



Final Report

Village of Harrison Hot Springs Parking Master Plan



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1 Introduction

The Village of Harrison Hot Springs is located on the shores of Harrison Lake, approximately 140 km east of Vancouver, British Columbia. While Harrison Hot Springs has a small population of approximately 1,500 residents, the Village is a popular tourist destination hosting over 750,000 visitors annually and is a popular day trip destination of Lower Mainland communities. The visitors are known to predominantly travel to the Village between May and September. With such a large demand over summer months, significant pressure is placed on the Village's parking system.

1.1 Study Background

The Village of Harrison Hot Springs initiated the Parking Master Plan to improve year round parking operations with a focus on the summer peak period. This study aims to determine the needs and objectives among the different parking user groups (visitors, residents, and stakeholders) in Harrison Hot Springs. Visitors are known to be looking for parking opportunities as close as possible to the waterfront, residents are concerned about visitor parking demand spilling into their residential neighbourhoods, and business owners are concerned about parking spaces remaining available for their customers.

The key study outcome is a set of recommendations aimed at improving parking operations. The recommendations include changes to parking prohibitions and restrictions, seasonal resident only parking permits, an expanded pay parking system, and increased public parking opportunities.

The Parking Master Plan consists of the following sections:

- **Parking Supply and Demand Assessment:** assesses Harrison Hot Springs' parking operations to identify existing supply constraints and projects future parking demand to help meet future needs;
- **On-Street Parking Regulation Review:** develops the recommended parking regulation improvements by investigating potential changes to on-street parking operations. The objective is to develop a solution where the future parking needs of all users are balanced with public safety objectives;
- **Additional Parking Considerations:** investigates additional parking improvements such as parking wayfinding, electric vehicle parking, public education, and increases to accessible and bicycle parking opportunities;
- **Public and Stakeholder Consultation:** engages the public and key stakeholders to understand existing parking issues and opportunities, and to collect feedback regarding the preliminary study conclusions and recommendations; and
- **Conclusions and Recommendations:** summarizes the study findings and outlines the recommended parking improvements.

1.2 Public Parking System

The study focuses on the municipal parking system, which consists of 2,384 parking spaces including 110 off-street spaces and 2,274 on-street spaces. Pay parking is in effect near the waterfront between 6:00 AM and 7:00 PM from May 15 to September 15 with the following fees:

- Zone 1: 4 hour maximum parking duration (Hour 1: \$2.00, Hour 2: \$3.00, Hour 3: \$4.00, Hour 4: \$5.00);
- Zone 2: Hourly or daily parking (\$3.00 per hour or \$12.00 per day); and
- Rest of Village: free parking.

The Village's pay parking system is illustrated in Exhibit 1-1.

Exhibit 1-1: Pay Parking Map

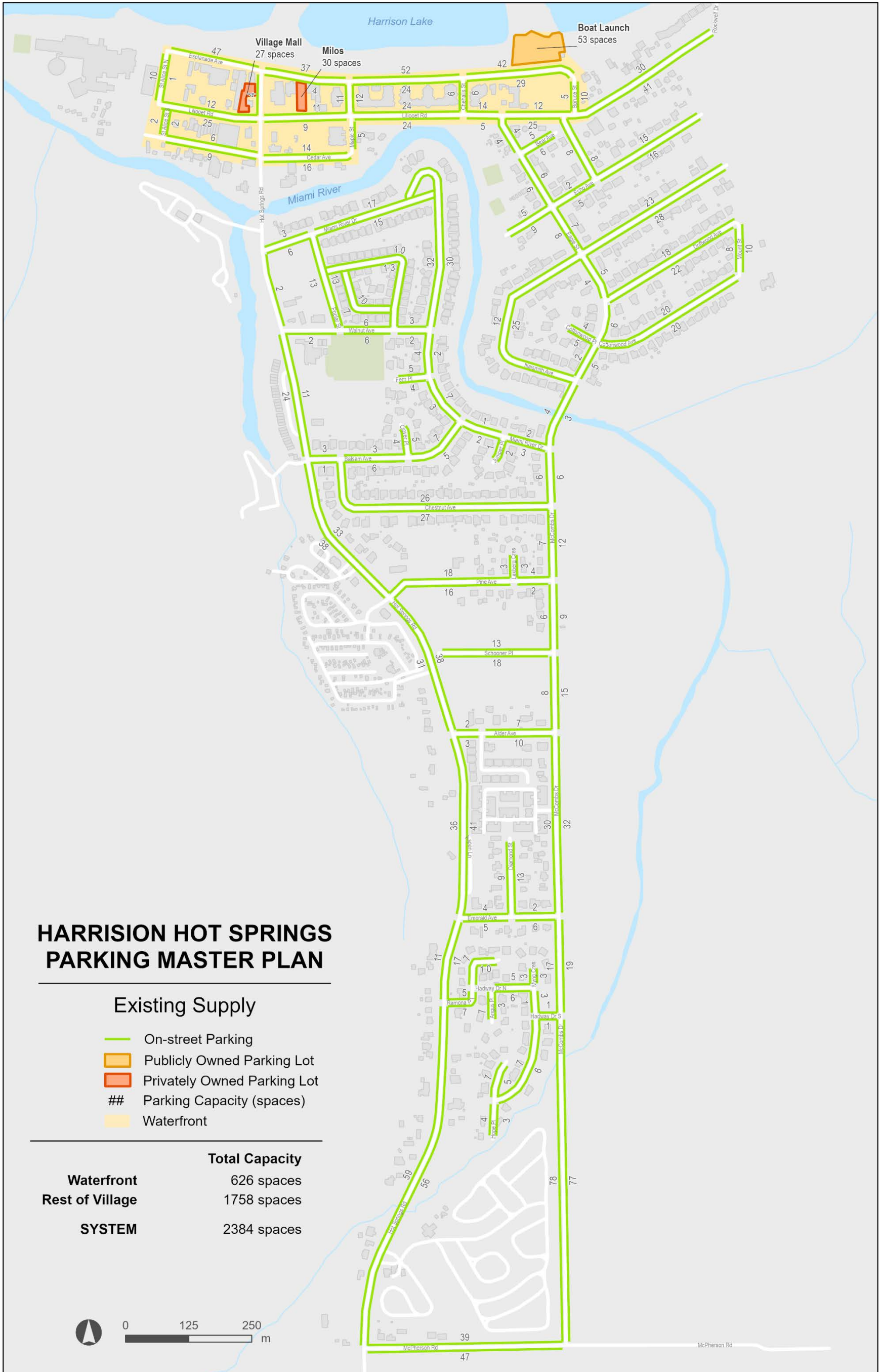


Free parking is in effect Village-wide during the non-summer period (September 16 to May 14).

A total of 626 parking spaces are provided in the waterfront area, while 1,758 parking spaces are provided throughout the residential neighbourhoods. The Harrison Hot Springs existing parking system is illustrated geographically in Exhibit 1-2, the waterfront area is shaded yellow.

Note that there is a vacant lot on the south east corner of Hot Springs Road and Miami River Drive that is typically used for overflow parking during special events. Further consideration for this vacant lot will be included in the next Official Community Plan update. Additionally, note that the Milos and Village Mall Lots are privately owned but open for public use.

Exhibit 1-2: Harrison Hot Springs Existing Parking System



2 Parking Supply and Demand Assessment

The Parking Supply and Demand Assessment examines the collected parking utilization data to gain an in-depth understanding of existing parking operations. Future parking demand is also projected to understand how parking operations are anticipated to change over time.

2.1 Parking Supply and Demand Surveys

To provide a solid basis for the parking master plan and a meaningful needs analysis, it is important to accurately collect parking occupancy data in the field. A complete review of the public parking system was undertaken during a typical summer weekend and summer weekday to evaluate peak seasonal parking operations. The data collection exercise inventoried the publicly available on-street and off-street parking supply and collected hourly parking demand data throughout the Village. The surveys were completed on the following days:

- Saturday, August 28, 2021: 8:00 AM to 8:00 PM; and
- Wednesday, September 1, 2021: 9:00 AM to 7:00 PM.

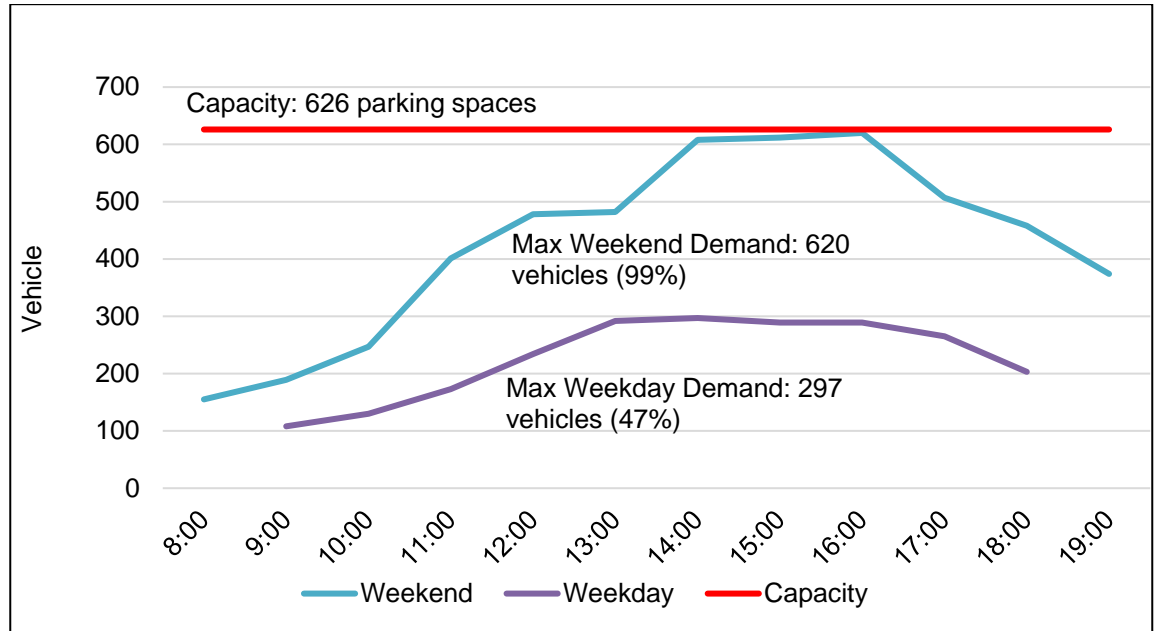
It should be noted that both survey days were sunny with daily high temperatures of approximately 25C, which is representative of a typical peak summer day. The supply and demand surveys distinguished between general, accessible, and special parking spaces (electric vehicle, motorcycle, boat launch, etc.).

2.2 Existing Parking Operations

The existing conditions assessment evaluates the health of Harrison Hot Springs' parking operations. Based on industry standards, parking systems are considered "effectively full" at an occupancy of approximately 85-90%, depending on lot size and other characteristics. This represents the point where finding a space becomes challenging for drivers, resulting in an increased likelihood of a driver having to search for an available parking space. Given that the Harrison Hot Springs parking system is predominantly used during the summer months with the system relatively underutilized during the winter, extending the target summertime utilization to 90-95% is considered appropriate. This is due to the limited parking opportunities and the high demand, and the fact visitors are simply looking for any parking space that they can find. This approach maximizes the use of the existing parking system and manages the need for expensive new parking facilities that will remain underutilized during the non-summer months.

While the entire Harrison Hot Springs parking system was reviewed, the parking supply and demand assessment focuses on the waterfront area where demand is known to be concentrated. The Harrison Hot Springs waterfront parking utilization by time-of-day is illustrated in Exhibit 2-1.

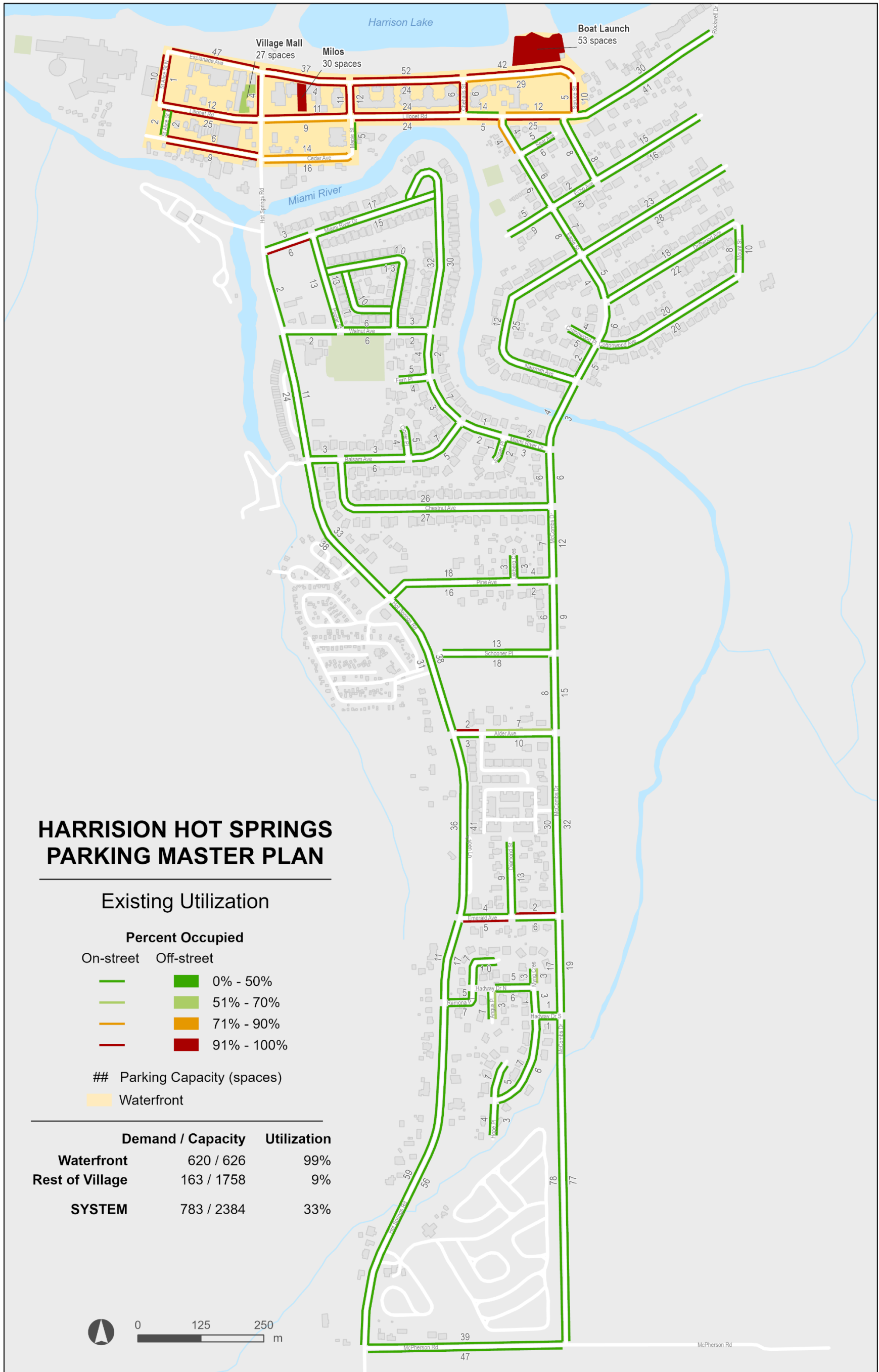
Exhibit 2-1: Waterfront Parking Utilization



As illustrated in Exhibit 2-1, the waterfront parking system experiences a peak demand of 620 vehicles (99%) at 4:00 PM on the weekend indicating that parking opportunities are limited during the peak.

To identify Village-wide parking capacity constraints, the parking utilization of each off-street lot and on-street segment during the peak hour (weekend 4:00 PM) is illustrated in Exhibit 2-2. Using the illustrated parking utilization and a targeted 90% effective capacity threshold, parking capacity constraints were identified.

Exhibit 2-2: Peak Parking Utilization Map (Weekend 4:00 PM)



Based on Exhibit 2-2, the following conclusions are drawn:

- No residential neighbourhood capacity concerns were observed as indicated by the 9% overall utilization and most streets operating under 50% utilization;
- On-street parking along Lillooet Avenue and Cedar Avenue are the only free parking facilities near the waterfront that operated at effective capacity, indicating that pay parking operations could be considered;
- The boat launch parking lot operated at capacity throughout most of the afternoon, indicating that additional boat launch parking would be beneficial; and
- Parking utilization in the residential areas near the waterfront operated with utilization below 50%. This indicates that waterfront parking demand spillover into the residential neighbourhoods is currently not a major issue from a parking capacity point of view. However, given the limited parking opportunities available in the waterfront area, parking demand spillover may become a larger issue in the future as parking demand grows.

Based on the observed parking operations, waterfront parking users can expect to experience difficulty in finding an available parking space during summer weekend peak hours. Additional parking supply is required to meet the 90% target utilization which would also prevent further parking demand spillover into the residential neighbourhoods.

2.2.1 Parking Duration

Parking turnover is the duration or amount of time a parked vehicle occupies a parking space. The parking turnover assessment provides insight into the average number of vehicles served by parking spaces daily. The average parking turnover was estimated using 2021 pay parking data provided by the Village. The total number of hours purchased in 2021 was 7,906,724 hours, which when divided by the total transaction counts recorded (47,445 transactions), resulted in an average parking duration of 2.78 hours or 166 minutes. When considering the 6:00 AM to 7:00 PM pay parking period, this indicates that each parking space serves 4 to 5 vehicles per day on average.

Using the same set of data, transaction counts were grouped into average parking durations from one to seven hours, the result of which is illustrated in Exhibit 2-3.

Exhibit 2-3: Parking Turnover Summary

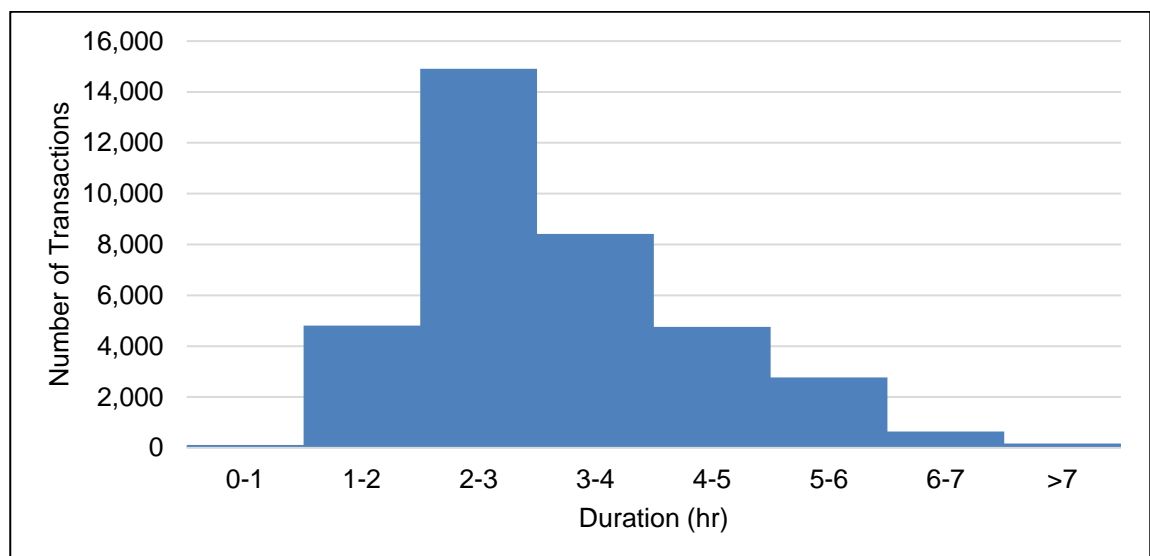


Exhibit 2-3 indicates that most parking sessions are two to three hours, with a steady decline in the frequency as the duration increases.

As determined through the public and stakeholder engagement, the 4-hour maximum parking spaces in Zone 1 have been well received. Additionally, short duration parking spaces were commonly requested. To meet this request, the Village is recommended to implement four to five additional 15-minute maximum parking spaces near popular establishments such as restaurants along Esplanade Avenue. These high turnover parking spaces are anticipated to predominantly meet pick-up, drop-off, and take-out restaurant demand. Note that there are currently seven 15-minute maximum parking spaces at the post office.

The existing and proposed 15-minute parking spaces are recommended to initially remain free. Should the Village determine that free parking incentivizes illegal parking, paid parking operations should be implemented.

2.2.2 A Note on COVID-19

The parking supply and demand data was collected during the COVID-19 pandemic, which is anticipated to have impacted the observed parking demand. While domestic and international tourism is known to be lower than usual resulting in a decrease in tourist parking demand, day trips to Harrison Hot Springs from the surrounding communities have increased. To evaluate COVID-19's impact, the total number of pay parking transactions in 2019 and 2021 were compared:

- 2019: 32,905 parking transactions
- 2021: 39,316 parking transactions

These values indicate that there were 19% more transactions in 2021 than in 2019. In other words, the increase in day trip parking demand appears to have exceeded the decrease due to reduced tourism. Therefore, to remain conservative, a COVID-19 adjustment factor was not applied to the observed parking demand.

2.3 Future Parking Projections

With the existing waterfront parking system operating at capacity during summer weekends and parking demand projected to increase as tourism and the surrounding municipalities grow, planning is necessary today.

Given that the Harrison Hot Springs population of 1,500 is only a fraction when compared to the 750,000 annual visitors, it can be assumed that the parking demand is predominantly visitors. For the purposes of this planning assessment, the parking demand is assumed to grow at the same rate as the number of tourists visiting the Village have grown.

Parking demand growth can be managed through transportation demand management (TDM), which promote alternative modes of transportation such as transit, cycling, and walking. In other words, future parking demand is anticipated to decrease as the personal vehicle mode share decreases.

To project future parking demand, the following factors were applied.

- **Tourist growth factor:** Based on data provided by the Village, tourism has increased by 12% from 2015 to 2019, or 2.2% per year.
- **TDM reduction:** According to the *Transit Future Plan* by BC Transit, transit mode share is anticipated to increase from 1% in 2011 to 2% in 2036, or 0.04% per year.

By applying these two factors, future parking demand in Harrison Hot Springs was projected under the 5, 15, and 25-year horizons. Parking facility demand was grown in excess of 100% utilization

to help identify locations where parking supply constraints are anticipated. Exhibit 2-4 presents an overview of the projected 2026, 2036, and 2046 parking operations.

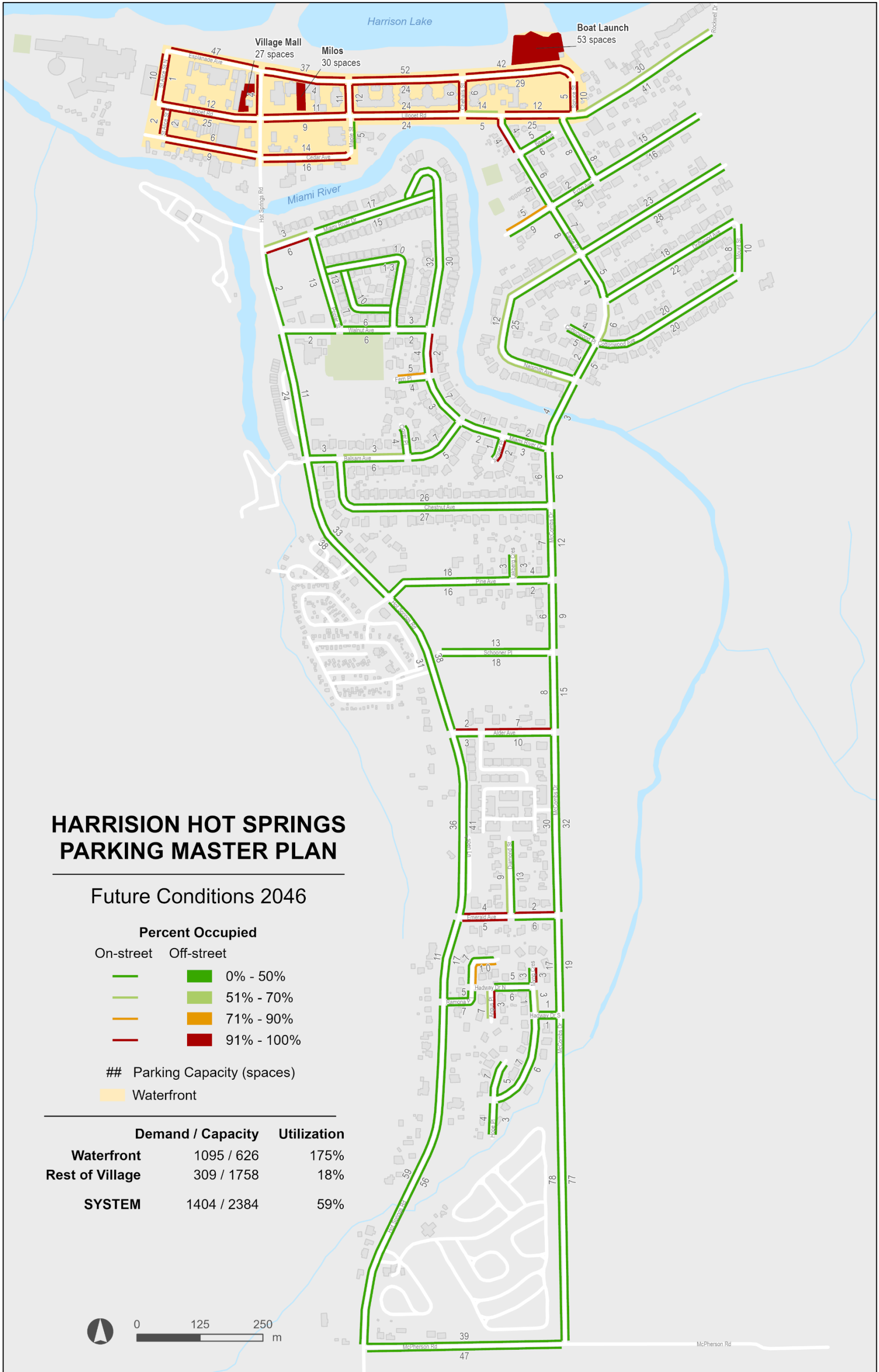
Exhibit 2-4: Future Parking Operations

Year	Waterfront Utilization	Residential Utilization	System Utilization
2026	114%	12%	39%
2036	141%	15%	48%
2046	175%	18%	59%

The waterfront parking system is projected to operate more and more over capacity as parking demand grows with time. Solutions are anticipated to be required to meet future waterfront parking needs. No parking issues are projected in the Village’s residential areas as indicated by the low utilization.

To help identify the locations of future parking capacity constraints, Exhibit 2-5 geographically displays each parking facility’s projected parking utilization in 2046.

Exhibit 2-5: 2046 Peak Parking Utilization Map (Weekend 4:00PM)



As outlined in Exhibit 2-5, most waterfront on-street and off-street parking facilities are projected to operate over capacity, indicating the need for additional nearby parking opportunities. Similar maps for 2026 and 2036 horizons are included in Appendix A.

2.4 Future Parking Needs

Given that the Harrison Hot Springs waterfront parking system was observed to operate at capacity, solutions are required today. Strategies aimed at managing demand and increasing public parking supply are considered most appropriate. To meet the targeted 90% utilization in waterfront area, an additional 60 parking spaces are required today, and 600 parking spaces are anticipated to be required by 2046.

Note that if parking demand returns to pre-COVID levels (19% reduction as outlined in Section 2.2.2), the waterfront parking system is anticipated to operate with a peak demand of 496 vehicles (80% utilization). Under these conditions, some users are likely to perceive difficulty in finding an available space, particularly in the popular areas such as Esplanade Avenue, but additional parking opportunities would be available nearby. With pre-COVID demand as a base, only 350 additional spaces are projected to be required to meet 2046 demand.

Given that the extent to which parking operations return to pre-COVID levels following the pandemic is unknown, flexible solutions are required. Harrison Hot Springs is recommended to collect parking demand data every 2-3 years to monitor demand. As peak parking demand on a non-holiday and non-special event weekend begins to exceed the 90% utilization target, additional strategies can be considered. As noted, parking systems are generally designed to accommodate the 85-90th percentile peak annual parking demand, which in Harrison Hot Springs represents a typical summer weekend. Section 4.5 examines parking operations during special events, which represents the peak annual demand.

When considering potential solutions, the following constraints were identified:

- The Village does not own vacant land near the waterfront where a parking structure could be constructed. A parking structure could be considered on the existing boat launch parking lot. However, it is located on the waterfront where a structure would impact the area's natural aesthetics.
- Procuring new land in the waterfront area for a parking supply expansion may not be financially feasible given expensive land costs and limited availability.
- Waterfront parking demand infiltration into the residential streets is undesirable.
- As identified through public consultation, off-street parking (far) outside of the waterfront area is not appealing due to the distance between the parking facility and the waterfront.

The following sections outline the recommended strategies aimed at meeting future parking demand while respecting these constraints. However, given the projected number of parking spaces required and the limited available waterfront space, the Village is anticipated to be faced with difficult decisions where all the constraints may not be met.

2.4.1 Short Term (1 to 4 years)

Short term solutions are intended to improve waterfront parking operations over the next few years. Solutions that manage parking demand and better utilize existing parking facilities are most appropriate since they can be implemented quickly without the need to plan, design, and construct new facilities.

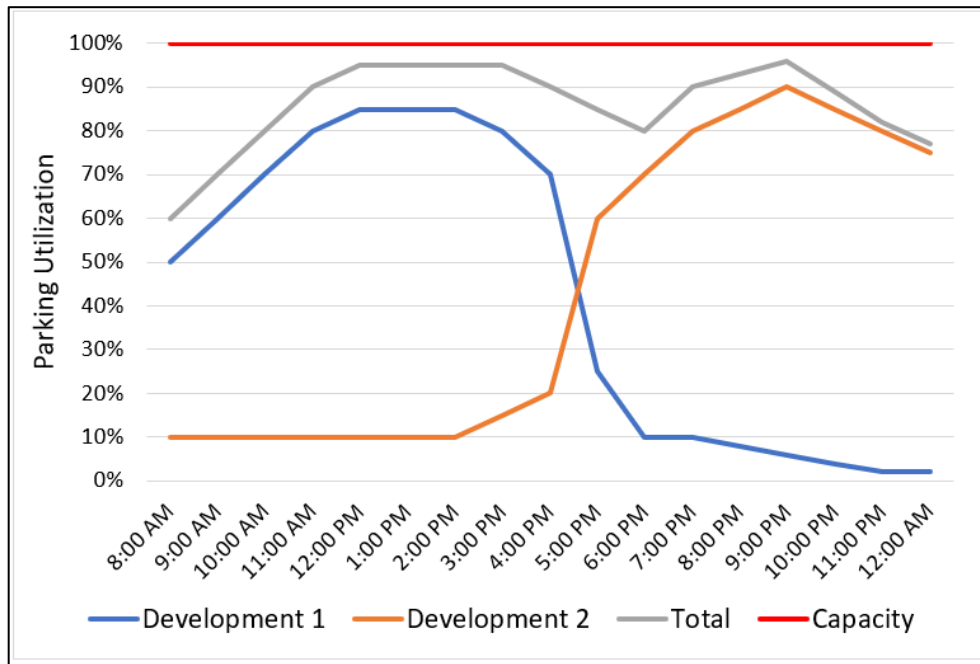
Shared Parking Agreements

Harrison Hot Springs is recommended to investigate shared parking agreements with private developments. Shared parking involves the use of one parking facility by more than one land use,

taking advantage of different parking demand patterns by time-of-day. Shared parking improves the efficiency of existing parking facilities by maximizing utilization and is cost effective since the construction of new parking facilities is not required. For Harrison Hot Springs, agreements with private establishments can quickly be established to provide immediate relief to public operations.

To illustrate the principle behind shared parking, Exhibit 2-6 displays the parking demand profile of two theoretical developments.

Exhibit 2-6: Sample Shared Parking Profile



Development 1 demand peaks during the morning and afternoon while development 2 demand peaks in the evening. Both developments peak at approximately 85-90% utilization. However, even when combined, the peak utilization remains below 100% capacity. Therefore, one shared parking facility can serve both developments instead of each development being served by an independent parking facility.

In Harrison Hot Springs, private developments that experience peak demand outside of the Village parking system peak could be considered for shared parking. As outlined in Exhibit 2-1, waterfront parking demand steadily increases in the morning, peaks in the afternoon at 4:00 PM, and steadily decreases in the evening. Candidate land uses include restaurants which typically peak during the evening and hotel and motel accommodations which peak overnight. Based on discussions with stakeholders and a scan of waterfront establishments and the land uses' typical parking peaks, the following developments present potential shared parking opportunities:

- Harrison Lake Hotel;
- Harrison Beach Hotel; and
- Central Community Church.

A post by Richard Wilson entitled "Parking: A Tale of Two Churches" states that religious institutions, such as churches, provide excellent opportunities for shared parking. Given that churches experience peak demand during weekend mornings, the parking supply remains relatively underutilized during weekdays, weekend afternoons, and weekend evenings. Shared parking examples involving churches include:

- Squamish (British Columbia): The Squamish United Church redevelopment project proposed one shared parking facility serving the development's residential, office, and church land uses.
- Portland (Oregon): Three dozen Park & Ride lots provide shared parking opportunities for nearby apartments, regional justice centre, churches, and movie theatres.
- Portland (Oregon): Special event parking for the Hawthorne Street Fair is provided through shared parking agreements with four churches. Free shuttle bus service is also provided to attendees parking at these facilities.
- Portland (Oregon): The National College of Naturopathic Medicine has shared parking agreements with two nearby churches.
- Portland (Oregon): The Oregon health Sciences University parking needs are met through on-street parking, a shuttle system, and shared parking agreements with nearby churches.

In Harrison Hot Springs, public parking is known to be available in some hotel parking facilities (ex: Harrison Hot Springs Resort), indicating that shared has already been adopted.

Since there are many ways to operate and maintain a parking facility, each agreement will need to be tailored to the facility's unique characteristics through negotiations with the owner. Common questions that need to be answered include:

- How will the parking facility maintenance be funded;
- Who is responsible for parking facility operations;
- Who is responsible for enforcing the parking facility (if needed); and
- How are the parking revenues divided?

The answers to these questions will depend on how that facility is being maintained and operated today. For example: if the parking facility operations, maintenance, and revenue is contracted to a private organization, then the shared parking agreement would need to be coordinated with a third party as well. A common approach to shared parking agreements is to decide which party will operate and maintain the parking facility. The collected revenues would first go towards recovering the operating and maintenance costs. The remaining revenue could then be split evenly between the parties. For example, the Village of Oak Park (Illinois) has agreements with nearly 30 different private parking lot owners in the Village Centre. In general, the Village has taken over maintenance and operations including revenue collection. The Village first recovers its costs and the profit is then shared 50/50 with the owner. These leases are typically up to three years in length.

Private Parking Supply

During PIC 2, private waterfront establishments were stated to generate parking demand that exceeded the on-site parking supply, resulting in demand spilling into the municipal system. Private parking supply is regulated by the zoning bylaw parking requirements. Developers wishing to provide parking less than the zoning bylaw requirements are required to apply for a variance, which is at the discretion of the Village Council to approve. The Village is recommended to continue requiring parking justification studies if less parking supply is proposed than required, to ensure that demand does not spill into the municipal parking system. Additionally, the Village is recommended to review the existing zoning bylaw parking requirements to ensure parking requirements are reflective of current parking demand generation. Note that, while the zoning bylaw review can be completed in the short term, the impacts are anticipated to be long term since planning, designing, and constructing new developments takes time.

The Village also has a cash-in-lieu of parking provision in its Zoning Bylaw currently set at \$15,000 per parking space. Cash-in-lieu is a provision granted by the municipality to developers who are not able to provide the sufficient numbers of parking spaces required by the zoning bylaw. The funds are paid to the municipality and deposited into a parking reserve fund to pay for future parking expansions.

Best practices have established that the cash-in-lieu price be set at a point that represents approximately 50% of the cost to provide municipal parking, either in structures or surface lots. The rationale is due to the shared use nature of the municipal parking supply, where parking serves the entire waterfront area instead of being dedicated to a proposed development. Given that the waterfront parking system is operating at capacity, the Village is recommended to update the cash-in-lieu of parking rate to better reflect the cost of constructing municipal parking. Based on Exhibit 2-7 and the anticipated need for structured parking, a cash-in-lieu of parking rate of \$23,000 per space is considered appropriate.

Transportation Demand Management

The Village is recommended to promote and improve alternative modes of transportation to reduce personal vehicle mode share of tourists, Fraser Valley day trips, and local residents. Potential strategies include:

- Coordinating with BC Transit to improve Fraser Valley Regional transit service to Harrison Hot Springs during the summer (currently Route 11). Note that Transit improvements would be tax subsidized by the broader Agassiz-Harrison area;
- Expanding the Fraser Valley cycling route network; and
- Expanding the sidewalk network in Harrison Hot Springs to improve pedestrian safety.

The Village completed the *Road, Bridge, and Active Transportation Master Plan* in 2019, which recommended short and long term active transportation network improvements. While improving alternative modes of transportation will help manage parking demand, personal vehicles are anticipated to remain the dominant mode of travel to and around Harrison Hot Springs. Therefore, additional parking is still anticipated to be needed as demand grows.

Parking Price Increases

Best practices have established that parking prices are set at a point that establishes financial sustainability (parking revenues are sufficient to fund parking expenses).

Parking prices can also be used as a transportation demand management strategy. The appeal of alternative modes of transportation can be increased through parking price increases. According to Canadian Parking Association, the price elasticity of parking demand generally ranges between -0.10 to -0.60, with an average value of -0.37. In other words, a 1% increase in the price of parking would result in a 0.37% decrease in parking demand. Given that transportation to and within Harrison Hot Springs is known to be vehicle centric, a value on the lower end is most representative.

Harrison Hot Springs is recommended to compare historical parking revenues with historical parking expenses. If expenses are determined to exceed revenues, increasing parking prices would help achieve financial sustainability and manage parking demand. Additionally, an argument for further increasing parking prices can be made given the anticipated need for future parking supply expansion. The estimated cost of new parking facilities is discussed in Section 2.5.

2.4.2 Long Term (5+ years)

Following shared parking agreements, the next preferred solution is to include public parking in new developments in addition to the on-site parking required by zoning bylaws. These private-public-partnerships typically involve cost and revenue sharing between the private developer and

the municipality, which would need to be negotiated on a case-by-case basis. This approach integrates public parking into the urban fabric in a more visually appealing way than standalone parking facilities. Additionally, depending on when parking operations peak at the new development, shared parking agreements can also be leveraged to further increase public parking.

As a final solution if additional parking supply is still required, the Village can consider a new standalone parking facility. The new parking facility is recommended to be designed in an environmentally friendly way. Best practice landscaping guidelines include:

- Minimize surface parking in the waterfront. Where required, locate surface parking in the rear of the development and implement tree canopies and vegetation to manage the urban heat island effect and protect against climate change;
- Promote above grade and underground parking structures that are integrated with the urban fabric in a discreet manner that compliments the surrounding area's character. Above grade structures should aim to have alternative uses on the ground floor. Green roofs should be encouraged;
- Maximize and distribute landscaping throughout the site to screen and soften parking lot boundaries, maximize shade and storm water benefits, create a pleasant pedestrian realm, and reinforce pedestrian circulation routes;
- Integrate existing trees, vegetation, natural slopes, and soils where possible;
- Design parking facilities to manage storm water flow in environmentally sensitive ways. For example: permeable pavements where storm water flows directly through the pavement into the ground; and
- Provide continuous landscaped medians every 3 (or fewer) parking aisles in surface lots, and landscaped islands at the end of each parking row. Landscaped medians should be at least 3m wide.

Any new parking facility is recommended to also include boat launch parking on the ground level as trailers are more difficult to maneuver to the upper levels than personal vehicles. Depending on the success of transportation demand management, shared parking agreements, the amount of public parking included in new developments, and plot of land footprint, a surface parking facility or parking structure could be considered. Given the number of spaces required to meet the recommended 90% utilization target, structured parking will likely be appropriate.

2.5 Future Parking Summary

Based on the future parking demand projections, an additional 350 to 600 parking spaces are anticipated to be required by 2046 to meet the targeted 90% utilization in the waterfront. The exact number of spaces needed depends on the extent to which parking demand returns to pre-COVID levels.

To meet future demand, additional parking supply is needed. In the short term, the Village is recommended to investigate shared parking opportunities with existing private establishments. Additionally, as new developments are proposed, including public parking in addition to the required private parking is also recommended. The remaining parking supply needs should then be met through a new standalone parking facility.

As noted in Section 2.4, there is no perfect location for a parking supply expansion given known constraints. The Village currently does not own vacant land on the waterfront, purchasing vacant land may be financially infeasible, parking facilities further from the waterfront are unappealing given the distance, and visitor parking demand spilling onto residential streets is undesirable. The Village is anticipated to be faced with difficult decisions where all the constraints may not be met.

The option to construct a parking structure on the boat launch lot site may be considered. However, the site is located on the waterfront, which would detract from the area's natural

aesthetics. If the Village decides to proceed, special design consideration would be required to blend the structure with the natural landscape as best possible.

Using data obtained from the 2021 *Altus Group Canada Cost Guide*, Vancouver parking facility construction costs are outlined in Exhibit 2-7.

Exhibit 2-7: Parking Facility Construction Costs (Vancouver)

Type	Price Per ft ²		Cost of Parking Space (400 ft ²)	
	Low	High	Low	High
Surface Parking	\$ 7	\$ 26	\$ 2,800	\$ 10,400
Freestanding Parking Structure (above grade)	\$ 95	\$ 135	\$ 38,000	\$ 54,000
Underground Parking Structure	\$ 135	\$ 180	\$ 54,000	\$ 72,000

Source: *Altus Group Construction Cost Guide, 2021*

A freestanding parking structure is projected to cost \$46,000 per space on average (based on the low and high ranges). Based on provided financial data, \$315,640 gross parking revenue was collected in 2021. After expenses, a net revenue of \$245,000 was collected. Given that there are 301 pay parking spaces in the Village, approximately \$815 was collected per space. Dividing the parking structure cost of \$46,000 per space by \$815 revenue collected per space per year, results in an average payback period of 56 years. Based on this payback period, special consideration should be given to this option.

3 On-Street Parking Regulation Review

Curbside space is a scarce resource that serves ever increasing demand from various users, such as parking, drivers, cyclists, taxis, and transit, couriers, and goods delivery vehicles. As Harrison Hot Springs and the surrounding communities continue to grow, the competition for the curbside will increase and conflicts between users will occur more frequently. This section reviews Harrison Hot Springs existing curbside regulations and examines changes aimed at improving the parking system's overall performance.

3.1 Existing Curbside Regulations

Using site visits, Google Streetview, and data provided by the Village, an inventory of existing curbside regulations was developed. This inventory includes parking restrictions, special designations (accessible parking, bicycle lanes, boat launch parking, loading zones, transit zones, etc.), and curbside assets (parking wayfinding signage, parking payment machines, and bicycle parking).

In general, free parking is provided along residential streets subject to the Village's Highway and Traffic Bylaw which restricts parking to 48 hours for personal vehicles or 24 hours for commercial vehicles. Recreational vehicles are restricted to 8 hours of on-street parking anywhere in the Village. The waterfront area has a large variety of curbside regulations given the many competing users. The waterfront curbside regulations include:

- 19 accessible parking spaces;
- 5 electric vehicle parking spaces;
- 17 motorcycle parking spaces;
- Bicycle lanes along Hot Springs Road and Lillooet Avenue;
- Four loading zones along the western end of Esplanade Avenue and Lillooet Avenue;
- Tour bus parking along St. Alice Street; and
- Transit zones along Lillooet Avenue.

Exhibit 3-1: Motorcycle Parking along Esplanade Avenue



Exhibit 3-2 geographically illustrates the waterfront curbside regulations in a map.

Exhibit 3-2: Waterfront Area Curbside Regulations



3.2 Parking Regulation Changes

This section discusses the various parking regulation changes that can be considered in optimizing the Harrison Hot Springs on-street parking operations. The objective of these changes is to balance the parking needs of all users including businesses, residents, visitors (tourists and day trips), and boat launch users.

- During the summer peak, visitors are the main user of the waterfront parking system. Visitors generally wish to park as close to the waterfront as possible. Different types of parking needs include boat launch, accessible, motorcycle, and electric vehicles.
- Harrison Hot Springs residents wish to restrict visitor parking demand from spilling into their neighbourhoods to keep the on-street parking facilities available for their needs. Note that the Highway and Traffic Bylaw restricts on-street parking to a maximum of 48 hours.
- Businesses aim to provide sufficient parking opportunities to meet the needs of their employees and patrons. These parking needs are generally met through on-site off-street parking facilities, which are regulated by the applicable Zoning Bylaws. Note that this study focuses on public parking operations.

3.2.1 Pay Parking System Expansion

In general, the objective of pay parking operations is to manage parking demand and to generate the funding required to maintain, operate, and improve the municipal parking system.

Pay parking increases personal vehicle user cost, which makes alternative modes of transportation more attractive. In Harrison Hot Springs, residents are more likely to walk or cycle, Fraser Valley commuters are more likely to take public transit or cycle, and tourists are more likely to select public transit.

Pay parking is the primary tool used to generate the funds required to provide municipal parking. Best practices have established that parking prices are set at a point that achieves financial sustainability (parking revenues are sufficient to fund parking expenses without a significant surplus). Without pay parking, municipalities typically rely on tax subsidization to maintain and operate municipal parking. Pay parking is generally the preferred approach, since the costs associated with public parking is transferred directly to the parking user instead of the entire population.

Pay parking operations are most suited to commercial cores where parking demand is the highest, or in Harrison Hot Springs, the waterfront area. When evaluating the pay parking limits in Harrison Hot Springs, the following two guiding principles were adopted:

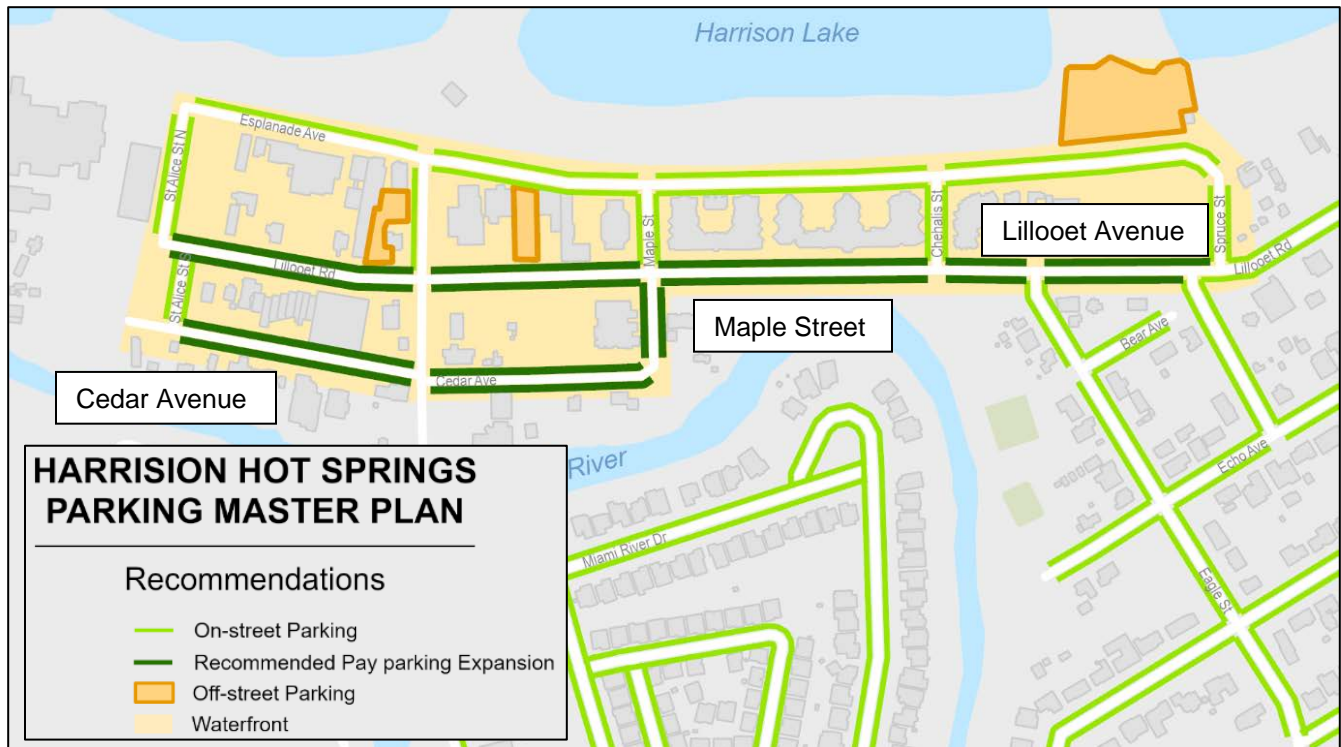
- Pay parking is appropriate along streets that operate near or at the 90% effective capacity threshold; and
- Pay parking is appropriate along streets adjacent to commercial establishments.

When comparing the Harrison Hot Springs pay parking limits with the existing parking utilization map (Exhibit 2-2), the following road segments were identified as streets with free parking that meet the above criteria:

- Lillooet Avenue between St Alice Street and Spruce Street;
- Cedar Avenue between St Alice Street and Maple Street; and
- Maple Street between Lillooet Avenue and Cedar Avenue.

These streets are illustrated geographically in Exhibit 3-3.

Exhibit 3-3: Recommended Pay Parking Expansion



In the short term, Harrison Hot Springs is recommended to implement pay parking operations along Lillooet Avenue. Lillooet Avenue between St. Alice Street and Hot Springs Road is recommended to be added to Zone 1, and Harrison Hot Springs Road to Spruce Street would be added to Zone 2. As parking demand grows, pay parking operations can also be considered along Cedar Avenue and Maple Street.

Note that Lillooet Avenue is under the jurisdiction of the Ministry of Transportation and Infrastructure. Adopting pay parking operations along Ministry roads is possible, however the jurisdiction has typically been transferred to the local municipality for the relevant segments. For example:

- Granville Street (Vancouver);
- West Broadway (Vancouver);
- Dunsmuir Street (Vancouver);
- Douglas Street (Victoria); and
- Blanshard Street (Victoria).

While the pay parking system expansion would require new pay parking machines, the cost would be offset by an increase in parking revenue. If pay parking operations were implemented along Lillooet Avenue, Cedar Avenue, and Maple Street, up to \$172,000 in annual revenue is estimated. This estimate is based on the \$815 revenue generated per space per year noted in Section 2.5, and a parking supply of 211 spaces along the identified streets. The collected revenue could be allocated towards the new parking facility.

3.2.2 Boat Launch Parking

Boating on Harrison Lake is a popular summer activity among Harrison Hot Springs and the broader Fraser Valley communities. Owners launch their boats from Harrison Hot Springs and then park the trailers in the off-street parking facility adjacent to the launch site.

The most frequently noted parking issue through the Phase 1 engagement is the boat launch parking lot’s inability to meet the parking demand, resulting in boat trailer parking demand spilling into the surrounding parking system. This supply constraint was observed in the existing conditions assessment where the boat launch lot operated at capacity between 2:00 and 5:00 PM on the weekend. Therefore, additional boat launch parking opportunities are required to meet current and future demand. The public engagement process also identified that non-boat launch parking users are known to park in the boat launch parking lot given the less expensive prices.

To reduce unauthorized parking and increase boat launch parking availability, the potential solutions outlined in Exhibit 3-4 are considered.

Exhibit 3-4: Potential Boat Launch Parking Solutions

Potential Solution	Description
Harmonize Prices	Coordinate with the Fraser Valley Regional District to maintain parking price harmonization as general parking prices increase.
Maximum Parking Restrictions	Restrict parking to a maximum 24 or 48 hours to increase boat launch parking turn over and availability.
Shared Parking	Explore shared parking agreements to increase boat launch parking supply.
Esplanade Avenue Reconfiguration	Restrict general traffic along Esplanade Avenue between Chehalis Street and Spruce Street and reconfigure on-street parking along this segment to boat launch only. This solution would help better define the border between general parking and boat launch parking and reduce parking user confusion. With the reconfiguration, the pedestrian crosswalk at the Spruce Street and Esplanade Avenue intersection could also be realigned to improve the orientation.
Chehalis Street Reconfiguration	If a general traffic through lane is desired to be maintained along Esplanade Avenue, Chehalis Street could be restricted to northbound boat launch traffic only and the on-street parking spaces converted to boat launch spaces. The existing general and boat launch parking mix along Esplanade Avenue would need to be maintained as the additional space required for boat launch parking would not be gained.
New Parking Facility	Increase boat launch parking supply as part of a new parking structure.

Given that the general parking system near the boat launch site was also observed to operate at capacity, reallocating general parking spaces to boat launch parking is not considered a viable solution. Additionally, boat launch parking users typically require full day parking, which is ideally met off-street with on-street spaces serving short term parking users for higher turnover. Therefore, the Esplanade Avenue or Chehalis Street Reconfiguration solutions are not considered appropriate.

Harrison Hot Springs is recommended to maintain parking price harmonization between boat launch parking and general parking as prices are increased to disincentive unauthorized parking. Additionally, Harrison Hot Springs is recommended to investigate shared parking agreement opportunities (ex: Central Community Church) and consider restricting boat launch parking to a maximum time limit of 24 or 48 hours. Some boat launch users are known to park for multiple days which reduces turnover and limits availability.

In the long term, additional boat launch parking supply is recommended to be included on the ground level of the structured parking supply expansion discussed in Section 2.4.2. One option is a parking structure on the existing boat launch lot. Alternatively, the Village could purchase new land for a parking structure. Ideally, additional boat launch parking would be located near the boat launch site. If a new facility is not located in the immediate vicinity, the Village is recommended to install boat launch parking wayfinding signs directing users from the boat launch site to the new facility. With the boat launch parking needs met off-street, the existing boat launch spaces along Esplanade Avenue should be repurposed to general parking to help meet general waterfront parking needs.

Exhibit 3-5: Boat Launch Parking Lot



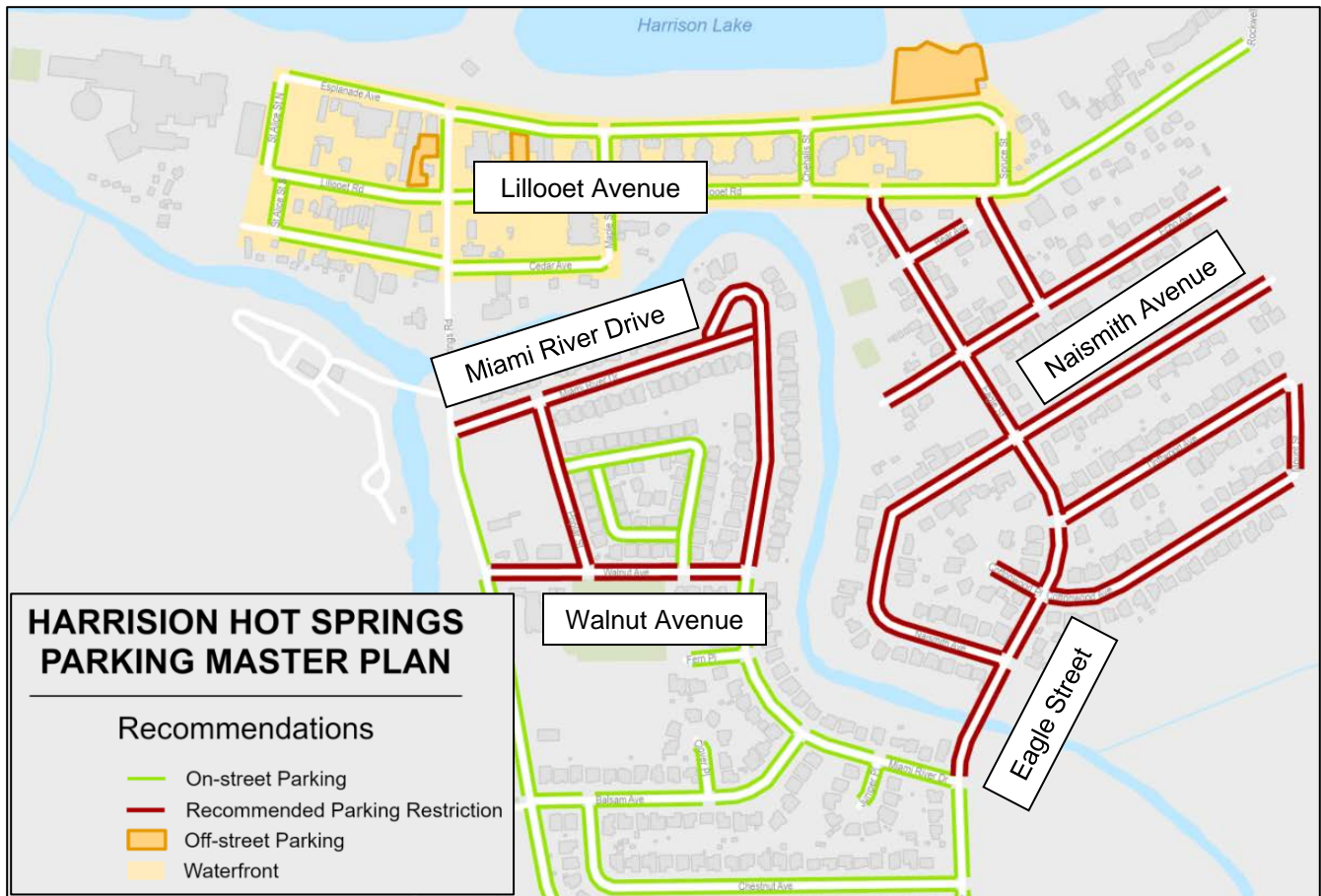
3.2.3 Parking Restrictions

Parking restrictions are useful in prohibiting the use of on-street parking facilities by unintended users. Restricting parking to a maximum of 3 or 4 hours along residential streets closest to the waterfront would prevent tourist and day trip parking demand spillover since these users typically require full day parking. However, by allowing short term parking, resident guests can still utilize the on-street parking facilities.

Parking restrictions are recommended along the following streets (illustrated geographically in Exhibit 3-6):

- Miami River Drive from Hot Springs Road to Walnut Avenue;
- Walnut Avenue from Hot Springs Road to Miami River Drive;
- Poplar Street from Miami River Drive to Walnut Street;
- Eagle Street from Lillooet Avenue to McCombs Drive;
- Bear Avenue (entire length);
- Spruce Street from Lillooet Avenue to Echo Avenue;
- Echo Avenue (entire length);
- Naismith Avenue (entire length);
- Mount Street (entire length);
- Driftwood Avenue (entire length); and
- Cottonwood Avenue (entire length).

Exhibit 3-6: Recommended Parking Restrictions



Given that tourist and day trip users mainly visit during the summer months, the restrictions are recommended to be in effect between May 15 to September 15 from 6:00 AM to 7:00 PM. Note that this matches the period of pay parking operations.

While significant parking demand spillover into residential neighbourhoods was not observed during the parking supply and demand surveys, the waterfront parking system did operate at capacity during the peak hour. As parking demand grows due to increased tourism and Fraser Valley community growth, parking demand spillover may soon become a larger issue. Therefore, the restrictions are recommended to be adopted in the short term to prevent the issue before it occurs.

3.2.4 Residential Parking Permits

To complement the recommended parking restrictions outlined in Section 3.2.3, Harrison Hot Springs is recommended to adopt a residential parking permit system limited to the streets outlined in Exhibit 3-6. Residential parking permit hangtags would be distributed to the affected residents, which would exempt permit holders from the new 3-4 hour maximum parking time limit. This program would allow residents to continue parking on-street as they do today while preventing waterfront parking demand from spilling into the neighbourhoods. Note that the residential parking permits would not grant an exemption to the current 48 hour maximum parking time limit.

Residents living on the affected streets could apply for a residential parking permit and provide proof of residence and a license plate. Linking the hang tags to license plates would prevent the permits from being transferred between users. Residents who own multiple vehicles could apply for multiple residential permits.

In addition to the residential parking permits, the Village is also recommended to grant one day permits to visitors of the residents living on the affected streets upon request (ex: out of town family or friend visiting for the weekend). With the recommended 3-4 hour maximum parking limit coming into effect at 6:00 AM the following morning, overnight visitors would be required to leave by 9:00 or 10:00 AM. The one day permits would allow visitors to continue parking on-street as they currently do. To maintain the current 48 hour on-street parking maximum, one day permits could be granted up to two consecutive days.

To enforce the recommended residential parking permit program and parking restrictions, the Village is recommended to contract an additional Bylaw Enforcement Officer. A common enforcement method is digital or physical chalking. Bylaw officers chalk vehicles parked on-street along the affected streets during a first patrol loop. During the second patrol loop 3-4 hours later, chalked vehicles still parked on-street are identified for potential violations. The officer would then simply check for a residential permit before issuing a violation. Note that the residential parking permits are recommended to be in effect between May 15 to September 15, which matches the parking restriction period. Therefore, year round enforcement would not be required.

3.2.5 One-sided Parking Restrictions

One-sided parking restrictions prohibit parking along one side of the street while maintaining parking on the other. The intent is to better balance the curbside space between all users. Given that the waterfront parking system is operating at capacity and that additional parking opportunities are needed, one sided parking restrictions were only considered in the residential neighbourhoods. To help identify potential streets, the following guiding principles were developed:

- Streets where parking demand is low enough that restricting parking to one side is not anticipated to create any capacity constraints;
- Streets that are narrow and supporting one through lane per direction may be difficult when vehicles are parked on both sides of the street; and
- Streets without sidewalks where on-street parking operations may present accessibility and safety challenges for pedestrians.

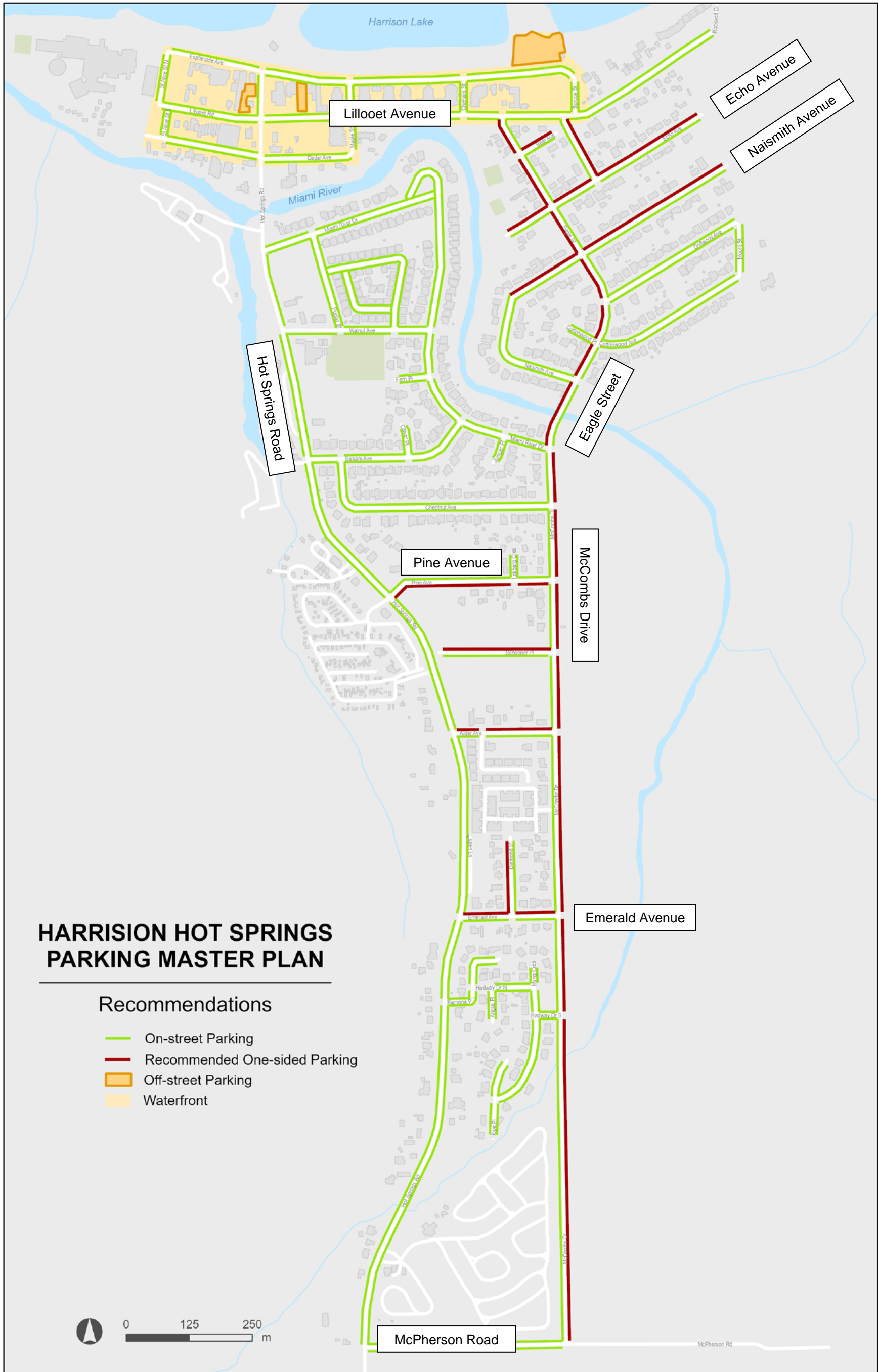
In the event the sidewalk network is expanded as recommended in Section 2.4.1, the sidewalk construction is recommended to be coordinated with the one-sided parking restrictions. Pedestrians would have a safe and dedicated route on one side of the street and parking would be maintained on the other. Based on the above criteria, streets best suited for one sided parking restrictions include (illustrated geographically in Exhibit 3-7):

- Bear Avenue: restrict north side parking since parking supply on the south side is larger;
- Spruce Street: restrict east side parking with a potential sidewalk on the east side that would connect with a potential pedestrian cross walk at the Lillooet Avenue and Spruce Street intersection;
- Echo Avenue: restrict north side parking with a potential sidewalk on the north side that could be connected with the potential sidewalk on Spruce Street;
- Naismith Avenue (northern half where road width is narrower): restrict north side parking since parking supply on the south side is larger;
- Pine Avenue: restrict south side parking since the parking supply on the north side is larger;
- Alder Avenue: restrict north side parking since the parking supply on the south side is larger;

- Schooner Place: restrict north side parking since the parking supply on the south side is larger;
- McCombs Drive: restrict east side parking to prevent vehicles from blocking the McCombs Drive walking trail;
- Eagle Street: restrict west side parking to provide a continuous pedestrian connection to the Miami River Greenway and crosswalk to the McCombs Drive walking trail;
- Diamond Street: restrict west side parking since parking supply on the east side is larger; and
- Emerald Avenue: restrict north side parking with a potential sidewalk on the north side that could be connected to the potential sidewalk on Diamond Street.

In line with current operations, residential permit holders should be allowed to continue parking anywhere in the Village and not be limited to parking adjacent to their properties.

Exhibit 3-7: Proposed One-Sided Parking Restrictions



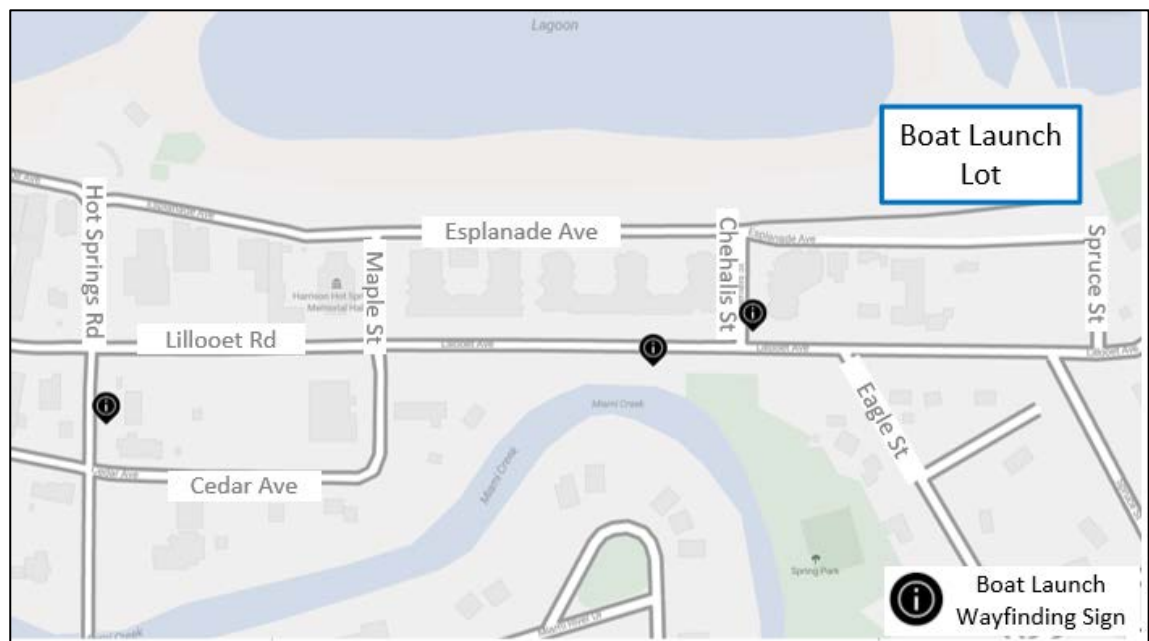
4 Additional Parking Considerations

This section examines additional parking strategies that can be adopted in Harrison Hot Springs to improve the overall parking user experience.

4.1 Parking Wayfinding Technologies

Parking wayfinding technologies help guide users to available spaces more efficiently. Currently, the Village provides boat launch signs that direct users to the designated parking lot, as outlined in Exhibit 4-1.

Exhibit 4-1: Existing Wayfinding Signage



The best practices research revealed that a static parking wayfinding system includes four fundamental sign types.

Introduction: The first level alerts drivers approaching a parking area. The sign should be distinct in both colour and size, be characterized by unique logos, and should display the locations and names of off-street parking lots. These signs are located on the street and are mounted on poles of standard heights.

Directional: Directional parking signage is distinct in colour, size, and logo and directs drivers to the parking facilities. The signs are mounted on poles at standard heights on the streets.

Identification: Identification signage is placed at the entrance of each parking lot. The parking lot name is identified and the type of parking available is listed. Identification signage is distinctive in colour and size, and it is located on a pole at a lower height.

Pedestrian: These wayfinding signs are placed at locations easily found by a pedestrian, typically parking facility entry/exit points. They are intended to help orient pedestrians to their surroundings by displaying a map of the area with popular destinations identified.

Given that the Village's parking system is predominantly on-street parking that is distributed throughout the entire waterfront area, a traditional wayfinding system is not considered appropriate.

While the Village already provides boat launch and special use parking signage, the online municipal parking system map is recommended to be updated to better identify the special use parking space locations and capacity. This map is intended to improve trip planning by helping users identify parking opportunities before leaving their homes. This map is envisioned to be similar to Exhibit 3-2. Hard copies of the updated map could also be distributed at hotels and tourism centres throughout Harrison Hot Springs and the broader Fraser Valley communities.

A more advanced wayfinding system includes variable message signs that display parking occupancy data in real-time, allowing users to quickly identify which parking facilities have available parking. Although dynamic wayfinding signage is a powerful tool, it is not considered appropriate for Harrison Hot Springs since it would require expensive technology upgrades capable of tracking parking demand in real-time.

4.2 Accessible Parking

Harrison Hot Springs currently provides 19 on-street accessible parking spaces, consisting of 12 spaces on Esplanade Avenue, 5 spaces on Lillooet Avenue, and 2 spaces on Maple Street.

The best practices review concluded that accessible parking requirements generally apply to off-street parking, where the number of accessible parking spaces required are a function of the total parking supply. In 2018, the British Columbia Building Code removed the accessible parking requirements stating that confusion would occur when provincial requirements differed from a municipality's local requirements. Upon reviewing the Harrison Hot Springs Zoning Bylaw, accessible parking requirements are specified for the off-street parking facilities of private developments, but on-street accessible parking requirements were not included.

As municipalities strive to improve the accessibility of their infrastructure, providing safe and convenient on-street accessible parking is equally important. Extending the best practices research to other Canadian jurisdictions, the Accessibility for Ontarians with Disabilities Act recommends that municipalities consult with a local accessibility advisory body or stakeholders when establishing the location and quantity of accessible on-street parking spaces. Accessible on-street parking spaces are ideally located adjacent to developments that have a high number of accessible users.

Based on the collected parking utilization data, a peak accessible parking demand of 10 vehicles (53% utilization) was observed at 2:00 PM on the weekend (August 28, 2021). This observation suggests that the overall number of accessible on-street parking spaces provided is sufficient.

When examining individual accessible spaces, the spaces on Esplanade Avenue were observed to be very highly utilized while the spaces on Lillooet Avenue were rarely occupied. Online survey responses also commonly requested that accessible parking be provided near Rendall Park. Based on these findings, the Village is recommended to relocate one accessible space from Lillooet Avenue to the east side of Spruce Street.

Exhibit 4-2: Accessible Parking on Esplanade Avenue



4.3 Bicycle Parking

The Village currently provides bicycle parking at six locations along Esplanade Avenue between St. Alice St and Chehalis Street, concentrated near local establishments. The bicycle parking locations are illustrated in Exhibit 3-2.

As determined through discussion with Harrison Hot Springs staff, bicycle parking demand is known to be low. This finding was supported by the online survey responses, only 9% of responders prefer cycling as their mode of transportation and 63% believe that the current bike parking supply is sufficient. Based on these findings, the existing bicycle parking supply is recommended to be maintained.

The 2019 *Road, Bridge, and Active Transportation Master Plan* recommends an expanded Bicycle Network. With improve cycling, bicycle mode share may increase in the future. Therefore, Harrison Hot Springs is recommended to monitor bicycle parking demand and consider increasing the supply if the existing spaces become well utilized. Similar to accessible parking, the location and supply of bicycle parking expansion should be determined through consultation with the public and stakeholders. As a starting point for future expansion, bicycle racks are recommended to be considered at the east end of Esplanade Avenue near Rendall Park or along the eastern end of Lillooet Avenue. Alternatively, the existing bike racks at Memorial Hall can be relocated further east along Esplanade Avenue to better distribute existing bike parking facilities.

As part of the expanded cycling network, the Village is recommended to consider adopting a bike share system. Docking stations could be added near popular waterfront destinations along with a docking station adjacent to any new remote parking facility. This bike share system is intended to increase the appeal of the remote parking facility and cycling as a mode of transportation in general. Bikeshare stations with 20 spaces could cost up to \$50,000, and up to \$75,000 if e-bike charging stations are included. These costs can be reduced depending on the cost sharing agreement reached with the third party service provider.

As an emerging trend, e-bike and e-scooters are gaining popularity as a mode of transportation. The best practices research determined that e-bike charging stations are rarely seen in North America. Users typically charge e-bikes by detaching the battery and charging through a wall outlet, which are available at home, hotel rooms, or any indoor facility if allowed by owners. Although current demand does not justify installing e-bike charging stations, the Village could consider providing them in the future if further study shows increasing demand.

4.4 Electric Vehicle Parking

The Village currently provides five on-street electric vehicle (EV) charging stations in the waterfront area, as outlined in Exhibit 3-2. The users are only required to pay the regular parking fee, electricity is provided free of charge.

The best practices research concluded that the cost of electricity is typically transferred to the user through fees paid at the charging station. Common EV charging suppliers in British Columbia are ChargePoint, Flo, and BC Hydro EV. All accept user payment through phone apps, RFID card, or QR code. The cost depends on the type of charging station. Level 3 stations (fast charging stations) cost between \$0.20 to \$0.30 per minute, while Level 2 stations (slow charging stations), cost between \$1.00 and \$2.00 per hour. The charging stations track the amount of time spent charging, and the user is billed based on the final total.

In the short term, the Village is recommended to increase the cost of parking spaces with EV charging stations by \$1.00 to \$2.00 per hour (equivalent to the Level 2 station costs) to transfer the cost of electricity to the user without the need for new infrastructure.

In 2020, the EV mode share in British Columbia was 1.6%. British Columbia's Zero Emission Vehicle (ZEV) Act targets 10% of new vehicle sales be ZEVs by 2025 and 30% by 2030. These targets indicate that EV mode share will quickly increase in the next few years. In 2020, EV sales in British Columbia reached 9.4% of new vehicle sales, suggesting that the targets will be met earlier than planned.

Given these findings, the Village is recommended to target 10% of the waterfront pay parking system be EV ready by 2025, and 30% by 2030. While these estimates provide targets, the Village is recommended to monitor EV space utilization through the recommended parking supply and demand survey and install additional charging stations if the existing spaces are determined to be well utilized. The new charging stations are recommended to be capable of billing the user for electricity. New EV spaces should be spread throughout the waterfront. The best practice is to locate EV spaces near popular destination, noting that accessible parking spaces take priority in terms of building entrance adjacency. Additionally, EV spaces are ideally located near electric grid connections.

When expanding the EV charging station network, the Village is also recommended to replace the current charging stations. New EV charging stations were determined to cost:

- \$6,000 - \$9,000 per single-port Level 2 charger;
- \$8,000 - \$14,000 per dual-port Level 2 charger; and
- \$20,000 - \$100,000 per Level 3 charger, depending on existing electrical distribution system.

To complement public EV charging stations, the Village requires that new private establishments provide 1 EV charging station where the parking requirements exceeds 20 spaces. Given that EV vehicle mode share is anticipated to quickly increase over the next 5 to 10 years, best practices have established that indoor private parking be designed in a manner that permits future EV station installation. The Village is recommended to consider such a requirement as part of the recommended parking Zoning Bylaw update.

Exhibit 4-3: Electric Vehicle Parking Spaces on Esplanade Avenue



4.5 Event Parking Operations

The Village parking system was determined to peak during summer weekends. However, short-term parking demand spikes are known to occur during special events. Harrison Hot Springs regularly hosts special events such as the Dragonboat Festival, Sasquatch Days, Bands on the Beach, Festival of the Arts, the Canadian Outrigger Racing Association race, and Canada Day. The peak annual parking demand occurs when special events are hosted on summer weekends.

Parking systems are generally designed to accommodate the 85-90th percentile peak annual parking demand. This approach ensures that the parking supply is sufficient to accommodate all but the highest parking demand experienced throughout the year. Parking systems are not designed to accommodate the peak annual demand since there would be excess parking capacity available during the remainder of the year. Many municipalities have developed special event plans with strategies to meet the increased special event parking demand.

This section investigates Harrison Hot Springs special event parking demand and considers strategies to help meet the increased demand. Currently, the vacant land located on the southeast corner of Hot Springs Road and Miami River Drive is used as an overflow lot to provide additional parking opportunities. However, further consideration for this vacant lot will be included in the next Official Community Plan update. In other words, using the land as an overflow lot may not be an option in the near future.

To estimate the additional parking demand associated with special events, the number of pay parking transactions during special event weekends were compared to regular weekends. Exhibit 4-4 summarizes the 2019 special event weekends and compares the number of pay parking transactions to the average 2019 weekend (517 transactions).

Exhibit 4-4: 2019 Special Event Pay Parking Transaction Comparison

Event	Day	# of Pay Parking Transactions	Additional Transactions
Sasquatch Days	July 15 and 16	585	13%
Canadian Outrigger Association Racing	August 17 and 18	694	34%
Bands on the Beach	August 31 and September 1	654	26%

As illustrated in Exhibit 4-4, the number of additional transactions ranged between 13% and 34%. When applying these values to the peak waterfront parking demand (575 vehicles), an additional 75 to 195 vehicles can be anticipated. Given that the waterfront parking system was observed to operate at capacity, special event strategies that manage parking demand and provide additional parking opportunities without constructing new facilities are considered appropriate. Strategies recommended to help meet special event parking demand include:

- Increase parking prices:** By increasing parking prices during special events, alternative modes of transportation become more appealing. Special event attendees are more likely to choose walking or cycling, while Fraser Valley attendees are more likely to choose transit.
- Improve transit service:** Improving transit service frequency and reliability can promote a shift in mode choice from personal vehicles to public transit. Increasing transit service is even more effective when combined with parking price increases. BC Transit Route 11 (Agassiz-Harrison) provides service between Harrison Hot Springs and the surrounding communities. The bus frequency could be increased during special events. Additionally, shuttle buses could be operated to and from nearby communities not typically served by transit to increase to area of coverage during special events. Note that Transit improvements would be tax subsidized by the broader Agassiz-Harrison area.
- Encourage event organizers to explore shared parking agreements:** To provide additional parking opportunities without investing in new infrastructure, the Village is recommended to encourage event organizers to enter into shared parking agreements. Given that the potential for shared parking agreements with waterfront property owners are anticipated to be investigated as part of the recommended strategy to meet future parking demand, the private properties located further from the waterfront are recommended (ex: Harrison Resort Golf Course, Harrison Holiday Park Association, and local farms). Given the distance, shuttle bus service between the parking facility and the event location is recommended.

Shared parking agreements could also be established with developments in the Fraser Valley communities. Attendees could drive and park at the parking facility in their community and the shuttle bus service would then provide a direct connection to the special event venue. As noted in Section 2.4.1, Hawthorne Street Fair special event parking is provided through shared parking agreements with four churches. Free shuttle bus service is also provided to attendees parking at these facilities.

4.6 Parking Education Best Practices

The best practice research concluded that communicating through multiple platforms is the most effective approach to public communication. Common methods include a municipal website dedicated to parking (harrisonhotsprings.ca), social media posts (Facebook, Twitter, YouTube, etc.), newspaper advertisements (Agassiz Harrison Observer), brochures, and email blasts.

The Village was determined to already employ multiple methods of communication, which has proven to be effective given the online survey's high participation rate. Among 1,500 residents, 113 survey responses were submitted. Existing practices are recommended to be maintained. Based on feedback received from online survey, Village residents' preferred method of communication are website posts and email newsletters. A common request was to provide a brochure stand on the bulletin boards at the Village office and post office.

The Village is also recommended to prepare a brochure summarizing the parking operation changes in an easy to understand format for public consumption. The brochure should be synced with a QR code to allow for contactless distribution.

Three examples of such brochures include:

- **Abbotsford Neighbourhood Guide:** <https://www.abbotsford.ca/sites/default/files/2021-02/Abbotsford%20Good%20Neighbour%20Guide.pdf>
- **Moving Cambridge:** https://www.cambridge.ca/en/learn-about/resources/Transportation/Brochure_2019-05-07.pdf
- **Waterloo Moving Forward:** https://www.regionofwaterloo.ca/en/exploring-the-region/resources/Transportation/DOCS_ADMIN-3115278-v3-Brochure_Region_of_Waterloo_TMP_Update__2019-09-17.pdf

5 Public and Stakeholder Consultation

The public and stakeholder consultation activities were divided into two phases. The first phase, consisting of the public information centre 1 (PIC 1), an online survey, and a stakeholder meeting, was conducted near the beginning of the study to obtain feedback on existing parking operations, knowledge of existing parking issues, and desired study outcomes. The second phase, the second public information centre 2 (PIC 2), was conducted near the end of the study to present and collect feedback on the study's preliminary conclusions and recommendations.

Due to the on-going COVID-19 pandemic, all consultation activities were completed virtually.

5.1 Virtual Public Information Centre 1

The virtual PIC 1 was hosted on September 24, 2021 with approximately 20 members of the public in attendance. The meeting consisted of a presentation introducing the study and outlining preliminary analysis, which was followed by a questions and answer period. Key PIC takeaways included:

- Concern was raised over whether the collected parking demand data was representative of “peak” operations since it was collected late summer and during the on-going COVID-19 pandemic;

The on-going COVID-19 pandemic was determined to increase parking demand by 19% due to additional day trip demand. Further details are presented in Section 2.2.2. Parking systems are generally designed to accommodate the 85-90th percentile peak annual parking demand. This ensures that the parking supply is sufficient to accommodate all but the highest few parking demand days throughout the year. Parking systems are not designed to accommodate the peak annual parking demand since there would be excess parking capacity available during the remainder of the year;

- Boat launch parking demand was stated to frequently spill into the surrounding parking system;
- A residential parking permit program was commonly requested;
- Parking demand from private developments was stated to frequently spill into the municipal parking system; and
- Mailing parking information pamphlets could be considered for disseminating parking information.

Full PIC 1 minutes are included in Appendix B.

5.2 Virtual Stakeholder Meeting

A virtual stakeholder meeting was held on September 15, 2021. Individuals in attendance included Harrison Hot Springs staff as well as members from Tourism Harrison, Fraser Valley Regional District, Precise Parklink, and local business owners. The key takeaways were:

- The boat launch parking lot constantly operates overcapacity with ever increasing demand. Some non-boat launch parking users are also known to park in this lot since parking prices are lower;
- Similar to PIC 1, concern was raised over whether the collected parking demand data was representative of “peak” operations since it was collected late summer and during the on-going COVID-19 pandemic;

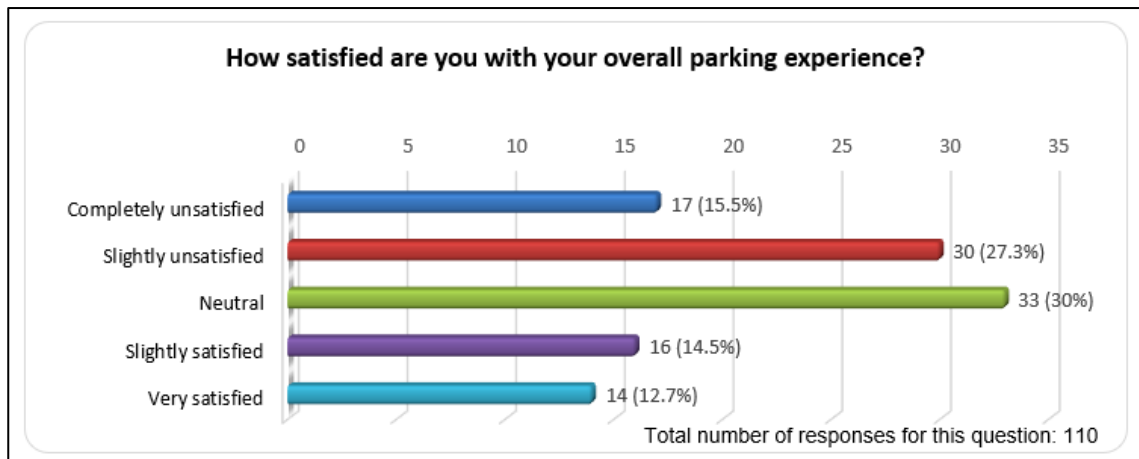
- There are potential opportunities for shared parking agreements to better utilize existing facilities that may have some spare parking capacity. Possible opportunities include nearby hotels, owners of vacant surface lots near the boat launch lot, and two farms at the southern end of Harrison Hot Springs; and
- The short term parking spaces on the west side of Esplanade Ave received positive feedback from businesses and parking users.

Full meeting minutes are included in Appendix B.

5.3 Online Survey

An online survey was developed and active from September 13, 2021 to October 1, 2021. During this period, a total number of 113 responses were collected. The survey findings provide a general sense of the public opinion and feedback regarding the Village’s parking operations. Parking user level of satisfaction with the overall parking experience is summarized in Exhibit 5-1.

Exhibit 5-1: Parking User Satisfaction



As shown in Exhibit 5-1, most parking users were neutral or slightly unsatisfied with the overall parking experience. Other key findings include:

- Majority of survey participants are full-time residents at the Village;
- The preferred modes of transportation are driving and walking;
- Parking capacity constraints are only evident during the summer season;
- During the summer, tourist parking demand is known to spill into the residential neighborhoods closest to the waterfront. Most commonly Eagle Street, Echo Avenue and Miami River Drive;
- Short duration parking is highly requested;
- Summertime parking prices are fair;
- A residential parking permit program was commonly requested; and
- Accessible and bicycle parking infrastructure is sufficient.

A full summary of the online survey questions and results can be found in Appendix B.

5.4 Virtual Public Information Centre 2

The virtual PIC 2 was hosted on October 27, 2021 with approximately 10 members in attendance. The meeting consisted of a presentation outlining the preliminary study findings, which was followed by a questions and answers period. The feedback provided was used to help finalize the study recommendations. Key discussion points included:

- Concern was raised over private parking demand spilled into public parking system. It was stated that private businesses should provide off-street parking as required by Zoning Bylaw;
- Additional boat launch and special event parking supply in remote locations will not effectively improve parking operations;
- Boat launch lot is commonly taken up by non-boat launch parking users;
- Some hotels offer public parking, indicating that shared parking is informally occurring; and
- New developments should be required to provide electric vehicle (EV) parking and charging stations.

Full PIC 2 minutes are included in Appendix B.

6 Conclusions and Recommendations

The Village of Harrison Hot Springs initiated the Parking Master Plan to improve year round parking operations with a focus on the summer peak. This study balances the needs and objectives among the Harrison Hot Springs different parking user groups (visitors, residents, and stakeholders). Based on the study findings, parking solutions tailored for Harrison Hot Springs' unique needs have been developed.

The existing conditions assessment revealed that the waterfront parking system is operating at capacity during summer weekends, which represents the peak seasonal demand. No parking issues were observed in the residential neighbourhoods given the low demand and visitor parking demand spillover from the waterfront was not occurring in large quantities. However, given that the waterfront parking system operated at capacity, parking demand spillover is anticipated to become a larger issue as parking demand grows in the future. Based on the future projections, 350 to 600 additional parking spaces are estimated to be needed in the waterfront to maintain overall utilization at the 90% target. Therefore, parking solutions are required today to ensure tomorrow's parking needs are met.

The recommended implementation plan is summarized in Exhibit 6-1. Note that the staff hour estimates are included in the cost estimates.

Exhibit 6-1: Implementation Plan

Item	Recommendation	Cost Estimate
Quick Wins		
15-Minute Parking	Implement four to five additional 15-minute parking spaces in Zone 1 near popular establishments such as restaurants along Esplanade Avenue. Maintain free parking initially, and potentially implement paid parking if free parking incentivizes illegal parking.	\$3,000 - \$5,000 for parking space signs, paint, and staff hours to facilitate the implementation (30 - 40 staff hours)
Parking Wayfinding	Update the online municipal parking system map to identify special use parking space locations and capacity.	\$3,000 - \$5,000 for staff hours to update the parking system map (30 - 50 staff hours)
Accessible Parking	Maintain existing accessible parking supply and relocate one accessible space from Lillooet Avenue to the east side of Spruce Street.	\$3,000 - \$5,000 for staff hours to facilitate the relocation (30 - 50 staff hours)
Electric Vehicles	Increase user cost for parking spaces with EV chargers to offset the cost of electricity.	\$3,000 - \$5,000 for staff hours to reprogram EV parking spaces (30 - 50 hours)
Boat Launch Lot	Coordinate with the Fraser Valley Regional District to maintain parking price harmonization as general parking prices increase. Investigate opportunities for shared parking agreements. Consider restricting boat launch parking to a maximum of 24 or 48 hours.	\$5,000 - \$7,000 for staff hours to coordinate with Fraser Valley Regional District (50 - 70 hours)
Public Education	Prepare a brochure summarizing the recommended parking operation changes in an easy to understand format. Sync the brochure with a QR code to allow for contactless distribution	\$5,000 - \$7,000 for brochure stand and staff hours to facilitate (50 - 70 hours)
Waterfront Parking Supply	Investigate shared parking agreements with private waterfront developments to increase the public parking supply by leveraging existing parking facilities. Candidate land uses include restaurants, and hotel and motel accommodations which peak outside of the municipal parking system peak. Two options identified through stakeholder consultation are Harrison Lake Hotel and Harrison Beach Hotel.	\$10,000 - \$15,000 for staff hours for shared parking agreements. (100 - 150 staff hours)

Item	Recommendation	Cost Estimate
Short Term (1 to 4 Years)		
Parking Restrictions	Implement 3 or 4 hour parking maximum restrictions along the residential streets closest to the waterfront to prevent visitor parking demand spillover.	\$10,000 - \$15,000 for parking signs and staff hours to facilitate the implementation (100 - 130 staff hours)
Residential Parking Permits	Develop a residential parking permit program and apply it to the residential streets where parking maximums were implemented. The program would exempt permit holders from the 3-4 hour maximum parking time limit and allow residents to continue parking on-street up to the current 48 hour maximum. Enforcement would be required to ensure compliance.	\$30,000 - \$40,000 for staff hours to develop the residential parking permit program (300 - 400 staff hours) \$8,000 - \$10,000 per summer (4 months) for staff hours to administrate the one day parking permit program (80 - 100 staff hours)
Additional Enforcement	Hire an additional enforcement officer during the summertime to help ensure parking restriction and residential parking permit compliance.	\$106,000 for the 4 summer months
One-sided Parking	Restrict parking to one side along Bear Avenue, Echo Avenue, Spruce Street, Naismith Avenue, Pine Avenue, Diamond Street, McCombs Drive, Alder Avenue, Schooner Place, and McPherson Road.	\$10,000 - \$15,000 for parking signs and staff hours to facilitate the implementation (80 - 130 staff hours)
Pay Parking Expansion	Implement pay parking operations along Lillooet Avenue. This expansion will require new pay parking machines and coordination with the Ministry of Transportation and Infrastructure. Approximately 13 additional pay parking kiosks are anticipated to be required.	\$300 monthly per smart parking kiosk rental (\$15,600 May 15 – September 15) \$5,000 - \$8,000 for parking signs and staff hours (50 - 70 staff hours) Net revenue gain: up to \$132,000 annually
Bicycle Parking	Maintain existing bicycle parking supply.	None
Electric Vehicle Parking	Plan to provide EV charging stations in line with the British Columbia EV sales targets (10% by 2025 and 30% by 2030). The new charging stations should be capable of transferring the cost of electricity to the user. Monitor EV charging station demand and increase supply as needed.	10% Deployment (35 single port level 2 chargers): \$210,000 - \$315,000 for hardware plus \$5,000 - \$13,000 annually in network fees

Item	Recommendation	Cost Estimate
Special Events	<p>Implement the following strategies during special events to meet the increased demand:</p> <ul style="list-style-type: none"> • Increase parking prices. Note that parking meter programming is not completed locally and may therefore not be feasible. Coordination with the service provider is required; • Increase BC Transit Route 11 frequency and consider shuttle bus service to surrounding municipal centres not included on the route; and • Promote event organizers to enter into shared parking agreements with private properties on the outskirts of Harrison Hot Springs (ex: Harrison Resort Golf Course, Harrison Holiday Park Association, and local farms). Shuttle bus service is also recommended. 	<p>\$3,000 - \$5,000 to reprogram pay parking machines Revenue gain: \$1,000 per day (actual amount depends on price increase) Transit improvements tax subsidized by Agassiz-Harrison area Shared parking agreements funded by event organizer</p>
Transportation Demand Management	<p>Promote alternative modes of transportation to reduce personal vehicle mode share. Potential solutions include:</p> <ul style="list-style-type: none"> • Coordinate with BC Transit to improve the Fraser Valley and Vancouver transit service to Harrison Hot Springs during the summer (currently just Route 11); • Expand the Fraser Valley cycling route network; and • Expand the sidewalk network in Harrison Hot Springs network to improve pedestrian safety. <p>Strategies should be in-line with the recently completed <i>Road, Bridge, and Active Transportation Master Plan</i>.</p>	<p>Transit improvements tax subsidized by Agassiz-Harrison area Active transportation cost estimates outlined by the <i>Road, Bridge, and Active Transportation Master Plan</i></p>
Zoning Bylaw Update	<p>Review the existing zoning bylaw parking requirements and update as necessary to better reflect existing parking demand generation. Increase the cash-in-lieu of parking price to better reflect the cost of providing municipal parking (\$23,000 per space).</p>	<p>\$20,000 - \$30,000 for staff hours to complete the zoning bylaw review (200 - 300 staff hours)</p>
Long Term (5+ Years)		
Pay Parking Expansion	<p>Implement pay parking operations along Cedar Avenue and Maple Street. This expansion will require approximately 5 new pay parking machines.</p>	<p>\$300 monthly per smart parking kiosk rental (\$6,000 May 15 – September 15) \$3,000 to \$5,000 for parking signs and staff hours to facilitate the implementation (30 - 50 hours) Net revenue gain: up to \$51,000 annually</p>

Item	Recommendation	Cost Estimate
Electric Vehicle Parking	Plan to provide EV charging stations in line with the British Columbia EV sales targets (30% by 2030). Note that the total price estimate is incremental (assumes the 10% EV target was met in 2025). Monitor EV charging station demand and increase supply as needed.	30% Deployment (70 single port level 2 chargers): \$420,000 - \$630,000 for hardware plus \$10,000 - \$26,000 annually in network fees
Waterfront Parking Supply	To meet long-term parking needs, the Village is recommended to: <ul style="list-style-type: none"> • Explore opportunities to include public parking in new developments. • If sufficient parking supply is not gained through shared parking agreements and new developments, a new standalone parking facility can be considered. 	\$2,800 - \$10,400 per surface parking space \$38,000 - \$54,000 per parking structure space Total Cost (assuming 350 spaces): \$13,300,000 - \$18,900,000
Boat Launch Parking	Include boat parking on the ground floor of the new parking facility. Convert the on-street boat launch spaces along Esplanade Avenue to general parking. If the new facility is not located in the immediate vicinity of the boat launch site, parking wayfinding signs are recommended to guide users from the launch site to the new parking lot.	Cost included in the above 350 parking space structure estimate \$8,000 - \$10,000 for wayfinding signs and staff hours to facilitate the implementation, if needed (80 - 100 staff hours)
On-Going		
Monitor Parking Operations	Regularly collect parking supply and demand data in the waterfront (every 2 to 3 years) to monitor parking operations and expand parking supply as needed. The parking demand data collection should distinguish between all parking user types to help inform decision makers (general, accessible, EV, motorcycle, bicycle, etc.).	\$3,000 - \$5,000 for staff hours per parking demand survey (30 - 50 staff hours)