

Taxibus: Public Transportation for Smaller Cities

Organization

City of Rimouski

Status

Started 1993, ongoing

Overview

After seeking a form of public transit that could serve effectively but within its financial constraints, the City of Rimouski created a successful operation using private taxis.

Taxibus is a demand-responsive service operating in Rimouski's urban area on weekdays. Extended services known as INTER-Taxibus serve the city's adjacent rural areas. Taxibus passengers travel between any two of 300 designated stop points, sharing taxis that are dispatched in a manner to maximize occupancy. All trips are made without transfers and in less than 15 minutes, representing a high quality of service.

A non-profit corporation created by the city administers the service and performs registration, reservation and financial functions. Local taxi drivers have formed a cooperative to dispatch and drive the taxis.

By 2000, seven years after its initiation, Taxibus served 63,000 passenger trips annually. It had an average occupancy of 2.8 passengers per taxi, an average fare of \$2.41 and a revenue/cost ratio of 45%. The service requires a municipal subsidy of about \$100,000 annually, a lower per-capita rate than conventional transit services in Quebec communities of a similar size.

Rimouski's Taxibus has shown that public-private partnerships with the taxi industry can improve public mobility in an affordable manner. Since 1999, the concept has been applied in other smaller cities in Quebec, and variations have appeared in cities across Canada.

Contact

Jocelyne Dufour
 Corporation Taxibus de Rimouski
 Telephone: (418) 723-5555
 Email: taxibus.ctak@globetrotter.net

Resources

- City of Rimouski — Taxibus
www.ville.rimouski.qc.ca/citoyens/circulation/taxibus.asp

Community context

The City of Rimouski is a regional centre of 42,000 people on the south shore of the St. Lawrence River, about 300 kilometres east of Quebec City. The current city was created in 2000 through an amalgamation of the former City of Rimouski (population 31,000) with several adjacent communities.

Rimouski is a centre for marine transport, commerce, manufacturing, education and tourism in a region rich in lumber and agricultural resources. The educational sector (including several post-secondary institutions) represents the largest local employer, followed by the provincial and federal governments. Each year, an influx of 15,000 students gives Rimouski an economic and social boost.

Policy context

When the private operator of the former City of Rimouski's public transit service shut down in the late 1980s, the city studied several ways of restarting the service. It determined that an annual subsidy of up to \$540,000 would be needed to offer a reasonable quality of service using buses. While this was not acceptable to decision-makers, the community still needed some kind of public transportation that would be affordable to both users and the local government.

Rimouski responded to this challenge by working with local taxi operators to develop the Taxibus concept, an innovative public-private partnership. The service was launched in 1993 and has thrived ever since.

The City of Rimouski has adopted a series of legal regulations to enable the initiation and expansion of Taxibus, and to identify the terms and conditions of its operations. The first regulation, adopted in 1993, still governs the Taxibus service. A 1999 regulation enabled the creation of INTER-Taxibus, a supplementary service for adjacent rural communities, although it was superseded in 2003 by an updated version that expanded the rural service area.

Rationale and objectives

Rimouski's original objective for Taxibus was straightforward: To offer residents a basic public transit service at an affordable cost. While the city was willing to subsidize public transportation, conventional fixed-route bus systems were not financially viable. Feasibility studies of various bus-based options forecasted unacceptable annual operating deficits of \$335,000 to \$540,000.

The community set an acceptable subsidy threshold of about \$100,000, a figure that remained as a key objective for Taxibus. It also aimed to offer a more frequent and convenient service than the former fixed-route bus service. The initial ridership target for Taxibus was 120,000 trips per year.

Actions

Taxibus and its INTER-Taxibus offspring are demand-responsive public transit services using privately-operated taxis. The following paragraphs summarize key aspects of the operation.

Service areas. Taxibus serves neighbourhoods within the former City of Rimouski. INTER-Taxibus crosses former municipal boundaries to serve smaller rural neighbourhoods, with separate services operating to the east (Pointe-au-Père, Rimouski-Est) and south (Sainte-Odile-sur-Rimouski, Sainte-Blandine).

Hours of service. Taxibus runs from 7:00 a.m. to 7:00 p.m. from Monday through Wednesday, and to 9:00 p.m. on Thursday and Friday. INTER-Taxibus operates limited service in morning, mid-day and afternoon rush hours from Monday to Friday.

Routes. Taxibus trips are demand-responsive, so they are made only if one or more rides have been booked. The origin, destination and routing of trips depend on the travel needs of each taxi's passengers. Service schedules identify the time at which taxis will pick up their first passenger, meaning that other passengers on the same trip may have to wait several minutes for the taxi to reach them.

Taxibus lets users avoid transfers by starting and ending their trips at any of 300 numbered stops in the urban area. Most urban residents live within 500 metres of a stop. Rural INTER-Taxibus users are picked up and dropped off on the road in front of their home, and can travel either within their own service area (east or south) or between their service area and the Taxibus area. Most trips are less than 15 minutes long, representing a level of service that could not be matched by a fixed-route transit system.

Schedules. Taxibus schedules are set to meet typical demand levels as efficiently as possible (i.e. with the greatest possible average occupancy). Service frequencies are hourly or better, with service every half-hour during key travel periods (7:00 to 9:00 a.m., 12:00 to 2:00 p.m., 3:00 to 6:00 p.m.). INTER-Taxibus trips are made inbound (toward the urban area) twice in the early morning and twice at midday, and outbound (toward the rural area) once at midday and four times in the late afternoon.

Trip reservations. Users must make a reservation at least one hour before their intended trip. Telephone reservations can be made from 5:30 a.m. to 7:00 p.m. from Monday to Wednesday, and to 9:30 p.m. on Thursdays and Fridays. To reserve, callers give their user number, departure time (nominal according to schedule), stop point numbers for origin and destination. Repeat trips can be reserved with a single reservation. Cancellations must be at least 15 minutes before the trip.

Fares. New users must register with Taxibus to receive a numbered user card that they show on every trip. Passengers can either pay \$2.85 per trip or buy a \$90 monthly pass. Monthly passes are valid either for Taxibus or one of the INTER-Taxibus services (east or south). Tips are not allowed, and child seats are available if requested when reservations are made.

Passengers are penalized if they fail to keep a reservation without canceling. Users are charged the equivalent of a single cash fare for their first offense, a double cash fare for their next offense, and a quadruple cash fare for their third offense.

Trip administration. Demand-responsive services like Taxibus involve dynamic scheduling, which requires hands-on management. The complex logistical process of receiving calls, organizing rides, dispatching taxis and verifying fare payments has been simplified by special software from the Quebec Ministry of Transport. The Ministry's TRAJET software, developed and refined for use in the management of paratransit services (which have strong operational similarities to Taxibus) was modified and renamed TRAXIBUS for use in Rimouski.



Results

Operating statistics. Taxibus was a success upon its inception in 1993, as shown by a 1994 survey that found a 94% satisfaction rate among users. By 1997, annual ridership had grown by 38% while costs increased by only 6%. This improved performance was due to a substantial increase in productivity (i.e. more efficient sharing of rides). Average taxi occupancy grew from 1.6 passengers per taxi in 1993 to 2.2 in 1994, 2.6 in 1995, and 2.8 in 1996 and subsequent years.

The following chart summarizes key Taxibus operating statistics in 1995 and 2000, showing how the service matured over that period.

Taxibus service statistics	1995	2000	Change
Taxis in service	45	42	-7%
Taxi trips	21,400	22,400	5%
Passenger trips	56,000	63,000	13%
Average occupancy (passengers/taxi)	2.6	2.8	8%
Fare revenues (\$)	\$117,000	\$152,000	30%
Average fare (\$/passenger)	\$2.08	\$2.41	16%
Cost of service (\$)	\$294,000	\$338,000	15%
Average cost (\$/passenger)	\$5.23	\$5.36	2%
Revenue/cost ratio	40%	45%	13%

Notes:

- 15% cost growth from 1995 to 2000 reflected a 10% taxi meter rate increase and higher taxi trip volumes.
- 30% fare growth from 1995 to 2000 reflected increased fares and higher passenger volumes.

By 2002, Taxibus had increased its annual passenger volume to 77,000 trips, a growth of over 20% in just two years.

By comparison to Taxibus, the newer INTER-Taxibus is a much smaller service. In 2000, the first year of operation, INTER-Taxibus service to Rimouski's rural eastern sector carried 4,200 passengers at a cost of \$31,000. The average occupancy was about 2.5 persons per taxi, and the average cost per passenger was \$7.40. About 35% of operating costs were recovered through fares. (Note that INTER-Taxibus service to the southern sector was not initiated until 2003.)

Financial performance. For a small transit system, Rimouski's Taxibus service recovers a respectable portion of its operating costs from passenger fares — 45% in 2000. The following chart summarizes how various revenue sources combined to meet Taxibus operating costs in that year. Rimouski views its annual operating subsidy of about \$100,000 as an acceptable public cost for a transit service that improves mobility for the general public. Note that because Taxibus is recognized as a public transit service by the Quebec government, it is eligible for provincial aid as a percentage of revenues.

Taxibus revenue breakdown (2000)		
Fares	\$152,000	45%
Municipal subsidy	\$103,000	30%
Provincial subsidy	\$70,000	21%
Other	\$13,000	4%
Total	\$338,000	100%

In 1994, Rimouski compared the financial performance of Taxibus to that of several fixed-route bus transit systems in similar Quebec communities like Rouyn-Noranda, Drummondville, Granby, Joliette and Saint-Jérôme. It found that Taxibus required only half the municipal subsidy of the other transit systems, on a per-capita basis. It is worth noting that the average cost of providing a Taxibus ride in 1994 was about \$8.50, a figure that dropped to just \$5.23 in 1995.

Customer base. A profile of 10,200 Taxibus users who registered with the service between 1993 and 2000 revealed the following characteristics:

- Sex — 68% were female, 32% were male
- Age — 5% were under 18 years old, 29% were between 18 and 24 years old, 46% were between 25 and 50 years old, and 20% were over 50 years old
- Occupation — 47% were students, 30% were employed, 9% were retired
- Mobility — 57% had a driver's license, 78% had no car

Participants

Taxibus service is provided by the Compagnie de taxis 800 inc., a cooperative of all local taxi drivers (42 drivers in 2000). The service is managed by Taxibus Corporation, a non-profit organization established by the City of Rimouski, which registers riders, takes reservations, groups requests according to geographic area and time frame, and forwards them to the taxi company, which determines how many taxis must be dispatched to serve them.

The cost of each taxi trip (as shown on the taxi's meter from first passenger pick-up to last passenger drop-off), net of any cash fares, is billed by Compagnie de taxis 800 inc. to Taxibus Corporation, which verifies the record of rides and pays the bill.

Resources

A breakdown of Taxibus funding in 2000 is given in the Results section, above. Of the \$338,000 total operating cost in that year, \$268,000 was for operations and \$70,000 was for administration by Taxibus Corporation. Taxibus Corporation shares the cost of six employees and their computers, phones and office with a separate corporation that runs the city's paratransit service.

Timeline

1993. Taxibus launched

1994. Lead time for reservations reduced from 24 hours to 1 hour

1995. Taxibus approved for ongoing funding by the Quebec Ministry of Transportation

2000. Addition of INTER-Taxibus service to east, serving formerly adjacent rural communities (now amalgamated)

2003. Extension of INTER-Taxibus service to south, serving formerly adjacent rural communities (now amalgamated)

Lessons learned

Rimouski's decision to join with its taxi industry to offer transit service was sound. The success of Taxibus has made it a model for other communities interested in offering taxi-based public transit services. It offers several important lessons, including:

- Demand-responsive services can minimize financial risk and offer efficient and affordable operations by directly tying service provision to demand. Trips are not made if no passengers await.
- The quality of service provided by a taxi-based transit service can easily exceed that of a fixed-route transit system, in terms of travel times and the ability to eliminate transfers. The lack of transfers also enhances safety for seniors and children who are travelling alone.
- Productive and mutually beneficial cooperation with private taxi operators is more than feasible.
- A demand-responsive service requires more hands-on management than a fixed-route transit system. Constant care is required to ensure that every reservation is met with service.

Challenges that were overcome in building a successful Taxibus service included:

- Identifying and setting up an appropriate legal structure to govern the service.
- Choosing the best way to pay the taxi drivers. Rimouski opted to pay the metered fares at a discount, to give drivers an incentive to accept longer trips. Other cities pay drivers a flat fee per trip, to simplify administration.

Next steps

Taxibus may not continue to grow as quickly as it has over the last decade. However, the city is expecting a slight increase in population by 2021, and the area's aging populace may become more dependent on the city's public transit and paratransit services. Past expansions and service improvements, such as the addition of child car seats that may influence a family's decision not to replace an older car, can build ridership but may take time to do so.

In the future, perhaps the most significant outcome of Taxibus will not be within Rimouski but rather in other Canadian communities. Smaller centres in Quebec have proven to be particularly interested in the Taxibus concept. Since 1999, similar services have been launched in Victoriaville (population 40,000), Charlevoix (population 17,000), Sorel-Tracy (population 35,000), Salaberry-de-Valleyfield (population 26,000) and Vaudreuil-Dorion (population 19,000). Sept-Îles (population 24,000) is slated to launch a Taxibus service late in 2004.

Even large conventional transit systems like the Société de transport de Montréal are finding the Taxibus concept useful in outlying areas where feeder bus services are not economically viable, such as between rapid transit or commuter rail stations and adjacent neighbourhoods or business parks. Other cities in Ontario and western Canada have used variations on the full-service Taxibus model, often as a supplement to fixed-route transit systems.