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Report on the Fall 2007 Mission

INNOVATIVE PRACTICES IN TRANSIT WORKFORCE DEVELOPMENT

This TCRP digest summarizes the mission performed November 3–16, 2007, under TCRP Project J-03, “International Transit Studies Program.” This digest includes transportation information on the organizations and facilities visited. It was prepared by staff of the Eno Transportation Foundation and is based on reports filed by the mission participants.

INTERNATIONAL TRANSIT STUDIES PROGRAM

The International Transit Studies Program (ITSP) is part of the Transit Cooperative Research Program (TCRP), authorized by the Intermodal Surface Transportation Efficiency Act of 1991 and reauthorized, in 2005, by the Safe, Accountable, Flexible, Efficient Transportation Equity Act. TCRP is managed by the Transportation Research Board (TRB) of the National Academies, and is funded annually by a grant from the Federal Transit Administration (FTA). ITSP is managed by the Eno Transportation Foundation under contract to the National Academies.

The ITSP assists in the professional development of transit managers, planners, and others charged with public transportation responsibilities. ITSP carries out its mandate by offering transportation professionals practical insight into global public transportation operations. The program affords the opportunity for them to visit and study exemplary transit operations outside the United States.

Two ITSP study missions are conducted each year, usually in the spring and fall, and are composed of up to 14 participants, including a senior official designated as the group spokesperson. Transit organizations across the nation are contacted directly and asked to nominate candidates for Program participation. Nominees are screened by committee, and the TCRP Project (J-03) Oversight Panel endorses all selections. Members are appointed to the study team based on their depth of knowledge and experience in transit operations, as well as for their demonstrated advancement potential to executive levels of the public transportation industry. Travel expenses for ITSP participants are underwritten by TCRP Project (J-03) funding.

Each mission abroad focuses on a theme that encompasses a topic of concern in public transportation. Cities are selected according to their ability to demonstrate leading-edge strategies and approaches to public transportation issues and challenges, as reflected in the study mission’s overarching theme.

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The members of each study team are fully briefed prior to departure. The intensive, professionally challenging, 2-week mission has a triad of objectives: (1) to afford team members the opportunity to expand their network of domestic and international public transport peers, (2) to provide a forum for discussion of global initiatives and *lessons learned* in public transportation, and (3) to facilitate idea-sharing and the possible import of strategies for application to America's transportation communities.

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About This Digest

The following digest is an overview of the mission that investigated innovative practices in workforce development in several cities in Canada, France, and Belgium. It is based on individual reports provided by the mission team members, and it reflects the observations of the team members, who are responsible for the facts and accuracy of the data presented. The digest does not necessarily reflect the views of TCRP, TRB, the National Academies, American Public Transportation Association (APTA), FTA, or the Eno Transportation Foundation.

INNOVATIVE PRACTICES IN TRANSIT WORKFORCE DEVELOPMENT

Introduction

When selecting the theme for the fall 2007 ITSP mission, members of the TCRP Project (J-03) Oversight Panel acknowledged the significant workforce challenges facing transit leaders across the United States. Retirement of Baby-Boom era employees, a generally tight labor market, increasing technological requirements across job functions, and growing diversity in the labor pool were all cited as contributing to the particularly complex human resources environment of the early 2000s. Studying the practices of respected transit organizations abroad might yield information and insights that would prove valuable to U.S. managers in their efforts to attract competent candidates to the industry, retain as much of retiring workers' knowledge as possible, and build cohe-

sive organizations capable of meeting public demands for more and enhanced services.

In November 2007, the team of transit professionals selected by the project panel led by Ronald L. Barnes, Vice President of Veolia Transportation of Mesa, Arizona, traveled to Canada, France, and Belgium to learn about workforce development practices in effect at the local, regional, national, and international levels. Specifically, the mission team hoped to gather knowledge and insights related to the recruitment of new employees, retention of retirement-age staff, training in new technologies and customer service, and management of diverse organizations.

The ITSP mission team included representatives of local, regional, and state-level transportation agencies across the United States, as well as a senior executive of the FTA. For the team roster, please see Appendix A.

The mission itinerary included the following destinations:

- Toronto, in the province of Ontario, and Montreal, in the province of Quebec, Canada;
- Bordeaux, Paris, and Jouy le Moutier, France; and
- Brussels, Belgium.

These countries and cities were selected based on consultations with senior staff of APTA and the International Association of Public Transit (UITP) and a review of industry publications around the world.

In each city on the itinerary, the U.S. mission team was received by local transit industry executives. Hosts delivered extensive briefings and offered tours of transit facilities. Meetings often included representatives of related organizations, such as agencies serving near-by cities or towns, national rail providers, and industry associations. Outside of the agency headquarters, team members also rode the bus and rail systems on their own and asked transit employees they met along the way about the human resources program highlighted by management. For a list of host organizations, please see Appendix B.

Report Structure

At the team's orientation session, Mr. Barnes divided the 13 participants into two groups: one that would be responsible for documenting the mission program during the first week of the trip, to be spent in

Canada, and the other that would document the second week's program, which would include visits to France and Belgium. For each stop on the itinerary, Mr. Barnes asked the groups to take note of the following:

- characteristics of the urban area;
- characteristics of the area's workforce and of local employment practices/systems;
- characteristics of the various entities introduced to the team, (e.g., local, regional and national transit providers; and national/international organizations with a role in promoting or regulating the transit industry); and
- policies and programs of the above entities related to workforce development—specifically in the areas of recruiting, retention, leadership development, employee health and wellness, and diversity.

The team's summary report begins in Section I with the information gathered in Canada. Section II lays out the information gathered in Europe. Section III offers team members' general observations about the workforce development challenges and practices learned about over the course of the mission.

SECTION I—TRANSIT WORKFORCE DEVELOPMENT IN CANADA

The U.S. team spent the first half of their 2-week trip in Canada. They started in Toronto in the province of Ontario, and then moved on by rail to Montreal in the province of Quebec.

Canada is the second largest country in the world after Russia with its land mass covering 3.85 million mi². Its population is approximately 33 million people with 38% residing in Ontario and 25% residing in Quebec. Both English and French are official languages. Canada was established in 1867 when Quebec and Ontario joined New Brunswick and Nova Scotia to form a confederation. Canada has a parliamentary democracy patterned partly after the United Kingdom, but it also has a federal system much like the United States. Canada is known as a leading producer of gold, silver, copper, uranium, oil, natural gas, agriculture, wood pulp, and timber-related products.

State of the Transit Industry

Public transportation is well developed in Canada, and there are at least 120 public transit agencies.

Canada is also party to the first public transit international fare agreement. There is now a seamless transfer system between the cities of Detroit, Michigan and Windsor, Ontario.

The motor carrier passenger industry is a significant force in the Canadian economy with business activity of nearly 1,500 companies—generating more than \$7.6 billion in 2004 revenues and employing over 90,000 people. An essential component of Canada's transportation infrastructure, the bus industry is responsible for moving more than 1.5 billion passengers annually.

Over recent years, provincial governments have reduced their contributions to transit systems by requiring municipal governments to increase their support and moving the systems to increase their fares. Municipal governments now provide more than 90% of the total government operating and capital support for transit. Based on data presented during the mission team's visit, fare collection ratios appeared to be generally higher in Canada than in the United States. Service models were described as based on density and rider-ship probability and less on concerns about social justice.

Team members noted that Canadian transit agencies are not burdened with some of the healthcare costs that U.S. agencies must bear. Basic health insurance is a government-provided program, and not the responsibility of the transit system. Additionally, the mission team was told about Canada's Compassionate Care Leave program, established in 2004 to enable workers who need to care for a gravely ill child, parent, or spouse to take time off without putting their jobs or income at risk. Program costs are shouldered by the federal government, not the transit agency.

Canadian employers in transit and across the economy are bracing for a major wave of retirements by Baby-Boom generation workers. Concerning the supply of possible new hires for the transit industry, agency managers in Toronto and Montreal who hosted the U.S. study team described the new generation as far more focused on achieving "work-life balance" than their seniors and not eager to sign up for a lifetime of repetitive driving. Moreover, these prospects now have lucrative job options to the north, in Alberta, where development of the oil sands region has pushed wages for even the lowest-skilled jobs to more than \$25 per hour.

Data provided by host organizations in Canada suggest that bus operators are paid significantly more

there—at least in the major cities on the mission itinerary—than in the U.S. Still, Canadian transit agencies are having trouble finding and employing qualified, dependable bus drivers. A specific challenge in a gateway for immigrants like Toronto is to find drivers who can speak to the public in both English and French, the country’s two official languages.

The bus industry in Canada has implemented several programs to make the position of bus driver more appealing and professional. Agencies are actively recruiting new immigrants and training them fully.

Industry leaders are working to raise their profile in schools, colleges, and other learning environments. They are promoting work-based training opportunities within the industry and acting to enhance the professional status of drivers through certification based on the National Occupational Standards (NOS).

Training centers for bus mechanics have been developed in partnerships with schools for sustainability. The ITSP team was told that while enrollment in these programs has grown in recent years, the completion rate has fallen. Apparently, a number of the mechanics drop out of the course after picking up the basics and move to Alberta, where they can make as much as \$70 per hour.

Transit systems in Quebec are taking steps to “sell” transit careers to young people by emphasizing the role technology plays in transportation systems and the positive contributions the industry makes to the environment. In June 2008, they will partner with the Canadian Urban Transit Association (CUTA) to sponsor a “Youth Summit” to introduce young people to opportunities in the industry.

Toronto, Ontario

Toronto, the first destination on the ITSP mission itinerary, is the largest city in Canada, with a population of approximately 2.5 million and is the capital of the Province of Ontario. Established in 1793, Toronto is now known as one of the world’s most diverse cities; about 49% of the city’s population was born outside of the country. Toronto is also known as one of the world’s most livable cities. Contributing to its livability is an extensive public transit network. Toronto and its surrounding area are served by several public transportation entities.

Two important national organizations serving the transit industry are based in the Toronto area: CUTA and the Motor Carrier Passenger Council of Canada (MCPCC). Briefings by executives of these entities

set the stage for the mission team’s exploration of workforce development practices (Figure 1).

Canadian Urban Transit Association

The Canadian Urban Transit Association (CUTA) was founded in 1904 in Montreal, Quebec. The Association’s primary purpose is to advance public transportation and mobility in Canada. CUTA membership consists of approximately 450 organizations, including: 120 transit systems, 15 government agencies (federal, provincial, and municipal), 250 business members, and 50 affiliates. The organization’s headquarters is located in Toronto, and Michael Roschlau, CUTA’s President and CEO, and Nancy Ortenburg, Director of Education and Training, briefed the visiting U.S. transit group.

CUTA’s stated mission is to “establish public transit as the primary solution to urban mobility in the achievement of sustainable transportation, and to assist its members in the fulfillment of their mandates.”

To achieve this mission, CUTA has established the following goals:

1. Provide members with ongoing intelligence about the environment in which they do business, and develop strategies to assist them in successfully managing relevant issues.
2. Maximize member access to information on technical and operational matters.
3. Assist members to improve the efficiency, effectiveness, and overall competitiveness of their services and products.



Figure 1 Bus Council director reports on the state of the transit workforce in Canada.

4. Raise public understanding of the larger issues affecting urban transportation, and create and maintain a positive industry image.
5. Maintain strong ties with other passenger transportation industry stakeholders.
6. Influence federal government decisions that may have an impact on the urban transit industry, and assist its members in influencing provincial, regional, and municipal actions to promote the development of sound public policy designed to achieve transportation sustainability.

Roschlau offered the ITSP team an overview of the Canadian transit industry. He noted that Canada does not have the history of federal funding for public transportation that the U.S. has had for the past four decades. In 2006, the Canadian federal government provided roughly \$500 million in funding for transit; that year, U.S. federal funding for transit was roughly \$8 billion. Roschlau explained that across Canada, responsibility for funding transit systems has typically fallen on the provinces, and the provinces have passed that burden on to the municipalities. These local governments rely only on property taxes to fund transit because there is no opportunity for public referendum.

Currently, the provinces of Ontario, Quebec, and British Columbia provide funds to local municipalities for transit. For example, Ontario passes on a gas tax to the local municipalities that equates to approximately \$300 million in annual funding for transit. This funding is used to defray one-third of the costs of all buses in the province. Total annual transit funding in Ontario is approximately \$600 million, consisting of \$300 million from the province and an additional \$300 million from the localities.

Highlighting another major difference with the U.S. transit industry, Roschlau reported that the national average revenue-cost ratio for transit in Canada is approximately 60%, which is significantly higher than the ratio across U.S. systems. The CUTA president explained that the high cost recovery statistic is in great part attributable to development patterns that have created compact cities, versus the sprawling metro areas common in the U.S. As a result, transit can be provided much more efficiently in Canada.

Roschlau and Ortenburg outlined several CUTA programs aimed at strengthening the transit workforce:

Transit Ambassador. In the mid-1980s, CUTA recognized the need for providing leadership skills to

transit inspectors (i.e., supervisors), and the Association staff began to develop management training for members agencies. In time, a multilevel curriculum was created under the umbrella of the Transit Ambassador program. Courses are designed for front-line staff, internal customers, and senior staff, and the focus is on customer service. Participants are introduced to tools that enhance the customer experience, improve ridership, encourage employee pride, and increase job satisfaction. The program offers a 5-day “Train-the-Trainer Course” and a 3-day “Trainer Development Course” for previously certified Transit Ambassador facilitators.

SmartDriver. CUTA has developed the SmartDriver program through a partnership with the federal agency Natural Resources Canada (NRC). The purpose of SmartDriver is to reduce fuel consumption and emissions and increase passenger comfort and safety. The training program teaches advanced driving techniques in a train-the-trainer format. Participants are led through a 2-day workshop that provides detailed instruction on techniques that reduce fuel consumption, factors that affect fuel efficiency, how to reduce toxic exhaust emissions, and environmental impacts of the transit industry. Through this in-depth training, participants become qualified to deliver SmartDriver training at their local transit agency. The pilot of the SmartDriver program included 300 drivers across Canada. After the initial training, the participating drivers’ average results equaled a 10.3% reduction in fuel consumption. This initiative not only contributes to a better environment, but also enhances bus operators’ defensive driving skills, thus improving the overall safety of bus operations. From a workforce development perspective, SmartDriver contributes to the professional image of transit employees and gives participants knowledge they can apply outside of work.

Partnership with Ontario Schools. Ortenburg also highlighted a new CUTA initiative. The Association is partnering with the Ministry of Education in Ontario to provide a transportation curriculum to 27 primary schools in an effort to expose young people to the transportation world and transit in particular. The curriculum is now being developed.

Motor Carrier Passenger Council of Canada

The ITSP team next heard from representatives of the federally sponsored Motor MCPCC: Joan

Crawford, Executive Director, and Nancy Allen Deane, Director of Administration. The MCPCC, also known as Canada's "Bus Council," was established in 1999 to identify and address human resource challenges facing Canada's bus industry. MCPCC represents urban transit systems, intercity bus lines, tour and charter bus services, and school bus transportation providers.

MCPCC is part of the Sector Council Program created by Canada's federal government in the 1980s to develop the nation's workforce. MCPCC is one of more than 30 councils serving key employment sectors. These sector programs fall under an organization that is similar to the U.S. Department of Labor.

MCPCC works with partners in business, labor, and government to strengthen the bus industry's image, profitability, and vitality by improving human resource standards, performance, recognition, and professionalism. Along with Human Resources Development Canada, MCPCC provides counsel, products, and services to promote life-long learning and skills development for individuals and companies in the bus industry.

According to MCPCC data, the bus industry in Canada moves approximately 1.8 billion people per year, which includes 1,400 companies that generate more than \$8 billion in revenue, and employs about 90,000 people. Approximately 40–50% of the bus industry falls under public transit.

MCPCC has been charged with the responsibility of promoting high workforce standards. To that end, the following goals have been established:

1. Enhance the recognition and value of the professional within the motor carrier passenger industry.
2. Promote and share industry excellence through the creation of an industrywide inventory of human resource success stories.
3. Provide a national and collective voice on human resource issues.
4. Develop educational curriculum and training programs leading to Certification in recognition of an individual's skills, knowledge, and attitude.
5. Support and encourage efforts to attract people to establish careers in the motor carrier passenger industry.
6. Establish NOS outlining the skills and attitudes required of an individual to perform competently in a particular bus-related occupation.

The MCPCC commissioned an independent, national study entitled "On the Move" to consider the role and challenges of the motor carrier passenger industry in Canada, examine its competitiveness and progression internationally, and determine the impact of a number of key factors on the industry and its workforce. Published in 2006, the report identifies workforce demographics, skill and competency requirements, occupational supply and demand, key human resources challenges, selected best practices, and the impact of technology and the business environment on human resources.

Key findings of the study highlight sector growth; potential skill gaps and deficiencies due to large numbers of anticipated retirements as well as difficulty in recruiting new employees possessing requisite skills; increasing costs of training; shrinking labor pool of qualified resources; and accessibility to training. The findings endorse a concentrated effort on workforce planning, life-long learning, retention and working conditions, and industry advocacy.

The MCPCC reports that working with the Canadian transportation industry, they have developed and are implementing the following strategies and publications:

1. NOS for the Professional Bus Operator (standards for training curriculum leading to certification).
2. Essential Skills Profile for Professional Bus Operator.
3. National Accreditation program for qualified training programs.
4. Certification for Professional Bus Operators (a national program). An evaluation assessment for long-time drivers is being developed to determine if they meet the certification standards without requiring them to attend the training programs.
5. SmartDriver, a program addressing fuel efficiency training partnering with NRC.
6. Behind the Wheel, a guide to Best Practices for Planning, Recruiting, and Orienting Bus Operators.
7. Put Your Career in Gear and Canada's Bus Industry on the Move, multimedia career awareness programs.
8. Skilled Trades Commission, addressing resolutions to National Occupational Classification (NOC) recruiting and training issues.

Following is more detail on selected MCPCC initiatives:

National Occupational Standards for Bus Operators. In an effort to solidify the bus operator position as a professional trade, MCPCC is working with partners to develop national standards for the bus operator position. This effort will identify skills and core competencies that are essential to the bus operator position. The skills and competencies will require ongoing updates and appropriate training as competency requirements change. NOS standards for bus operators will ensure that the profession maintains a high level of quality and that skills and competencies for bus operators are consistent throughout Canada.

Certification and Accreditation of Transit Programs. Accreditation is the process by which a training program is formally reviewed by an independent body, and approved as meeting all the academic and practical requirements outlined in the NOS. As an example, the MCPCC has established an Accreditation Program for the training of Professional Bus Operators. Through the MCPCC, an Accreditation Board is established, comprised of a number of national representatives from all bus sectors, with relevant experiences such as bus operations, training, and curriculum development and education delivery.

The purposes of the National Bus Operator Accreditation Program are as follows:

- To assist and improve labor mobility: Graduates from an accredited program can more readily move across the country from one company or jurisdiction to another with recognizable certified skills and credentials.
- Hire-ability: Employers can be assured that a graduate from an accredited program meets or exceeds the NOS, thus improving the overall quality of effort.
- Identifying quality programs: Potential students, employment counselors, parents, and ridership can be assured that an accredited program meets or exceeds the NOS.
- Provide recognition for quality training programs: Deliverers of accredited programs can advertise that an independent body has recognized the quality of their training.

Apprenticeships. Another example of a successful outcome from this structure is the mechanical trades apprenticeship program. Mechanical positions are certified through a nationally recognized “Red Seal Occupation Group.” Apprenticeship is an agreement between a person (an apprentice) who wants to learn

a skill and an employer who needs a skilled worker—“earning while learning.” Apprenticeship is a proven industry-based learning system that combines on-the-job experience with technical training to produce a certified journey person. Upon completion of the specified training period, apprentices receive a Certificate of Qualification. On average, 85% of the apprentices’ 2 to 5 years of training are spent in the workplace; the rest is spent at a training institution.

Apprenticeship programs are generally administered by provincial and territorial departments responsible for education, labor, and training (under the direction of the provincial or territorial Director of Apprenticeship) with authority delegated from the legislation in each province and territory.

The program is supported by a network of advisory bodies, such as Apprenticeship and Certification Boards, Local Advisory Committees, and Provincial Advisory Committees. Industry-driven provincial and territorial apprenticeship training boards are major policy-making and governing bodies for apprenticeship training relating to recommendations of trade designation, curriculum requirements, and regulatory aspects of trades and occupation.

The Bus Council’s Comprehensive Approach. The MCPCC has adopted a comprehensive approach to recruitment, retention, development, and succession of transit occupations. This approach has resulted in a clear examination of the transit industry as it stands today and growth prospects for the future. National research has revealed the following:

- **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 that it serves. The bus industry must be committed to forging lasting relationships with all levels of government and other stakeholders including labor, manufacturers, and educators to ensure optimization of systems performance, growth, and influence.
- **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.

- **Security**—Commitment to 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 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.
 - **Environment**—Transportation has a measurable impact on the environment and the industry has both the responsibility and opportunity to reduce greenhouse gas emissions via ongoing improvements in vehicle technology and driver training. The industry must communicate its positive environmental impact energetically. Energy issues will continue to impact all subsectors, 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 5–10 years. Programs such as the recently developed NRC’s SmartDriver training program for fuel-efficient driving should be implemented as early evidence shows promising operations and maintenance cost efficiencies.
 - **Customer Service and Social Inclusion**—The social environment, in which the bus sector now operates, is significantly different from that of 10 years ago. Among other influences, the population of seniors; persons with disabilities; immigrants including visible minorities (in Canada, visible minorities are defined as “persons, other than Aboriginals, who are non-Caucasian in race or non-white in color”); 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 effort encompasses involving these groups in future planning of service delivery.
 - **Labor/Management Collaboration**—While wages and related benefits continue to receive labor/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.
 - **Information Management**—Despite the higher levels of regulation and licensing requirements in the industry, there is insufficient data in three of the four subsectors to provide meaningful historical trends and subsector profiles. Subsectors identified were urban, intercity, school bus, and paratransit services. Participation by all stakeholders in the process of data development is essential in order for industry needs to be accurately identified and effectively addressed.
 - **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 2006 Canadian Human Resources Study identifies the following as key human resource priorities:
 - Addressing the diversity of skills and training needs;
 - Improving productivity and performance;
 - Meeting emerging skills requirements;
 - Dealing with an aging 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 (Indigenous Peoples) and minorities;
 - Promoting the professionalism of employees; and
 - Formalizing both labor demand and supply forecasting.
- By providing this overarching menu of options for educational institutions and transit organizations, MCPCC is working to elevate the image of transit for current and future employees.

Transit Organizations in the Greater Toronto Area

Following the valuable briefings about national activities sponsored by CUTA and MCPCC, the ITSP team met with representatives from transit organizations serving the Toronto metropolitan area, including:

- Greater Toronto Transit Authority (“GO Transit”);
- Toronto Transit Commission (TTC);
- VIA Rail;
- Hamilton Street Railway (HSR); and
- Bombardier.

GO Transit. GO Transit is the regional provider of commuter rail and commuter bus service in the Greater Toronto Area. It is Canada’s first, and Ontario’s only, interregional public transit system. GO Transit began operating in 1967 on a single rail line and carried 2.5 million riders in its first year. Today, it carries approximately 50 million riders per year. The GO Transit service area includes the city of Toronto; surrounding regions; the adjacent city of Hamilton, and Simcoe, Dufferin, and Wellington counties. Its service area population includes 5 million people within an area of more than 3,000 mi² (8,000 km²).

GO Transit maintains a fleet of 305 buses that provide 1,673 average weekday trips. Buses operate on 27 routes and serve 14 terminals as well as numerous bus stops along the routes. GO Transit’s fleet also includes 38 train sets consisting of 415 bi-level railcars and 45 locomotives that operate on seven rail lines and provide 181 train trips on an average weekday. Total average weekday ridership on GO Transit is about 195,000 passengers per day including 165,000 on train and 30,000 on bus. Some buses travel as far as 60 mi from Toronto, and the entire GO system connects with every public transit system in the greater Toronto and Hamilton areas.

GO Transit outsources 70% of its operation to the private sector. Contracted services include train operation, train maintenance, track and signal operations and maintenance, design, and construction. GO Transit operates and maintains the GO bus service and bus fleet. However, major bus work is also contracted out including refurbishing, engine and transmission rebuilds, and major body repairs.

GO Transit is officially known as the Greater Toronto Transit Authority. The “GO” in GO Transit is an acronym for government of Ontario. GO Tran-

sit reports to the Minister of Transportation of the Province of Ontario. The provincial government provides funding for the operating costs not recovered by fares and other revenue sources. Ontario is also responsible for base capital costs associated with rehab and replacement, as well as one-third of capital costs associated with growth and expansion of the system. The federal and local governments are responsible for the balance of the capital funding. GO Transit currently recovers between 80% to 90% of its operating costs from fares and thus holds the title of the highest financial performance of any transit system in North America. GO Transit’s most recent budget was funded at \$762 million with operating funding at roughly \$276 million and capital funded at \$486 million.

GO Transit’s Board of Directors is comprised of members from both the public and private sector. The Board is named by the Province of Ontario and includes 14 members and three GO Transit staff members who serve as officers of the board. The Board is responsible for providing business direction, while the Minister of Transportation sets the strategy and policy framework for GO Transit.

In a frank discussion with the visiting U.S. study team, Gary McNeal, GO Transit’s General Manager, spoke frankly about underlying challenges affecting the transit community and its ability to attract and hold on to talented workers. Canada’s public transportation system, McNeal explained, is similar to that in the United States in that it is underfunded, under supported, and continues to be an unattractive industry. He went on to describe several steps GO Transit has taken to make public transit more attractive:

- **Continuing Education**—GO Transit pays 100% tuition and \$100 for textbooks for all employees as long as the coursework is within the area of the employee’s job description. The agency will pay 50% tuition if the coursework is outside the employee’s focus area.
- **Compensation and Benefits**—GO Transit believes that you have to pay in order to get the right people. They also pride themselves on offering great benefits (e.g., daycare for employees’ children at their main administrative building).
- **Bring Students to Work Day**—This program introduces young people, beginning at grade nine, to the world of public transportation and the workings of GO Transit.

Toronto Transit Commission. Toronto Transit Commission (TTC) is the primary provider of public transportation in the Greater Toronto Area, providing 80% of all transit trips taken. It is the largest transit system in Canada and employs over 10,000 people. TTC has a network of buses, subways, streetcars, and Wheel-Trans (paratransit) services. In 2006, TTC carried more than 440 million passengers. On an average weekday TTC carries about 1.4 million riders. TTC maintains a fleet of 1,543 buses, 248 streetcars, and 706 subway vehicles. TTC's system includes 138 bus routes, 11 streetcar lines, and 4 subway lines.

TTC was established in 1954 when the Toronto Transportation Commission was renamed Toronto Transit Commission and became the sole provider of public transit under the jurisdiction of a new municipality, Metro Toronto. The purpose of establishing TTC was to consolidate and coordinate all forms of local transportation within Toronto, except taxis and railways. TTC also opened its first subway line that year. The agency is governed by nine commissioners appointed by the Council of Metropolitan Toronto.

The 2006 TTC annual operating budget was approximately \$1 billion. TTC recovered nearly \$740 million from passenger fares, which equates to 70% fare recovery for the system. Both the City of Toronto and the Province of Ontario provide operating subsidies to the TTC. Last year Toronto contributed \$272 million toward the operating budget of which a portion was the gas tax passed on by the Province of Ontario.

Christine Jeffries, TTC Director of Employment Services, spoke to the ITSP team about the organization's workforce development efforts.

- Jeffries reported that most applicants for TTC bus operator positions are over 30 years old. To stimulate interest in transit careers among students in their teens and twenties, TTC is now working with local high schools and community colleges to implement a transit curriculum.
- To bolster its recruiting efforts, TTC began working in 2001 with "Career Edge," a non-profit program whose mission is to launch careers through internship experiences. Career Edge is an internship program of 6 months to 1 year for college graduates holding degrees or college diploma/certificates for non-unionized positions.
- In addition to offering "Career Edge" internships, TTC works with another program, "Career Bridge," which arranges internships

for immigrants who have earned credentials at institutions outside of Canada. These opportunities last for 6 months to 1 year, during which time the candidates' foreign credentials are assessed. If the background check confirms the qualifications, a permanent position may be offered.

- TTC participates in co-op programs with universities to attract new candidates to transit. For several years, as many as 100 students per year have been employed through university co-op programs. This effort has created a pipeline of good candidates for full-time employment.
- Jeffries spoke about TTC's commitment to developing staff from within the organization and described initiatives in place to "train up" current employees. For example, a bus operator who is ready to move into supervision must participate in an internal 6-week training course—the Route Supervisor Program—before assuming the new responsibilities.
- Jeffries stated that recruiting engineers has also been a challenge. The agency has created the "engineer in training" program, which offers candidates assistance with acquiring their professional engineer's license while working at TTC.
- Finally, Jeffries spoke about the significant number of retirements occurring among Baby-Boom Era employees and management's concern about the loss of institutional knowledge. The "Wind Down" program has been established to hold onto key employees for a period of time by rehiring them on a part-time basis. This effort has already demonstrated positive results in terms of cost savings and retention of valuable know-how.

VIA Rail. VIA Rail was established in 1978 by the Canadian government with the exclusive mission to organize and provide all intercity passenger train services in Canada. It was the first national passenger rail company in Canada. VIA rail was inspired by the creation of Amtrak in the United States in 1971.

VIA Rail is an independent corporation that operates 492 trains weekly, employs 3,000 people, and carried almost 4.1 million riders in 2006. It operates on 8,700 mi (14,000 km) of track spanning the country from the East coast to the west, and connecting over 450 Canadian communities. The majority of rail service is provided between Windsor, Ontario, and

Quebec City, Quebec, commonly known as “The Corridor.”

VIA Rail is a crown corporation, a state-controlled company, that is governed by a 16-member Board of Directors. In 2006, the organization received about \$169 million from the federal government toward its operating budget of nearly \$500 million. VIA Rail also generated fare revenues in the amount of approximately \$270 million, thus recovering over 50% of operating expenses through fares. The balance of operating expenses was covered by other revenues generated by VIA Rail. VIA Rail had been funded federally by as much as \$600 million annually during the late 80s, but inflation and other increased costs have contributed to a decline in federal funding.

Ed Houlihan, VIA Rail’s Director of Labor Relations, addressed the ITSP mission team about workforce issues. He reported that the company will lose one-half of its railroad engineers in the next 5 years. VIA Rail has implemented an apprenticeship program to replenish the aging workforce. Ed noted that VIA Rail hires only bilingual employees, speaking English and French. This language requirement, in itself, presents a challenge when it comes to hiring new employees.

Houlihan told the visiting U.S. transit managers about a VIA Rail workforce development initiative called the “Customer Intimacy Program.” This is an internal employee development tool that aims to enhance the customer experience. The program is based on “appreciative inquiry” (i.e., thoughtful questioning) of frontline employees who interact with passengers. The process leads to a better understanding by staff of their customers’ needs and is generating improvements in overall customer experience. ITSP team members were fascinated by the description of the Customer Intimacy Program, and they posed several questions during their meeting. Later, onboard a VIA Rail train from Toronto to Montreal, they spoke informally with system employees about the program. The information they gathered is provided in Appendix C.

Hamilton Street Railway. Hamilton is the third largest city in Ontario and the ninth largest city in Canada. With over 90 waterfalls and cascades, it is known as “The City of Waterfalls.” Situated at the westernmost end of Lake Ontario, the city wraps around the lake and continues toward the Niagara Escarpment, referred to by locals as “the mountain.”

Hamilton remains the province’s major industrial area despite the loss of thousands of factory jobs over the last 20 years. It is a favorite with movie location scouts for its gritty industrial landscape.

The Hamilton Street Railway (HSR), once a streetcar company, is the primary provider of bus service for the City of Hamilton and regional municipality of Hamilton-Wentworth, including Stoney Creek, Dundas, and Ancaster. The end of Hamilton’s streetcar era came in 1951. HSR now offers service frequently on 29 bus routes, 7 days a week. HSR also operates semiregular service into the City of Burlington’s bus terminal, allowing passengers to link up with Burlington Transit and Oakville Transit bus service and additional services offered by GO Transit.

HSR representatives Chris Garrish, Manager of Transit Operations, and Doug Murray, Manager of Fleet Operations, spoke to the ITSP mission team. Garrish noted that HSR will lose at least one-third of its workforce over the next year due to retirements. HSR has implemented an aggressive recruiting effort to address the impending loss of bus operators. The organization currently hires 40 to 60 bus operators annually and conducts a mass recruitment two to three times per year. HSR is also implementing a “Wind-Down” program for bus operators. When operators turn 55 years old, they will be able to decrease their hours to 24 per week, thus allowing them to stay with the agency longer before retiring. Garrish and Murray also spoke about the apprenticeship program HSR has developed with local community colleges. This program offers employees the opportunity to attend an 8-week community college course while being paid.

Bombardier. Bombardier Transportation is a leader in the rail equipment manufacturing and servicing industry, and the firm currently has a contractual arrangement with GO Transit to provide maintenance of their rail equipment.

Mike Hardt, Vice President, and Daniel Daigle, Vice President—Human Resources, represented Bombardier in discussions with the mission team in Toronto. Hardt and Daigle identified two major workforce challenges for Bombardier: (1) hiring skilled employees willing to relocate as the company’s contractual relationships change over time and (2) the fact that Bombardier often competes with the transit authorities they serve in hiring. Hardt and Daigle also spoke with the U.S. group about Bombardier’s serious efforts—in Canada and

around the world—to develop leaders from within and to implement careful succession planning.

Montreal, Quebec

In Montreal, human resources executives at the Société de transport de Montreal (STM) hosted the mission team for briefings and discussions about their workforce development activities (Figure 2). Representatives of three other Quebec-based transit organizations joined the meeting:

- Réseau de transport de la Capitale (RTC),
- Association du transport urbain du Québec (ATUQ), and
- Dessau Soprin.

Montreal is the second largest city in Canada and the largest city in the province of Quebec. The population of Montreal is approximately 1.6 million, and roughly 2 million more people live in the Greater Montreal Area. After the area's population surpassed 1 million in the early 1950s, then Mayor Jean Drapeau laid down plans for the future development of the city. These plans included a new public transit system and an underground city, the expansion of Montreal's harbor, and the opening of the Saint Lawrence Seaway. In 1966, the Montreal Metro system opened, along with several new expressways.

Société de Transport de Montreal

STM, also known as the Montreal Urban Transit System, dates back to 1861 when a horse-drawn



Figure 2 Mission team tours Montreal metro control center with STM employees.

tramway was inaugurated. The first buses placed in service in Montreal in 1919 were trucks that were converted to buses at the company's garage. The system enjoyed increasing popularity until after World War II when the automobile gained an increased street presence. The STM's network includes 165 daytime bus routes and 20 night routes. Service levels are determined by the results of surveys. STM has developed partnerships to determine the viability of new services; when ridership levels reach 25 passengers per hour for 6 consecutive months, the STM can choose to integrate the special service into its regular network. Most bus routes include a stop at a metro station, where passengers can transfer without charge from the bus to a metro train.

The STM claims that the metro is still the pride and joy of Montrealers, who waited from 1910 to 1960 to realize the dream of the underground train system. The Metro is the first system to use only rubber tires along an entirely underground network, and it features a unique architectural concept for each train station. On any given weekday, the Montreal metro provides an average of 700,000 trips. STM boasts that since it opened in 1966, it has carried over 6 billion passengers, equal to the world's population, and its trains have traveled the distance from the Earth to the Sun 12 times.

STM operates 1,600 buses, 93 paratransit minibuses, and 759 subway cars. It is the 16th largest enterprise in Quebec with 7,500 employees, 60% of whom are in contact with customers.

The Quebec Government has a new, subsidized "Green Plan" that calls for increases in ridership and service offerings over the next 5 years. Initiated in 1990, Canada's Green Plan is an action agenda that guides federal environmental policy. Each province updates and modifies its own plan periodically. The Quebec plan challenges STM to boost ridership by 8% and service by 16%—to include additional rush-hour service—and hire more than 450 drivers by 2013.

Bus drivers currently represent 68% of the agency's workforce. Under the Green Plan, of the total bus drivers recruited, STM is expected to hire 40% women and 25% visible and ethnic minorities. Currently, 25% of drivers are women, and 12.4% are visible and ethnic minorities.

STM executives Serge Fortin and Catherine Favron who met with the ITSP mission team reported that Montreal does not have great difficulty filling bus driver positions. The organization has strict pre-selection requirements for bus drivers. On

average, 25% of those who apply do not qualify. Those who do meet the requirements must pass a driving test and a customer-service assessment. The next steps are an interview and then an evaluation based on experience, motivation, and behavior.

STM has also developed a driver-training program with the local school boards through a partnership with the Quebec Ministry of Education. The school boards actually came to STM and presented this opportunity for driver training. STM was interested in this training initiative with the schools because it reduced the significant cost of other external driver-training programs, drivers were uncomfortable driving a heavy vehicle and required additional training to make them feel at ease, external training was not meeting their needs, and there was no existing driving technique refresher course. These concerns were validated through data analysis and focus groups conducted prior to establishing the program.

The resulting program includes: 6 weeks of training funded by the Ministry of Education that is provided at a lower cost or no cost to the students, a promise by STM to hire students with a certificate and who passed the selection process, a certified school to deliver training and refresher training, and customized training to correct specific driver issues.

STM human resources managers spoke with the mission team about other initiatives in the works, including:

- Apprenticeships,
- Planning models for succession planning, and
- Career progression strategies.

Réseau de Transport de la Capitale

Quebec City is the capital of the province of Quebec. It is one of the oldest cities in North America, founded in 1608. The City is planning a year-long celebration in 2008 to commemorate the 400th anniversary of its founding. The metropolitan area has a population of 600,000.

Réseau de transport de la Capitale's (RTC) is responsible for public transit in the region. It employs 1,280 employees, 800 of whom are drivers. The agency's 2007 budget is \$138 million, and the system is expected to provide more than 39 million trips for the year. RTC boasts the largest integrated maintenance and operations facility in North America, with capacity to store 500 revenue vehicles.

RTC's mission is to offer high-quality urban transport service to the citizens of Quebec City. In

doing so, the agency contributes to a healthy environment and helps sustain the economic, social, and cultural development of the city. In 2007, the system planned to incorporate 62 articulated buses into service and increase rush-hour services. RTC executives are also planning to introduce smart cards and Bus Rapid Transit (BRT) lines.

Susan Sebert, RTC Training Officer, represented the agency to the ITSP mission team. She explained that RTC had recently shifted its approach to training bus drivers. In the 1990s, RTC hired an educator to develop an in-house training program for bus drivers. The agency has now formed a 10-year partnership with the Ministry of Education for training bus drivers. This partnership calls for the Centre de Formation en Transport de Charlesbourg (CFTC) to provide the basic training for drivers. CFTC is a respected professional driving school and the partnership is enabling RTC to focus fully on its core business of moving people.

Association du Transport Urbain du Quebec

The Quebec Association of Urban Transit Systems (ATUQ) is a partnership of nine transit properties in the province of Quebec.

The ITSP team was briefed on an assessment of workforce needs undertaken by ATUQ. Several areas of concern were identified by member agencies: training, applying training on the job, new technologies, and the aging workforce. The Association selected front-line management training as its focus and explored options for addressing this need. ATUQ held a competition with local colleges and universities to determine who should partner with the group to develop and deliver the training. Laval University was chosen based on its experience in delivering business management programs and for its concern with the transfer of skills from the academic setting to the workplace. ATUQ identified five topics to be included in the curriculum: (1) labor relations, (2) day-to-day management, (3) defining the role of the front-line manager, (4) communications skills, and (5) change management.

In 2007, 75 participants from eight transit systems took the training (of ATUQ members, only STM did not send a student). The contract with Laval is valid through 2011. Reported strengths of the program include:

- Strong advisory committee,
- Commitment by the participating properties,

- Emphasis on transfer of knowledge back to the workplace,
- Networking among managers of various systems,
- Real changes back home, and
- Cost recovery.

Participants have identified important differences in the issues faced by managers working directly in transportation versus those working in maintenance, as well as differences in the issues faced depending on size of property. The curriculum is now taking these into account.

Conducting the needs assessment and launching the training program were time-consuming activities. However, the increased interaction and long-term commitment among the Quebec systems and the high-quality training course now available have made the effort worthwhile.

Dessau Soprin

Dessau Soprin is the second largest engineering firm in Quebec with over 3,000 employees. Ginette Milford, Vice President of Dessau Soprin and a veteran transit human resources manager, briefed the ITSP team on a training initiative the firm is working on with Quebec “Intermunicipal Transit Corporations” (CITs).

CITs were created by special legislation at the provincial level to provide complementary intercity transit links that bring people from outlying areas to regional transit providers in urban areas. CITs can be comprised of multiple jurisdictions that need transit services that may not be provided by a regional transit operator. CITs, by law, cannot operate any transit services and must negotiate agreements with subcontractors for the operation of transit services. CITs are as small as 2-bus systems and as large as 200-bus systems. In total, there are 11 CITs across Quebec, serving a population of 1.2 million people with approximately 400 buses. Operating funds are supported with fares and government subsidies, with 75% of the financial support provided by the government. Dessau Soprin has contracts to manage four CITs. The firm is working with the entities to develop bus driver training programs.

Focus on the Management Ranks

During the team’s week in Canada, host organizations shared little information about how they are

responding to the impending retirement of many Baby Boom-era senior managers. Succession planning initiatives, which may be in effect, were not highlighted. In Toronto, a TTC representative did report that the agency is attempting to hold onto key management personnel, or those working on special projects, with retention bonuses.

The ITSP team heard a good bit about efforts to develop mid-level managers. TTC has an extensive in-house training program. Bus operators who are promoted to route supervisors are given 6 weeks of dedicated training before they can work in their new position. Similarly, STM and RTC offer focused training to individuals promoted from entry-level operations roles. GO Transit covers the costs of continuing education courses that advancement-minded employees may wish to take.

Both STM and RTC have been innovative in their development of creative partnerships with universities in Quebec. For example, RTC has a new partnership with the University of Laval to train mid-level managers. Agency representatives have worked closely with University faculty to develop the curriculum to address the knowledge and skills the managers will need on the job.

Observations on a Canadian Model

Team members were impressed with the “tripartite” collaboration of government, business, and labor through the MCPCC. This coordinated approach to human resource development promises to enhance the image of transit and its occupations. Mission participants noted the following benefits:

- Cost burden for development and administration of the programs is centralized.
- Nationally developed standards are made available for adoption at the local level.
- Local acceptance may be more likely due to the involvement of labor within the structure of MCPCC.
- A framework is established for partnerships between transit and educational institutions, along with curricula for certification and degree programs for transit-based occupations.
- MCPCC creates common ground for business and labor to develop and build relationships.

Along with MCPCC, CUTA provides a number of forums in which labor and management representatives can collaborate on transit-supportive initiatives.

Team members noted the growing partnerships between Canadian transit properties and local universities. These joint programs offer an efficient mechanism for the initial training and continuing development of transit employees.

Within the Canadian system, occupational standards are being established nationally and adopted locally. This approach provides a nationally based, shared perspective of job requirements and duties and performance standards. Such a shared perspective can set the stage for joint union/labor-management acceptance at the local level. In the U.S., transit properties are generally developing these standards and programs in-house or at the state level. This results in costly duplication of effort and independent islands of information on training and development.

The U.S. has begun the process by forming the “Community Development Transportation Center,” but government involvement to this point has been “state-based.” The ITSP team felt consideration should be given to developing a coordinated national-level program, along the model of MCPCC. Such a system might serve local, regional, and national interests by funding the training and placement of people into key positions and helping reverse the projected shortage of transit personnel. Table 1 shows current U.S. approaches compared to the Canadian model.

SECTION II—TRANSIT WORKFORCE DEVELOPMENT IN EUROPE

After 6 days in Canada, the mission team traveled to Europe to visit transit agencies in Bordeaux and Paris, France, and Brussels, Belgium. The team met with system operators (a mix of public and private-sector organizations); toured facilities; and rode trams, trains, and buses. They also learned about national and international organizations with

impact on the transit industry and one global transport firm’s approach to workforce development.

Bordeaux, France

The first stop in Europe was the city of Bordeaux, located in the southwest of France, near the Atlantic Coast. The Bordeaux metropolitan area is known as la Communauté Urbaine de Bordeaux (la CUB). It is the sixth largest metropolitan region in France, encompassing 256 mi², 671,000 inhabitants, and 27 municipalities (see Table 2).

The Bordeaux Metropolitan District governs and develops the transportation policy for la CUB. It defines transportation services (i.e., layout of routes, frequencies and fare structure) and makes important investment decisions related to rolling stock, buildings, operating assistance, and the fee system.

The mission team toured the Bordeaux’s sleek new tram system with representatives of Veolia Transport, the global transport services firm that manages transit operations for la CUB. Messieurs Maxime Larondelle and Alain Coulon then briefed the U.S. visitors about Veolia’s workforce development efforts in Bordeaux.

Veolia Transport advises the Bordeaux Metropolitan District and operates 90+ bus routes and 3 light rail lines. There are 1033 kilometers of bus routes operated by 509 buses. In 2008, light rail will be increased from 24.9 km operated with 44 trains to 44 km operated by 74 trains. Figure 3 shows the morning commute in Bordeaux.

The system is funded by a national tax that is levied on all French employers based on capital and employee wages. Each municipality votes and can approve additional taxes based on the level of services they seek for their area.

Table 1 Comparison of U.S. and Canadian workforce initiatives

Workforce Initiative	Current U.S. Approach	MCPCC Model
Labor & Management Partnership for Attracting and Developing Transit Employee	State & Local	National
Career Ladder Programs	State & Local	National & Provincial
Partnerships with Transit and Universities for Training	State & Local	National & Local
National Certification of Transit Positions	No	Yes
National Occupational Standards	No	Yes
Sector Based Tripartite Forum for the Advancement of Transit Training & Certification Programs	No	Yes

Table 2 Description of Bordeaux geographical area and characteristics of Veolia-Bordeaux transit operation

Bordeaux	
Location	Located in the SW of France near the European Atlantic coast; north of the Aquitaine region.
Land Area Serviced	250 mi ²
Geographic Characteristics	The city is built on the Garonne river, and is split into two parts (east & west) the west being more developed. The river is also accessible by ocean liners.
Population Size	1.35 million (2005 projection)
Relevant Demographic Trends	With positive population projected growth rates, particularly among young professionals, the Bordeaux workforce provides a wide pool of highly skilled and motivated labor for employers to benefit from. Job creation rate in Bordeaux is above the national average as is the percentage of young people qualified further than A-level with a university degree. 30% of young people are qualified with higher level degrees and equivalent qualifications.
Transit Authority Characteristics	Organizing authority—Bordeaux Urban Community Operator—Veolia Transport Bordeaux
Transit System Characteristics	44 light rail cars (140,000 passengers per day; accounts for 50% of all trips on mass transit) 3 tram lines (84 stops/43.5 km of track—25,000 passengers/hour) 509 buses 95 bus routes, all connected to the tramway network 12 night bus routes 14 park and ride facilities—5,000 parking spaces B'Pass—mobile phone users can access mass transit info, etc. An electric bus shuttle in the city centre Boat shuttle on the Garonne river NOTE: The Bordeaux Urban Community embarked on a complete overhaul of its public transit system—smartcard ticketing, passenger information system, natural gas-powered buses, etc.—when it commissioned three light rail lines (from 24.5 km in 2003 to 43.3 km in 2007). The upgrading was to be accompanied by a reorganization of the bus system.
Transit Usage Statistics	75,370,132 trips were taken in 2006; 34,086,319 bus and 41,283,813 tram
System Financing	Cost of the system overhaul, completed in 2007—more than 1 billion Euros, 65% of which was funded by revenues, 15% by public subsidies and 20% by borrowings
Public Subsidies	See System Financing.

Veolia Transport's contract includes a firm contract price, a share in profits, a share in the number of trips, and a share in the fight against fraud or fare evasion. Veolia manages the sales/fare revenue of the transportation system and is responsible for minor investments such as tools, building maintenance, information display, and computer equipment.

Veolia is committed to quality of service, which encompasses:

- Respect for the transport operator,
- On-time performance,

- Avoidance of breakdowns, and
- Cleanliness of the vehicles and premises.

In Bordeaux, there is a government certification that attests to quality and compliance and is part of the aforementioned contract provisions. Veolia is continuously evaluated on the following:

- 8 bus routes and 3 light rail routes,
- Technical department,
- Control department, and
- Financial circuit of the sales revenues.



Figure 3 Morning commute in Bordeaux.

Veolia-Bordeaux Organization

Veolia Transport has 2,000 employees in Bordeaux; 1,500 are either light rail or bus operators. Bus drivers are hired to drive bus only. Light rail operators can drive either bus or light rail vehicles.

Training consists of a 1-month course followed by 1 week of practical training. Candidates must pass an examination by correctly answering 17 of 20 difficult test questions.

The workforce is divided into seven units as follows:

- One volants unit, which provides training and oversees extraboard operators;
- One methods unit, which develops the budget, schedule, and plan;
- One regulation unit, which oversees regulations for tram, bus, security and field;
- Three bus units, which operate Saint Bruno, Quinconces, and Saint Jean; and
- One light rail unit.

The bus and light rail units have route managers who oversee up to 35 operators. Each unit also has an administrative position and a technical position which oversee bus stops and customer information.

The bus route managers utilize performance standards such as on-time performance, attendance, and missed trips to monitor the success of their departments. Absenteeism at Veolia-Bordeaux is less than 4%.

Management Philosophy. Following are some of the principles shared with the ITSP team:

- Organizational and managerial stakes
 - Position the customer in the heart of concerns.
 - Confirm the choice of human-sized decentralized operational structures.
 - Empower and position the manager as the decision maker (drive decision making to those closest to the issue/customer).
 - Strengthen the transparency of the organization.
- Transform individualism into collective performance
 - Collective work is to be praised.
 - Motivation to be used as a goal for management.
 - Professional skills, reliability to be asserted.
 - Productivity and social climate to be reconciled.
 - A result-minded culture is to be stressed and encouraged.
- Methodology: Concrete actions
 - Organized internal mobility—fostering creative and involved individuals by appropriate positioning.
 - Activate external mobility—sharing and increasing good experiences, complete, and high-skilled managers.
 - Rehabilitation of rules and discipline—being clear and concise with every worker on desired goals.
 - Operations’ internal newspaper—quickly informing managers and workers of agency news and information.
 - Promotion assumed by the team leaders—reinforcing the position of the intermediate managers.
 - Fine tuned training—focusing on improving needs and weaknesses to reach job requirements.
 - Management skills training—giving all managers the tools needed.
 - Systematization of individual interviews—every 2 years for workers and annually for executives.
 - Creation of “Info Centre,” human resources software for operations and management—helping the managers to be proactive on human resource issues.
 - Creation of the breeding pool for future managers—internal training (one year) for selected drivers to become managers.

- Individual confidence reinforcement by learning and professional development—mixing experiences and providing career evolution perspectives.

Training and communication are major components of the Veolia-Bordeaux philosophy. Every 2 weeks, there is a meeting with top management and other managers. Every week, senior managers hold meetings with each special unit. For instance, the director will meet with the managers of Operations, Finance, IT, Human Resources, etc. Each week, those individual managers will meet with their units. This allows for clear, concise, and timely sharing of information across the organization.

Recruitment of Operators. Sixty to 70 drivers are recruited annually. In 2002 and 2003, more than 150 employees were recruited because of the implementation of the light rail program.

Operators must be 21 years of age to be licensed in France. Veolia offers apprenticeships to those 21 to 26 years of age. A professional apprenticeship is available for those over 26 and under 55.

The hiring process at Veolia-Bordeaux begins with representation of the organization at all employment opportunities including job fairs. Flyers are distributed to all interested individuals. Ads are placed in local papers. Current employees serve as ambassadors for the organization by promoting job opportunities in their neighborhoods.

Approximately 3,000 applications are received annually. Many of the applicants do not have driver's licenses. In order for an individual to obtain the required licensing they must pay approximately 4,000 to 5,000 Euros and participate in a 2-month driver education process. A portion of the expense may be reimbursed by the French government.

All operators start on the Extra Board and are required to participate in a 3-week training course to learn one designated route and other driving basics. Each additional route requires another 1–3 days of training. After serving a 9-month probationary period, the employee becomes a regular bus driver. The “best” of this crop are chosen to operate light rail.

The employees of Veolia-Bordeaux are represented by labor unions. Employee wages start at 17 Euros per hour with the top wage being 25 Euros. New employees are given an incentive payment of 1,016 Euros after 1 year. Employees are paid every 4 weeks.

To meet the recruitment requirement to operate the light rail system, Veolia Transport hires bus operators on contract indicating that they will accept assignment to rail when needed. Some candidates who want to be assigned to rail from the start of employment are also hired.

Management Recruitment. Veolia-Bordeaux recruits managers through the Veolia Transport corporate system. Bordeaux representatives reach out to management trainees who start their careers with the company by attending training at “Veolia University.” Over a 2-year training program, candidates are provided with hands-on instruction and are exposed to various positions in the organization. The trainees go through intensive testing and interviews to be placed in one of the Veolia-operated systems around the world, like Bordeaux.

Gender Diversity. The mission team learned there is no formal recruitment goal concerning women in the Veolia-Bordeaux workforce. Women applicants go through the normal recruitment process.

Paris, France

From Bordeaux, the mission team took a high-speed train (TGV service operated by SNCF) to Paris. Team members sought to learn about workforce development activities at the venerable transit agency serving the French capital.

Regie Autonome des Transports Parisiens

Regie Autonome des Transports Parisiens (RATP) provides regional and metropolitan rail, tram, and bus services to over 10 million passengers per day. A large public organization established after World War II, RATP works under contract with the Ile-de-France Regional Transportation Authority (Syndicat des Transports d'Île-de-France [STIF]).

In the Ile-de-France Region, which encompasses Paris, fully one-third of all trips involve some form of public transport. Mass transit ridership continues to grow and hence, the demand for employees at every level continues to grow. RATP provides service within the metropolitan area and coordinates with 80 separate entities that provide service in the outskirts of the city (see Table 3). In addition to fares, the agency is funded through a transportation tax levied on every employer with more than nine employees.

Table 3 Description of Paris geographical area and characteristics of transit systems

Paris

Location	Situated on the River Seine, in northern France
Land Area Serviced	12,000 km ²
Geographic Characteristics	Relatively flat, lowest elevation is 35 meters (114 ft.) above sea level; has several prominent hills, height is 130 m (426 ft.); 80% of the region is rural.
Population Size	11 million (urban area); roughly 19% are French; population of the area is on the decline.
Relevant Demographic Trends	<p>35 million trips that represents 3.5 trips/person ages 6+</p> <ul style="list-style-type: none"> • 20% by foot • 20% by public transit • 44% by car <p>Modal split for mechanical trips</p> <ul style="list-style-type: none"> • 29% public transit • 66% by private car <p>Car equipment</p> <ul style="list-style-type: none"> • 1 car/household in average • 30% of households do not have a car (53% in Paris) • 420 cars/1,000 inhabitants (287 in Paris) <p>Public transport</p> <ul style="list-style-type: none"> • 31% of the population owns a season ticket • 48% within the city of Paris
Transit Authority Characteristics	<p>STIF¹—Contracts with RATP and SNCF</p> <p>RATP—State-owned transport company</p> <ul style="list-style-type: none"> • Metro network • Tram lines • 2 heavy rail lines • 4,300 buses—265 routes in the central area <p>SNCF—State-owned national railway company</p> <ul style="list-style-type: none"> • Heavy Rail Lines <p>OPTILE—Association of 93 private bus operators</p> <ul style="list-style-type: none"> • 3,900 buses—1,050 routes in the outer ring • Holding exclusive right on their lines
Transit System Characteristics	<p>Metro</p> <ul style="list-style-type: none"> • 16 lines • 211 km/381 stations <p>Heavy Rail</p> <ul style="list-style-type: none"> • 1,401 km/444 Stations • RATP operates parts of 2 RER² lines on dedicated infrastructure • SNCF operates all of the RER lines and suburban heavy rail lines on infrastructure shared with other services (high speed, interregional, interurban, freight). • Infrastructure is owned by RFF³; RFF manages the capacity of the infrastructure by allocating slots and charging its use. <p>Bus</p> <ul style="list-style-type: none"> • 1.310 routes/22.650 km • 28.950 stops • 8.000 buses <p>Tram</p> <ul style="list-style-type: none"> • 2 routes/20 km (2 new planned in 06) • 34 stops <p>Velib</p> <ul style="list-style-type: none"> • Network of self-service bicycles—20,000 bicycles are accessible

Table 3 (Continued)

Paris

Transit Usage Statistics

Metro

- 1335 million trips in 2004

Heavy Rail

- 1039 million trips in 2004

Bus

- 1200 million trips in 2004

Tram

- 57 million trips in 2004

Trips

- RATP—2,777 (75%)
- SNCF—602 (17%)
- OPTILE—272 (8%)

Passengers

- RATP—50%
- SNCF—40%
- OPTILE—10%

System Financing

Operating Expenses

- 1 billion Euros in 2004

Collected

- 1.82 billion Euros—Travelers (28%)
- 3.16 billion Euros—Employers (48%)
- Incl. 62 billion Euros for reimbursement of travel cards
- .26 billion Euros —Other (4%)

Paid

- RATP—62%
- SNCF—30%
- OPTILE—8%

Public Subsidies

1.24 billion Euros (20%) in 2004

¹STIF—Syndicat des Transports d’Île-de-France. Governing authority for Paris transport network, including: Île-de-France Region (15 seats, including presidency); City of Paris (5 seats); 7 départements (1 seat each); inter-municipalities (1); chamber of commerce (1)

²RER—Regional Express Network

³RFF—Réseau Ferré de France—public body in charge of building and maintaining the rail network

The ITSP team’s visit to RATP headquarters coincided with the beginning of a major strike by RATP unions. This “grève” was undertaken in solidarity with striking workers of France’s national passenger railroad (SNCF). Even under these challenging circumstances, senior human resources executive Sylviane Delmas and colleagues welcomed the U.S. visitors graciously.

Workforce Challenges. Delmas outlined four primary workforce challenges facing RATP:

1. Improving Diversity/Ensuring Equity: Equal opportunity in hiring, career advancement, and pension considerations.

2. Reinforcing the “Social Dialogue”/Reducing labor disruptions and unplanned absences: Making sure that issues are handled or escalated as appropriate in a timely manner. Labor—Management communication.
3. Organizing Employee Mobility within the Organization/Replacement Planning: Driven by later retirements.
4. Improving the Health System: Healthcare, as well as managing disability and loss control.

According to 2006 data, RATP employs approximately 45,000 employees. As the main provider of Paris’ regional and metropolitan rail, tram, and bus service, approximately 25,000 front-line staff are in

direct contact with customers on a daily basis. This number includes drivers, inspectors, and security personnel. With the exception of union workers covered by collective bargaining agreements, employees sign a contract as a condition of employment. The average employee age is between 35 and 40 years. The average age for bus drivers is 30.

RATP is known in Paris for its competitive salaries. The starting wage for new drivers is the equivalent of \$2,000 per month, with a top wage of approximately \$3,000. Turnover is low, but significant changes are expected in this area as well. Projections are that by 2014, one-third of all operators and one-half of the supervisor and management staff will retire. The need to replace those exiting employees, coupled with planned service expansions, has caused the agency to boost its recruitment efforts substantially.

All employees are part of the national pension system. Employers and employees both pay into the system, which also provides healthcare coverage, family allowances, and workers' compensation. RATP staff members are public employees and are in a national pension system that currently allows retirement at age 50 after 15 years of service. Pensions are calculated at 75% of the last 6 months of earnings. Although transit employees can retire after 15 years of service at age 50, most do not retire until age 53. For all other workers in France, regardless of industry, the retirement is 60 or 65.

In his first year as France's president, Nicolas Sarkozy led the enactment of legislation that increased the retirement age of transit employees from 50 to 55. This was done to create more equity in retirement eligibility among workers across the country. The transit unions' work stoppage that began shortly after the ITSP team's arrival in Paris was called in protest against the reform legislation.

Hiring Process. As a major employer in the Ile-de-France region, RATP receives over 10,000 job applications per year. In 2006, from that volume of applications, the company filled over 2,300 vacancies in all job categories across the organization. The same level of hiring continued in 2007 and will likely occur in 2008 and beyond, in response to the projected retirements.

The recruitment process consists of a five-step process that all applicants must complete before an offer of employment is made. The initial phase is the pre-screening of applicant files. The next four phases include cognitive tests, personality tests, a briefing

about the company, and job-specific tests. Following these four phases, there is a two-step "individual phase," including an interview with a recruiting manager and a final interview with the operations manager. The entire process takes a maximum of 6 months.

Applicants have expressed positive feedback indicating that the company briefing has been a valuable step in the recruitment process. This step allows the potential recruit to learn more about the organization, the job requirements, and job opportunities. It helps them determine if RATP will be a good fit for them professionally and personally. Candidates are strongly encouraged to attend along with their spouses or significant others.

Emphasis on Diversity. Over the last several years, there has been a growing recognition across Europe of the benefits of workplace diversity for both the society and the economy. The European Union (EU) has developed an action plan that focuses on investing in people and combating social exclusion. In the year 2000, legislation was introduced in France (Article 13 of the Race and Employment Directives) to meet those objectives, and it became effective in 2006. The Racial Equality Directive prohibits discrimination on the grounds of personal, racial, or ethnic origin. The Employment Equality Directive prohibits discrimination on the grounds of religion or belief, disability, age, or sexual orientation. While the directives do not guarantee immediate results, RATP signed a Diversity Charter in 2004 making them the first public-sector company to remove all exclusivity criteria from their application process.

To increase public confidence in RATP's non-discrimination policies, applications for vacancies are submitted online and anonymously, without the applicant's photo, name or address being given.

Diversity initiatives at RATP are largely concentrated on gender and race. With respect to gender, hiring and promotional practices have resulted in the following percentages of job categories being occupied by women: 46% of managers, 33% of supervisors, and 16% of operations positions.

Other data provided to the mission team: RATP now employs more than 1,056 employees with disabilities, 23 of whom were brought on in 2007. Also, 5% of recruits in 2007 were from outside the EU.

Training and Education: Strategies and Programs. While attempting to attract younger workers to the transit industry, RATP is targeting individuals

as young as 14 to 26 years of age. The agency offers opportunities for these teens and young adults to pursue vocational or certified training on the path to employment. Around 10% of new hires fall into this category. In 2006, 224 non-graduate youths signed employment contracts in operations and maintenance. Another 170 contracts were signed in the skilled professions.

RATP's efforts to develop a younger, more diverse workforce have created new challenges. As more young employees with no work experience and little education enter the workforce, the culture is changing quickly. In response, RATP leadership has worked to promote and formalize their relationships with educational and vocational institutions. Through partnerships with outside agencies, RATP has been successful in persuading educational institutions to adopt a curriculum that encourages careers in transportation at all levels. These programs are made available at high schools, regional state-operated training centers, other government organizations, universities, nonprofit organizations, and private industries. Upon completion of the requisite coursework, 95% of the participants are hired into RATP.

While external relationships have been a valuable resource for meeting some of the training needs at RATP, a significant portion of the training is conducted internally. According to the agency's 2006 annual report, 6.3% of the agency's annual budget was dedicated to training, and eight out of 10 employees actively participated in an RATP training program. In many cases, those who successfully complete training programs are presented with certificates that show that they have acquired the necessary skills needed to perform their jobs.

RATP offers career development programs consisting of career counseling and planning, as well as vocational, technology, management, and leadership training. While participation in these activities does not guarantee advancement, more internal promotions have occurred in recent years. At least 40% of management hires are from within the organization. Furthermore, RATP executives recently signed an agreement that gives less weight to seniority for employees who wish to apply for promotions. De-emphasizing seniority as a qualification is intended to give employees a greater sense that they can set and achieve personal career goals. According to the agency representatives who briefed the ITSP team, any RATP employee can progress through the organization provided they successfully complete the

training requirements for transitioning from a technical to a supervisory position.

Regarding formal succession planning, RATP intends to implement plans at the unit or route level.

Beginning in September 2008, a new EU regulation will require 35 hours of training per year for all road drivers. RATP is almost at that level of training for their road drivers so the new regulations should have relatively little impact on the organization. Additional EU regulations are anticipated. One will deal with certification of drivers to operate across national boundaries.

Managing Unscheduled Absenteeism and Employee Health. To limit the cost of unplanned absenteeism, RATP has established a collaborative effort between managers and physicians that is credited with reducing absences by bus operators by 20% over a 2-year period. Agency executives are also generally concerned with the health and well being of their employees. They have implemented programs and policies that encourage employees to adopt a healthier lifestyle. Still at issue, however, is the employee's ability to go to the doctor on company time, versus needing to use leave for the visit.

Labor-Management Relations. Seven different labor unions represent employees within RATP. To encourage ongoing "social dialogue" between labor and management, RATP has adopted a three-step "Social Alarm" system:

- The first step is at the General Manager level;
- The second step is at the department level (e.g., metro rail, bus, etc.); and
- The third step is at the unit level. Units are the transit lines, where staff consists of 600–1,000 people.

While mission team members saw similarities between the Social Alarm process and the formal grievance process customary in the U.S., the RATP system appeared to be more decentralized. Under this approach, unresolved issues are not elevated to the higher level unless the issue is relevant to that level. In addition, each union has representation at each of the three levels, and all time off for their work as union representatives is funded by the company. The purpose of the formal Social Dialog process is to address issues immediately and prevent them from becoming work actions.

The transit work stoppage that occurred during the ITSP team's visit to Paris is discussed in detail

in Appendix D. Team members understood that the strike of November 2007 was labor's response to an initiative at the highest levels of government, as opposed to a breakdown in labor-management communications within RATP.

In sum, the mission team was impressed with the priority RATP senior management placed on developing a well-qualified workforce and the many initiatives under way to achieve specific goals. Team members conjectured that the city's long tradition of embracing public transportation and RATP's reliable funding via the employer tax made meaningful investment in workforce development possible. They noted that few transit agencies in the U.S. enjoy similar circumstances.

Société Nationale des Chemins de fer Français

Société Nationale des Chemins de fer Français (SNCF) is France's state-owned railroad system and long-distance rail provider. Like RATP, SNCF falls under the authority of STIF. Although mission team members did not have a formal meeting with SNCF executives, they rode on SNCF trains, spoke with SNCF employees on board, and followed news reports about the SNCF unions that led the strike over the Sarkozy action to raise transit workers' retirement age.

Beyond the immediate work stoppage, team members learned about changes affecting the SNCF organization. Established in 1938, when the French government nationalized several privately owned railroad companies, SNCF owned not only the trains, but also the tracks throughout the country. However, to comply with EU regulations, in 1997, the tracks and other rail infrastructure were placed under a separate entity, Réseau Ferré de France. SNCF, in fact, continues to provide maintenance services on the infrastructure, but now under contract to Réseau Ferré de France. The EU reform was intended to open the market to independent train operating companies, although few have emerged to date.

SNCF has approximately 180,000 employees. The French rail network consists of about 32,000 km of route, of which 1,800 km is high-speed and 14,500 km is electrified. About 14,000 trains are operated daily.

Brussels, Belgium

From their base in Paris, the mission team took an SNCF train to Belgium's capital for a day-long

visit with executives of the city's transit agency (see Table 4). Because Brussels is the seat of the EU and numerous other European and global institutions, team members also had the chance to hear about actions being taken at the international level with consequences for the transit industry.

Société des Transports Intercommunaux de Bruxelles/Brussels Transport Company

STIB-MIVB or the Brussels Transport Company is the largest employer in Brussels with 6,000 employees, 268 occupations, and 500 position descriptions. There are approximately 1,400 bus drivers and 250 rail operators. Current vehicle inventory includes:

- 572 buses
- 292 trams
- 90 underground trains

Planned increases include:

- + 140 buses
- + 68 trams (flexity outlook—Bombardier)
- + 15 underground trains

Impending Retirement of Managers. Société des Transports Intercommunaux de Bruxelles's (STIB) head of human resources, Philippe Lenaerts, focused his presentation to the mission team on the most pressing challenge facing the agency: the impending retirement of most of its managerial and senior-level workforce. Lenaerts explained that the absence of younger people in these categories is due primarily to the agency's decision not to recruit at the managerial and senior levels over the 20-year period, 1980 to 2000. The major reason no recruitment was done was lack of funding. It is now anticipated that more than 300 managerial and senior-level employees will retire during the years 2010–2011.

The agency is already experiencing major turnover among bus and rail operators, who can take early retirement at age 55. In 2006, attrition of 60% occurred; the rate is expected to be roughly 44% by 2010.

Capturing Institutional Knowledge. With the great number of retirements expected, a significant concern among STIB leaders is the transfer of knowledge from those leaving the workforce to the employees who will succeed them. The transfer is made particularly difficult because documentation of staff experience has been inadequate.

Table 4 Description of Brussels geographical area and characteristics of the Brussels Transport Company

Brussels	
Location	Capital of Belgium
Land Area Served	Covers a surface area of 241.5 km ² and provides transport for a population of over 1,100,000 inhabitants and thousands of commuters.
Geographic Characteristics	Located on the shores of the Senne on an important trade route between Bruges and Ghent, and Cologne, Brussels is a large city that has become a commercial center in Europe. Although the City of Brussels is the official capital, the funds allowed by the federation and region for the representative role of the capital are divided among the 19 municipalities, and some national institutions are sited in the other 18 municipalities. Thus, while <i>de jure</i> , only the City of Brussels is entitled to the title of capital city of Belgium, <i>de facto</i> the entire Region plays this role.
Population Size	2006—1,018,029
Relevant Demographic Trends	<ul style="list-style-type: none"> • 51% of the Brussels population are native French speakers (monolingual). • 8.5% of the Brussels population are native Dutch speakers (monolingual). • 10.2% have both Dutch and French as a mother tongue or speak both languages. • 9.1% of monolingual French or Dutch speakers learn the other language later in life. • 19.8% speak French in combination with a language other than Dutch.
Transit Authority Characteristics	<ul style="list-style-type: none"> • STIB—Brussels Transport Company • Flemish and Walloon bus companies each have a route that runs through the city linking Brussels with the outskirts
Transit System Characteristics	<ul style="list-style-type: none"> • STIB or Brussels transport Company—serves 19 communes in the capital region and 10 other communes on the outskirts of the city • STIB has 3 metro lines, 18 tram lines, and 4 bus lines • There are currently 64 metro stations and over 2,200 public transport stops on the surface (over 1,400 of which have shelters) • Belgian railway company has 28 stations
Transit Usage Statistics	2006—Over 270 million people chose public transit <ul style="list-style-type: none"> • Metro carries almost half of all STIB customers • Tram network transports 82.2% • Bus network transports 24.5%
Public Subsidies	Funded by the Brussels government up to approximately 50%.

Sources used—www.bruxelles.irisnet.be/ and www.stib.be/trams

Strategies for the Future. STIB’s top management is working to capture the know-how of departing personnel. At the same time, they are reshaping the organization to be a highly functioning transport service provider for the 21st century.

STIB is undertaking the following steps:

- Establishing Mentor-Protégé relationships between junior and senior level employees to preserve institutional knowledge and help develop younger staff;
- Initiating Value-Based Management using classic tools such as customized position descriptions; job classification; performance appraisal standards;
- Bridging the cultural gap between older and younger/newer employees and building a new culture;
- Implementing a management training program (SMART);
- Conducting internal workshops for junior and senior employees that focus on: (1) Company

image and (2) Internal management practices; and

- Developing an Ethics Charter to guide the organization.

As agency leaders recruit the many individuals who will replace those retiring, great focus is being given to identifying core competencies required by the organization and assessing job candidates for these abilities. An investment has been made in documenting competencies across the agency, and a database of these competencies and specific staff experiences has been developed. Competency data—including managerial skills and customer-oriented behaviors—will serve as a reference for use in making hiring and promotion decisions, planning for succession, and classifying jobs.

Form and Function. Lenaerts and his colleagues identified other big changes affecting the agency:

- STIB employees are moving to new offices by 2009. The new physical environment is being designed to support a highly interconnected workforce. There will be few, if any, individual offices. Staff will occupy “flex” offices as needed. There will be pleasant open spaces and lounges for meetings of various sizes. For intense individual work or small group sessions, quiet “cocoon” will be available.
- STIB is moving toward a “paperless” environment. A sophisticated electronic document management system is now being designed with input from all parts of the agency.

Although adapting to the new open office environment and paperless approach will not be easy, it is hoped that these changes in how the staff functions *physically* will support the development of the new values-based, customer-focused organization envisioned for STIB.

In Brussels, the ITSP team was also briefed on the UITP and the EU.

International Association of Public Transport

UITP is a global organization similar to APTA and the CUTA. Headquartered in Brussels, UITP has eight liaison offices around the world. UITP monitors issues affecting the transit industry, disseminates information, and advocates for transit in Europe and around the world.

Petra Mollet, an executive with UITP, briefed the mission team about the organization’s activities in the workforce development arena. Mollet reported that UITP is currently studying the following issues:

- Succession planning,
- Workforce security,
- Including the socially excluded in transit,
- Retirement rate,
- Religion considerations,
- Technological advances,
- Recruitment,
- Training,
- Developing an internal business culture, and
- Enhancing the bus operator image.

Mollet highlighted a number of topics:

Workforce Security. Bus operator safety is a real concern as drivers are vulnerable to violence and abuse from passengers (in fact, the ITSP team heard about a serious incident in Canada during their visit). Some transit agencies are experiencing challenges in recruiting and retaining bus operators due to increased violence. Terrorist activity in many European countries has heightened concerns about staff security.

Religious Considerations. Transit agencies are receiving requests from workers who wish to observe and practice their religious traditions during the work day (team members heard that this had occurred at STIB). Management’s response has been to require that workers respect the rules of the company and not openly practice their religious traditions. Transit officials are concerned that their agencies not be viewed as intolerant.

Recruitment. Transit agencies around the world are now challenged to find qualified candidates with the necessary technical and interpersonal skills to fill positions. Many organizations are seeing bus operators leave their jobs to drive for trucking companies. In this competitive employment market, UITP is working with members to identify and promote best practices in recruitment.

Enhancing the Bus Operator Image. The bus operator career has been characterized by low-wage growth over a long tenure. With Baby Boomers set

to retire in the coming years, transit agencies around the world are exploring ways to market an enhanced role for the operator. Casting them as the ambassador of the company is one common approach taken by UITP members. Other ideas include offering operators flexibility in their schedules and allowing operators to gain credit towards national service obligations.

European Union

The ITSP team was eager to learn about how the EU might be affecting the transit industry and specifically its impact on the transit workforce.

The EU was officially founded on November 1, 1993. It is a union of some 27 independent states based on the European Communities and founded to enhance political, economic, and social cooperation.

In 2004, EU countries were asked to sign a Treaty establishing a European Constitution. It was signed by representatives of the member states of the Union but was subject to ratification by all member states. The Treaty was designed to streamline democratic decision making and management within the EU. The citizens of two member countries—France and the Netherlands—voted “no” in referenda on the proposed constitution in 2005. The two “no” votes led EU leaders declaring a “period of reflection.”

The European Commission is the executive branch of the EU. The body is responsible for proposing legislation, implementing decisions, upholding the Union’s treaties and the general day-to-day running of the Union. The Commission operates in the method of cabinet government, with 27 Commissioners. There is one Commissioner per member state; however, Commissioners are bound to represent the interests of the EU as a whole rather than their home state.

The EU Commissioner for Transport is a member of the European Commission and at the time of this writing hails from France. Transport Commissioner Jacques Barrot’s current terms ends in 2009. His duties include development of transport infrastructure across the EU such as road and rail networks.

Developing a common European driving license is a key EU transport initiative. The new driving license is being produced in credit card-style with a photograph and possibly a microchip and is intended to replace the 110 different plastic and paper driving licenses of the 300 million drivers in the EU. The

main objective of the standard license is to decrease the risk of fraud.

In the transit world, it is expected that the license initiative will expand to include a standard EU license for bus operators in their respective countries.

An EU regulation focused on the transit industry is now being implemented. It includes directives standardizing bus operator training—requiring operators to pass a certification exam, certify with a simulator, and take periodic refresher training. In addition, the EU has acted to lower the age of bus operator recruits to 18 years of age. Transit managers are preparing to shoulder increased costs due to EU mandates related to training and recruitment.

EU law now requires public transit providers to identify either as “local only” (public agency) or as a “mobility service provider” (contracted), putting government operation entities in competition with private companies. This approach is expected to produce competition for attracting customers as well as employees, resulting in a culture change for public employer tradition to customer-focused and performance-based. More EU requirements are expected as the new regulation will be completely applied by 2013.

Jouy le Moutier, France

The final day of the mission was spent in Jouy le Moutier, outside of Paris. The team was hosted by Veolia Environnement, the parent company of Veolia Transport, at the company’s training campus.

Veolia Environnement Campus

Veolia Environment is comprised of four service businesses: Veolia Water, Veolia Energy, Veolia Environmental Services (Waste Management), and Veolia Transport. The Campus in Jouy le Moutier is tasked with developing the skills base to support each of these businesses. Currently, Veolia employs over 290,000 people worldwide. Their goal is to increase that number to over 500,000 within the next 10 years.

The Campus accommodates 610 apprentices, 14,000 trainees (including 6,500 on campus) and 10,000 visitors to events each year. It has an overall operating budget of 30 million Euros and the equivalent of 120 employees.

The Veolia Campus is designed to achieve the following objectives:

- Develop employee professionalism and expertise,
- Strengthen corporate culture and vision,
- Support job mobility, and
- Promote the company to its customers.

The principles on which the Veolia Campus training is founded are as follows:

- Training is for every employee throughout his/her whole career
- Veolia trains Veolia—A large portion of the training staff comes from within. Employees take leave from their home locations to teach at the Campus. Veolia has found that the employees are enriched by this teaching experience.
- Competencies are to be recognized by diploma or a certification.
- Training aims at providing the intelligence of the work task.

The Campus hosts the Institut de l’Environnement Urbain. Each year, approximately 700 apprentices follow courses that lead to certificates or diplomas from the Institut. Successful candidates are rewarded with an open-ended, full-time contract with the company.

All apprenticeship training programs offered by the Institut have the same educational objective: preparing 18 to 26 year olds for a professional diploma (including Public Transport). At the same time it impresses on them a sense of the culture of the group, its organization and its corporate identity, conduct and values. The Institut relies on input from the employees in developing the courses as well as in organizing and assessing the programs. For employees, initial training classes represent a first step toward a lifetime of developing skills and, in theory, a life-long career with Veolia (Figure 4).

Higher level programs are also available including Baccalaureate and Master’s degrees and Executive Management Programs.

Veolia Transport Workforce. Veolia Transport employs over 81,000 people worldwide, of which 15,000 are located in North America.

Cumulative training hours in 2006 were 1.9 million, of which about one quarter was dedicated to safety. The training budget is approximately 2% of payroll expenses. Veolia has more than 450 permanent training staff working out of fourteen training centers. In all of their training, the company works to



Figure 4 Hands-on training for mechanics at Veolia corporate campus outside Paris.

identify and disseminate best practices from their global network.

The Veolia Campus in Jouy le Moutier has nine individuals dedicated to training for buses and coaches and nine dedicated trainers for rail. Training is done via classroom sessions, computerized labs/simulators, and hands-on field experience.

Veolia Transport is committed to a culture of opportunity that allows an operator to eventually become a General Manager. Annual evaluations to discuss individuals’ goals and competencies are held to promote the movement of individuals from one position to another. There is also an extensive “coaching and developing” effort for those drivers who are not meeting standards.

The Campus has a cooperative relationship with a local university which allows employees to earn credit for work experience—drivers get credit towards a Transit Operations diploma. This builds pride for a bus operator’s career. It is not unusual for supervisors to spend time with the student/employee, assisting with homework. Employees can drive part-time while attending school.

The diploma courses held at the Campus for Veolia Transport staff include:

- CAP vocational training certificate in hospitality and road transport—passenger transportation;
- BEP Technical education certificate in motor vehicle maintenance, industrial vehicle option;
- Approved qualification in selling environmental services to industrial customers;

- Approved university diploma in urban services management, transportation option; and
- Approved qualification in general urban management.

Sociological Aspects of Workforce Development.

A Social Observatory was created at the Veolia Campus in 2001. The Observatory's function is to monitor and assess the general direction taken by Veolia Environment and its divisions from social, economic and cultural perspectives. In partnership with research laboratories and universities, the Social Observatory conducts surveys, initiates pilot programs, and is responsible for organizing conferences on human resources issues.

Veolia's Arielle Setbon reported that company executives worldwide are observing distinct changes in the workforce. She identified the following:

- Diversity of the workforce is increasing.
- Employees want to express their individuality.
- There is less and less professional solidarity.

Setbon went on to describe many of the life challenges many transit employees face today:

- Divorced, often multiple times,
- Geographically single—living in one place during the workweek and reunited with family on the weekend,
- Broken or crumbled families (blended families),
- Husbands and wives working non-traditional schedules, and
- Sandwich Generation—raising children and caring for aging parents at the same time.

Veolia research has found that the new generation of workers has a different “moral contract” with employers than their parents and grandparents did. These individuals have a greater need to express themselves as individuals and wish to be treated as individuals.

Setbon reported that working conditions have improved in many ways for transit workers, but their experience has been negatively affected by traffic congestion, increased stress, and urban violence. Drivers often feel lonely, powerless, and “unheard” by supervisors. They are not necessarily proud of their jobs. Young employees feel that their senior peers have control over the system and the more senior employees feel that the younger employees do not want to participate in group activities.

Veolia Transport is working to combat these trends by moving to an emphasis on the driver. Setbon shared some of the strategies:

- **Working conditions:** Countering the loneliness of the driver by creating an environment of positive and frequent face-to-face communication. Dispatchers and others will receive special training in communications.
- **Team Building:** Motivating people so they give the best of themselves.
- **Participative Management:** Consulting with the employees who will be most affected by change is the only way to be sure they will accept and support a new project.
- **Maintaining Social Links:** Creating opportunities to be together informally and in an atmosphere of conviviality.
- **Overcoming routine, burn-out:** Each driver should contribute to the company in ways other than driving. The goal is for 10% of a driver's time to be spent on training, and administrative duties such as working in the office, etc.
- **Work/Life Balance:** Drivers need working schedules that fit with the needs of their private life.
- **Enhance the profession:** Recognition, professionalism, validation of experience (honor the experience of operators), and assistance in building careers.

Social Initiatives. Over the last 5 years, Veolia has encouraged operational managers to develop and implement more than 1,200 “social initiatives.” These initiatives represent new solutions, innovative approaches, and tailored responses to the various local contexts to improve the working and living conditions of employees. Independence is granted to the operational managers and comes with obligations, especially social obligations.

These initiatives concern the basic human resources development areas: Employment, career development, training, safety and health, and the improvement of living conditions in local regions. The initiatives must meet two essential goals:

1. Ensure that the company is constantly improving, developing, and growing in the field.
2. Take the living conditions of the employees into account: although the improvement of safety and health are the priority, the com-

Table 5 Veolia Campus transport initiative

Initiative	Job sharing between companies
Location/Company	Normandy/Veolia Transport and Veolia Environmental Services (Waste Management)
Description	<p>In response to a need to improve the seasonal fluctuations that affect bus and household garbage collection truck drivers every year, Veolia Environmental Services and Veolia Transport got together to develop a labor-sharing plan based on temporarily allocating bus drivers to garbage collection duties.</p> <p>With a view to exploiting the synergies between two divisions with a common reliance on road driving skills, the Veolia Environmental Services branch in Caen approached Veolia Transport with the aim of taking on its drivers to cope with its peak demand periods, rather than hire external service providers. Often employed under unlimited-term, part-time contracts, the bus drivers were therefore able to work through the summer period and to get wage supplement. In return, Veolia Environmental Services was able to rely on the professionalism and experience of Veolia Transport drivers with their proven driving skills and vehicle expertise.</p>

pany directs some of their actions towards employees' families, their relatives, and local populations.

Table 5 offers information on one of the 2007 transport initiatives:

Team members came away from the Veolia Campus impressed with the tremendous resources and professionalism being dedicated by the company to developing the transit workforce. They were also struck by how the Social Observatory's assessment of the new generation of workers—increasingly diverse in background and lifestyle, more interested in individual expression, and less inclined towards professional solidarity—matched the picture painted by transit managers at each previous stop on the mission itinerary.

SECTION III—MISSION TEAM OBSERVATIONS

The mission team returned from their exploration of human resource challenges and practices in Canada and Europe with distinct images and information from each of the cities visited. Team members also identified several common threads running through their many varied experiences.

General Observations

- Like U.S. transit leaders, Canadian, French, and Belgian leaders recognize the need to enhance the public image of the transit industry

in order to be competitive in recruiting and retaining skilled employees.

- Each transit system visited is facing the need to deliver expanded services, and attracting high-quality staff for the new offerings—individuals who can adjust to changing technology and heightened customer-service demands—is essential.
- Virtually every host commented on the changing nature of the transit workforce.
 - They highlighted the impending retirement of many Baby-Boom era employees and initiatives under way to retain or replace these valuable workers.
 - In all cities visited, the transit workforce was described as becoming increasingly diverse, with respect to gender, race, and ethnicity.
 - Finally, almost every host described new entrants into the industry, those in their late teens and twenties, as more interested in individual benefits and career development and less interested in being treated as part of a category of workers than older workers.
- National initiatives related to driver qualifications were a force in Canada and Europe. Additionally, directives of the EU related to safety and competition were having significant impact on systems visited in France and Belgium.
- Numerous creative programs are under way in Canada and Europe to enhance the quality of the work experience for drivers and to motivate drivers to improve service to customers.

- Canadian and French agencies have impressive collaborations in place with local colleges, universities, and high schools. These efforts support recruitment and retention of skilled workers.
- A few observations on finances, in comparison to the U.S. transit industry:
 - Properties in Canada and Europe do not have direct responsibility for providing health benefits to employees as many U.S. agencies do.
 - Systems in France receive funding from a national transport tax on employers.
 - Wage rates for bus operators in Canada were reported to be higher than wages paid in the U.S.
- Finally, two observations were noted outside the mission’s focus on workforce issues: Team members were impressed by the attention transit managers in Europe gave in their briefings to environmental issues and sustainability initiatives. Participants also noted the prevalence of dynamic public-private collaborations in the transit industry in Europe.

APPENDIX A—STUDY MISSION TEAM MEMBERS*

Ronald Barnes, Team Leader, General Manager, Regional Public Transit Authority, Mesa, AZ, SW Regional Vice President, Veolia Transportation

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E. Dianne McLinn, Vice President, Human Resources & Labor Relations, Central Ohio Transit Authority, Columbus, OH

Raymond Joseph Melleady, Executive Director, Capital District Transportation Authority, Albany, NY

Kristina Marie Quigley, Deputy General Manager, RTC of Southern Nevada, Las Vegas, NV

Gloria Gloria Salazar, Assistant General Manager/CFO, San Joaquin Regional Transit District, Stockton, CA

Jeffrey Michael Stumbo, Director of Human Resources and Labor Relations, San Diego Metropolitan Transit System, San Diego, CA

Phillip Anthony Washington, Assistant General Manager, Administration, Denver Regional Transportation District, Denver, CO

Brenda Teresa Wilson, Director, Office of Human Resources, Federal Transit Administration, U.S. Department of Transportation, Washington, DC

APPENDIX B—STUDY MISSION HOST ORGANIZATIONS

Canada

Canadian Urban Transit Association (CUTA)
<http://www.cutaaactu.ca/>

Motor Carriers Passenger Council of Canada (MCPCC)
<http://www.buscouncil.ca/>

Greater Toronto Transit Authority (GO Transit)
<http://www.gostransit.com/>

Toronto Transit Commission (TTC)
<http://www.toronto.ca/ttc/>

Bombardier
http://www.transportation.bombardier.com/en/1_0/index.html

Hamilton Transit (Hamilton Street Railway Company/HSR)
<http://www.myhamilton.ca/myhamilton/CityandGovernment/CityServices/Transit/VIA Rail>

VIA Rail
<http://www.viarail.ca/>

Société de Transport de Montréal (STM)
<http://www.stm.info/>

Quebec City Transit (Réseau de transport de la Capitale/RTC)
<http://www.rtcquebec.ca/>

Quebec Association of Urban Transit (Association du Transport Urbain du Québec/ATUQ)
<http://www.stm.info/atuq/index.htm>

*Titles and affiliations are at the time of the mission.

Dessau-Soprin
<http://www.dessausoprin.com/>

France

Bordeaux Transit Operations
<http://www.veolia-transport.com/en/company/key-locations/bordeaux.aspx>
Veolia Transport
<http://www.veolia-transport.com/en/>
Régie Autonome des Transports Parisiens (RATP)
<http://www.ratp.fr/>

Belgium

Société des Transports Intercommunaux de Bruxelles (STIB)
<http://www.stib.be/>
International Association of Public Transport (UITP)
<http://www.uitp.org/>

APPENDIX C—VIA RAIL’S “CUSTOMER INTIMACY PROGRAM”

The mission team was particularly impressed with a program implemented by Canada’s national passenger rail provider, VIA Rail. VIA Rail’s Customer Intimacy Program is a customer friendly program that is intended to trickle down to employees and suppliers of the system. The mission team saw this program in action when they rode VIA rail from Toronto to Montreal. During the 5 hour train ride this Customer Intimacy Program was very evident and was positively displayed.

What is Customer Intimacy?

Customer Intimacy is VIA’s core business strategy. It puts the customer at the center of all business decisions, across all functions and at all levels of the organization. It focuses on how VIA Rail wants to leave the customer feeling about their encounter, and creating personal and memorable stories. VIA Rail achieves this by building enduring relationships with customers that allow them to know customers better in order to design and deliver tailored services which will delight them. Getting close to customers and building relationships is not the challenge of only one department, but it is the journey the whole organization, each and every employee, needs to make.

Why did VIA Rail Select Customer Intimacy as its Core Business Strategy?

In order to be successful and compete with other modes of transportation VIA has to focus on excelling at one of three core things customers care about: (1) operational excellence, (2) product leadership, or (3) customer intimacy. While it does not mean that they ignore product leadership and operational excellence there is one area where VIA has a unique competitive advantage: customer intimacy. Customers have more personal contact with VIA Rail’s staff, as compared to other modes of transportation, and they constantly offer positive feedback relating to their experience with VIA’s front line employees. VIA wants the customer’s experience to be recognized as VIA’s brand.

What is a Branded Customer Experience?

By creatively surprising and constantly delighting their customers, customers will not only come back, but will also recommend VIA to others. A branded experience is one that is: (1) consistent, (2) intentional, (3) differentiated, and (4) valuable. When VIA is able to achieve this in every customer encounter and at all Customer Touch Points, customer loyalty will increase. The goal is that when customers hear the words VIA Rail Canada, they instinctively think “Customer Intimacy.”

How does Customer Intimacy Impact me if I Don’t Interact Directly With a Customer?

The customer experience is shaped not just by the customer relationship with a counter sales agent and the on-board crew, but by the network of relationships throughout the organization—how each department works in partnership with every other department to serve VIA’s customers and how the managers of internal departments coach their staff to be more effective partners and colleagues. VIA focuses on the common goal of delivering their Customer Intimacy promise and all employees are enablers, allowing each other to deliver that promise.

Why Focus on a Coaching Workshop to Support our Customer Intimacy Business Strategy?

Basically, you can’t “train” employees to create customer intimacy; you encourage and support them

through coaching. To provide personalized experiences, employees need to be empowered to use their judgment and discretion while they grow their capabilities. They can grow this capability by identifying best practices and helping to build positive and outstanding practices within their team and beyond. Leaders support the primary role in communicating and modeling customer service skills. What the leader provides to the employee, the employee exemplifies to the customer.

What is Appreciative Inquiry and Why Use This Approach at VIA?

Appreciative Inquiry is a tool that can be used in coaching and in other ways to point to possibilities and drive positive change. This approach helps identify employee best practices and understand the core values of individuals and organizations by focusing on what is working. VIA knows, because customers tell them that employees deliver best practices in terms of service to their customers every day. Appreciative Inquiry enables VIA to uncover and share all employees' best practices.

What is a Discovery Interview and What Will VIA do with the Stories Captured?

A discovery interview is one of the initial processes of Appreciative Inquiry. It is taking the time with an employee, colleague, partner or team to ask positive questions about their best experiences—ones they are proud of. While practicing empathy and listening skills, these interviews will help VIA learn what works for them in the area of Customer Service and identify the values that employees embrace and preserve what they do best. The stories help VIA understand the behaviors that “WOW” the customers today and should be used tomorrow as standards to create a Customer Intimacy service model.

As a Manager and Coach, What is Expected?

- First, one should conduct discovery interviews as learned in the workshop with team members. This will enable managers to practice appreciative inquiry and related coaching skills. It will also help discover employee best practices.
- Following the discovery of best practices, try to identify simple ways to disseminate them. Start with one's own work unit. Also share them

with others outside of the team if the manager thinks it could apply to others as well.

- Make time to practice coaching skills. Schedule one-on-one's with employees and identify “coachable moments” where on-the-spot coaching is appropriate.
- To be able to coach and create the openness with employees in order to receive feedback, leaders need to build a positive emotional connection with their staff by being available and present, showing that you care, showing respect, building trust and taking every opportunity to communicate.
- Lastly, remember to lead by example, rather than by direction, and model the behaviors expected of your staff. What the leader provides to the employee, the employee provides to colleagues, partners, and the customer.

APPENDIX D—2007 ITSP MISSION DISPATCH: PUBLIC TRANSIT MEETS POLITICAL TURMOIL IN EUROPE

The mission team found themselves in the midst of a work stoppage while visiting the RATP in Paris, France. The following is a short, but riveting daily account of the team's impressions of the Strike that grinded Paris to a halt.

Brussels, November 13—A STIB bus meets the ITSP team on its arrival from Paris via France's TGV high-speed inter-city rail service. STIB Human Resources Director Philippe Lenaerts greets the team with news that Belgium's federal government is on the brink of collapse. Black, yellow, and red flags hang from hundreds of apartment windows in support of a unified Belgium. Coalition talks collapsed less than a week ago. Flemish political parties want more regional control—or separation—and Francophone parties want equality for French speakers living in Flemish areas.

The right-wing Flemish nationalist party not only promotes regional interests, it opposes Muslim immigration to Belgium as a whole. On September 11, the party participated in an illegal protest march in Brussels in which dozens were arrested.

Tension over the “Islamization of Europe” spills over into STIB's daily operations. A majority of its bus operators are Muslims of Moroccan origin, a legacy of the country's earlier African colonization. According to Lenaerts, anti-Muslim customers' en-

counters with the few *militant* Muslim operators generate an on-going, politically charged challenge for management.

Though chances are low the federation will dissolve, the day's presentations about STIB's organizational change initiatives fail to lift the somber mood. A heavy rain falls as the team boards the TGV and returns to Paris.

Paris, November 14—The postponed French transit workers' strike starts late Tuesday, and on Wednesday morning only 15% of trains and buses are running. Taxis are in short supply. Union officials predict this action will last more than 24 hours. The ITSP team takes a charter bus to RATP headquarters to hear the story first-hand.

Sylviane Delmas, RATP's head of Service Relations, takes a break from labor negotiations to brief the team on workforce planning. She describes the strike as both political and personal for the powerful transit unions. RATP management's options are limited since it cannot renegotiate the government's pension plan changes. Delmas points out that under French labor laws, managers may join striking union members in sympathetic opposition to the policies of the French President.

In May the President won by 52% of the vote and immediately introduced business-friendly reforms, among them changes to pension systems that give special early retirement benefits to 500,000 public sector employees. He vows to resist union pressures, urging strikers to return to work and saying an overhaul of early retirement privileges is long overdue.

After the meeting with Delmas, some team members use RATP's driverless Metro Line #14 to travel to the Louvre and back (Figure 5). RATP expects the line to be heavily used if the strike continues and has plans eventually to extend the remote-controlled train from its current nine miles of track.

Paris and northern suburbs, November 15—On day three of the transit strike, the ITSP team takes a private coach to its meeting at the Veolia Environment Campus in Jouy le Moutier northwest of Paris. Paris is one big traffic jam as the normally transit-riding population commutes in cars and motorcycles, on bicycles and skates. (The new Velib self-service bicycle program records twice as many users



Figure 5 Mission team tours Line 14 of the Paris Metro on first day transit strike.

as normal during the strike.) The ride to the campus takes hours longer than planned, and after a busy day the team endures a similarly long return trip.

The French government estimates the strike is costing the country's economy between \$440 million and \$513 million a day.

Later, a hotel waiter is heard voicing strong objection to the strike because of its negative economic impact on non-union workers and small businesses. As an immigrant, low-wage worker he is an unexpected ally of the conservative government, but his opinion is consistent with survey reports that at least 60% of the public opposes the public transit strike.

Epilogue—The nine-day transport workers strike ended Friday, November 23, a week after most ITSP team members left France. Service levels had already begun to return to normal on the inter-city TGV as well as in Paris. According to CNN, "The decision [by the unions] to start negotiating is being seen as a victory for . . . Sarkozy. . ."

On November 26 violent riots erupted in Villiers-Le-Bel, a suburb north of Paris and less than 25 miles due east of the Veolia Environment campus. On the surface unrelated to the transport workers' strike, the riots appear rooted in the same social problems that sparked violence in 2005—discrimination, unemployment and alienation among working-class young people. Both Sylviane Delmas of RATP and presenters at the Veolia campus talked about the need for initiatives to reach out to disadvantaged youth and provide career opportunities. Such efforts are spurred not only by social conscience but also by business

need as employers throughout Europe face a labor pool shrinking even faster than in the U.S.

APPENDIX E—LIST OF ABBREVIATIONS

APTA	American Public Transportation Association	MCPCC	Motor Carrier Passenger Council of Canada
ATUQ	Association du transport urbain du Québec	NOC	National Occupational Classification
BRT	Bus Rapid Transit	NOS	National Occupational Standards
CAP	Certification and Accreditation Professional	RATP	Regie Autonome des Transports Parisiens
CFTC	Centre de Formation en Transport de Charlesbourg	RER	Regional Express Network
CITs	Intermunicipal Transit Corporations	RFF	Réseau Ferré de France
CUB	Communauté Urbaine de Bordeaux	RTC	Réseau de transport de la Capitale
CUTA	Canadian Urban Transit Association	SNCF	Société Nationale des Chemins de fer Français
EU	European Union	STIB/MIVB	Société des Transports Intercommunaux de Bruxelles/Maatschappij voor het Intercommunale Vervoer te Brussel
FTA	Federal Transit Administration	STIF	Syndicat des Transports d’Ile-de-France
GO Transit	Greater Toronto Transit Authority	STM	Société de transport de Montreal
HSR	Hamilton Street Railway	TGV	Train à Grande Vitesse
ITSP	International Transit Studies Program	TRB	Transportation Research Board
		TTC	Toronto Transit Commission
		UITP	International Association of Public Transport

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