



# Feasibility Study – Public Transit and Sustainable Mobility

## Southeast Manitoba Region

March 2024



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# 1. Introduction



# 1.1 Context

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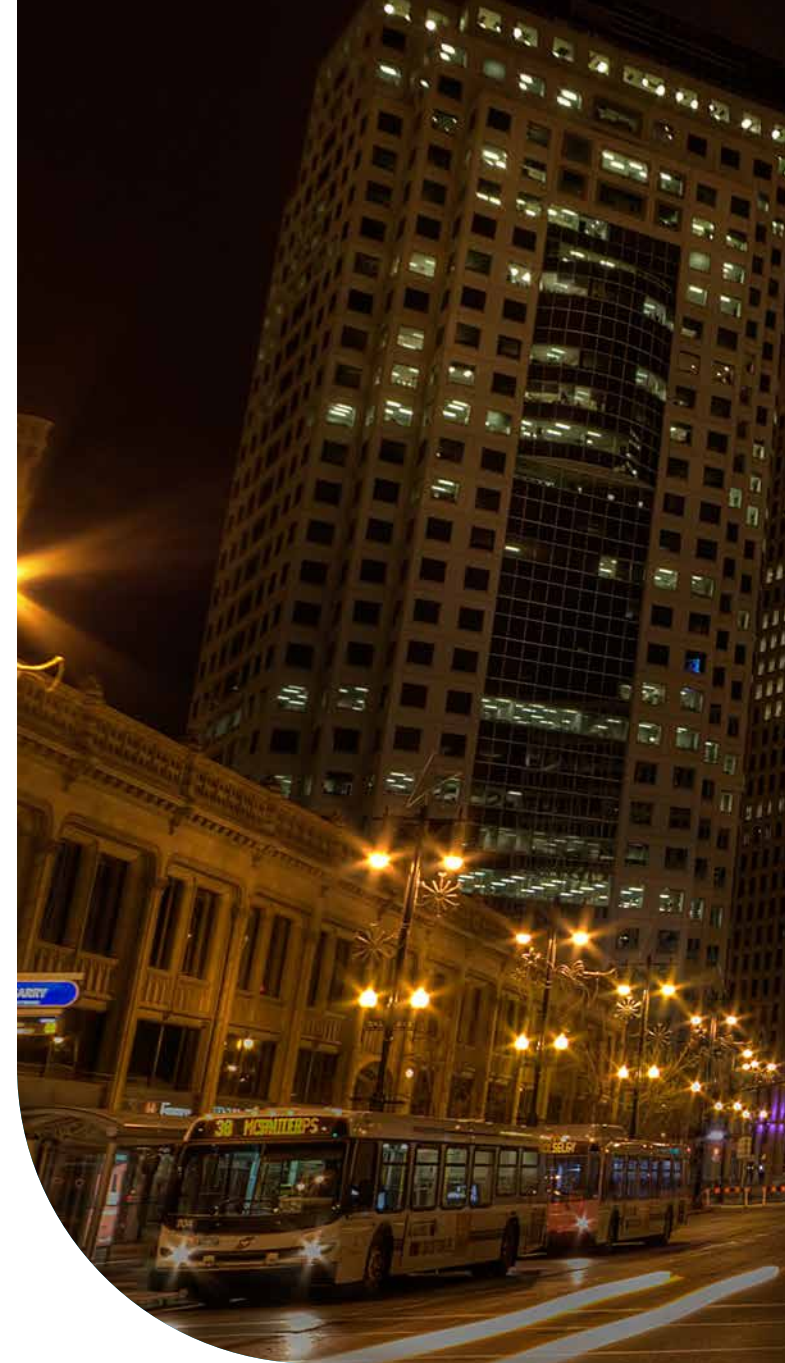
The Association des Municipalités Bilingues du Manitoba (AMBM) is the voice of bilingual municipal leadership. Acting politically and strategically, it leverages the added value that French brings to bilingualism to bolster the development, vitality and sustainability of its member municipalities and their communities.

Since its creation as a green sector of the Economic Development Council for Manitoba Bilingual Municipalities (CDEM) in 2008, Eco-West Canada's (EWC) mandate has been to promote the growth of small and medium-sized municipalities through the planning and implementation of sustainable economic development initiatives at the local and regional levels.

Eco-West Canada mandated YHC Environnement (its Mobility division) to help it carry out planning work to meet public transit development needs in rural areas.

## **This initiative stems from an opportunity offered by the Government of Canada's Rural Public Transit Solutions Fund.**

- The Rural Public Transit Solutions Fund aims to help Canadians living in rural and remote areas travel around their communities more easily and to nearby communities.
- The Rural Public Transit Solutions Fund is the first federal fund to target the development of public transit solutions in rural communities. It is making available \$250 million in federal funding over 5 years, starting in 2021, to support the development of locally driven public transit solutions that will help people living in rural communities get to work, school, appointments, etc..
- From on-demand services to public and volunteer community carpooling, the funding will help rural, remote, northern and Indigenous communities and eligible organizations across Canada develop and deliver new transit options to their residents.



# 1.2 Methodology

## 1.2.1 Review of Study Components

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**The mandate for the Transit and Sustainable Mobility Feasibility Study for Southeast Manitoba is divided into several sections:**

### Section II

First, a presentation and a description of the communities in southeastern Manitoba is presented and described in Section II to distinguish the differences and similarities between the various subregions and municipalities involved. This section provides a better understanding of public transit and sustainable mobility needs according to the characteristics of each of them.

### Section III

Section III presents YHC Environment’s analysis of the Southeast Regional Transportation Initiative (SERTi) survey. The SERTi survey was aimed at the supporting partners of the Southeast Regional Transportation Initiative as a reference document for the development of a regional transit strategy. Based on the information collected, the analyses made it possible to identify respondents’ movements and travel flows. These analyses and findings must be used to better identify the potential needs of the targeted communities.

### Section IV

This section on the analysis of public transit needs and solutions for the region represents is a pivotal first step in the realization of the feasibility study.

However, the findings set out in Section III do not make it possible to evaluate a specific demand according to public transit needs for the region and the communities concerned. A “market study” component will be conducted to survey the targeted communities with a specified service offering (type of services and pricing scenarios).

**NOTE:** The establishment and operation of public transit services can represent very significant capital costs (CAPEX) but also operating costs (OPEX). It is therefore essential to identify as precisely as possible the needs but also the services that can potentially be set up to meet the needs and expectations. Risks include experiencing “over-demand” or under-utilization of services.

### Section V

This section is a feasibility component that identifies public transit (PT) solutions of two types (conventional public transit – CPT, smart public transit – SPT) and active transportation) to meet many types of travel needs (see section 5.1). Section V discusses and defines SPT and active transportation services and provides an analysis of the comparative costs of CPT and SPT services. It also includes a subsection on service planning and integration by identifying potential HUBs for intermodal station design.

### Section VI

This section is a study of the electrification of CPT services that presents analyses on range requirements according to potential travel needs for public transit service offerings.



# 1.2 Methodology

## 1.2.2 Analytical Documents (Tabulators)

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To perform the analyses, several tabulation files were developed and used:

- i. Analysis of SERTi survey data
- ii. Analysis of travel flows
- iii. TCi and TCC economic analysis with electrification
- iv. Analysis of the Eco-West Canada's inventory of municipal fleets - Electrification component
- v. Electrification & technical analysis for the Ritchot regional project
- vi. Technical & economic analysis for the Ritchot regional project
- vii. Budget analysis for the Ritchot pilot project
- viii. Budget Analysis for the Piney - Buffalo Point Project



# 1.2 Methodology

## 1.2.3 References and documentation used

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For this feasibility study, YHC Environnement consulted an exhaustive list of studies and references.

### Section II

Statistics Canada, Community Profiles, 2016/2021 Census

### Section III

Southeast Regional Transportation Initiative (SERTi) “Igniting Connections” (Survey Results), Eco-west Canada & RM Of Piney Project Leads, 2022-2023

### Section IV

Rapport TCiT<sup>é</sup> RÉGÎM, 2023

Rapport SAUV<sup>é</sup>R Plessisville 2023

Fleet Electrification for the Town of Stonewall - Feasibility study, YHC Environnement, 2022

Projet MaaS Québec, 2023

Developing Sustainable Transit Options For Small Communities, Northern Alberta Development Council, 2014







## **2. Transportation Modes Analysis in Targeted Communities**

# Communities

The thirteen communities under consideration are all located in the south-eastern part Manitoba. They cover a vast area, mainly sparsely populated with significant needs for sustainable mobility.

**Table 2.1 - Statistics and information on targeted communities**

Communitie	Population (2021)	Population (2016)	Population variation (2021-2016)	Land Area (km <sup>2</sup> )	Density (people/(km <sup>2</sup> ))
Rural Municipality of Piney	1,843	1,726	6.78%	2,430.3	0.8
Rural Municipality of Taché	11,916	11,568	3.01%	580.6	20.5
Rural Municipality of Ritchot	7,469	6,679	11.83%	332.2	22.5
Rural Municipality of Ste-Anne	5,584	5,003	11.61%	476.8	11.7
Rural Municipality of La Broquerie	6,725	6,076	10.68%	579.0	11.6
Rural Municipality of Hanover	17,216	15,540	10.79%	730.4	23.6
Rural Municipality of Salaberry	3,918	3,580	9.44%	667.6	5.9
City of Steinbach	17,806	16,022	11.13%	37.7	474.1
Rural Municipality of Stuartburn	1,731	1,648	5.04%	1,161.5	1.5
Rural Municipality of Reynolds	1,344	1,338	0.45%	3,559.7	0.4
Town of Ste. Anne	2,891	2,114	36.75%	4.1	698.3
Village of St-Pierre-Jolys	1,305	1,170	11.54%	2.6	500.0
Buffalo Point First Nation	219	168	30.36%	16.6	13.2
<b>Total</b>	<b>79,967</b>	<b>72,632</b>	<b>10.10%</b>	<b>10,579.0</b>	<b>7.7</b>

Statistics Canada: 2016 and 2021 Census of Population



# Transportation statistics

As shown in the table below, the communities under consideration are very car dependent. They would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since most of the workers are located less than 30 minutes from their place of workplace.

**Table 2.2 - Statistics and data on major modes of transportation for targeted communities**

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>32,205</b>	<b>100.0%</b>
Car, truck or van	30,165	93.7%
Car, truck or van - as a driver	28,055	87.1%
Car, truck or van - as a passenger	2,130	6.6%
Public transit	70	0.2%
Walking	1,025	3.2%
Bicycle	235	0.7%
Other	670	2.1%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>32,205</b>	<b>100.0%</b>
Less than 15 minutes	11,070	34.4%
15 to 29 minutes	9,015	28.0%
30 to 44 minutes	6,080	18.9%
45 to 59 minutes	3,165	9.8%
60 minutes and over	2,905	9.0%

Statistics Canada: 2021 Census

**NOTES:**

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.





# Rural Municipality of Piney



The Rural Municipality of Piney is located in southeastern Manitoba and bordering the state of Minnesota.

According to the latest census from Statistics Canada, the Rural Municipality of Piney has a population of 1,843. It is experiencing a population growth of 6.8% compared to 2016 when there were 1,726 people.

Of Piney's 1,172 private dwellings, 804 are occupied by 800 households that make up its community. Nearly 88% of the dwellings are single detached houses. With a land area of 2,430.3 km<sup>2</sup> (938.4 sq mi), its population density is 0.8/km<sup>2</sup> (2.0/sq mi) and that of housing is 0.33/km<sup>2</sup> (1,2/sq mi).

The average household size in 2021 was 2.2, while the average family size is 2.7 people. The average age of the inhabitants is 45.9 and the median age 50.4 years. People over 65 of age represent 25.5% of the population, while those under 15 years make up 15.5% of the population. Anglophones make up 91.6% of the population, Francophones 7.6%, while 0.3 % of the population speak both official languages and 0.5% neither.

In 2020, the median after-tax household income was \$50,800 and the median after-tax family income was \$65,500.



COMMUNITIES		
Badger	Piney	Sprague
Carrick	St. Labre	Vassar
Menisino	Sandilands	Wampum
Middlebro	South Junction	Woodridge



# Rural Municipality of Piney

## Transportation statistics



As can be seen in the table below, Piney is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since more than half of the workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a usual place of work or no fixed workplace address - 25% sample data (2021)</b>		
	560	100.0 %
Car, truck or van	505	90.2 %
Car, truck or van - as a driver	460	82.1 %
Car, truck or van - as a passenger	50	8.9 %
Public transit	0	0.0 %
Walking	30	5.4 %
Bicycle	0	0.0 %
Other	15	2.7 %
<b>Commuting time for the employed labour force aged 15 years and over with a usual place of work or no fixed workplace address - 25% sample data (2021)</b>		
	560	100.0 %
Less than 15 minutes	160	28.6 %
15 to 29 minutes	155	27.7 %
30 to 44 minutes	95	17.0 %
45 to 59 minutes	90	16.1 %
60 minutes and over	60	10.7 %

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.





# Rural Municipality of Taché

The Rural Municipicity of Taché extends over a territory located immediately to the southeast of Winnipeg and bordering the north side of the Rural Municipality of Ste. Anne.

According to the latest census from Statistics Canada, the Rural Municipality of Taché has a population of 11,916. It is experiencing a modest population growth of 3,1% compared to 2016 when there were 11,568 people.

Of it's 4,447 private dwellings, 3,999 are occupied by 4,000 households that make up its community. Nearly 87% of the dwellings are single detached houses. With a land area of 580.6 km<sup>2</sup> (224.2 sq mi), its population density is 20.5/km<sup>2</sup> (53.2/sq mi) and that of housing is 7.1/km<sup>2</sup> (18.4/sq mi).

The average household size in 2021 was 3.0, while the average family size is 3.2 people. The average age in Taché is 35.8 and the median age 35.6 years. People over 65 of age represent 10.8% of the population, while those under 15 years make up 23.6% of the population. Anglophones make up 87.5% of the population, Francophones 11.5%, while 0.5% of the population speak both official languages and 0.5% neither.

In 2020, the median after-tax household income was \$90,000 and the median after-tax family income was \$98,000.



## COMMUNITIES

Dufresne

Rosewood

Landmark

Ross

Linden

Ste-Geneviève

Lorette





# Rural Municipality of Taché

## Transportation statistics



As can be seen in the table below, Taché is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since more almost half of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>5,085</b>	<b>100.0 %</b>
Car, truck or van	4,865	95.7%
Car, truck or van - as a driver	4,650	91.4%
Car, truck or van - as a passenger	220	4.3%
Public transit	10	0.2%
Walked	100	2.0%
Bicycle	15	0.3%
Other	100	2.0%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>5,085</b>	<b>100.0 %</b>
Less than 15 minutes	850	16.7%
15 to 29 minutes	1,405	27.6%
30 to 44 minutes	1,795	35.3%
45 to 59 minutes	725	14.3%
60 minutes and over	320	6.3%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.



# Rural Municipality of Ritchot

Ritchot is a rural municipality in the Winnipeg Metropolitan Region. Located south of Winnipeg.

According to the latest Canadian census from Statistics Canada, the Rural Municipality of Ritchot has a population of 7,469. It is experiencing a population growth of 11.8% compared to 2016 when there were 6,697 people.

Of its 2,769 private dwellings, nearly 78% are single detached houses. With a land area of 332.2 km<sup>2</sup> (128.3 sq mi), its population density is 22.5/km<sup>2</sup> (58.2/sq mi) and that of housing is 8.3/km<sup>2</sup> (21.6/sq mi).

The average household size in 2021 was 2.8 people, while the average family size is 3.0 people. The average age in Ritchot is 37.8 and the median age 38.0 years. People over 65 of age represent 12.6% of the population, while those under 15 years make up 20.8% of the population. Anglophones make up 81.1% of the population, Francophones 18.0%, while 0.7% of the population speaks both official languages and 0.2% neither.

In 2020, the median after-tax household income was \$91,000 and the median after-tax family income was \$99,000.



## COMMUNITIES

- |                |                   |
|----------------|-------------------|
| Glenlea        | Ste. Adolphe      |
| Grande Pointe  | Ste. Agathe       |
| Howden         | St. Germain south |
| Île-des-Chênes |                   |

# Rural Municipality of Ritchot

## Transportation statistics



As can be seen in the table below, Ritchot is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since more than half of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>3,130</b>	<b>100.0%</b>
Car, truck or van	2,990	95.5%
Car, truck or van - as a driver	2,870	91.7%
Car, truck or van - as a passenger	120	3.8%
Public transit	10	0.3%
Walking	70	2.2%
Bicycle	0	0.0%
Other	65	2.1%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>3,130</b>	<b>100.0%</b>
Less than 15 minutes	555	17.7%
15 to 29 minutes	1,090	34.8%
30 to 44 minutes	1,075	34.3%
45 to 59 minutes	280	8.9%
60 minutes and over	135	4.3%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.





# Rural Municipality of Ste. Anne



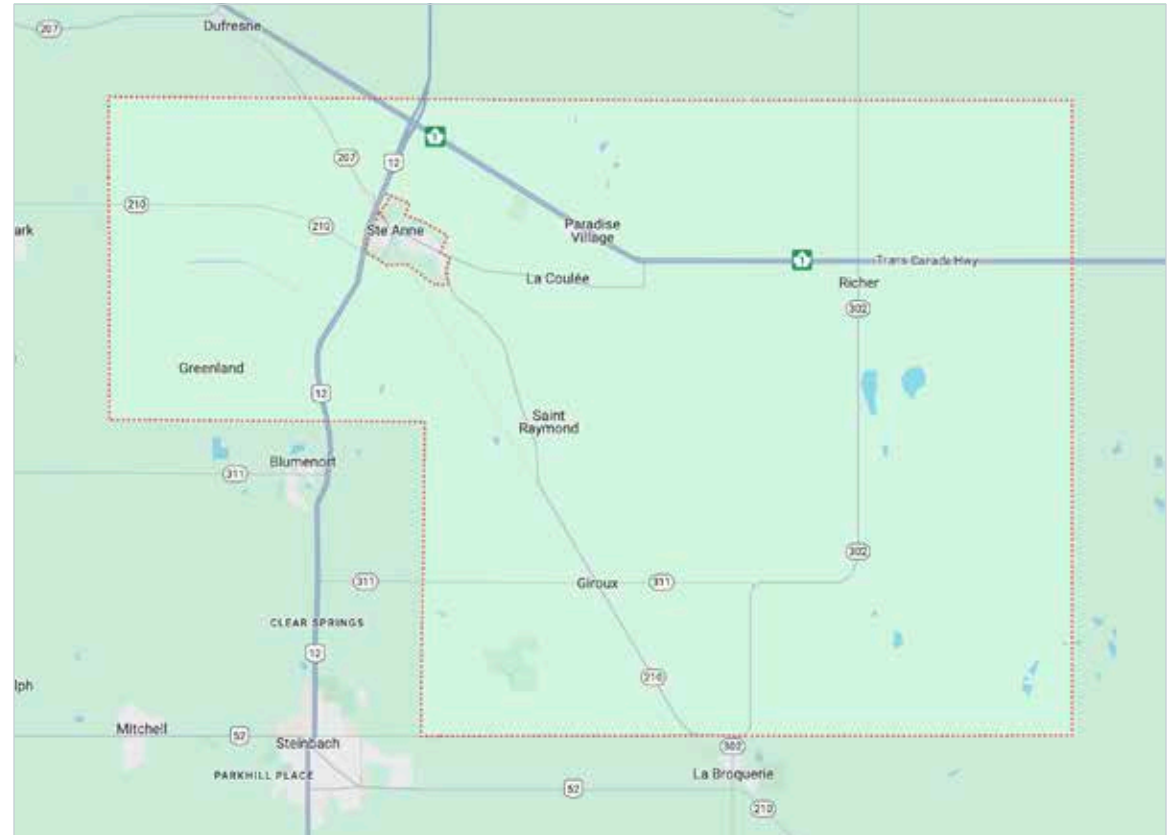
Ste-Anne is a rural municipality in the Eastman region of Manitoba, located southeast of Winnipeg. It surrounds the separately administered Town of Ste-Anne.

According to the latest Canadian census from Statistics Canada, the Rural Municipality of Ste. Anne has a population of 5,584. It is experiencing a population growth of 11.6% compared to 2016 when there were 5,003 people.

Of Ste. Anne’s 2,092 private dwellings, nearly 84% are single detached houses. With a land area of 476.8 km<sup>2</sup> (184.1 sq mi), its population density is 11.7/km<sup>2</sup> (30.3/sq mi) and that of housing is 4.4/km<sup>2</sup> (11.4/sq mi).

The average household size in 2021 was 2.8 people, while the average family size is 3.1 people. The average age in Ste. Anne is 38.5 and the median age 38.0 years. People over 65 of age represent 16.6% of the population, while those under 15 years make up 23.1% of the population. Anglophones make up 88.0% of the population, Francophones 13.2%, while 0.5% of the population speak both official languages and 1.3% neither.

In 2020, the median after-tax household income was \$75,500 and the median after-tax family income was \$82,000.



## COMMUNITIES

Giroux

Richer

Greenland

St. Raymond

La Coulée



# Rural Municipality of Ste. Anne

## Transportation statistics



As can be seen in the table below, Ste. Anne is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since almost half of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>2,095</b>	<b>100.0%</b>
Car, truck or van	2,030	96.9%
Car, truck or van - as a driver	1,875	89.5%
Car, truck or van - as a passenger	150	7.2%
Public transit	0	0.0%
Walking	0	0.0%
Bicycle	10	0.5%
Other	50	2.4%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>2,095</b>	<b>100.0%</b>
Less than 15 minutes	525	25.1%
15 to 29 minutes	510	24.3%
30 to 44 minutes	410	19.6%
45 to 59 minutes	375	17.9%
60 minutes and over	265	12.6%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.



# Rural Municipality of La Broquerie



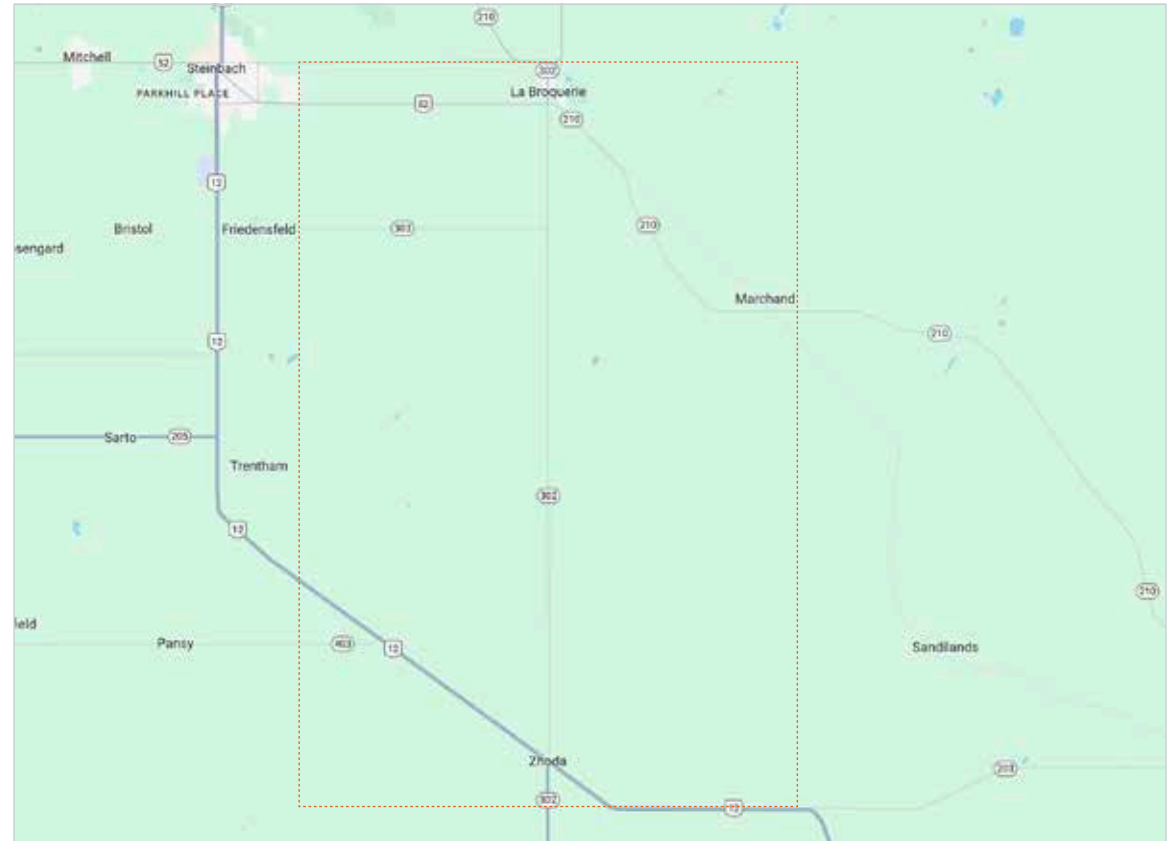
La Broquerie is a rural municipality in the Eastman region of Manitoba, located about ten kilometers from the town of Steinbach.

According to the latest Canadian census from Statistics Canada, the Rural Municipicity of La Broquerie has a population of 6,725. It is experiencing a population growth of 10.7% compared to 2016 when there were 6,076 people.

Of La Broquerie's 2,177 private dwellings, nearly 84% are single detached houses. With a land area of 459.0 km<sup>2</sup> (223.5 sq mi), its population density is 11.6/km<sup>2</sup> (30.1/sq mi) and that of housing is 3.8/km<sup>2</sup> (9.7/sq mi).

The average household size in 2021 was 3.3 people, while the average family size was 3.6 people. The average age in La Broquerie is 31.3 and the median age 28.6 years. People over 65 of age represent 7.4% of the population, while those under 15 years make up 30.1% of the population. Anglophones make up 84.2% of the population, Francophones 11.2%, while 0.6% of the population speak both official languages and 4.0% neither.

In 2020, the median after-tax household income was \$73,000 and the median after-tax family income was \$79,500.



## COMMUNITIES

- La Broquerie
- Marchand
- Zhoda (partial)



# Rural Municipality of La Broquerie

## Transportation statistics



As can be seen in the table below, La Broquerie is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since more than half of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>2,715</b>	<b>100.0%</b>
Car, truck or van	2,595	95.6%
Car, truck or van - as a driver	2,400	88.4%
Car, truck or van - as a passenger	190	7.0%
Public transit	15	0.6%
Walking	55	2.0%
Bicycle	15	0.6%
Other	40	1.5%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>2,715</b>	<b>100.0%</b>
Less than 15 minutes	720	26.5%
15 to 29 minutes	1,035	38.1%
30 to 44 minutes	385	14.2%
45 to 59 minutes	170	6.3%
60 minutes and over	415	15.3%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.





# Rural Municipality of Hanover



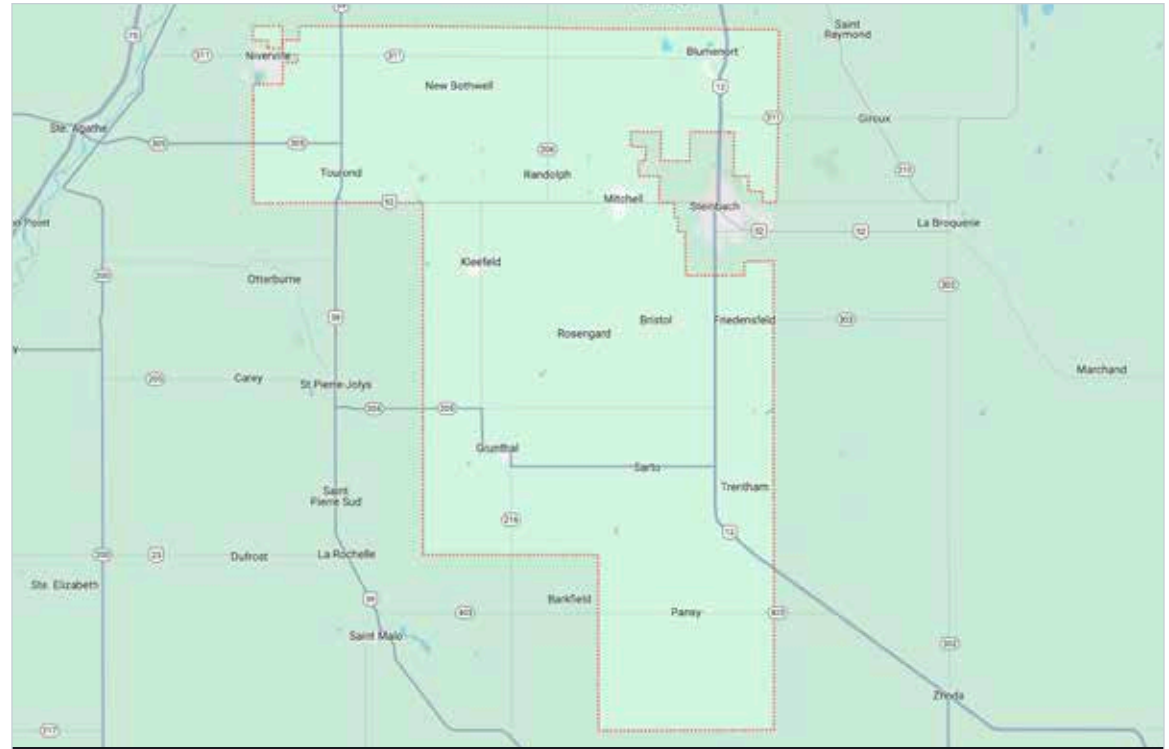
The Rural Municipality of Hanover is a rural municipality located southeast of Winnipeg. It is Manitoba's most populous rural municipality.

According to the latest Canadian census from Statistics Canada, the Rural Municipality of Hanover has a population of 17,216. It is experiencing a population growth of 10.8% compared to 2016 when there were 15,540 people.

Of Hanover's 5,305 private dwellings, 5,141 are occupied by 5,140 households that make up its community. Nearly 84% of the dwellings are single detached houses. With a land area of 730.4 km<sup>2</sup> (282.0 sq mi), its population density is 23.6/km<sup>2</sup> (61.0/sq mi) and that of housing is 7.3/km<sup>2</sup> (18.8/sq mi).

The average household size was 2021 is 3.3 people, while the average family size was 3.6 people. The average age in Hanover is 32.0 and the median age 28.8 years. People over 65 of age represent 8.7% of the population, while those under 15 years make up 29.1% of the population. Anglophones make up 96.0% of the population, Francophones 1.5%, while 0.2% of the population speak both official languages and 2.3% neither.

In 2020, the median after-tax household income was \$76,500 and the median after-tax family income was \$82,000.



## COMMUNITIES

Blumenort	Barkfield	Randolph
Grunthal	Bristol	Sarto
Kleefeld	Friedensfeld	Tourond
Mitchell	Hochstadt	
New Bothwell	Pansy	



# Rural Municipality of Hanover

## Transportation statistics



As can be seen in the table below, Hanover is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since the vast majority of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>6,935</b>	<b>100.0%</b>
Car, truck or van	6,505	93.8%
Car, truck or van - as a driver	6,060	87.4%
Car, truck or van - as a passenger	440	6.3%
Public transit	20	0.3%
Walking	205	3.0%
Bicycle	35	0.5%
Other	165	2.4%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>6,935</b>	<b>100.0%</b>
Less than 15 minutes	2,665	38.4%
15 to 29 minutes	2,260	32.6%
30 to 44 minutes	810	11.7%
45 to 59 minutes	585	8.4%
60 minutes and over	615	8.9%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.



# Rural Municipality of De Salaberry



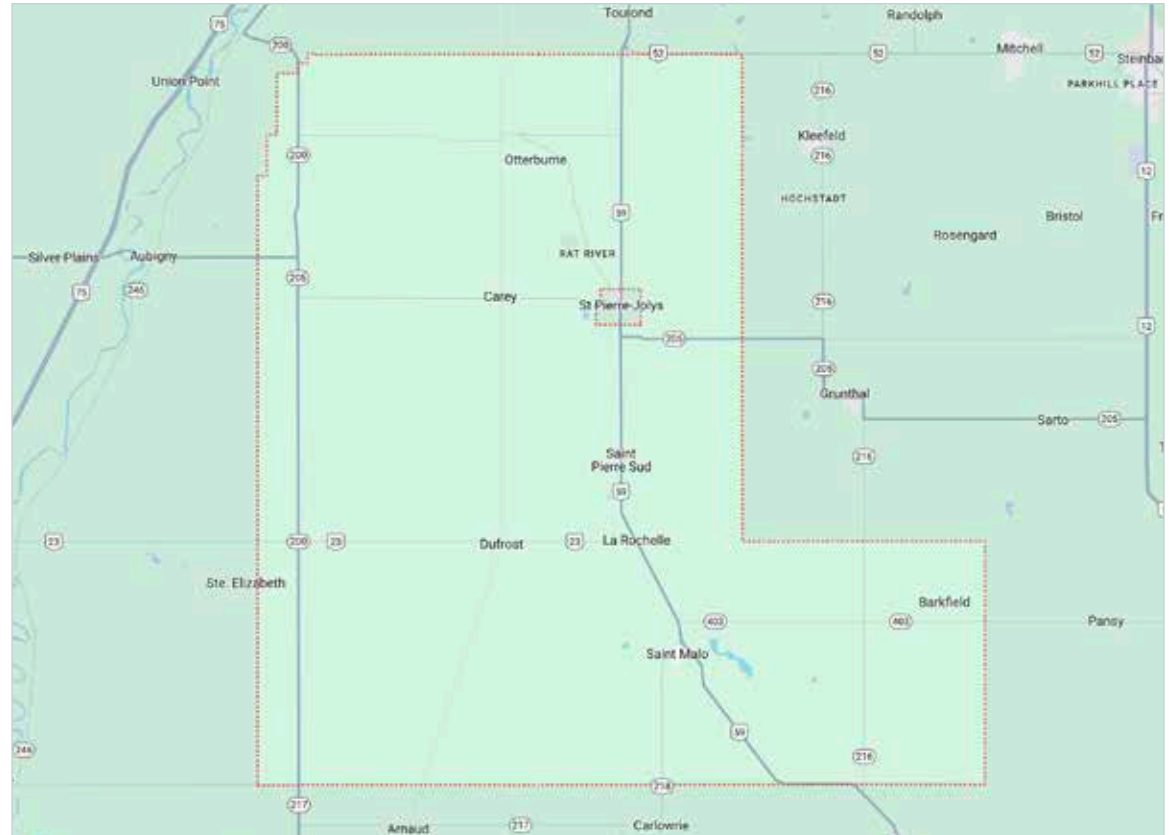
De Salaberry is a rural municipality located approximately 50 km south of Winnipeg, in the Red River Valley. It surrounds the Village of St-Pierre-Jolys.

According to the latest Canadian census from Statistics Canada, the Rural Municipality of De Salaberry has a population of 3,918. It is experiencing a population growth of 9.4% compared to 2016 when there were 3,580 people.

Of De Salaberry's 1,191 private dwellings, nearly 93% are single detached houses. With a land area of 667.6 km<sup>2</sup> (257.8 sq mi), its population density is 5.9/km<sup>2</sup> (15.2/sq mi) and that of housing is 1.9/km<sup>2</sup> (5.0/sq mi).

The average household size in 2021 was 2.8 people, while the average family size is 3.0 people. The average age in De Salaberry is 38.1 and the median age 36.8 years. People over 65 of age represent 15.2% of the population, while those under 15 years make up 22.4% of the population. Anglophones make up 70.8% of the population, Francophones 27.3%, while 1.2% of the population speak both official languages and 0.7% neither.

In 2020, the median after-tax household income was \$74,000 and the median after-tax family income was \$80,000.



## COMMUNITIES

Carey

Dufrost

La Rochelle

Otterburne

St. Malo



# Rural Municipality of De Salaberry

## Transportation statistics



As can be seen in the table below, De Salaberry is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since more than half of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>1,420</b>	<b>100.0%</b>
Car, truck or van	1,325	93.3%
Car, truck or van - as a driver	1,250	88.0%
Car, truck or van - as a passenger	80	5.6%
Public transit	0	0.0%
Walking	60	4.2%
Bicycle	10	0.7%
Other	30	2.1%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>1,420</b>	<b>100.0%</b>
Less than 15 minutes	460	32.4%
15 to 29 minutes	290	20.4%
30 to 44 minutes	320	22.5%
45 to 59 minutes	150	10.6%
60 minutes and over	200	14.1%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.







# City of Steinbach

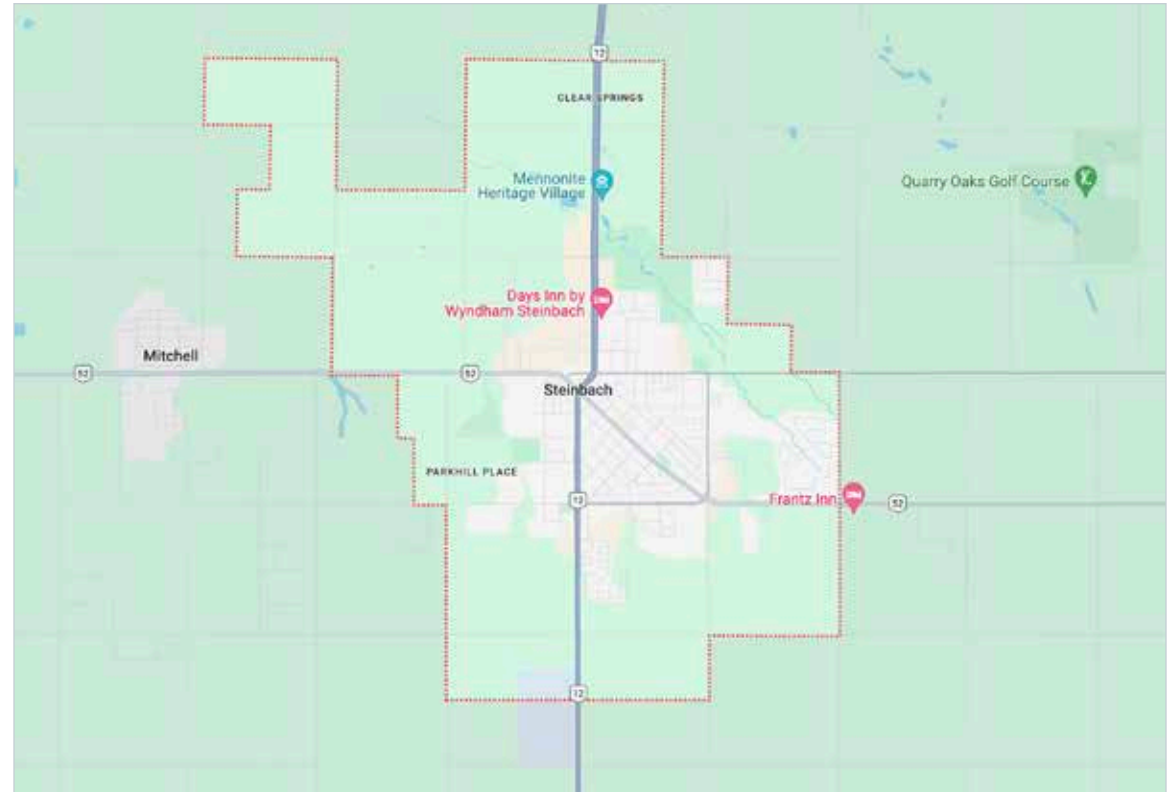
Steinbach is a city located about 60 km of Winnipeg. It is the third largest city in the province. It is bordered by the rural municipalities of Hanover and La Broquerie.

According to the latest Canadian census from Statistics Canada, the City of Steinbach has a population of 17,806. It is experiencing a population growth of 11,1% compared to 2016 when there were 16,022 people.

Of Steinbach's 7,092 private dwellings, nearly 55% of the dwellings are single detached houses. With a land area of 37.6 km<sup>2</sup> (14.5 sq mi), its population density is 474.1/km<sup>2</sup> (1,227.8/sq mi) and that of housing is 188.8/km<sup>2</sup> (489.0/sq mi).

The average household size in 2021 was 2.6 people, while the average family size was 3.0 people. The average age in Steinbach is 38.2 and the median age 36.0 years. People over 65 of age represent 17.2% of the population, while those under 15 years make up 21.3% of the population. Anglophones make up 97.1% of the population, Francophones 1.7%, while 0.2% of the population speak both official languages and 1.0% neither.

In 2020, the median after-tax household income was \$64,000 and the median after-tax family income was \$75,500.





As can be seen in the table below, Steinbach is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since the vast majority of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>7,620</b>	<b>100.0%</b>
Car, truck or van	6,910	90.7%
Car, truck or van - as a driver	6,210	81.5%
Car, truck or van - as a passenger	705	9.3%
Public transit	15	0.2%
Walking	390	5.1%
Bicycle	150	2.0%
Other	150	2.0%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>7,620</b>	<b>100.0%</b>
Less than 15 minutes	4,430	58.1%
15 to 29 minutes	1,690	22.2%
30 to 44 minutes	520	6.8%
45 to 59 minutes	415	5.4%
60 minutes and over	570	7.5%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.



# Rural Municipality of Stuartburn



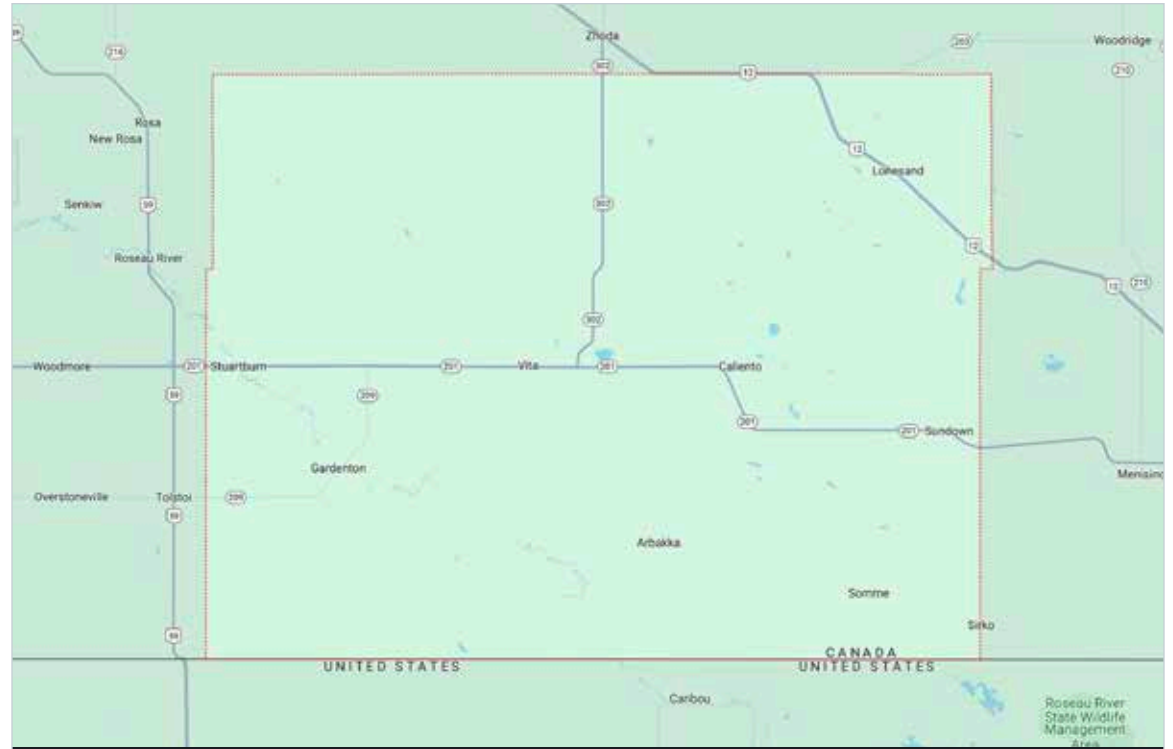
The Rural Municipality of Stuartburn is located in southeastern Manitoba east of Piney and borders the state of Minnesota.

According to the latest Canadian census from Statistics Canada, the Rural Municipality of Stuartburn has a population of 1,731. It is experiencing a population growth of 5.0% compared to 2016 when there were 1,648 people.

Of Stuartburn's 776 private dwellings, nearly 94% are single detached houses. With a land area of 1,161.5 km<sup>2</sup> (448.4 sq mi), its population density is 1.5/km<sup>2</sup> (3.9/sq mi) and that of housing is 0.7/km<sup>2</sup> (1.7/sq mi).

The average household size in 2021 was 2.7 people, while the average family size was 3.1 people. The average age in Stuartburn is 41.7 and the median age 42.4 years. People over 65 of age represent 20.5% of the population, as do those under 15 years. Anglophones make up 97.0% of the population, Francophones 2.2%, while 0.3% of the population speak both official languages and 0.5% neither.

In 2020, the median after-tax household income was \$53,200 and the median after-tax family income was \$65,000.



## COMMUNITIES

- |           |                 |
|-----------|-----------------|
| Arbakka   | Stuartburn      |
| Caliento  | Sundown         |
| Gardenton | Vita            |
| Rofton    | Zhoda (partial) |
| Sirko     |                 |



# Rural Municipality of Stuartburn

## Transportation statistics



As can be seen in the table below, Stuartburn is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since almost half of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>560</b>	<b>100.0%</b>
Car, truck or van	505	90.2%
Car, truck or van - as a driver	455	81.3%
Car, truck or van - as a passenger	50	8.9%
Public transit	0	0.0%
Walking	20	3.6%
Bicycle	0	0.0%
Other	35	6.3%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>560</b>	<b>100.0%</b>
Less than 15 minutes	160	28.6%
15 to 29 minutes	90	16.1%
30 to 44 minutes	155	27.7%
45 to 59 minutes	60	10.7%
60 minutes and over	95	17.0%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.





# Rural Municipality of Reynolds



Reynolds is a rural municipality in southeastern Manitoba. It is, by area, the largest rural municipality in the province.

According to the latest Canadian census from Statistics Canada, the Rural Municipality of Reynolds has a population of 1,344. Its population has remained stable compared to 2016 with a 0.5 % growth.

Of Reynolds' 910 private dwellings, nearly 91% are single detached houses. With a land area of 3,559.7 km<sup>2</sup> (1,374.4 sq mi), its population density is 0.4/km<sup>2</sup> (1.0/sq mi) and that of housing is 0.3/km<sup>2</sup> (0.7/sq mi).

The average household size in 2021 was 2.3 people, while the average family size was 2.7 people. The average age in Reynolds is 44.3 and the median age 48.4 years. People over 65 of age represent 22.3% of the population, while those under 15 years make up 17.1% of the population. Anglophones make up 95.9% of the population, Francophones 3.7%, while 0.4% of the population speak neither of official languages.

In 2020, the median after-tax household income was \$60,800 and the median after-tax family income was \$73,000.



## COMMUNITIES

Culver	Indigo	Prawda
East Braintree	Larkhall	Rennie
Hadashville	McMunn	Ste.Rita
Hazel	Medika	Spruce Siding
Hocter	Molson	



# Rural Municipality of Reynolds

## Transportation statistics



As can be seen in the table below, Reynolds is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since almost one third of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>580</b>	<b>100.0%</b>
Car, truck or van	560	96.6%
Car, truck or van - as a driver	520	89.7%
Car, truck or van - as a passenger	45	7.8%
Public transit	0	0.0%
Walking	0	0.0%
Bicycle	0	0.0%
Other	0	0.0%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>580</b>	<b>100.0%</b>
Less than 15 minutes	85	14.7%
15 to 29 minutes	110	19.0%
30 to 44 minutes	190	32.8%
45 to 59 minutes	95	16.4%
60 minutes and over	105	18.1%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.



# Town of Ste. Anne

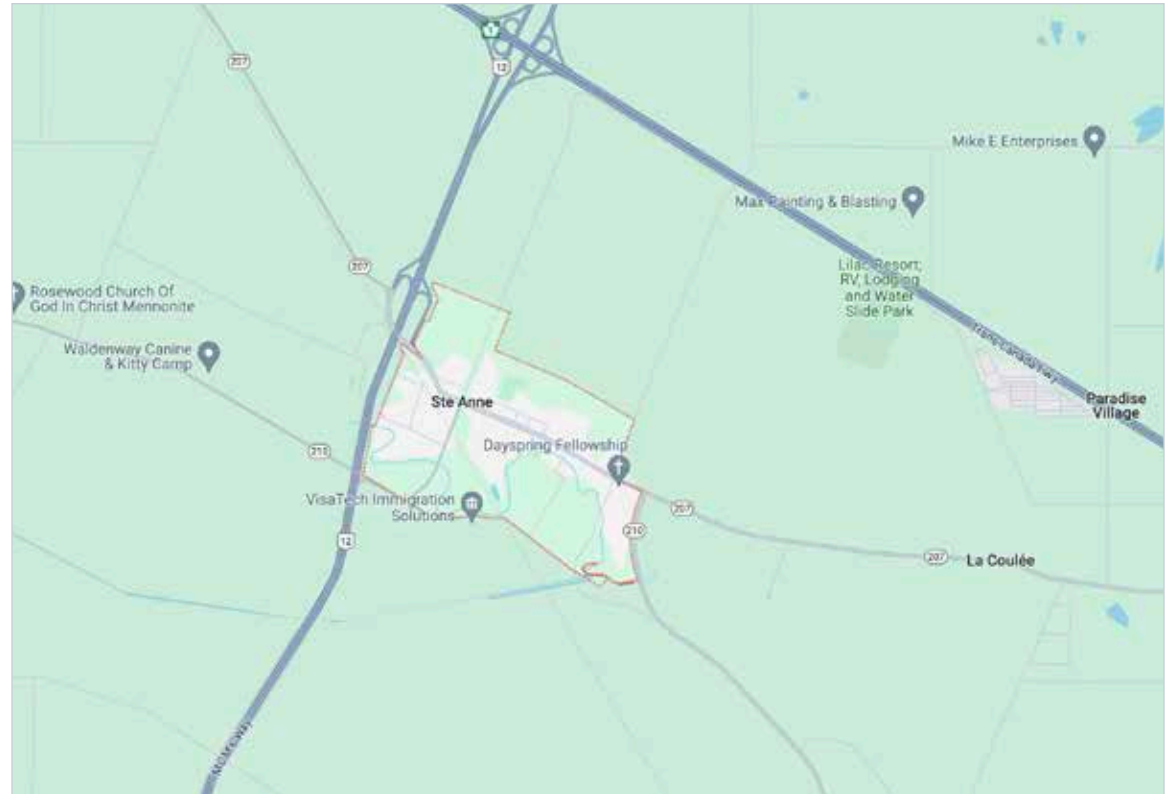
The Town of Ste. Anne, or Sainte-Anne-des-Chênes, is located about 40 km southeast of Winnipeg. It is surrounded by the Rural Municipality of Ste. Anne.

According to the latest Canadian census from Statistics Canada, the Town of Sainte-Anne has a population of 2,891. It is experiencing a strong population growth of 36,8% compared to 2016 when there were 2,114 people.

Of Saint-Anne's 1,204 private dwellings, early 52% are single detached houses. With a land area of 4.1 km<sup>2</sup> (1.6 sq mi), its population density is 698.3/km<sup>2</sup> (1,808.6/sq mi) and that of housing is 290.1/km<sup>2</sup> (735.2/sq mi).

The average household size in 2021 was 2.4 people, while the average family size was 2.9 people. The average age in Saint-Anne is 38.9 and the median age 34.8 years. People over 65 of age represent 19.2% of the population, while those under 15 years make up 22.3% of the population. Anglophones make up 77.9% of the population, Francophones 20.6%, while 0.8% of the population speak both official languages and 0.7% neither.

In 2020, the median after-tax household income was \$63,200 and the median after-tax family income was \$81,000.



# Town of Ste. Anne

## Transportation statistics



As can be seen in the table below, Ste. Anne is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since more than half of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>1,050</b>	<b>100.0%</b>
Car, truck or van	990	94.3%
Car, truck or van - as a driver	945	90.0%
Car, truck or van - as a passenger	50	4.8%
Public transit	0	0.0%
Walking	35	3.3%
Bicycle	0	0.0%
Other	20	1.9%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>1,050</b>	<b>100.0%</b>
Less than 15 minutes	270	25.7%
15 to 29 minutes	280	26.7%
30 to 44 minutes	260	24.8%
45 to 59 minutes	170	16.2%
60 minutes and over	80	7.6%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.





# Village of St-Pierre-Jolys

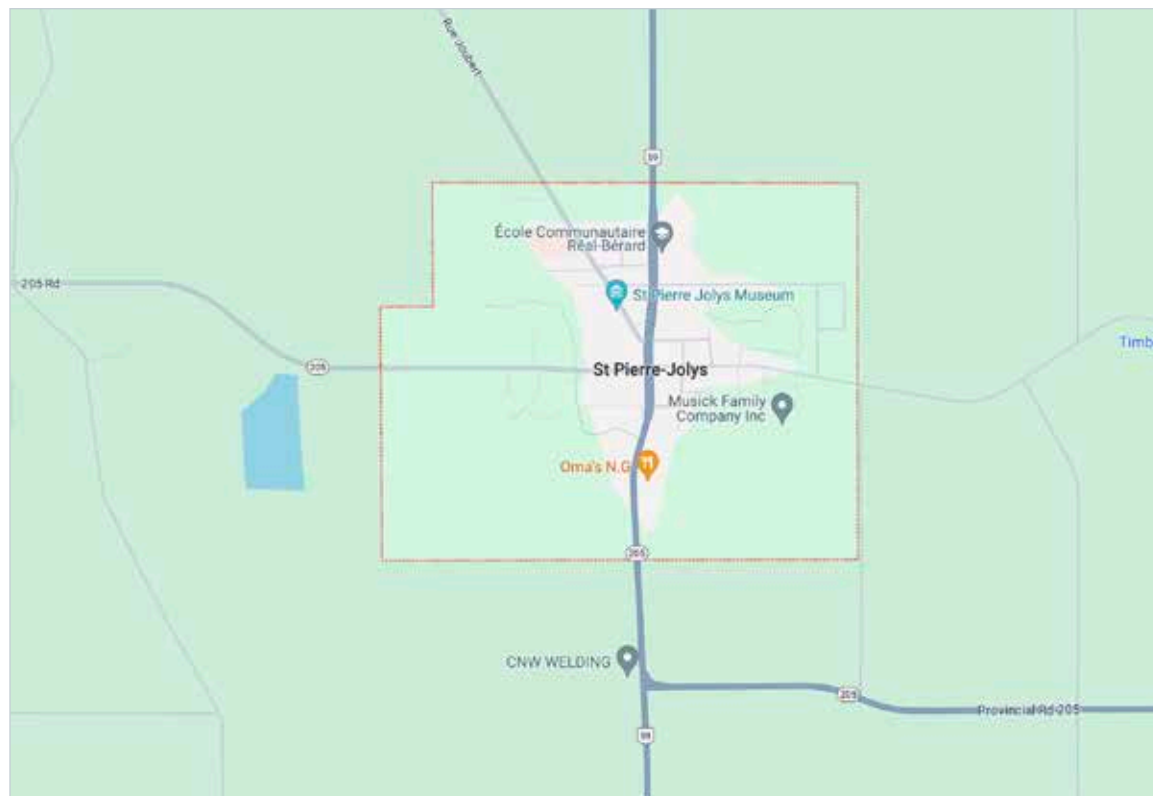
St-Pierre-Jolys is located 50 km southeast of Winnipeg. It is surrounded by the Rural Municipality of De Salaberry.

According to the latest Canadian census from Statistics Canada, the Village of St-Pierre-Jolys has a population of 1,305. It is experiencing a population growth of 11,5% compared to 2016 when there were 1,170 people.

Of St-Pierre-Jolys' 518 private dwellings, nearly 70% are single detached houses. With a land area of 2.6 km<sup>2</sup> (1.0 sq mi), its population density is 500.0/km<sup>2</sup> (1,295.0/sq mi) and that of housing is 198.5/km<sup>2</sup> (514.0/sq mi).

The average household size was in 2021 was 2.5 people, while the average family size was 3.0 people. The average age in St-Pierre-Jolys is 38.9 and the median age 36.4 years. People over 65 of age represent 19.9% of the population, while those under 15 years make up 24.1% of the population. Anglophones make up 57.6% of the population, Francophones 40.0%, while 2.4% of the population speak both official languages.

In 2020, the median after-tax household income was \$66,500 and the median after-tax family income was \$79,500.



# Village of St-Pierre-Jolys

## Transportation statistics



As can be seen in the table below, St-Pierre-Jolys is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since the majority of workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>395</b>	<b>100.0%</b>
Car, truck or van	330	83.5%
Car, truck or van - as a driver	315	79.7%
Car, truck or van - as a passenger	20	5.1%
Public transit	0	0.0%
Walked	60	15.2%
Bicycle	0	0.0%
Other	0	0.0%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>395</b>	<b>100.0%</b>
Less than 15 minutes	150	38.0%
15 to 29 minutes	85	21.5%
30 to 44 minutes	65	16.5%
45 to 59 minutes	50	12.7%
60 minutes and over	45	11.4%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.





# Buffalo Point First Nation

Buffalo Point First Nation is located in the southeast corner of Manitoba along the shores of Lake of the Woods. It shares a border with the Rural Municipality of Piney and the State of Minnesota.

According to the latest Canadian census from Statistics Canada, the Rural Municipality of Buffalo Point First Nation has a population of 219. It is experiencing a strong population growth of 30.4% compared to 2016 when there were 168 people.

Of Buffalo Point's 292 private dwellings, almost all are single detached houses. With a land area of 16.6 km<sup>2</sup> (6.4 sq mi), its population density is 13.2/km<sup>2</sup> (34.2/sq mi) and that of housing is 17.6/km<sup>2</sup> (45.6/sq mi).

The average household size in 2021 was 2.1 people, while the average family size is 2.3 people. The average age in Buffalo Point is 54.2 and the median age 62.4 years. People over 65 of age represent 38.6% of the population, while those under 15 years make up only 9.1% of the population. The community is predominantly English-speaking.

In 2020, the median after-tax household income was \$65,500 and the median after-tax family income was \$75,900.



## RESERVES / SETTLEMENTS / VILLAGES

Buffalo Point 36 (Ojibwe: Neyaashiing)

Buffalo Point First Nation Indian Reserve 1

Buffalo Point First Nation Indian Reserve 2

Buffalo Point First Nation Indian Reserve 3

Agency 30



# Buffalo Point First Nation

## Transportation statistics



As can be seen in the table below, Buffalo Point is a highly car dependent community. The community would greatly benefit from the diversification of transportation services, such as public transit or car sharing, especially since almost all workers are located less than 30 minutes from their place of work.

<b>Main mode of commuting for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>60</b>	<b>100.0%</b>
Car, truck or van	55	91.7%
Car, truck or van - as a driver	45	75.0%
Car, truck or van - as a passenger	10	16.7%
Public transit	0	0.0%
Walked	0	0.0%
Bicycle	0	0.0%
Other	0	0.0%
<b>Commuting time for the employed labour force aged 15 years and over with a fixed place of work or no fixed workplace address - 25% sample data (2021)</b>		
	<b>60</b>	<b>100.0%</b>
Less than 15 minutes	40	66.7%
15 to 29 minutes	15	25.0%
30 to 44 minutes	0	0.0%
45 to 59 minutes	0	0.0%
60 minutes and over	0	0.0%

### NOTES:

Main mode of commuting refers to the main mode of transportation a person uses to travel to their place of work. The census assumes that the commute to work originates from the usual place of residence, but this may not always be the case. Sometimes, respondents may be on a business trip and may have reported their place of work or main mode of commuting based on where they were working during the trip. Some persons maintain a residence close to work and commute to their home on weekends. Students often work after school at a location near their school. As a result, the data may show unusual commutes or unusual main modes of commuting.





### **3. SERTi Survey Results Analysis**



# 3.1 Summary of results

Eco-West Canada and the Rural Municipality of Piney, in partnership with other municipalities and associations, conducted a survey (Southeast Regional Transit Initiative - SERTi) on the travels of community residents between December 2022 and February 2023.

The partner municipalities are the RMs of Hanover, De Salaberry, La Broquerie, Piney, Reynolds, Ritchot, Stuartburn, Ste-Anne, Taché,

Town of Ste-Anne, Village of St-Pierre-Jolys, Buffalo Point First Nation, and also The Steinbach Economic Development (SED) Corporation.

The purpose of the SERTi survey was to gauge public interest in transportation options as well as the reason, destination and frequency of their travels.

**Table 3.1 - Distribution of vehicle owner respondents by municipality and satisfaction with their mode of transportation**

	Own Vehicle	Friend or Family	Vehicle for Free	Handivan	Taxi	Other	Unsatisfied	Satisfied	No Answer	% Unsatisfied	% Satisfied	% No Answer
	803	120	11	3	9	17	268	520	15	33.4%	64.8%	1.9%
De Salaberry	57	11	1	0	1	2	21	35	1	36.8%	61.4%	1.8%
Hanover	26	2	0	0	0	0	13	12	1	50.0%	46.2%	3.8%
La Broquerie	91	13	1	0	2	1	22	69	0	24.2%	75.8%	0.0%
Piney	56	9	4	0	0	1	15	38	3	26.8%	67.9%	5.4%
Reynolds	46	7	3	1	0	0	14	30	2	30.4%	65.2%	4.3%
Ritchot	185	22	0	0	2	3	61	122	2	33.0%	65.9%	1.1%
Taché	101	12	1	0	1	4	36	63	2	35.6%	62.4%	2.0%
Ste. Anne (Town)	44	11	0	0	1	2	14	29	1	31.8%	65.9%	2.3%
Ste. Anne	79	8	0	0	0	1	21	56	2	26.6%	70.9%	2.5%
St-Pierre-Jolys	13	1	0	0	0	0	8	5	0	61.5%	38.5%	0.0%
Stuartburn	29	6	1	2	0	0	2	27	0	6.9%	93.1%	0.0%
BPFN	12	3	0	0	0	0	5	7	0	41.7%	58.3%	0.0%
Steinbach	36	9	0	0	2	2	22	13	1	61.1%	36.1%	2.8%
Other	0	1	0	0	0	0	2	5	0	28.6%	71.4%	0.0%
	0											
Other - Wpg area	0	0	0	0	0	0	0	0	0	-	-	-
Niverville	21	5	0	0	0	1	12	9	0	57.1%	42.9%	0.0%



## 3.1 Summary of Results

Table 3.2 - Distribution of respondents who do not own a vehicle by municipality and by satisfaction with their mode of transportation

	Do not own Vehicle	Friend or Family	Vehicle for Free	Handivan	Taxi	Other	Unsatisfied	Satisfied	No Answer	% Unsatisfied	% Satisfied	% No Answer
	207	82	7	1	21	13	68	28	111	32.9%	13.5%	53.6%
De Salaberry	21	9	0	0	2	3	6	4	11	28.6%	19.0%	52.4%
Hanover	9	6	1	0	2	1	7	0	2	77.8%	0.0%	22.2%
La Broquerie	44	25	3	1	2	4	12	13	19	27.3%	29.5%	43.2%
Piney	13	8	2	0	0	0	3	6	4	23.1%	46.2%	30.8%
Reynolds	6	2	0	0	0	0	3	1	2	50.0%	16.7%	33.3%
Ritchot	38	9	1	0	0	0	9	1	28	23.7%	2.6%	73.7%
Taché	14	1	0	0	0	0	2	1	11	14.3%	7.1%	78.6%
Ste. Anne (Town)	10	3	0	0	1	0	3	0	7	30.0%	0.0%	70.0%
Ste. Anne	10	3	0	0	0	0	2	0	8	20.0%	0.0%	80.0%
St-Pierre-Jolys	5	2	0	0	0	0	2	0	3	40.0%	0.0%	60.0%
Stuartburn	3	2	0	0	0	0	2	0	1	66.7%	0.0%	33.3%
BPFN	3	0	0	0	0	0	0	0	3	0.0%	0.0%	100.0%
Steinbach	25	10	0	0	13	4	15	1	9	60.0%	4.0%	36.0%
Other	4	2	0	0	1	0	2	0	2	50.0%	0.0%	50.0%
Other - Wpg area	0	0	0	0	0	0	0	0	0	–	–	–
Niverville	2	0	0	0	0	1	0	1	1	0.0%	50.0%	50.0%

## 3.2 Comments on the results of the survey

Table 3.3 - Distribution of respondents who do not own a vehicle by municipality and age group

	Do not own Vehicle	< 18	18-30	31-60	61-75	> 75	Unsatisfied	Satisfied	No Answer	% of < 18	% of 18-30	% of 31-60	% of 61-75	% of > 75
	207	3	30	95	48	31	68	28	111	1.40%	14.50%	45.90%	23.20%	15.00%
De Salaberry	21	1	9	7	2	2	6	4	11	4.80%	42.90%	33.30%	9.50%	9.50%
Hanover	9	1	2	5	1	0	7	0	2	11.10%	22.20%	55.60%	11.10%	0.00%
La Broquerie	44	0	2	12	15	15	12	13	19	0.00%	4.50%	27.30%	34.10%	34.10%
Piney	13	0	0	0	5	8	3	6	4	0.00%	0.00%	0.00%	38.50%	61.50%
Reynolds	6	0	0	2	4	0	3	1	2	0.00%	0.00%	33.30%	66.70%	0.00%
Ritchot	38	0	3	24	8	3	9	1	28	0.00%	7.90%	63.20%	21.10%	7.90%
Taché	14	0	3	10	0	1	2	1	11	0.00%	21.40%	71.40%	0.00%	7.10%
Ste. Anne (Town)	10	0	0	6	4	0	3	0	7	0.00%	0.00%	60.00%	40.00%	0.00%
Ste. Anne	10	0	0	6	4	0	2	0	8	0.00%	0.00%	60.00%	40.00%	0.00%
St-Pierre-Jolys	5	0	0	3	1	1	2	0	3	0.00%	0.00%	60.00%	20.00%	20.00%
Stuartburn	3	0	0	3	0	0	2	0	1	0.00%	0.00%	100.00%	0.00%	0.00%
BPFN	3	0	0	0	2	1	0	0	3	0.00%	0.00%	0.00%	66.70%	33.30%
Steinbach	25	1	8	15	1	0	15	1	9	4.00%	32.00%	60.00%	4.00%	0.00%
Other	4	0	3	1	0	0	2	0	2	0.00%	75.00%	25.00%	0.00%	0.00%
Other - Wpg area	0	0	0	0	0	0	0	0	0	-	-	-	-	-
Niverville	2	0	0	1	1	0	0	1	1	0.00%	0.00%	50.00%	50.00%	0.00%

## 3.2 Comments on the results of the survey

Table 3.4 - Distribution of vehicle owner respondents by municipality and age group

	Own Vehicle	< 18	18-30	31-60	61-75	> 75	Unsatisfied	Satisfied	No Answer	% of < 18	% of 18-30	% of 31-60	% of 61-75	% of > 75
	803	4	61	474	220	44	268	520	15	0.5%	7.6%	59.0%	27.4%	5.5%
De Salaberry	57	0	9	35	11	2	21	35	1	0.0%	15.8%	61.4%	19.3%	3.5%
Hanover	26	0	6	20	0	0	13	12	1	0.0%	23.1%	76.9%	0.0%	0.0%
La Broquerie	91	0	4	57	24	6	22	69	0	0.0%	4.4%	62.6%	26.4%	6.6%
Piney	56	1	4	15	29	7	15	38	3	1.8%	7.1%	26.8%	51.8%	12.5%
Reynolds	46	0	4	19	15	8	14	30	2	1.1%	8.7%	41.3%	32.6%	17.4%
Ritchot	185	2	10	117	54	2	61	122	2	1.0%	5.4%	63.2%	29.2%	1.1%
Taché	101	1	4	69	24	3	36	63	2	0.0%	4.0%	68.3%	23.8%	3.0%
Ste. Anne (Town)	44	0	5	33	5	1	14	29	1	0.0%	11.4%	75.0%	11.4%	2.3%
Ste. Anne	79	0	5	37	28	9	21	56	2	0.0%	6.3%	46.8%	35.4%	11.4%
St-Pierre-Jolys	13	0	0	7	4	2	8	5	0	0.0%	0.0%	53.8%	30.8%	15.4%
Stuartburn	29	0	0	10	15	4	2	27	0	0.0%	0.0%	34.5%	51.7%	13.8%
BPFN	12	0	1	7	4	0	5	7	0	0.0%	8.3%	58.3%	33.3%	0.0%
Steinbach	36	0	5	27	4	0	22	13	1	0.0%	13.9%	75.0%	11.1%	0.0%
Other	0	0	1	4	2	0	2	5	0	0.0%	14.3%	57.1%	28.6%	0.0%
	0													
Other - Wpg area	0	0	0	0	0	0	0	0	0	0.0%	–	–	–	–
Niverville	21	0	3	17	1	0	12	9	0	0.0%	14.3%	81.0%	4.8%	0.0%

## 3.2 Comments on the results of the survey

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### 3.2.1 Observations on available transportation needs and options

- Low diversity of transportation options.
- Strongly dependent on automobiles.
- Apart from the personal vehicle, the most common transport option is mutual help.
- Non-existence or quasi non-existence of public transit options.
- Where a taxi service exists, people tend to use it.
- Comments reveal that there is a real need for diversification of modes of transportation – In this context, it is surprising to observe that there are many respondents who are satisfied with the transportation options available to them.

### 3.2.2 Observations on age groups

- It seems that the representation of respondents by age group does not correspond to their real weight in the community. For example, according to Statistics Canada, 30-59-year-olds represent 37% of the population of participating municipalities, according to the survey, 31-60-year-olds make up 56.3% of respondents.
- The most motorized age groups are 31 to 75 years. In fact, 82.9% of them own a car. It is also in these age groups that we find the majority of car owners, i.e., nearly 86.4% (Tables 3.2 and 3.3)
- It is counterintuitive to observe young and old people satisfied with their transportation options when they are clearly dependent on others for their mobility needs.
- It is also surprising to see aging communities (e.g., Buffalo Point) being overwhelmingly satisfied with their travel options.





## 3.2 Comments on the results of the survey

Despite what the satisfaction rates of the current situation might suggest and based on the comments that are rather favourable to more transport services, it can be concluded that the population feels and demands more options for its mobility needs.

Table 3.5 - Distribution of vehicle owner respondents by municipality and age group

Own a vehicle and:	Have one or more comments on transportation services (TS)	Suggested features or expectations for TS	No suggestion	Other comments (positive)	Other comments (negative or indifferent)	% with suggestions	% no suggestion	% other positive	% other negative or indifferent
	803	716	87	601	33	89.20%	10.80%	74.80%	4.10%
De Salaberry	57	52	5	40	4	91.20%	8.80%	70.20%	7.00%
Hanover	26	26	0	20	0	100.00%	0.00%	76.90%	0.00%
La Broquerie	91	76	15	60	6	83.50%	16.50%	65.90%	6.60%
Piney	56	53	3	44	0	94.60%	5.40%	78.60%	0.00%
Reynolds	46	40	6	34	6	87.00%	13.00%	73.90%	13.00%
Ritchot	185	169	16	144	6	91.40%	8.60%	77.80%	3.20%
Taché	101	96	5	54	5	95.00%	5.00%	53.50%	5.00%
Ste. Anne (Town)	44	18	26	51	1	40.90%	59.10%	15.90%	2.30%
Ste. Anne	79	75	4	61	2	94.90%	5.10%	77.20%	2.50%
St-Pierre-Jolys	13	12	1	10	0	92.30%	7.70%	76.90%	0.00%
Stuartburn	29	27	2	24	1	93.10%	6.90%	82.80%	3.40%
BPFN	12	11	1	7	0	91.70%	8.30%	58.30%	0.00%
Steinbach	36	34	2	29	0	94.40%	5.60%	80.60%	0.00%
Other	0	6	1	5	0	85.70%	14.30%	71.40%	0.00%
	0								
Other - Wpg area	0	0	0	0	0	-	-	-	-
Niverville	21	21	0	18	2	100.00%	0.00%	87.50%	9.50%

## 3.2 Comments on the results of the survey

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### 3.2.3 Other topics and concerns addressed in comments

- Cost of public transit service
- Reduced travel expenses
- Reliability, accessibility of service
- Travelling by public transportation is safer
- Driving fatigue
- Dependence on others and causing inconvenience to friends and families
- Medical needs / medical visits
- Driving in bad weather especially in winter
- Avoid buying a second vehicle
- Mobility of children
- Evening and weekend outings
- Potential difficulties in getting around as people age
- Interest in sharing services
- No more parking worries
- Having an option(s) in the event of a vehicle breakdown

### 3.2.4 About the methodology

- Unequal participation among municipalities: participation rate is not representative of the relative population of municipalities
- The relative area and density of municipalities are not considered
- It appears that there were no mandatory questions so there was a high rate of blank or incomplete responses, especially among those who do not own a vehicle. This could distort the perception of the community's level of satisfaction (54.3% of blank responses in total versus 33.3% dissatisfied)
- It seems that the respondents did not report all their trips: a good number of those without a vehicle do not travel (e.g., in Ritchot out of 38 respondents, only 10 specify how they move about)
- It is not known whether the satisfied respondents are in favor of more options or not.
- It is not known whether satisfied people are willing to use alternative means of transportation if the option was available to them
- It is not known whether the satisfied respondents projected their situation 10 or 15 years hence (e.g., under 18 years or 31-60 years)
- How to interpret the results for those who participated but did not respond? How to distribute them among the satisfied and dissatisfied?



## 3.3 Findings

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- i. The survey assesses interest and potential flows for travel needs and journeys.
- ii. However, the data and information do not allow for a sufficiently accurate estimate of the number of passengers and the number of daily journeys – There is a lack of precision between the 1st, 2nd and 3rd destinations and the daily, weekly or monthly journeys that implies interpretations and high margins of error.
  - ✓ Uneven participation among municipalities: the participation rate would not be sufficiently representative of the relative populations of municipalities for the overall coverage of the survey.
  - ✓ The relative area and density of municipalities are not taken into account.
  - ✓ Qualitative perceptions are preponderant.
  - ✓ It appears that there were no mandatory questions so there was a high rate of empty or incomplete responses, especially among those who do not own a vehicle. This could distort the perception of the level of community satisfaction (54.3% of blank responses in total versus 33.3% dissatisfied).
- iii. The qualitative results (participants' comments) unequivocally express the needs of communities to have access to different sustainable mobility options, whether taxis, shuttles and buses, car-sharing services or platforms or specialized services for populations with disabilities or loss of autonomy.
- iv. One cannot help but deduce that part of the population seems to have resigned itself to its dependence on cars (i.e., young and old), despite the lack of practical transportation options.
- v. According to some comments, it would also appear that other transportation options, including public transit, suffer from negative perceptions on the part of the population, apart from the personal perceptions.
- vi. In order to gain public buy-in and break the negative image of public transit, it is important to provide affordable, viable, accessible, reliable and safe options.
- vii. To evaluate the potential for inflows (passengers according to origin-destination) it will be necessary to carry out a targeted survey on a "planned" service offer.





## **4. Analysis of Public Transit Needs and Solutions for the Region**

# 4.1 Background

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- i. The data and information from the SERTi survey make it possible to identify potential travel and journey flows for the study region. (See Tables 4.1 and 4.2 and Figure 4.1).
- ii. However, in order to establish public transportation services (intelligent ('smart') or conventional) the data and information collected by the SERTi survey would not be sufficient to estimate with enough precision the demand (number of passengers and necessary number of daily trips):
  - For example, inaccuracies between the 1st, 2nd and 3rd destinations and daily, weekly or monthly movements involve interpretations and high margins of error.
- iii. Analysis of destination data (Tables 4.1 and 4.2) reveals a concentration of travel flows to Winnipeg (28.5%) and Steinbach-Hanover (23.9%).
- iv. However, Table 4.2, which presents the travel flows according to the number of trips made by each of the municipalities identified, makes it possible to identify "micro-flows" of trips (origins-destinations) between certain municipalities (De Salaberry - St-Pierre-Jolys: 9.38%; La Broquerie - Ste-Anne: 8.43%; Ritchot - Niverville: 12.64%; etc.).
- v. Taking into account the previous point, it will be necessary to identify exceptions in travel flows and "special" or "atypical" destinations, i.e., institutions, commercial services (Costco, Walmart, Loblaws, etc.), colleges, companies, etc.





## 4.2 Potential travel flows

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- i. The results of the SERTi analysis make it possible to identify the travel flows and the main destinations of the survey respondents:
  1. Winnipeg (28.5%) – Final destination
  2. Steinbach (23,9%) – Final destination or place of transit
  3. Ste-Anne (4.4%) – Final destination or place of transit
  4. Niverville (3.0%) – Final destination or place of transit
  5. La Broquerie (1.8%) – Final destination or place of transit
  6. From Salaberry (1.2%) – Final destination or place of transit
  7. Taché (1.06%) – Final destination or place of transit
  8. Ritchot (1.03%) – Final destination or place of transit
- ii. The analysis also makes it possible to identify transportation routes and potential HUBs that can be both destinations and crossing points to other destinations. (See Tables 4.1 and 4.2 and Figure 4.1)
- iii. HUBs are locations that represent destinations or transit locations to other destinations. HUBs are used to optimize access to and use of available transportation services (public, walking and cycling, use of personal vehicles to get to other means of transport). See Section V.
- iv. In Table 4.3, a distance analysis from Winnipeg and Steinbach was conducted to determine the position of these two potential HUBs for each of the municipalities involved. Taking into account travel flows and major (Highways 12, 1, 59, 75) and secondary (Highways 23, 52, 311, 210, 201, 15) routes, the “natural” transportation HUBs would be: Winnipeg, Steinbach and Ste-Anne.
  - According to the survey and the respondents reached, Winnipeg would be the main destination.
  - Steinbach, by virtue of its demographic importance and its geographical location, would be a natural HUB either as a final destination or place of transit.
  - Possible exception: Ste-Anne by virtue of its geographical location could be a natural HUB to Winnipeg or even Steinbach. (See Figure 4.1)



## 4.2 Potential travel flows

Table 4.1 - Destination Distribution - Overall (%)

RM / Hometown	All	BPFN	De Salaberry	La Broquerie	Piney	Reynolds	Ritchot	St-Pierre-Jolys	Ste. Anne Both	Ste. Anne	Ste. Anne (Town)	Steinbach (City)	Hanover	Steinbach Hanover	Stuartburn	Taché	Other	Winnipeg	Niverville	Minnesota (USA)	Elsewhere Manitoba	Elsewhere Canada	Unidentified
		0.21%	1.19%	1.77%	0.77%	0.18%	1.03%	0.98%	4.36%	0.71%	3.64%	22.76%	1.14%	23.98%	0.79%	1.06%	0.08%	28.46%	2.96%	0.37%	3.33%	0.03%	0.32%
De Salaberry	7.13%	0.00%	0.29%	0.05%	0.05%	0.00%	0.00%	0.45%	0.03%	0.00%	0.03%	1.85%	0.13%	1.98%	0.00%	0.00%	0.00%	1.58%	0.42%	0.00%	0.26%	0.00%	0.00%
Hanover	3.35%	0.00%	0.08%	0.03%	0.03%	0.00%	0.00%	0.08%	0.13%	0.03%	0.11%	0.79%	0.26%	1.06%	0.00%	0.03%	0.00%	0.66%	0.08%	0.00%	0.00%	0.00%	0.00%
La Broquerie	13.15%	0.00%	0.03%	0.77%	0.08%	0.00%	0.00%	0.08%	1.11%	0.18%	0.92%	3.54%	0.03%	3.56%	0.05%	0.03%	0.00%	2.43%	0.03%	0.00%	0.24%	0.00%	0.08%
Piney	6.52%	0.08%	0.05%	0.03%	0.40%	0.00%	0.00%	0.00%	0.11%	0.03%	0.08%	1.77%	0.05%	1.82%	0.29%	0.03%	0.00%	1.37%	0.00%	0.26%	0.11%	0.00%	0.05%
Reynolds	4.88%	0.00%	0.00%	0.05%	0.00%	0.13%	0.00%	0.00%	0.21%	0.05%	0.16%	1.14%	0.00%	1.14%	0.00%	0.00%	0.00%	1.19%	0.00%	0.00%	0.82%	0.00%	0.00%
Ritchot	13.99%	0.03%	0.11%	0.05%	0.05%	0.05%	0.66%	0.16%	0.08%	0.00%	0.08%	1.43%	0.03%	1.14%	0.00%	0.18%	0.08%	7.13%	1.77%	0.00%	0.61%	0.03%	0.03%
Taché	10.37%	0.03%	0.00%	0.08%	0.00%	0.00%	0.13%	0.00%	0.82%	0.26%	0.55%	2.14%	0.11%	2.24%	0.03%	0.50%	0.00%	3.06%	0.24%	0.00%	0.13%	0.00%	0.05%
Ste. Anne Both	13.38%	0.00%	0.00%	0.26%	0.03%	0.00%	0.05%	0.05%	0.92%	0.08%	0.84%	3.38%	0.18%	3.56%	0.00%	0.08%	0.00%	3.15%	0.11%	0.00%	0.26%	0.00%	0.05%
Ste. Anne (Town)	4.65%	0.00%	0.00%	0.05%	0.03%	0.00%	0.03%	0.03%	0.11%	0.03%	0.08%	1.27%	0.11%	1.37%	0.00%	0.05%	0.00%	1.32%	0.05%	0.00%	0.08%	0.00%	0.05%
Ste. Anne	8.74%	0.00%	0.00%	0.21%	0.00%	0.00%	0.03%	0.03%	0.82%	0.05%	0.77%	2.11%	0.08%	2.19%	0.00%	0.03%	0.00%	2.19%	0.05%	0.00%	0.18%	0.00%	0.00%
St-Pierre-Jolys	1.69%	0.00%	0.16%	0.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.40%	0.03%	0.42%	0.03%	0.00%	0.00%	0.42%	0.08%	0.03%	0.11%	0.00%	0.00%
Stuartburn	3.25%	0.05%	0.11%	0.03%	0.00%	0.00%	0.03%	0.03%	0.03%	0.00%	0.03%	0.79%	0.05%	0.84%	0.37%	0.00%	0.00%	0.71%	0.00%	0.00%	0.18%	0.00%	0.00%
BPFN	1.29%	0.00%	0.00%	0.00%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	0.00%	0.37%	0.03%	0.00%	0.00%	0.37%	0.00%	0.08%	0.00%	0.00%	0.00%
Steinbach	4.65%	0.03%	0.21%	0.08%	0.03%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	1.24%	0.05%	1.29%	0.00%	0.00%	0.00%	1.45%	0.03%	0.00%	0.21%	0.00%	0.00%
Other	0.92%	0.00%	0.11%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.13%	0.00%	0.08%	0.00%	0.29%	0.08%	0.00%	0.03%	0.00%	0.00%
Other - Wpg area	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Niverville	2.03%	0.00%	0.05%	0.00%	0.00%	0.00%	0.08%	0.05%	0.00%	0.00%	0.00%	0.42%	0.03%	0.45%	0.00%	0.05%	0.00%	0.77%	0.03%	0.00%	0.11%	0.00%	0.00%



## 4.2 Potential travel flows

Table 4.2 Destination Distribution by Municipality (%)

RM / Hometown	All	BPFN	De Salaberry	La Broquerie	Piney	Reynolds	Ritchot	St-Pierre-Jolys	Ste. Anne Both	Ste. Anne	Ste. Anne (Town)	Steinbach (City)	Hanover	Steinbach Hanover	Stuartburn	Taché	Other	Winnipeg	Niverville	Minnesota (USA)	Elsewhere Manitoba	Elsewhere Canada	Unidentified
		0.21%	1.19%	1.77%	0.77%	0.18%	1.03%	0.98%	4.36%	0.71%	3.64%	22.76%	1.14%	23.89%	0.79%	1.06%	0.08%	28.46%	2.69%	0.37%	3.33%	0.03%	0.32%
De Salaberry	7.13%	0.00%	4.07%	0.74%	0.74%	0.00%	0.00%	6.30%	0.37%	0.00%	0.37%	25.93%	1.85%	27.78%	0.00%	0.00%	0.00%	22.22%	5.93%	0.00%	3.70%	0.00%	0.00%
Hanover	3.35%	0.00%	2.36%	0.79%	0.79%	0.00%	0.00%	2.36%	3.94%	0.79%	3.15%	23.62%	7.87%	31.50%	0.00%	0.79%	0.00%	19.69%	2.36%	0.00%	0.00%	0.00%	0.00%
La Broquerie	13.15%	0.00%	0.20%	5.82%	0.60%	0.00%	0.00%	0.60%	8.43%	1.41%	7.03%	26.91%	0.20%	27.11%	0.40%	0.20%	0.00%	18.47%	0.20%	0.00%	1.81%	0.00%	0.60%
Piney	6.52%	1.21%	0.81%	0.40%	6.07%	0.00%	0.00%	0.00%	1.62%	0.40%	1.21%	27.13%	0.81%	27.94%	4.45%	0.40%	0.00%	21.05%	0.00%	4.05%	1.62%	0.00%	0.81%
Reynolds	4.88%	0.00%	0.00%	1.08%	0.00%	2.70%	0.00%	0.00%	4.32%	1.08%	3.24%	23.24%	0.00%	23.24%	0.00%	0.00%	0.00%	24.32%	0.00%	0.00%	16.76%	0.00%	0.00%
Ritchot	13.99%	0.19%	0.75%	0.38%	0.38%	0.38%	4.72%	1.13%	0.57%	0.00%	0.57%	10.19%	0.19%	10.38%	0.00%	1.32%	0.57%	50.94%	12.64%	0.00%	4.34%	0.19	0.19%
Taché	10.37%	0.25%	0.00%	0.76%	0.00%	0.00%	1.27%	0.00%	7.89%	2.54%	5.34%	20.16%	1.02%	21.63%	0.25%	4.83%	0.00%	29.52%	2.29%	0.00%	1.27%	0.00%	0.51%
Ste. Anne Both	13.38%	0.00%	0.00%	1.97%	0.20%	0.00%	0.39%	0.39%	6.90%	0.59%	6.31%	25.25%	1.38%	26.63%	0.00%	0.59%	0.00%	26.23%	0.79%	0.00%	1.97%	0.00%	0.39%
St-Pierre-Jolys	1.69%	0.00%	9.38%	0.00%	0.00%	0.00%	1.56%	0.00%	0.00%	0.00%	0.00%	23.44%	1.56%	25.00%	1.56%	0.00%	0.00%	25.00%	4.69%	1.56%	6.25%	0.00%	0.00%
Stuartburn	3.25%	1.63%	3.25%	0.81%	0.00%	0.00%	0.81%	0.81%	0.81%	0.00%	0.81%	24.39%	1.63%	26.02%	11.38%	0.00%	0.00%	21.95%	0.00%	0.00%	5.69%	0.00%	0.00%
BPFN	1.29%	0.00%	0.00%	0.00%	6.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	28.57%	0.00%	28.57%	2.04%	0.00%	0.00%	28.57%	0.00%	6.12%	0.00%	0.00%	0.00%
Steinbach	4.65%	0.57%	4.55%	1.70%	0.57%	0.00%	0.00%	0.57%	0.00%	0.00%	0.00%	26.70%	1.14%	27.84%	0.00%	0.00%	0.00%	31.25%	0.57%	0.00%	4.55%	0.00%	0.00%
Other	0.92%	0.00%	11.43%	8.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	14.29%	0.00%	14.29%	0.00%	8.57%	0.00%	31.43%	8.57%	0.00%	2.86%	0.00%	0.00%
Niverville	2.03%	0.00%	2.60%	0.00%	0.00%	0.00%	3.90%	2.60%	0.00%	0.00%	0.00%	20.78%	1.30%	22.08%	0.00%	2.60%	0.00%	37.66%	1.30%	0.00%	5.19%	0.00%	0.00%



## 4.2 Potential travel flows

Table 4.3.1 - HUB - Distances

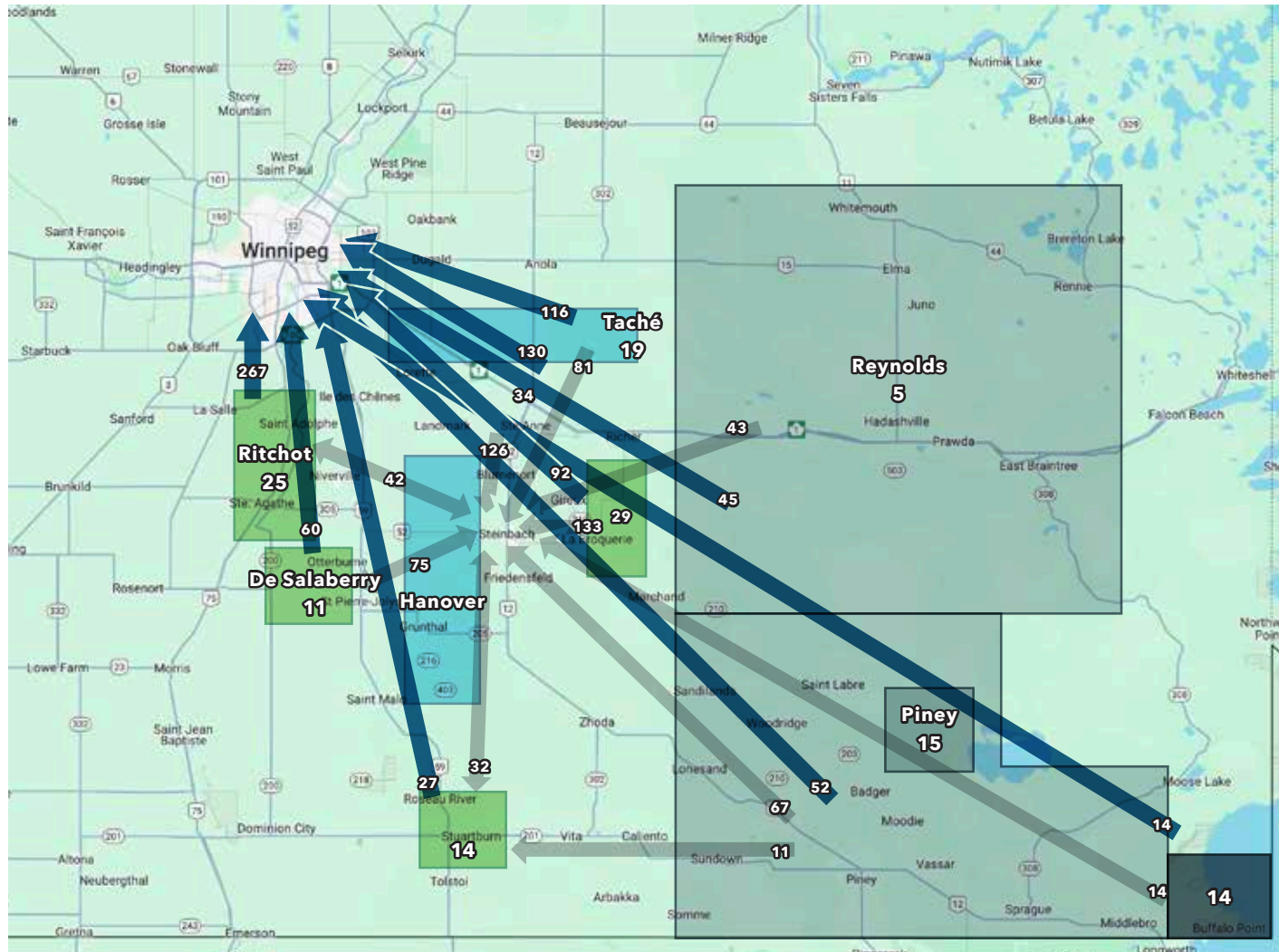
Distance (kms)			
Destinations	Steinbach	Winnipeg	Steinbach/Winnipeg km difference HUB if green
De Salaberry	32	57	-25
Hanover	49	70	-21
La Broquerie	14	69	-55
Piney	83	146	-63
Reynolds	90	103	-13
Ritchot (St-Adolphe)	45	30	15
Taché	31	39	-8
Ste. Anne (Town)	18	47	-29
St-Pierre-Jolys	32	57	-25
Stuartburn	60	100	-40
BPFN	139	202	-63
Steinbach	-	-	0
Niverville	34	42	-8

Table 4.3.2 - HUB - Roads

Roads		
Destinations	Steinbach	Winnipeg
De Salaberry	23, 59, and 52	-
Hanover	12	52 and 59
La Broquerie	52	210 and 1
Piney	12	12 and 1
Reynolds	1 and 12	15 and option 1
Ritchot (St-Adolphe)	-	75 and 200
Taché	210 and 12	206 and 1
Ste. Anne (Town)	12	12 and 1
St-Pierre-Jolys	-	-
Stuartburn	59 and 12	59
BPFN	12	-
Steinbach	-	12 and 1
Niverville	311, 59 and 52	311 and 59

# 4.2 Potential travel flows

Figure 4.1 - Map of travel flows - SERTi survey





## 4.3 Identification of solutions

For the purposes of this study, we classified public transit (PT) services according to their nature, services and types.

### a) Category of services

Two types of public transit services are identified.

1. Conventional transit services (CTS), which are the services traditionally used by communities when available.
2. Smart Transit (ST) services represent a new type of transit services that can complement and enhance CTS services.

### b) PT services

For PT services, we find:

1. Regular and adapted bus at fixed times or on request
2. Taxi - bus including conventional taxi
3. Car sharing
4. Ridesharing
5. Carpooling

The last three services are part of a new type or class of 'smart' services because they are offered through sharing economy formulas and phone applications or a computerized platform.

### c) Types of services

The types of services are linked to the nature of the trip (origin-destination), schedule constraints, space or support needs. Example: The user can drive the vehicle or be driven (bus, ridesharing and carpooling)

Tableau 4.4 - Services - Category & type

Category		Services	Type
Conventional Public Transit	1	Regular bus	Local
		Adapted bus	Local - Inter-regional
	2	Taxi - Bus	Local - Inter-regional
	3	Bus	Inter-regional
Smart Public Transit	A	Car sharing	Transportation
			For Ridesharing (B)
			For Carpooling (C)
	B	Ridesharing	Basic - Individual
			Multi-trip (Taxi-bus mode)
	C	Carpooling	Basic - Individual
Multi-trip (Taxi-bus mode)			

## 4.3 Identification of solutions

### 4.3.1 - Conventional Public Transit - CPT

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Public transit is a mode of transportation consisting of transporting several people together on the same trip. It is usually accessible in return for a ticket such as a ticket or a card. Most transit systems operate along fixed routes with fixed embarkation/drop-off points on a pre-established schedule. Taxi services offer on-demand services in many parts of the world, which can compete with or complement fixed public transportation routes by bringing passengers to hubs.

Paratransit is sometimes used in areas of low demand and for people who need door-to-door service.

- Shuttle (van or bus): fixed routes and times
- Shuttle (van or bus): on request

#### **i. Context**

The reality of public transit services offered to communities in rural areas, far from major metropolitan urban centres or simply urban centres in general, is very difficult. In fact, even if there are some inter-regional transportation services between the main cities, the transportation services available for local or intra-regional travel (taxi, bus, carpooling, etc.) are generally absent or very limited. The resources of the organizations responsible for providing public transit and paratransit services in the rural areas are limited.

The COVID-19 pandemic worsened the financial situation for public transit in general for major urban centres and for all existing regional services. Since March 2020, the drop in traffic on public transit systems has reduced their revenues and funding.

Since 2022, inflation and rising interest rates for capital loans have also accentuated the economic problem to increase, maintain and, above all, implement new CPT services.

CPT remains a cornerstone of the offer of public transit services and should be supported financially and strategically with new technologies and the contribution of smart public transit.



## 4.3 Identification of solutions

### 4.3.1 - Conventional Public Transit - CPT

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#### ii. Meeting needs and demand

- To ensure financial stability in the financing of conventional transit services, especially in the current economic climate, it is important to offer CPT services where demand is or will be sufficient to justify and support investments.
- In areas that are not served by CPT or have access to few transit services, needs assessment can be problematic.
- The results of the SERTi survey confirm the previous assertion as the answers are sometimes contradictory. Uses and practice have shaped the use of the motor vehicle (sedan, SUV or pickup truck), i.e., respondents who do not have access to CT services but are satisfied with the means available to them (car).
- Uses and practice have shaped the use of motor vehicles (sedan, SUVs or pickup trucks). This is why in this context, the exercise of assessing potential demand for CT service is more difficult.
- The design and creation of HUBs and intermodal stations is strategically important to generate and support optimal demand for CPT services.



## 4.3 Identification of solutions

### 4.3.2 - Smart public transit - SPT

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SPT is based on a sharing economy concept paired with tools (platforms & modules) that allow equipment management (vehicles) and a flexible service offer adapted to the material, financial and human resources available.

Vehicles can be shared by the owner for specific needs (municipal, commercial) and also made available for public transportation services.

#### **i. Car sharing**

Car sharing, or self-service cars, is the pooling of a fleet of motor vehicles for the benefit of subscribers by a vehicle management organization. Each subscriber can use a vehicle for the route of his or her choice and for a limited time. Unlike carpooling, the practice of sharing a vehicle on common routes allows for the successive use of a car by different users. The system is part of a shared mobility logic to allow its users to use a means of transportation without owning the vehicle, by purchasing a service and not a good.

#### **ii. Carpooling**

Carpooling is the joint and organized use of a motor car, by a non-professional driver and one or more third party passengers, for the purpose of making a common journey. The concept differs from car sharing, where the same car is used by several successive users. In the case of carpooling, the objective is to pool individual car trips.

It provides individual benefits (sharing fuel and maintenance expenses, enhancing travel, developing social ties) and collective benefits (increasing vehicle occupancy, reducing traffic jams and pollution). In some countries, carpooling is compensated within the limit of a mileage tax scale, which allows the greatest number of people to travel.



## 4.3 Identification of solutions

### 4.3.2 - Smart public transit - SPT

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#### iii. Ridesharing

Ridesharing is a smart public transit service that allows interaction and exchange of UBER or LYFT ride-sharing services between users who choose their place of departure and destination and drivers available to offer transportation services.

The objectives of the ridesharing service would be to help community stakeholders in a mutual way. That is, users benefit from public transit service and drivers receive compensation for their assistance to the community. It is the local organization or operator that decides on fares and modalities between users, beneficiaries and partners.

Offered by municipalities or organizations that can also act as regional operators, ridesharing is a technological innovation for the regions and the development of sustainable mobility.

System with dispatcher functions: Version 2.0 of the SAUV<sup>é</sup>R Carpool allows a dispatcher to take charge of the coordination of services between driver availability and user demand.



## 4.3 Identification of solutions

### 4.3.3 - Active Transportation - AT

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Active Transportation or Active Mobility is the transportation of people or goods, through non-motorized means, based around human physical activity. The best-known forms of active mobility are walking and cycling, though other modes include running, rowing, skateboarding, kick scooters and roller skates. Due to its prevalence, cycling is sometimes considered separately from the other forms of active mobility.

For sustainable mobility (i.e., non-leisure or sport needs), active transportation is useful if not essential for short distances or micro-trips.

#### **i. Walking & Walkability**

Walking is the active transportation that is the most prevalent for the communities targeted in this study. Statistics confirm that walking is second only to the car. See Table 6.1 and statistics in Section 1.

In terms of mobility, “walking” is important because it can make it easy and fast to switch from one mode of transportation to another. An illustration of this transfer of multimodal services in mobility is access to a bus network (stop), car-sharing or bike-sharing services via walking.

Planners in some communities have recently made efforts to create pedestrian-friendly areas and streets or roads that make it easy and safe to walk. A city’s access networks allow and limit pedestrian traffic and define the ability to walk. The access networks of a city enable and constrain pedestrian flows; it is the capacity or possibility to walk. Access networks are also multimodal and need to be understood from the perspective of those who choose between modes of walking, cycling, public transportation, and cars. Public transportation trips are generally coupled with walkable access to the transit stop.

Major infrastructural factors include access to mass transit, presence and quality of footpaths, buffers to moving traffic (planter strips, on-street parking or bike lanes) and pedestrian crossings, aesthetics, nearby local destinations, air quality, shade or sun in appropriate seasons, street furniture, traffic volume and speed.





## 4.3 Identification of solutions

### 4.3.3 - Active Transportation - AT

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#### ii. Cycling

Cycling is an increasingly popular form of active transportation in Canadian communities. The electrification of transportation and the development of electric bicycles has made it possible to improve the accessibility of this means of active transportation among the different age groups of the population in all regions of the country and not only in the most urbanized areas.

The use of bicycles as active transportation is not widespread for the communities targeted in this study. According to the analysis of statistical data, the bicycle comes in second last position before the use of public transportation. See Table 5.1 and statistics in Section 1.

#### iii. Conventional and electric bike sharing

- Bike-sharing services are multiplying in several major cities but also in regions of Canada. (Example: BIXI, RÉGÎM in Gaspésie).
- In urban and metropolitan areas, the use of bicycles as a means of transportation reduces the need for public transit services.
- The benefits of the electric bike and its popularity have also fostered an increase in interest in bike-sharing services. The electric bike remains a relatively expensive piece of equipment that is offered in sharing mode to increase its accessibility.
- The costs for maintaining bike-sharing services can be significant insofar as their use remains more limited in time (six to seven months in Winnipeg).

#### iv. Safe Infrastructure - Cycling Networks

- The use of different types of bicycles (electric cargo, etc.) has made it essential to improve cycling networks and facilities for sharing the road network.



## 4.3 Identification of solutions

### 4.3.3 - Active Transportation - AT

Table 4.5 - Active Transportation

	Density (pers/ (km <sup>2</sup> ))	Population (2021)	Public Transit		Walking		Biking	
			Nb	%	Nb	%	Nb	%
Rural Municipality of Piney	1,843	0.8	0	0.0%	30	5.4%	0	0.0%
Rural Municipality of Taché	11,916	20.5	10	0.2%	100	2.0%	15	0.3%
Rural Municipality of Ritchot	7,469	22.5	10	0.3%	70	2.2%	0	0.0%
Rural Municipality of Ste-Anne	5,584	11.7	0	0.0%	0	0.0%	10	0.5%
Rural Municipality of La Broquerie	6,725	11.6	15	0.6%	55	2.0%	15	0.6%
Rural Municipality of Hanover	17,216	23.6	20	0.3%	205	3.0%	35	0.5%
Rural Municipality of Salaberry	3,918	5.9	0	0.0%	60	4.2%	10	0.7%
City of Steinbach	17,806	474.1	15	0.2%	390	5.1%	150	2.0%
Rural Municipality of Stuartburn	1,731	1.5	0	0.0%	20	3.6%	0	0.0%
Rural Municipality of Reynolds	1,344	0.4	0	0.0%	0	0.0%	0	0.0%
Town of Ste. Anne	2,891	698.3	0	0.0%	35	3.3%	0	0.0%
Village of St-Pierre-Jolys	1,305	500.0	0	0.0%	60	15.2%	0	0.0%
Buffalo Point First Nation	219	13.2	0	0.0%	0	0.0%	0	0.0%
<b>Total region</b>			<b>70</b>	<b>0.2%</b>	<b>1,025</b>	<b>3.2%</b>	<b>235</b>	<b>0.7%</b>

## 4.3 Recommendations

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### **CT Services - Design and Implementation**

- i. In order to create and implement conventional public transit services, it will be important to test or survey the targeted communities with an offer of services to validate with trips, schedules and “hypothetical” fares (market research ).

### **HUB and intermodal stations**

- i. As mentioned, (see sections 4.2 and 4.3.1), the design and creation of HUBs and intermodal stations is strategically important. The planning of HUBs and intermodal stations will need to be addressed more specifically.

### **Active Transportation - Cycling and Walking**

- i. Safe Infrastructure - Cycling Networks
- ii. The use of bicycles and different types of bicycles (electric cargo, etc.) has made it essential to improve cycling networks and facilities for sharing the road network.





## **5. Public Transit Service Offering Feasibility Study**

# 5.1 Background

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- i. As discussed in section IV, data and information from the SERTi survey identified potential travel and travel flows for the study area. (See Tables 4.1 and 4.2 and Figure 4.1).
- ii. However, for the choice of solutions to establish public transport services (smart or conventional), the data and information collected are not complete enough to estimate with sufficient precision the level of demand (number of passengers and necessary number of daily trips).
- iii. This limits the possibility of establishing conventional public transit services for the communities targeted in this study as concerns the acquisition and operation of bus services on a fixed route and schedule or even on demand. The necessary investments are too large in the economic context (inflation rate and borrowing rate). (see Section 5.2)
- iv. The strategy for the choice of solutions must make it possible to evolve public transit services with a minimum of financial risk:
  - Define services
  - Prepare a request
  - Optimize services via HUBs and intermodal stations



## 5.2 Choice and optimization of solutions

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### 5.2.1 Public Transit (PT) economic and financial context

- i. Conventional public transit services are generally more expensive than SPTs for the service operator.
- ii. It should be noted that most major metropolitan public transit services in Canada and elsewhere in the world are in deficit.
- iii. One of the “permanent” impacts of the pandemic is a change in practices and an increase in the number of people in Canada and around the world who are teleworking and who have reduced their travel.
- iv. Some CT services are private and can offer profitability such as the taxi industry. However, it is observed that the taxi industry is changing and experiencing significant turbulence in all cities and municipalities of the world as a result of UBER, etc.
- v. From an economic and financial point of view, CT services remain primarily a socio-economic investment and little or not financially profitable (for private investment).
- vi. The UBER case is special because its financial profitability (which remains to be established: value vs. stock market profits) is based on the decline of the conventional taxi market.
- vii. The UBER case, however, is a demonstration of the economic potential of SPTs.

### 5.2.2 PT Development Strategy

- i. The optimization of solutions consists in identifying the equipment and the modes of organization that will reduce the costs associated with public transit services (CAPEX & OPEX).
- ii. It is important to identify the appropriate services according to the costs and optimization of their uses.
- iii. It is important to analyze the flow of trips (survey) in order to estimate a demand for services.
- iv. Develop complementary services in iPT and, if demand/need is justified, provide CPT services.
- v. It is important to capitalize on the sharing economy and the optimization of the use of vehicles (SUV, minivan and buses): mixed use CT and specialized for municipalities.
- vi. The use of electric vehicles (electrification of transportation) can generate savings: approx. 25% of the cost of gasoline.





## 5.2 Choice and optimization of solutions

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### 5.2.3 Cost analysis of PT services - CPT & SPT

#### i. CPT - See Tables 5.1 & 5.2

- Bus costs are established on a per-km rate applied for scheduled and on-demand bus service in Gaspésie with the RÉGÎM. (Table 6.6 Analysis conditions and parameters)
- The tables show the cost calculated on the distance in km traveled "roundtrip" to a destination.
- Costs are based on bus occupancy parameters to calculate a passenger rate.
- A bus is more interesting than smart transportation (Carpooling-Carsharing) if the occupancy rate is greater than 30% for a 15-seater bus at a rate of \$2.60/km (RÉGÎM). See Table 5.3.

#### ii. SPT - See Tables 5.2 & 5.3

- SPT costs are established on a tax compensation rate of \$0.62, considered as compensation and NOT as income.
- Costs are based on parameters for a number of SPT passengers to calculate a passenger rate.
- Transportation cost reference tag (unpaid but offset) - For ride-sharing and carpooling services the cost reference would be the reimbursement (compensation) allowed by the CRA in terms of services rendered or use of a personal vehicle (i.e., tax-free income).
- The rate (to be checked) would be \$0.62 per kilometer.

- For carsharing the rule could be the same, but organizations (municipal or NGO) can provide services and generate revenue. The applicable rules may be different from ridesharing and carpooling services

#### iii. Electrification - See Table 5.4

- The energy savings generated by electrification are established according to one of the energy consumption parameters of a regular vehicle versus an electric vehicle.
- Electrification generates an 18% reduction in the cost of CRA compensation (\$0.62/km)



## 5.2 Choice and optimization of solutions

Table 5.1 - Conventional Public Transit

Bus Cost: Roundtrip destination based on occupancy rate *Conditions & parameters	Total cost		Cost per passenger	
	Steinbach (City)	Winnipeg	Steinbach (City)	Winnipeg
De Salaberry	\$166.00	\$296.00	\$16.00	\$28.00
Hanover	\$255.00	\$364.00	\$24.00	\$35.00
La Broquerie	\$73.00	\$359.00	\$7.00	\$34.00
Piney	\$432.00	\$759.00	\$41.00	\$72.00
Reynolds	\$468.00	\$536.00	\$45.00	\$51.00
Ritchot (St-Adolphe)	\$234.00	\$156.00	\$22.00	\$15.00
Taché	\$161.00	\$203.00	\$15.00	\$19.00
Ste. Anne (Town)	\$94.00	\$244.00	\$9.00	\$23.00
St-Pierre-Jolys	\$166.00	\$269.00	\$16.00	\$28.00
Stuartburn	\$132.00	\$520.00	\$30.00	\$50.00
BPFN	\$723.00	\$1,050.00	\$69.00	\$100.00
Steinbach	-	\$328.00	-	\$31.00
Niverville	\$177.00	\$218.00	\$17.00	\$21.00



## 5.2 Choice and optimization of solutions

Tableau 5.2 - Smart Public Transit

Compensation per km for a passenger Based on federal rates \$0.62	Steinbach	Winnipeg	Difference
De Salaberry	\$39.68	\$70.68	(\$31.00)
Hanover	\$60.76	\$86.80	(\$26.04)
La Broquerie	\$17.76	\$85.56	(\$68.20)
Piney	\$102.92	\$181.04	(\$78.12)
Reynolds	\$111.60	\$127.72	(\$16.12)
Ritchot (St-Adolphe)	\$55.80	\$37.20	(\$18.60)
Taché	\$38.44	\$48.36	(\$9.92)
Ste. Anne (Town)	\$22.32	\$58.28	(\$35.96)
St-Pierre-Jolys	\$39.68	\$70.68	(\$31.00)
Stuartburn	\$74.40	\$124.00	(\$49.60)
BPFN	\$172.36	\$250.48	(\$78.12)
Steinbach	–	\$78.12	(\$78.12)
Niverville	\$42.16	\$52.08	(\$9.92)

Compensation per km According to federal rate \$0.62	Steinbach	Winnipeg	Difference
De Salaberry	\$13.23	\$23.56	(\$10.33)
Hanover	\$20.25	\$28.93	(\$8.68)
La Broquerie	\$5.79	\$28.52	(\$22.73)
Piney	\$34.31	\$60.35	(\$26.04)
Reynolds	\$37.20	\$42.57	(\$5.37)
Ritchot (St-Adolphe)	\$18.60	\$12.40	(\$6.20)
Taché	\$12.81	\$16.12	(\$3.31)
Ste. Anne (Town)	\$7.44	\$19.43	(\$11.99)
St-Pierre-Jolys	\$13.23	\$23.56	(\$10.33)
Stuartburn	\$24.80	\$41.33	(\$16.53)
BPFN	\$57.45	\$83.49	(\$26.04)
Steinbach	–	\$26.04	(\$26.04)
Niverville	\$14.05	\$17.36	(\$3.31)

## 5.2 Choice and optimization of solutions

Tables 5.3 - CPT vs SPT

Bus Cost: Roundtrip destination based on occupancy rate *Conditions & parameters	Incremental Cost	
	Steinbach	Winnipeg
De Salaberry	\$23.83	\$42.45
Hanover	\$36.49	\$52.13
La Broquerie	\$10.43	\$51.39
Piney	\$61.82	\$108.74
Reynolds	\$67.03	\$76.71
Ritchot (St-Adolphe)	\$33.51	\$22.34
Taché	\$23.09	\$29.05
Ste. Anne (Town)	\$13.41	\$35.00
St-Pierre-Jolys	\$23.83	\$42.45
Stuartburn	\$44.69	\$74.48
BPFN	\$103.52	\$150.44
Steinbach	-	\$46.92
Niverville	\$25.32	\$13.28

If negative economy

Bus Cost: Roundtrip destination based on occupancy rate *Conditions & parameters	Incremental Cost	
	Steinbach	Winnipeg
De Salaberry	\$2.62	\$4.67
Hanover	\$4.01	\$5.73
La Broquerie	\$1.15	\$5.65
Piney	\$6.80	\$11.96
Reynolds	\$7.37	\$8.44
Ritchot (St-Adolphe)	\$3.69	\$2.46
Taché	\$2.54	\$3.19
Ste. Anne (Town)	\$1.47	\$3.85
St-Pierre-Jolys	\$2.62	\$4.67
Stuartburn	\$4.91	\$8.19
BPFN	\$11.38	\$16.54
Steinbach	-	\$5.16
Niverville	\$2.78	\$3.44

If negative economy



## 5.2 Choice and optimization of solutions

Table 5.4 - Electrification Cost-Benefit Analysis

Destinations	Winnipeg			Steinbach		
	Gasoline	Electricity	Savings	Gasoline	Electricity	Savings
De Salaberry	\$15.50	\$2.76	\$12.74	\$8.70	\$1.55	\$7.15
Hanover	\$19.04	\$3.39	\$15.65	\$13.33	\$2.38	\$10.95
La Broquerie	\$18.77	\$3.35	\$15.42	\$3.81	\$0.68	\$3.13
Piney	\$39.71	\$7.08	\$32.63	\$22.58	\$4.02	\$18.55
Reynolds	\$28.02	\$4.99	\$23.02	\$24.48	\$4.36	\$20.12
Ritchot (St-Adolphe)	\$8.16	\$1.45	\$6.71	\$12.24	\$2.18	\$10.06
Taché	\$10.61	\$1.89	\$8.72	\$8.43	\$1.50	\$6.93
Ste. Anne (Town)	\$12.78	\$2.28	\$10.51	\$4.90	\$0.87	\$4.02
St-Pierre-Jolys	\$15.50	\$2.76	\$12.74	\$8.70	\$1.55	\$7.15
Stuartburn	\$27.20	\$4.85	\$22.35	\$16.32	\$2.91	\$13.41
BPFN	\$54.94	\$9.79	\$45.15	\$37.81	\$6.74	\$31.07
Steinbach	\$17.14	\$3.05	\$14.08	-	-	-
Niverville	\$11.42	\$2.04	\$9.39	\$9.25	\$1.65	\$7.60

Destinations	Winnipeg			Steinbach		
	Gasoline	Electricity	Savings	Gasoline	Electricity	Savings
De Salaberry	\$38.76	\$2.76	\$36.00	\$21.76	\$1.55	\$20.21
Hanover	\$47.60	\$3.39	\$44.21	\$33.32	\$2.38	\$30.94
La Broquerie	\$46.92	\$3.35	\$43.57	\$9.52	\$0.68	\$8.84
Piney	\$99.28	\$7.08	\$92.20	\$56.44	\$4.02	\$52.42
Reynolds	\$70.04	\$4.99	\$65.05	\$61.20	\$4.36	\$56.84
Ritchot (St-Adolphe)	\$20.40	\$1.45	\$18.95	\$30.60	\$2.18	\$28.42
Taché	\$26.52	\$1.89	\$24.63	\$21.08	\$1.50	\$19.58
Ste. Anne (Town)	\$31.69	\$2.28	\$29.68	\$12.24	\$0.87	\$11.37
St-Pierre-Jolys	\$38.76	\$2.76	\$36.00	\$21.76	\$1.55	\$20.21
Stuartburn	\$68.00	\$4.85	\$63.15	\$40.80	\$2.91	\$37.89
BPFN	\$137.36	\$9.79	\$127.75	\$94.52	\$6.74	\$87.78
Steinbach	\$42.84	\$3.05	\$39.79	-	-	-
Niverville	\$28.56	\$2.04	\$26.52	\$23.12	\$1.65	\$21.48



## 5.2 Choice and optimization of solutions

Table 5.5 - Conditions and parameters of analyses

A - Conditions & parameters	
Number of passengers	11
Bus capacity	70%
Number of places	15
Passenger rate according to conditions	\$0.25
Cost per km for a 15-20 seater bus <i>RÉGÎM Reference</i>	\$2.60

B - Energy cost parameters		Cost	Km	\$/km
Electricity*	Qc	\$484.81	20,000	\$0.024
Gasoline**	Winnipeg			\$0.136
Circuit electric	BRR	\$9.05	39.98	\$0.226
Parameters	Tarif	Cost	kHh	\$/kWh
Residential	D	\$2.42	21	0.115238
Parameters to enter				
Consumption	Sedan		l/100km	\$8
Consumption	Bus		l/100km	\$20
Gasoline Price**	Winnipeg		23-May	\$1.70

C - Compensation rate		Cost	Km	\$/Km
ARC***		\$0.62		

### D - References

\* <https://www.hydroquebec.com/electrification-transport/voitures-electriques/calculer-vos-economies.html>

\*\* [https://fr.globalpetrolprices.com/Canada/Winnipeg/gasoline\\_prices/](https://fr.globalpetrolprices.com/Canada/Winnipeg/gasoline_prices/)

\*\*\* <https://www.canada.ca/fr/agence-revenu/services/impot/entreprises/sujets/retenues-paie/avantages-allocations/automobile/allocations-frais-automobile-vehicule-a-moteur/allocation-calculer-selon-taux-raisonnable-kilometre.html>





## 5.3 Service Planning and Integration

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### 5.3.1 Identify potential HUBs

- HUBs are strategic locations that allow users to access a choice of mobility services from:
  - i. Bus Shuttle (CPT)
  - ii. Minivan shuttle (SPT)
  - iii. Ridesharing (SPT)
  - iv. Car sharing (SPT)
  - v. Carpooling (SPT)
  - vi. Bicycle - regular or electric (Active transportation services)
- The HUBs are located in strategic locations allowing operators to optimize the use of the various services offered.
- Potential HUBs are at a strategic distance (affluence and distance) from Winnipeg or Steinbach.
- The roads in the center of the South-East region are Hwys 12, 59, 75 in the west and to the northeast Hwy 1.
- HUB Potentials: St-Adolphe, Île-des-Chênes and Ste-Anne are locations between 30 and less than 50 km from downtown Winnipeg located on highways 75, 59 and 12. See Table 5.6 and Figure 5.1.

### 5.3.2 Identify CPT routes and rides

- To optimize the use of CPTs, it is important to attain an optimal number of passengers for the type of bus used by:
  - i. Regular route
  - ii. Journey on request (dispatch mode)

### 5.3.3 Complementary CPT services with SPT services

- SPT must make it possible to optimize CPT services (Bus and Shuttles) to ensure an optimal number of users, i.e., “not too many but enough”.
- SPT must make it possible to substitute CPT (Bus and Shuttle) services when the number of users is not sufficient to ensure a minimum income or utilization. (Rule: if one vehicle (sedan) can be enough to carry the number of passengers (+3) then a bus or shuttle is not required (less \$, less GHGs)
- SPT services must be implemented and calibrated to serve origin-destination routes at the lowest cost where the number of passengers is lower due to population density and the distances to be covered.



## 5.3 Service Planning and Integration

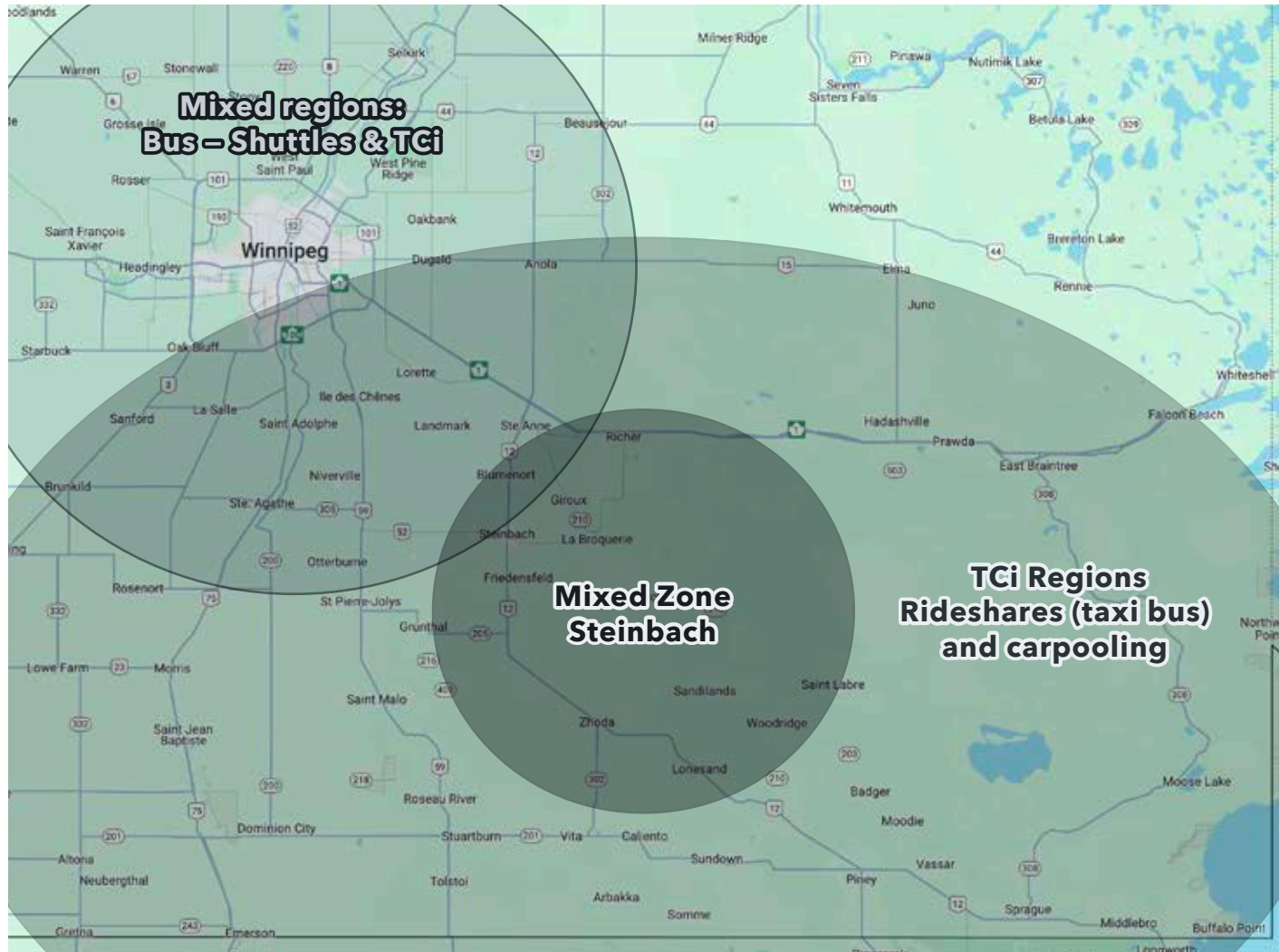
Tables 5.6 - HUB - Distances & Access Roads

Distance (kms)			
Destinations	Steinbach	Winnipeg	Steinbach/Winnipeg km difference HUB if green
De Salaberry	32	57	-25
Hanover	49	70	-21
La Broquerie	14	69	-55
Piney	83	146	-63
Reynolds	90	103	-13
Ritchot (St-Adolphe)	45	30	15
Taché	31	39	-8
Ste. Anne (Town)	18	47	-29
St-Pierre-Jolys	32	57	-25
Stuartburn	60	100	-40
BPFN	139	202	-63
Steinbach	-	-	0
Niverville	34	42	-8

Routes		
Destinations	Steinbach	Winnipeg
De Salaberry	23, 59, and 52	-
Hanover	12	52 and 59
La Broquerie	52	210 and 1
Piney	12	12 and 1
Reynolds	1 and 12	15 and option 1
Ritchot (St-Adolphe)	-	75 and 200
Taché	210 and 12	206 and 1
Ste. Anne (Town)	12	12 and 1
St-Pierre-Jolys	-	-
Stuartburn	59 and 12	59
BPFN	12	-
Steinbach	-	12 and 1
Niverville	311, 59 and 52	311 and 59

# 5.3 Service Planning and Integration

Map 5.1 - Map of Services by Type



## 5.3 Service Planning and Integration

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### 5.3.4 Organization of services

#### i. Development strategy and financial resources

- Design of services (ideally with the completion of a market study)
- Pilot project to test “real” needs and create demand for CT services.
- CAPEX-OPEX budget analysis for the development of a service offering.
- Prioritize SPT and sharing economy systems (car sharing, carpooling and carpooling):
  - i. Reduced capital costs for the acquisition of vehicle fleets;
  - ii. Reduced service operating costs.
- Plan for CPT by optimizing demand for services to be established:
  - i. CPT-SPT and aT intermodal stations;
  - ii. Creation of HUBs.
- Prioritize electrification to reduce operating costs.

### 5.3.5 Design of HUBs and “intermodal stations”

#### i. Needs and potential

- The challenges for the development of sustainable mobility services lie in the incorporation of the various means of transportation and services available to communities to complement the needs of “first mile and last mile” travel.
- It is also important to facilitate a combining of the various means of travel. One of the best examples is the development of park-and-ride facilities that allow citizens to substitute part of their vehicle use for a more sustainable public transit service, whether carpooling, car sharing and the use of shuttle, bus or even bicycle services.

#### ii. Design and layout of intermodal HUBs

- The development of intermodal stations must make it possible to optimize the use of services by integrating the different modes of transportation available.
- Required equipment: charging stations, bus or shuttle shelter
- Parking access
- Toilet access





## **6. Public Transit Service Electrification Feasibility Study**

# 6.1 Range requirements

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Simulations were conducted to assess the need for range of travel from municipalities (Table 6.1) to the cities of Winnipeg and Steinbach.

- ▶ A parameter of 400 kms was used since this is the current range of most EV models on the market today.

Considering the distance grid to the cities of Winnipeg and Steinbach and the advertised and verified range of EV models, we calculated the number of trips that could be made in summer and winter with an EV with a range of 400 kms.

- ✓ The calculations consider a maximum use of 80% of the advertised range.
- ✓ The summer range considered is 320 km (out of a maximum of 400 km)
- ✓ For winter range, winter tires are considered to reduce range by about 15% and HVAC requirements can reduce range between 26 and 30%.
- ✓ The winter range considered is 176 kms (out of a maximum of 400 km)

## Results:

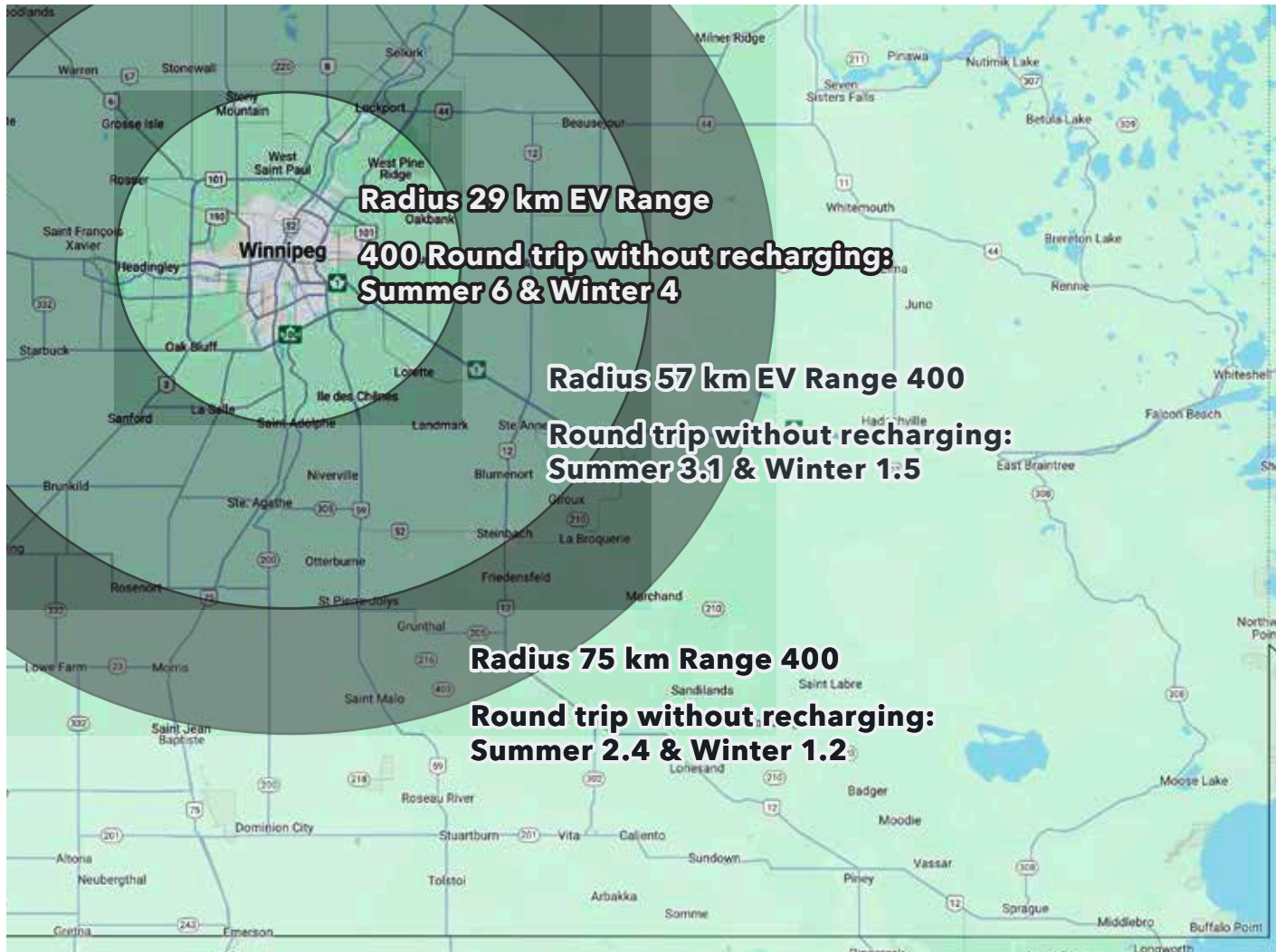
- i. In winter, simulations (Table 6.3) indicate that:
  - Only trips from Buffalo Point to Winnipeg and Steinbach could not be done without charging.
  - Roundtrips to Winnipeg and back could not be made “without recharging” for the municipalities of Buffalo Point, Piney, Reynolds and Stuartburn.
  - Roundtrips to Steinbach could not be made “without recharging” for the municipalities of Buffalo Point and Reynolds.
- ii. In summer, simulations (Table 6.2) indicate that:
  - All trips (one way) could be made to the cities of Winnipeg and Steinbach without charging
  - Only roundtrips to Winnipeg could not be made “without recharging” for the municipality of Piney/Buffalo Point.





# 6.1 Range requirements

Map 6.1 - Range & Autonomy



# 6.1 Range requirements

Table 6.1 - Distances between municipalities in the southeast region

<b>Distances between municipalities (km)</b>		
<b>Destinations</b>	<b>Steinbach</b>	<b>Winnipeg</b>
Ritchot (St-Adolphe)	48	29
Taché	31	39
Ste-Anne (Town)	18	47
De Salaberry (St-Pierre-Jolys)	32	57
St-Malo	47	73
Stuartburn	60	100
Reynolds	90	103
Piney	83	146
BPFN	139	202

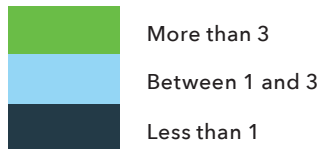


# 6.1 Range requirements

Table 6.2 - Number of trips and roundtrips possible by range in summer

<b>Summer</b>		
<b>Number of possible trips between municipalities without recharging</b>		
Destinations	Steinbach	Winnipeg
Ritchot (St-Adolphe)	6.7	11.0
Taché	10.3	8.2
Ste. Anne (Town)	17.8	6.8
De Salaberry (St-Pierre-Jolys)	10.0	5.6
St-Malo	6.8	4.4
Stuartburn	5.3	3.2
Reynolds	3.6	3.1
Piney	3.9	2.2
BPFN	2.3	1.6

<b>Summer</b>		
<b>Number of roundtrips possible between municipalities without recharging</b>		
Destinations	Steinbach	Winnipeg
Ritchot (St-Adolphe)	3.3	5.5
Taché	5.2	4.1
Ste. Anne (Town)	8.9	3.4
De Salaberry (St-Pierre-Jolys)	5.0	2.8
St-Malo	3.4	2.2
Stuartburn	2.7	1.6
Reynolds	1.8	1.6
Piney	1.9	1.1
BPFN	1.2	0.8

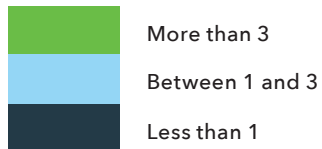


# 6.1 Range requirements

Table 6.3 - Number of trips and roundtrips possible according to range in winter

<b>Winter</b> <b>Number of possible trips between municipalities without recharging</b>		
Destinations	Steinbach	Winnipeg
Ritchot (St-Adolphe)	3.7	6.1
Taché	5.7	4.5
Ste. Anne (Town)	9.8	3.7
De Salaberry (St-Pierre-Jolys)	5.5	3.1
St-Malo	3.7	2.4
Stuartburn	2.9	1.8
Reynolds	2.0	1.7
Piney	2.1	1.2
BPFN	1.3	0.9

<b>Winter</b> <b>Number of roundtrips possible between municipalities without recharging</b>		
Destinations	Steinbach	Winnipeg
Ritchot (St-Adolphe)	1.8	3.0
Taché	2.8	2.3
Ste. Anne (Town)	4.9	1.9
De Salaberry (St-Pierre-Jolys)	2.8	1.5
St-Malo	1.9	1.2
Stuartburn	1.5	0.9
Reynolds	1.0	0.9
Piney	1.1	0.6
BPFN	0.6	0.4



## 6.2 Charging and Facilities Requirements

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The electrification of vehicle fleets will require the installation of charging facilities in the targeted buildings.

These facilities should make it possible to optimize the use of the fleet to meet the characteristics and range of electric vehicles.

The charging facilities segment consists of three categories of equipment and infrastructure that represent distinct technological and financial challenges:

- Charging equipment: L2 and L3 (fast charger 35 Kw and over) stations;
- Electrical installations other than charging stations;
- Non-electrical installations: Development of charging sites (trenches, paving, cement, concrete, gravel, etc.).

### Charging stations

This is a rapidly evolving market segment with more and more major industrial players: ABB, Siemens, PACCAR, Charge Point, etc. For example, in September 2020, five manufacturers had certified seven models of fast-charging stations to the Green Transit program. In the spring of 2021, 11 manufacturers certified 45 models of fast-charging stations.

The “material” lifespan of charging equipment should be about 10 years, but the technological obsolescence is probably about five years.

### Electrical supply installations: Infrastructure and electrical network

The market segment of specific charging management, i.e., the ‘smart’ management of charging and optimization of energy demand (kW power and kWh energy) is also a new and rapidly evolving market segment.

Technological and organizational challenges: Planning needs are significant and the risks of not maximizing investments by moving either too fast or too slow must be assessed.

The “material” lifetime of the equipment of charging facilities should be between 15 and 25 years.

### Non-electrical installations

These are the support structures of the equipment and locations of the refills: Concrete Base – bollards, etc. Connection trench and finishing of pitches (spaces) dedicated to vehicles and equipment.

There are no issues for electrification EXCEPT for the investment costs that these non-electrical installations will generate.

The lifespan of non-electrical installations is expected to exceed 20 years.



## 6.2 Charging and Facilities Requirements

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### Plans and Scenarios

- Charging infrastructure planning will need to adapt to the timeline of the process of integrating electric vehicles into the fleet. In order to facilitate the electrification of the fleet and its facilities, we recommend establishing a strategy for the development of the three categories of equipment in the following order:
  1. First, a development plan for non-electrical installations: Development of charging sites (trenches, paving, cement, concrete, gravel, etc.);
  2. A schedule for electrical installations other than charging stations according to the scenario adopted for the integration of charging stations: either one charging station for 2 vehicles or one charging station for each vehicle;
  3. A charging equipment acquisition plan (L2 and L3) according to the layout plan and the schedule of electrical installations: L2 and L3 charging stations.

### Charging infrastructure development plan for each building concerned

- A layout plan should be prepared for each of the buildings included in the study.
- The development plan must provide for the scenarios for connecting electric vehicles: one terminal for 2 EVs or one charging station/connector for each EV.

### Electrical installations

- Electrical installations must consider the number of electric vehicles and electric vehicle connection scenarios (1 for 2 or 1 for 1) as well as acquisition schedules depending on the department or direction.
- For charging infrastructures that will have more than 3 to 5 stations and whose energy and power supply will be high, we recommend dedicated electrical installations and meters.
- Also, for charging infrastructures that will have more than 3 to 5 stations and have a high power requirements and supply, we recommend considering systems to manage load and power demand. (See also charging equipment)







## 7. References

# References

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## **Appendix - Additional Tables**

# Economic References

## Transit System Data Comparisons

### Developing Sustainable Transit - Options for Small Communities

By the Northern Alberta Development Council

	Leduc AB	Spruce Grove AB	Miramichi AB	Kentville NS	The Nation ON	Charlottetown PEI	Total
Population	25,842	27,790	16,000	42,540	15,00	45,000	172,172
Fare Media for Adult							
Cash	\$5.00	\$5.00	\$3.00	\$3.50	\$15.00	\$2.25	
Ticket	\$4.50	–	\$2.70	\$3.00	\$10.00	\$2.00	
Pass	\$75	\$125	\$72	\$90	\$255	\$65	
Ridership	41,603	84,600	81,001	405,427	106,833	373,374	1,092,838
Total Vehicle Hours	167,821	271,928	330,000	1,600,000	460,000	551,668	3,381,414
Operating Cost	\$599,441	\$1,000,500	\$466,000	\$2,564,235	\$1,165,928	\$1,816,054	\$7,612,212
Recovery Cost	24%	42%	57%	37%	57%	44%	
Service Provided by	Contracted out	Contracted out	Municipality	Municipality	Contracted out	PPP	

## Analysis (YHC)

	Leduc AB	Spruce Grove AB	Miramichi AB	Kentville NS	The Nation ON	Charlottetown PEI	Average
Ridership/Population	1.61	3.04	5.06	9.53	7.12	8.3	6.35
Total Vehicle Hours / Population	6.5	9.8	20.6	37.6	30.7	12.3	19.64
Total Vehicle Hours / Ridership	4.0	3.2	4.1	3.9	4.3	1.5	3.09
Operating Cost / Population	\$23.20	\$36.00	\$29.13	\$60.28	\$77.73	\$40.36	\$44.21
Operating Cost / Ridership	\$14.41	\$11.83	\$5.75	\$6.32	\$10.91	\$4.86	\$6.97
Operating Cost / Total Vehicle Hours	\$3.57	\$3.68	\$1.41	\$1.60	\$2.53	\$3.29	\$2.25



 AMBM