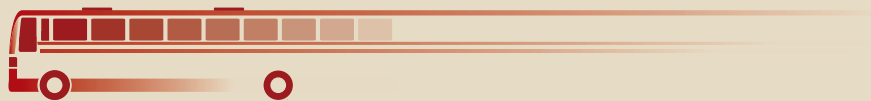


Part 4

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 owning 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.

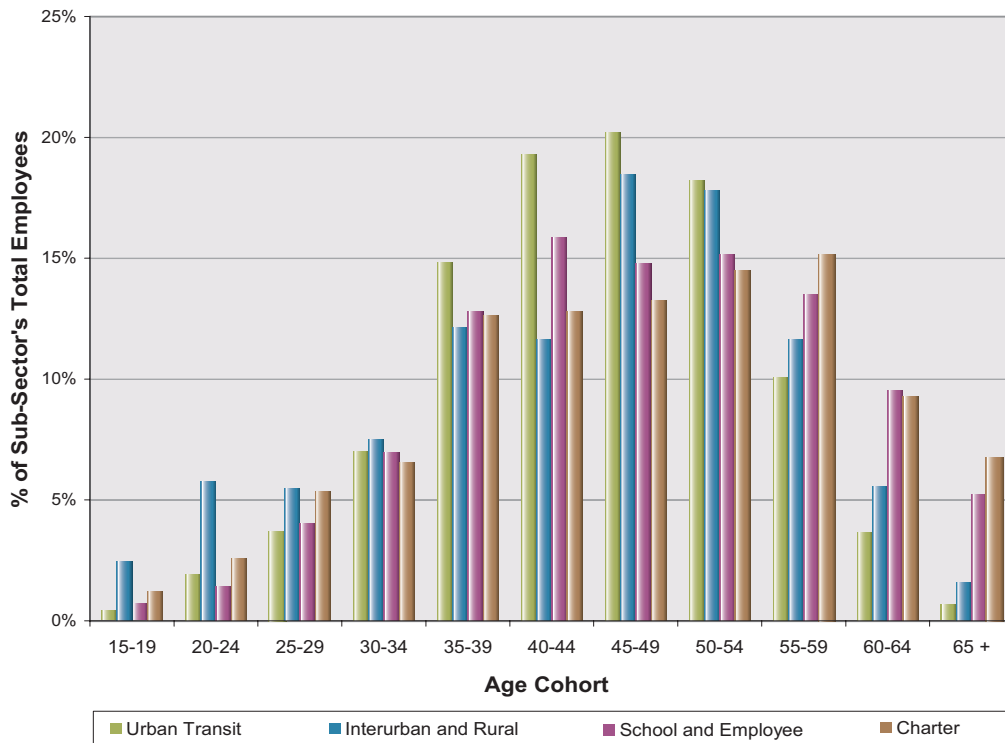
4.3.7 Workforce Retirements

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.

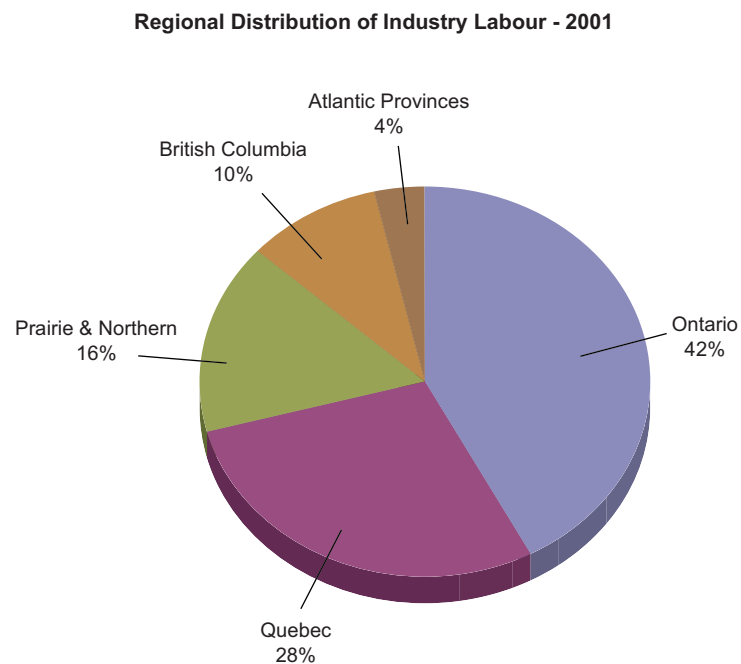
Regions: As noted, regional demand analysis is projected for the urban and school sub-sectors only. The geography of Canada has been divided into five regions: British Columbia; Prairie and Northern (including Yukon, Northwest Territories and Nunavut), Ontario; Québec; and Atlantic.



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



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 – 4th 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")

URBAN TRANSIT FLEET COMPOSITION, 1996 - 2004 (Number of vehicles)									
	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 ¹	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 4-1b: 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%



Table 4-2c: Service Area Population as Percentage of Population, Historical / Forecast to 2016

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 Workforce	Operators per vehicle	Mechanics per vehicle	Other Workforce per vehicle	Total Workforce 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	15,236	23,867	2,918	16,745	43,530	1.57	0.19	1.10	2.86
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 4-4c: 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 4-6b: 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 4-6c: 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 sub-sector 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 4-8d: 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:

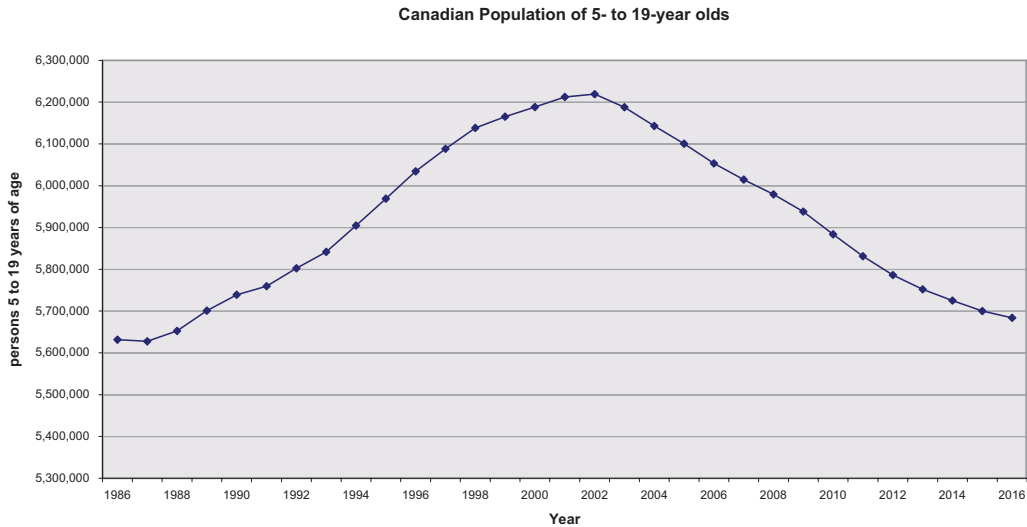
Purchases: 96% of school buses recently delivered or on order were/are new vehicles purchased at an average cost of \$85,000. Almost 90% of these purchases were/are diesel powered, with the remainder primarily CNG-fuelled. Seating choices range from 48-84 seats, with a 68-72 configuration the most common. 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 4-6d: 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 4-6g: 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.



Table 4-6h: Registered Students to School-Age (5-19) Population

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 4-6l: 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.



Table 4-6m: School Bus Operator Forecast by Region

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 4-6o: 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 Spatial 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.



Ridership: The Statistics Canada intercity ridership estimate for 2004 of 15.5 million passengers represents the largest annual passenger volume for the sub-sector since 1991 when riders totalled 15.9 million. Since “bottoming” at 10.9 million riders in 1993, ridership growth, although inconsistent, returned to over 15 million in 2001.

Table 4-7b: Intercity Passengers: 1992–2004

Year	Intercity Passengers ¹ (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

1 Passengers using Intercity scheduled services

2 Preliminary Estimate

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.

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%

**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

	2004-2006		2006-2011		2011-2016	
	Additional Vehicles	Cost	Additional Vehicles	Cost	Additional Vehicles	Cost
Urban	458	\$206,100,000.00	1,189	\$701,510,000.00	1,209	\$906,750,000.00
Average Cost		\$450,000.00		\$590,000.00		\$750,000.00
School	0	\$0.00	0	\$0.00	0	\$0.00
Average Cost		\$85,000.00		\$108,000.00		\$135,000.00
Intercity	14	\$7,700,000.00	35	\$24,500,000.00	35	\$30,625,000.00
Average Cost		\$550,000.00		\$700,000.00		\$875,000.00
Tour/Charter	0	\$0.00	0	\$0.00	0	\$0.00
Average Cost		\$550,000.00		\$700,000.00		\$875,000.00
Total Vehicles	472		1,224		1,244	
Total Cost		\$213,800,000.00		\$726,010,000.00		\$937,375,000.00

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 sub-sectors, based substantially on stakeholder comment.

