

PARKING MANAGEMENT POLICY

POINTE-CLAIRE VILLAGE



PARKING MANAGEMENT POLICY POINTE-CLAIRE VILLAGE CITY OF POINTE-CLAIRE

REPORT (FINAL VERSION)

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1 INTRODUCTION

1.1 CONTEXT

As part of the Special Planning Program (SPP) for Pointe-Claire Village developed by the City of Pointe-Claire in 2016, the City has stated its plan to revitalize this area by altering the use of various sites and certain streets. Among the issues being considered, on-street and off-street parking is an important one due to its impact on land use.

Furthermore, the study of Pointe-Claire Village conducted by Convergence in 2013 looked at the issue of parking in this area. According to the study's conclusions, while certain public parking spaces present a high occupancy rate during certain periods, in general, the area's capacity is sufficient to accommodate demand virtually at all times. The study did, however, raise some shortcomings. For example, regulations are not well adapted to usage, signage is inadequate and potentially confusing, and parking to access businesses is generally difficult.

1.2 MANDATE

It is in the above context that the City of Pointe-Claire commissioned WSP Canada Inc. (WSP) to produce a parking management policy. This mandate includes the following:

- Diagnosis of the current situation
 - Carry out occupancy surveys
 - Analyze supply and demand (equilibrium)
 - Audit the quality of current facilities
 - Assess current signage
 - Define management guidelines (costs, time limits, etc.)
- Identification of issues and problems to be presented to stakeholders (citizens, business owners, etc.)
- Recommendations and action plan based on analysis and comments received

The mandate was therefore carried out in two stages. Firstly, field surveys were conducted to build up a picture of the current situation. Based on these observations, preliminary recommendations were presented to Pointe-Claire Village stakeholders during events open to the public. Following these meetings, the second part of the mandate—to develop final recommendations and an action plan—was completed.

1.3 METHODOLOGY

To gain a clear understanding of the current situation, field surveys were conducted over the course of one day during the week and one day on the weekend, as occupancy may differ depending on the day. On-street and off-street parking occupancy was measured every two hours to determine the occupancy rate during various periods as well as the turnover rate.

2 PARKING

This section defines the types of parking available, the types of users and the impacts.

Parking has two principal dimensions: the space occupied and the time consumed.

2.1 WHY STUDY PARKING?

- The space consumed by parking is considerable. Each parking space requires about 25 to 30 square metres (the space itself and access).
- Vehicles are parked 23 hours per day, or 95% of the time.
- In North America, it is estimated that there is an average of two to three parking spaces for each registered vehicle (Davis, Pijanowski, Robinson, & Kidwell, 2010).
- The heat island effect raises the temperature around large paved parking lots by a few degrees.
- Air and water quality is reduced as the number of contaminants increases.
- The presence of large areas of parking reduces the quality of the landscape and breaks up the built environment.
- The availability of parking influences vehicle use. The presence of a large number of free parking spaces encourages people to use their vehicles.
- There is an impact on users of other modes of transport (pedestrians, cyclists and public transit users), who may have to cross large paved areas.
- Construction and maintenance costs are considerable (\$5,000 to construct a ground-level space and \$25,000 to construct a space in a multi-level garage).
- Parking takes up space on the street that could be used to improve landscaping, or to provide a bike lane or a reserved bus lane.
- It increases the cost of housing and other buildings.
- It has an impact on road congestion by encouraging vehicle use.
- Demand is higher in areas with more activities.
- It is used by locals every day to access work, leisure activities, shops and their homes.

Motor vehicles offer users great mobility, and parking is an integral part of this mode of transport. However, parking is associated with significant costs and negative impacts. The challenge is to find a balance between the presence of parking and the mitigation of negative impacts.

2.2 TYPES

Parking can be classified based on various characteristics:

- Ground-level (surface), overground in a parking structure or underground
- On-street or off-street
- Publicly or privately owned and managed
- Free or paid
 - Hourly (time stamp or meter)
 - Daily
 - Monthly
- Limited or unlimited time
- Public or reserved for users of a building
- Parallel, angled or 90°
- Materials: asphalt, concrete, aggregate, gravel, etc.

Parking spaces also vary according to their purpose: bicycles, cars, delivery vehicles, disabled parking, etc.

The vast majority of parking within Pointe-Claire Village is public, off-street and free. There is also a great deal of free on-street parking.

Off-street parking takes up a large amount of space. The typical dimensions of a parking space is 2.5 metres by 5 metres. However, for circulation in the parking lot (aisles, entrances, exits, etc.), an additional space equivalent to the area of each vehicle is also required. Each off-street parking space therefore takes up between 25 and 30 square metres.

2.3 IMPACTS

Each means of transport requires three elements: the vehicle, the right-of-way and the terminal. The unique property of the automobile is that the terminus is wherever the driver chooses, and no one else can occupy this space while it is being used. (Weinberger, 2007)

In 1956, the *Bureau of Public Roads* published a pamphlet that defines the problem of parking: “[The motor vehicle’s] worth is very much diminished if the driver cannot end his trip where he wants to, for lack of a parking space.” (Weinberger, 2007) This way of thinking, which has been widely applied in North America, proposes the following hypotheses:

- Motor vehicles should be used for all trips and to all locations.
- The same level of service should be available regardless of demand and setting.

These ideas were applied without considering the impact on the surrounding area. For example:

- The cost of providing ample parking
- The effect on urban form and the space needed to provide parking
- The environmental effects

Despite the best of intentions, it is unreasonable to expect all Pointe-Claire Village residents and visitors to abandon their vehicles. However, parking management can help to manage demand and therefore the number of trips made by car. Managing the demand for parking encourages users to manage their parking more efficiently, such as by sharing spaces better and using modes of transport other than the car.

The number of parking spaces needed is not a technical exercise in which the demand for parking is simply determined based on cumulative usage in the area. The number of parking spaces available depends on the city’s objectives, which include encouraging sustainable means of travel and improving the urban environment. It is also important to adapt how this is applied in different contexts.

2.3.1 COSTS

The construction and maintenance of parking spaces entails significant costs for owners. If parking is free of charge, the costs are passed on to residents or consumers, as the case may be, whether they use a car or not.

On the other hand, regulatory requirements to provide parking spaces may discourage the construction of housing—and especially social housing. There is an irony in providing free parking for large numbers of vehicles when providing affordable housing for people is considered difficult.

Reducing the number of parking spaces may have a negative impact on businesses and economic development in some cases. However, it is important to remember that parking spaces do not come for free. They need to be built and maintained. Constructing parking spaces also comes with an opportunity cost, as that space could have been used for other purposes (housing, business, jobs, etc.). Furthermore, parking spaces have major external costs that affect both the natural and built environments. It is therefore important to take all the costs and benefits of parking into account.

The marginal cost of providing an additional parking space is usually greater than the benefits that stem from it, when parking is already abundant. Moreover, the space and resources that go into providing parking could potentially be better used for other value-generating purposes (economic or social activities).

2.3.2 MODE CHOICE AND VEHICLE USE

The presence of free or low-cost parking in close proximity to a destination has a strong influence on users' mode choice. The presence of a large number of parking spaces encourages driving over public transit and active transportation. The combined effect of offering a large number of parking spaces—especially at ground level—and increasing the distance between buildings encourages vehicle use even more, to the detriment of walking or cycling. Users accessing a business must therefore cross the parking spaces to enter the building, thus favouring customers who are drivers.

2.3.3 URBAN FORM

Parking has a major impact on the urban form (size, location, etc.) due to the space it occupies. In some places, the area provided for vehicle use exceeds the space occupied by buildings. The presence of large parking lots tears the urban fabric and makes it less attractive. It also creates dead zones on commercial streets. This decreases density and increases the distance between buildings, which discourages the use of public transit and active transportation.

2.3.4 ENVIRONMENT

Large paved areas form heat islands. Materials like asphalt absorb the sun's energy and release it in the form of infrared radiation that heats the ambient air. Therefore, large areas of parking and roofing increase the surrounding temperature to the point of creating their own microclimate—a heat island.

Large paved areas retain little water and contribute to the flooding of streams or stormwater drainage systems in heavy rain. Numerous measures must be taken to manage rainwater to reduce the risk of flooding, erosion and the transport of sediment to watercourses. Contaminants on the surface of the parking lot, such as road salt and other abrasives, hydrocarbons and waste, enter watercourses when it rains.

This is in addition to the effects associated with vehicle use, which is encouraged by the availability of parking spaces: air pollution and climate change.

2.3.5 QUALITY OF LIFE AND ECONOMIC DEVELOPMENT

Parking is used by the vast majority of Pointe-Claire residents when they go to work, go shopping and enjoy leisure activities. Parking therefore has a positive association with quality of life and economic activity.

However, having an abundance of free parking can also hold back economic development by increasing construction costs and, as a result, the price of goods and services. As such, too much parking can reduce the quality of facilities and, consequently, residents' quality of life. Abundant parking encourages people to use their vehicles, which leads to road congestion, creating traffic jams and delays, which also have an economic and social cost.

This is why it is important to strike a balance between the need for space and minimizing the impact.

2.4 DEMAND

Demand for parking varies according to several factors, including location, users and cost. The main factors that influence demand for parking are as follows:

- Cost: Users do not have to pay directly to use the vast majority of parking spaces. However, all consumers (whether they drive or not) pay to maintain large free parking lots when they purchase goods and services. Not charging for parking leads to overuse.
- Convenience of other modes of transport: Places that offer good conditions for walking, cycling or taking public transit—at both ends of the journey—reduce the demand for parking.

- Availability of spaces: The availability of parking spaces—at both ends of the journey—has a strong influence on their use. If parking spaces are scarce, at either the start or the end of the journey, this tends to reduce vehicle use and boost the use of other modes of transport.
 - Activities: The type and density of activities also influences the demand for parking. Destinations focused on commercial and employment activities tend to attract more vehicle users and therefore more demand for parking. Areas with a concentration of uses attract more demand for parking, although this does not increase proportionally. In other words, if Area A has twice the density of Area B, demand for parking in Area A will be less than twice that of Area B.
-

2.4.1 GEOGRAPHY OF DEMAND

In a city, the cost of parking, the quality of public transit, the availability of parking and the type of activities on offer can vary from one area to another. The demand for parking is not the same for every use (restaurants, parks, homes, offices, etc.).

Furthermore, the demand for parking even for the same use can vary by area, as this depends on density, the variety of land use, the quality of facilities for pedestrians and cyclists, the availability and quality of public transit, the presence of car-sharing, the land use mix and the cost of parking. Demand for parking decreases as these factors increase. Demand for parking also varies according to the sociodemographic characteristics of each area (people per household and income). Rates of car ownership and parking use per person are generally higher in the suburbs than the city centre. (Bays & Christie, 1994) A 2013 study by the Réseau de Transport Métropolitain (AMT, now EXO) confirms that this is also the case for Pointe-Claire. Table 2-1 shows an average of 1.47 vehicles per household in Pointe-Claire, which is higher than the average for the Island of Montreal and much more so than for downtown Montreal.

Table 2-1 Number of vehicles per household in Pointe-Claire

Area	Vehicles/ household	Vehicles/ person	% of households with X vehicles				People/ household
			0	1	2	3+	
Pointe-Claire (131)	1.47	0.58	8.8	45.0	38.4	7.8	2.55
Montreal Centre (1)	0.57	0.34	52.0	40.3	6.7	1.1	1.68
Island of Montreal (100)	1.00	0.45	29.5	47.4	18.6	4.4	2.22

SOURCE: 2013 STUDY BY AMT (NOW EXO)

Areas with abundant free parking tend to attract more vehicle users, as this makes driving a more attractive option than other modes of transport.

Typically, urban planning regulations specify a minimum and/or maximum number of parking spaces based on the floor area of a building or according to the number of units for various types of uses. However, several other factors have an influence on the use of parking. For residential properties, parking use depends on factors such as income, type of employment, age, the quality of public transit and the type of neighbourhood. For business properties, parking use depends on factors such as type of clientele, type of business, type of district, the target clientele and the quality of public transit and many other factors.

As the city centre develops, demand for parking does not increase in a linear way. In other words, if the number of employees in an area doubles, the demand for parking spaces will not also double. For example, the number of commercial parking spaces in downtown Vancouver has remained stable over the past 20 years, even though the amount of office and retail space has increased considerably. (Navin & Joyce, 2009) The same trend has been observed in smaller cities such as Boulder, Colorado. (Weinberg, Keany, & Rufo, 2010) Table 2-2 presents various factors that have an influence on the demand for parking.

Table 2-2 Factors influencing use of parking

Factor	Description	Typical adjustments
Geographic location	Vehicle ownership and use rates in an area	Requirements should reflect variations identified in census and travel survey data
Density	Number of residents, employees or housing units per acre/hectare	Increased density tends to reduce per capita vehicle ownership and use
Land use mix	Range of land uses located within convenient walking distance	Increased mix tends to reduce per capita vehicle ownership and use
Transit accessibility	Nearby transit service frequency and quality	Improved transit accessibility tends to reduce per capita vehicle ownership and use
Car-sharing	Whether a car-sharing service is located nearby	Car-share service availability tends to reduce per capita vehicle ownership and use
Walkability	Walking environment quality (sidewalks, safe and pleasant journeys)	Improved walkability reduces vehicle traffic and allows more sharing of parking facilities
Demographics	Age and physical ability of residents or commuters	Demand tends to decline for young (under 30), elderly (over 65) and disabled people

(LITMAN, 2010)

2.4.2 USER CHARACTERISTICS

It is important to distinguish between types of users, as their needs are not the same. Users may be grouped into three main categories:

- Local residents
- Commuters, including workers and students with fairly regular schedules
- Consumers and visitors who come to an area to shop, eat, meet friends, keep appointments, attend events or for other reasons (services, etc.)

As Figure 2-1 illustrates, parking requirements vary considerably based on the day (weekday or weekend) and time of day. Demand is generally higher during the day in areas containing many jobs, during the evening in commercial areas, and at night in residential areas.

In addition to these categories, there are other user groups with specific needs, such as people with reduced mobility, taxis and delivery vehicles.

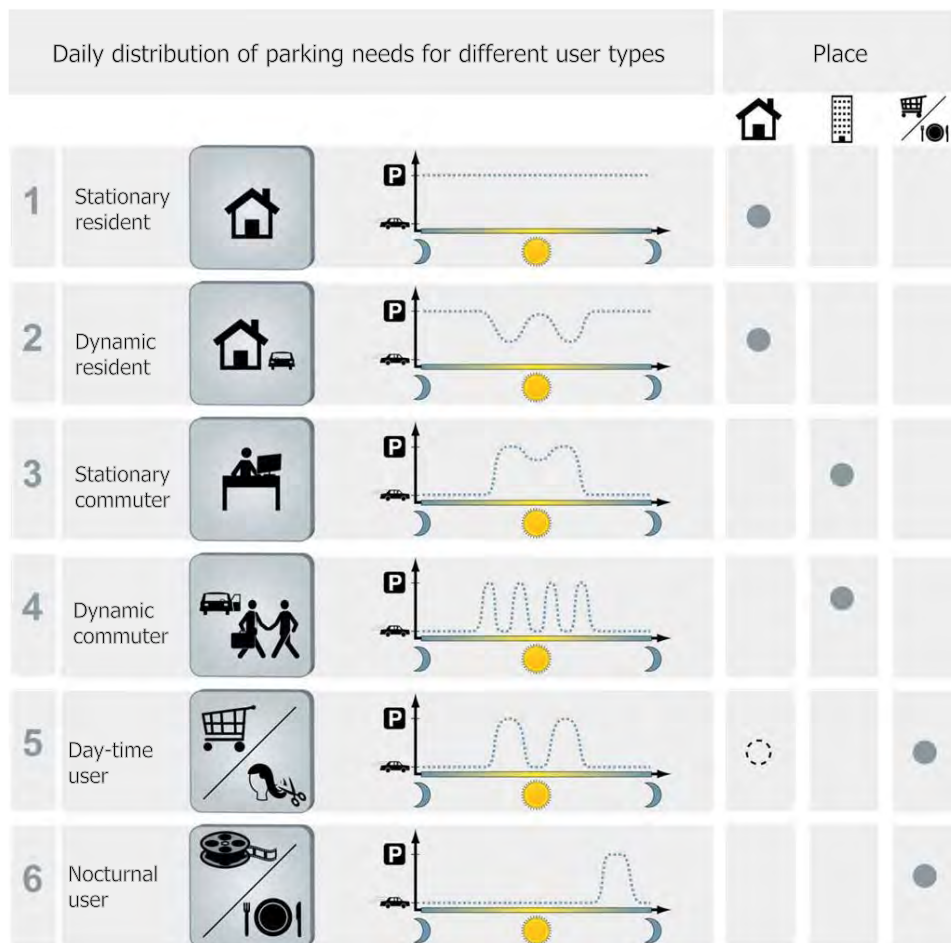


Figure 2-1 Distribution of parking use by type of user, time of day

Issues related to public parking saturation generally appear in areas where there are several types of users whose combined demand exceeds capacity.

All these groups have different parking needs:

- Residents and commuters are generally more prepared to park further away if it is difficult to do so in the immediate vicinity of their destination.
- Consumers and other users are not generally inclined to walk further than commuters.

The distance that users are prepared to walk also depends on cost of parking, regulations and the type of area. Walking distance also increases with the duration of the activity and decreases according to frequency (every day vs. every six months). For example, a person going to work is prepared to walk much further than a person dropping off their clothes for dry cleaning. Table 2-3 provides examples of acceptable walking distances based on activity (work, shopping, etc.) and user (full-time worker, part-time worker, etc.).

In order to be effective, the measures implemented must take into account the different users of parking in a given location.

Table 2-3 Maximum walking distance by activity and user

User activity	Maximum walking distance	Typical activity duration	Typical activity frequency
Airport – annual vacation	Very high	Very long	Very low
Airport – occasional business travel	High	Long	Low
Airport – frequent business travel	Medium	Medium	Medium
University/Cégep – administration	Low	Variable	High
University/Cégep – teaching staff	Medium	Variable	High
University/Cégep – students	High	Variable	High
Employees – full-time	Medium	Long	High
Employees – part-time	Low	Medium	Medium
Entertainment – festival	Very high	Variable	Low
Entertainment – movie theatre	Medium	Medium	Medium
Recreation – regular sports activities	Low	Short	High
Recreation – spectators	Very high	Medium	Low
Residential – apartment or condo	Medium	Long	High
Residential – townhouse/duplex/triplex	Low	Short	High
Residential – single family dwelling	Very low	Long	High
Restaurant – fast food	Low	Very short	High
Restaurant – family restaurant	Medium	Short	Medium
Restaurant – destination (e.g. business meetings)	Low	Medium	Low
Store – convenience store	Very low	Very short	High
Store – grocery store	Low	Short/medium	Medium
Store – shopping centre	Medium	Medium	Low

Service – medical/dental	Low	Medium	Low
Service – professional	Low	Medium	Medium
Other – emergency services	Very low	Variable	Low
Other – deliveries	Very low	Variable	High
Other – people with reduced mobility	Very low	Variable	High

SOURCE: FERGUSON (2005)

2.4.3 TEMPORAL CHARACTERISTICS OF DEMAND

Parking has two principal dimensions: the space occupied and the time consumed. Parking demand therefore varies based on the activities on offer in the area and the time occupied by each user. While demand may move around during the day, the spaces remain fixed and the externalities are felt permanently.

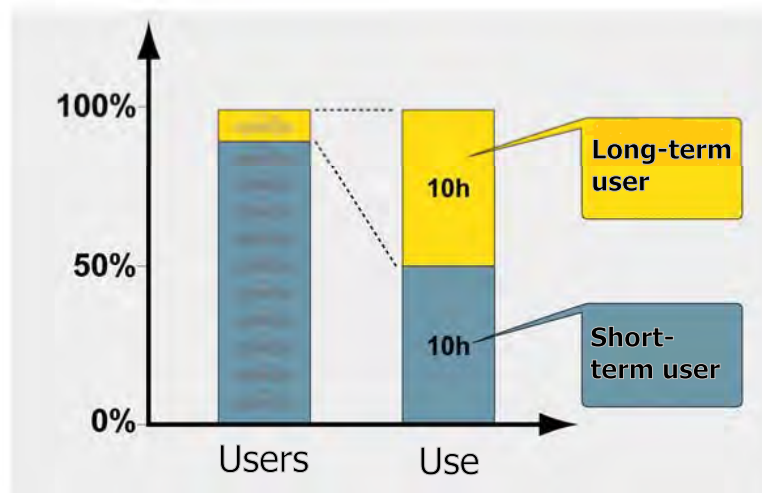
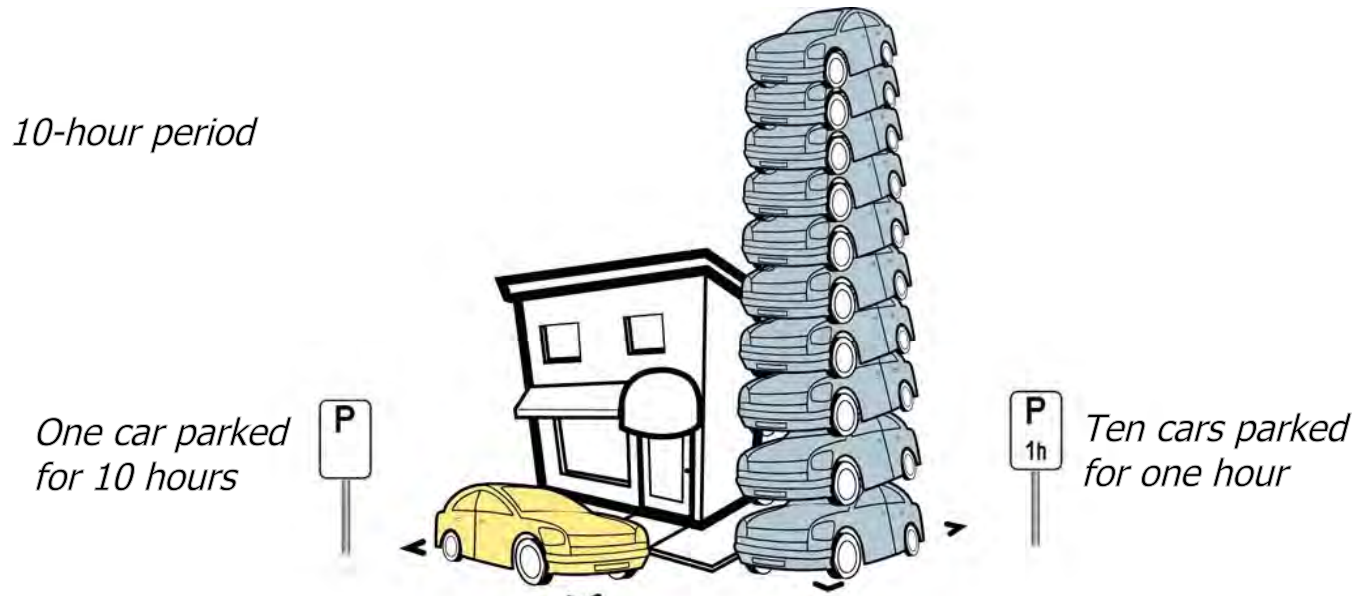
Many spaces are often underused because they are occupied by a single user for the duration of the day. When parking spaces have a good turnover, several users can benefit from them. The example shown in Figure 2.4.2 illustrates a classic situation on a commercial street. On one side, the business owner's car is parked in front of the store all day; on the other side, a limited-time space is used by ten users over the course of the day. If you only consider the number of users, the situation does not seem too problematic: the business owner represents only 9% of the daily users of the two available spaces. However, if you look at the consumption of the parking time available (number of spaces X duration of parking; two spaces available between 8 a.m. and 6 p.m., or 20 hours of parking available), the business owner is consuming half of the supply. This clearly illustrates the importance of increasing the user turnover rate in and around commercial areas so as to increase the potential to accommodate customers.

In the case of shopping centres, there are generally a fair number of spaces that are used only on rare occasions (e.g. peak Christmas shopping times). This increases the surface area available, even though it is only to meet super-peak demand. Further adding to the scale of the overconsumption of space, these parking spaces intended to accommodate peak Christmas shoppers are often used to dump snow cleared from the rest of the parking lot. The nature of a city centre or village does not allow this luxury.

Time-based demand is not the same in each area. Demand for parking is not the same on a commercial street or in a residential neighbourhood at different times of day. Areas with a certain amount of mixed use often have more users during the course of the day, but they require fewer parking spaces because activities are spread across the day and the week.

For most areas with parking issues, the problems are generally concentrated at certain times of the day when demand is higher. In mixed-use areas containing many jobs, businesses and residents, parking demand is usually highest on weekday afternoons (see Figure 2.4.3). Demand can also be high in the evening and on the weekend when commercial and nighttime activities are concentrated.

Figure 2-2 Consumption of available parking spaces



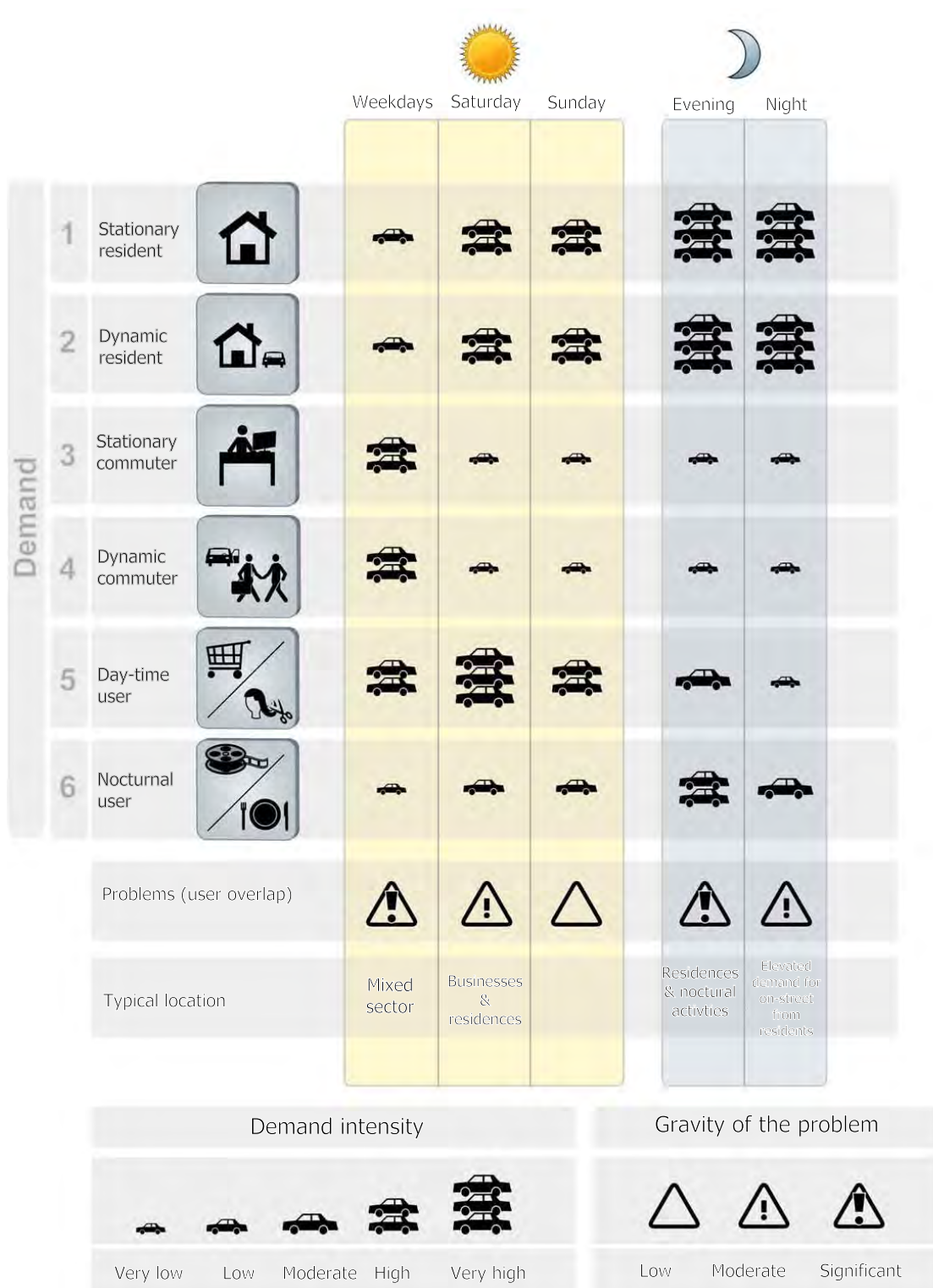


Figure 2-3 Physical distribution of parking demand

2.4.4 CHARACTERISTICS OF PARKING SUPPLY

Parking supply could be studied based on the number of spaces alone. However, there are other characteristics that should be taken into consideration when qualifying parking supply, such as:

- Capacity or number of spaces
- Regulations (zones reserved for residents, disabled persons, etc.)
- Maximum duration and turnover of spaces
- Cost of parking

3 DIAGNOSIS OF THE CURRENT SITUATION

3.1 STUDY AREA

The study area covers the entire territory of Pointe-Claire Village, as illustrated in Figure 3-1. Within this area, it is possible to identify two major hubs of activity, to the north and south. The southern hub comprises a shopping street, Bord-du-Lac–Lakeshore Road, several nearby businesses and a few institutional buildings, including a church and an elementary school. The northern hub, near Highway 20, includes a CLSC and a few businesses on Cartier Avenue. The two hubs are separated by a residential area and the Beaconsfield Golf Club. Each of these districts occupies a small enough area for walking distances to be acceptable from one end to the other, making this mode of transport possible within the district for those without mobility issues.

The study area has three main entrances. The first two are located in the southern part of Pointe-Claire Village, via Bord-du-Lac–Lakeshore Road coming from both the east and west. The third entrance is to the north, from Highway 20 via Cartier Avenue.

Figure 3.1 - Study area and entrances
Pointe-Claire Village



3.2 DESCRIPTION OF THE CURRENT PARKING SITUATION

Pointe-Claire Village has numerous parking lots of widely varying sizes, which may be public, institutional or commercial (private) in nature. For the purposes of this study, only lots containing at least five spaces and with the potential to accommodate users of Pointe-Claire Village were considered. A team of experts made a field visit to the study area on May 16, 2018. The team identified 27 off-street parking zones and 16 sections of on-street parking, the capacities of which are illustrated in Figure 3-2.

Various methods were used to determine the capacity of each. For off-street parking, it was possible to count the spaces marked out in the parking lots. For on-street parking, when the spaces were marked out on the asphalt, it was possible to determine the capacity of the section concerned. Note that parking spaces had not been marked out between Lanthier Avenue and Salisbury Avenue at the time of the survey. All other on-street parking was estimated based on the length of the section, considering that a vehicle occupies an average length of six metres.

Figure 3.2 - Location and capacity of existing parking
Pointe-Claire Village



* When the field surveys were conducted, a part of the parking lot was occupied by the Wilson et Fils market. Only 17 parking spaces were available to the public, while normally the parking lot has approximately 40 parking spaces.
** The parking lot is open to the public from April 15 to September 15 each year.

3.3 PARKING REGULATIONS

The City of Pointe-Claire manages 100% of public on-street parking as well as off-street parking on municipal land in Pointe-Claire Village. It cannot, however, take action with respect to the management of parking on private land, unless there is a signed agreement between the owner and the City of Pointe-Claire. The following section covers regulations that apply to public and institutional parking.

3.3.1 ON-STREET PARKING

On-street parking is permitted on several streets. Within Pointe-Claire Village, on-street parking is generally permitted except where the street is too narrow to allow it. It is common to find streets where parking is permitted on one side only, to allow traffic to pass in both directions. However, some streets only permit parking on one side even though they are wide enough to accommodate a lane of parking as well as a lane of traffic on each side, such as Lanthier Avenue.

Although there are many on-street spaces marked out on the pavement, all parking located in the study area is free to use (no fees). While most on-street parking has a time limit of between 20 minutes and three hours, some is completely unrestricted. On-street parking regulations are summarized in Figure 3-3.

As the figure shows, the most sought-after spaces—along Bord-du-Lac–Lakeshore Road—are limited to 60 minutes between 9 a.m. and 5 p.m. On the other hand, spaces on Lanthier Avenue have no time limit. Meanwhile, on-street spaces in the northern district all have a two-hour time limit, like those in the nearby public parking lot.

3.3.2 OFF-STREET PARKING

The City of Pointe-Claire manages six off-street parking lots in Pointe-Claire Village, representing approximately 320 spaces out of a total 915. Some of these parking lots have a time limit of either two or three hours. Furthermore, parking is prohibited between 3 a.m. and 6 a.m. from November 15 to April 15 to allow for snow removal operations.

Institutional parking lots mainly serve the CLSC to the north and the church and school to the south. In the northern district, the parking lot on the north side of the CLSC building holds 62 vehicles and is reserved exclusively for staff. On the south side of the building, a paid visitor parking lot holds 45 vehicles. Note that the first 30 minutes are free in this lot. In the southern district, the parking lots next to the church and school have time limits of between 60 and 90 minutes. Note that some parking spaces do not have sufficient signage to determine access. For example, there are no signs indicating whether the school's parking lot can be used by the public on the weekend.

Most private parking lots are reserved for users of a business or group of businesses. Signs generally state that unauthorized vehicles will be towed at the owner's expense. Only the C-1 parking lot has an agreement with the City of Pointe-Claire to allow public use between April 15 and September 15.

Furthermore, according to by-law RM 2565, it is prohibited to park a vehicle on a public street or City property for more than 24 consecutive hours.

Pointe-Claire Village



3.4 WINTER PARKING

Under its by-law concerning parking and road traffic (RM-2565), the City of Pointe-Claire prohibits overnight on-street parking during the winter period, from November 15 to April 15. Parking is prohibited between midnight and 7 a.m. every day of the week. This measure is to avoid disrupting street snow removal operations. The cost and duration of snow removal can increase considerably when operations are disrupted. The parking prohibition is posted at the entrances to the city and at highway exits. Municipal off-street parking lots also have a similar prohibition over the same period of the year to allow for snow removal operations, but from 3 a.m. to 6 a.m.

Parked vehicles can hinder the snow removal crews. Street snow removal benefits all road users (circulation, safety, access to parking spaces, clear sidewalks, etc.). However, it is mainly local residents who have to live with the inconvenience, since snow removal takes place at night. Residents must therefore find somewhere to park off the street. Employees and customers who park during the daytime benefit from the snow removal but do not need to find off-street parking, as they have already left the area. This parking prohibition can be problematic for residents and their visitors who do not have access to off-street parking and may discourage people who own a car from living in a place that does not come with its own parking space.

The people responsible for snow removal for the City of Pointe-Claire raised the point that some parking lots lose a good number of parking spaces during the winter due to snow being dumped in those spots. Details of the spaces lost due to snow removal operations are presented in Appendix A and the following table.

Table 3-1 Parking spaces lost due to snow removal operations

Name	Number	Capacity	Spaces lost (snow removal operations)	% lost
Church of St. Joachim	I-5	52	12	23%
South-East of 286 Lakeshore Road	P-3	35	5	14%
North-East of 286 Lakeshore Road	P4	45	5	11%
Curling Club	C-1	40	7	18%
Lanthier	On-street	50	8	16%
32 Saint-Joachim	P-5	42	5	12%
246 Lakeshore	P-2	70	7	10%
Devito	P-6	23	4	17%
Salisbury/Devito	On-street	8	2	25%
Average				16%

SOURCE: CITY OF POINTE-CLAIRE (2018) / TREATMENT: WSP (2018)

In light of the data provided by the City of Pointe-Claire, it seems that, on average, approximately 16% of parking spaces are made unavailable by the dumping of snow. Since the parking occupancy surveys in Pointe-Claire Village were carried out in the month of May, it was not possible to analyze the situation in winter. Indeed, the data cannot be extrapolated for other times of the year. However, it is possible to assume that, if demand is fairly similar to that observed in May, parking conditions must be somewhat more difficult although the number of parking spaces remains sufficient to accommodate the demand.

3.5 SPECIAL AGREEMENTS

The City of Pointe-Claire indicated that it has special agreements with certain users with respect to parking lots under its jurisdiction. Indeed, the particular situation of three parking lots (P-5, C-1 and I-5) was taken into consideration when developing the recommendations.

Lot P-5 (Saint-Joachim Avenue)

There are two types of agreements that apply to this parking lot. The first allows businesses and their employees, based on Bord-du-Lac–Lakeshore Road and Saint-Joachim Avenue, to use the parking lot for an indeterminate amount of time despite the posted limit of three hours. This is made possible by the City issuing parking permits several years ago. These permits have since expired, but the City continues to honour them.

The second type of agreement allows four local residents to use the parking lot at any time—even overnight during the winter—despite the regulations prohibiting this. This permission can sometimes lead to issues with snow removal, as mentioned by the City’s person responsible for snow removal.

Lot C-1 (Curling Club)

Since 2001, the City of Pointe-Claire has had an agreement with the Curling Club allowing it to access the parking lot, which belongs to the Curling Club, for public use between April 15 and September 15—that is, outside the curling season. Under this arrangement, the City is responsible for clearing snow in this parking lot. It seems that the Curling Club rents out an area of approximately 6,000 sq.ft between April 15 and November 1 each year to Jacques Wilson et fils for an outdoor market. According to the City’s observations, the merchant often occupies an area greater than the allotted 6,000 sq.ft. Note that the capacity of this parking lot in this study corresponds to that observed at the time of the survey; that is, 17 spaces. In total, the parking lots contains approximately 40 spaces.

Lot I-5 (Riverside, west of the church)

Although the Fabrique Saint-Joachim owns the land on the peninsula, it has an agreement with the City of Pointe-Claire, who takes care of snow removal and enforces the existing parking time limits of 60 and 90 minutes.

Lot I-1 (elementary school)

The elementary school has a lease with the Fabrique Saint-Joachim to use some of its property as parking for the school’s employees, as the school has no parking on its property. The elementary school’s parking lot allows for public use outside the school’s operating hours.

3.6 USE OF PARKING

The use of parking in Pointe-Claire Village varies by location, day of the week and time of day. To build up a picture of the current situation with regard to demand, parking occupancy surveys were carried out on the following days:

- Thursday, May 17, 2018, 8 a.m. to 6 p.m.
- Sunday, May 20, 2018, 8 a.m. to 6 p.m.

Surveys were conducted at two-hour intervals to see how the occupancy rate changed during the course of the day. These surveys included both off-street and on-street parking, as indicated in Figure 3-2.

The parking occupancy survey shows the parking occupancy rate at various times of day, highlighting the variability over time and according to area. Depending on the use, some areas will have a greater occupancy in the evening, while others will be unoccupied during the day. The diagnosis is made by subdividing the study area into five sectors.

3.6.1 ON-STREET

All on-street parking in the study area is free of charge. Some parking spaces have been marked out on the pavement, especially in sections that have higher demand. The surveys identified a total of 252 on-street parking spaces, of which 181 are located south of Lanthier Avenue. The following figure illustrates the average occupancy rate for on-street parking on one weekday and one weekend day.

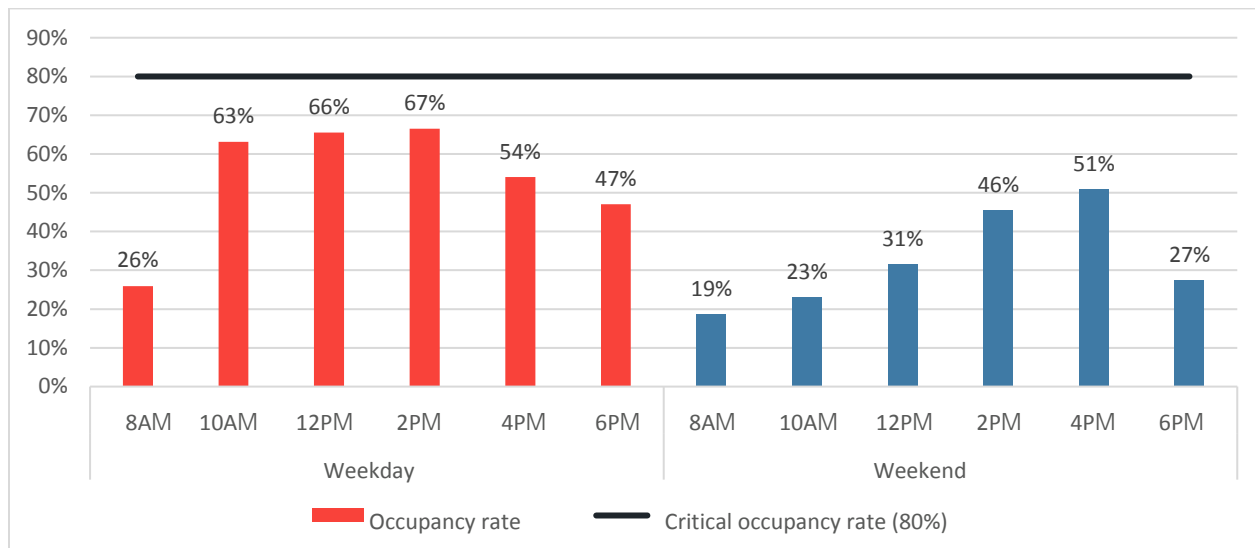


Figure 3-4 Average occupancy rate of on-street parking

Looking at Figure 3-4, it seems that the overall occupancy rate does not exceed 80%, meaning that there are almost always spaces available to park on the street. However, a more in-depth analysis shows that the occupancy rate varies greatly from one section of parking to another, and that some—particularly on Bord-du-Lac–Lakeshore Road—often exceed the critical occupancy rate. Figure 3-5 illustrates the occupancy rates by section.

Pointe-Claire Village



The following observations may be made based on the previous figure:

- It seems that certain sections of parking are very close to the critical rate most of the time, meaning that finding a parking space can be difficult.
- Peak demand seems to be around noon on weekdays.
- The busiest sections appear to be those located near the intersection of Cartier Avenue and Bord-du-Lac–Lakeshore Road. In fact, many of these sections present occupancy rates of approximately 80% or higher.
- The eastern side of Sainte-Anne Avenue and de Lourdes Avenue generally present lower occupancy rates than other streets, even though they are near the village centre.
- Parking on Lanthier Avenue is generally quite busy, especially during the week.
- The 20 parking spaces available on Bord-du-Lac–Lakeshore Road between Golf and Cartier avenues are generally quite busy during the week, especially around 2 p.m., and maintain residual capacity over the weekend.

3.6.2 OFF-STREET

As mentioned previously, off-street parking is divided into three categories, as shown in Figure 3-6.

The approximately 915 off-street parking spaces are therefore almost equally split between public, private and institutional use. Analysis shows that the occupancy rates of these parking lots are closely tied to the type of parking in question. In fact, as illustrated in Figure 3-7, it seems that public parking lots are considerably more in demand than private or institutional parking lots, regardless of the time of day or day of the week. Like on-street parking, demand seems to peak around noon during the week, when the average occupancy rate for public parking lots approaches the critical level of 80%. It also seems that institutional parking lots are mostly full during the week and less busy on the weekend. Meanwhile, private parking lots seem to have a constant occupancy rate, regardless of the day of the week.

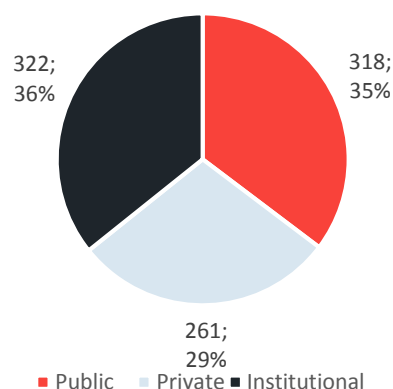


Figure 3-6 Distribution of off-street parking

To take a closer look at the occupancy dynamic of off-street parking, an analysis was conducted for each type of parking and by zone. The results are presented in Figure 3-8, Figure 3-9 and Figure 3-10.

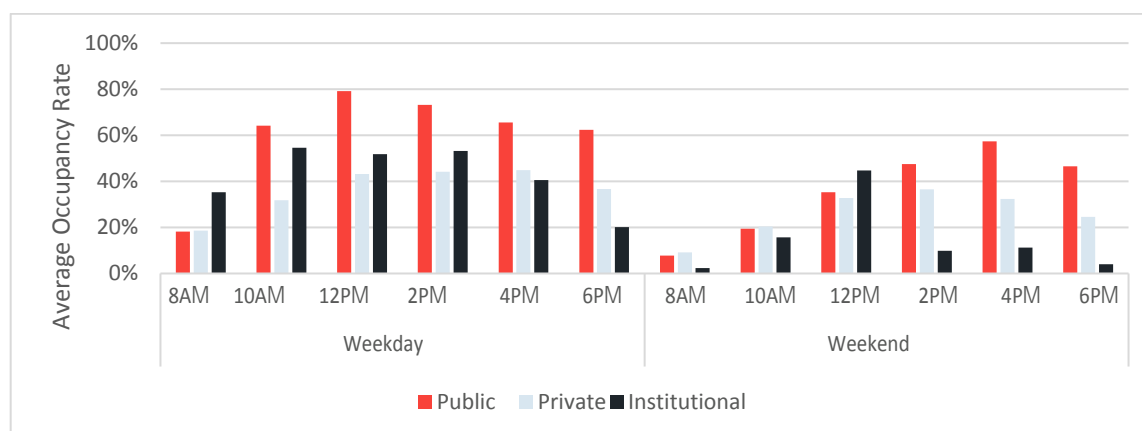


Figure 3-7 Average occupancy rate of off-street parking

Legend

Off-street parking

- Institutional
- Private
- Public

XX Capacity

	Institutionnel	Privé	Public	Total
AM (8h-11h59)	26%	16%	24%	23%
Midi (12h-15h59)	39%	38%	55%	40%
PM (16h-19h59)	19%	35%	58%	36%
Total	28%	30%	46%	

Map Data:

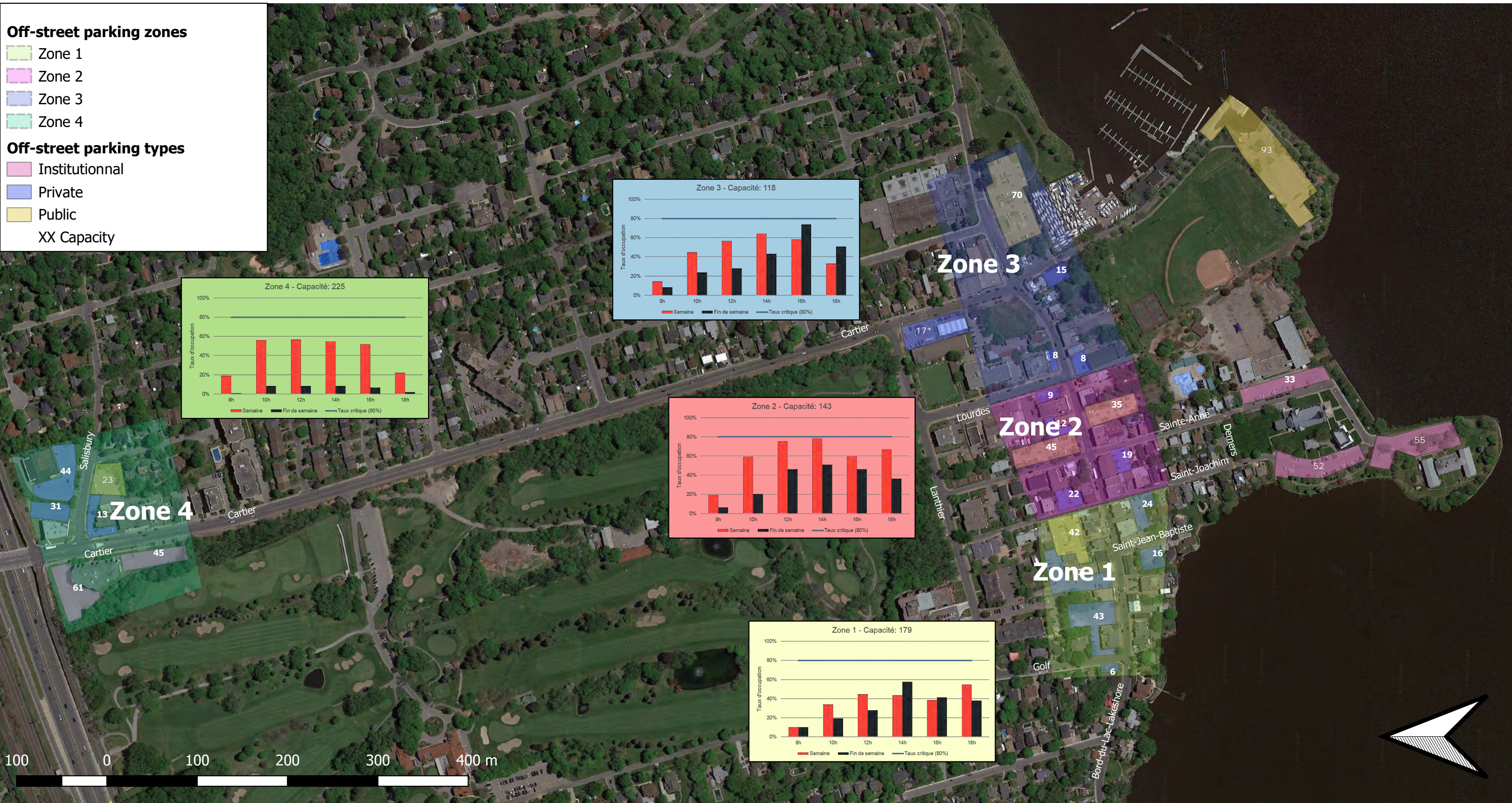
- Salisbury:** C-12 (44), C-14 (31), P-6 (23), C-13 (14), I-3 (62), I-4 (45)
- Cartier:** C-1 (17*), C-2 (43), C-3 (6), C-4 (22), C-5 (12), C-6 (9), C-7 (8), C-8 (8), C-9 (15), C-10 (24), C-11 (19), C-15 (48), C-16 (16)
- Other:** P-1 (93), P-2 (70), P-3 (35), P-4 (45), P-5 (42), I-1 (33), I-2 (55), I-5 (52)

Scale: 0 to 400 m

North Arrow: Indicated by a stylized arrow pointing towards the top right.

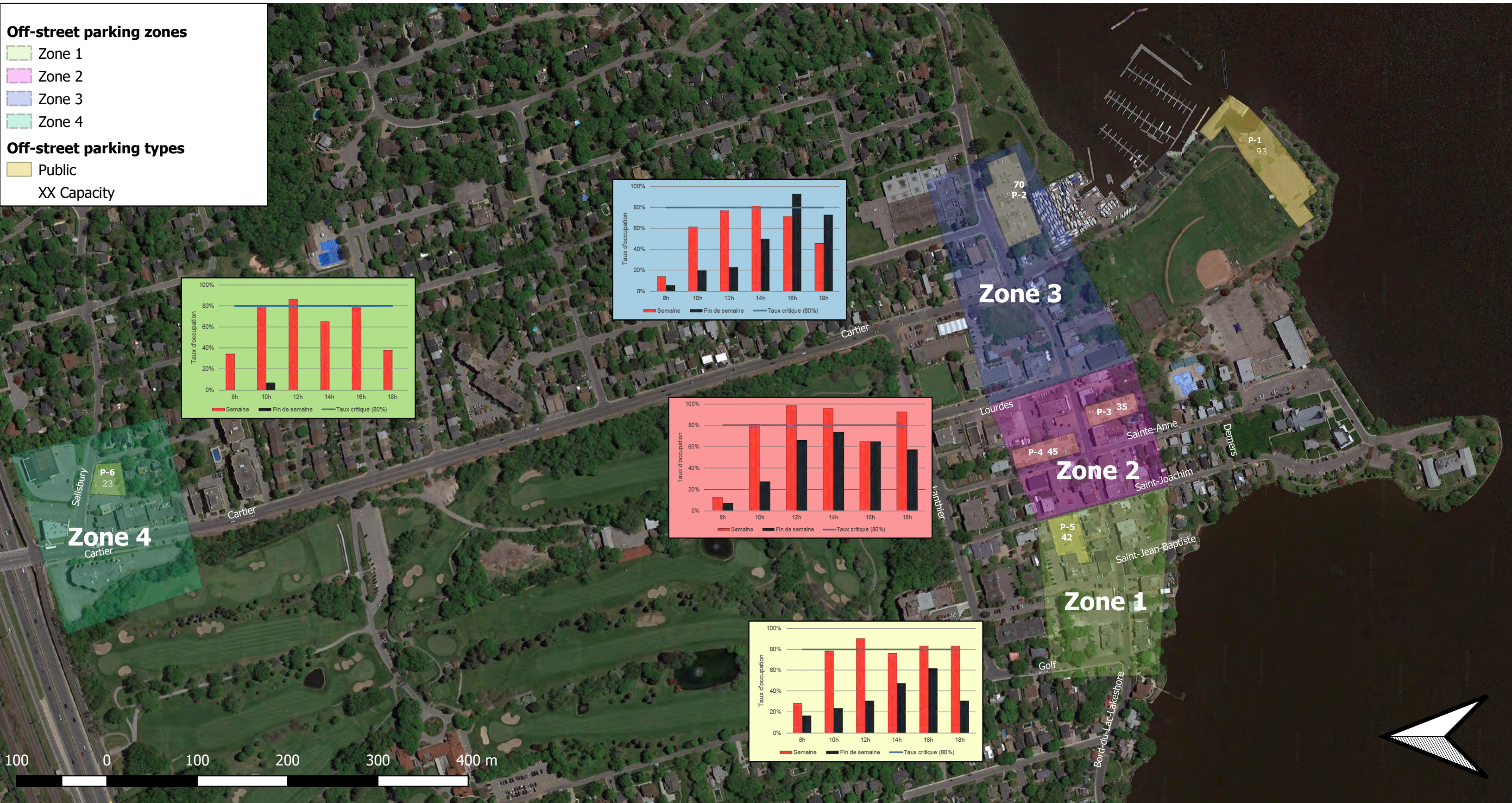
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Figure 3.9 - Occupancy rates of off-street parking by zone
Pointe-Claire Village



*When the field surveys were conducted, a part of the parking lot was occupied by the Wilson et Fils market. Only 17 parking spaces were available to the public, while normally the parking lot has approximately 40 parking spaces.
** The parking lot is open to the public from April 15 to September 15 each year.

Figure 3.10 - Occupancy rate of off-street parking by zone for public parking lots only
Pointe-Claire Village



The parking zones presented in Figure 3-9 were defined in relation to the centre point of Pointe-Claire Village, defined as the intersection of Bord-du-Lac–Lakeshore Road and Sainte-Anne Avenue. To determine whether demand—and therefore the occupancy rate—showed a constant progression towards the centre point, three zones were defined. And to determine the general trend in the northern district, a zone was defined to encompass all off-street parking lots around this hub.

The following observations may be made based on the previous figures:

- In the northern district:
 - It appears that the CLSC staff parking lot is occupied at capacity during the week.
 - In general, the CLSC public parking lot is underused, perhaps due to the cost.
 - During the week, the public and private parking lots on the southeast corner of the intersection have a fairly high occupancy rate throughout the day, which would suggest they are used by people who work nearby.
 - The funeral home’s parking lot is largely underused. Note that it is possible that no funeral activities took place during the surveys, which could explain the very low occupancy rate. It may be appropriate to determine whether all 44 parking spaces are necessary for the funeral home’s operations.
- In the southern district:
 - In general, the situation is better during the week than on the weekend—that is, finding a parking space seems to be easier.
 - Aside from the one located on the waterfront (in Bourgeau Park), all the public parking lots present an occupancy rate close to or exceeding the critical level of 80%, which would suggest that the residual capacity is virtually zero—especially between 10 a.m. and 2 p.m. during the week.
 - The school’s parking lot is nearly at capacity on weekdays.
 - The institutional parking lots near the church, which have a capacity of around one hundred spaces, are generally underused at the weekend, except for Mass at midday (surveys were taken on a Sunday).
 - These parking lots also seem to be underused during the week. It should be noted that filming was taking place in the southern-most parking lot on the survey day, which may have had an effect on the occupancy rate during the week.
 - In general, parking lots belonging to businesses are not occupied to capacity, except the one facing 271 Bord-du-Lac–Lakeshore Road, which is occupied at a rate of close to 80% during the week.
 - Some private parking lots present a fairly high occupancy rate for only one two-hour period, while the rest of the day is very low.
 - Zone 2 has a higher occupancy rate than the other zones, which suggests that demand is greater in this area.

3.7 STAKEHOLDER COMMENTS

In order to better understand the dynamics of parking in Pointe-Claire Village and to consider the perception of stakeholders regarding the issue of parking, the following comments were collected. These come from several sources, including two public participation activities with the City of Pointe-Claire’s land use advisor, as well as an online survey on the City’s public consultation platform, Pointe-Claire, it’s who we are.

3.7.1 COMMUNITY CONSULTATION OF MAY 29, 2018

This meeting between representatives of the City of Pointe-Claire and Pointe-Claire Village stakeholders took place on May 29, 2018, to collect feedback on the parking situation in the area.

- Parking on Bord-du-Lac–Lakeshore Road should be removed in favour of buses.
- Parking should be limited to a maximum of two to three hours.
- The public parking lots on Sainte-Anne Avenue and Saint-Joachim Avenue are always full.
 - The City confirms that certain business owners have permits that allow them to park there all day and certain residents are allowed to park there overnight.

- Parking spaces should be added on Lanthier Avenue.
- Parking spaces should be more clearly indicated.
 - Proposal to create a parking map or an app.
- The City does not enforce parking regulations rigorously enough.
- To remedy parking issues, businesses should give their customers parking vouchers. Constructing multi-storey parking facilities outside the centre should also be considered.
- The vacant land at the end of Devito Avenue should be used as a parking lot for people who work on Cartier Avenue.

3.7.2 WORKSHOP

This meeting took place at the Noël-Legault Community Centre on Wednesday, August 15, 2018, from 6:30 to 8:30 p.m. This was an opportunity for WSP to present the preliminary results of the parking study and collect feedback from stakeholders. A summary of the comments is provided below, organized by theme.

Northern district

It seems that the main issues with parking in this district are caused by the CLSC's paid parking lot and users of the 211 and 411 bus routes. Indeed, the citizens present stated that CLSC users parked in the nearby public parking lot and in the surrounding streets to avoid having to pay. It also seems that, despite the time limits, many people leave their vehicles there all day, having caught bus 211 or 411 to go to downtown Montreal.

Capacity

Many citizens are concerned about parking capacity in Pointe-Claire Village. Indeed, many businesses and activities generate demand that the current parking situation seems unable to absorb. They mentioned that Ye Olde Orchard Pub often causes issues, as its customers use a lot of the public and private parking available nearby. The comments also tell of certain businesses that bring in large numbers of people early in the morning who quickly fill up the public parking spaces. They also cite several restaurants that do not have their own parking lots, generating additional demand for public parking. Wild Willy's ice cream parlour is also cited as being problematic—especially in summer—as it does not have parking on its property. Some in attendance proposed offering more parking spaces, especially on Lanthier Avenue.

Parking fees With respect to the possibility of charging for parking in Pointe-Claire Village, the citizens appear to be generally opposed to the idea. They cited the case of Sainte-Anne-de-Bellevue, which began charging for parking but had to reverse this decision.

Parking permits and sharing

Regarding the issue of parking spaces reserved for residents and specific uses in public parking lots, many citizens had questions about the number of agreements and permits issued by the City of Pointe-Claire to occupy public parking spaces. Some people mentioned that the public parking lot on Saint-Joachim Avenue is subject to a significant number of special arrangements. In the case of the Curling Club, the citizens wanted to know what the agreement with the City really includes. The possibility of sharing parking spaces (public, private, institutional) was interesting to the citizens, but they questioned how that would work (snow removal, management, insurance, etc.).

Regulations, signage and enforcement

According to some residents, the regulations in place on certain streets or in off-street parking lots do not match how these spaces are used. They cited the example of the time limit near Saint-Joachim Parish. With respect to the enforcement of parking regulations, virtually all in attendance agreed that inspections are very rarely made, and tickets are issued even more rarely. Consequently, users tend to park their vehicles for much longer than the authorized time limit.

Snow removal

The issue of snow removal on streets and in parking lots in Pointe-Claire Village was raised several times, being considered critical by certain attendees. They feel that Bord-du-Lac–Lakeshore Road and several public parking lots are not cleared quickly enough. In their view, when snow accumulates in parking lots, many spaces are lost, which can cause issues—especially during the Holiday shopping season.

Proposed solutions

The citizens in attendance at the meeting proposed potential solutions or strategies to resolve the parking issues in Pointe-Claire Village. They suggested that regulations should be enforced and inspections carried out more frequently, that certain time limits should be adjusted to suit nearby uses and that signage should be improved in public parking lots.

3.7.3 ONLINE CONSULTATION

To complement the feedback gathered during the workshop, the City of Pointe-Claire also allowed citizens to express themselves using a virtual platform. The online consultation took place between August 15 and September 17, 2018, on the *Pointe-Claire, c'est nous / Pointe-Claire, it's who we are* webpage. This served to collect the following comments.

Northern district

A comment raised the issue of commuters leaving their vehicle in public parking and then taking the train or bus to downtown Montreal. The suggestion to place a two-hour time limit on these parking spaces was put forth.

Capacity

The comments regarding the parking capacity of Pointe-Claire Village were fairly similar to those collected during the workshop. Many comments refer to the lack of parking and the absolute necessity to avoid eliminating any parking spaces, at the risk of damaging the local economy. Regarding the relocation of the Bourgeau Park parking lot, some suggested adding between 25 and 40 more spaces in relation to the current capacity. Some participants also said that a number of spaces near the boat ramp should be reserved for boat trailers when the parking lot is moved to the north of the park. Some also proposed adding parking on Lanthier Avenue, such as by turning parallel spaces into perpendicular ones.

Parking fees

Comments showed that people were fairly unanimous in their reticence about paid parking being introduced in Pointe-Claire Village.

Parking permits and sharing

There were few proposals collected regarding shared parking or special permits being issued in the study area.

Regulations, signage and enforcement

The comments highlighted the need to make time limits more restrictive near businesses and to offer longer-term parking on the outskirts. In general, the comments suggested a two-hour limit on Bord-du-Lac–Lakeshore Road and Cartier Avenue, and a four-hour limit on neighbouring streets. Some also said that signage should be standardized and made clearer.

Snow removal

The issue of snow removal was not raised by participants in the online consultation.

Proposed solutions

Several solutions were proposed to improve the parking situation in Pointe-Claire Village. Pedestrianization was suggested, as was making Bord-du-Lac–Lakeshore Road one-way. Changing the surface of parking lots to honeycomb or permeable paving was mentioned. Changing the directionality of Sainte-Anne Avenue (one-way northbound) and Saint-Joachim Avenue was proposed.

3.7.4 BUSINESS OWNERS' COMMENTS IN CONVERCITÉ STUDY (2013)

- The overall perception is that there is a lack of parking on Bord-du-Lac–Lakeshore Road and near businesses.
- Signage regarding the location of parking lots and their capacity is deficient.
- People who do not follow parking rules are rarely fined.

- Parking regulations constitute a brake on economic growth, as new businesses must provide customers with a minimum number of parking spaces.

3.8 QUALITY OF FACILITIES

To complete the analysis of parking in this area, it is important to consider the quality of facilities, and in particular the signage in place that should allow users to identify parking spaces and understand restrictions.

Signs

The signs installed by the City for both on-street and off-street parking are generally well placed and sufficiently clear to be relatively easy to understand. For off-street parking lots, time limits and restrictions are generally posted near the entrance so that the information can be quickly identified. For example, on Figure 3-11, Figure 3-12 and Figure 3-13.



Figure 3-11 Signage #1



Figure 3-12 Signage #2



Figure 3-13 Signage #3

For on-street parking, the signs posted along the street are generally at a reasonable distance to be seen by a driver parked anywhere within the section. The signs generally provide enough information to be understood quickly, and no overlapping of rules was observed on field visits. However, some signs are somewhat simpler than others. Indeed, while some signs state the hours between which parking is limited, others only state the time limit in question (e.g. “90 minutes”). The following figures show that it is relatively easy to understand the information regarding on-street parking rules.

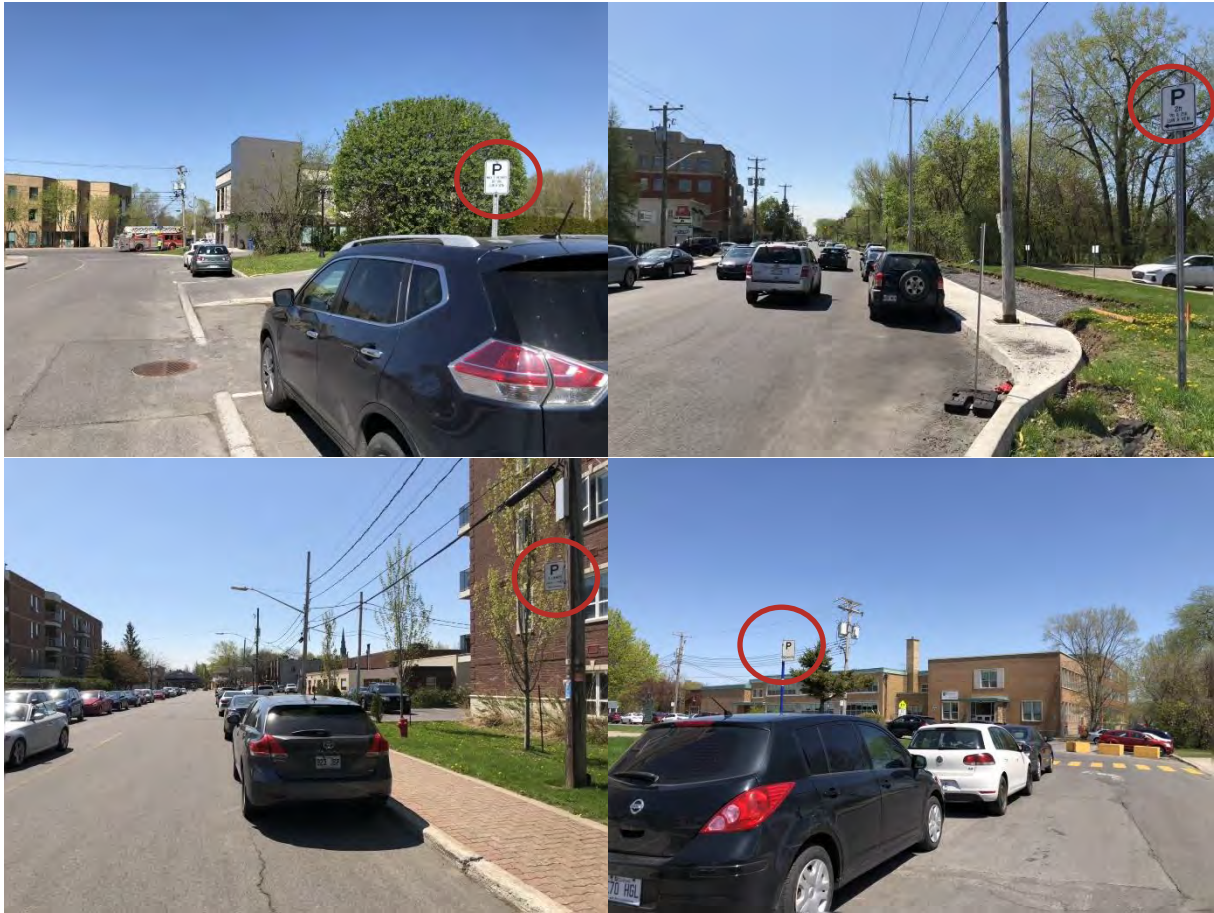


Figure 3-14 Signage #4

With respect to private parking lots, nearly all of them have signs stating that they are reserved for customers of a specific business. However, the signage differs from one parking lot to another and it is not always easy to see, which may lead some users to think that they are entering a public parking lot. The following figure shows examples of private parking lots' signage.



Figure 3-15 Signage #5

Marking

All off-street parking lots managed by the City are marked so as to organize the parking spaces more efficiently. The condition of the marking is generally good and allows for optimal use of the space. Regarding on-street parking, only Bord-du-Lac–Lakeshore Road and Cartier Avenue near Lakeshore have spaces painted on the pavement. This generally allows for better use of the space and prevents vehicles from parking in front of driveways.

3.9 ASSESSMENT

By studying parking regulations, occupancy rates and stakeholders' comments, it is possible to make an assessment of the current situation and identify the strengths, weaknesses, opportunities and threats.

Strengths

- Willingness of stakeholders, especially business owners, to optimize parking management
- Two hubs of activity and short walking distances within each of these districts
- Pedestrian-friendly environment connecting most parking spaces

Weaknesses

- No means of charging fees for public parking
- Peak demand seems to be unique: early weekday afternoons
- Abundant ground-level parking in the village centre, which diminishes the quality of the built environment
- Some parking lots are very busy, particularly public lots along Bord-du-Lac–Lakeshore Road
- Business owners' perception of a lack of parking in the village centre for their customers
- Illegal use of public parking (not respecting time limits)
- Lack of signage to indicate availability, capacity and location of parking
- Use of parking spaces near businesses by employees and business owners
- Little effort to make off-street parking greener and improve quality of facilities
- With vehicle use already high in this area, the abundance of parking tends to encourage solo driving

Opportunities

- About 2/3 of parking spaces are under the responsibility of the City of Pointe-Claire
- Large residual capacity in some areas, even at peak times
- Possibility of implementing measures to manage time, costs and authorizations

Threats

- Complexity of clearing snow from on-street and off-street parking spaces
- Resistance to change among some stakeholders

4 ANALYSIS OF THE FUTURE SITUATION

To propose solutions that are adapted not only to the current situation in the Pointe-Claire Village and the issues already presented but also the future situation, it is necessary to take a look at developments to come. Indeed, depending on the changes that take place over the next number of years, supply and demand for parking may vary, which will certainly affect the final proposals for improvement.

4.1 PROPOSED PROJECTS

Most planned changes to the Pointe-Claire Village landscape can be found in the Special Planning Program (SPP), developed in 2016.

In general, the SPP aims to revitalize Pointe-Claire Village by homogenizing the urban landscape. To do so, the plan proposes redesigning the streets to make them more user-friendly. For example, by incorporating street furniture and widening sidewalks. Also, to stimulate economic activity on Bord-du-Lac–Lakeshore Road, the City intends to encourage businesses to be established along the entire length of the section in question to ensure a certain continuity and provide a more attractive environment.

In addition to the projects proposed in the SPP, several items in the Village Code will alter the density and height of buildings allowed in various areas. This document also stipulates that the ground floor of buildings located on Bord-du-Lac–Lakeshore Road between Golf and Cartier avenues must be occupied by a commercial establishment.

4.2 SUPPLY AND DEMAND

To determine the future balance between parking supply and demand, it is necessary to estimate how much supply will change following the developments proposed in the SPP, and to consider how developments will affect demand for parking in Pointe-Claire Village.

According to the preliminary estimations that arise from the urban revitalization vision proposed in the SPP, the challenge is therefore to propose solutions that will make it possible to accommodate approximately 150 additional vehicles. While this may be an approximate figure, it offers an idea of the number of additional spaces that must be provided towards the commercial centre of Pointe-Claire Village. In fact, the demand is likely to increase throughout Pointe-Claire Village, but analysis has shown that the existing facilities contain considerable residual capacity. The key is therefore to optimize their use using various strategies, including shared use.

5 OBJECTIVES AND GUIDING PRINCIPLES

Based on the diagnosis of the current parking situation in Pointe-Claire Village, including the strengths and weaknesses in this respect, it is possible to define general guidelines for the parking management strategy as well as the actions to take in order to achieve the policy's objectives.

5.1 POLICY OBJECTIVES

The above-mentioned general guidelines stem from the objectives, which are organized by theme:

- Supporting economic vitality and development
- Reducing the negative impacts of parking
- Ensuring proper management of parking
- Providing a user-friendly route between parking location and destination

Note that the objectives are not necessarily presented in order of priority.

5.1.1 *SUPPORTING ECONOMIC VITALITY AND DEVELOPMENT*

- Provide an appropriate supply of parking, both public and private, according to the demand of target clientele and objectives.
 - Promote sharing of parking spaces (complementary users) to optimize their use, reduce construction costs and decrease the number of spaces needed.
 - Manage spaces efficiently to promote appropriate use by the target clientele.
 - .
-

5.1.2 *REDUCING THE NEGATIVE IMPACTS OF PARKING*

- Improve the quality of runoff water and reduce the quantity.
 - Reduce heat island effects.
 - Promote streets that are pedestrian friendly and safe.
 - Ensure availability of on-street parking for customers of local businesses.
 - Enforce existing regulations to reduce illegal parking in the heart of Pointe-Claire Village.
-

5.1.3 *ENSURING PROPER MANAGEMENT OF PARKING*

- Ensure a good turnover of spaces in service and commercial areas.
- Ensure on-street parking regulations are enforced.
- Improve information and customer service.
- Favour certain users in areas with parking issues.
- Manage the parking of boat trailers.

5.1.4 PROVIDING A USER-FRIENDLY ROUTE BETWEEN PARKING LOCATION AND DESTINATION

- Guide users from the main access points towards the main parking lots.
 - Inform users of the number of spaces available.
 - Guide users from their parking location towards their destination.
 - Inform users of the location of long-term off-street parking lots.
-

5.2 GUIDING PRINCIPLES

To provide sound management of on-street and off-street parking in Pointe-Claire Village, the guiding principles help ensure that the proposed actions are consistent. First of all, it is important to understand the duration and main periods of use of different users. Next, the most appropriate locations for these users to park must be determined.

5.2.1 DURATION OF USE

Different types of users park their vehicles for different durations and at different periods of the day. Figure 5-1 below presents the parking management objectives for three types of users:

- Consumers and visitors consuming goods and services, meeting friends and family members, visiting a site or attending an event
- Commuters who work in the area
- Residents who live in the area

Residents and commuters have similar needs in terms of the duration of use, but their peak usage occurs at different times. Residents are more numerous at the end of the day, in the evening and at night, while commuters mainly occupy parking spaces in the daytime.

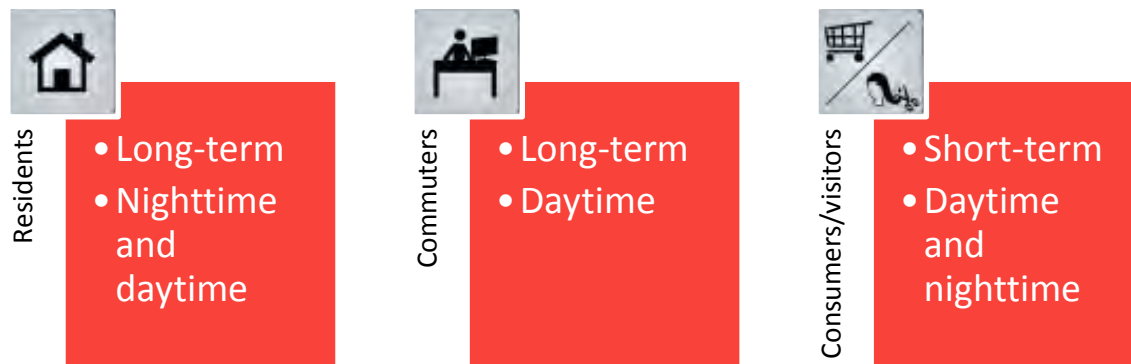


Figure 5-1 Duration and period of use for different types of users

The concept of duration of parking use is directly related to the observed turnover rate, which is defined as the number of vehicles that have occupied a specific parking space over a given period of time. It is generally agreed that parking spaces near businesses should have a higher turnover rate than those on surrounding streets that are more residential.

5.2.2 PARKING MANAGEMENT OBJECTIVES

To help predict the use and management of each sector of Pointe-Claire Village, Table 5–1 below presents the parking management objectives for the six sectors and three types of users.

Consumers and visitors

This category of users tends to visit the sector for various commercial purposes: shopping, eating out, entertainment, etc. This type of user should be able to park in the immediate vicinity of their destination for a short duration. If they wanted to, these users could park anywhere within Pointe-Claire Village, but the proposed measures will favour parking near activities.




Commuters




Workers come to Pointe-Claire Village daily and stay for a long period of time. These “suction cup” users occupy a large amount of space-time. Once parked in the morning, the vehicle leaves its spot only at the end of the owner’s shift, or occasionally on their lunch break. Ideally, these vehicles should be parked towards the edge of the sector, so as to leave space in the centre for other local or visiting users who intend to be there for a shorter duration.

Residents

The sector is the residents’ home. They have chosen to live here for various reasons. Their parking needs are generally greater in the nighttime, although variable work hours and the use of different modes of transport mean that their vehicles may be parked nearby at any time of day. Residents must therefore have access to free parking near their homes.

Table5-1 Proposed parking management objectives by sector and type of user

Sector	 Residents	 Commuters	 Consumers/visitors
North	++	++	++
Bord-du-Lac–Lakeshore Road	-	-	++
Cartier Avenue	++	++	-
Lanthier Avenue	+	++	+
Pointe-Claire peninsula	-	++	+
Off-street parking	-	-	++

 Main use
  Acceptable alternative use
  Undesirable use

As the table shows, Pointe-Claire Village is divided into six sectors that have different characteristics and needs. Indeed, depending on the proximity to local businesses, it is important to reserve spaces for customers by ensuring a high turnover rate. Conversely, sectors with a low commercial density and more homes will be better suited to residents and commuters, who need to park their vehicles for longer periods.

5.2.3 PARKING GUIDANCE AND INFORMATION SYSTEM

Parking studies have revealed that drivers sometimes perceive that there is a lack of parking even though the residual capacity is sufficient to accommodate demand. An effective parking guidance and information system can counter this perception. This kind of system displays information about the location and availability of parking spaces in the sector, as shown in the following example.



SOURCE: VILLE DE MONTRÉAL (2015)

Figure 5-2 Dynamic parking guidance and information system

The signage may be dynamic, as shown in the example, indicating in real time how many spaces are available in a given parking lot. This has the advantage of informing drivers ahead of time and giving them the option of choosing a different parking lot if the first one is full. However, dynamic signage is often expensive to install and requires more maintenance. The same type of signage, but static, makes it possible to give drivers information about how many spaces a parking lot contains and how to get there.

5.2.4 PARKING FEES

Charging for parking can help to achieve various objectives, such as limiting long-term use (prohibitive cost) and ensuring high turnover. Daily users will limit their use of paid parking if there is free parking available not too far away. On the other hand, occasional users will often prefer to pay for nearby parking if it means saving time. For a short stay, the cost has little impact on the decision to park. There are two principal ways to charge for parking: by parking space or by license plate.

Charging by parking space

Drivers “rent” a parking space for a given time, in exchange for a given amount of money. Each space is identified and can be occupied by the vehicle belonging to the person who has paid the tariff. Traditional parking meters are most representative of this method. New technology has made it possible to collect payments via a smart terminal that, unlike traditional meters, does not reveal to the next user how much time is remaining on the space in question. With these new electronic systems, users cannot top up the “meter” without losing the time remaining on it. Some systems allow drivers to use their smartphones to pay on the spot, eliminating the need to find a terminal.

Charging by license plate

Charging by license plate allows a vehicle to occupy a parking space anywhere within a given area. With this method, drivers pay to park for a certain period of time, but they can move their vehicle within the defined area as they see fit. Some systems allow drivers to use their smartphones to pay on the spot, eliminating the need to find a terminal.

5.2.5 PERMIT STICKERS

Using permit stickers to manage parking makes it possible to reserve parking spaces for the exclusive or shared use of a certain group. Permit stickers can take various forms, depending on the objectives:

- The most common of these are permits for local residents to park in reserved spaces on the street.
- Permits can also be issued to employees of local businesses. They are used to reserve a certain number of spaces in a parking lot for the use of a particular business.

In both cases, the permits cannot guarantee that a parking space will be available at all times. Having too many reserved spaces can lead to overflow into adjacent parking lots, while the reserved spaces remain empty. On the

other hand, having too few reserved spaces can lead to permit holders becoming frustrated at being unable to find a reserved space. Permit stickers should therefore be issued when a certain number of spaces are needed for a specific use, rather than being applied to public parking across the board.

6 RECOMMENDATIONS

The steps outlined above have made it possible to build up a picture of the parking situation in Pointe-Claire Village. Parking surveys were conducted with a view to understanding the dynamic at work in this area as well as the challenges and opportunities that exist. Furthermore, the comments collected from people who experience this reality on a daily basis have helped to target needs and identify potential solutions. The following recommendations will therefore make it possible to improve the management of parking and reduce the negative impacts that parking can bring.

6.1 GLOBAL STRATEGIES

To develop a solution that allows for better management of parking in Pointe-Claire Village, it is necessary to implement several complementary measures. Indeed, although creating a large number of parking spaces in the centre of the village could be a single solution, this must be rejected due to the negative impacts this would have, such as degrading the urban landscape while increasing traffic and pollution, not to mention the staggering cost.

A set of relevant and effective actions would therefore avoid the temptation to take the easy route of simply adding more parking. The study has shown that the current number of parking spaces would accommodate demand if they were better managed, without requiring visitors, workers and residents to walk great distances.

The principal strategy would be to implement measures that would ensure that the most sought-after parking spaces—near the businesses along Bord-du-Lac–Lakeshore Road—had a high turnover rate, and that those further away were used by commuters throughout the day. Complying with regulations is therefore essential to the application of these new measures, which are listed below. They will be further developed in the sections that follow.

- Increasing parking supply in a targeted way and optimizing existing infrastructure
- Standardizing time limits and their enforcement
- Sharing parking spaces
- Standardizing parking signage and guidance
- Introducing permit sticker program for residents
- Taking steps to encourage greener transport, protect the environment and boost the economy

6.2 LOCATION OF PARKING SPACES

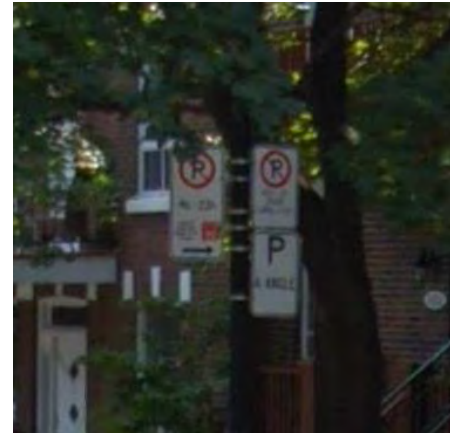
A first step would be to take advantage of the geometry of the streets in Pointe-Claire Village to increase the number of parking spaces available near the village centre and the activities in the northern hub.

LANTHIER AVENUE

In the village centre, Lanthier Avenue presents an interesting opportunity, as it is a local street with little through-traffic and a relatively wide road allowance. It would therefore be possible to make Lanthier Avenue one-way between Golf and Cartier avenues. Angled parking spaces could be established on both sides of the street, in accordance with MTMDET standards, as presented in Appendix B.

If Lanthier Avenue were to be made one-way, the south side of the street could be used for angled parking (60°). The north side could be redesigned to take advantage of the existing road allowance and increase the number of parking spaces. A sidewalk would also have to be installed behind this. It would be necessary to check with the golf course as to the possibility of altering the street line, since a fence currently occupies this space. The parallel parking spaces on the north side at the west end of the street could be left as-is, given the nature of the adjacent lot's terrain.

As alluded to in the MTMDET standards, on-street angled parking is generally not recommended due to the risk of accident when drivers leave their space with restricted visibility. To remedy this issue, the spaces could be back-in only. This would require markings positioned so that drivers would have to back into the space and exit forward, as shown in Appendix C. Since drivers would have a clearer view of the road, the risk of accident would be reduced. This method would require educating the population to a certain extent, whether in the form of fact sheets or street signs. With back-in angled parking, drivers can load their trunks more safely from the sidewalk and rejoin traffic more easily. Appropriate signage would have to be posted to indicate how to park. In all, making Lanthier Avenue one-way and using angled parking would increase parking capacity from 53 to 182 spaces.



SOURCE: GOOGLE STREETVIEW (AUGUST 2017)

Figure 6-1 Example of angled parking – Parthenais Street, Montreal, Quebec

Adding parking spaces is not the result of a capacity issue, but rather an issue of perception and parking management. Although it is true that the most attractive parking spaces are in high demand, there seems to be a significant residual capacity—particularly in private parking lots. It would therefore be preferable to improve parking management than to add more spaces. Consequently, adding parking spaces on Lanthier Avenue would be to anticipate higher demand in the future.

With a view to progressive implementation, it would be possible to make Lanthier Avenue one-way and add approximately 50 parallel parking spaces on the south side while keeping the perpendicular parking on the north side. This first step would add on-street parking without having to make costly structural changes. It would also offer an opportunity to assess the success of the decision to make the street one-way before going ahead with more permanent actions.

BOURGEAU PARK

As stated in the Special Planning Program (SPP) for Pointe-Claire Village, the City intends to relocate part of the parking lot near Lake Saint-Louis to the north side of Bourgeau Park, to be closer to the Pointe-Claire Village businesses, and therefore to be use for the park users as well as the visitors of the Village services, shops and restaurants. It will be possible to access this parking lot from either Bord-du-Lac–Lakeshore Drive (on foot) or Cartier Avenue. A few parking spaces will remain and some will be set aside for boat trailers near the boat ramp.

DEVITO AVENUE

In the northern part of the Pointe-Claire Village, a City-owned alleyway and a privately owned, but vacant, plot of land at the end of Devito Avenue have the potential to be developed into a new parking lot. This land could accommodate a few extra spaces to boost the parking available in this hub of the village. Depending on the available road allowance, approximately seven additional spaces could be created.

BORD-DU-LAC–LAKESHORE ROAD

As stated in the Pointe-Claire Village SPP, renovation work may take place on Bord-du-Lac–Lakeshore Road over the coming years. The intention of the City is to create a complete and multiuse street, in order to make all journeys along the street safer and more comfortable for all mode users, and to improve the atmosphere for the local businesses and clients on the commercial street (wider sidewalks, greening, etc.). At the same time, this project could also be an opportunity to revisit how parking is designed along this stretch. To make the street more user-friendly, parking could be removed in some places to make room for trees, terraces and street furniture, while leaving parking for visitors with reduced mobility and deliveries.



SOURCE : DEVON WILLIS

Figure 6-2 Example of a complete street in Vienna, Austria

6.3 TIME LIMITS

PARKING REGULATIONS

To resolve any issues with understanding time limits and the enforcement of parking regulations, and to propose time limits that suit Pointe-Claire Village activities, a review of time limits in effect in several areas and the methods used to enforce regulations is suggested.

To ensure that nearby parking is adapted to the activities in the village centre and to achieve an appropriate turnover rate, time limits should be revised as shown in the figure below.

The most restrictive time limits, which apply to on-street spaces closest to the village centre (on Bord-du-Lac – Lakeshore Road between Golf Avenue and Victoria Avenue, and on Cartier Avenue south of Lanthier Avenue), are set at a maximum of one hour at all times. The off-street centrally-located parking spaces (P-3 and P-4) will have a maximum of two hours, due to the prevalence of restaurants and services (e.g. yoga, massage therapy) whose customers need be able to leave their vehicle for more than an hour. Time limits increase as the distance from the village centre becomes greater. While nearby streets and some parking lots may have a four-hour limit, those further away will have no time restriction. These limits follow the principle of differentiation by type of user, as commuters who work in the area will have to find parking further away. It should therefore be easier for visitors and consumers to find parking near their destination for a shorter period of time.

Section 9.3.1 of by-law 2565 prohibits vehicles from parking on a public street or on City property for more than 24 consecutive hours. It also prohibits any vehicle from parking on a public street or on City property between midnight and 7 a.m., from November 15 to April 15. This raises some issues that go beyond the confines of this study but merit some consideration. Indeed, if a resident who does not have a private parking space decides to use another mode of transport for a day (public transit, bicycle, etc.), they are still required to move their vehicle even though they haven't used it. Many municipalities or boroughs have decided to repeal similar regulations or extend the grace period up to 72 hours to encourage the use of multiple modes of transport.

Regarding the prohibition on parking on City-owned land during the winter, it may be appropriate to review this regulation in light of the reality of Pointe-Claire Village, where parking and snow removal can be difficult. To remedy the issue, many cities and municipalities prohibit parking only when snow removal operations are ongoing. They notify residents using online tools (social media, website) or temporary street signs.. The City of Pointe-Claire would benefit from implementing a similar system in Pointe-Claire Village.

Figure 6.3 - Proposed time limits for on-street and off-street parking
Pointe-Claire Village

Legend

Proposed time limits

- 1h max. (at all times)
- 2h max. (at all times)
- 4h max. (at all times)
- No time limit
- Employees only 7am-3:30pm (15/08-30/06)
- Paid parking (at all times) *30 min. free
- Employees only (at all times)
- 2h max. (except with parking sticker)

Northern sector



Southern sector



ENFORCEMENT

In order for time limits to be an effective part of parking management, they must be enforced rigorously. The current system relies on a parking control officer who mainly works on call—that is, when someone reports a violation. This mode of operation cannot offer a long-term solution, as the presence of the parking control officer is too unpredictable.

To implement the new measures, it is recommended that officers be assigned to ensure that signage is respected, especially during peak periods. Early weekday afternoons and weekend evenings will require particular attention. Parking control officers should also carry out inspections at random times to prevent illegal behaviours.

Another option to ensure time limits are respected and make inspections easier is to install parking terminals. Like pay-and-display terminals, these would allow drivers to display a ticket indicating the time their vehicle arrived. Note that these terminals may be used to issue tickets free of charge.

The City of Pointe-Claire could also install a camera system to monitor use of its parking facilities. With a system similar to that offered by *MiStall*¹, parking control officers would be able to track the use of parking spaces and identify vehicles in violation of regulations (Figure 6-4). A connected, complementary system could be used to provide drivers with information on the availability of parking spaces by means of an app or variable message signs.



SOURCE: MISTALL (2018)

Figure 6-4 Example of camera-based monitoring

¹ <https://mistall.com/>

6.4 SHARING PARKING SPACES

The diagnosis of the current situation has led to the following observation: although the number of parking spaces in Pointe-Claire Village is relatively high, most are not used to their full potential. This is due in large part to the fact that a certain proportion of these spaces are reserved for the exclusive use of certain businesses. One solution that would allow for better management of parking in the village centre would be to institute a program of sharing parking spaces. Indeed, the idea that “one activity = one dedicated space per visitor” generates an oversupply, which can be reduced by sharing existing spaces. The principle of this program is summarized in the figure below.

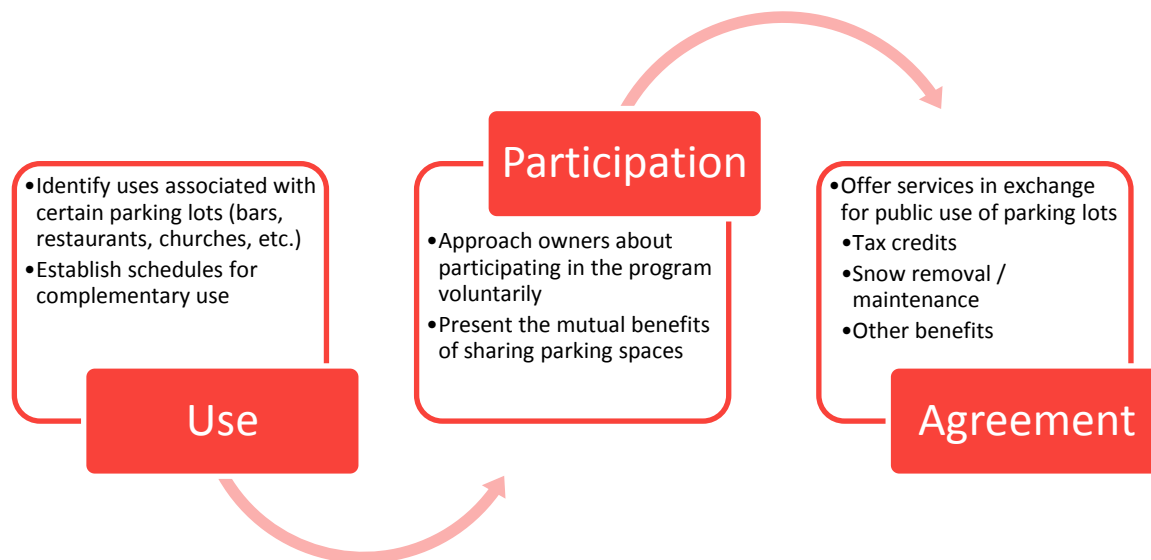


Figure 6-5 Sharing parking spaces

Since private parking lots are not under the City’s control, it cannot impose any particular use on them without passing relevant regulations. For example, the City of Mississauga, Ontario, changed its zoning regulations to allow different owners to share parking spaces, considering the time-dependent nature of demand for each use. It also requires 80% of parking spaces in the city centre to be in garage structures (above-ground or underground). It is therefore impossible to accurately quantify the number of parking spaces that this type of program would make available for public use. However, the diagnosis identified approximately 260 spaces located on private land in Pointe-Claire Village that could potentially be shared.

The City would be responsible for identifying the uses associated with each private parking lot and offering the owner a deal to allow the public to use it during certain hours. In exchange, the City could compensate the owner with tax credits or by providing snow removal and maintenance services, for example.

The City of Boulder, Colorado, is a North American example of agreements between a city and private owners to share parking spaces. The City owns, manages and maintains the shared parking facilities. The City of Boulder’s Access Management and Parking Strategy (AMPS) is the corporation responsible for managing parking. At the Pearl Street Mall, parking costs \$1.25/h and is free on weekends and holidays. In downtown Boulder, AMPS applies the principle of “parking cash out” to encourage employees to use other modes of transport. Employees can choose to keep a staff parking space or hand it over to AMPS and receive the approximate cash equivalent of the cost of parking to use an alternative transportation option.

The Village Code, adopted by the City Council of the City of Pointe-Claire in 2018, already permits the sharing of parking spaces between complementary businesses in the Village. That is to say, businesses that require parking at different times of the day (e.g. an office that requires parking spaces from 8:00 A.M. to 5:00 P.M. and a bar or restaurant that requires parking spaces from 5:00 P.M. to midnight) could arrange to share parking spaces.

6.5 SIGNAGE

To help Pointe-Claire Village users find available public parking quickly, signage must be clear and efficient. Likewise, signage indicating parking restrictions must be uniform and easy to understand. Parking signage should be posted to provide information on three levels:

- **Road signs:** To help visitors entering the area to find public parking lots (limited time).
- **Pedestrian/directional:** At the exit of a parking lot, if it is full, to inform users of the location of the closest unlimited-time parking lot on the edge of Pointe-Claire Village and what the walking distance between the lots is.
- **Location/identification:** A parking lot does not need to have clear signage in order to be found. However, standardized identification signage makes it easy to spot various parking lots within a particular area or municipality. Like tourist signage, this is a design exercise in itself and must convey the image of the area served.

The signage considered in this chapter therefore targets an occasional clientele that is only somewhat familiar with the area. To do so, road signs must be posted from the four access points to the area. Directional signs then guide users to each site. To conclude, although this document is not intended to cover tourist signage, having uniform signage will help users clearly identify and locate parking lots in the area.

For the purposes of this mandate, the road signage strategy is the only aspect covered in detail. This may, however, eventually be included as part of a larger exercise focused on signage.

6.5.1 ROAD SIGNS

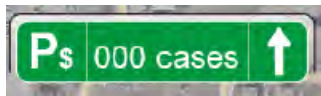
Road signs help visitors and tourists find paid parking lots. They provide guidance and information on how to get from an access point to various parking lots as well as the capacity of these lots.

This signage begins at the two districts' access points:

- Eastern and western entries: Bord-du-Lac–Lakeshore Road
- Northern entries: Cartier Avenue (both north and south districts)

Signs must include the following information:

- The parking lot's name and administrative number (e.g. P-3)
- The capacity of the parking lot or group of lots
- The direction of the parking lot



SOURCE: WSP (2018)

Figure 6-6 Example road sign for off-street parking

In the case of Pointe-Claire Village, it is not necessary to indicate the distance, as all parking lots are less than 500 m from the centre.

Road signs should be clear, simple and non-invasive so that users can understand the message quickly and return their focus to what is happening in front of them. If a system to detect the number of parking spaces available is installed, this could include dynamic guidance and information panels. Naturally, this solution would entail higher implementation costs.

The figure below presents the signage that could be installed in Pointe-Claire Village.

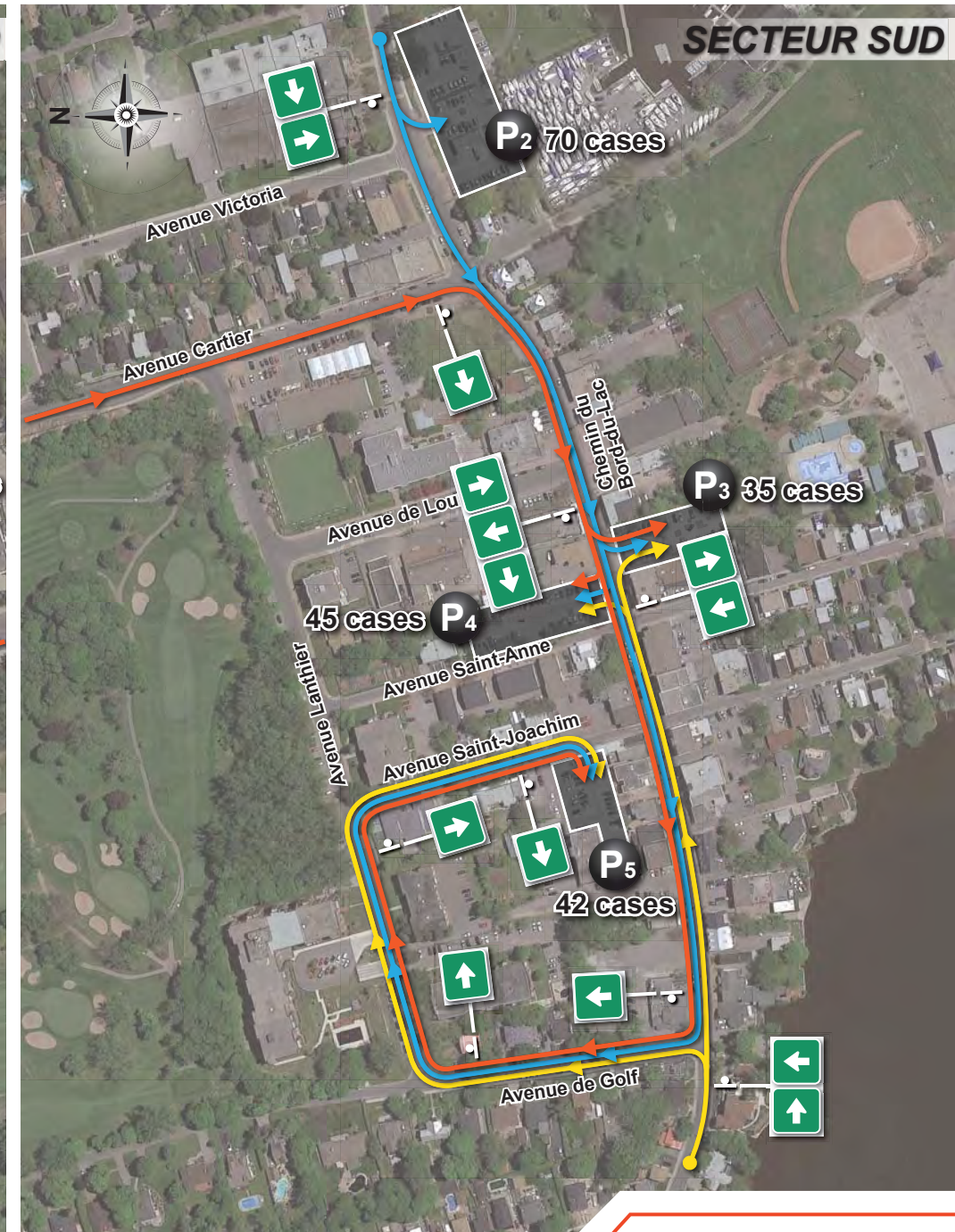
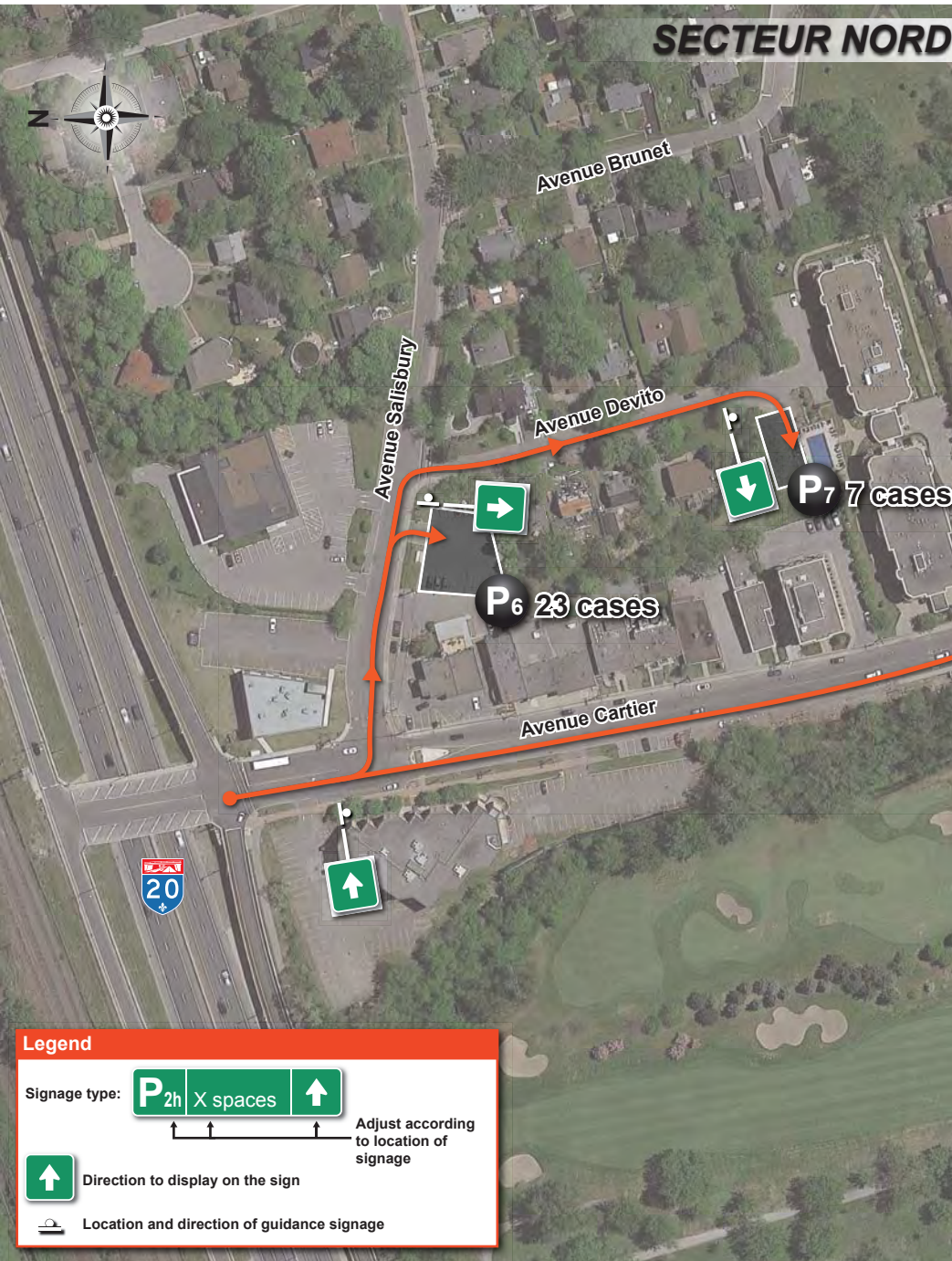


Figure 6.7

Parking Guidance and Information System

6.5.2 DIRECTIONAL SIGNAGE

Directional signage, including a map, is posted at the exit of the main parking lots in Pointe-Claire Village. It provides information to users (either on foot or driving, if the lot is full) of the distance to the nearest unrestricted parking lot as well as the walking time between the lots. The purpose of this is twofold: firstly, to guide drivers to another parking lot if that one is already full. Secondly, when users leave the parking lot on foot, they are informed of the availability of unrestricted parking located a few more minutes' walk away. They can therefore choose whether they prefer to stay in a parking with a time restriction close to the village centre or park, without time restriction but walk for a bit longer.

Consequently, at the exit of lots P-3 / P-4 / P-5, there should be a map indicating the location of parking on Lanthier Avenue, and lots P-2 and I-1 / I-2 / I-5.

Likewise, for lot P-6, a map showing how to get to the parking on Devito Avenue should be provided.

6.5.3 IDENTIFICATION SIGNAGE

Signage and restrictions

To ensure signage regarding restrictions is well understood by users of on-street and off-street parking, it must be standardized. Visitors should be faced with clear instructions inviting them to park. A restrictive sign (red circle) does not encourage users to read the text below. Therefore, uniform municipal parking signage should invite users to read the terms for using the site: hours of applicability, tariffs, maximum duration, etc.

Consider the example from Santa-Clarita, California, below. The City took the initiative to identify its parking facilities more clearly. All regulatory signage now includes a panel identifying the municipality, the designation as a public parking lot and a symbol that appears at every site. This simple signage makes it possible to quickly identify the lot as a municipal parking facility. Users are then invited to read the terms of use below the identification panel.



SOURCE: CITY OF SANTA-CLARITA, CA (2013)

Figure 6-8 Example of off-street municipal signage, before and after



SOURCE: VILLE DE QUÉBEC AND VILLE DE MONTRÉAL (2018)

Figure 6-93 Indications of permission and prohibition for on-street parking

In the case of Pointe-Claire Village, the proposed time limits would apply at all times, meaning that the signs could simply have a black “P” symbol with either “2 h” or “120 minutes” below. An arrow could also be added at the bottom to reduce ambiguity. Note that a no-parking area must be represented by a black “P” in a red circle with a line through it.

6.6 RESERVED SPACES

There are several parking agreements currently in effect between the City, residents and business owners. Although exceptions generally make it possible to resolve problematic situations, having a large number of them can sometimes have the opposite effect. This can be seen with parking lot P-5, where the number of permits is almost equal to the lot’s capacity. These permits are expired, but the City continues to honour and tolerate them and therefore certain employees park all day in this parking lot, although the limit is set at 3 hours to encourage turnover. As a result, the parking lot often fills up in the morning when employees arrive for work. To reduce the inconveniences caused by these exceptions, the following solutions are suggested:

- Withdraw all special parking permits issued to businesses in Pointe-Claire Village
- Provide permit stickers to residents who are entitled to use public parking when it is otherwise prohibited
- Consider relocating the public market currently occupying the Curling Club parking lot to a park
- Renew the agreement with the Curling Club giving the City the right to use all the spaces in its parking lot during the defined period

By making these changes, the City would increase the number of spaces available to the public. This would also prompt workers to find parking further away from the village centre. As mentioned previously people who come to work in the village for long hours should not be using the most sought-after parking spaces. Instead, they should be encouraged to park on the periphery. Similar to the residents-only permit program (SRRR) instituted by the Ville de Montréal, the City of Pointe-Claire could issue permits to residents allowing them to park in lot P-5 regardless of time limits. Parking spaces could also be reserved for residents. This would eliminate many of the inconveniences observed during snow removal operations.

Private, public and institutional parking lots should all respect the City of Pointe-Claire’s zoning by-law (PC-2775, s. 7.8 b) concerning the provision of parking for disabled persons summarized in the table below.

Table 6-1 By-law concerning the minimum number of spaces reserved for disabled persons

Total number of spaces required	Minimum number of spaces reserved for disabled persons
1 to 5	0
6 to 14	1
15 to 49	2
50 to 99	3
100 to 199	4
200 to 299	5
300 to 399	6
400 or more	7 +1 per 100 or fraction of 100 additional spaces

SOURCE: CITY OF POINTE-CLAIRE (2018)

Without illustrating the exact location of parking spaces for disabled persons, the City of Pointe-Claire should take inspiration from this by-law to calculate how many of these spaces should be provided in the parking lots it manages. Of course, spaces for disabled persons must have priority and be located as close as possible to the driver's destination. For example, the number of parking spaces to be reserved for disabled persons in the following locations:

- Sainte-Anne Avenue (P4): 2 spaces
- Edgewater Park (P2): 3 spaces
- Bourgeau Park (P1): 3-4 spaces

6.7 SUSTAINABLE DEVELOPMENT (DESIGNING FOR THE FUTURE)

The solutions outlined above would make it possible to better manage parking supply and demand in Pointe-Claire Village. However, more could be done to reduce the environmental impact of parking and traffic in the area by using the latest technologies. Furthermore, the very presence of parking facilities gives rise to several externalities, such as higher road and water management infrastructure costs, lower land revenue, reduced urban design quality and increased traffic.

Materials

Considering that conventional methods used to pave parking lots have numerous downsides—the most well known of which is probably the creation of heat islands, especially in an urban environment—it is important to look at possible alternatives. First of all, as illustrated in Figure 6-4, honeycomb paving makes it possible to increase the solar reflectance index (SRI) while reducing the cost of managing rainwater. This type of paving can be made of plastic, and larger cells can be used. Permeable light-coloured concrete block paving or reinforced grass can also be used in parking spaces to reduce the environmental impact. This type of material can be installed when parking facilities are reconstructed or renovated.

Another important aspect is greenery. The presence of plants helps to reduce the heat island effect and improve air quality. This not only protects users and vehicles in high heat conditions, but it also boosts the property value of the land. A certain proportion of the parking lot could therefore be covered with green spaces, as illustrated in Figure 6-5. For example, a bioretention system ("rain garden") in the centre or along the edges can be connected to the City's drainage network via a sump pit, or adjoining strips of vegetation or trees and shrubs. Deciduous trees with a

high canopy index that are resistant to cold as well as salt and various contaminants are best suited to parking lots. More details can be found in Appendix D. Finally, a green wall may be installed facing the parking lot to improve its thermal performance.



SOURCE: COLLECTIVITÉS VIABLES (2017)

Figure 6-40 Examples of honeycomb paving



SOURCE: FIHOQ (2011); GLU (2010)

Figure 6-51 Examples of recommended green spaces

Parking ratio

Many studies have shown that the perception of a lack of parking frequently does not match up with reality, and this is the case in Pointe-Claire Village. This perception often stems from having a large amount of private parking reserved for the exclusive use of the business that owns it. These parking lots often exist due to standards that dictate the minimum number of spaces a business should have in order to avoid a “lack” of parking. However, studies have demonstrated that if every business were to adhere to these minimum standards, cities would be nothing more than enormous parking lots. This applies all the more so in Pointe-Claire Village, where many businesses were built before such standards were introduced. Virtually all these studies make the same recommendation: minimum parking requirements for businesses should be withdrawn. Given that too much parking leads to more problems than too little, it would be in the City’s interest to provide parking that is shared between different businesses. (L’Atelier Urbain, 2018). In the Village Code, the City of Pointe-Claire has already reduced the minimal parking ratios and introduced maximum parking ratios for the Pointe-Claire Village.

Active transportation

Good management of public parking also includes managing demand for parking. There are many ways to reduce demand, but replacing vehicle use in favour of walking or cycling is an inexpensive option that is good for the environment.

To encourage walking, pedestrian facilities must be safe, attractive and easily accessible. Sidewalks that are wide enough to accommodate street furniture and greenery should therefore be favoured. Areas that present a potential risk of conflict between different modes, such as intersections, must incorporate features to protect pedestrians. Crosswalks that are clearly indicated by signs and street markings help to make pedestrians feel safer. All infrastructure must be universally accessible to make travel easier for people with reduced mobility. Finally, sidewalk clearing and maintenance in winter should be a priority so that walking remains an attractive option year-round and to make travel easier for people with reduced mobility.



SOURCE: NACTO (2013)

Figure 6-12 Raised intersection

With respect to cycling, safe paths and abundant bike racks will help encourage people to use this mode of transport. Indeed, a bike paths should allow cyclists to cross the territory from north to south and east to west continuously. In Pointe-Claire Village, bike paths are noticeably interrupted at the edge of the village centre. Indeed, coming from the north, the bike path stops at the intersection of Cartier and Lanthier avenues. In the east, the bike path also stops at Cartier Avenue and only reappears in Beaconsfield, to the west. Furthermore, providing good-quality racks allows cyclists to avoid using trees or street furniture to lock up their bikes. In the village centre, it would be useful to set aside a parking space for bicycle parking. Ideally, these racks should be well lit and provide shelter from the weather.



SOURCE: VÉLO QUÉBEC (2018)

Figure 6-13 Examples of recommended bike rack designs

Driverless and electric cars

The rapid rise in the number of electric vehicles in Quebec cannot be ignored. Indeed, the provincial government predicts that they may reach a total of 100,000 by 2020 and 1 million by 2030 (Ministère de l'énergie et des ressources naturelles, 2018). Also, trends appear to suggest that driverless vehicles will be on Quebec roads in the medium to long term. Parking in Pointe-Claire Village must be planned to take these factors into account.

No charging stations for electric vehicles are currently available in Pointe-Claire Village. Two types of electric vehicle charging stations may be installed: 240V or 400V. Although the 400V stations are less common, they can charge vehicles much faster. Indeed, a 400V station takes approximately 20 to 30 minutes to charge a vehicle to 80%, while a 240V station takes between 3 and 5 hours to fully charge a vehicle like the Nissan LEAF (CAA Québec, s.d.). The City of Pointe-Claire could take the opportunity to install charging stations when it redevelops its public parking facilities. By placing one 240V charging station in every public parking lot, the City would be able to offer drivers of this type of vehicle more options. One or two quick charge stations (400V) should also be installed in Pointe-Claire Village. It is likely that the demand for quick charge stations will continue to rise in Quebec over the coming years. With this in mind, the City of Pointe-Claire could take the lead by installing several of these stations in Pointe-Claire Village and, consequently, attract a new clientele.



SOURCE: CIRCUIT ÉLECTRIQUE (2018)

Figure 6-14 240V and 400V charging stations

With respect to autonomous, or driverless, vehicles that will be appearing on our roads in the coming years, it is important to consider the opportunities and challenges they may bring. A recent study shows that driverless vehicles will require between 62% and 87% less space to park than conventional vehicles. (Nourinejad, Bahrami, & Roorda, 2018) This is because they can park closer together and in rows several vehicles deep. It is therefore likely that, even though journeys into Pointe-Claire Village may increase, the advent of driverless vehicles could reduce the demand for space dedicated to parking. Main streets could also be redesigned, with parking spaces replaced by areas where vehicles can drop off passengers then go to park on their own.

6.8 IMPLEMENTATION

All of the actions proposed to improve parking management in Pointe-Claire Village can be applied in the short term. Indeed, the parking study has shown that it is not necessary to provide more off-street parking, since the existing parking lots could meet demand if used more efficiently. The following table summarizes the proposed action plan.

Table 6-2 Summary of action plan

Stage	Actions
1 – Improving current management of parking	<ul style="list-style-type: none"> — Institute a parking guidance and information system according to recommendations — Standardize regulatory signage and information panels — Assign the human resources needed to ensure parking regulations are respected — Channel pedestrian routes using directional signage indicating points of interest
2 – Improving parking supply	<ul style="list-style-type: none"> — Make Lanthier <u>Avenue one-way between Golf and Cartier avenues</u> — Negotiate or acquire the road allowance needed from the golf course to create parking on the north side of Lanthier Avenue — Mark parking spaces on Lanthier Avenue — Provide more parking for disabled persons and electric vehicles — Create parking in the vacant lot on Devito Avenue
3 – Reviewing parking agreements between the City and different stakeholders	<ul style="list-style-type: none"> — Withdraw all special authorizations issued for public parking lots — Provide permit stickers to residents who live near parking lot P-5 — Review the agreement with the Curling Club and the seasonal market to recoup some parking spaces in the summer (C-1)
4 – Setting up a program to share parking spaces	<ul style="list-style-type: none"> — Approach the owners of private parking lots to gauge their interest in such a program — Establish clear agreements that benefit everyone — Incentives: free snow removal, tax credits, services, etc.
5 – Launching an awareness and information campaign	<ul style="list-style-type: none"> — Develop an awareness and information campaign regarding the parking action plan — Inform regular users (business owners and employees) and make them aware — Inform occasional users — Promote the use of parking outside the village centre — Issue reminder tickets to users who do not respect regulations
6 – Following up on the implementation of the action plan	<ul style="list-style-type: none"> — Check the effectiveness of the actions taken — Survey the population — Carry out occasional parking surveys — Make adjustments as needed

7 CONCLUSION

The City of Pointe-Claire commissioned WSP to carry out a diagnosis of the parking situation in Pointe-Claire Village and to make recommendations to resolve the issues identified. This initiative is part of the regeneration of Pointe-Claire Village launched by the publication of the Pointe-Claire Village SPP in 2016.

The diagnosis of the current parking situation was carried out during the spring of 2018, by means of occupancy surveys of on-street and off-street parking during a typical weekday and a typical weekend day. The following observations were made:

- The combined supply of on-street and off-street parking in Pointe-Claire Village (approximately 1150 spaces) is relatively high, with a significant portion under the City's responsibility.
- Peak usage is generally shortly after noon on weekdays, and usage is more intense during the week than the weekend.
- Although the overall occupancy rate is generally below the critical level of 80%, the data shows that the area around Bord-du-Lac–Lakeshore Road between Golf and Cartier avenues has a high occupancy. On-street and off-street parking in this area is often at capacity.
- Regulations and signage seem to vary arbitrarily. This results in a lack of uniformity, sometimes making comprehension difficult.

The comments from stakeholders collected during various meetings and online consultations revealed the following opinions:

- The supply should not be reduced; in fact, it should be increased in certain areas.
- Regulations should be clearer and better enforced.
- There are many design options available to help improve parking management.

By analyzing the projected situation, it is possible to predict future developments and their impact on parking in Pointe-Claire Village. Overall, parking demand following these changes should increase by approximately 150 spaces, assuming that current demand remains otherwise stable.

Based on the observations made during the diagnosis of the current situation and the predicted outcomes of future developments, the following recommendations have been made to improve parking management in Pointe-Claire Village:

- Proceed with a targeted increase in parking supply by taking advantage of unused spaces.
- Review regulations to make parking more restricted in the village centre and less restricted on the outskirts.
- Regulations should be enforced more systematically by having more human resources assigned to this task. Technology can also be used to control parking more easily.
- The significant proportion of private parking lots in the study area opens up the possibility of sharing parking spaces.
- Signage should also be reviewed to allow for an effective parking guidance and information system that would save users from having to spend too much time looking for parking.
- Parking privileges granted to businesses and residents should be streamlined to avoid compromising the effectiveness of the proposed actions.
- Steps should be taken to allow for better environmental and economic management of parking spaces.

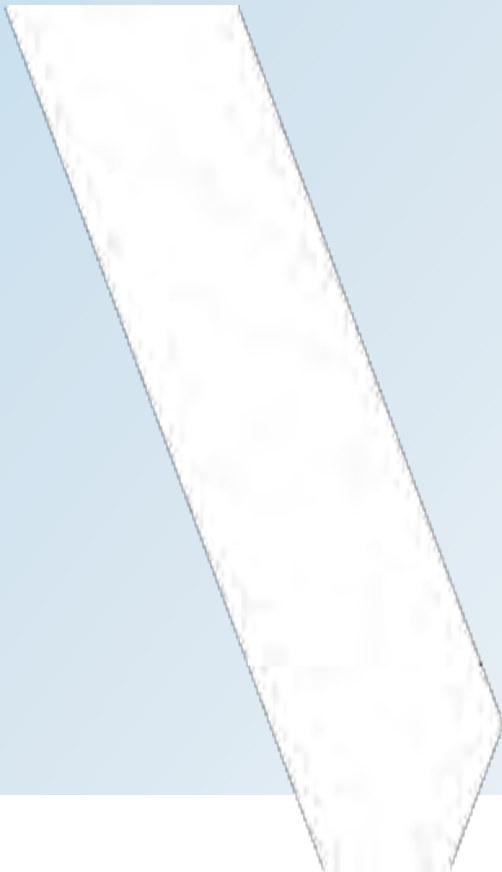
While these actions have the potential to improve the parking situation, they will have to be adjusted to the reality on the ground. Indeed, adjustments may be necessary, according to stakeholders' feedback and the improvements observed.

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APPENDICES

A SNOW CLEARANCE OF PARKING FACILITIES



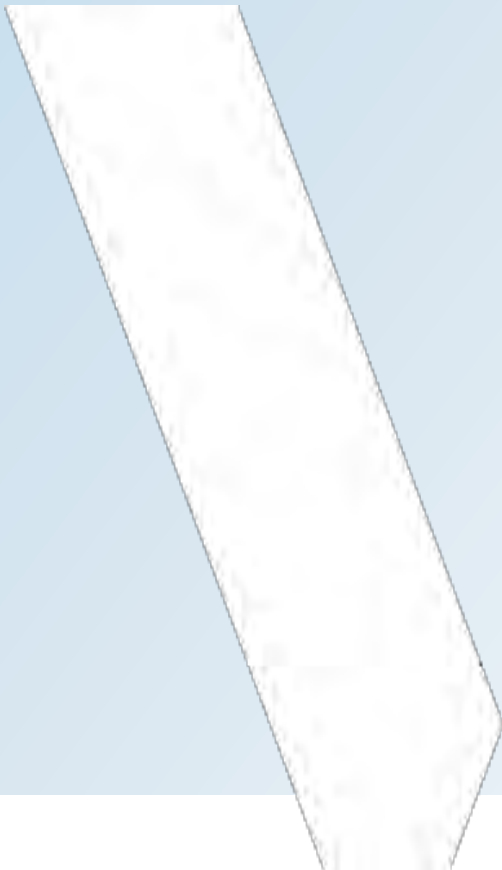
STATIONNEMENTS MUNICIPAUX - VILLAGE POINTE-CLAIRE

	EMPLACEMENT DU STATIONNEMENT	ESPACES PERDUS LORS D'UNE TEMPÊTE DE NEIGE	ESPACES
1	ÉGLISE ST-JOACHIM	12	66
2	SUD-EST PIONNIER	4 à 6	35
3	NORD-EST PIONNIER	4 à 6	44
4	CLUB DE CURLING	6 à 8	40
5	LANTHIER	8	44
6	32 ST-JOACHIM	4 à 6	43
7	246 LAKESHORE	6 à 8	66
8	DEVITO	4	20
9	SALISBURY/DEVITO	2	8

APPENDICES

B

MTQ PARKING STANDARDS



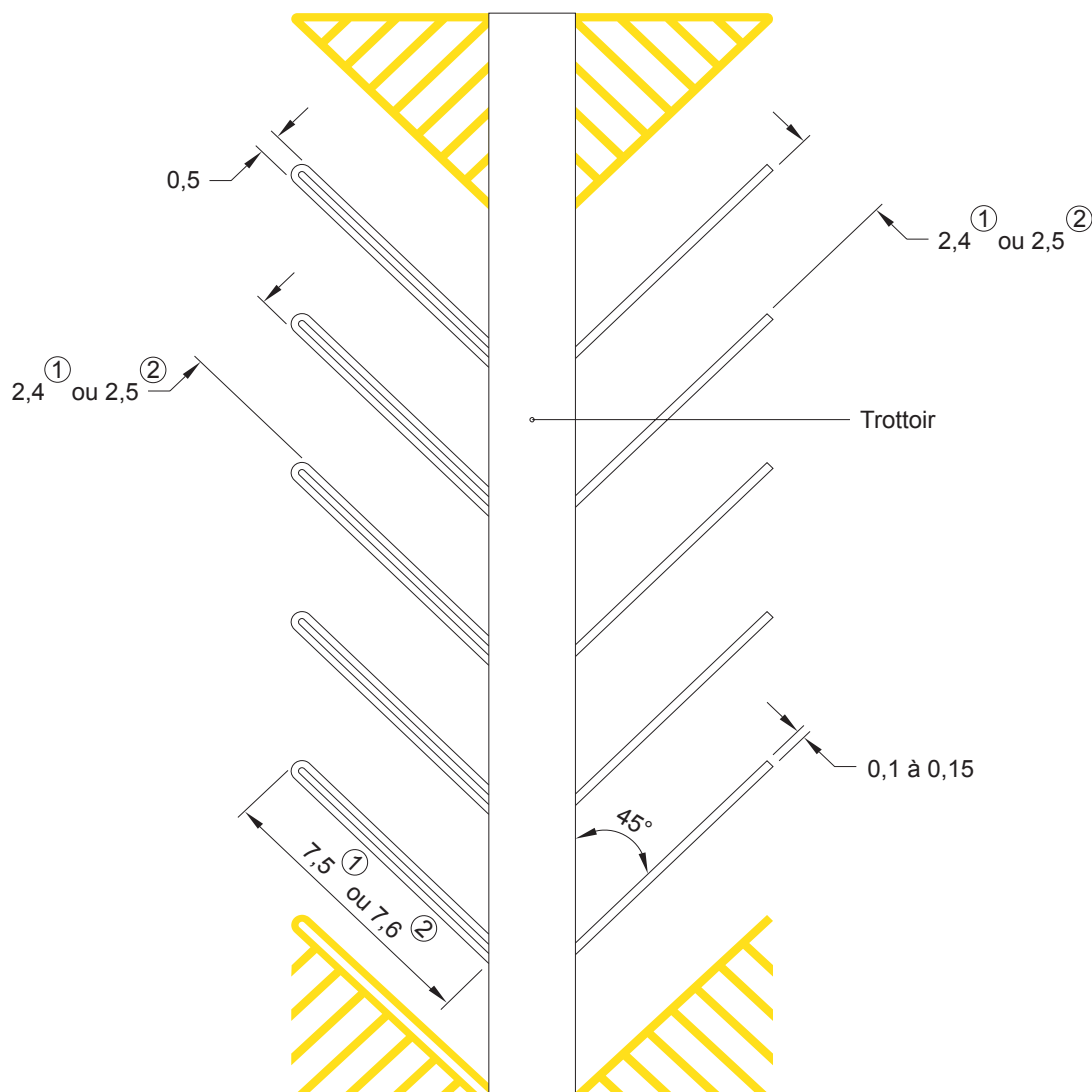
Tome V
Chapitre 6
Numéro 060
Date Déc. 2005

DESSIN NORMALISÉ



STATIONNEMENT EN ANGLE HORS RUE

NORME



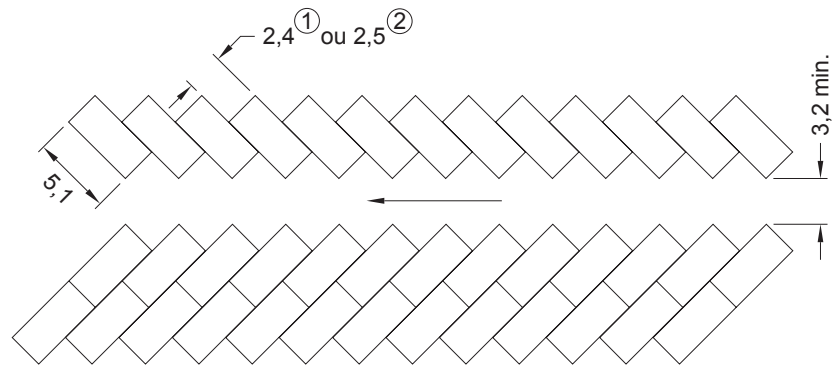
- ① Stationnement de longue durée.
- ② Stationnement de courte durée.

Notes :

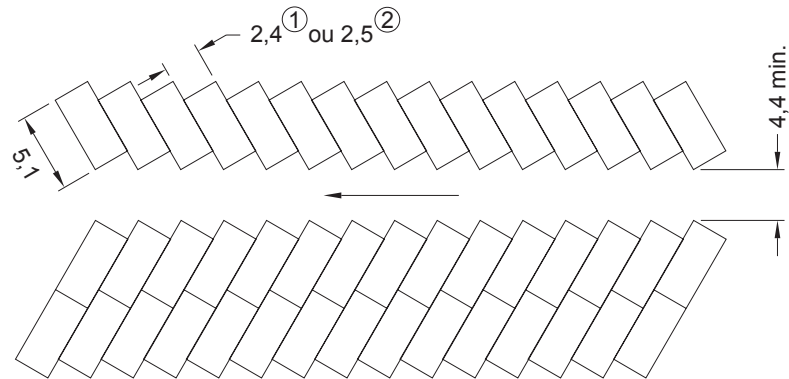
- les dimensions des espaces de stationnement proviennent du *Tome I – Conception routière*, chapitre 14 « Stationnement »;
- les cotes sont en mètres.

NORME

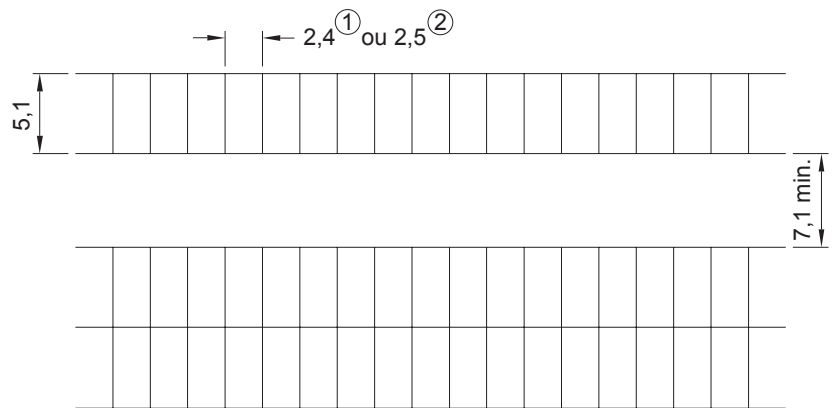
STATIONNEMENT HORS RUE



STATIONNEMENTS À 45°



STATIONNEMENTS À 60°



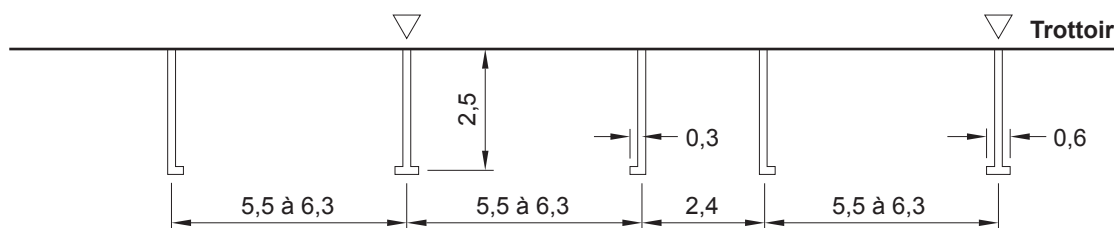
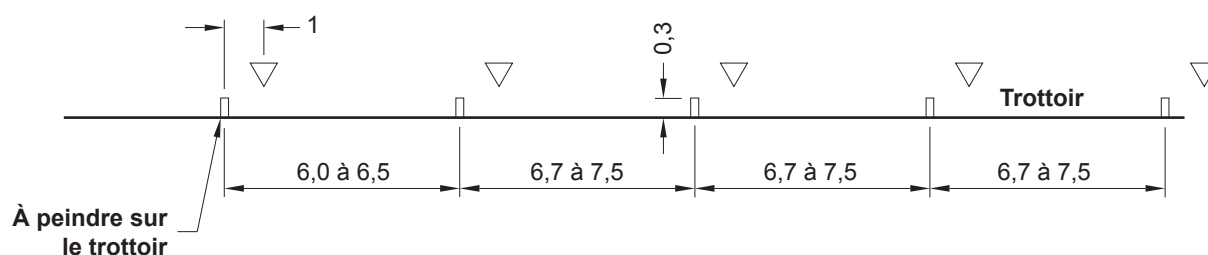
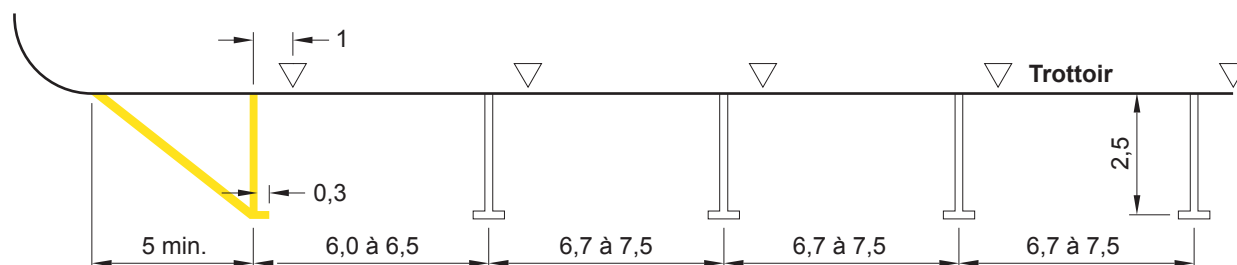
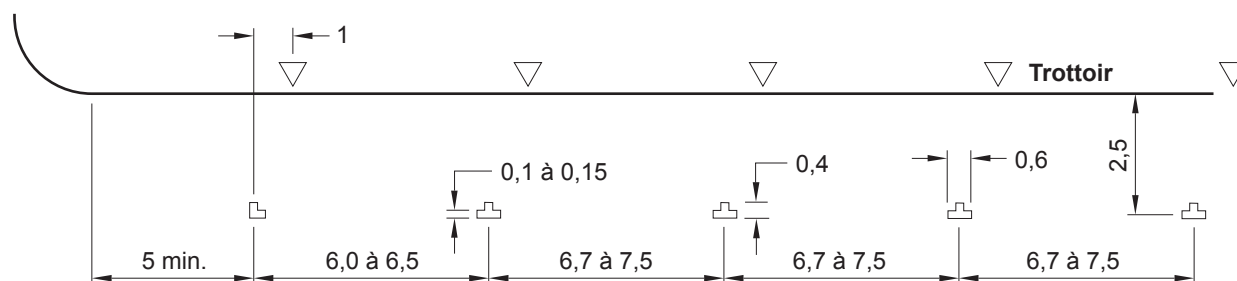
STATIONNEMENTS À 90°

① Stationnement de longue durée.

② Stationnement de courte durée.

Notes :

- les dimensions des espaces de stationnement proviennent du *Tome I – Conception routière*, chapitre 14 « Stationnement »;
- les cotes sont en mètres.



Stationnements jumelés

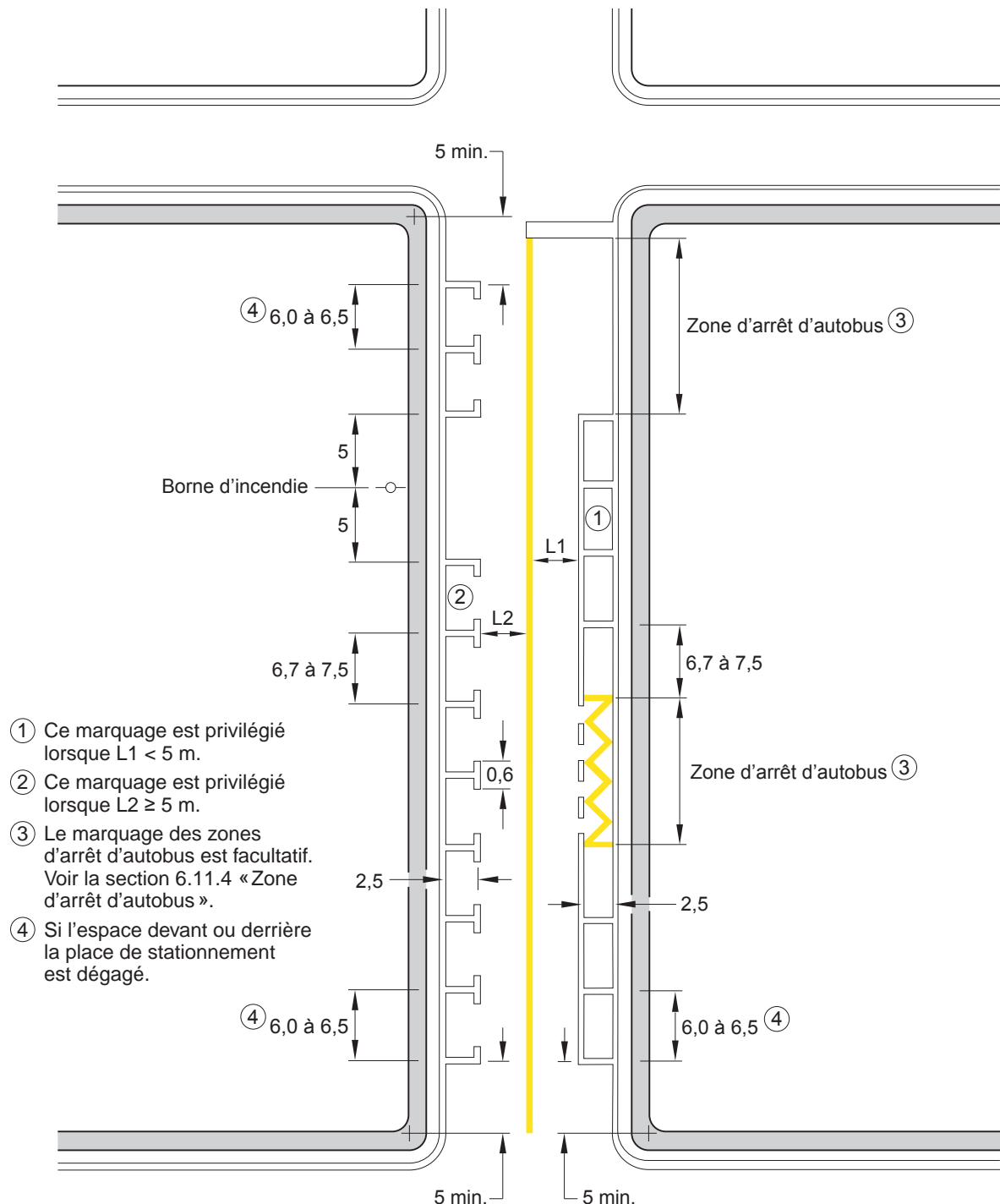
▽ Parcomètre ou petit panneau

Notes :

- les dimensions des espaces de stationnement proviennent du *Tome I – Conception routière*, chapitre 14 « Stationnement »;
- les cotes sont en mètres.

NORME

STATIONNEMENT EN PARALLÈLE SUR RUE



- ① Ce marquage est privilégié lorsque $L1 < 5$ m.
- ② Ce marquage est privilégié lorsque $L2 \geq 5$ m.
- ③ Le marquage des zones d'arrêt d'autobus est facultatif. Voir la section 6.11.4 « Zone d'arrêt d'autobus ».
- ④ Si l'espace devant ou derrière la place de stationnement est dégagé.

Notes :

- les dimensions des espaces de stationnement proviennent du *Tome I – Conception routière*, chapitre 14 « Stationnement »;
- les cotes sont en mètres.

STATIONNEMENT

Tome

I

Chapitre

14

Page

i

Date

2013 06 15

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STATIONNEMENT

Figure

Figure 14.5–1
Aménagement des stationnements
pour personnes atteintes de
déficience physique

5

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| 002 | Stationnement sur rue en parallèle –
Traitement aux carrefours |

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Dimensions des stationnements
hors rue de longue durée (m)

4

Tableau 14.4–2
Dimensions des stationnements
hors rue de courte durée (m)

4



14.1 Introduction

Les espaces de stationnement doivent être conçus de manière à assurer la sécurité et le confort des usagers sans nuire à l'écoulement normal de la circulation.

Plusieurs éléments sont à considérer dans le choix du type de stationnement. Ce chapitre présente les conditions d'utilisation du stationnement sur rue et ses effets sur la capacité et la sécurité ainsi que les dimensions des aires de stationnement sur rue et hors rue.

14.2 Référence

Le présent chapitre renvoie à l'édition la plus récente des documents suivants :

NORME

MINISTÈRE DES TRANSPORTS
DU QUÉBEC

Tome V – Signalisation routière.

14.3 Stationnement sur rue en milieu urbain

14.3.1 Conditions d'utilisation du stationnement sur rue

Les deux fonctions principales des rues et des routes sont d'assurer la circulation des véhicules et l'accès aux propriétés riveraines. Certaines voies de circulation ont une fonction exclusive d'écoulement du trafic et d'autres ont presque exclusivement une fonction d'accès à la propriété. Pour l'ensemble du réseau, ces deux fonctions coexistent, l'une étant prioritaire selon la classification de la route.

Puisque les voies de circulation ont pour fonction d'assurer le déplacement sécuritaire des personnes et des marchandises, le stationnement sur rue doit être restreint, voire éliminé lorsqu'il nuit à l'écoulement du trafic ou à l'accès ordonné à la propriété.

Le stationnement sur rue est source d'insécurité pour les automobilistes. Il occasionne de l'interférence au moment des manœuvres d'entrée et de sortie des stationnements et nécessite l'utilisation d'un espace plus coûteux que s'il était hors rue. Un seul véhicule qui effectue une manœuvre de stationnement peut causer des retards importants aux autres véhicules, en plus d'être la cause d'accidents. Il est connu que l'élimination du stationnement sur rue améliore la sécurité. Par rapport au stationnement hors rue, le stationnement sur rue entraîne donc des pertes économiques importantes à cause des retards imposés aux autres véhicules, du coût des accidents liés au stationnement et du coût plus élevé de ces places de stationnement.

Par contre, le stationnement sur rue est parfois nécessaire au maintien de l'activité des centres-villes, des zones industrielles ou des zones de services où il n'existe pas suffisamment de places de stationnement hors rue.

Le stationnement sur rue est généralement incompatible avec la fonction d'écoulement du trafic, mais il peut être compatible avec la fonction d'accès à la propriété.

14.3.1.1 Effets sur la capacité

La capacité est fortement réduite par le stationnement sur rue. En effet, la réduction de capacité occasionnée par le stationnement ne se limite pas à la seule voie occupée, mais elle s'étend à la voie adjacente. L'arrêt, le départ et le recul des véhicules sont autant de manœuvres de stationnement qui nuisent au trafic. À cela s'ajoute l'ouverture des portières. Une attention particulière doit être accordée aux approches des carrefours, car, en plus d'éliminer une voie qui pourrait être utilisée pour la circulation, les manœuvres de stationnement réduisent la capacité des voies adjacentes.

14.3.1.2 Effets sur la sécurité

Pour des raisons de sécurité, une attention particulière doit être accordée aux approches

des carrefours, puisque le stationnement à ces endroits réduit souvent la distance de visibilité. Cette réduction de la distance de visibilité a plusieurs effets, dont forcer le conducteur à faire avancer son véhicule jusqu'à une ligne d'arrêt imaginaire avancée, bloquant ainsi les passages pour personnes. Une augmentation des collisions liées au manque de visibilité (collisions à angle droit et collisions au moment d'un virage) est également constatée.

L'entrée et la sortie des véhicules, l'ouverture des portières, la descente des passagers et la présence de piétons qui se faufilent entre les véhicules stationnés sont des facteurs de risque importants. Lorsqu'un véhicule quitte un stationnement, il crée des perturbations dans l'écoulement du trafic et occasionne de la congestion. Cela peut donner lieu à des collisions latérales et à des collisions arrière. De plus, une portière ouverte constitue un obstacle pour les automobilistes et les oblige à effectuer un freinage brusque ou une manœuvre d'évitement.

Des renseignements supplémentaires concernant les risques d'accident sont présentés dans le Traffic Engineering Handbook.

14.3.2 Disposition des stationnements sur rue

14.3.2.1 Stationnement en parallèle

Le stationnement en parallèle réduit la capacité et la sécurité comme il est stipulé dans les sous-sections précédentes, mais il demeure tout de même le mode de stationnement ayant le moins d'effets négatifs.

La géométrie des stationnements en parallèle est présentée dans les dessins normalisés 001 et 002. La première et la dernière case de stationnement d'un alignement peuvent être plus courtes à la condition que rien ne nuise à l'entrée et à la sortie du véhicule (dessin normalisé 001).

De plus, un recul minimal doit être conservé à l'approche d'un carrefour de façon à protéger la distance de visibilité (dessin normalisé 002).

14.3.2.2 Stationnement à angle

Le stationnement à angle permet d'aménager un plus grand nombre d'emplacements par unité de longueur de trottoir que ne le permet le stationnement en parallèle. Ainsi, un aménagement à 90° fournit 2,5 fois plus d'emplacements qu'un aménagement en parallèle. Les textes précédents concernant les effets sur la capacité et sur la sécurité s'appliquent essentiellement au stationnement en parallèle. Les effets négatifs sur la capacité et la sécurité sont ici plus importants que dans le cas du stationnement en parallèle. Le stationnement à angle nécessite un espace de manœuvre plus grand pour entrer ou sortir du stationnement. De plus, de nombreuses études ont prouvé que le stationnement à angle occasionne plus d'accidents que le stationnement en parallèle.

Il a déjà été considéré que le stationnement à angle était moins risqué dans des rues plus larges. Une étude plus approfondie de la question permet de constater que l'implantation du stationnement à angle de chaque côté d'une rue de 24 m de largeur a un impact sur l'ensemble de la rue. En effet, le véhicule occupe un espace de près de 5 m, il nécessite un espace de 3,5 à 4,5 m pour reculer et peut obliger les véhicules en transit à empiéter sur la voie adjacente, ce qui peut occasionner des accidents.

L'observation des manœuvres de stationnement à angle permet de constater que le principal risque vient du manque de visibilité lorsque le véhicule est en marche arrière. L'arrêt brusque d'un véhicule en transit, causé par le recul d'un véhicule sortant du stationnement, constitue un autre risque. La recherche d'une place de stationnement comporte aussi des risques pour les véhicules en transit.

En effet, les places libres sont plus difficiles à repérer dans un stationnement à angle, ce qui force certains automobilistes à ralentir exagérément.

En résumé, le stationnement à angle est à proscrire. Certaines municipalités limitent d'ailleurs le stationnement sur rue au stationnement en parallèle.

14.4 Stationnement hors rue

Les aires de stationnement hors rue, caractérisées par de grandes superficies revêtues, favorisent l'émergence et l'intensification des îlots de chaleur urbains. Au moment de leur conception, il est possible d'intégrer des moyens pour lutter contre les effets de ces îlots de chaleur, notamment en cherchant à en améliorer la performance thermique. À cette fin, la norme BNQ 3019–190 fournit des renseignements utiles.

Le tableau 14.4–1 présente les dimensions des stationnements dits de longue durée, tels les stationnements d'incitation au transport en commun, d'immeubles à bureaux, etc. Ce sont donc des stationnements à faible taux de roulement. Si des stationnements à fort roulement sont considérés, par exemple des stationnements pour visiteurs, pour commerces, il est alors question de stationnements de courte durée. Les dimensions de ce type de stationnement sont présentées au tableau 14.4–2.

14.5 Stationnement hors rue pour personnes atteintes de déficience physique

Les stationnements hors rue pour personnes atteintes de déficience physique doivent être situés près des destinations visées, être en nombre suffisant pour répondre aux besoins et être conformes aux règlements municipaux en vigueur. Ils doivent être situés à un endroit

tel qu'aucun obstacle infranchissable ne se trouve entre le stationnement et la destination finale de l'utilisateur.

La figure 14.5–1 montre des façons d'aménager de tels stationnements. Les largeurs des stationnements sont telles qu'elles sont spécifiées aux sections précédentes, augmentées d'une surlargeur de part et d'autre du stationnement afin de faciliter la mobilité des occupants du véhicule.

14.6 Bibliographie

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STATIONNEMENT

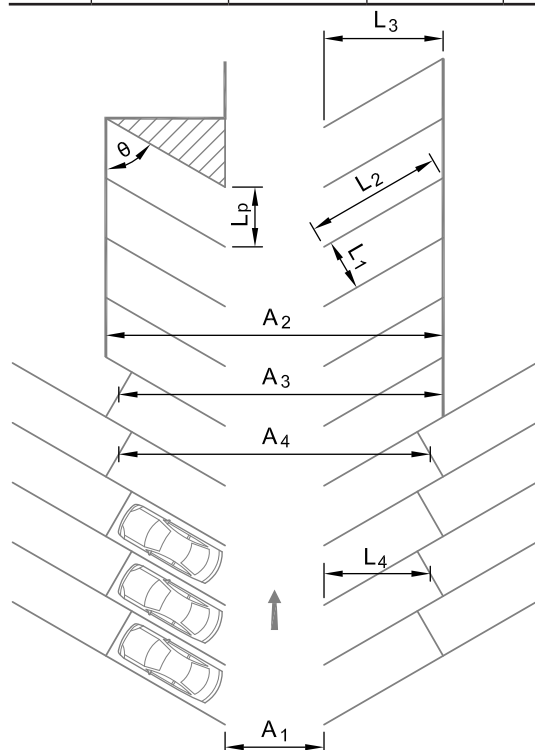
NORME

Tableau 14.4-1
Dimensions des stationnements hors rue de longue durée (m)

θ	L_1 min.	L_2	L_p	$A_1^{(1)}$ min.	A_2 min.	A_3 min.	A_4 min.	
90°	2,4	5,1	2,4	7,1	17,3	17,3	17,3	$L_3 = 5,1$ $L_4 = 5,1$
75°	2,4	5,74	2,48	6,3	17,39	17,08	16,77	$L_3 = 5,55$ $L_4 = 5,24$
60°	2,4	6,49	2,77	4,4	15,63	15,03	14,43	$L_3 = 5,62$ $L_4 = 5,02$
45°	2,4	7,5	3,39	3,2	13,81	12,96	12,11	$L_3 = 5,3$ $L_4 = 4,45$

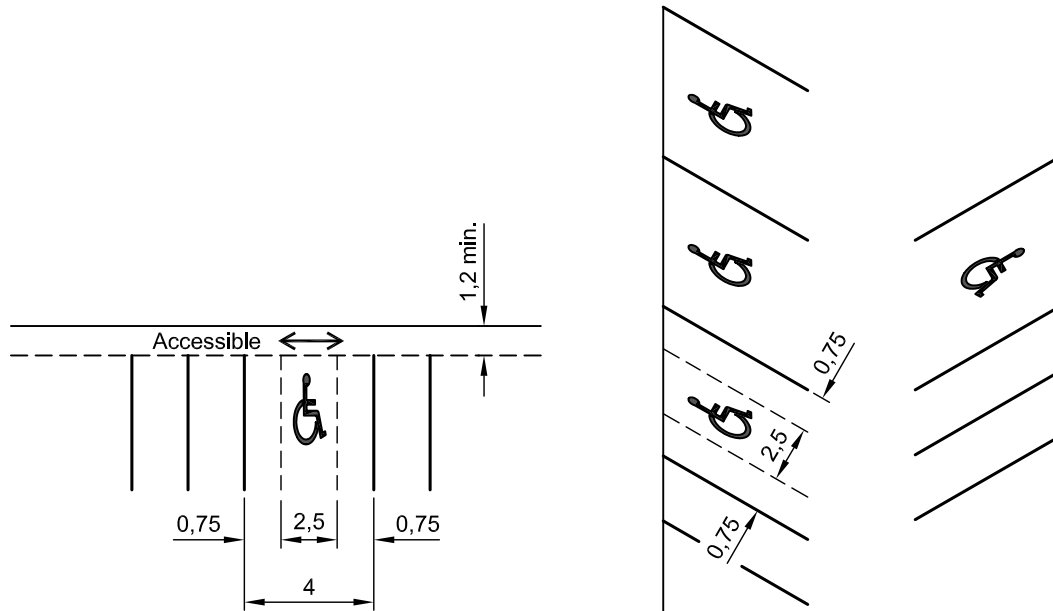
Tableau 14.4-2
Dimensions des stationnements hors rue de courte durée (m)

θ	L_1 min.	L_2	L_p	$A_1^{(1)}$ min.	A_2 min.	A_3 min.	A_4 min.	
90°	2,5	5,1	2,50	7,1	17,3	17,3	17,3	$L_3 = 5,10$ $L_4 = 5,10$
75°	2,5	5,77	2,59	6,3	17,45	17,12	16,89	$L_3 = 5,57$ $L_4 = 5,25$
60°	2,5	6,54	2,89	4,4	15,73	15,11	14,48	$L_3 = 5,67$ $L_4 = 5,04$
45°	2,5	7,60	3,54	3,2	13,95	13,06	12,18	$L_3 = 5,37$ $L_4 = 4,49$



1. Étant donné la largeur de l'allée nécessaire pour permettre les manœuvres d'entrée et de sortie dans des stationnements à 90°, il est recommandé de conserver les allées à double sens de circulation. La largeur de l'allée est suffisante avec des stationnements à 75° pour prévoir des allées à deux sens de circulation. Avec des stationnements à 60°, il faut maintenir l'allée à une largeur minimale de 6 m si l'on doit prévoir la possibilité d'établir des allées à deux sens de circulation. Dans le cas des stationnements à 45°, il est recommandé de ne faire que des allées à sens unique, étant donné la perte d'espace qu'occasionnerait l'allée à deux sens de circulation relativement à l'espace réel occupé par les stationnements.

- L_1 : largeur de la case
 L_2 : longueur de la case
 L_3 : profondeur de la case
 L_4 : profondeur de la case (face à face)
 L_p : largeur projetée de la case
 A_1 : largeur de l'allée
 A_2 : largeur totale, mur à mur
 A_3 : largeur totale, mur à case
 A_4 : largeur totale, 2 cases face à face
 θ : angle des stationnements



Notes :

- pour le marquage des stationnements, se référer au *Tome V – Signalisation routière*, chapitre 6 « Marques sur la chaussée »;
- les cotes sont en mètres.

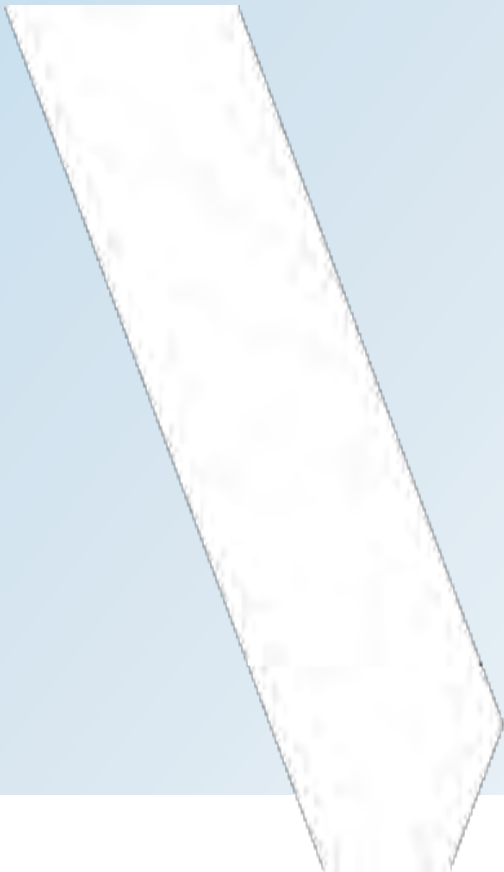
Figure 14.5–1

Aménagement des stationnements pour personnes atteintes de déficience physique

APPENDICES

C

REVERSE ANGLE PARKING



Reverse Angle Parking

What is Reverse Angle Parking?

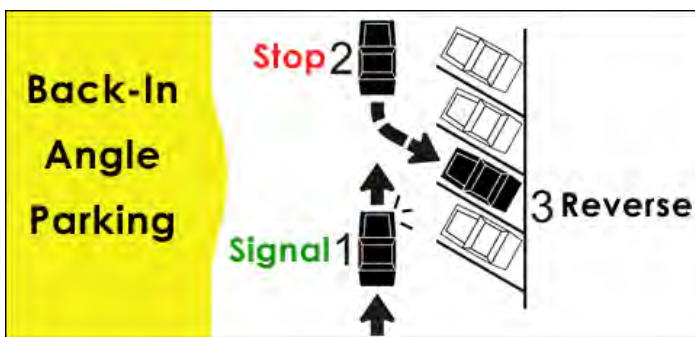
Back-in angle parking is a safer form of the traditional nose-in angle parking. It is sometimes referred to as reverse-angle or reverse diagonal parking. Instead of pulling into the parking spot, drivers, back into their spot. This allows them to make eye contact with oncoming traffic when exiting the parking spot.

With back-in angle parking, the parking lines are reversed or angled in the opposite direction indicating that a driver is to back into the spot. Signage may also be added to indicate that drivers are to back in.

How back-in angle parking works

Back-in angle parking has the same initial steps as parallel parking:

1. Signal a right turn to warn other drivers.
2. Pull past the parking spot and stop.
3. Reverse into the parking spot.



Benefits

Back-in angle parking has multiple safety and operational benefits for vehicles as well as pedestrians and bicyclists, such as:

- Provides motorists with better vision of bicyclists, pedestrians, cars and trucks as they exit a parking space and enter moving traffic.
- Eliminates the risk of a bicyclist being 'doored' when the bicyclist is traveling in a bicycle lane next to a parallel parked car.
- Removes the difficulty that drivers, particularly older drivers, have when backing into moving traffic.
- Positions the trunk or back of the vehicle to the sidewalk, enabling easier loading/unloading of items.



- Positions the driver and passengers, including children, to enter/exit the vehicle towards the sidewalk instead of into moving traffic.
- Increases parking capacity (10 to 12 feet of lateral curb per vehicle, versus 22 feet per vehicle for parallel parking).
- Is easier than parallel parking.

Back-in Angle Parking, continued...

Considerations before Installation

As a general rule, back-in angle parking should be installed on side streets first. This will enable drivers to become familiar and comfortable with the parking change. Over time and with community acceptance, it may be expanded to major streets.

Prior to installation, the change should be publicized so that people understand and accept the change. A learning curve should be expected, thus parking a vehicle in one of the spaces each morning can help drivers understand the action.

Appropriate signage will also help to educate drivers on how to park.

Other considerations include:

- Vehicles overhanging the sidewalk or backing into trees or street furniture. This can be eliminated with proper design and placement.
- Vehicles may enter the spaces head-in from the opposite side of the street. This can be alleviated with signage and enforcement.
- Potential Congestion: As with parallel parking, backing in may cause some congestion.

Overall, back-in angle parking improves the safety of cyclists and drivers by increasing visibility, and makes accessing your car easier and safer.

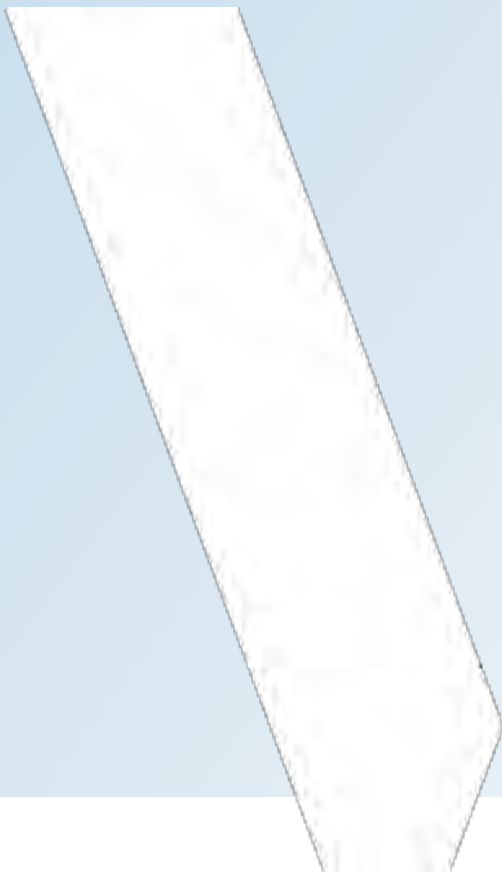


www.bikewalkmontana.org

APPENDICES

D

PARKING BEST PRACTICES





LES AMÉNAGEMENTS LES REVÊTEMENTS DE SOL



ANGUS: pavé alvéolé



PLESSISVILLE: pavé alvéolé



BELOEIL: pavé de béton clair



QUIMET SUD: revêtement à base
de matière végétale

LES CARACTÉRISTIQUES À PRIVILÉGIER

- **Les couleurs claires** ont un indice de réflectance solaire (IRS) élevé, ce qui agit davantage contre les îlots de chaleur.
- **Une forte porosité** recrée l'hydrographie naturelle du site et réduit la charge en polluant de l'eau de ruissellement.

LES MEILLEURS CHOIX DE REVÊTEMENT

- **1 Le pavé alvéolé est à privilégier** puisqu'il participe à la fois à une meilleure gestion de l'eau de pluie (laisse l'eau s'infiltrer directement sur place), à la lutte aux îlots de chaleur et au verdissement du stationnement. Chaque dollar investi est donc optimisé.
- **Le pavé de béton clair à joints perméables** est un bon choix puisqu'il participe à la réduction des îlots de chaleur et aide à la gestion de l'eau pluviale.
- **Le revêtement à base de matière végétale est un choix à considérer** puisque sa couleur claire, dû au liant de nature végétale utilisé dans la mise en œuvre, permet de lutter contre les îlots de chaleur.

LES BÉNÉFICES ASSOCIÉS À CES CHOIX

- L'amélioration de l'**esthétisme** du stationnement
- Le pavé alvéolé entraîne une **optimisation des investissements** puisqu'il permet à la fois le verdissement, la lutte aux îlots de chaleur et une meilleure gestion de l'eau pluviale

À CONSIDÉRER AUSSI DANS VOTRE CHOIX

- La nature du terrain et la difficulté de mise en œuvre
- L'utilisation de matériaux recyclés et recyclables
- L'entretien et le déneigement
- L'aspect visuel

Coût estimé de chaque type de revêtement
Entre 100\$ et 130\$/m²



L'ATTESTATION STATIONNEMENT ÉCORESPONSABLE PEUT VOUS AIDER

L'attestation Stationnement écoresponsable vise à mobiliser et à accompagner les propriétaires d'espaces de stationnement sur l'île de Montréal, afin de créer un effet d'entraînement vers de meilleures pratiques de gestion immobilière permettant de réduire les émissions de GES liées à la dépendance à l'automobile, et de diminuer les impacts climatiques des surfaces de stationnement. Elle offre :

UN ACCOMPAGNEMENT PERSONNALISÉ

- Rencontres pour identifier des solutions d'aménagement réalistes, économiques et efficaces;
- Mise en contact avec des experts;
- Accès à différents outils pour la mise en œuvre des meilleures pratiques.

UNE GRANDE VISIBILITÉ

- Promotion dans nos réseaux d'entreprises engagées;
- Localisation et identification des stationnements certifiés écoresponsables sur le site Web;
- Événements de reconnaissance et de remise des attestations.

DES RÉSULTATS BÉNÉFIQUES À LONG TERME

- Image positive dans sa municipalité, son quartier et auprès des employés;
- Opportunité d'obtenir des reconnaissances supplémentaires en développement durable;
- Préparation à faire face à la nouvelle réalité de gestion du stationnement.

LES CRITÈRES D'ÉVALUATION DE STATIONNEMENT

- Aménagements végétaux
- Aménagements de gestion des eaux pluviales
- Revêtement perméable
- Aménagements piétonniers
- Offre d'espace de stationnement à vélo
- Offre de cases réservées aux véhicules « verts » (électrique, covoiturage, etc.)
- Incitatif à l'utilisation du transport en commun
- Mutualisation ou partage du stationnement
- Etc.

CONTACTEZ-NOUS DÈS MAINTENANT!

Conseil régional de l'environnement de Montréal

514 842-2890 / info@cremtl.qc.ca

VISITEZ NOTRE SITE WEB

stationnementecoresponsable.com

Coordonné par :



Financé par :



**FONDS D'ACTION
QUÉBÉCOIS POUR LE
DÉVELOPPEMENT DURABLE**



LES AMÉNAGEMENTS

LES ARBRES ET LA VÉGÉTATION



ANGUS: arbres feuillus en îlot central



BELOEIL: arbres conifères en périphérie



MARCHÉ PUBLIC DE LONGUEUIL: arbres feuillus et vivaces

LES CARACTÉRISTIQUES À PRIVILÉGIER

- Le choix d'arbres possédant un **grand indice de canopée** permet d'atteindre 40% ou plus de couverture du stationnement
- La **répartition des arbres doit être régulière** sur le stationnement, en îlot central et en périphérie, en évitant les arbres isolés
- L'**espace au sol doit être suffisant** pour la croissance des racines
- Les **essences** doivent être sélectionnées selon leur **résistance** au climat québécois, au sel de déglacage et aux polluants

LE CHOIX DES ESPÈCES ET TYPES DE VÉGÉTAUX



- Les **feuillus** fournissent de l'ombre en été et laissent passer les rayons du soleil en hiver
- Les **conifères** gardent leurs épines en toutes saisons et servent d'écran de protection contre le vent et le bruit

LES BÉNÉFICES

- La **protection** des usagers et des automobiles lors des fortes chaleurs
- L'amélioration de l'**esthétique** du stationnement
- La hausse de la **valeur foncière**
- L'amélioration du processus d'**infiltration** de l'eau pluviale
- La création de **corridors verts** et de refuges pour la biodiversité

À CONSIDÉRER AUSSI DANS VOTRE CHOIX

- La conservation de la végétation existante
- La mixité des espèces afin d'éviter la monoculture
- Les distances de plantation pour une bonne croissance
- La silhouette des arbres pour maximiser l'ombrage
- La capacité d'évapotranspiration pour rafraîchir l'air
- L'exposition au vent et au soleil
- La localisation des lieux d'entreposage de la neige
- La localisation des chemins piétons et cyclistes

Arbres feuillus	600\$/u ou 70\$/m.lin
Arbres conifères	700\$/u ou 150\$/m.lin
Rangée d'arbustes feuillus	50\$/m.lin
Rangée de petits arbres conifères	150\$/m.lin
Massif d'arbustes, vivaces et couvre-sol	60\$/m ²

Les coûts unitaires sont donnés à titre indicatif et varient en fonction des projets.



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