004c. Transit's next generation: Working with Canadian youth. Issue paper no. 8. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2005a. Bus Rapid Transit: A Canadian Industry Perspective. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2005b. Summary of Canadian Transit Statistics: 2004 Operating Data. Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2005c. Tax Exemptions for Employer Provided Transit Benefits. Toronto: CUTA.



**Canadian Urban Transit Association (CUTA).** 2005d. Provincial and Territorial Funding of Urban Transit in Canada Toronto: CUTA.

**Canadian Urban Transit Association (CUTA).** 2006. Transit Infrastructure Needs for the Period 2006–2010: Summary Report. Toronto: CUTA.

**Cape, D.** 2002. Park and Ride: An Under-rated Public Good for Monocentric Cities – a U.K./North American Comparison. Lancaster: University of Lancaster.

**Carroll, J.V.** 2003. Vulnerability assessment of the US transportation infrastructure that relies on the global positioning system. Journal of Navigation.

**Carter, A.** 2001. Smart card technology just got smarter. Metro Magazine, November/December 2001.

**Certified General Accountants Association of Canada.** 2005. Growing Up: The Social and Economic Implications of an Aging Population.

**Chabrow, E.** 2004. Transportation IT spending projected to grow. Information Week. August 2004.

**Commission for Integrated Transport.** 2004. Competition in the Passenger Transport Industry.

**Computing and Control Engineering.** 2004. City council makes Portsmouth 'Europe's first mesh-enabled municipality'. Computing and Control Engineering.

**Conference Board of Canada.** 2004. Fiscal Prospects for the Federal and Provincial/Territorial Governments: Economic Performance and Trends. Ottawa: The Conference Board of Canada.

**Cooke, M. and J. McMullin.** 2004. Labour force ageing and skill shortages in Canada and Ontario. Canadian Policy Research Networks.

Crowley, D. 2000. Profiling transit ridership. Toronto: CUTA.

**Cura, F.** 2006. Canadian Government Studying Transit Funding Role, Triggering Industry Optimism. American Public Transportation Association (APTA).

**Daily Commercial News and Construction Record.** 2002. Solar power bus stops to be tested: Canadian-designed. Daily Commercial News and Construction Record.

**Department for Transport.** 2004. Best Practice for Increasing Bus Use for Journeys to School. United Kingdom: Government of the United Kingdom

**DesRosiers**, **D**. 2004a. Canadian Automotive Industry Review: Canada/U.S. Issue. Richmond Hill: DesRosiers Automotive Consultants.

**DesRosiers**, **D**. 2004b. Canadian Automotive Industry Review: April 2004. Richmond Hill: DesRosiers Automotive Consultants.

**Dobie, K., J. Rakowki and N. Southern.** 1998. Motor carrier road driver recruitment in a time of shortages: What are we doing now? Transportation Journal.

**Electronic News (North America).** 2004. There's gold in them there highways. Electronic News (North America).

Eng, P. 1996. Virtual buses for novice drivers. Business Week. January 1996.

**Essential Skills.** 2005a. Truck and Transport Mechanics: NOC 7321. HYPERLINK "http://srv600.hrdc-drhc.gc.ca/esrp/english/profiles/9.shtml" http://srv600.hrdc-drhc.gc.ca/esrp/english/profiles/9.shtml

**Essential Skills**. 2005b. Dispatchers and Radio Operators: NOC 1475. HYPERLINK "http://srv600.hrdc-drhc.gc.ca/esrp/english/profiles/22.shtml" http://srv600.hrdc-drhc.gc.ca/esrp/english/profiles/22.shtml

**Evans, G. and J. Gunn.** 1998. Urban bus driving: An international arena for the study of occupational health psychology. Journal of Occupational Health Psychology.

**FAAC Inc.** 2005. MB-2000 Municipal Bus Simulator Gets Results. Ann Arbour: FAAC Incorporated.

**Falcon, K.** 2004. B.C. Transit Annual Report 2004. British Columbia: Government of British Columbia.

**Federal Transit Administration**. 2004. Characteristics for Bus Rapid Transit for Decision Making. United States Department of Transportation.

**Fickes, M.** 2003. Leave the Security to Us. Access Control and Security Systems. November 2003.

Fleet Manager. 2005. International Reveals '07 Costs. Fleet Manager. December 1, 2005.

**Fraser, J.** 2002. Intercity bus service in Canada: Report of the standing senate committee on transportation and communications. Ottawa: The Senate of Canada.

**Giannopoulos, G.A.** 2004. The application of information and communication technologies in transport. European Journal of Operational Research.

**Gobel, M.,T. Springer and J. Scherff.** 1998. Stress and strain of short haul bus drivers: psychophysiology as a design oriented method for analysis. Industrial Engineering and Ergonomics. Aachen: University of Technology.

**Grant, M., K. See and D. Downing.** 1998. Transportation and global climate change: A review and analysis of the literature. Washington: U.S. Department of Transportation.

**Greene, K.J.** 2003. Emerging Trends in Human Resources. CUTA Fall Conference 2003. Toronto: CUTA

Greyhound Canada. 1999. 75 Years of Greyhound Canada.

**Grosswald, B.** 2002 "I raised my kids on the bus": Transit shift workers' coping strategies for parenting. Journal of Sociology and Social Welfare.

**Hartman, J.** 1998. A primer on urban transportation and global climate change. Ottawa: Transportation Association of Canada (TAC).

**Hartman, N.J.** 2003. Ministry of Education Memorandum. Toronto: Government of Ontario.

Harvie, C. 2000. On the buses, it's a nightmare. New Statesman.



**Health Canada**. 2004. Canada's Aging Population. The Government of Canada.

**Hendrickson, A.** 2003. Human resource information systems: Backbone technology of contemporary human resources. Journal of Labour Research.

**Hensher, D.A., J. Stanley.** 2003a. Performance-based quality contracts in bus service provision. Transportation Research: Part A: Policy and Practice.

Hensher, D.A., P. Stopher and P. Bullock. 2003b. Service quality – developing a service quality index in the provision of commercial bus contracts. Transportation Research: Part A: Policy and Practice.

Hesseldahl, A. 2004. Transit cards get smart. Forbes.com.

**HLB Economics.** 2002. Evaluation of the intercity bus code of practice awareness campaign on the voluntary provision of accessible transportation services. Ottawa: Transport Canada.

Holbeche, L. 1995. Peering into the future of careers. People Management.

**HRSDC.** 1998. Occupational analyses series: Heavy duty equipment mechanic. Ottawa: Government of Canada.

**HRSDC.** 1999. Final project report on the activities carried out under an agreement between Human Resources Development Canada, Amalgamated Transit Union - Canada Council and the Canadian Urban Transit Association. Ottawa: Government of Canada.

**HRSDC.** 2001a. National occupational classification system. Ottawa: Government of Canada.

HRSDC. 2001b. Career handbook, second edition. Ottawa: Government of Canada.

HRSDC. 2001c. 2001 Employment Equity Data Report. Ottawa: Government of Canada.

**HRSDC** and The City of Toronto. 2002. Skills Gap Research Study. Government of Canada and City of Toronto.

HRSDC. 2004a. Apprenticeship training program (trade charts): Heavy duty equipment technician (NOC 7312). Ottawa: Government of Canada. HYPERLINK "http://www.ellischart.ca/english/Ellis\_c94.html"http://www.ellischart.ca/english/Ellis\_c94.html

**HRSDC** (2004b). Job futures: Heavy-duty equipment mechanics (NOC 7312). Ottawa: Government of Canada. HYPERLINK "http://jobfutures.ca/noc/7312p1.shtml" http://jobfutures.ca/noc/7312p1.shtml

**HRSDC** (2004c). Job futures: Bus drivers & subway & other transit operators (NOC 7412). Ottawa. Government of Canada. HYPERLINK

"http://jobfutures.ca/noc/print/7412.html" http://jobfutures.ca/noc/print/7412.html

**HRSDC** (2004d). Job futures: Motor vehicle and transit drivers (NOC 741). Government of Canada. Ottawa. HYPERLINK "http://jobfutures.ca/noc/741.shtml" http://jobfutures.ca/noc/741.shtml

**HRSDC** (2004). Occupational analyses series: Heavy duty equipment mechanic. Ottawa: Government of Canada.

**Huntington, G.** 1998. Twenty-two reasons to use web-based technology. Canadian HR Reporter.

**IBI Group.** 2002. The Canadian Bus Industry and Its Research and Development Needs. Ottawa: Transport Canada.

International Association of Public Transport. 2005. Mobility in Cities: Database

**Irwin, R.H.** 2003. Status report on student transportation and youth pass program. British Columbia: B.C.Transit.

**Issacs**, **L**. 2003. Transit surveillance: wrecks, lies and videotape. American City and County.

**Jacobs, R., J. Conte., D. Day, J. Silva and R. Harris.** 1996. Selecting bus drivers: Multiple predictors, multiple perspectives on validity and multiple estimates of utility. Human Performance: Special Issue: Public Sector Assessment.

**Job Futures**. 2005. Supervisors, Railway & Motor Transportation Occupations (NOC 722). http://jobfutures.ca/noc/722p1.shtml

**Jones, C.** (2004). Bus line gets grant for safety; City's James River to use \$83,094 to equip vehicles with security technology. Times-Dispatch [City Edition]. October 14, 2004.

**Kang, A., D. Roderick, B. Allen and Hamilton Inc.** 2000. Bus rapid transit: An integrated and flexible package of service. 2000 Rail Transit Conference Proceedings Paper. VA: APTA.

**Kerschner, H. and R. Aizenberg.** 1999. Transportation in an Aging Society: Focus group project. Pasadena: Beverly Foundation.

**Knecht, B.** 2004. Mass Transportation to get sleek and daring. Architectural Record. June 2004.

**Kompier, M., B.Aust, A. Van Den Berg and J. Siegrist.** 2000. Stress prevention in bus drivers, evaluation of 13 natural experiments. Journal of Occupational Health Psychology.

**Lafrance**, **L**. 2002. L'abolition de la limite des 200 kilomètres. La revue de l'ATEQ. Autumn 2002.

Lathrop, J. 1998. Brat Cam. New York Times [Late Edition]. October 11, 1998

**Lengnick-Hall, M**. 2003. The impact of e-HR on the human resource management function. Journal of Labour Research.

**LP Tardif & Associates.** 2004. An intelligent transportation system (ITS) for school bus drivers (Advance warning and detection of children around the school bus). Ottawa: Transport Canada.



**Lochhead, C. 2003.** Demographic Profile of the Transportation Sector. Ottawa: The Canadian Labour and Business Centre.

**Litman,T.** 2004. Transit Price Elasticities and Cross-elasticities. Victoria: Victoria Transport Policy Institute.

**MARCON-DDM HIT.** 2005. Transforming the Future: Moving toward fuel cell-powered fleets in Canadian urban transit systems. Ottawa: Natural Resources Canada.

**Marzolini, M.** 1998. Climate change and Canadians – selected results from a national survey. Toronto: Pollara.

**McCormick Rankin Corporation.** 2002. Urban transit in Canada -taking stock. Ottawa: Transport Canada.

Mejza, M., R. Barnard, T. Corsi and T. Keane. 2003. Driver management practices of motor carriers with high compliance and safety performance. Transportation Journal.

Mendelson, M. and K. Battle. 1999. Aboriginal People in Canada's Labour Market. Caledon Institute of Social Policy.

**Metro Magazine**. 2005a. CUTA pleased with federal budget plan. Metro Magazine. February 24, 2005.

**Metro Magazine**. 2005b. 10 Innovative Motorcoach operators. Metro Magazine. January 2005.

**Mitretek Systems.** 2003. Intelligent transportation systems benefits and costs: 2003 update. Washington: U.S. Department of Transportation Federal Highway Administration.

Monro, A. 2004. A bus that comes when you want it. New Statesman. March 1, 2004.

**Moser, P.** 2001. Rewards of Creating a Fleet Safety Culture. Professional Safety: Journal of the American Society of Safety Engineers. August 2001

**Morissette**, **R.**, **X. Zhang**. 2001. Which firms have high job vacancy rates in Canada. Ottawa: Statistics Canada.

**Motor Carrier Passenger Council of Canada**. 2000. National Occupational Standards: Professional Bus Operator. Toronto: MCPCC.

**Motor Carrier Passenger Council of Canada.** 2002. Behind the wheel: A guide to best practices for the planning, recruitment and orientation of bus operators. Toronto: MCPCC.

**Motor Carrier Passenger Council of Canada.** 2003. Shortage of skilled labour in the transportation industry. Toronto: MCPCC.

**Motor Carrier Passenger Council of Canada.** 2004. Essential skills: MCPCC best practices. Toronto: MCPCC.

Motor Coach Canada. 2002. Part of the solution. Toronto: MCC.

**Motor Coach Canada**. 2003a. Comments on the proposed driver hours of service regulations. Toronto: MCC.

Motor Coach Canada. 2003b. Position book. Toronto: MCC

**National Center for Education Statistics.** 2004. Digest of Education Statistics. Washington: U.S. Department of Education.

National Round Table on the Environment and the Economy. 2004. Achieving a Balance: Canada's progress on greenhouse gas emissions trading.

**Natural Resources Canada**, 2004. Energy Use Data Handbook. Ottawa: Natural Resources Canada.

**New Flyer Industries.** 2004. New Flyer Emerges as Market Leader in Hybrid Bus Technology.

Nova Scotia Department of Education. 2003. Career Options 2003 Skills.

**OECD.** 2000. Environmentally sustainable transport (EST) - futures, strategies and best practices. Austria: Organisation for Economic Co-Operation and Development (OECD) and the Austrian Federal Ministry for Agriculture, Forestry, Environment and Water Management.

Ochieng, W.Y., P.J. Shardlow and G.Johnston. 1999. Advanced transport telematics positioning requirements: An assessment of GPS performance in greater London. Journal of Navigation.

**Office for National Statistics.** 2005. Social Trends. No. 35. United Kingdom: Office for National Statistics.

**Ontario Ministry of Transportation.** 2004. School Bus Safety Resource Guide. Toronto: Government of Ontario. HYPERLINK

"http://www.mto.gov.on.ca/english/safety/schoolbus/schoolbus.htm" http://www.mto.gov.on.ca/english/safety/schoolbus/schoolbus.htm

Ontario School Bus Association. 2003a. Submission to the 2003-2004 pre-budget consultations – student transportation funding. Etobicoke: Ontario School Bus Association.

**Ontario School Bus Association.** 2003b. Submission to the standing committee on finance and economic affairs. Etobicoke: Ontario School Bus Association.

Ontario School Bus Association. 2003c. Will the new funding model help? Ontario's student transportation industry facing service vs. price dilemma. Etobicoke: Ontario School Bus Association.

Oppenheimer & Co. Inc. 2004. Laidlaw International: Initiating coverage with buy.

**Price Waterhouse Coopers** (2000). Québec - bus passenger safety consultation proceedings. Ottawa: Transport Canada. .

**Price Waterhouse Management Consultants.** 1997. Human resources study of the Canadian motor carrier passenger industry. Toronto: The Motor Carrier Passenger Industry Steering Committee.



**Prime Minister's Caucus Task Force on Urban Issues.** 2002. Canada's urban strategy: A blueprint for action - final report. Ottawa: Government of Canada.

**Québec Ministry of Transportation.** 2005. Répertoire statistique: transport adapté 2003. Québec: Government of Québec

**Rainville, A.** 2002. New HR challenges and priorities for the next year. TCHR Committee, TC Express - TCHRC Corner. Ottawa: Transport Canada.

Reeves, \$ 2004. Terror-proofing America's transit lines. Forbes.com

**Roberts, D.** 2001. A handbook of innovative transit services to serve market niches. Toronto: CUTA.

**Roy, J.** 2001. Making TC a better place to work. TCHRC Corner. Ottawa: Transport Canada.

**Roy, J.** (2001b). Workload, Recruitment and Retention and Diversity. TCHRC Corner. Ottawa: Transport Canada.

Rupley, S. 2004. A moveable mesh. PC Magazine. September 21, 2004

**Rydstedt, L, G. Johansson and G. Evans.** 1998a. A longitudinal study of workload, health and well-being among male and female urban bus drivers. Journal of Occupational and Organizational Psychology.

**Rydstedt, L, G. Johansson and G. Evans.** 1998b. The human side of the road: Improving the working conditions of urban bus drivers. Journal of Occupational Health Psychology.

**Savas, E.S. and A. Cantarella.** 1992. A comparative study of public and private bus operation in New York City. New York: FTA Office of Technical Assistance and Safety.

**Skelly, M. J.** 1996. Intergovernmental Committee on Urban and Regional Research (ICURR). Alternative Service Delivery in Canadian Municipalities.

**School Transportation News** (2002). It's no longer just routing and scheduling. School Transportation News [Industry Archives].

**Schwarz-Miller,A.** 2000. Motor bus deregulation and the gender wage gap:A test of the Becker hypothesis. Eastern Economic Journal.

**Singh, P. and D. Finn.** 2003. The effects of information technology on recruitment. Journal of Labour Research.

**Soll-Johanning, H., E. Bach, J. Olsen and F.Tüchsen.** 1998. Cancer incidence in urban bus drivers and tramway employees: a retrospective cohort study. Journal of Occupational and Environmental Medicine.

**Stark, A. and M. Krashinsky.** 1998. A review of issues surrounding the proposed economic deregulation of the intercity bus industry in Ontario. Toronto: CUTA.

**Statistics Canada**. 2000. Canadian Vehicle Survey: Fourth quarter 1999. Catalogue 53F0004XIE. Ottawa: Government of Canada.

**Statistics Canada**. 2001. Canadian Vehicle Survey: Fourth quarter 2000. Catalogue 53F0004XIE. Ottawa: Government of Canada.

**Statistics Canada**. 2002. Canadian Vehicle Survey: Fourth quarter 2001. Catalogue 53F0004XIE. Ottawa: Government of Canada.

**Statistics Canada**. 2003. 2001 Census: analysis series. Canada's ethnocultural portrait: The changing mosaic. Catalogue no. 96F0030XIE2001008. Ottawa: Government of Canada.

**Statistics Canada.** 2003b. Canadian Vehicle Survey: Fourth quarter 2002. Catalogue 53F0004XIE. Ottawa: Government of Canada.

**Statistics Canada**. 2004a. Canadian Vehicle Survey: Fourth quarter 2003. Catalogue 53F0004XIE. Ottawa: Government of Canada.

**Statistics Canada**. 2004c. Canadian Vehicle Survey: Annual 2003 (Revised). Catalogue 53-223-XIE. Ottawa: Government of Canada.

**Statistics Canada**. 2004b. Service bulletin: Surface and marine transport: Transportation division. Catalogue no. 50-002-XIB.Vol. 20 No. 3. Ottawa: Government of Canada.

**Statistics Canada**. 2005. Service bulletin: Surface and marine transport: Transportation division. Catalogue no. 50-002-XIE.Vol. 21 No. 1. Ottawa: Government of Canada.

**Steinman, C. K.** 1985. Public/Private Partnerships in Transit: Volume 2 Appendices. Washington: U.S. Department of Transport.

**Talley, W.** Wage Differentials of Intermodal Transportation Carriers and Ports: Deregulation Versus Regulation. Norfolk, VA: Old Dominion University.

**Taylor, B. and C. Fink. 2003.** The Factors Influencing Transit Ridership: Analysis of the ridership literature. Los Angeles: UCLA Institute of Transportation Studies.

**Thomas, J. and E. Deakin.** 2001. California Demographic Trends: Implications for transportation planning. Berkeley: University of California Transportation Center.

**Technology Review.** 2004. Car pool co-ordination. Technology Review. July/August 2004.

**Torjman, S.** 1999. Reintegrating the unemployed through customized training. Ottawa: Caledon Institute of Public Policy.

**Toronto Star**. 2005. Buying Buses Won't Wait:TTC'S capital budget not settled but move likely to proceed. February 8.

**Transport Canada.** 1997a. Access to Transport Systems and Services: An international review. TP 12927E. Ottawa: Government of Canada.

**Transport Canada.** 1997b. Intelligent Transportation Systems: Applications for improving transportation for elderly and disabled travellers. TP 12925E. Ottawa: Government of Canada.

**Transport Canada.** 1998a.Accessible Transportation: Intercity Bus Code of Practice. Ottawa: Government of Canada. HYPERLINK "http://www.tc.gc.ca/pol/en/acc/accf/accessCode.htm" http://www.tc.gc.ca/pol/en/acc/accf/accessCode.htm



**Transport Canada.** 1998b. Review of Bus Safety Issues.TP 13330 E. Ottawa: Government of Canada. HYPERLINK "http://www.tc.gc.ca/roadsafety/tp/tp13330/menu.htm" http://www.tc.gc.ca/roadsafety/tp/tp13330/menu.htm

**Transport Canada.** 1999a. School bus collisions 1987–1996. Ottawa: Government of Canada.

**Transport Canada.** 1999b. Energy and Environmental Analysis Inc., Canadian Transportation Table Study 3: Road Vehicle and fuels Technology Measures Analysis, Transportation table on Climate Change. Ottawa: Government of Canada. HYPERLINK "http://www.tc.gc.ca/programs/environment/climatechange/english/climatechange/ttable/menu.htm"

http://www.tc.gc.ca/programs/environment/climatechange/english/climatechange/ttable/menu.htm

**Transport Canada** (2000). Strategic and traffic group, passenger rail and scheduled intercity and all charter bus industries technological and operational improvements, national climate change process – transportation table. Ottawa: Government of Canada

**Transport Canada.** 2001a. Bus Passenger Safety Consultation: Summary of the Stakeholder Discussion.TP 13713 E. Ottawa: Government of Canada,

**Transport Canada**. 2001b. The Canadian Intercity Bus Industry: Orientation Document. Ottawa: Transport Canada.

**Transport Canada.** 2003a. Management review for transport Canada's 2001-2003 sustainable development strategy. Ottawa: Transport Canada. HYPERLINK "http://www.tc.gc.ca/programs/environment/sd/review03/menu.htm" http://www.tc.gc.ca/programs/environment/sd/review03/menu.htm

**Transport Canada**. 2003b.Transportation in Canada 2003. Ottawa: Government of Canada.

**Transport Canada**. 2004a. Winning projects announced for the transportation planning and modal integration initiatives. Ottawa: Government of Canada.

**Transport Canada.** 2004b. Review of Bus Safety Issues - Passenger Protection in Buses Other Than School Buses. Ottawa: Government of Canada

**Transport Canada.** 2004c. Review of Bus Safety Issues - School Bus Passenger Protection. Ottawa: Government of Canada.

**Transport Canada.** 2004d. The potential of intelligent transportation systems to increase accessibility to transport for elderly and disabled people. Transportation development Center (TP 12926E). Ottawa: Government of Canada.

**Transport Canada.** 2004e. Annual Review, 2002-2003. R&D Programs. Transportation Development Centre. Ottawa: Government of Canada HYPERLINK "http://www.tc.gc.ca/tdc/publication/areview/programs.htm#road" http://www.tc.gc.ca/tdc/publication/areview/programs.htm#road

**Transport Canada.** 2004f. Fuel Sense: Making Fleet and Transit Operations More Efficient. Case Studies in Sustainable Transportation: Case Study 24. Ottawa: Government of Canada.

**Transport Canada**. 2004g. Transportation in Canada 2004. Ottawa: Government of Canada.

**Transport Canada**. 2004h. Road Safety in Canada: An overview. Ottawa: Government of Canada.

**Transportation Research Board - National Research Council.** 1998a. Closing the knowledge gap for transit maintenance employees: A systems approach. TCRP Report 29. Washington: National Academy Press.

**Transportation Research Board - National Research Council.** 1998b. Continuing Examination of Successful Transit Ridership Initiatives. Research Results Digest 29. Washington: National Academy Press.

**Transportation Research Board - National Research Council.** 1998c. Passenger counting technologies and procedures: A synthesis of transit practice. TCRP Synthesis 29. Washington: National Academy Press.

**Transportation Research Board - National Research Council.** 1999a. The Role of Transit Amenities and Vehicle Characteristics in Building Transit Ridership: Amenities for Transit Handbook and the Transit Design Game Workbook. TCRP Report 46. Washington: National Academy Press.

**Transportation Research Board - National Research Council.** 1999b. Practices in assuring employee availability. TCRP Synthesis 33. Washington: National Academy Press.

**Transportation Research Board - National Research Council.** 1999c. Integrating School Bus and Public Transportation Services in Non-Urban Communities. TCRP Report 56. Washington: National Academy Press.

**Transportation Research Board - National Research Council.** 2001a. Part-time transit operators: The trends and impacts. TCRP Report 68. Washington: National Academy Press.

**Transportation Research Board - National Research Council.** 2001b. A challenged employment system: Hiring, training, performance evaluation and retention of bus operators. Synthesis 40. Washington: National Academy Press.

**Transportation Research Board - National Research Council.** 2001c. Identification of the critical workforce development issues in the transit industry. Research Results Digest Number 45. Washington: Federal Transit Administration.

**Transportation Research Board - National Research Council.** 2002a. Guidebook for Selecting Appropriate Technology Systems for Small Urban and Rural Public Transportation Operators. TCRP Report 76. Washington: National Academy Press.

Underwood, G., P. Chapman, N. Brocklehurst, J. Underwood and D. Crundall. 2003. Visual attention while driving: Sequences of eye fixations made by experienced and novice drivers. Ergonomics.

United States Department of Energy, Energy Efficiency and Renewable Energy. Alternative Fuels Data Center. (content updated: 10/13/2004) HYPERLINK "http://www.eere.energy.gov/afdc/altfuel/fuel\_properties.html" http://www.eere.energy.gov/afdc/altfuel/fuel\_properties.html



United States Department of Energy, Energy Efficiency and Renewable Energy. Hydrogen, Fuel Cells and Infrastructure Technologies Program - Deployment. (content updated: 07/01/2004) HYPERLINK

"http://www.eere.energy.gov/hydrogenandfuelcells/deployment.html" http://www.eere.energy.gov/hydrogenandfuelcells/deployment.html

United States Department of Transportation, Federal Highway Administration. 2004.

VDOT opens first rural smart traffic center. Public Roads. March/April 2005.

United States Department of Transportation, Bureau of Transportation Statistics. 2006. National Transportation Statistics 2006. Washington: United States Government Printing Office.

United States Environmental Protection Agency (EPA). 2000. Regulatory Announcement: Heavy-duty engine and vehicle standards and highway diesel fuel sulfur control requirements.

United States General Accounting Office. 1992. Availability of Intercity Bus Service Continues to Decline. Report to the Chairman, Surface Transportation Subcommittee, Committee on Commerce, Science and Transportation, U.S. Senate, June 1992. GAO/RCED-92-126.

United States House of Representatives Committee on Transportation and Infrastructure Subcommittee on Highways, Transit and Pipelines. 2004. Hearing on Public Transportation Security.

**Victoria Transport Policy Institute.** 2005. School Transport Management: Encouraging Alternatives to Driving to School.TDM Encyclopedia. May 9, 2005.

Walle, S. 2001. Outlook for the midsize bus marketplace. Nursing Homes. May 2001.

**Wardman, M., J. Hine and S. Stradling.** 2001. Interchange and Travel Choice. Edinburgh: Scottish Executive Central Research Unit.

**Wargo, J.** 2002. Children's Exposure to Diesel Exhaust on School Buses. New Haven: Environment and Human Health Inc.

Wellner, A. 2000. Click Here for HR. Business Week. April 24, 2000. Weststart-Calstart. 2003. National Fuel Cell Bus Technology Initiative: Overview.

**Whitelegg, J.** 1995. Health of Professional Drivers: A Report for Transport & General Workers Union. Lancaster: Eco-Logica Ltd.

Williams, D. 2001. People power. Ca Magazine. August 2001.

**Zangelidis,A.** 2003. Profitable Career Paths: Accumulated Skills in Work, Their Degree of Transferability and Wage Premia. Coventry: University of Warwick.

# 2006 Canadian Bus Industry Human Resources Study **Detailed Report**

