Project Summary

When we assumed responsibility for the commuter train network in 1996, total ridership for the two existing lines – Deux-Montagnes and Dorion-Rigaud – was 6,8 million trips per year. Since then, the network has steadily grown and improved. We've added three new lines: Blainville (1997), Mont-Saint-Hilaire (2000) and Delson (2001). These new lines were added as an alternate solution to roadway projects, and each line uses aging rolling stock.

The Context

In the last ten years, the commuter train network ridership has grown in leaps and bounds, and now involves 15 million trips per year. Recent improvement projects, including the extension of the Blainville line to Saint-Jérôme, the extension of the Delson line to Candiac and the expansion of several commuter-parking facilities are contributing to the network's ever-increasing ridership. In addition, our major development initiatives, including the "Train de l'Est Project" (scheduled for completion in 2012), the addition of increased capacity to the Deux-Montagnes line, and the new connection between the Blainville-Saint-Jérôme line and the Mont-Royal Tunnel, will ensure continued ridership growth for years to come.

The Problem

Already in the fall of 2007, peak-hour ridership was reaching new heights: of the 31 Montréal-bound trains during the morning peak period, 50% of passengers on 18 trains had to stand for lack of available seating. There was an immediate need for more capacity and for a plan to manage the system's rapid growth. In addition, this growth was putting pressure on our aging inventory of rolling stock, with increasing preventative and corrective maintenance needs.

The Solution

In cooperation with the Quebec Government, we acquired 160 new multilevel railcars, which is a major step in the improvement of sustainable urban transportation. These state-of-the-art railcars add a new level of comfort to our commuter train, much to the satisfaction of our users. These new railcars will add an additional 43,000 seats to the commuter train network daily. This significant increase in the public transit offer and level of service reflects our deep commitment to sustainable development.

Success achieved

This historic $386M order has already yielded tangible results: the first wave of multilevel railcars was put in service on the Mont-Saint-Hilaire line in November 2009. Over the next two years, passengers across the network will enjoy the increased levels of comfort and service these new railcars provide. They will also be deployed on the future Train de l'Est line.

Current Situation and Objectives

Over the last few years, our services have enjoyed a tremendous increase in popularity, and the commuter train component of our public transit system now accounts for over 15.2 million trips annually. In terms of commuter train ridership, the Greater Montréal Area now ranks 6th across North America, surpassed only by New York, Chicago, Philadelphia, Boston and Toronto. However, this success has quickly brought our system to saturation.

The pressing need to manage long-term growth

Several development projects have recently been completed, including the Blainville line extension to Saint-Jérôme, the Delson line extension to Candiac and the expansion of several park-and-ride facilities. In addition, the new Train de l'Est line, scheduled to open in the summer of 2012, will add 11,000 more daily trips to the commuter train system. We also intend to add significant capacity to the Deux-Montagnes line, which already accounts for over half our daily trips, and we will begin routing the Blainville–Saint-Jérôme line through the Mont-Royal Tunnel, which will greatly reduce travel times, which will assuredly increase demand.

However, as early as the fall of 2007, the system started showing signs of having reached full peak-hour capacity. Of the 31 Montréal-bound trains in the morning peak hours, 50% of passengers on 18 trains had to stand for lack of available seating. This situation was critical. We needed to invest immediately to improve these highly popular services, and we needed to manage the system's rapid growth.

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The limitations of an aging fleet

Our fleet of rolling stock was showing obvious signs of not being able to respond to the commuter train system's short and long term needs.

We were faced with two considerable problems. We had an aging fleet, so our preventive and corrective maintenance requirements were on the increase. We also had to contend with the disparate nature of our rolling stock inventory. We were servicing five rail lines with a fleet of 240 units comprising 12 different types of vehicles, locomotives and passenger cars combined. As the electronic systems of the different units are not all compatible, putting together working trains is a constant logistical challenge that leaves us with very little room to operate in case of equipment breakdown. That being said, we need to provide 122 daily departures, and our clients expect timely and reliable service.

Summary of objectives

- Provide the additional capacity required to accommodate new users
- Provide increased levels of service and comfort to attract new users
- Improve passenger safety with railcars designed to satisfy new standards and requirements
- Improve the system's level of service and reliability with low maintenance rolling stock
- Provide increased system capacity in the short term while limiting the increase of operating costs
- Facilitate the implementation of the Train de l'Est line and the long term development of the commuter train network by making full use of the Mont-Royal Tunnel and the Central Station
- Move toward a standardised fleet to simplify operations and reduce maintenance costs

We chose the obvious, albeit ambitious solution: renewing the fleet. This path was defined by a simple idea: improve the quality of services provided to our existing clientele and develop the network to broaden the client base. This approach is a clear reflection of our commitment to develop and improve sustainable urban transportation.

The proposed solution

We submitted a funding request to the Quebec Government for the acquisition of 160 new multilevel passenger cars, in order to achieve our stated objectives of increasing capacity, enhancing passenger comfort, streamlining maintenance operations and adding extra flexibility to fleet of rolling stock.

A historic purchase

By providing AMT the funds needed to acquire 160 new bi-level commuter cars in December 2007, the Quebec Government was stating that renewing the aging commuter train fleet and improving the system's level of service were indeed priorities. Following a proposal call, the contract was awarded to Bombardier Transport, and two years later, the first of the new commuter cars were rolling off the assembly line.

With expenditures totalling $386M, of which 75% was funded by the MTQ, this project is the largest commuter train-related investment in Quebec history.

A focus on quality of service

These 160 new passenger cars will improve quality of service in the long term by:

- Increasing the commuter train system's capacity by 70% during peak times, spread out over the five commuter lines, with the addition of close to 43,000 trips daily
- Renewing part of the existing commuter train fleet, as many units are at the end of their life cycle
- Meeting the rolling stock needs of the new Train de l'Est line

New commuter cars using state-of-the-art technology

Featuring the latest in commuter car technology, the new passenger cars will help AMT breathe new life into the commuter train network. Each railcar is equipped with 142 ergonomic seats, with a spacious transition area (equipped with benches) between the two levels, bike racks and a two-way audio system to facilitate communication between the passengers and the rail crew. Each train will include washrooms, located in the accommodation car, as well as a car accessible to the mobility impaired.

These two-storey floor multi-level stainless steel commuter cars were custom-designed for use on the entire commuter rail network, including various tunnel structures, such as the Mont-Royal Tunnel.

The project as the defining expression of our sustainable development vision

We decided to develop the commuter train network with a long-term vision spanning a 40 to 50 year horizon. We have always believed that to ensure the success and sustainability of urban transportation and to reduce the number of cars on Montréal metropolitan area roads, we need to provide high quality, modern and comfortable services to our existing clientele and to our potential client base.

The new commuter cars provide a solution to existing issues and will generate increased demand for public transit. These new railcars will soon be pulled by new bi-modal locomotives, ordered in 2008 and scheduled for delivery beginning in 2012. These locomotives will be the first step in the electrification of the entire system.

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A role model for transportation agencies everywhere

This historic commuter train order shows that cooperation between transportation organizations, government agencies and local municipal authorities is the key to developing a common understanding and vision of sustainable development, which can result in massive investment in public transit.

In concrete terms, this new commitment to sustainable urban transportation has increased the commuter train system's capacity by 43,000 passengers per day.

Once completed, the AMT project will serve as a role model in terms of fleet uniformity and rolling stock flexibility, as all locomotives and passenger cars will be interchangeable and available for use on every fully electrified line. This will lead to significant savings in fleet maintenance, in addition to providing increased flexibility to respond quickly and efficiently to emergencies, delays and any other unforeseen events.

Results

Deployment

The arrival of the new multilevel passenger cars is revitalizing the entire commuter rail system. The first set of new cars was deployed on the Mont-Saint-Hilaire line in November 2009; starting in the spring of 2010, one set of new cars will be added to this line every month. The next line to be equipped with the new cars will be the Dorion-Rigaud line, beginning in late spring. The Blainville–Saint-Jérôme line will receive its new cars this summer, followed by the Delson-Candiac line in the fall. The Deux-Montagnes line, presently the only completely electrified line, will be equipped with new commuter cars upon delivery of the new bimodal locomotives.

Over the next two years, all our clients will be able to enjoy the comfort and additional seating capacity provided by the new commuter cars, which will also be deployed on the future Train de l'Est line.

Impact of the new arrivals

The deployment of the new commuter cars on the Mont-Saint-Hilaire line in November 2009 has already had a significant impact on the local population. On the day of the inaugural trip, a major media event was held to mark this watershed moment in the evolution of the Montréal region commuter train system. At the time this submission was written, the new commuter cars on the Mont-Saint-Hilaire line are at full to capacity morning and night.

The unveiling of the first new commuter car at Bombardier's La Pocatière plant in August 2009, as well as the inaugural run of the first set of new commuter cars on the Mont-Saint-Hilaire line have had a significant impact, specifically in terms of media coverage.

The deployment of the new fleet of commuter cars will serve to make the commuter train option even more appealing to Montréal area commuters, as the service will be more up-to-date, comfortable and reliable.

[See attached media file]

Adding uniformity to the inventory of rolling stock

With the addition of 160 new railcars, including 26 accommodation cars, the fleet acquires a higher degree of uniformity. As these new units are all compatible with each other, they will greatly simplify operations, maintenance and spare parts management.

The 160 new railcars will increase the commuter rail system's capacity by 70% by adding room for 43,000 trips per day. They will greatly improve quality of service and quality of the commuting experience.

Over the next two years, all our clients will be able to enjoy the comfort and additional seating capacity provided by the new commuter cars, which will also be deployed on the future Train de l'Est line.

The service offer

Of the 160 new commuter cars on order, 80 will replace existing single-level units that have been in service for over 40 years, close to 30 will be used on the soon to open Train de l'Est line and the others will be deployed across the commuter train network to add capacity throughout.

Increased capacity for a better future

These 160 new commuter cars will add a total of 9 million trips annually to the commuter train system's current level of service, or 15 million trips annually. This translates to 43,000 additional public transit trips per day.

This project will undeniably have a significant impact in the fight to reduce GHG emissions in the Greater Montréal Area, and is in obvious conformity with the sustainable development plans formulated by the region's government agencies and municipal authorities.

Never before have the region's public transit users had access to such state-of-the-art, high quality commuter rail facilities. The arrival of these spacious new commuter cars is ushering in a new era featuring a more modern, comfortable and reliable public transit option.

This is by far the largest acquisition of commuter train rolling stock in Quebec history. It marks the beginning of a new era for commuter rail, and reflects our collective commitment to sustainable urban transportation.

Appendix 1 — Additional information

The Agence métropolitaine de transport (AMT)

The AMT is a government agency with a regional mandate and a mission to plan and promote public transportation services in order to improve the efficiency of public transportation in the Greater Montréal Area. The AMT presently operates 5 commuter train lines, 52 stations, 1 metropolitan express bus line, 29,000 park-and-ride parking spaces, 16 metropolitan terminuses and 82.5 km of reserved transit lanes. The commuter train system currently averages close to 16 million trips annually, ranking 6th among major metropolitan areas across North America.

The commuter train network

The Greater Montréal Area commuter train network was launched in 1996, with only two lines (Deux-Montagnes and Dorion-Rigaud). The network has been steadily enhanced and improved since then. Three new commuter lines have been added (Blainville in 1997, Mont-Saint-Hilaire in 2000 and Delson in 2001), and two of these have since been extended (Delson to Candiac in 2005, and Blainville to Saint-Jérôme in January 2007. The commuter rail network now includes 214 km of rail lines, 52 stations and 39 park-and-ride facilities totalling 16,200 parking spaces.

With over 15.2 million trips annually, the Montréal Metropolitan Region now ranks 6th in commuter train ridership across North America, surpassed only by New York, Chicago, Philadelphia, Boston and Metro Toronto[1].

For more information, visit our Website www.amt.qc.ca.

[1] Based on 2007 ridership statistics compiled by the American Public Transportation Association (APTA)