Durham Region

# Bicycle Parking Guidelines

March 2026

WSP

STUCKLESS CONSULTING INC.

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# Acknowledgements

The Bicycle Parking Guideline was made possible with support from the Government of Canada through the Active Transportation Fund. This funding has been instrumental in advancing efforts to create safe, convenient, and accessible bicycle parking across the Region of Durham.

We extend our sincere appreciation to our agency partners and the staff from the Town of Ajax, Township of Brock, Municipality of Clarington, City of Oshawa, City of Pickering, Township of Scugog, Township of Uxbridge, and Town of Whitby for their collaboration and commitment throughout this process. Their contributions have been essential in shaping a guideline that reflects the needs of our communities.

We would also like to thank the organizations and individuals who participated in listening sessions and provided invaluable insights, including Abilities Centre, Durham Region Cycling Coalition, and many others. Your perspectives have helped ensure this guideline supports people of all ages and abilities and responds to the diverse needs of cyclists across the region.

### Land acknowledgement

The Regional Municipality of Durham exists on the traditional and treaty territories of the Michi Saagiig Anishinaabeg, who have inhabited these lands for thousands of years before European colonization. These territories are covered under the Williams Treaties and include the Mississaugas of Scugog Island First Nation, Alderville First Nation, Hiawatha First Nation, Curve Lake First Nation, and the Chippewa Nations of Georgina Island, Beausoleil, and Rama. These Nations have been the caretakers of the lands and waters of this region since time immemorial.

We honour and respect Indigenous Peoples as the original stewards and rights holders of the lands and waters on which we live and work. As we advance the Bicycle Parking Guidelines, we recognize that promoting active transportation contributes to healthier, more sustainable communities and aligns with our shared responsibility to protect and care for the environment.

We are committed to learning from Indigenous knowledge, strengthening relationships with First Nations, Inuit, and Métis communities, and fostering a future rooted in respect, collaboration, and environmental stewardship.

# Glossary

The following definitions are provided to ensure consistent understanding of key terms used throughout this report:

**Accessibility**: Design considerations that ensure bicycle parking can be accessed easily, as well as usable by people with disabilities or mobility challenges.

**AODA:** Accessibility for Ontarians with Disabilities Act.

**Bicycle parking facility:** a designated area or structure intended for the secure and convenient storage of bicycles. This includes open racks as well as covered or enclosed areas like bicycle lockers or bicycle rooms.

**Bicycle locker**: An enclosed, lockable unit designed to store a single bicycle securely.

**Bicycle rack**: A basic, unenclosed structure for parking and locking bicycles.

**Bicycle room**: A dedicated indoor space for storing multiple bicycles, often found in residential or commercial buildings.

**Cargo bicycle**: A bicycle designed to carry heavy loads or passengers, often requiring larger or specialized parking infrastructure.

**Commercial areas:** Areas designated for businesses that provide goods and services, such as retail stores, medical facilities, office spaces, and restaurants.

**End-of-trip facilities**: Amenities provided at destinations to support cyclists, such as showers, lockers, change rooms, and repair stations.

**Emerging modes**: Refers to new or non-traditional forms of micromobility, such as cargo bicycles, e-bikes, and scooters.

**First mile/last mile**: The initial or final segment of a journey that connects a traveller to or from a main transportation hub or service.

**Industrial areas:** Land used for manufacturing, processing, warehousing, and distribution of goods and materials.

**Local area municipality (LAM):** Durham Region has two levels of government; The Regional Municipality of Durham and its eight local area municipalities (LAMs): Town of Ajax, Township of Brock, Municipality of Clarington, City of Oshawa, City of Pickering, Township of Scugog, Township of Uxbridge, and Town of Whitby. Some services are delivered by the Region and others by the LAMs.

**Long-term bicycle parking**: Intended to be used all day and/or night. It primarily serves employees/commuters, residents, students, or travellers leaving their bicycles at their residences, work, school, inter-modal stations, or bus stops. These facilities

generally offer a higher level of security and weather protection and are commonly located at workplaces, schools, residences, or transit hubs.

**Mixed-use:** Developments that combine two or more land uses, such as residential, commercial, or institutional, within the same building or area.

**Regional facilities:** Properties and buildings owned and/or operated by The Regional Municipality of Durham, including Regional Headquarters, Regional offices, long-term care homes, Housing Durham properties, etc.

**Residential areas:** Land primarily intended for housing, including single-family homes, apartments, and other dwelling types.

**Secure bicycle parking**: A designated facility or infrastructure that provides safe, protected, and theft-resistant storage for bicycles.

**Short-term bicycle parking**: Bicycle parking facilities intended to be used for short periods of time, typically two hours or less, by residents, visitors or employees to a business, residence, or establishment. These facilities prioritize convenience, visibility, and proximity to entrances.

**Site planning**: The process of determining optimal locations for bicycle parking within a site, considering visibility, accessibility, and safety.

**Wayfinding**: Signage and visual cues that help cyclists locate bicycle parking facilities.


# 1 Introduction

Bicycle parking is a critical component of a safe, accessible, and sustainable transportation system. Well-designed and strategically located facilities make cycling a viable option for more people, support local communities, and contribute to healthier, more connected urban environments. As The Region of Durham (the Region) continues to grow, establishing consistent and reliable bicycle parking practices is essential to meet current demand and anticipate future needs.

The Durham Region Bicycle Parking Guidelines provide a framework for guiding the design, planning, and management of bicycle parking across diverse settings. The Guidelines are grounded in principles that prioritize safety, accessibility, and usability, while reflecting local conditions, emerging best practices, and the broader goal of fostering a cycling-friendly region. This chapter introduces the foundational context that underpins the Guidelines and the Region's commitment to supporting sustainable mobility for all residents.

## 1.1 Why the Region is developing bicycle parking guidelines

The purpose of the Durham Region Bicycle Parking Guidelines is to support more convenient, equitable, and attractive cycling in the Region by improving the quality, consistency, and availability of bicycle parking. High-quality, secure facilities are essential to making cycling a viable transportation option.

Developing Regional guidelines supports better design, quality, and availability of bicycle parking, helping cyclists feel comfortable using the Regional Cycling Plan (RCP) Primary Cycling Network (PCN) and other routes while improving first-mile and last-mile connections to transit, making multimodal travel more practical.

### 1.1.1 Project objectives

- Achieve goals and recommendations identified in the Region's 2021 RCP.
- Provide residents and visitors with a range of ample accessible, conveniently located bicycle parking options in areas of need throughout Durham Region.
- Enhance consistency in bicycle parking standards and guidance across the region's eight municipalities.
- Support mode shift goals by prioritizing bicycle parking at key destinations.
- Improve end-of-trip comfort and accessibility for cyclists through high-quality bicycle parking along major cycling routes.

**What we heard**

Satisfaction with current bicycle parking is low. Only 11 per cent of survey respondents reported being satisfied with bicycle parking. Concerns about bicycle theft are high, with 88 per cent of respondents concerned or very concerned about bicycle theft. In-person engagement participants shared many stories about bicycle theft in the community.

### 1.1.2 Responding to local needs

These guidelines respond to several regional needs and priorities:

- **Support regional policy goals:** The Guidelines align with recommendations identified in the 2021 RCP, which called for the development of the Guidelines to support a greater shift toward a more cycling-friendly transportation network.

- **Address current gaps and inconsistency:** Bicycle parking across the region often varies in quality and placement, with inconsistent design, limited long-term parking options, and inadequate integration into development processes, creating barriers for cyclists and discouraging regular cycling.
- **Promote mode shift:** Many short trips under five kilometres can be made by bicycle, yet car dependency in the Region remains high. Improving bicycle parking availability and quality encourages residents and visitors to cycle, reducing vehicle reliance, congestion, and emissions while improving quality of life.
- **Guide municipal action:** The guidelines provide clear, data-driven recommendations to help local area municipalities (LAMs) select appropriate parking types and apply best practices for design and maintenance.

**What we heard**

71 per cent of survey respondents said that they would be more likely to cycle in Durham Region if bicycle parking were improved.

### 1.1.3 Study area and focus

The Guidelines are primarily intended for application at Regional facilities (e.g., Regional Headquarters, other Regional offices, long-term care homes, Housing Durham properties) and destinations along the PCN, which spans approximately 1,000 kilometres of existing and planned cycling routes on Regional roads across all eight LAMs:

- Town of Ajax
- Township of Brock
- Municipality of Clarington
- City of Oshawa
- City of Pickering
- Township of Scugog
- Township of Uxbridge
- Town of Whitby

The guidelines also recognize the Region's two-tier structure by incorporating recommendations that apply to the LAMs. This approach supports cohesion and consistency in the application of bicycle parking across the entire region.

The focus of the guideline is to guide the provision of both short-term and long-term parking options at key destinations (such as commercial areas, transit hubs, schools, workplaces, and residential developments), ensuring uniformity across diverse land uses.

## 1.2 How to use this guideline

The Durham Region Bicycle Parking Guidelines are intended as a guide for a wide range of partners across the Region of Durham, including the Region, LAMs, agencies, the development industry, and commercial, industrial and multi-unit residential landowners involved in designing, locating and managing bicycle parking. While developed as a Regional resource, these Guidelines are designed to support consistency and coordination across municipalities, particularly for public sites such as community centres, libraries, parks, transit hubs and post-secondary institutions.

Importantly, they are presented as recommended best practices rather than prescriptive standards, offering a flexible framework that partners can adapt to suit their unique site contexts, capacity and stage of implementation. The goal for these Guidelines is to provide a shared foundation that encourages consistency and collaboration, while allowing room for local or site-specific innovative practices as we collectively advance bicycle parking across the region.

## 1.3 Guiding principles

Effective bicycle parking requires a series of criteria to be considered at both the planning and design stages to ensure facilities are safe, accessible, convenient, are of high-quality design and appropriate for a range of users and bicycle types.

Successful bicycle parking programs use clear, consistent design standards that balance accessibility, security, and aesthetics. The development and application of these guidelines are grounded in principles that reflect best practices and local priorities, summarized below.

## Accessible

- Easy to access with proper clearance.
- Never impede the flow of pedestrians.
- Detectable by pedestrians and free of protrusions.
- At ground level or accessible from ground level via ramps or elevators with no obstacles like stairs or steep slopes.
- Space-efficient.

## Convenient

- Situated as close as possible to building entrances, cycling routes or transit stops.
- Clearly visible and well signed.
- Provide weather protection where feasible.
- Have an intuitive design for ease-of-use for all users.

## High-quality design

- Accommodates different types of bicycle frames and sizes of bicycles.
- Supports the bicycle at two or more points of contact.
- Allows a U-lock to attach to at least one wheel and the bicycle frame.
- Prevents damage to wheels or other components of the bicycle.
- Visually cohesive with surrounding public realm.

## Safe, secure, and durable

- Constructed from high-quality, tamper-resistant, durable materials, such as galvanized steel, powder coated steel, or other industrial grade materials that are resistant to cutting with common hand tools. Where possible, use recyclable, locally sourced materials for racks and shelters.
- Securely anchored to the ground or fixed surface.
- Located in well-lit, visible areas.
- Short-term parking should be placed in busy, high-traffic public areas to increase passive surveillance.
- Long-term parking should be in a secure, access-controlled and monitored area.

## 1.4 Project timeline

This project was initiated in June 2025 and completed in winter 2026 through a six-phase process, as shown in **Figure 1.1**.


**Figure 1.1: Bicycle Parking Guidelines timeline**

## 1.5 Engagement summary

### 1.5.1 Purpose of engagement

Engagement with internal and external partners is critical to developing guidelines that are actionable for local partners and responsive to community needs. Feedback from partners and collaborators across the region was captured through an extensive engagement and consultation process to shape a comprehensive and consistent approach to bicycle parking.

### 1.5.2 Approach

The engagement process sought input from residents, Regional and LAMs staff, advocacy groups, Indigenous organizations, local businesses, agencies, schools, and advisory committees. Activities focused on sharing information, gathering local insights, and understanding community concerns related to bicycle parking to ensure the guideline reflects the diverse needs of the community. The process recognized community members as experts, aimed to engage people where they are, and prioritized event accessibility.

### 1.5.3 Engagement activities

Between July and October 2025, a series of 14 engagement activities were conducted in coordination with Regional staff. The project team estimates having direct engagement with over 1,100 community members and partners, as well as more than 23,000 online impressions for the project. Engagement activities included:

- Project webpage via the Your Durham platform.
- Online survey via Your Durham platform.
- Indigenous outreach in coordination with the Region's Manager of Indigenous Relations.
- Two Regional staff workshops.
- Two LAM and partner agency workshops.
- Four listening sessions with key groups (Durham Region Cycling Coalition, Accessibility advocates, Ontario Tech University, businesses) (**Figure 1.2**).
- Public Information Centre (PIC) at Iroquois Park Sports Centre (**Figure 1.3**).
- Presentations to the Region's Accessibility Advisory Committee and the Durham Active Transportation Advisory Committee.

For a summary of key themes, refer to **section 2.1.4**. To provide context, snapshots of participant feedback are incorporated throughout the report. **Appendix B** includes the 'What we heard' report, which provides detailed information on engagement activities.

**Figure 1.2: Left: The Listening Session with the Durham Region Cycling Coalition included a bike-about tour in Whitby. Right: Listening Session with the Abilities Centre.**

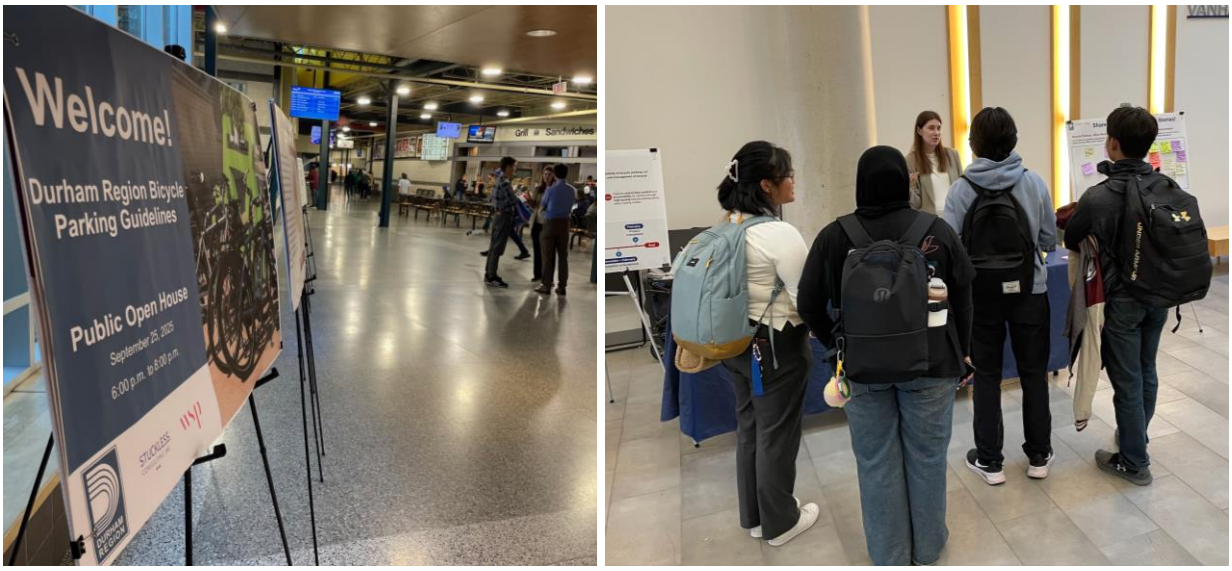



**Figure 1.3: Images from the Public Open House (left) and pop-up at Ontario Tech University (right) held on September 25, 2025, where community members and students engaged with staff and provided feedback on the proposed guidelines.**

## 1.6 Summary of recommendations

The Durham Region Bicycle Parking Guidelines comprise a comprehensive set of findings, actionable steps, and recommendations designed to serve as a practical guide for implementing the various components of bicycle parking across the region and its LAMs. These summarized actions have been consolidated below to provide a clear and valuable reference for staff, Council members, and other agency partners and collaborators responsible for implementing bicycle parking.

### Chapter 2: Existing conditions and best practices recommendations

**R2.1** The Region and LAMs, through a coordinated assessment of existing bicycle parking, should identify gaps in availability and design. This identification will allow for prioritization of improvements and new installations to address deficiencies and guide future investments. (**section 2.1.3**)

**R2.2** Adopt the characteristics of high-quality bicycle parking as a reference framework and integrate these requirements into planning, design, and implementation processes to ensure consistent, accessible, and user-friendly facilities throughout the region. (**section 2.2**)

### Chapter 3: Design of bicycle parking recommendations

**R3.1** The Region, LAMs and partner agencies should plan bicycle parking based on anticipated usage patterns and the types of bicycles and devices expected in each context. This will ensure facilities effectively support both short-term and long-term needs, including larger or specialized bicycles in high-demand areas. (**section 3.1**)

**R3.2** Use durable, weather-resistant, sustainable materials, such as galvanized or powder-coated steel, and eco-conscious designs to withstand long-term outdoor exposure, remain functional over time and support regional sustainability objectives. (**section 3.1.2**)

**R3.3** Install recommended short-term and long-term rack designs such as Inverted-U and similar variations (e.g., staple, loop, or swerve racks), post-and-ring racks, and functional artistic designs to provide secure, reliable, and user-friendly bicycle parking across municipal facilities. (**section 3.1.3**)

**R3.4** Locate bicycle racks near high-demand destinations including commercial areas, public facilities, post-secondary educational institutions, transit hubs, and recreation areas, prioritizing convenience, visibility and ease of access in siting decisions. (**section 3.1.3**)

**R3.5** The Region, LAMs, partner agencies and developers should prioritize the provision of long-term parking that maximizes security, using solutions such as lockers, cages, or secure indoor rooms. (**section 3.1.4**)

**R3.6** Provide long-term bicycle parking at transit stations, post-secondary institutions, dense commercial areas, and multi-unit residential sites, ensuring facilities prioritize security and protection from weather, with responsibility shared among the Region, LAMs, property owners, transit agencies, and other relevant parties. (**section 3.1.4**)

**R3.7** Follow the siting and placement guidance outlined in this Guideline, ensuring that site selection remains user-centred and is adapted to local context. (**section 3.2**)

**R3.8** Locate short-term bicycle parking racks within 15 to 30 metres of the main entrance of the destination or transit stop they serve to maximize convenience and accessibility for users. (**section 3.2.1**)

**R3.9** Ensure bicycle parking maintains adequate clearances to preserve accessibility and keep pedestrian pathways unobstructed. (**section 3.2.1**)

**R3.10** Install short-term bicycle racks in locations that are highly visible, well-lit and allow for passive surveillance, avoiding hidden or isolated areas, to enhance security and accessibility. (**section 3.2.2**)

**R3.11** Locate long-term parking in enclosed spaces and equip it with security features such as access control and video surveillance. It should be at street/ground level but if space is limited, place it one level above or below grade with ramp or elevator access. (**section 3.2.3**)

**R3.12** Leverage existing property features, such as curb ramps and paved pathways, for efficient and barrier-free access, and building overhangs to provide weather protection. (**section 3.2.2**)

**R3.13** Include oversized spaces, dedicated zones, and rack designs that support cargo bicycles, adaptive cycles, and mobility devices at commercial and large-scale residential sites, ensuring at least 5 per cent of spaces meet these requirements. (**section 3.2.5**)

**R3.14** Where feasible, equip long-term bicycle parking facilities with 120-volt outlets for e-device charging, including timers, and provide this feature at a minimum of 10 per cent of spaces. (**section 3.3.6**)

**R3.15** Integrate supplemental elements, such as signage, lighting, security, locks, accessibility features, and other end-of-trip amenities, into bicycle parking plans to enhance usability, safety, and inclusivity. (**section 3.3.6**)

## Chapter 4: Operations and maintenance recommendations

**R4.1** Ensure bicycle parking facilities are installed on stable, durable surfaces and anchored securely. (**section 4.1.1**)

**R4.2** Inspect bicycle parking facilities at least twice a year for rust, corrosion, cracks, loose bolts, etc. Repair or replace damaged racks promptly. Clean racks periodically with mild soap and remove any debris or abandoned bicycles. (**section 4.1.2**)

**R4.3** Remove snow and ice from around bicycle racks to maintain accessibility and prevent damage. Salt should not be applied directly to bicycle racks. (**section 4.1.2**)

**R4.4** Integrate bicycle rack inspections and repairs into existing state of good repair programs for sidewalks, street furniture, or transit stops. (**section 4.1.2**)

**R4.5** Leverage technology, such as geographic information system (GIS)-based or asset management platforms, to track condition, location, and maintenance history, and quick response (QR) codes or app-based tools for quick issue reporting by users. (**section 4.1.2**)

**R4.6** Engage municipal partners, transit agencies, developers, community groups and private site hosts for implementation and maintenance (bicycle parking is good for business!). (**section 4.2.1**)

**R4.7** The Region will work with transit operators, such as GO Transit, Durham Region Transit (DRT), to improve bicycle parking integration at Regional and local transit hubs. (**section 4.2.1**)

**R4.8** Share maintenance responsibilities with municipalities, transit agencies, and other partners. Establish clear maintenance responsibilities for privately owned publicly accessible racks. (**section 4.2**)

**R4.9** Integrate bicycle parking needs into capital and operational budgeting processes for Regional facilities, corridors, and infrastructure projects to ensure funding is allocated for installation, maintenance, and ongoing management. (**section 4.4**)

**R4.10** Explore bulk purchasing or procurement frameworks for bicycle parking infrastructure (e.g., standardized racks, shelters, signage) to reduce costs and promote consistency across the region. (**section 4.4.1**)

**R4.11** Monitor and pursue relevant federal and provincial grants, where possible. (**section 4.4.2**)

**R4.12** The Region will maintain a centralized inventory of funding opportunities and share timely updates with LAMs and other partners. (**section 4.4.2**)

**R4.13** The Region will encourage and coordinate joint funding applications with LAMs, conservation authorities, school boards, and transit agencies, and other partners, where cross-jurisdictional benefits can be achieved. The Region will consider providing technical assistance (e.g., letters of support, data, mapping, and benefit analysis) to strengthen partner-led applications. (**section 4.4.2**)

### Chapter 5: Prioritization and planning recommendations

**R5.1** Adopt a data-driven prioritization framework that classifies areas into priority zones to guide bicycle parking investments, support phased implementation, and ensure equitable access to bicycle parking. (**section 5.1.2**)

**R5.2** Use travel behaviour and trip data (e.g., cycling counts, transit access, school travel patterns, and short-trip analysis) to identify and prioritize new installation locations where demand and access potential are highest. (**section 5.1.2**)

**R5.3** Align bicycle parking installation to coincide with other capital works and development projects to reduce costs, minimize disruptions for residents and businesses, and leverage shared resources. (**section 5.1.3**)

**R5.4** Integrate unit cost estimates and lifecycle costs into bicycle parking planning to support budgeting decisions and funding applications. (**section 5.1.3**)

**R5.5** Review prioritization and phasing annually with municipal partners to maintain flexibility and respond to new data and emerging opportunities. (**section 5.1.3**)

**R5.6** Consider using minimum bicycle parking rates by land use type as a baseline, while allowing flexibility to adjust for local context and future growth. Where possible, exceed minimums to better meet community needs. (**section 5.2**)

**R5.7** Design bicycle parking facilities to accommodate future needs by planning for larger bicycle dimensions, anticipating increased demand, and incorporating electrical conduits to support e-powered devices and emerging technologies. (**section 5.3.1**)

**R5.8** Retrofit older buildings to provide secure bicycle parking where facilities were not originally included, making cycling more practical, maximizing underused space, and improving equitable access. (**section 5.3.2**)

**R5.9** Integrate bicycle parking early in site planning, development review, and capital projects to ensure facilities are accessible and seamlessly incorporated into the broader site design. (**section 5.4**)

**R5.10** LAMs without existing bicycle planning guidance should consider developing a Bicycle Parking Review Checklist or incorporating bicycle parking criteria into their Site Plan Application Guidelines to support consistency across developments. (**section 5.4**)

**R5.11** Align local standards and zoning requirements with this bicycle parking guideline. (**section 5.4**)

**R5.12** Consider implementing supportive initiatives and programs and partnerships to help accelerate adoption and enhance user experience. (**section 5.5**)

**R5.13** Develop and maintain a Regional inventory of facilities, in collaboration with LAMs, partners, and agencies, who will provide and update data on an ongoing basis. (**section 5.6.2**)

**R5.14** The Region should establish which Regional groups or departments will be responsible for carrying out inspections and completing follow-up tasks, such as inventory management and tracking usage. (**section 5.6.2**)

**R5.15** Develop a monitoring and evaluation framework to track and assess Key Performance Indicators (KPIs). Incorporate KPIs into all new active transportation and transportation policies and plans, and during their reviews. (**section 5.6.3**)

**R5.16** The Region will track and report on bicycle parking installations and partnerships through the annual Active Transportation Progress Report. (**section 5.6.5**)

**R5.17** The Region will update these guidelines and standard practices based on results of monitoring, feedback and emerging best practices. (**section 5.6.5**)

# 2 Existing conditions and best practices

A clear understanding of existing conditions and proven best practices is essential to developing effective bicycle parking guidelines. By examining the current policy landscape, assessing on-the-ground infrastructure across the Region, and identifying best practices from leading jurisdictions, this chapter establishes a foundation for recommendations for bicycle parking design, planning and implementation that are both locally relevant and informed by broader experience that can inform future improvements to standardize and strengthen bicycle parking in the Region and its growing communities.

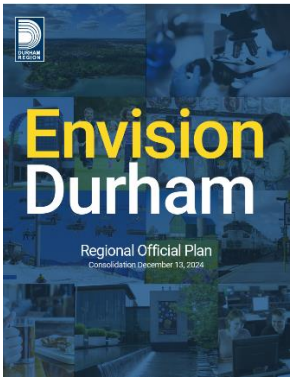
## 2.1 Context for bicycle parking in Durham Region

Understanding the current landscape for bicycle parking in the Region is a critical step in shaping practical and context-sensitive recommendations. This section outlines the policies and plans at both the Regional and LAM levels that influence bicycle parking, presents findings from field assessments of existing infrastructure, and summarizes feedback gathered through engagement with partners, collaborators and community members. Together, these inputs provide a snapshot of current conditions and inform the opportunities and challenges addressed in the chapters that follow.

### 2.1.1 Durham Region policies and plans

The Region recognizes the importance of bicycle parking through a variety of policies, strategies, and planning documents. This section summarizes relevant Regional policies and plans that directly or indirectly support the provision, design, and management of bicycle parking infrastructure. Collectively, these documents demonstrate a growing commitment to integrating cycling into the broader transportation network and creating supportive conditions for active transportation across the region.

#### 2.1.1.1 Durham Region Official Plan (2024)



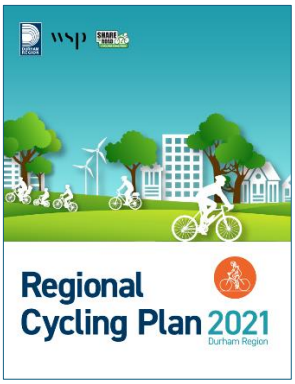

The Regional Official Plan (ROP) sets the strategic framework for growth, infrastructure, and land use across the region, with a strong focus on active transportation and sustainability. The ROP includes policies related to promoting active transportation and supporting bicycle parking by encouraging secure long- and short-term bicycle parking in new developments, at major transit stations, and at public facilities.

The ROP encourages LAMs to enhance active transportation environments by ensuring that secure bicycle parking is incorporated into new developments and existing public facilities. It also supports climate change and sustainability objectives by promoting design features such as including sheltered bicycle parking through the site plan approval process.

The ROP further highlights the importance of Major Transit Station Areas (MTSAs) by recommending adequate and secure bicycle parking and end-of-trip facilities to support transit use and active transportation. Together, these policies reinforce the Region's commitment to integrating bicycle parking as a key element of a sustainable, connected, and accessible regional transportation network.

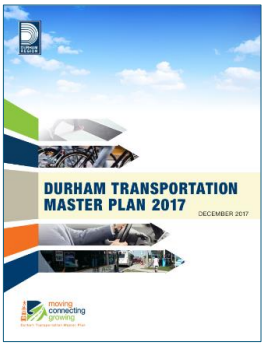
Notably, pursuant to Bill 23 (More Homes Built Faster Act, 2022), the ROP has now become the responsibility of the Region's eight LAMs. Each LAM will have responsibility for the ROP as it pertains to their municipality, until such time as policies of the ROP are reviewed, integrated or amended into the LAM official plan as part of a comprehensive municipal review process.

#### 2.1.1.2 Durham Regional Cycling Plan (RCP) (2021)




The RCP outlines a strategy to enhance cycling infrastructure and promote active transportation across all eight LAMs. The RCP identifies specific actions recommending that the Region develop a Bicycle Parking Guideline, specifying that detailed, data-driven recommendations based on best practices be included as part of the guideline. It also requires the guideline to be aligned with the RCP vision, have guidance for LAMs in selecting appropriate bicycle parking designs, offer detailed design criteria, focus on providing accessible and convenient parking options and guidance for transit integration. Overall, the guideline is to establish consistent processes and standards that can be applied region-wide.

#### 2.1.1.3 Durham Transportation Master Plan (2017)




The Durham Transportation Master Plan (TMP) is a strategic document that outlines a long-term vision and framework for transportation in Durham Region. The update of the RCP in 2021 was launched as an action item of the TMP. The TMP highlights the importance of bicycle parking in supporting active transportation and transit-oriented development.

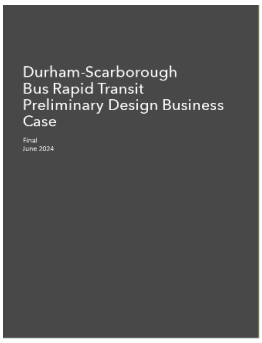
It encourages LAMs to provide bicycle parking and other end-of-trip facilities that promote cycling and walking to transit, and recommends updating regulations to require these features in new developments. Additionally, the TMP calls for stronger collaboration with LAMs and Metrolinx to explore secure bicycle parking and bicycle share systems at major transit hubs.

#### 2.1.1.4 Durham Transit-Oriented Development Strategy (2024)


The Durham Region Transit-Oriented Development (TOD) Strategy is a planning framework that guides growth around higher-order transit infrastructure to create vibrant, walkable, and sustainable communities. It emphasizes the importance of areas surrounding transit stations in supporting pedestrian and cyclist-friendly environments, including secure and well-integrated bicycle parking and streetscape designs that accommodate cycling infrastructure.

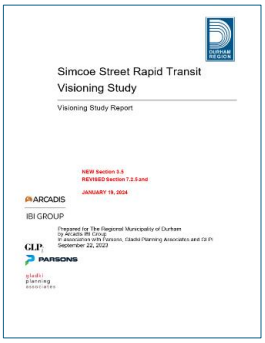
The TOD Strategy also promotes collaboration with LAMs to consider integrating bicycle share amenities at transit stations, introducing sustainable access options for transit users. It also identifies monitoring and evaluation through KPIs, such as documenting the number of bicycle parking spaces to manage and improve parking design within major transit station areas (MTSAs).

#### 2.1.1.5 Durham Scarborough Bus Rapid Transit (DSBRT) Study (2022)




The DSBRT Study proposes 36 kilometres of dedicated transit infrastructure connecting Oshawa, Whitby, Ajax, Pickering, and Scarborough along the Highway 2 corridor, strengthening regional links to jobs, schools, and key destinations. It also includes 24 kilometres of enhanced cycling facilities to encourage walking and cycling for short trips and transit access. Given this focus on multimodal travel, accessible and convenient bicycle parking will be a key priority at stations along the corridor to support seamless integration between cycling and transit, encouraging sustainable and connected transportation options.

#### 2.1.1.6 Simcoe Street Rapid Transit Visioning Study (2024)




The Simcoe Street Rapid Transit project is a study led by the Region aimed at transforming public transportation along the Simcoe Street corridor in Oshawa. Simcoe Street will be upgraded to deliver rapid transit, support walking and cycling, enhance the streetscape, and accommodate goods movement and private vehicles. Given this, the corridor will be an ideal candidate for enhanced bicycle parking.

### 2.1.2 Local area municipal policies and plans

Each LAM within Durham Region has its own distinct approaches to bicycle parking, reflecting their unique contexts, priorities, and stages of policy development. These approaches are reflected in TMPs, Active Transportation Plans (ATPs) or Active/Integrated Transportation Master Plans (ATMPs/ITMPs), zoning by-laws that establish minimum parking requirements, and various guidelines or design standards.

**Table 2.1** provides a summary of current municipal policies and practices related to bicycle parking, highlighting the diversity of strategies in place across the Region.

### Table 2.1: Local area municipality policies relating to bicycle parking

| Local Area Municipality | Current practice |
|---|---|
| **Town of Ajax** | • **TMP (2019):** Encourages the integration of supportive active transportation amenities with bicycle parking at rest areas and key destinations, including repair stations, and showers.<br>• **Transportation Demand Management Plan (2023):** Outlines an action item and supporting details for developing a Bicycle Parking Implementation Plan.<br>• **Bicycle Parking Design Guidelines (2023):** As an appendix to the Transportation Demand Management Plan, provides comprehensive guidance on the design, installation, and management of high-quality bicycle parking facilities, including the space requirements for adaptive bikes, cargo bikes, and bicycles equipped with child trailers or strollers.<br>• **Site Plan Review Technical Guidelines (2024):** Identifies that secure and accessible bicycle parking should be integrated into site plan designs and drawings. It also suggests that developers consider integrating public art into street furniture like bicycle parking racks.<br>• **Ajax Green Standard (2022):** Requires developers of Mid-to-High Rise/Mixed-Use and Non-Residential new developments to provide both short-term and long-term bicycle parking in accordance with the requirements outlined in the Ajax Green Standard (AGS). |
| **Township of Brock** | • Currently does not specifically address bicycle parking in its policies or by-laws. |
| **Municipality of Clarington** | • **ATMP (currently in development):** The ATMP will address local bicycle parking needs by including bicycle parking rates for new developments and guidance for the placement of public bicycle parking.<br>• **Zoning By-law 84-63 and the Site Plan Control process:** Sets bicycle parking minimums for high-density residential developments and incorporates bicycle facilities into site plan reviews. |
| **City of Oshawa** | • **ATMP (2015):** Encourages developments to include bicycle parking and recommends continual maintenance of bicycle parking facilities. The ATMP is currently being updated and will include bicycle parking guidance. |

| Local Area Municipality | Current practice |
|---|---|
| | • **Parking Study (2021):** Identifies recommended bicycle parking standards, including suggested parking requirements based on land use type. |
| **City of Pickering** | • **ITMP (2021):** Supports bicycle parking by recommending the expansion of current requirements to include high-density residential, commercial, and industrial developments across the urban area. It also emphasizes enhancing bicycle access and secure parking at transit hubs like the Pickering GO Station, integrating bicycle parking into Transportation Demand Management (TDM) strategies, and aligning parking policies with the Official Plan to reduce vehicle parking where bicycle facilities are provided.<br>• **Zoning By-law 8149/24:** Sets comprehensive bicycle parking requirements for various land uses, including minimum space dimensions, secure areas, and e-bike charging outlets. |
| **Township of Scugog** | • **Scugog Official Plan (2017):** Encourages bicycle parking be provided where appropriate and requires bicycle racks at major employment lands (for buildings exceeding a gross floor area of 560m$^2$) as a condition of site plan approval.<br>• **ATP/TMP (2021):** Encourages expanding bicycle parking, particularly in Port Perry, and to develop a bicycle parking guideline with implementation primarily through the development approval process. |
| **Township of Uxbridge** | • **Parking Strategy Study (2025):** Identified gaps in accessible bicycle parking and recommends strategic locations for new installations.<br>• **Zoning By-law 81-19:** Supports bicycle parking in new developments, particularly in commercial zones.<br>• **Site Plan Control By-law 2012-05:** Bicycle parking required for site plans adjacent to Township roadways. |
| **Town of Whitby** | • **Whitby Official Plan (2024):** Requires bicycle parking in non-residential, mixed-use, and multi-unit residential developments.<br>• **ATP (2021):** Supports expanding bicycle parking, particularly in downtown Whitby and in municipal parking lots, to improve comfort, convenience, and ridership. It encourages collaboration with businesses to identify suitable locations, the development of a bicycle parking standard for use in development applications |

| Local Area Municipality | Current practice |
|---|---|
| | (including a parking ratio), and an educational campaign to promote usage.<br>• **Site Plan Approval:** Encourages both short- and long-term parking for high-density residential projects.<br>• **Green Standard (2021):** Recommends bicycle parking be installed for 2.5 per cent of peak visitors in new developments. |

### 2.1.3 Existing conditions

Bicycle parking infrastructure in the Region currently consists of a variety of facilities across its eight LAMs. Current facilities have varying levels of accessibility, security, and consistency across LAMs, with limited accommodation for larger devices like cargo bicycles. The most common short-term rack styles, shown in **Figure 2.1**, include:

- Toaster or grid rack
- Coat hanger rack
- Wave rack
- Loop rack
- Inverted-U rack
- Post-and-ring rack

Bicycle parking facilities are typically located in commercial and mixed-use areas, residential neighbourhoods, transit hubs, educational institutions, and public destinations such as town halls, libraries, recreation centres, and open spaces or parks (**Figure 2.2**). Most of the existing bicycle racks are generally installed in visible, well-lit areas close to the destinations they serve. Most are securely anchored and in good condition. A few locations also offer a roof or cover over bicycle parking to add additional protection from weather damage, increasing the longevity of equipment and rider comfort (refer to **Figure 2.3**).

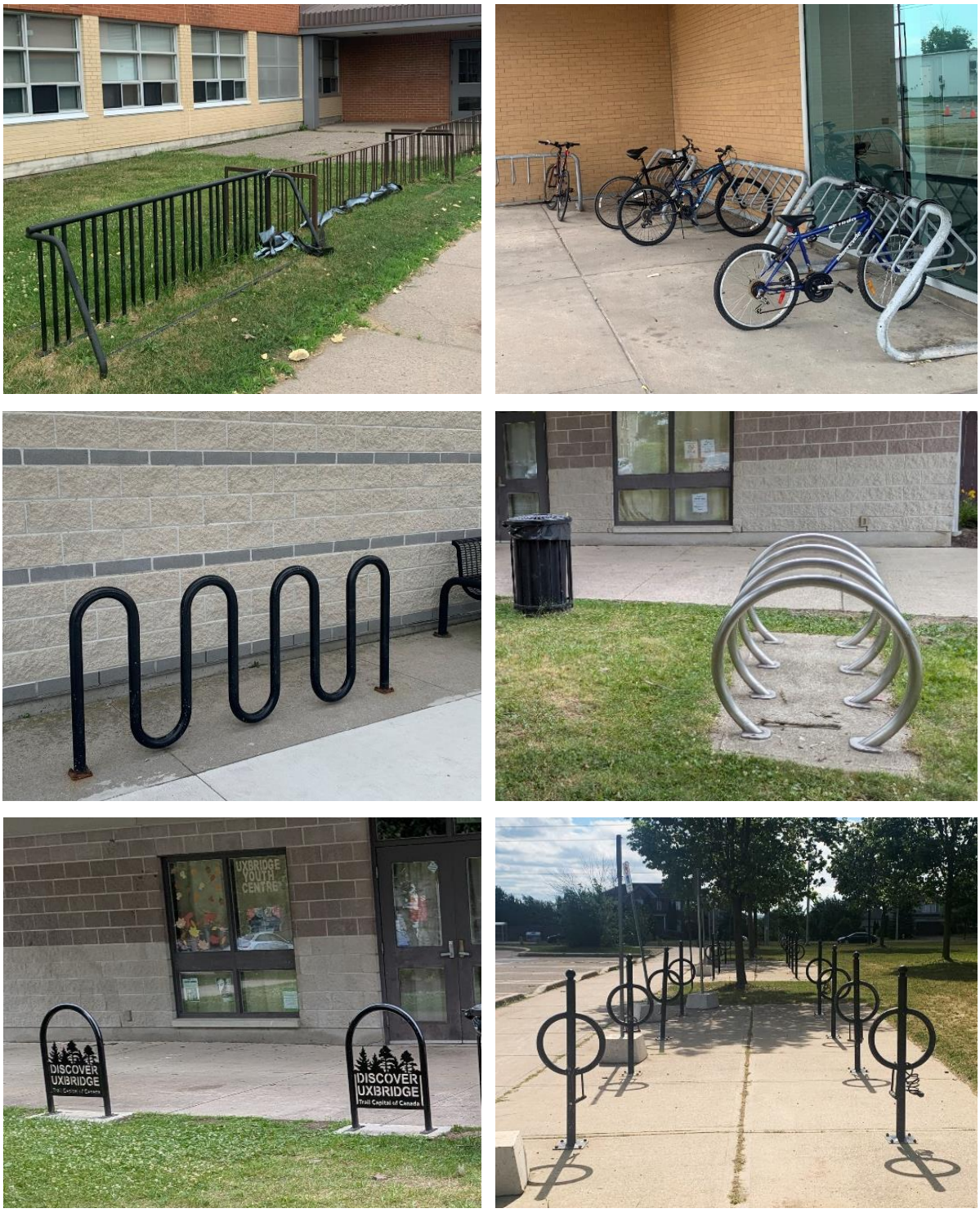



**Figure 2.1: Common bicycle parking designs found in the Region. (From left to right, top to bottom): Toaster or grid rack, coat hanger rack, wave rack, loop rack, inverted-U rack, post and ring rack.**


**Figure 2.2: Left: Wave racks beside an Ontario Tech University building entrance, Oshawa. Right: Loop rack series at St. Andrews Community Garden, Ajax.**

**Figure 2.3: Left: Bicycle parking placed under the building overhang at the Whitby Public Library with surveillance cameras and overhead lighting. Right: Semi-covered bicycle parking next to the entrance of Clarington Library Museum and Archives.**

Field observations across the region found that while many sites exhibit high-quality parking facilities, some are placed in inconvenient or hidden locations, such as being located far from building entrances, which can discourage use. Certain rack designs implemented in the Region have usability limitations, an issue discussed further in **Chapter 3**. For example, some racks only allow the wheel to be locked, offering limited support and security for the frame. As a result of these limitations, cyclists sometimes resort to locking their bicycles to railings, signposts, or other informal structures as shown in **Figure 2.4**.

**Figure 2.4: Informal bicycle parking on a fence in Ajax, and a lamp post in Uxbridge.**

### What we heard

42 per cent of survey respondents said they regularly lock their bicycle to a non-bicycle rack structure like a tree or a post. Notably, this makes non- bicycle rack structures the most commonly used type of bicycle parking amongst survey respondents.

The availability and usage of bicycle parking varies by site, with higher demand observed in busy areas such as educational institutions. These differences reflect local context, space constraints, and user needs. Despite this, bicycle parking is often underutilized across the Region, with contributing factors including the limited availability and connectivity of the existing cycling network. These factors can make accessing bicycle parking feel unsafe or inconvenient, contributing to lower cycling rates overall.

### Existing conditions recommendations

**R2.1** The Region and LAMs, through a coordinated assessment of existing bicycle parking, should identify gaps in availability and design. This identification will allow for prioritization of improvements and new installations to address deficiencies and guide future investments.

### 2.1.4 What we heard

Key themes and insights gathered during the engagement process are summarized in **Table 2.2**. These informed the development of this Guideline. Snapshots of participant feedback are also included throughout the report to provide additional context.

**Table 2.2: Summary of key themes and insights from the engagement activities**

| Theme | Key insights |
|---|---|
| **Current satisfaction** | • Low satisfaction with existing bicycle parking; participants would cycle more if improved.<br>• High reliance on non-bicycle rack structures for parking, which can cause accessibility issues. |
| **Security and safety** | • Bicycle theft is a major concern<br>• Strong preference for parking in well-lit, high-traffic areas and visible from inside buildings for short-term parking. |
| **Ease of use and accessibility** | • Parking should be easy to access, unobstructed, and highly visible.<br>• Guidelines must ensure accessibility. |
| **Diverse needs and contexts** | • “Secure parking” varies by user and context; ongoing engagement is essential.<br>• Short-term vs. long-term needs differ; longer stays require covered or indoor parking. |
| **Emerging modes** | • Growing demand for e-scooter parking.<br>• E-bike charging is a low priority.<br>• Desire to accommodate different bicycle types (e-bikes, cargo bicycles) and ground-level options. |
| **High-demand locations** | • Schools, plazas, transit hubs, and grocery stores are top priority locations for bicycle parking. |
| **Communication and wayfinding** | • Parking is often hard to locate; maps and wayfinding signage suggested.<br>• Employers should inform staff about parking options and engage with staff about bicycle parking needs. |
| **Amenities** | • Desire for water refill stations, repair stand, and device charging (phones and other mobility devices, etc.).<br>• Lock cost and weight are barriers; lock lending programs seen as helpful. |

| Theme | Key insights |
|---|---|
| **Implementation support** | • Clear roles, responsibilities, and funding expectations are critical for successful implementation.<br>• Businesses need guidance and resources for installing parking; interest in programs for public property installations. |
| **Integration with cycling network** | • Parking should directly connect to cycling routes, (e.g., not isolated in car parking lots).<br>• Bicycle parking is part of a broader mobility ecosystem, supporting multi-modal travel and climate goals.<br>• Design should be aesthetically pleasing and complement surrounding spaces.<br>• A connected network of cycling facilities is needed to support mode shift towards cycling, and the use of bicycle parking. |

## 2.2 Characteristics of high-quality bicycle parking

High-quality bicycle parking is a critical component of a well-functioning, bicycle-friendly transportation network. It not only supports and encourages cycling, but also enhances safety, convenience, and overall user experience. Effective bicycle parking is more than a place to lock a bicycle. It should be functional and convenient to use, strategically located, and responsive to the needs of different users and trip types.

Drawing from a scan of best practices from leading agencies and municipalities across Canada, **Table 2.3** outlines the key characteristics that define high-quality bicycle parking, and how it should be planned, designed, and implemented to support a bicycle-friendly environment.

**Table 2.3: Key characteristics of high-quality bicycle parking**

| Key characteristics | |
|---|---|
| **General** | • Bicycle parking should respond to the surrounding land uses and anticipated demand.<br>• Bicycle parking facilities should include multiple rack designs to accommodate a range of bicycle types, include larger bicycles, such as cargo, tandem, or bicycles with trailers. |
| **Design and materials** | • Racks should have intuitive, user-friendly designs that enable secure locking of both frame and at least one wheel.<br>• Racks should be made from high quality, durable, and heavy materials resistant to cutting or tampering with common hand tools |

| Key characteristics | |
|---|---|
| | to discourage cutting and theft, such as galvanized or powder coated steel, or other industrial grade materials.<br>• For finishes that provide aesthetics and durability, hot-dip galvanized zinc, stainless steel, powder coat, or plastic or rubber dipped coatings (Polyvinyl Chloride (PVC)/vinyl/plastisol) are recommended. |
| **Placement** | • Racks should be spaced apart and away from walls, trees, or obstructions, and in locations that will not impact or disrupt regular road and sidewalk maintenance and care, such as street cleaning and snow removal.<br>• Facilities should be positioned for maximum convenience and accessibility, ideally near primary building entrances.<br>• Bicycle parking should be provided at transit stations, based on the anticipated ridership.<br>• Buildings can be retrofitted to provide adequate quantity and quality of bicycle parking is encouraged. |
| **Accessibility and spacing** | • Bicycle parking should be intuitive to use, free of obstructions, easily detectable, and accessible to riders.<br>• Bicycle parking should be clearly visible or signed with AODA-compliant signage.<br>• Typical spacing: 0.6 metres between racks; 1.8 to 2.0 metres aisle width; 1.0 metres from walls or obstructions; 1.9 metres vertical clearance (see section 3.2 for further detail).<br>• Wider clearances and maneuvering spaces for bicycles should be provided where possible.<br>• Bicycle parking should be located at ground level or offer step-free access (e.g., ramps or elevators).<br>• Bicycle rooms should have automatic doors and at least 1.8 metres wide aisles for maneuverability. |
| **Security** | • Use Crime Prevention Through Environmental Design (CPTED) principles, including placing facilities in high-traffic areas, well-lit areas, eyes on the street, and securing the racks to concrete.<br>• Mount parking facilities on hard surface (not grass or soil) and ensure they are securely anchored.<br>• Short-term parking should be placed in high-visibility areas where passive surveillance occurs to deter theft and vandalism. |

| | Key characteristics |
|---|---|
| | • Long term-parking should be located in access-controlled secure facilities (access via keys, smartcards, or apps) with surveillance cameras or security guards. |
| **Short-term bicycle parking** | • Preferred designs: Inverted-U or similar variations staple, loop, swerve racks), post-and-ring racks, and others that support at least two points of contact.<br>• Discouraged designs: Wave, comb, spiral, wheel-bender, and coat hanger racks, and others that only support one wheel but not the frame.<br>• Should prioritize convenience and accessibility.<br>• On-street bicycle corrals are recommended in areas with limited space and high short-term bicycle parking demand.<br>• Short-term bicycle parking spaces should be no more than 30 metres (preferably 15 metres) from a pedestrian entrance to the building for most land uses. |
| **Long-term bicycle parking** | • Preferred designs: Bicycle lockers, bicycle rooms and cages, and vertical/wall mounted racks.<br>• Vertical/wall mounted, two-tier, and staggered wheel well secured racks are recommended for space efficiency.<br>• Should prioritize security and weather protection.<br>• Provide at post-secondary educational institutions, transit stations, and dense commercial or residential buildings.<br>• Charging outlets for e-bikes should be included to support emerging modes and styles of bicycles (10 to 20 per cent of spaces).<br>• Long-term bicycle parking spaces should be conveniently accessible via wayfinding signage and near an entrance. |
| **Other considerations** | • Bicycle parking should be integrated into zoning by-laws, site plan control, development approvals, and broader transportation and land-use policies.<br>• Racks should be well-maintained and repaired or replaced promptly if damaged.<br>• Non-residential developments are encouraged to have end-of-trip facilities like showers, washrooms, and changerooms to complement bicycle parking facilities. |

### High-quality bicycle parking recommendations

**R2.2** Adopt the characteristics of high-quality bicycle parking as a reference framework and integrate these requirements into planning, design, and implementation processes to ensure consistent, accessible, and user-friendly facilities throughout the region.


**Figure 2.5: Example of high-quality bicycle parking at the University of Minnesota, featuring durable swerve style racks that support for both wheel and frame, proximity to the entrance, high visibility, weather protection from the building overhang, a large light fixture for lighting, and sufficient maneuvering space.**

# 3 Design and siting of bicycle parking facilities

High-quality bicycle parking depends not only on the availability of facilities, but on thoughtful design and placement that support comfort, convenience, and security for all users. The way bicycle parking is integrated into public spaces, buildings, and transportation networks shapes how people experience cycling in their daily lives. Durable materials, intuitive layouts, and well-considered locations contribute to a system that feels reliable, accessible, and welcoming.

As cycling travel patterns change and new vehicle types emerge, the expectations placed on bicycle parking continue to evolve. Ensuring that facilities respond to diverse needs and function effectively across a range of environments is essential to supporting a resilient and inclusive cycling network. This chapter focuses on the role of design and siting in achieving bicycle parking that enhances usability, safety, and long-term adaptability throughout the Region.

## 3.1 Bicycle parking facility types

Bicycle parking solutions come in various forms and serve different needs depending on the nature and duration of the trip. When choosing the most appropriate bicycle parking solution, practitioners should first consider how the parking will be used and the types of cycling trips it is meant to support.

While bicycle parking can promote cycling, it is important to recognize that not every type of parking is appropriate for all trip purposes or destinations. Bicycle parking should serve a range of trip types, such as running a quick errand, commuting to work, or taking a leisurely bicycle ride. It can also support multimodal travel by integrating with public transit. Before implementing public bicycle parking, practitioners should consider the intended use, location, and user group when selecting appropriate facilities to ensure the solution aligns with the needs of users.

### 3.1.1 Classifications

There are generally two categories of parking facilities used to support cyclists: short-term and long-term. While both serve as essential components of cycling infrastructure, they fulfill different functions for people who cycle and are suited to distinct implementation contexts:

- **Short-term:** Intended to be used for short periods of time, typically two hours or less, by residents, visitors or employees to a business, residence, or establishment. Short-term parking facilities are typically located near shops,

restaurants, parks, and other public destinations and meant to prioritize convenience and visibility.

- **Long-term:** Intended to be used for extended use over several hours or overnight. Primary users are employees, residents, students, or travellers leaving their bicycles at their residences, work, inter-modal stations or bus stops. Long-term bicycle parking facilities are meant to prioritize security and protection from the elements.

### 3.1.2 Materials

Bicycle parking facilities should be constructed using materials durable, low-maintenance materials that resist rust, erosion, and other forms of deterioration over time. The following materials are recommended:

- **Galvanized finish**: Lower cost, durable and low-maintenance. Hot-dip steel (zinc-coated) offers excellent corrosion resistance.
- **Stainless steel:** Higher cost, resistance to tampering or cutting.
- **Ultraviolet-stabilized thermoplastics (e.g., high-density polyethylene (HDPE)**: Applied to clean and heated rack, rust resistant, and weather resistant. Should be used only as a protective finish, not for structural components. Comes in a variety of colour choices.
- **Powder-coated finish**: Applied over zinc-rich primer. Rust-resistant, offers corrosion protection and aesthetic flexibility, coming in a variety of colour choices. However, these require ongoing cleaning to maintain their appearance and prevent degradation, especially in outdoor environments.

Vinyl/PVC jackets are not recommended, as they tend to crack and degrade under extreme temperature fluctuations, resulting in higher maintenance needs throughout the year.

#### 3.1.2.1 Sustainable Materials

Where possible, materials should contribute to climate and sustainability goals, including the use of recyclable and locally sourced materials for bicycle parking and ancillary components such as shelters and lighting. Sustainable strategies may also include recycled metals, green infrastructure such as permeable paving for bicycle parking pads in place of traditional concrete or asphalt, green roofs on shelters to help offset the urban heat island effect (**Figure 3.1**), and energy-efficient technologies, like solar-powered lighting.

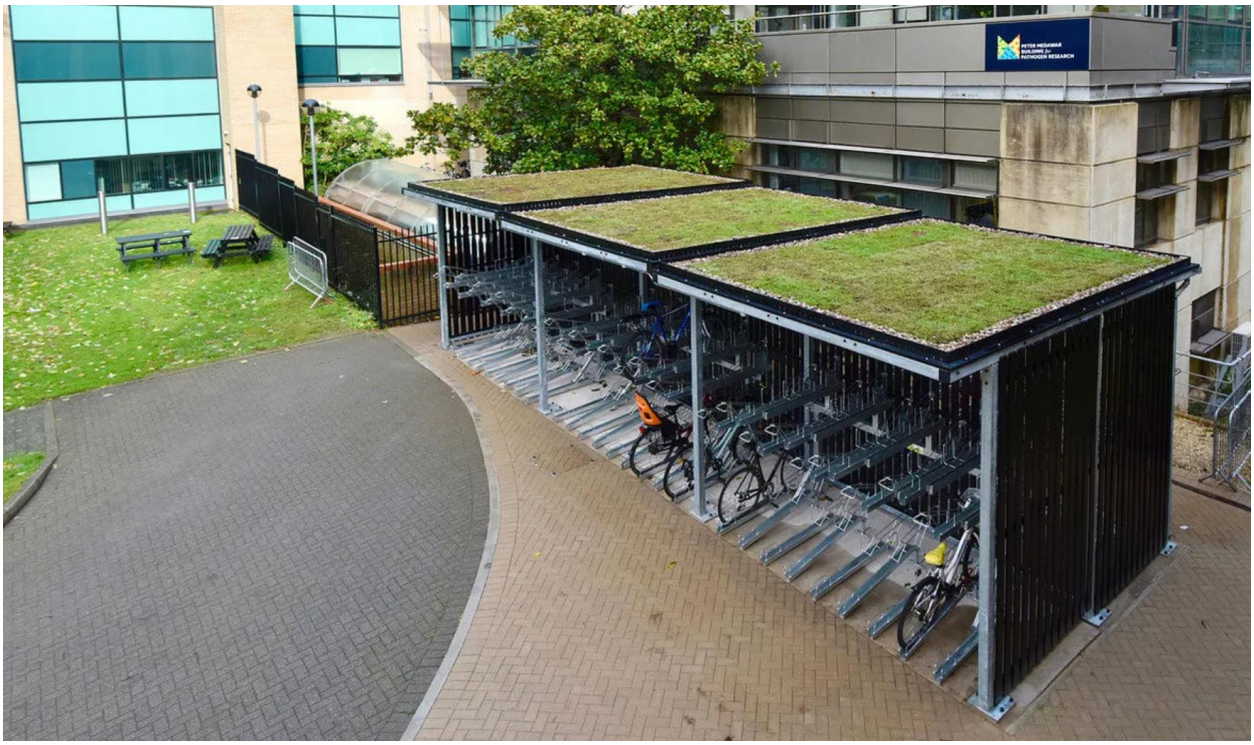


**Figure 3.1: Green roof over bicycle parking at Oxford University, UK, is an example of incorporating a green infrastructure into bicycle parking. Compound by Broxap. (Photo Source: External Works - Externalworksindex.co.uk)**

### 3.1.3 Short-term bicycle parking

Short-term bicycle parking is designed for stays of two hours or less and is typically located in public spaces near commercial areas, parks, and institutional destinations such as libraries, recreation centres, and government buildings or services. It prioritizes convenience, visibility, and ease of use. Different rack designs offer various benefits depending on the context, available space, and user needs.

The examples below illustrate the recommended short-term bicycle rack and facility designs that follow best practices and support safe and accessible parking for a variety of bicycle types.

**What we heard**

Post-and-ring and inverted-U racks were the most desirable types of bicycle parking amongst survey respondents, followed by long-term bicycle stations.

### Table 3.1: Recommended short-term bicycle parking solutions

| Bicycle parking facility | Description |
|---|---|
| **Post and ring**<br>  | **Description**: Bicycle rack consisting of a solid metal post and affixed ring.<br>**Application**: Most locations, including public right-of-way, constrained areas, transit stops, parks, public buildings.<br>**Advantages**: Simple, compact, efficient use of space, intuitive. Well-suited for use with U-locks.<br>**Challenges**: Limited capacity.<br>**Capacity**: Low, two bicycles. |
| **Inverted-U and similar styles**<br>  | **Description**: Sturdy metal bar bent into an upside-down "U" shape or staple shape.<br>**Similar styles:** Staple, loop, and swerve racks.<br>**Application**: Most locations, including public right-of-way, constrained areas, transit stops, parks, public buildings.<br>**Advantages**: Simple, compact, efficient use of space, intuitive. Well-suited for use with U-locks.<br>**Challenges**: Limited capacity.<br>**Capacity**: Low, two bicycles. |
| **Artistic racks**<br>  | **Description**: Custom designs that combine utility with aesthetics. They do not have standard design or feature configurations given their customizable nature.<br>**Application**: Downtowns, parks, cultural districts.<br>**Advantages**: Aesthetic, reflect community identity.<br>**Challenges**: May reduce functionality.<br>**Capacity**: Low, one to two bicycles. |

| Bicycle parking facility | Description |
|---|---|
| **Oversized racks**<br>  | **Description**: Larger bicycle rack than typical with wider spacing, often in the shape of a staple rack, to accommodate larger and non-standard bicycles, including cargo and adaptive bicycles.<br>**Application**: Areas where demand warrants (e.g., transit stops, parks, public buildings).<br>**Advantages**: Inclusive, future-ready, supports greater number of bicycle types.<br>**Challenges**: Space-intensive.<br>**Capacity**: Low, one to two bicycles. |
| **Bicycle corral**<br>  | **Description**: Designated area within on-street parking spaces with high-capacity bicycle parking racks. The design can differ based on context, such as safety priorities and aesthetic preferences.<br>**Application**: Commercial areas, high-cyclist demand areas.<br>**Advantages**: High capacity, frees sidewalk space.<br>**Challenges**: vulnerable to vehicle damage, typically removed in winter months due to snow clearing and winter maintenance.<br>**Capacity**: Moderate, 10 to 20 bicycles. |
| **Bicycle shelter**<br>  | **Description**: Open-air structures equipped with multiple short-term parking racks, covered by a roof or canopy to protect bicycles from inclement weather.<br>**Application**: Residential areas, transit stations, public facilities like libraries.<br>**Advantages**: Retrofit-friendly, encourages longer stays.<br>**Challenges**: No added security.<br>**Capacity**: Varies based on space and number of racks. |

#### 3.1.3.1 Discouraged short-term bicycle rack designs

Certain rack designs are not recommended for short-term bicycle parking because they fail to meet basic standards for security, stability, and usability.

These include wheel-bender racks, coat-hanger racks, toaster/grid racks, and wave or spiral racks (as shown in **Figure 3.2**).

**Figure 3.2: Examples of non-recommended bicycle racks. Top row: Wheel-bender rack, Coat hanger rack. Bottom row: Toaster/Grid rack, Wave rack.**

These rack designs are not recommended due to the following reasons, as they:

- Provide only one point of contact, resulting in inadequate support for the bicycle frame.
- Increase risk of wheel damage, particularly for lighter or thinner rims.
- Limit secure locking options, reducing theft protection.
- Lack compatibility with other bicycle types (e.g., bicycles with fat tires or cargo bicycles).

### 3.1.4 Long-term bicycle parking

Long-term bicycle parking options are designed to offer enhanced security, weather protection, and user comfort for cyclists who need to park their bicycles for extended periods, such as during work, school or overnight. Depending on the location and user group, long-term solutions can range from space-efficient indoor racks to fully enclosed, access-controlled facilities, highlighted in **Table 3.2**.

**What we heard**

- People are more likely to want covered or indoor parking when parking their bicycle for two or more hours.
- "Secure bicycle parking" means something different to different users and in different contexts. Ongoing engagement and communications are important to understand what effective secure bicycle parking looks like.

**Table 3.2: Recommended long-term bicycle parking solutions**

| Photo | Description |
|---|---|
| **Bicycle locker**<br>  | **Description**: Fully enclosed, secure units that holds one or two bicycles, and features a lockable door.<br>**Application**: Transit hubs, workplaces, post-secondary institutions.<br>**Advantages**: Maximum security, weather protection.<br>**Challenges**: Expensive, low turnover, space-intensive.<br>**Capacity**: Low, one to two bicycles per locker. |
| **Bicycle cage**<br>  | **Description**: Secure, covered enclosures, typically made of metal fencing or mesh, that provide multiple bicycle parking spaces in a single structure.<br>**Application**: Transit hubs, workplaces, post-secondary institutions, multi-unit residential.<br>**Advantages**: Access-controlled, secure, scalable, often weather-protected.<br>**Challenges**: Requires access control, limited to authorized users.<br>**Capacity**: Moderate, varies based on space and layout. |

**Access-controlled bicycle room**

**Description**: Indoor, access-controlled rooms, typically accessible only to authorized users. It includes bicycle racks and surveillance and may include lockers and other amenities.

**Application**: High-cyclist demand areas and where there is a need for secure, long-term bicycle storage, such as transit hubs, multi-unit residential buildings, workplaces, and post-secondary institutions.

**Advantages**: High security, customizable, high capacity.

**Challenges**: High cost, requires management.

**Capacity**: Moderate to high, depending on space and layout.

**Bicycle hub/station**

**Description**: Indoor facility designed to accommodate a high volume of bicycles, which includes bicycle racks, greater security (often staffed), and enhanced amenities like lockers, changerooms, showers, and repair stations. They can be either publicly accessible or restricted to specific users depending on the location and purpose.

**Application**: High-cyclist demand areas where there is a need for secure, long-term bicycle storage, such as large transit hubs, multi-unit residential buildings, workplaces, and post-secondary institutions.

**Advantages**: High security, weather-protected, high capacity, includes amenities.

**Challenges**: High cost, ongoing management.

**Capacity**: High.

### 3.1.5 High-density racks

High-density racks, such as vertical and two-tier systems (presented in **Table 3.3**), are designed to maximize space efficiency. They can be used in short-term parking facilities, like large bicycle shelters, however, are mostly found in long-term facilities, such as secure access-controlled bicycle cages or rooms. Their application is most effective in high-demand areas where space is limited. They do come with some accessibility considerations and therefore should be mixed with other parking options. Refer to **section 3.2.3.2** for more information.

### Table 3.3: Recommended high-density racks for long term parking

| Photo | Description |
|---|---|
| **Bicycle rack series**<br>  | **Description**: A series of bicycle racks installed together, either individually anchored or mounted on a shared rail base.<br>**Application**: High demand areas like recreation centres, transit hubs, dense commercial areas, etc.<br>**Advantages**: Simple, intuitive, well-suited for use with U-locks.<br>**Challenges**: May not accommodate all bicycle types, depending on spacing.<br>**Capacity**: Medium, varies. |
| **Vertical/wall-mounted racks**<br>  | **Description**: Bicycle storage system that hangs the bicycle upright by its front wheel on a hook or bracket attached to a wall.<br>**Application**: Typically used in bicycle cages and bicycle rooms where there is limited space and high demand, like transit stations, and dense commercial uses.<br>**Advantages**: Space-efficient, high capacity.<br>**Challenges**: Not accessible for all users or bicycle types.<br>**Capacity**: Medium to high, as standard layouts typically have multiple racks units together. |
| **Two-tiered racks**<br>  | **Description**: Double-level bicycle parking that allows bicycles to be stored one above the other, with a lift-assist mechanism for the upper-tier.<br>**Application**: Typically used in bicycle cages and bicycle rooms where there is limited space and high demand, like transit stations, and dense commercial uses.<br>**Advantages**: Maximizes capacity, space-efficient footprint.<br>**Challenges**: Costly, less intuitive, not accessible for all users or bicycle types.<br>**Capacity**: Medium to high, as standard layouts typically have multiple racks units together. |

### 3.1.6 Temporary (event) parking

Temporary event bicycle parking uses portable racks for festivals, concerts, or sporting events. The bicycle parking areas are typically designated with fencing and signage. These facilities are designed for short-term, high-volume use and may be staffed or unmonitored. Common operational models include:

- **Valet-style services**: Staff check in and retrieve bicycles for bicycle owners, improving security and reduce theft. (**Figure 3.3**)
- **Attended self park**: Bicyclists park their own bicycles and receive a claim ticket; attendants verify tickets and oversee the parking area to deter theft and assist with any issues.
- **Unattended**: Temporary bicycle parking is provided, often close to the event entrance in a parking lot, or temporarily closed street segment, without monitoring.

Standard racks, such as post-and-ring and inverted-U, and bicycle corrals can be used for temporary parking, but lightweight modular options that accommodate multiple bicycles and can be easily assembled and disassembled are becoming increasingly available.


**Figure 3.3: Example of valet-style bicycle parking at an event, shown here at Bluesfest music festival in Ottawa.**

### 3.1.7 Considerations for emerging modes

New and emerging types of bicycles and micromobility devices, such as e-bikes, cargo bicycles, adaptive cycles, and e-scooters are gaining popularity in Durham Region. These devices are often heavier, longer and more costly than standard bicycles, requiring special considerations for parking, security, accessibility and charging stations for electric devices.

**What we heard**

Community members and partner agencies all expressed the need for bicycle parking to accommodate different types of bicycles and devices, noting an increased demand for e-scooter parking in particular. Participants also noted the need for accessible, ground-oriented parking options.

To accommodate these devices in Durham, parking facilities should be versatile to support a variety of device sizes and configurations. Some considerations include:

1. **Wider spacing:** Spacing of at least 1.8 metres between racks to fit larger frames and reduce damage risk.
2. **Wider and half-height racks:** Wider and lower racks should be provided in areas with frequent use of larger bicycles or devices, such as cargo bikes in commercial districts. These racks should follow the design of an inverted-U or staple rack but be wider to offer adequate support for larger frames.
3. **Dedicated parking zones:** In high-use areas, such as dense commercial areas or near transit hubs, designating specific zones for these devices (**Figure 3.4**) along with appropriate racks, anchors, and clear signage to improve access and reduce sidewalk clutter.
4. **E-Scooter racks:** As e-scooter use grows in high-traffic areas, like transit hubs, racks designed for e-scooters (**Figure 3.4**) can help organize parking, reduce sidewalk clutter, and improve security.
5. **Modular rack design:** Racks that can be easily adjusted or reconfigured to fit different devices provide flexibility as device types evolve enabling LAMs to adapt and retrofit spaces over time without full replacements.
6. **Durability and security of rack design:** Racks should be built from tamper-resistant materials to support heavier, more valuable devices and deter theft.

7. **Accessibility**: Given that many emerging devices are heavier, and in some cases, specifically designed to support users with disabilities, bicycle parking should be easily accessible and ideally located at ground level or offer step-free access (e.g., ramps or elevators), with AODA-compliant signage. Bicycle-stair channels and two-tier systems are discouraged due to incompatibility and challenges lifting or maneuvering heavier devices.

The Region will continue to explore and monitor emerging types of bicycles and micromobility devices, and evolve the guidelines and standards accordingly.

**Figure 3.4. Left: E-scooter parking rack (source: Bicycle Dock Solutions). Right: Designated cargo bicycle parking - the "Cargo Corral" design by Cyclehoop (source: Cyclehoop).**

### Bicycle parking facility types recommendations

**R3.1** The Region, LAMs and partner agencies should plan bicycle parking based on anticipated usage patterns and the types of bicycles and devices expected in each context. This will ensure facilities effectively support both short-term and long-term needs, including larger or specialized bicycles in high-demand areas.

**R3.2** Use durable, weather-resistant, sustainable materials, such as galvanized or powder-coated steel, and eco-conscious designs to withstand long-term outdoor exposure, remain functional over time and support sustainability objectives.

**R3.3** Install recommended short-term and long-term rack designs such as inverted-U and similar variations (e.g., staple, loop, or swerve racks), post-and-ring racks, and functional artistic designs to provide secure, reliable, and user-friendly bicycle parking across municipal facilities.

**R3.4** Locate bicycle racks near high-demand destinations including commercial areas, public facilities, post-secondary educational institutions, transit hubs, and recreation areas, prioritizing convenience, visibility and ease of access in siting decisions.

**R3.5** The Region, LAMs, partner agencies and developers should prioritize the provision of long-term parking that maximizes security, using solutions such as lockers, cages, or secure indoor rooms.

**R3.6** Provide long-term bicycle parking at transit stations, post-secondary institutions, dense commercial areas, and multi-unit residential sites, ensuring facilities prioritize security and protection from weather, with responsibility shared among the Region, LAMs, property owners, transit agencies, and other relevant parties.

## 3.2 Site planning and placement

Site planning requirements for bicycle parking vary depending on whether the parking is intended for short-term or long-term use. The following subsections provide detailed guidance on placement, positioning, and spacing for different bicycle parking facilities and contexts.

**What we heard**

- People want bicycle parking to be easy to access and highly visible.
- There was a strong desire for parked bicycles to be visible from inside of buildings (e.g., by the bicycle owner while they grab a coffee, or by on-site staff at a front desk or cash register). This adds visual security and was perceived as being especially important for short term parking.
- Several businesses shared first-hand accounts of their staff and patrons locking up to non- bicycle rack structures near their front window or front desk, even when bicycle parking was provided further away from the entrance.
- Access to bicycle parking should be unobstructed and include a safe path of travel by bicycle. Well-lit areas were also preferred.

### 3.2.1 General site planning

Effective site planning for bicycle parking requires thoughtful consideration of how facilities will be used by cyclists and how they will interact with other road users, pedestrians and other site elements.

This chapter provides guidance on the placement and layout of both short-term and long-term bicycle parking. It also includes additional parking for oversized bicycles, integration of parking in various land use contexts, and accessibility, safety and security considerations. These guidelines are not meant to be prescriptive. Practitioners should apply sound engineering judgment when adapting dimensions or configurations to suit site-specific conditions.

#### 3.2.1.1 Key considerations for site planning

When selecting locations for bicycle racks, ensure decisions are user-centred, prioritizing the safety, equity, and comfort of all users. The following considerations should guide site planning:

- **Proximity to entrances:** Bicycle parking should be located close to building entrances and along direct, intuitive pedestrian routes to minimize travel distance, maximize convenience, and ensure bicycle access is comparable to other primary modes of travel.
- **Visibility**: Ensure parking is clearly visible from site approaches, building access points, and from inside the building, when possible, to enhance safety and reduce theft. If not, provide directional signage to guide user.
- **Accessibility**:
  - Design indoor and outdoor parking with enough clearance for safe maneuvering, avoiding conflicts with pedestrians and vehicles.
  - Racks should not block walkways, emergency exits, or accessible routes, and should allow bicycles to be parked or retrieved independently.
  - Facilities should be conveniently accessible from street or ground level. Where ground-level space is limited, parking may be located one level above or below grade, as long as access is provided via a ramp or elevator designed for bicycles.
- **Emergency services:** Bicycle parking areas must not obstruct hydrants, fire access routes and/or Fire Department Connections, and means of egress for building evacuation.
- **Conflicts for competing users**: Avoid placing racks where they could create conflicts with accessible parking spaces and sidewalk clearways. Racks should not obstruct pedestrian paths, curb ramps, or designated accessible routes.
- **Lighting and surveillance:** Place racks in well-lit areas with natural surveillance (e.g., near windows, entrances, or high traffic areas) to reduce theft risk and improve user comfort, especially at night. Where feasible, incorporate security measures such as on-site personnel or video surveillance.

- **Maintenance and operations**: The placement of bicycle parking within the boulevard should minimize impacts or disruptions to regular public realm, sidewalk, and road maintenance and care, such as street cleaning and snow removal.
- **Collaborate with partners**: Regional staff will coordinate amongst Regional departments, and work with LAMs, partner agencies and institutions to capture consistency and alignment in site planning for bicycle parking. For example, the Stations, Terminals, and Hubs Strategy prepared by DRT identifies the initiative to implement bicycle racks at select bus stops. This enables the majority of urban areas in the Region to be within a 10-minute cycle ride of a bus stop with bicycle parking.

#### 3.2.1.2 Bicycle dimensions

The footprint of a bicycle parking space should be based on the typical dimensions of a standard bicycle. To ensure ease of use and flexibility in how bicycles are positioned and locked, each parking space should be allocated a space of:

- 1.8 to 2.0 metres in length
- 0.6 to 1.0 metres in width
- 1.9 metres vertical clearance

For oversized bicycles, such as cargo bicycles, adaptive cycles, or bicycles with trailers, larger parking spaces should be provided. Refer to **section 3.2.5** for guidance on oversized bicycle parking considerations.

### 3.2.2 Placement of short-term parking

The placement of short-term bicycle parking focuses on convenience, access, and improving the security of the bicycle, while avoiding conflicts with adjacent land uses, parked vehicles, transit stops, or the pedestrian clearway. Its placement can also significantly boost its usage.

The following sections provide guidance on placement, positioning, and spacing for different short-term parking options, including bicycle racks, bicycle corrals, and covered facilities.

#### 3.2.2.1 Standard racks

### Placement

Standard rack short-term bicycle parking placement is typically placed:

- In the frontage zone adjacent to sidewalks, alongside other street furniture (e.g., trees, parking meters).
- In repurposed on-street vehicle parking spaces, often configured as bicycle corrals.
- On curb extensions near intersections or midblock.
- In the frontage zone or on private property near building entrances, where sidewalk width allows and access is not impeded.

Bicycle racks should be placed within 15 metres, up to 30 metres, of the primary building entrance, shared pathways, parks, and other public areas, and be clearly visible from site approaches and building access points to encourage use.

Racks should **not** be placed in locations that:

- Interfere with pedestrian access, essential services, or business operations (e.g., loading zones, taxi stands, accessible parking).
- Obstruct maintenance activities, including snow removal and landscaping.
- Is greater than 30 metres from the building entrance, and not easily visible.

If physical constraints prevent bicycle racks from being located close to entrances or reduce their visibility, install signage to direct users to the nearest parking.

**What we heard**

Participants emphasized that bicycle parking should be easy and safe to access. Cyclists would like parking clearly visible and they should not be required to navigate large parking lots or cross busy vehicle zones. Providing direct connections to bicycle parking wherever possible encourages use and improves accessibility.

### Positioning and spacing

It is important to ensure that bicycle racks and parked bicycles allow for sufficient clearance for users to be able to access and securely lock bicycles, and also do not interfere with pedestrian movement or restrict access to nearby destinations. Key principles of bicycle rack placement and spacing include:

- A minimum pedestrian clearway of 1.8 metres should be maintained at all times.
- Racks should have at least 0.6 metres of clearance around them to allow for comfortable use.
- Where racks are adjacent to on-street vehicle parking, they should be set back a minimum of 0.9 metres from the curb and placed between parking stalls to avoid conflicts with opening doors.

**Table 3.4** presents the typical minimum and preferred clearances for both parallel and perpendicular rack installations relative to other sidewalk elements, including curbs, door zones, fire hydrants, and pedestrian zones. These clearances allow for users to be able to access and securely lock bicycles. **Figure 3.6** and **Figure 3.7** illustrate the ideal rack positioning and spacing.

### Parallel and perpendicular placement

Bicycle racks may be installed parallel or perpendicular to adjacent curbs or walls, depending on site constraints (see **Figure 3.5**).

**Parallel placement** offers greater space efficiency and is recommended in areas with constrained right-of-way or limited space conditions (e.g. where furnishing zones are less than 2.0 metres wide).

**Perpendicular or angled placement** is suitable where the furnishing zone is wider and can accommodate the additional depth.

**Figure 3.5: Left: Parallel bicycle racks, best for constrained areas where space is limited. Right: Angled perpendicular racks, ideal for wider furnishing zones.**

### Table 3.4: Spacing for short-term bicycle parking

| Clear space required between: | Parallel to curb: Preferred Spacing (metres) | Parallel to curb: Minimum Spacing (metres) | Perpendicular to curb: Preferred Spacing (metres) | Perpendicular to curb: Minimum Spacing (metres) |
|---|---|---|---|---|
| **Rack to rack** | 2.4 | 1.2 | 1.2 | 1.0 |
| **Rack to curb** | 0.6 | 0.6 | 1.3 | 0.9 |
| **Rack to obstacle** | 1.5 | 0.7 | 1.2 | 0.9 |
| **Rack to wall** | 2.4 | 0.7 | 3.4 | 1.5 |
| **Rack to on-street parking or drop-off area** | 1.2 | 0.9 | 1.2 | 0.9 |
| **Rack to bus stop sign** | 1.5 | 1.5 | 1.5 | 1.5 |
| **Rack to fire hydrant** | 3.0 | 3.0 | 3.0 | 3.0 |
| **Rack to driveway or midblock crossing** | 3.0 | 2.5 | 3.0 | 2.5 |

In high-traffic locations, such as transit stations or educational institutions, an aisle width greater than 1.8 metres may be preferred to reduce congestion and improve accessibility.

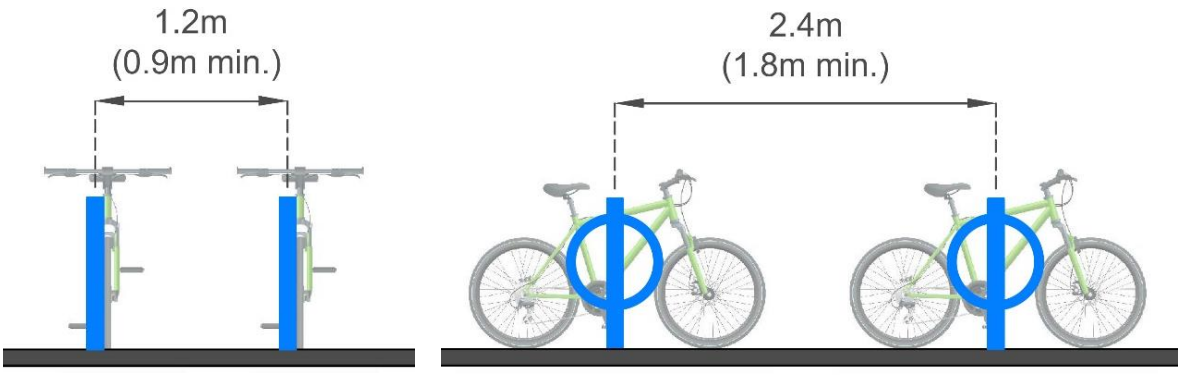



**Figure 3.6: Minimum distances between standard bicycle racks.**

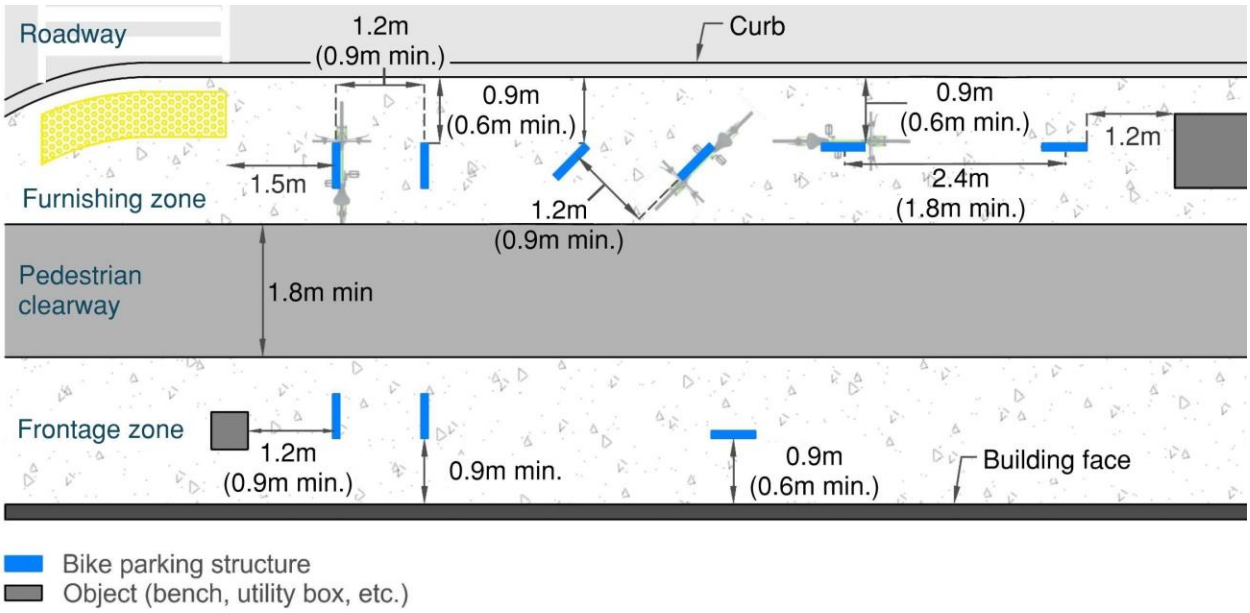



**Figure 3.7: Ideal distances for bicycle racks along the curb.**

### 3.2.2.2 Bicycle corrals

#### Placement and delineation

An alternative approach to offering multiple short-term bicycle parking spaces is to group together individual racks and place them on-street within the public right-of-way, typically in place of one or more on-street vehicle parking spaces. Ideal locations for bicycle corrals include:

- Areas with moderate to high demand for short-term bicycle parking, such as commercial districts, cafes, and transit hubs.
- Areas with high pedestrian activity and limited space in the furnishing zone for traditional sidewalk racks.
- Locations where sidewalk width is insufficient to accommodate racks without obstructing pedestrian movement.
- Streets with ample on-street vehicle parking that allow for the conversion of a parking space.
- Locations can also be determined in collaboration with the local businesses or business associations.
- Street corners due to their high visibility, ease of access, and because they improve sightlines for drivers approaching intersections. Mid-block installations are also possible; however, they can make maneuvering bicycles more difficult, especially when adjacent to parked vehicles.

As with other types of short-term bicycle parking, bicycle corrals should be placed as close to the main entrances they serve as possible, at a maximum of 30 metres.

### Locating bicycle corrals on main streets

While placing bicycle corrals on side streets near main roads may seem beneficial to avoid high traffic volumes or the reduce the impacts on vehicle parking, bicycle corrals are ideally located directly on main streets where bicycle infrastructure is present.

Positioning corrals directly along main streets makes bicycle parking easier to find, shortens walking distances to building entrances and nearby destinations, improves storefront visibility and contributes to a more active and welcoming pedestrian environment.

For improved visibility, safety, usage, and to discourage parking violations, on-street bicycle corrals should be clearly delineated and easily accessible. These can be achieved through measures such as:

- Distinct surface treatments, such as pavement markings or colours.
- Physical barriers, such as bollards, curbs, curb stops, bicycle corral frame, curb extensions, planters, and other barrier elements (examples shown in **Figure 3.8**).
- Wayfinding signage.
- Reflective materials.
- Bright colours for the bicycle racks or frame.
- Other design features.

Depending on traffic volumes and speeds, consideration should be given to installing physical barriers at the ends of a bicycle corral and between the travel lane and parked bicycles to prevent vehicle encroachment. This is especially important on streets with higher speeds and traffic volumes. However, some communities may restrict the use of fixed objects within the right-of-way due to safety concerns. In such cases, flexible delineator posts offer a suitable alternative, as they bend on impact while still providing clear visual separation.

**Figure 3.8: Examples of on-street bicycle corrals. Key features to delineate the space include flex posts and end frames (top left), pavement markings (top right), curbs and curb stops (bottom left) decorative elements (bottom right).**

## Positioning and spacing

On-street racks within corrals are typically oriented so bicycles are parked perpendicular to the curb to maximize capacity. However, in areas where longer bicycles, such as cargo bicycles, are more common, consider angling the racks at 60 degrees to accommodate longer cycles within a standard 2.4 metres parking space. Angled configurations may result in fewer total parking spots compared to perpendicular layouts.

While commonly seen bicycle corrals are prefabricated units with side frames that protect and distinguish them, rail-mounted single racks, like inverted-U racks and similar variations, in groups of three or more is also another method, seen in **Figure 3.8**.

Bicycle corrals should avoid creating hazards for traffic flow and to ensure that cyclists are not required to walk or stand adjacent to moving traffic when accessing the parking area. **Figure 3.9** provides an example layout of a bicycle corral. Key spacing aspects include:

- **End clearance**: A clearance of 1.5 metres at either end of a bicycle corral is recommended to allow safe and comfortable entry and exit.
- **Rack spacing:** Racks should be spaced 1.2 metres apart to accommodate a range of bicycle handlebar styles, measured from the centre. In constrained areas, a reduced spacing of 0.9 metres may be used where maximizing capacity is prioritized over ease of access and maneuverability.
- **Set back from curb:** The end of the corral frame near the curb should be set back from the curb at least 0.8 metres to ensure bicycles can manoeuvrer around.

On-street bicycle parking can also be accommodated in perpendicular and angled vehicle parking spaces following spacing recommendations above.

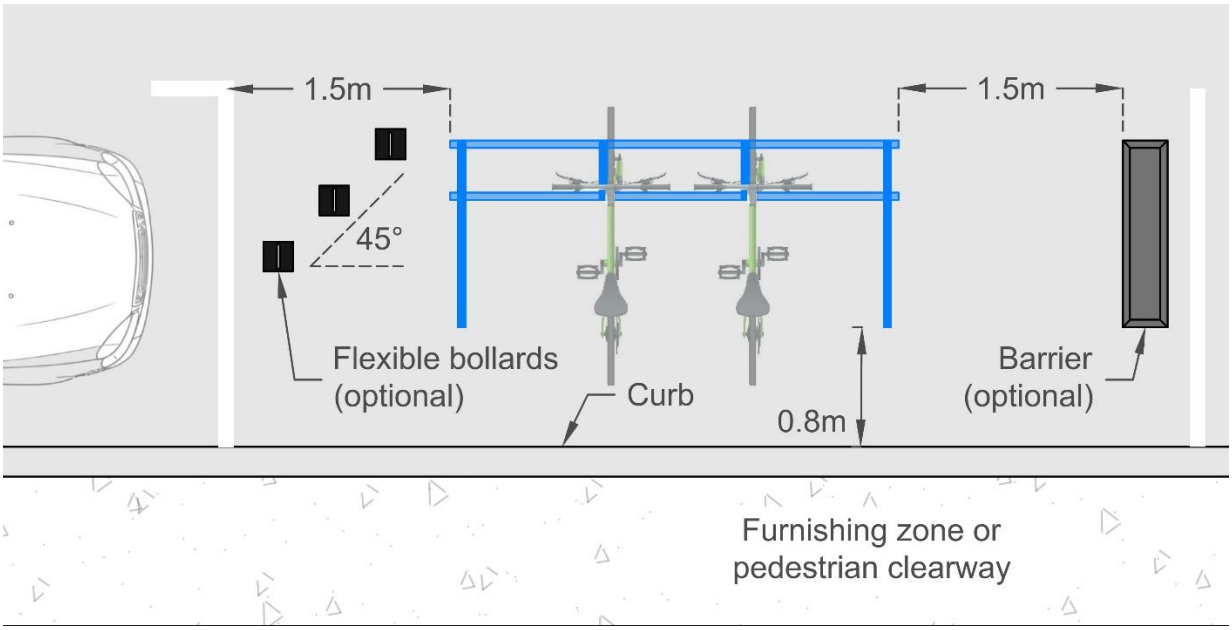



**Figure 3.9: Example of typical bicycle corral layout, perpendicular to the curb.**

### 3.2.2.3 Covered parking

#### Placement

Covered bicycle parking can be provided by using existing structures such as building overhangs or awnings, or by installing standalone roofs or shelters where space permits. Compact shelters are well-suited to constrained urban environments, including locations within the public right-of-way, while larger shelters are more appropriate for open areas such as public plazas, parking lots, and sites near major destinations or trip generators.

Post-and-ring racks, inverted-U racks, and similar variations are recommended for use within shelters because they are space-efficient and compatible with most layouts. It is important to ensure that covered racks do not obstruct pedestrian clearways or curbside access to maintain accessibility and safety for all users (**Figure 3.10**).

Covered bicycle parking is recommended wherever possible to improve the cyclist experience, particularly in areas where bicycles may be parked for extended periods. Ideal locations include high-traffic areas, post-secondary institutions, transit stations, and public spaces such as libraries and recreation centres. Shelters should be clearly visible from the street or building entrance to deter theft and improve usability.

**Figure 3.10: Partial covered bicycle parking adjacent to the entrance of Ajax Memorial Outdoor Public Pool and located outside of the pedestrian clearway.**

## Positioning and design

Spacing requirements for racks within covered bicycle parking should align with short-term parking guidelines. However, additional space may be required to accommodate structural elements such as posts, walls, and roof spans, which will vary depending on the shelter's design and layout.

Key design elements to consider when planning a standalone covered bicycle parking shelter include:

- Shelters should have a minimum of 2.4 metres vertical clearance, and a minimum of 2.5 metres in depth to provide sufficient weather protection for bicycles.
- Setbacks from the curbline must comply with municipal requirements, which may vary by jurisdiction.
- Shelters should be placed where they do not obstruct pedestrian flow or sight lines.
- Shelters should be well-lit to enhance security and deter theft.

### 3.2.3 Placement of long-term parking

Long-term bicycle parking is intended for users who leave their bicycles for extended periods of time and require enhanced protection from theft and weather. Ideal locations for long-term bicycle parking include:

- Post-secondary educational institutions
- Transit stations and mobility hubs
- Dense commercial areas, employment centres and large industrial uses
- High-density residential buildings
- Other destinations with extended-stay parking needs

Long-term bicycle parking includes a broader range of fixture types and site configurations, such as racks enclosed in cages, bicycle rooms, and lockers. These facilities may be located either indoors or outdoors, depending on the context and intended use.

Long-term bicycle parking is often located in out-of-the-way locations, therefore, site design should focus on safety of users and security of the bicycles. These facilities should be conveniently accessible from street or ground level. Where ground-level space is limited, long-term parking may be located one level above or below grade, provided access is supported by a bicycle-friendly ramp or elevator. Where possible, long-term parking should also be located near washrooms, change rooms, or other supportive amenities.

The following subsections provide more specific guidance on the placement, positioning, and spacing of common long-term parking facilities, including bicycle lockers, bicycle rooms and cages, and vertical or two-tier/stacked parking systems.

### 3.2.3.1 Bicycle lockers

#### Placement

Bicycle lockers are best suited to locations with moderate but consistent demand, like employment centres and transit stations **(Figure 3.11**). They should be installed in highly visible and well-lit areas to support user safety. Due to their larger footprint, there use in the right-of-way may not be plausible; in these cases, parking lots may offer more space.


**Figure 3.11: Examples of bicycle lockers. Left: Lockers near the entrance of an office building in Toronto. Right: Lockers at Harkness rapid transit station in Winnipeg.**

#### Positioning and spacing

Bicycle lockers should not be placed too close to other objects or structures. Key principles for bicycle locker positioning include:

- A minimum clearance of 1.8 metres should be provided between rows of bicycle lockers and adjacent walls or other obstacles, such as trees so users can open doors fully and comfortably to load or remove bicycles.
- Provide sufficient front, end and side clearance to allow users to easily maneuver their bicycles around the parking area.

### 3.2.3.2 Bicycle cages and rooms

#### Placement

Bicycle rooms and cages are typically provided in residential, institutional, and employment settings where larger volumes of bicycles must be accommodated. They should be located in areas with controlled access, close to building entrances, and supported by lighting, wayfinding, and amenities.

## Positioning and spacing

The layout of bicycle rooms and cages should balance capacity, circulation, and accessibility. There is no set layout for a bicycle room; it depends on a number of variables, including the amount of space available, the shape of the space, and the existing entrance and access points. When planning bicycle rooms and cages, the same principles of standard rack spacing apply.

Key principles to effective bicycle cage and room design include:

- A mix of rack types is recommended to accommodate different bicycles and user needs, including standard racks (such as inverted-U and post-and-ring), vertical racks, and two-tiered racks. Because high-density options like vertical and two-tier racks are not compatible with all bicycle types and may pose challenges for users with mobility limitations, at least 50 per cent of spaces should consist of basic, on-ground racks that serve all ages and abilities, with high-density racks used only to provide additional capacity as needed.
- Racks may be arranged in perpendicular or angled layouts to optimize space.
- In high-turnover locations (e.g., transit stations), racks should be spaced farther apart for ease of access.
- In lower-turnover settings (e.g., residential buildings), racks may be spaced more closely to maximize capacity.

Aisle width requirements:

- **Standard racks**: 1.8 metres minimum between rows.
- **Two-tiered racks**: 2.5 metres minimum to accommodate lifting and loading.

Special considerations:

- Oversized bicycles (e.g., cargo bicycles, adaptive cycles) require additional space to maneuver. It is recommended to include some racks with greater spacing to accommodate these modes, especially in areas where there is higher demand for larger bicycles. Standard racks can be spaced 1.2 to 1.5 metres apart, rather than the minimum 0.9 metres.

The minimum and preferred clearances are summarized in **Table 3.6**, and illustrated in **Figure 3.14** and **Figure 3.12**.

**Table 3.5: Minimum and preferred clearances for bicycle rooms and cages**

| Position | Minimum spacing (metres) | Preferred spacing (metres) |
|---|---|---|
| **Between two standard racks** | 0.9 | 1.2 |
| **End of rack row to wall or vertical object** | 0.45 | N/A |
| **Aisle between parallel standard racks** | 1.2 | 1.8 |
| **Aisle between ends of rack rows** | 0.9 | 1.2 |
| **Aisle between two-tiered racks** | 2.5 | N/A |
| **Standard rack perpendicular to wall** | 0.6 (single access) | 1.5 |
| **Standard rack parallel to wall** | 0.7 | 0.9 |
| **Multiple-bicycle rack to wall (single-access)** | 0.6 | N/A |
| **Multiple-bicycle to wall (double access)** | 2.5 | N/A |

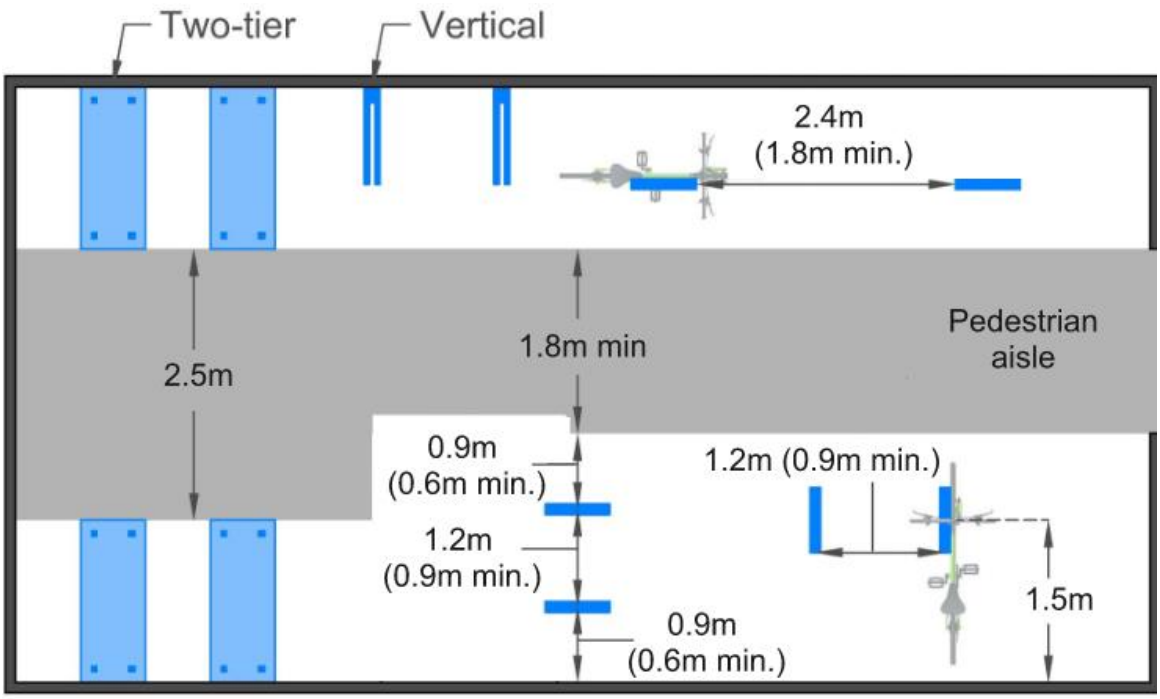



**Figure 3.12: Minimum spacing of bicycle racks for bicycle cage or bicycle room.**

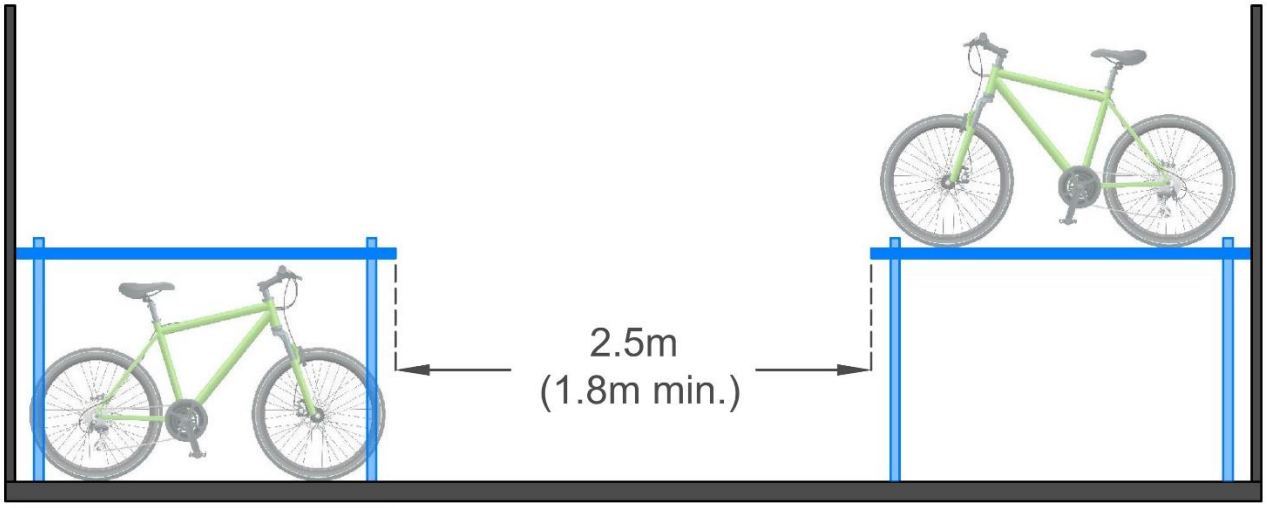



**Figure 3.13: Aisle for two-tier/stacked bicycle parking systems.**

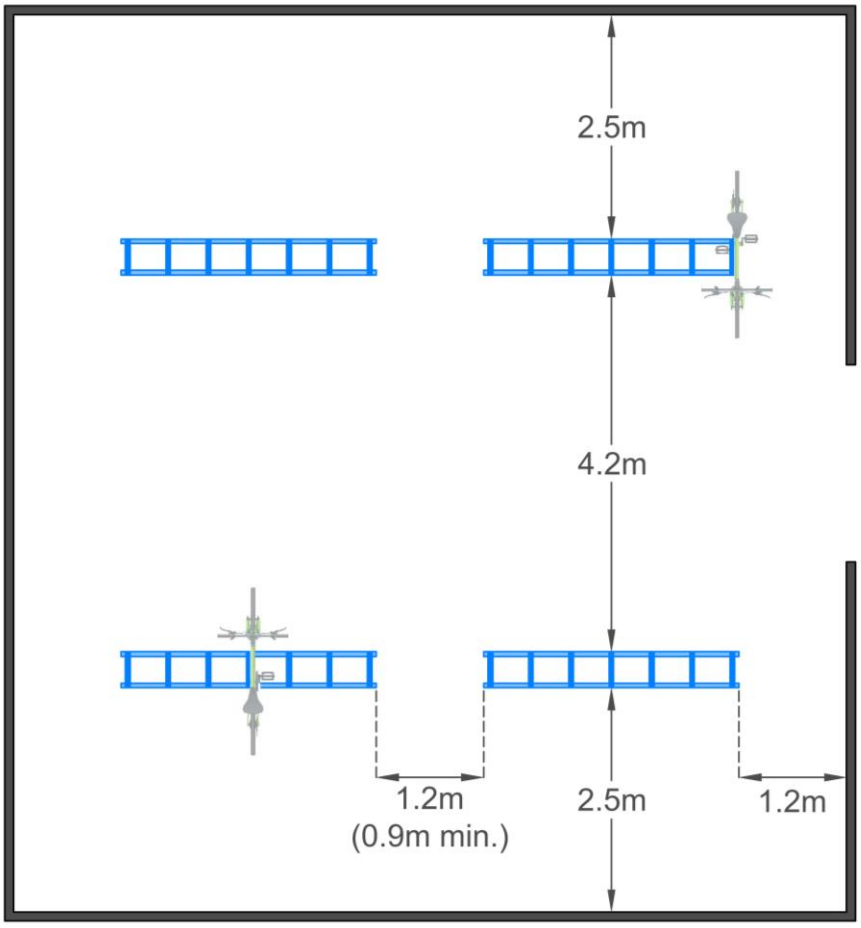



**Figure 3.14: Spacing for multiple bicycle racks.**

### 3.2.3.3 Vertical and two-tier bicycle parking

#### Placement

Vertical and two-tier racks are suited to high-demand areas with limited floor space, such as transit stations, bicycle rooms, and commercial buildings. They are generally best installed in controlled-access environments, such as bicycle cages and rooms, where supervision and security measures are provided. It is essential that they should be paired with other rack types since they can be difficult for people with limited mobility and often do not accommodate non-standard bicycles such as cargo or adaptive bicycle.

#### Positioning and spacing

The minimum clearances for vertical bicycle racks and two-tiered/stacked bicycle racks are presented in **Table 3.6**. These dimensions are recommended to allow for safe and efficient loading and unloading. The width requirement may be reduced to 0.5 metres if parking is angled or staggered.

**Table 3.6: Minimum clearance for vertical and two-tier racks**

| Dimension | Vertical parking (metres) | Two-tier parking (metres) |
|---|---|---|
| **Horizontal length** | 1.2 | 1.8 |
| **Width** | 0.6 | 0.6 |
| **Vertical clearance** | 1.9 | 1.2 |

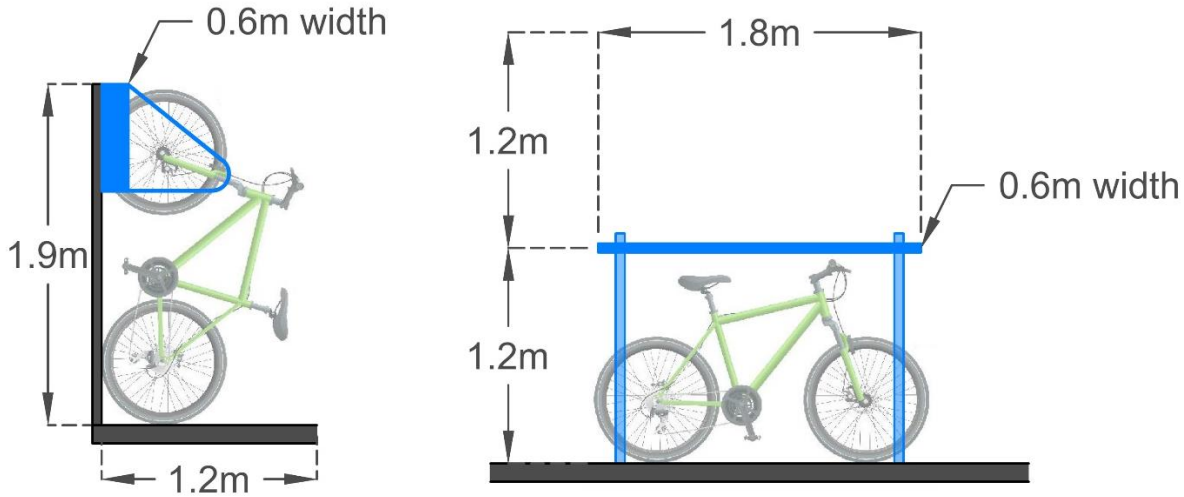



**Figure 3.15: Minimum dimensions for vertical bicycle racks (left) and two-tiered/stacked bicycle parking systems (right).**

**Placement of short- and long-term parking recommendations**

**R3.7** Follow the siting and placement guidance outlined in this Guideline, ensuring that site selection remains user-centred and is adapted to local context.

**R3.8** Locate short-term bicycle parking racks within 15 to 30 metres of the main entrance of the destination or transit stop they serve to maximize convenience and accessibility for users.

**R3.9** Ensure bicycle parking maintains adequate clearances to preserve accessibility and keep pedestrian pathways unobstructed.

**R3.10** Install short-term bicycle racks in locations that are highly visible, well-lit and allow for passive surveillance, avoiding hidden or isolated areas, to enhance security and accessibility.

**R3.11** Locate long-term parking in enclosed spaces and equip it with security features such as access control and video surveillance. It should be at street/ground level but if space is limited, place it one level above or below grade with ramp or elevator access.

### 3.2.4 Contextual siting considerations

Bicycle parking should be planned with both site-specific conditions and broader land use and user needs in mind. The placement, quantity, and type of facilities must reflect the site's characteristics, expected cyclist volume, and surrounding environment.

In addition to the placement and positioning considerations for site planning discussed above, the following provides guidance for tailoring bicycle parking to different settings, recognizing that each context has unique requirements.

**What we heard**

It is a barrier when people have to navigate large vehicle parking lots to access bicycle parking. It is important that bicycle parking is easily and safely accessible while riding a bicycle. When it is not located next to a cycling facility, a safe cycling route should be provided directly to the parking structure.

#### 3.2.4.1 Residential and mixed-use

Bicycle parking in residential and mixed-use areas should prioritize convenience, accessibility, and security for both residents and visitors:

- **Parking types:** Provide both short-term (visitor) and long-term (resident) parking, based on user needs.
- **Capacity:** Consider anticipated resident and visitor demand. In areas with higher volumes of cyclists, provide moderate to higher capacity parking options, such as bicycle corrals or multiple bicycle racks together. Vertical racks or two-tiered/stacked systems may be useful in denser developments.
- **Layout**: Ensure sufficient space for maneuvering and retrieving bicycles and avoid obstructing pedestrian walkways or landscaping.
- **Convenience and accessibility**: Parking should be close to building entrances or elevators, especially in multi-unit dwellings.
- **Secure and sheltered options:** Where possible, provide covered racks or long-term parking facilities (e.g., bicycle lockers, cages, or rooms etc.) for extended or overnight stays. Given that security and theft prevention is critical, ideal long-term options include lockers or indoor rooms with controlled access. Ensure any bicycle parking that is not fully enclosed is located away from waste disposal areas or other sources that may attract pests.
- **Transit integration:** For developments located near bus stops, rapid transit stations, or bus rapid transit corridors, bicycle parking should be positioned to provide convenient access to transit and support first- and last-mile connections. See additional guidance for transit considerations (**section 3.2.4.4 and 3.2.4.5**).
- **Older buildings:** Often overlooked, these buildings typically lack dedicated bicycle parking and elevators, making indoor storage difficult. Retrofitting these buildings to include parking or providing secure, accessible parking nearby improves convenience and equity for residents.

#### 3.2.4.2 Workplaces and commercial areas

Workplace and commercial area bicycle parking should support employee commuting and visitor access, balancing security, convenience, and circulation:

- **Proximity to building entrances:** Locate short-term racks for visitors near main entrances. Long-term parking for employees can be slightly further but should remain visible and convenient.
- **Commuters:** For large workplaces, provide secure, long-term parking for employees, ideally paired with end-of-trip facilities like showers, lockers, and change rooms to encourage cycling.

- **Layout and accessibility:** Design racks for independent access with adequate aisle widths, avoiding conflicts with pedestrian or vehicle movement.
- **Capacity planning:** Size facilities to accommodate current staff, shift patterns, visitor demand, and future growth.
- **Secure and weather-protected facilities:** Ideal parking options include covered racks, lockers, bicycle cages and bicycle rooms. Cages and rooms should be secure areas, accessed with keycard or fob.
- **Transit connections:** Where workplaces are near transit, provide parking to support multimodal commuting and first-/last-mile connections.

**What we heard**

It is important for employers to connect with employees when planning bicycle parking. We heard from engagement participants that on-site bicycle parking provisions did not always meet their needs and was underused as a result.

It is also recommended that workplaces actively share information about bicycle parking, for example during orientation. This helps to make expectations and bicycle parking options clear, and ensures staff feel welcome at their workplace with their bicycle.

#### 3.2.4.3 Post-secondary campuses

Campuses have high turnover and diverse users, including students, faculty, and staff, requiring a mix of short- and long-term parking (**Figure 3.16**).


**Figure 3.16. Short-term racks and covered access-controlled long-term parking provided at Mohawk College in Mississauga.**

Key considerations for post-secondary campuses include:

- **Distributed placement**: Locate racks at major building entrances, lecture halls, libraries, transit stops, and high-traffic pathways.
- **Capacity**: Provide sufficient short- and long-term spaces to accommodate peak periods. Plan for more bicycle parking are higher demand areas.
- **Layout:** Use angled or perpendicular layouts to optimize circulation and maximize capacity.
- **Safety and visibility**: Ensure facilities are well-lit, visible, and integrated with pedestrian flows to reduce theft and minimize conflicts.
- **Secure and sheltered options**: Offer more secure or weather protected parking options, such as bicycle cages or covered racks, where demand is high or long-term parking is needed. All bicycle parking should be well-lit, and long-term options should be access-controlled or have surveillance to deter theft.
- **Transit integration:** Situate bicycle parking to connect seamlessly with bus stops, rapid transit stations, and bus rapid transit corridors, enabling efficient first- and last-mile connections.
- **Signage:** Include signage, maps, and wayfinding to promote cycling and help users locate parking.

#### 3.2.4.4 Bus stops and rapid transit corridors

Integrating bicycle parking near transit stops is essential for supporting multimodal travel, especially first- and last-mile connections, and can be done relatively cost-effectively. Bus stop designs can vary widely along a single route, ranging from a simple signpost to stops with shelters and other amenities.


**Figure 3.17. Bicycle racks at a large rapid transit stop in York Region, offering adequate clearance from both the door area and from the adjacent amenities.**

**What we heard**

Transit stops were a top destination for bicycle parking amongst survey respondents and engagement participants. Other locations cited to have high demand for bicycle parking include schools, plazas, and grocery stores.

Effective site planning must consider variations in roadway design, transit stop configurations, and user volumes:

- **Priority stops:** While it may not be feasible to provide bicycle parking at every bus stop, prioritize stops along high-volume bus routes, limited feeder transit, or near schools, post-secondary institutions, or employment hubs, and stops serving rapid transit, terminus locations along a route.
- **Visibility**: Locate racks in visible, well-lit areas near the bus stop but outside pedestrian flow zones to avoid obstruction.
- **Wayfinding**: Provide signage, maps, or videos showing nearby bicycle routes and parking options.
- **Rack type**: Most bus stops can only accommodate short-term parking, so using easy-to-lock to racks, like inverted-U or post-and-ring racks are preferred (**Figure 3.17**). Consider covered racks or lockers in higher-demand or higher-theft areas.
- **Maintain clear access zones**: Regardless of bus stop configuration, bicycle parking must not obstruct curbside access to transit vehicles, especially the deployment of accessibility ramps. For stops along a typical right-of-way, racks should maintain a minimum 2.7 metres clearance from the curb edge, or should be placed in curbside zones outside the door area (**Figure 3.18**).
- **Bus stops with shelters**: At stops with bus shelters, it is recommended that bicycle racks be installed adjacent to the shelter. Where space permits, racks should be oriented perpendicular to the curb to maximize efficiency and maintain clear pedestrian pathways (**Figure 3.18**).
- **Bus stops in constrained rights-of-way:** In constrained right-of-way conditions, curbside space should be prioritized for transit users boarding or alighting. Place racks outside the immediate curbside zone where buses stop. Where feasible, locate racks in the furnishing zone near the bus stop to maintain cyclist convenience without impeding pedestrian flow or transit operations (**Figure 3.19**).

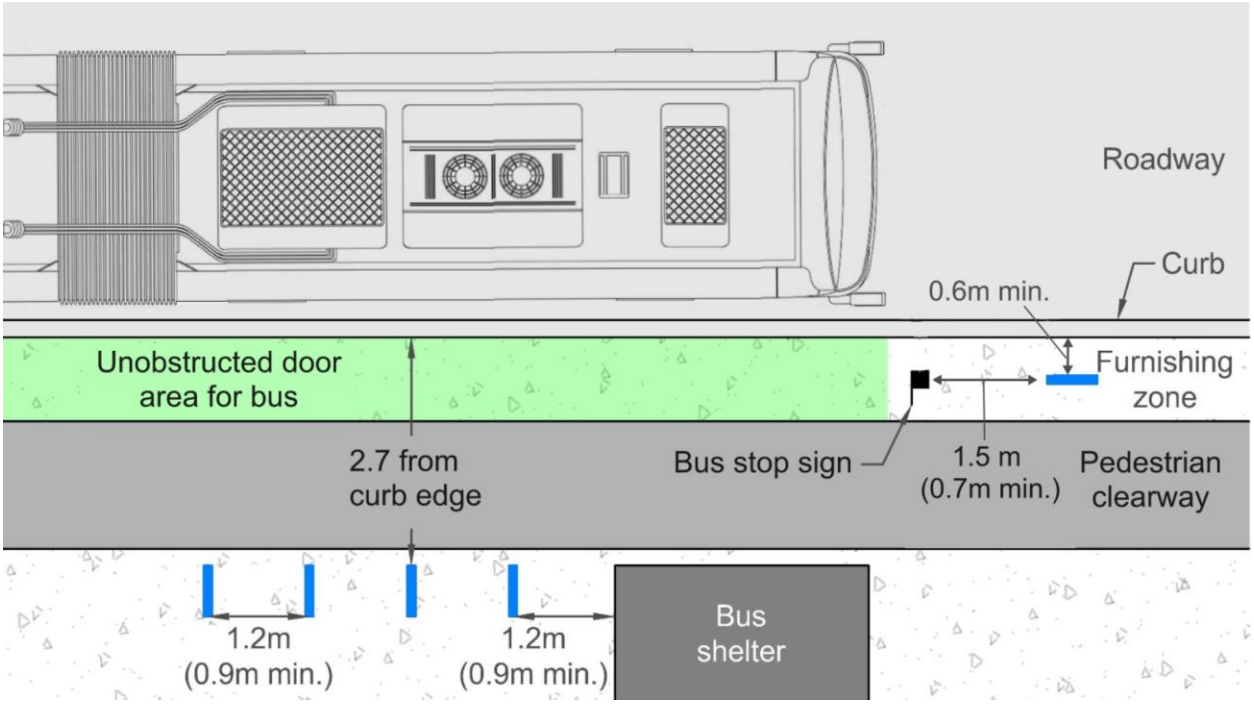



**Figure 3.18: Example layout of typical bus stop.**

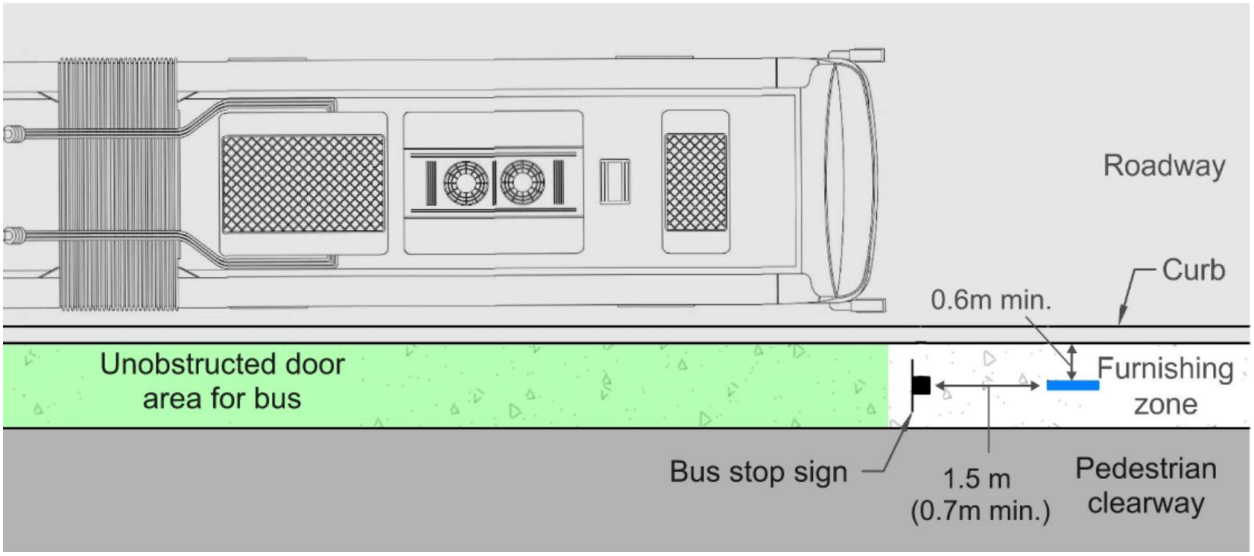



**Figure 3.19: Example layout for bus stop in a constrained right-of-way.**

#### 3.2.4.5 Transit stations

Transit stations vary significantly in size, context, and transit mode. Bicycle parking at these locations plays a crucial role in addressing the first-mile last-mile challenge. By enabling cyclists to combine biking with transit for longer trips, stations must provide facilities that accommodate both short-term users and long-term commuters.

**Figure 3.20: Example of high-quality short-term bicycle parking at Tunney's Pasture O-Train Station in Ottawa.**

Key considerations include:

- **Capacity planning:** Bicycle parking should be based on projected ridership, with additional capacity considered for stations served by multiple transit lines.
- **Unsecured, short-term parking**: Where feasible, unsecured bicycle parking should be provided at ground level in highly visible areas to enhance safety and convenience.
- **Secure parking**: For higher-order transit stations, secure access-controlled indoor bicycle parking is recommended. Depending on space availability, ridership, and site context, this may include lockers, bicycle cages, or bicycle rooms.
- **Proximity to access points**: Bicycle parking should be located within 30 metres of a station entrance or within 50 metres of a platform.
- **Integration with cycling infrastructure**: Parking should be positioned near entrances that are easily accessible from connected cycling routes.
- **Weather protection**: Outdoor parking areas should offer weather protection (e.g., roofs and walls) and be well-lit to improve safety and deter theft.

- **Wayfinding**: Clear signage and wayfinding should guide users to bicycle parking, especially in larger stations with multiple access points and modes of arrival.

The Region works collaboratively with Metrolinx and DRT to ensure all stations are accessible by bicycle. Metrolinx's Bike Infrastructure Design Standard provides great guidance on site-specific requirements for their stations regarding secure bicycle rooms, sheltered parking, and covered facilities tailored to different station layouts (**Figure 3.21**).

**Figure 3.21: Metrolinx provides different types of bicycle parking at their transit stations depending on users needs.**

### 3.2.5 Accommodating cargo bicycles and other mobility devices

Well-designed long-term bicycle parking should accommodate a wide range of bicycle types, including cargo bicycles, bicycle with trailers, handcycles, tricycles, recumbent bicycles, and mobility scooters. These vehicles typically require more space than standard bicycles due to their larger footprint and turning radius (**Figure 3.22**).

Oversized parking spaces should be prioritized in dense commercial areas and high-density residential developments, particularly where there is a higher likelihood of users with mobility challenges. Each oversized space should provide sufficient dimensions and space (**Figure 3.23**) to ensure accessibility and ease of use including:

- A minimum length of 2.4 metres.
- A minimum width of 1.0 metres.
- A vertical clearance of at least 1.9 metres.

**Figure 3.22: Cargo bicycles have a larger footprint than standard bicycles, and conventional rack designs may not have sufficient space to accommodate them effectively.**

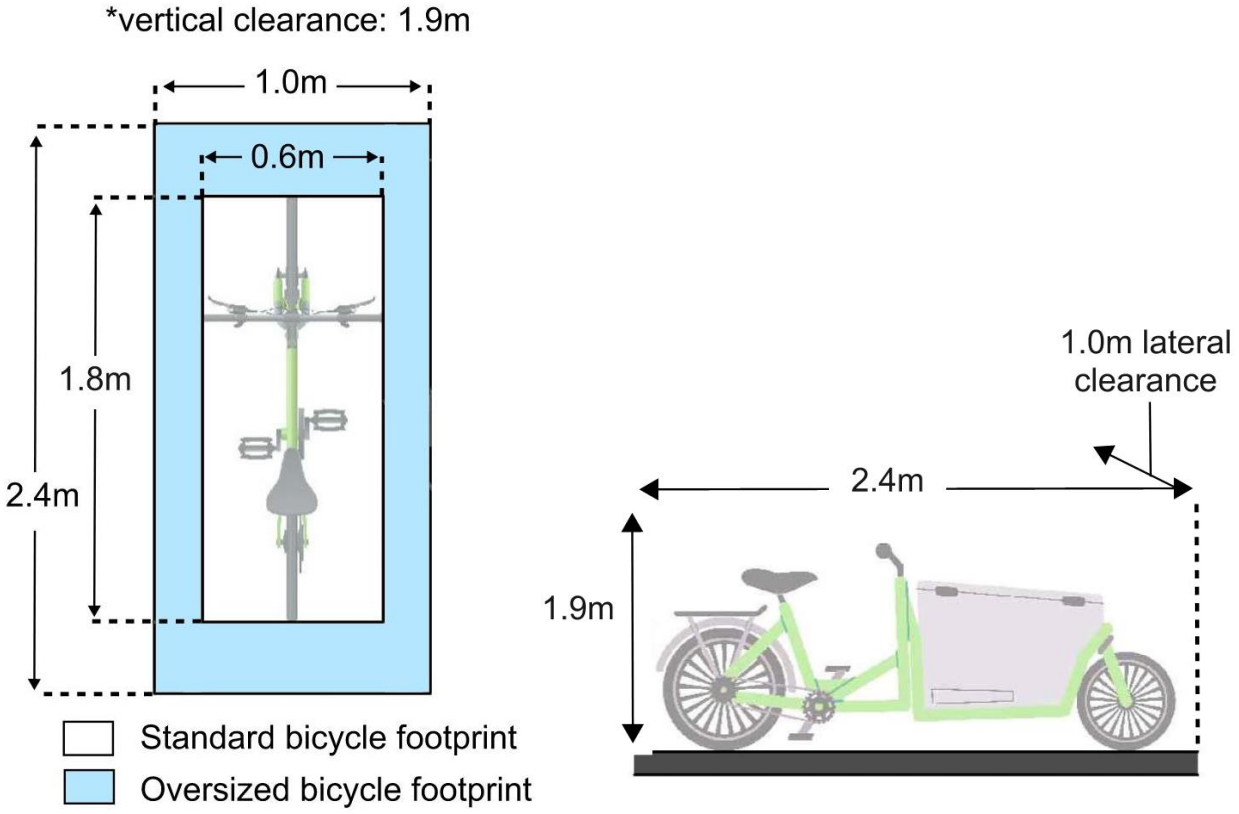



**Figure 3.23: Minimum dimension of a bicycle parking space.**

Where possible, oversized spaces should be integrated with short or long-term facilities without obstructing pedestrian routes, emergency access, or adjacent bicycle spaces. Clear signage and thoughtful layout help users identify and access these spaces efficiently. Cargo bicycles may require up to 3.0 metres in length, and a minimum turning diameter of 1.5 metres should be provided to allow users to comfortably reverse or turn into the space. To reduce conflicts and improve maneuverability, oversized stalls can be strategically placed at the ends of standard bicycle parking rows or in areas with additional clearance. This layout supports smoother circulation and ensures equitable access for all users.

**Contextual and oversized bicycle recommendations**

**R3.12** Leverage existing property features, such as curb ramps and paved pathways, for efficient and barrier-free access and building overhangs to provide weather protection.

**R3.13** Include oversized spaces, dedicated zones, and rack designs that support cargo bicycles, adaptive cycles, and mobility devices at commercial and large-scale residential sites, ensuring at least five per cent of spaces meet these requirements.

## 3.3 Supplemental elements

### 3.3.1 Bicycle locks

Bicycle locks are essential for preventing bicycle theft and providing peace of mind for cyclists. However, riders may face challenges such as the inconvenience of carrying a lock, forgetting it, or making an unplanned stop without one. To address these issues, bicycle parking areas, particularly bicycle rooms or enclosed parking areas, could incorporate shared lock systems, bicycle accessory vending machines, or built-in locking mechanisms, reducing the need for individuals to carry personal locks. Additionally, bicycle lock programs, discussed in **section 5.5.4**, are also encouraged.

### 3.3.2 Signage and wayfinding

Clear, well-placed wayfinding signage is essential for guiding cyclists to parking facilities and alerting pedestrians and motorists to bicycle traffic. It also helps raise awareness of cycling routes and highlights key destinations. A consistent visual identity improves accessibility, enhances the visibility and usability of cycling infrastructure, and supports a more comfortable cycling experience.


**Figure 3.24: Bicycle parking signage. The right image includes wayfinding with distance metrics to nearby destinations.**

The following are recommended design considerations for signage and wayfinding for bicycle parking.

### 3.3.2.1 Wayfinding design standards

- Maintain a uniform design across all signage: consistent colours, fonts, icons, and layout.
- Use large (minimum 36 point), sans-serif fonts for readability.
- Avoid full capitalization of words.
- Include landmarks or street names to help orient users.
- Use plain, concise language and universally recognizable symbols.
- Include directional arrows, pavement markers, and cycling icons.

### 3.3.2.2 Wayfinding systems

- Install directional signage when bicycle racks are not visible from the public right-of-way. Such signage should be visible from all adjacent on-street bicycle facilities.
- Use a combination of signs, pavement markings, and maps to guide cyclists.
- Help users understand facility use, network location, and route navigation.

#### 3.3.2.3 Accessibility and inclusion in wayfinding

- Clearly mark parking for non-standard cycles (e.g., cargo bicycles, adaptive cycles). Suggested wording: “Reserved for cargo and non-standard cycles. Priority to disabled cyclists”.
- Use paint to delineate non-standard cycle bays, include logos depicting adaptive and cargo cycles, and highlight stands and poles.

#### 3.3.2.4 Implementation and placement of wayfinding

- Place signs near bicycle parking areas, with directional signs leading to them from main routes. They should be clearly visible and not placed behind obstructions like parked cars or landscaping.
- Position signs at eye level for cyclists.
- Apply signage consistently across facilities and routes.
- Align with federal and provincial regulatory requirements where applicable.
- Use signage as a communication tool to promote cycling and community destinations.

Some examples of wayfinding signage in the Region include:

- Great Lakes Waterfront Trail and Greenbelt Route markers.
- Ajax GO Station directional signage.
- Municipal trail systems and ongoing wayfinding strategies.

### 3.3.3 Accessibility

Bicycle parking should be conveniently located and accessible for all users. Proper attention to these elements ensures that facilities are inclusive and identifiable.

- **Accessible design:** Facilities should follow principles of universal design, accommodating users with varying physical abilities. This includes providing sufficient space for mounting, dismounting, and maneuvering bicycles, as well as for adaptive or cargo bicycles.
- **Adequate clearances:** Clearances around racks should ensure pedestrian clearways and mobility-device routes are uninterrupted. This includes keeping a minimum distance from curb ramps, crosswalks, or accessible entrances.
- **Signage and wayfinding:** Accessible signage should indicate the location of bicycle parking and guide users along safe paths, particularly in large developments or campuses.

### 3.3.4 Lighting and security features

Ensuring safety and visibility in bicycle parking areas is essential for encouraging use and preventing theft or vandalism. Thoughtful design features, such as lighting, surveillance, and access control, improves user comfort, deters theft and tampering, as well as contributes to the overall functionality and appeal of cycling. The following are recommended design features.

**Figure 3.25: Well-lit bicycle parking area outside a building at the University of Waterloo. The space features multiple loop racks arranged in rows under a glass canopy, providing weather protection and visibility at night.**

#### 3.3.4.1 Lighting and visibility enhancements:

- Install lighting to ensure bicycle parking areas are well-lit during evening and nighttime hours at night and free of shadows or blind spots; mirrors can further improve visibility (**Figure 3.25**).
- Use bright colours and highly reflective materials to make bicycle corrals visible in low-lighting conditions.
- Incorporate vertical elements and place corrals near street corners or existing lighting to improve day and night visibility.
- Use lighting to eliminate blind spots and dark corners.
- Place facilities where they are visible from streets, buildings, or public areas to ensure activity is observable by others.

- Avoid placing racks behind landscaping or structures that block visibility.
- Consider glass roofing to allow overhead street lighting to illuminate shelters.
- Consider motion-activated security lighting in tamper-proof casings.

#### 3.3.4.2 Surveillance and emergency features:

- Where applicable, include panic buttons connected to building security for emergency situations.
- For secure indoor parking, restrict access using fobs, keys, smart cards, or mobile apps for authorized users, such as employees and residents.
- Place racks in high-traffic, visible areas near entrances or pedestrian corridors.
- Install security cameras in bicycle parking areas or locate racks within existing camera coverage. Use tamper-proof casings for all equipment.
- Ensure secluded bicycle cages or rooms have surveillance, and in larger complexes, consider monitoring by on-site security personnel.
- Provide signage encouraging use of high-quality locks and securing all bicycle components.

### 3.3.5 Bicycle repair stations

Bicycle repair stations allow cyclists to perform minor adjustments and basic maintenance needs, such as inflating tires, tightening bolts, or tuning gears, without needing to visit a repair shop. They are often equipped with tools like pumps, wrenches, and screwdrivers. It is recommended that bicycle repair stations be installed in high traffic areas, such as:

- Transit facilities.
- Indoor bicycle parking facilities, such as workplaces and residential buildings.
- Post secondary campuses.
- Major trailheads and cycling corridors.
- Public amenities, such as parks, libraries, community centres, recreational complexes.
- Downtown cores and commercial districts.

**Figure 3.26: Examples of bicycle repair amenities. Left: A bicycle pump located at a skate park. Right: A full repair station situated along a park multi-use pathway.**

### 3.3.6 Charging stations

To encourage high-quality, long-term bicycle parking and accommodate the growing use of e-bikes and other electric mobility devices, it is recommended that facilities include charging infrastructure. Providing standard 120-volt outlets with timers within 1.2 metres of parking spaces in secure bicycle rooms and lockers enables users to conveniently recharge their devices while parked. A minimum of 10 per cent of spaces in these facilities should include this feature.

Installing electrical conduits during initial construction is a cost-effective way to prepare for future e-mobility device charging stations. Even if charging units are not installed immediately, providing conduit pathways and power access points minimizes disruption and expense later. This proactive approach supports the growing popularity of e-mobility devices, enables longer commutes, and accommodates a broader range of users. It also offers an opportunity for older or underserved buildings to modernize amenities and attract new residents or customers. Where electric infrastructure is provided, including charging for phones and other small electronics can further maximize convenience and support broader user needs.

To address safety concerns surrounding e-device battery fires, outlets should include timers limited to four to six hours to avoid overcharging and overheating. Additionally, parking facilities that offer chargers should post clear charging rules or have user agreements that outline proper charger use.

At short-term parking, charging outlets may not be widely used since e-device users typically bring their own cords, which are valuable and not usually secured to the device. However, some charging racks with integrated personal chargers are emerging on the market and should be monitored for future consideration.

**What we heard**

E-bike charging was a low priority for engagement participants, with people noting that they feel they can charge their e-bike at home. Only eight per cent of survey respondents highlighted that a lack of e-bike charging was a barrier to cycling.

### 3.3.7 Other end-of-trip facilities

Amenities for cyclists at their destinations that provide somewhere to store personal items and refresh after long commutes encourages commuting via bicycle and provides greater convenience and comfort. Common end-of-trip facilities include:

- Personal lockers
- Changing rooms
- Washrooms
- Showers
- Water bottle refill stations

**What we heard**

People expressed a desire in a range of end-of-trip facilities, including mobile phone and other mobility device charging, lock lending, water bottle refill stations and bicycle repair supplies.

Also growing in popularity are bicycle-accessory vending machines and bicycle cleaning stations. Bicycle showers (**Figure 3.27**) allow cyclists to rinse off their bicycles after a ride, especially in areas where bicycles may get muddy or dusty (such as trails, gravel paths, or mountain biking routes). Bicycle-accessory vending machines are often equipped with small bicycle parts, tools, and snacks making it easy for cyclists needing quick supplies, while bicycle cleaning stations are an amenity found along nature-based cycling trails. For cyclists travelling from father distances, they offer a convenient way to clean their bicycles after a ride.


**Figure 3.27: Example of bicycle shower in Morin Heights, Quebec.**

End-of-trip non-residential sites, like workplaces, post-secondary institutions, and transit stations, encourages cycling for long commuters for active transportation users at their destinations. These are typically considered where five or more long-term bicycle parking spaces are provided. The number of showers should correspond to the amount of long-term parking provided. In particular, showers and changerooms are most relevant in buildings with non-residential uses, while repair and cleaning stations could be encouraged for any development with long-term parking.

All end-of-trip facilities should follow accessibility standards.

### Supplemental elements recommendation

**R3.14** Where feasible, provide 120-volt outlets equipped with timers for e-device charging in long-term parking facilities. A minimum of 10 per cent of spaces in these facilities should include this feature.

**R3.15** Integrate supplemental elements, such as signage, lighting, security, locks, accessibility features, and other end-of-trip amenities, into bicycle parking plans to enhance usability, safety, and inclusivity.

# 4 Operations and maintenance

Reliable bicycle parking depends on more than good design. It requires consistent installation practices, ongoing care, and thoughtful management to ensure facilities remain safe, functional, and welcoming over time. Effective operations and maintenance support long-term durability, reinforce user confidence, and help bicycle parking continue to meet the needs of a growing and diverse cycling community.

Clear responsibilities, practical upkeep strategies, and consideration for seasonal conditions all contribute to facilities that perform well in varied environments and remain accessible throughout the year. This chapter emphasizes the role of operations and maintenance in supporting high-quality bicycle parking across the Region.

## 4.1 Installation and maintenance

Proper installation and ongoing maintenance of bicycle parking facilities is essential to ensure their safety, functionality, durability, and long-term usability. This section provides guidance for installation and maintenance to ensure bicycle racks remain in good condition throughout the year and in a variety of settings.

### 4.1.1 Installation considerations

Bicycle parking facilities should be installed in highly visible or secured locations to discourage damage and tampering, especially for outdoor facilities.

- Installation sites should be prepared in advance to ensure a solid, level foundation for stability and longevity. This includes assessing ground conditions and optimizing grading.
- Bicycle parking facilities should be affixed to hard surfaces, like concrete or asphalt, rather than grass or soil.
- Where bicycle parking facilities are installed on-road or in-boulevard, racks must be outside vehicular travel lanes and maintain the minimum pedestrian clearway.
- The area around bicycle parking should be designed slip-resistant surfaces.
- Align installations with roadway, facility, or redevelopment projects to minimize cost and disruption.
- Maintain records of installations activities to inform regional data collection and evaluation.

#### 4.1.1.1 Site preparation

Before installing bicycle parking facilities, the site should be reviewed and prepared to support the desired facility type:

- **Surface conditions:** Assess ground conditions, such as soil type, compaction, and drainage, to confirm the surface can support the structure without shifting or settling.
- **Grading:** Adjust the slope and level of the ground, if needed, to ensure proper drainage. Poor grading can lead to water pooling, erosion, or uneven surfaces, which can damage the parking facility or create safety hazards.
- **Underground utilities:** Verify that installation will not conflict with utilities, maintenance holes, or service access points.
- **Clearances:** Maintain required pedestrian clearway widths, curb setbacks, and visibility triangles per municipal standards.
- **Lighting and visibility:** Select visible and well-lit locations to enhance safety and deter vandalism or theft.
- **Account for frost**: account for frost heaving by ensuring adequate depth below the frost line and using appropriate base materials to prevent movement during freeze-thaw cycles.

#### 4.1.1.2 Materials and durability

Materials and coatings should withstand local weather conditions and resist corrosion, vandalism, and mechanical wear.

Recommended material options include:

- Hot-dip galvanized steel for corrosion resistance.
- Powder-coated finishes for additional protection and visual consistency.
- Stainless steel for high-durability or indoor environments.

Untreated or painted-only metals in exterior applications should be avoided.

#### 4.1.1.3 Anchoring and affixing methods

Bicycle racks should be affixed to a durable, hard surface to ensure stability and security. There are two common methods for affixing bicycle racks to the ground**:**

- **Surface-mounted racks**: Bolted individually to a hard surface or welded to steel rails, which may be freestanding or bolted down (see **Figure 4.1**).
- **In-ground racks:** Typically embedded in concrete or buried below the surface. They offer a cleaner appearance and are generally more resistant to tampering, but they cannot be easily relocated or replaced.

Where racks are installed on-road or within boulevards:

- Racks must be fully outside vehicular travel lanes and snow storage zones.
- Ensure minimum pedestrian clearway widths are maintained.
- Consider modular surface-mount rails for seasonal removal or reconfiguration.

### Rail-mounted racks

Rail-mounted racks (**Figure 4.1**) allow for clustered installation, easier relocation, and fewer anchor points, reducing surface damage compared to anchoring each rack separately.


**Figure 4.1. Welded steel rail-mounted swerve racks anchored to the ground.**

## 4.1.2 Maintenance of bicycle parking facilities

Routine maintenance extends the life of facilities and maintains user confidence. A consistent inspection and maintenance schedule should be established by the agency that owns the site or property manager.

#### 4.1.2.1 Inspection frequency and checklist

- Integrate bicycle rack inspections and repairs into existing state-of-good-repair programs for sidewalks, street furniture, or transit stops.

- Bicycle parking facilities should be inspected at least twice a year, ideally spring and fall, to ensure they are in working order. Checks should look for:
  - Rust or corrosion, especially at welds and anchor points (refer to **Figure 4.2)**.
  - Cracks, peeling, or damage to coatings or finishes.
  - Loose bolts, missing fasteners, or signs of structural wear.
  - Obstructions (debris, broken or abandoned bicycles, overgrown vegetation).
- Bicycle parking facility placement should not interfere with road or sidewalk maintenance, including street cleaning and snow removal. (See **Chapter 3** for site planning guidance.)
- Materials or coatings should be resistant to vandalism and weather-related deterioration. (See **Chapter 3** for recommended materials.)
- Access to bicycle parking facilities should be kept clear of debris, abandoned or broken bicycles, and other obstructions (**Figure 4.2**).
- Bicycle parking facilities should be cleaned periodically using mild soap and water. Abrasive cleaners should be avoided to prevent damage to finishes.
- Damaged bicycle racks should be repaired or replaced promptly.
- Bicycle parking facility ownership should include clear maintenance responsibilities. Agreements should be in place for privately owned, publicly accessible racks.

**Figure 4.2. Examples of maintenance considerations observed in the Region. Left: A rusting base of a bicycle rack, which may compromise its structural integrity over time. Right: a bicycle rack near a school entrance blocked by temporary fencing panels, limiting its usability and access.**

### Digital tools for streamlining maintenance

Technology can be leveraged to streamline maintenance and identify issues sooner:

- GIS-based or asset management platforms can be used to track the condition, location, and maintenance history of bicycle parking installations to improve planning and resource allocation.
- Incorporating things like QR codes or app-based reporting for bicycle racks allows individuals to quickly report issues.

#### 4.1.2.2 Seasonal and winter maintenance considerations

Proper maintenance during winter months is essential to ensure bicycle parking remains safe, accessible, and functional year-round. Snow and ice accumulation can block access to racks, reduce visibility, and create slip hazards for cyclists and pedestrians. To mitigation techniques include:

- **Snow and ice clearance**: Snow and ice should be removed from around bicycle racks to maintain accessibility and prevent damage. Avoid piling snow directly against racks or shelters.
- **De-icing materials**: Salt should not be applied directly to bicycle racks, as it can accelerate corrosion, especially on galvanized or powder-coated surfaces.
- **Sheltered parking**: Inspect roofs and drainage to prevent ice accumulation or water damage.

**Figure 4.3: Bicycle racks in the winter season, Ottawa.**

## 4.2 Installation and maintenance responsibilities

Bicycle parking planning, installation, and maintenance require coordination among the Region, LAMs, partner agencies, and private developers to ensure consistency, efficiency, and remain fully functional and reliable for users across jurisdictions. Responsibilities vary depending on jurisdiction, ownership, and the type of facility. A high-level overview of who plans, installs, and maintains bicycle parking and how coordination should occur is included below.

**What we heard**

Sometimes it is unclear who is responsible for the installation and maintenance of bicycle parking at each site. Engagement participants expressed a desire for clear guidance on roles and responsibilities related to bicycle parking so that it doesn't get lost in broader development, planning, and operations processes.

Clearly defining these responsibilities helps ensure that bicycle parking facilities are implemented efficiently, maintained effectively, and supported by the appropriate agency and department throughout their lifecycle. The following subsections outline the primary roles of the Region, LAMs, partner agencies, and private developers in planning, installing, and maintaining bicycle parking facilities across different contexts and jurisdictions. **Table 4.1** provides additional info related to maintenance and funding.

### 4.2.1 Regional role

It is recommended that the Region leads the planning, coordination, and delivery of bicycle parking on Regional assets and rights-of-way, with capital expenses associated with parking infrastructure on Regional road rights-of-way to be funded by LAMs. This ensures consistency with regional transportation and active transportation strategies.

**Lead departments:**
Community Growth and Economic Development Department (Transportation Planning), DRT, Works Department (Transportation Infrastructure Design, Rapid Transit and Active Transportation Implementation, Transportation Infrastructure Management and Facilities Management).

**Responsibilities:**

- Plan and prioritize Regional bicycle parking investments in accordance with this guideline.
- Integrate installations into Regional road, transit, and capital projects to maximize efficiency.

- Work with transit operators (e.g., GO Transit, DRT) to improve bicycle parking integration at Regional and local transit hubs.
- Oversee installation and maintenance of bicycle parking at Regional facilities, including DRT stations, terminals, and hubs, and approve the location and design of bicycle parking within Regional rights-of-way.
- Engage municipal partners, developers, community groups, and private site hosts to support bicycle parking implementation and maintenance (bicycle parking is good for business!).
- Coordinate with LAMs to align designs, locations, and maintenance standards.
- Track and monitor installations and condition as part of the Regional asset management system.

### 4.2.2 Local area municipal role

LAMs are currently responsible for funding and maintaining bicycle parking on Regional road rights-of-way (aside from DRT bus stops), LAM lands, and community facilities within their jurisdiction.

**Lead departments:**
Possible lead groups could include staff from: Engineering Services, Planning, Parks and Recreation, Facilities, and Operations.

**Responsibilities:**

- Plan, install, and maintain bicycle parking at civic destinations such as community centres, arenas, libraries, parks, and city halls.
- Coordinate with Regional staff when projects overlap or occur along Regional corridors.
- Integrate bicycle parking into municipal streetscape, facility renewal, and transportation projects.
- Conduct routine inspections, repairs, and seasonal maintenance (e.g., snow removal, debris clearing).
- Maintain installation and maintenance records to support the Regional inventory.

### 4.2.3 Partner agencies and institutions

Partner agencies (e.g., Metrolinx, conservation authorities, hospitals, post-secondary institutions) manage bicycle parking at their own facilities and are encouraged to align with Regional and municipal design guidance.

**Responsibilities:**

- Plan, install, and maintain bicycle parking at agency-controlled sites.

- Coordinate with the Region and LAMs to ensure network integration and consistent wayfinding to support use and integration of bicycle parking facilities where users would benefit most.
- Share data on facility location, type, and usage with the Region to support Regional monitoring and reporting.

### 4.2.4 Private developers and property owners

Developers and private property owners are responsible for providing and maintaining bicycle parking on private lands, typically through development approvals that include TDM requirements or developer-initiated retrofits of existing commercial, industrial or multi-unit residential or mixed-use buildings.

**Responsibilities:**

- Install bicycle parking consistent with municipal zoning by-laws and other municipal guidelines (e.g., TDM guidelines, parking guidelines or green development standards), and this guideline's design standards.
- Ensure facilities are accessible, secure, and conveniently located for users.
- Maintain racks and enclosures to ensure they remain safe, unobstructed, and functional.
- Incorporate long-term maintenance plans into property management or condominium agreements.
- Consider opportunities for shared or publicly accessible bicycle parking where appropriate.

### Table 4.1: Implementation and maintenance roles and responsibilities

| Entity | Primary focus | Typical lead departments | Key responsibilities |
|---|---|---|---|
| **Region of Durham** | • Regional facilities, rights-of-way, DRT bus terminals/stops and strategic coordination. | • Community Growth and Economic Development<br>• Works<br>• DRT<br>• Facilities Management | • Regional planning and prioritization.<br>• Integration with Regional capital projects.<br>• Installation and maintenance at Regional facilities.<br>• Coordination and data tracking. |
| **LAMs** | • Local roads, civic facilities, community destinations. | • Engineering Services<br>• Parks and Recreation<br>• Facilities Management<br>• Operations | • Planning and installation at local facilities.<br>• Integration with municipal capital projects.<br>• Routine maintenance and inspections.<br>• Reporting and inventory updates. |
| **Partner agencies and institutions** | • Provincial transit, education, health, and conservation facilities. | • Agency Facilities/Operations | • Bicycle parking at agency-controlled sites.<br>• Alignment with regional standards.<br>• Data sharing and coordination. |
| **Private developers and property owners** | • Development sites and private lands. | • Development Applicants<br>• Site/Property Management | • Installation through site plan or TDM processes .<br>• Compliance with zoning and design guidelines.<br>• Ongoing maintenance and operation. |

## 4.3 Roles and responsibilities for bicycle parking risk management

Risk management for bicycle parking infrastructure includes liability associated with design, installation, maintenance, accessibility, structural integrity, site conditions, and user safety. Clear assignment of responsibility reduces ambiguity and ensures timely response to hazards.

To support consistent, efficient, and safe bicycle parking across the region, it is essential to clearly define the responsibilities of the Region, LAMs, and key partners throughout the planning, implementation, maintenance, and risk-management lifecycle. The following delineation shown in **Table 4.2** is intended to ensure accountability, streamline decision-making, and promote long-term system reliability.

**Table 4.2: Roles and responsibilities for bicycle parking risk management**

| Entity | Installation and maintenance | Risk or liability |
|---|---|---|
| **Region of Durham** | • Maintains and repairs bicycle parking on Regional property, including DRT bus stops but excluding Regional road rights-of-way. | • Holds risk for: assets on Regional property, accuracy of regional guidelines (not application).<br>• Liable for site conditions, maintenance, and timely repairs. |
| **Local area municipality** | • Installs, inspects, maintains, and repairs bicycle parking on LAM property and inspects, maintains and repairs bicycle parking on Regional road right-of-way, except DRT bus stops.<br>• Snow/ice clearing and hazard response. | • Primary risk holder for all bicycle parking on lower-tier property.<br>• Liable for site conditions, maintenance, and timely repairs. |
| **Private developers and property owners** | • Install and maintain bicycle parking on private property. | • Risk defaults to property owner. |
| **Joint/shared sites** | • Defined in formal agreement (memorandum of understanding (MOU), operating agreement). | • If unclear, risk defaults to property owner. |

**Installation and maintenance recommendations**

**R4.1** Ensure bicycle parking facilities are installed on stable, durable surfaces and anchored securely.

**R4.2** Inspect bicycle parking facilities at least twice a year for rust, corrosion, cracks, loose bolts, etc. Repair or replace damaged racks promptly. Clean racks periodically with mild soap and remove any debris or abandoned bicycles.

**R4.3** Remove snow and ice from around bicycle racks to maintain accessibility and prevent damage. Salt should not be applied directly to bicycle racks.

**R4.4** Integrate bicycle rack inspections and repairs into existing state of good repair programs for sidewalks, street furniture, or transit stops.

**R4.5** Leverage technology, such as GIS-based or asset management platforms, to track condition, location, and maintenance history, and QR codes or app-based tools for quick issue reporting by users.

**R4.6** Engage municipal partners, transit agencies, developers, community groups and private site hosts for implementation and maintenance (bicycle parking is good for business!).

**R4.7** The Region will work with transit operators (e.g., GO Transit, DRT) to improve bicycle parking integration at regional and local transit hubs.

**R4.8** Share maintenance responsibilities with municipalities, transit agencies, and other partners. Establish clear maintenance responsibilities for privately owned publicly accessible racks.

## 4.4 Costing and funding

Understanding the costs associated with bicycle parking helps the Region and its partners plan, budget, and prioritize investments. To ensure these investments are supported throughout their lifecycle, bicycle parking needs should also be integrated into capital and operational budgeting processes for Regional facilities, corridors, and infrastructure projects, so funding is allocated for installation, maintenance, and ongoing management.

### 4.4.1 Costing approach

To evaluate and compare bicycle parking options, costing is typically approached on a per-bicycle basis to estimate the expense per user when comparing different bicycle parking facility types. Cost ranges are informed by comparable installations in similar contexts. Costs are generally influenced by:

- Rack or structure type and materials.
- Installation method (surface vs. in-ground).
- Security and access features (e.g., card entry, cameras).
- Site conditions and supporting infrastructure (e.g., lighting, grading, shelter foundations).
- Quantity ordered (bulk purchasing often lowers unit costs).

**Figure 4.4: Several post-and-ring bicycle racks. These racks can be purchased in bulk to save costs.**

**Key cost driver: purpose of bicycle parking**

The cost of bicycle racks and parking facilities can vary widely depending on the type and intended duration of use. Generally, the shorter the expected parking duration, the lower the cost.

The cost estimates in **Table 4.3** are per unit, and are based on pricing information from several Canadian manufacturers and suppliers, as well as the "Costing of Bicycle Infrastructure and Programs in Canada" study conducted by the Clean Air Partnership.

**Table 4.3: Bicycle parking facility cost per unit**

| Bicycle parking facility | Lowest price/unit | Highest price/unit |
|---|---|---|
| **Post-and-ring/inverted-U** | $120 | $500 |
| **Oversized racks** | $210 | $650 |
| **Bicycle corrals** | $4,200 | $6,000+ |
| **Bicycle shelters** | $2,500 | $8,500 |
| **Vertical/wall-mounted racks** | $400 | $1,000 |
| **Two-tier racks** | $400 | $500 |
| **Bicycle lockers** | $1,500 | $4,000+ |
| **Bicycle cages** | $5,000 | $20,000+ |
| **Enclosed bicycle rooms** | $5,500 | $25,000+ |
| **Bicycle hubs** | $20,000 | $100,000+ |
| **Other fixtures** | **Lowest price/unit** | **Highest price/unit** |
| **Battery charging cabinets** | $200 | $1,400 |
| **Storage cabinets** | $100 | $500 |
| **Repair station**[1] | $1,700 | $9,500 |
| **Washing station** | $4,500 | $54,000+ |
| **Bicycle stairway channel** | $190 | $250+ |
| **Installation**[2] | $100 | $200+ |

[1] Repair stations, such as stands and tools, can often be installed at significantly lower costs through partnerships with local community organizations or private companies. For example, in communities like Scarborough, these partnerships enabled the implementation of stands and tools at much lower costs, ranging from approximately $300 to $500 per unit.

[2] Installation costs are impacted by labour costs, location (urban versus rural), design complexity, and in some cases, permits required.

At the individual bicycle rack level, costs can range from approximately $200 to over $1,000 per unit. Pricing often varies by manufacturer and is influenced by factors such as the materials, mounting type, quantity ordered, capacity or configuration of the facility, customization options like branding, and other specifications such as accessibility features and site-specific conditions. The unit cost ranges presented in **Table 4.3** reflect this variability.

While lower per-unit options can reduce upfront costs, strategic procurement should balance cost efficiency with performance and user needs to ensure investments minimize lifecycle costs and maximize comfort, security, and overall benefit for people who bike. Bulk purchasing is recommended to reduce per-unit costs, especially for standard racks.

For the most up-to-date and accurate costs, it is recommended to consult suppliers directly and request quotes tailored to the specific needs and contexts of each project.

#### 4.4.1.1 Operational costs and considerations

Operational costs for bicycle parking facilities include expenses such as utilities (e.g. lighting, charging, or security systems), staffing, insurance, administrative tasks, contracted cleaning services, and supplies. The magnitude of these costs depends on the type of facility and capacity. For most outdoor racks and corrals, operational costs are negligible. However, secure, enclosed, or high-tech facilities can incur significant operational expenses, particularly for utilities, cleaning, and access control. **Table 4.4** outlines the range of operational costs and key considerations for each type of bicycle parking facility.

Lifecycle cost planning for bicycle parking should account for:

- Expected service life (approximately 10 to 25 years depending on material and exposure).
- Maintenance intervals for coatings or components.
- Replacement or upgrade cycles aligned with capital budgets.

### Table 4.4: Bicycle parking operational cost estimates

| Bicycle parking facility | Operational cost estimate |
|---|---|
| **Standard racks (e.g., inverted-u, post-and-ring)** | Low. ~ $0 to $20 per rack per year if lighting not solar-powered. |
| **Bicycle corrals** | Low. Costs are typically incurred for cleaning and lighting purposes. If illuminated, electricity costs are similar to standard racks. |
| **Vertical/wall-mounted and two-tiered racks** | Low. ~ $0 to $50. Costs are typically incurred for cleaning and maintenance purposes. Additional costs may be associated for moving parts or lift mechanisms for two-tiered racks. |
| **Lockers, cages, enclosed rooms, and hubs** | Moderate to high ($50 to $500 or more). Includes considerations:<br>• Utilities: ~$50 to $200 per year, per facility.<br>• Access Control: key cards, apps, codes, software/services ~$100 to $500 per year.<br>• Staffing (optional): ~$20,000 to $60,000 per year for attendant.<br>• Insurance: varies, may be higher for enclosed or high-value facilities.<br>• Cleaning: if contracted as a daily/weekly service, ~$500 to $2,000 per year for a small facility. |
| **Battery charging cabinets** | • Low (~ $50 per year per cabinet).<br>• Based on electricity consumption for e-bike charging. |
| **Repair stations** | Low. Costs are typically incurred for cleaning and maintenance purposes. Additional costs may be associated for any parts needing replacement. |
| **Washing stations** | Low to moderate (~ $100 to $500 per year). Depends on water and electricity usage automated systems are higher. |
| **Installation** | Not applicable, one-time capital expense, not an ongoing operational cost. |

*Table operational costs based on best practices.*

See **section 5.1.3.1** for guidance on coordinating bicycle parking with capital works projects and its integration with costing and funding.

### 4.4.2 Bicycle parking funding

#### 4.4.2.1 Roles and coordination in funding

The cost of bicycle parking facilities on public lands or within the public right-of-way is typically covered by the municipality (lower or upper tier depending on jurisdiction). In other cases, such as on private property (e.g. new developments), the responsibility falls to the owner or operator of the land or facility being served. This is presented in **Table 4.5.**

The Region should encourage and coordinate joint funding applications with LAMs, conservation authorities, school boards, DRT, and other partners where cross-jurisdictional benefits can be achieved. In addition, the Region should consider providing technical assistance (e.g., letters of support, data, mapping, and benefit analysis) to strengthen partner-led applications.

Maintenance, operating and lifecycle costs for bicycle parking facilities depend on the nature of the facility and its context, and will be assumed by the owner or operator of the facility, with specific costs dependent on the schedule and methods of each operator.

Wherever possible, the Region and its LAMs should seek opportunities to incorporate bicycle parking into broader public works initiatives or leverage private development projects to support new or upgraded facilities for cost-efficiency.

### Table 4.5: Bicycle parking funding responsibility

| Cost category | Region of Durham | Local Area Municipality | Agency or private owners/ developers | Ownership/maintenance considerations |
|---|---|---|---|---|
| **Installation on regional properties and buildings** (buildings owned or leased for regional offices, DRT bus stops, DRT transit terminals on lands owned or leased). | **X** | | | Region installs, owns, and maintains. |
| **Installation on regional rights-of-way** | | **X** | | Region leads design and install for corridor widening or reconstruction projects; LAMs owns and maintains. |
| **Installation on LAM lands** (Municipal road rights-of-way, civic buildings, parks, etc.). | **X** (DRT) | **X** | | Municipality installs, owns, and maintains (except for DRT bus stops). For DRT bus stops, Region owns, installs and maintains on LAM roads. |
| **Installation on private property** Partner agency facilities (e.g., GO stations, universities, hospitals); Private developments and commercial sites. | | | **X** | Agency/property owner installs, owns, and maintains. |
| **Funding via development projects** | | | **X** | Agency/property owner installs, owns, and maintains. |
| **Bulk purchasing opportunities** | **X** | **X** | **X** (if coordinated) | Depends on location of installation and partner agency. |

#### 4.4.2.2 Funding sources and tools

Funding may come from multiple sources including:

- **Municipal capital budgets** (transportation, parks, or public realm programs).
- **Site plan conditions** for private developments.
- **Federal or provincial grant programs** supporting sustainable transportation.
- **Partnerships or sponsorships** (e.g., business improvement areas, transit agencies, or employers).
- **Public–private collaborations** through co-branded shelters or maintenance sponsorships.

It is recommended that the Region monitor and pursue relevant federal and provincial grants, where possible. To support this, the Region's Strategic Initiatives team maintains a centralized inventory of funding opportunities, and these should be shared with LAMs and other partners. **Table 4.6** outlines examples of recent external funding and sponsorship programs that the Region and its partners may wish to pursue to support the implementation of bicycle parking facilities across the region.

As monitoring data and facility inventories evolve, the framework should be revisited to confirm that cost assumptions, funding approaches, and implementation priorities remain responsive to emerging needs and opportunities.

Together, the costing framework and available funding tools provide a foundation for advancing bicycle parking implementation in a coordinated and financially sustainable manner. The intent is to offer high-level guidance that can be refined as opportunities arise, ensuring that future investments are strategically prioritized, cost-effective, and aligned with Regional and municipal capital planning cycles.

**Table 4.6. Examples of potential external funding sources**

| Funding source | Details |
|---|---|
| **Federal Active Transportation Fund/Canada Public Transit Fund**<br>*Government of Canada* | **Purpose:** Supports capital projects like bicycle lanes, trails, and bicycle parking facilities.<br>**Funding available:** Up to 60 per cent of capital costs, design, planning costs, and Indigenous consultation.<br>**Eligibility:** Projects that build or enhance active transportation infrastructure, including storage facilities like bicycle parking.<br>For additional details, refer to: https://housing-infrastructure.canada.ca/trans/index-eng.html |
| **Canada Community-Building Fund (formerly Gas Tax Fund)**<br>*Government of Canada/Association of Ontario Municipalities* | **Purpose**: Funding for strategic investments in infrastructure. The Region and LAMs can allocate these funds toward active transportation infrastructure, including bicycle parking.<br>**Funding available:** Predictable annual allocations through a formula-based funding model.<br>**Eligibility**: Projects that result in the construction, material enhancement or renewal of roads, bridges, tunnels, and active transportation infrastructure.<br>For additional details, refer to: https://www.ontario.ca/page/canada-community-building-fund |
| **Safe and Active School Routes**<br>*Green Municipal Fund* | **Purpose**: Supports LAMs in creating safer, more accessible, and low-carbon routes for children to walk, bicycle, or roll to school.<br>**Funding available**: Up to 50 per cent of eligible costs, up to $125,000.<br>**Eligibility**: Capital projects that improve active transportation and road safety near schools. Bicycle parking may be eligible if part of broader infrastructure improvements.<br>For additional details, refer to: https://greenmunicipalfund.ca/funding/safe-and-active-school-routes |

| Funding source | Details |
|---|---|
| **Enhancing Access to Spaces for Everyone (EASE) Grant**<br>*Ontario Ministry for Seniors and Accessibility* | **Purpose**: Funds small capital projects that make outdoor spaces, buildings, and housing more accessible.<br>**Funding available**: Up to $60,000 per project.<br>**Eligibility**: Projects that include bicycle parking infrastructure, lighting, signage, and wayfinding improvements, if designed to improve accessibility or serve older adults and people with disabilities.<br>For additional details, refer to: https://www.ontario.ca/page/enhancing-access-spaces-everyone-ease-grant |

### Costing and funding recommendations

**R4.9** Integrate bicycle parking needs into capital and operational budgeting processes for Regional facilities, corridors, and infrastructure projects to ensure funding is allocated for installation, maintenance, and ongoing management.

**R4.10** Explore bulk purchasing or procurement frameworks for bicycle parking infrastructure (e.g., standardized racks, shelters, signage) to reduce costs and promote consistency across the region.

**R4.11** Monitor and pursue relevant federal and provincial grants, where possible.

**R4.12** The Region will maintain a centralized inventory of funding opportunities and share timely updates with LAMs and other partners.

**R4.13** The Region should encourage and coordinate joint funding applications with LAMs, conservation authorities, school boards, and transit agencies, and other partners, where cross-jurisdictional benefits can be achieved. The Region should consider providing technical assistance (e.g., letters of support, data, mapping, and benefit analysis) to strengthen partner-led applications.

# 5 Prioritization and planning

As communities expand bicycle networks and invest in supportive facilities, a clear and equitable approach to bicycle parking becomes essential. This chapter provides a practical framework for translating bicycle parking goals into coordinated, equitable, and implementable actions. It introduces methods for prioritizing investments, incorporating equity considerations, establishing parking rates, and aligning regional and local development review. The topics covered in the chapter help to ensure consistent, predictable outcomes across public and private projects and to create bicycle parking that is effective, adaptable and responsive to future needs.

## 5.1 Prioritization framework approach

### 5.1.1 Overview

Building on the installation, costing, maintenance, and funding guidance presented in **Chapter 4**, this section introduces a conceptual framework to guide the strategic rollout of bicycle parking across the region. This framework provides direction on where and when to invest in bicycle parking to achieve the greatest benefit and ensure alignment with available resources and capital planning cycles.

While this approach does not include maps identifying specific locations for bicycle parking or detailed phasing plans, it establishes a methodology that can be applied in future analyses to support evidence-based decision-making. The approach also supports broader implementation and monitoring efforts, as described further in this chapter.

#### Why have a prioritization framework?

A strategic, data-informed approach to bicycle parking helps ensure that resources are directed to locations where they can provide the greatest impact. This proposed framework outlines how priority areas for bicycle parking can be identified and phased over time to support active transportation objectives across the region. The prioritization framework is intended to support the Region's active transportation objectives by:

- Targeting locations with the highest cycling potential.
- Prioritizing areas with the greatest equity needs.
- Focusing investment where infrastructure improvements can remove barriers to cycling.

### 5.1.2 Prioritization framework

Rather than relying solely on current cycling activity, which may under-represent suppressed demand, this framework emphasizes indicators of cycling potential and equitable access. The methodology could further be applied to classify areas into priority zones for types of bicycle parking based on whether the location is prioritized based on origin-based indicators or destination-based indicators.

While a full spatial analysis has not been conducted at this stage, this framework demonstrates how priority areas could be identified to guide phased implementation.

This conceptual approach provides a flexible method for future spatial prioritization exercises, helping the Region identify where bicycle parking investments can deliver the greatest impact while supporting equity and connectivity objectives.

#### 5.1.2.1 Proposed methodology

To operationalize the prioritization framework, a range of spatial and socio-demographic data layers can be compiled to identify where bicycle parking investments would have the greatest impact. By examining indicators of travel demand, land use patterns, and equity considerations, the methodology supports a balanced assessment of bicycle parking needs across the region, with data grouped into potential destination-based and origin-based indicators as outlined below.

**Destination-based indicators**

- Short vehicle trips (under five kilometres) to destinations.
- Bicycle trip destinations (trails, recreational facilities, commercial areas, workplaces).
- Density of businesses and employment.
- Community-based destinations (childcare centres, schools, healthcare facilities, senior residences).
- Transit hubs and terminals.

**Origin-based indicators**

- Existing and forecasted population density.
- Origins of short vehicle trips (under five kilometres).
- Origins of bicycle trips (residential neighbourhoods and residences, short term accommodations).
- Areas with low vehicle ownership rates.

- Equity-focused indicators from Census data measured at the household level (Refer to **section 5.1.2.4**), low-income status, single parent households, and households with members who are recent immigrants).

Prioritization indicators are organized into trip origins and trip destinations due to the different bicycle parking needs that are present at each type of location. Trip origins are typically residential in nature, requiring a greater supply of long-term, secure bicycle parking rather than short-term bicycle parking. Demand for short-term bicycle parking for visitors in residential areas is generally low.

Trip destinations have higher turnover and typically require short-term bicycle parking instead of long-term bicycle parking. Employees will still require long-term secure bicycle parking if they commute by bicycle to work, but many trips will be for purposes of shopping or accessing services. Community-based trips may be very short in nature, such as dropping kids off at daycare or picking up groceries for an elderly family member, requiring short-term bicycle parking solutions.

#### 5.1.2.2 Scoring methodology

To support the prioritization framework, a scoring system was developed using a quantile approach. Each indicator was divided into five equal groups (quintiles), and each geography was assigned a score based on the quintile in which it fell. This approach helps compare areas fairly, even when indicators vary widely across the region. The scoring is demonstrated in **Table 5.1**.

**Table 5.1: Scoring method**

| Quintile | Scoring |
|---|---|
| **1 (bottom 20 per cent of observations)** | 0.2 |
| **2** | 0.4 |
| **3** | 0.6 |
| **4** | 0.8 |
| **5 (top 20 per cent of observations)** | 1.0 |

In certain cases, an indicator may have had some non-zero values. When this occurred, all zero-value areas were given a score of zero, and the remaining non-zero values were divided into four groups (quartiles) and scored at 0.25, 0.5, 0.75, and 1.0. For example, for equity-related indicators such as the population density of recent immigrants, many rural dissemination areas had a value of zero. These areas were assigned a score of zero, while the rest were scored in 0.25 increments.

After each indicator was scored individually, the results were averaged within each category for destination-based cycling potential, origin-based cycling potential, and equity-based transportation need.

#### 5.1.2.3 Classification of priority zones

Applying the scoring methodology could allow areas to be conceptually classified into priority zones. These zones can help illustrate where bicycle parking may have the greatest impact, based on based on cycling potential, equity considerations, and proximity to key destinations. Through this approach areas could be classified as:

- **High priority zones**: Locations with high cycling potential and equity need, typically with existing or planned cycling infrastructure.
- **Medium priority zones**: Areas with moderate cycling potential and/or equity need, but fewer equity indicators or existing infrastructure available.
- **Emerging zones**: Locations with limited current demand but potential for future development or planned active transportation corridors.

These classifications can be informed by key categories of indicators:

- **Destination-based cycling potential**: Number of short vehicle trips (less than five kilometres) with destinations in traffic zone, number of cycling trips with destinations in traffic zone, density of businesses, density of jobs, number of caregiving destinations (childcare centres, schools, healthcare, seniors homes), areas planned for employment intensification.
- **Origin-based cycling potential**: Population density, number of short vehicle trips (less than 5 kilometres) with origin in traffic zone, number of cycling trips with destinations in traffic zone, areas planned for residential intensification.
- **Equity-based transportation need/transportation poverty**: At the household level, including low-income status, recent immigrants, low high school completion rates, high density of single-mother households, high density of individuals with indigenous identity, high density of youth population, high density of senior population.

#### 5.1.2.4 Equity considerations

Equity analysis is integrated into the framework to ensure bicycle parking investments improve mobility options for residents who are likely to experience transportation poverty or systemic barriers. Areas identified through equity indicators, such as higher population densities of low-income households, recent immigrants, or seniors, could be elevated in prioritization scoring to ensure early investments deliver social and economic benefits, even where cycling activity is currently low.

Similarly, the prioritization indicators also consider the types of trips that are more commonly made by women, since these types of trips have historically been of less focus in transportation planning. Caregiving and community-based trips to locations such as daycares, schools, and seniors care homes are more often completed by women who also tend to engage in more trip chaining, connecting to multiple destinations along a trip. Prioritizing short-term bicycle parking at these locations can better support these trip patterns and contribute to improving gender equity in cycling infrastructure.

#### 5.1.2.5 Prioritization maps

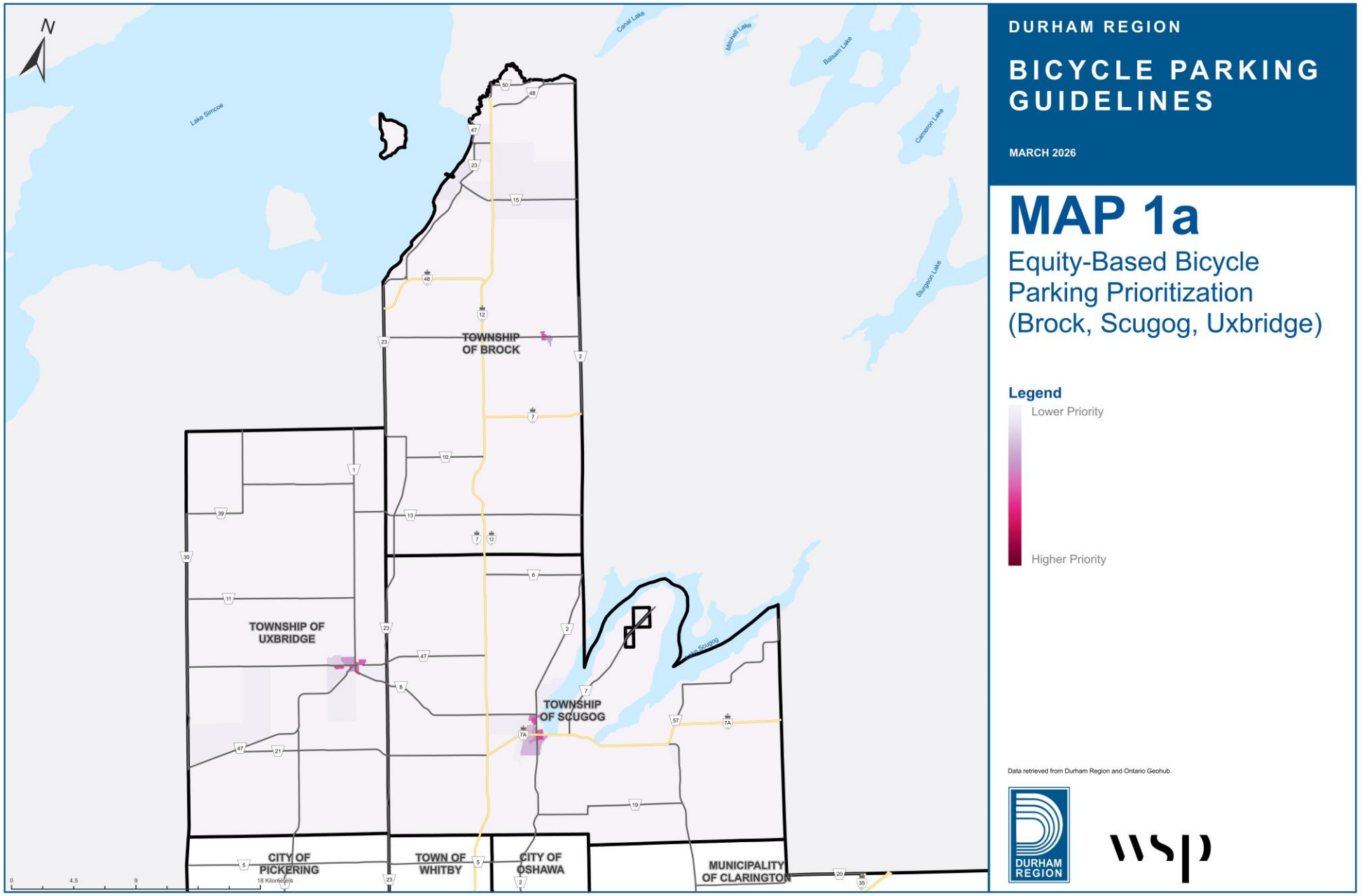
The following prioritization maps were developed from the framework to illustrate the priority for bicycle parking, based on destination, origin and equity indicators. The purpose of these maps is to inform a starting point for the Region and LAMs to understand the priority levels within their jurisdiction.

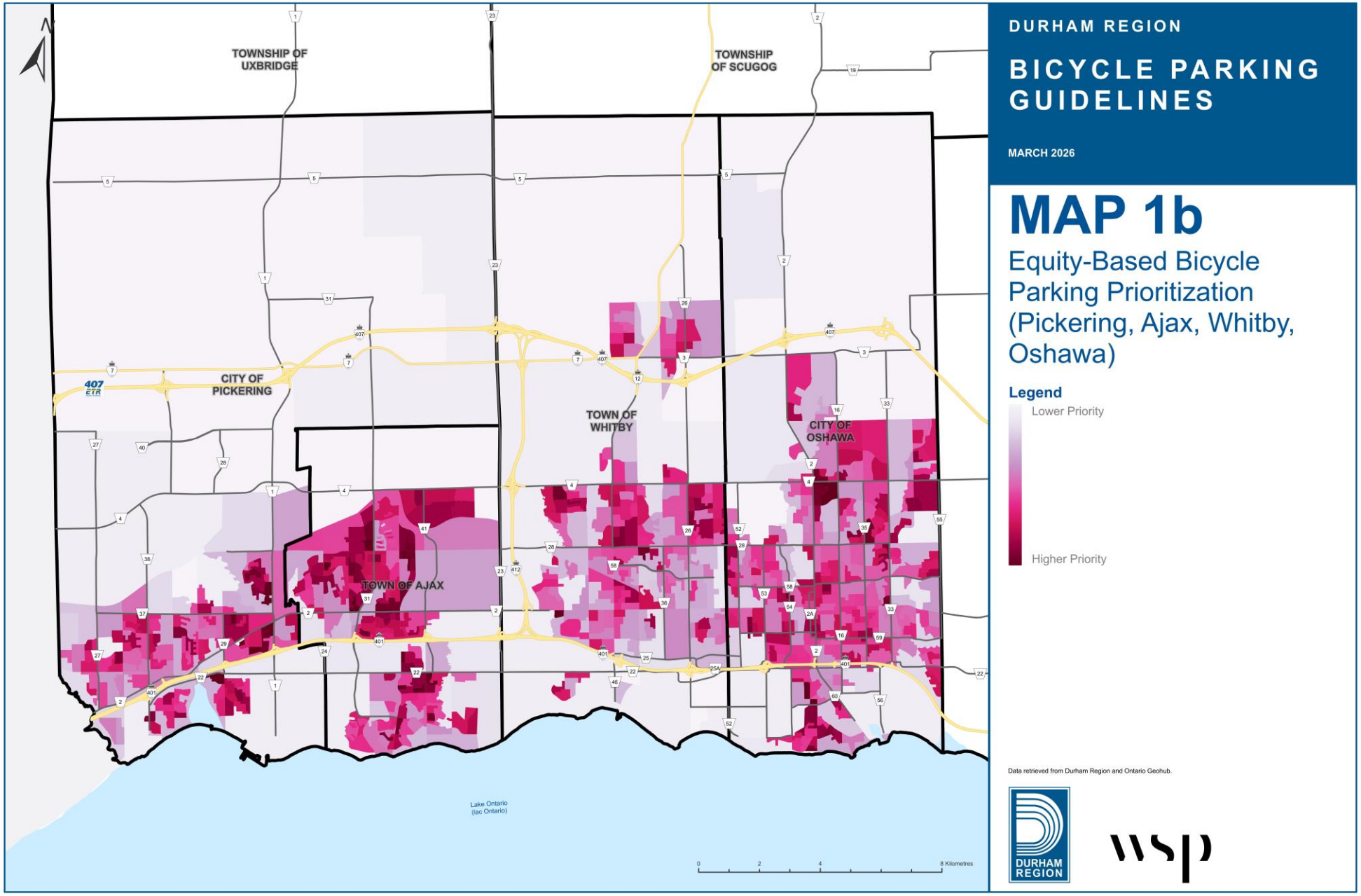
The following maps show the prioritization areas for each of the indicator categories for destinations, origins, and equity. Each indicator category can represent a different priority for bicycle parking. In high priority origin areas, there is a higher need for long-term secure bicycle parking to support active transportation trips. In high priority destination areas, there is a higher need for short-term bicycle parking. High priority equity areas may have a higher need for both types of bicycle parking, but may also have a greater need in general for affordable transportation options and secure bicycle parking due to the financial impacts of having a bicycle stolen.

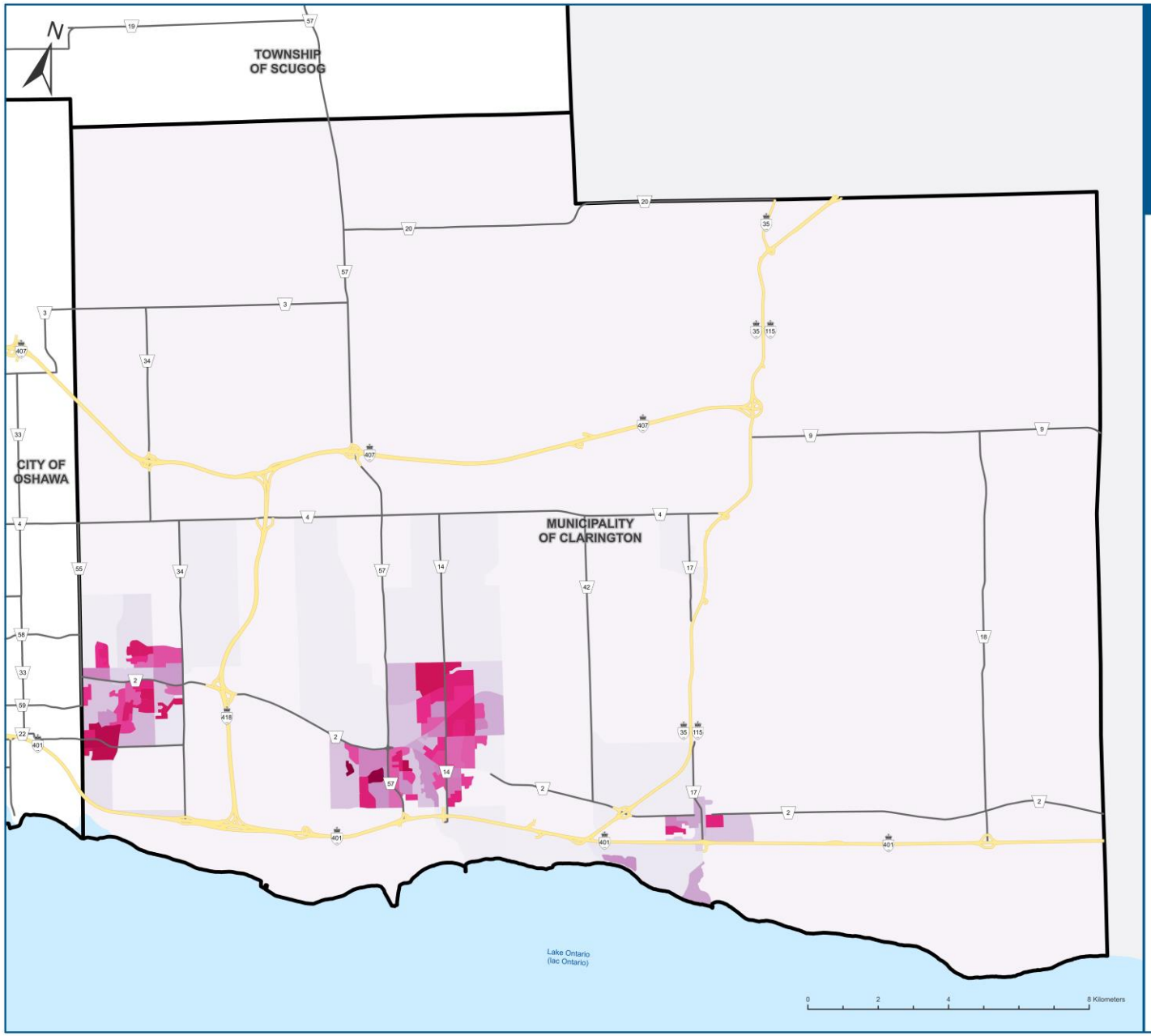
Through the analysis of the following maps, several high priority areas for each category were identified. LAMs may refer to the maps for more detailed locations for priority areas. General priority areas for each category include:

- **Origin-based priority areas**: Pickering south of Sheppard Avenue and west of Whites Road, central west parts of Ajax, west of Whitby harbour, central Whitby neighbourhoods, Brooklin west of Baldwin Street, east of downtown Oshawa, Southwest Courtice, Newcastle, downtown Port Perry, and Uxbridge south of Brock Street.
- **Destination-based priority areas**: Ajax south of Highway 401 from Church Street South to Harwood Avenue South, downtown Oshawa near King and Simcoe, North Oshawa near Taunton and Harmony, downtown and east Bowmanville, downtown Port Perry, and Uxbridge south of Brock Street.
- **Equity-based priority areas**: East Pickering, central and south parts of Ajax, north parts of Whitby and Oshawa near Taunton Road, South Oshawa, Southwest Courtice, and southwest and north parts of Bowmanville.

In general, higher priorities for origins are found where there are newer developments and higher population densities and where neighbourhoods are closer to major destinations. Higher priorities for destinations are found in areas with higher densities of businesses or where there are high concentrations of schools within a traffic zone. Patterns for equity priority areas are strongly influenced by demographic trends, which should be monitored as new census data becomes available.


N
Lake Simcoe
Canal Lake
Mitchell Lake
Balsam Lake
Cameron Lake
Sturgeon Lake
Lake Scugog
TOWNSHIP OF BROCK
TOWNSHIP OF UXBRIDGE
TOWNSHIP OF SCUGOG
CITY OF PICKERING
TOWN OF WHITBY
CITY OF OSHAWA
MUNICIPALITY OF CLARINGTON
0
4.5
9
18 Kilometers
DURHAM REGION
BICYCLE PARKING GUIDELINES
MARCH 2026
MAP 1a
Equity-Based Bicycle Parking Prioritization (Brock, Scugog, Uxbridge)
Legend
Lower Priority
Higher Priority
Data retrieved from Durham Region and Ontario Geohub.
DURHAM REGION
wsp


TOWNSHIP OF UXBRIDGE
TOWNSHIP OF SCUGOG
CITY OF PICKERING
TOWN OF WHITBY
CITY OF OSHAWA
TOWN OF AJAX
Lake Ontario
(lac Ontario)
0 2 4 8 Kilometres
DURHAM REGION
BICYCLE PARKING GUIDELINES
MARCH 2026
MAP 1b
Equity-Based Bicycle Parking Prioritization (Pickering, Ajax, Whitby, Oshawa)
Legend
Lower Priority
Higher Priority
Data retrieved from Durham Region and Ontario Geohub.
DURHAM REGION
wsp




DURHAM REGION

# BICYCLE PARKING GUIDELINES

MARCH 2026

## MAP 1c

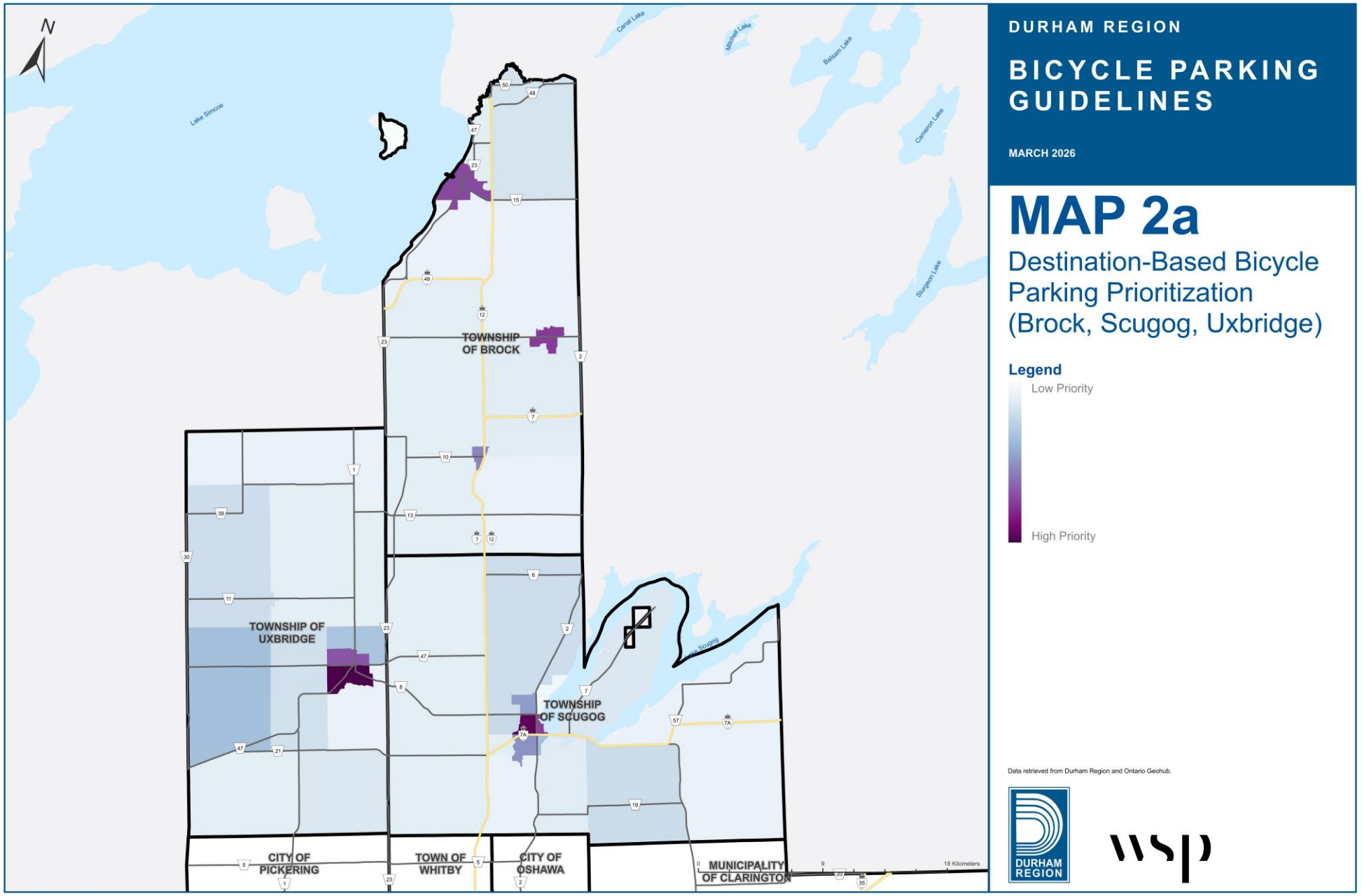
Equity-Based Bicycle Parking Prioritization (Clarington)

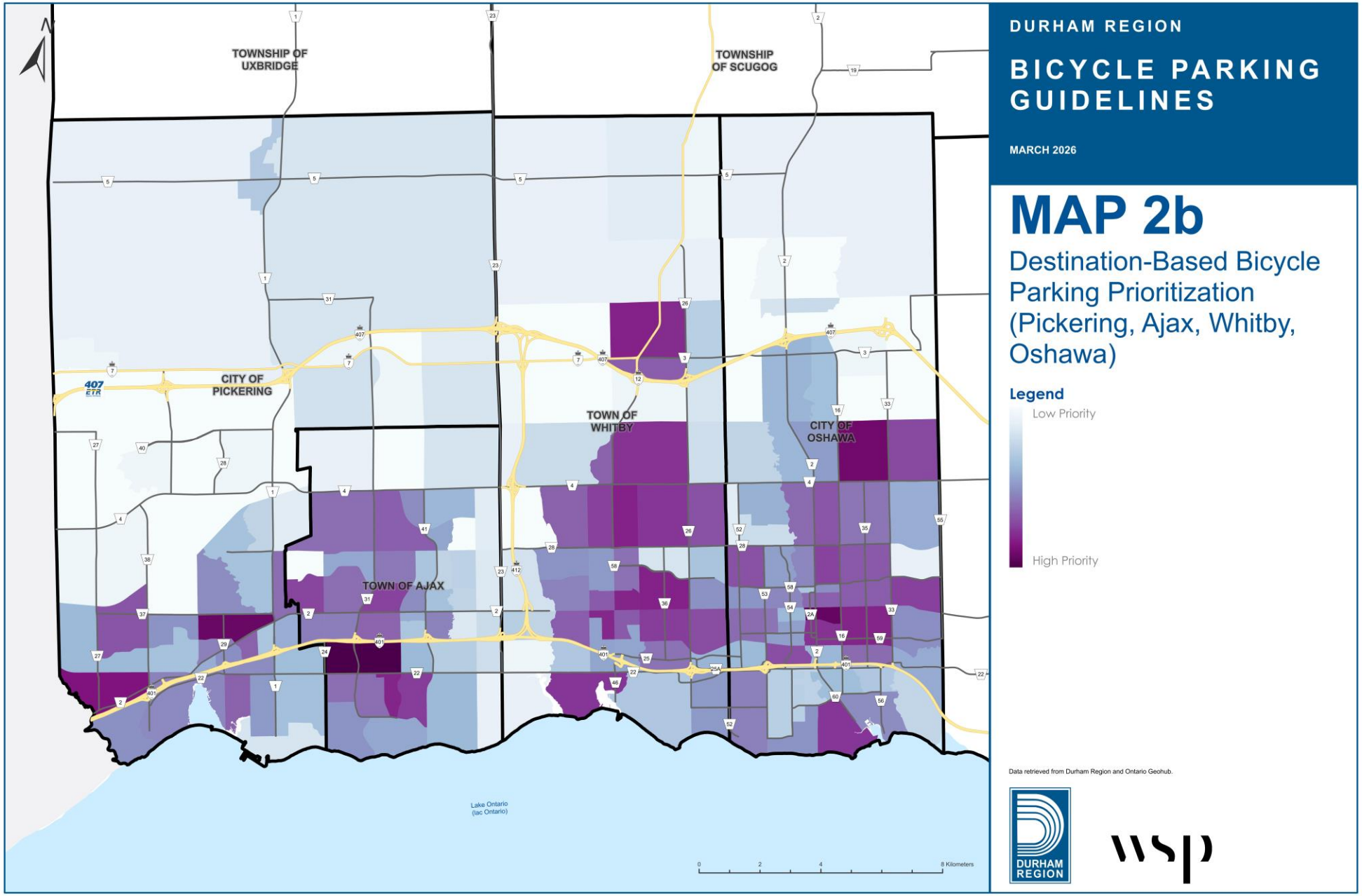
**Legend**

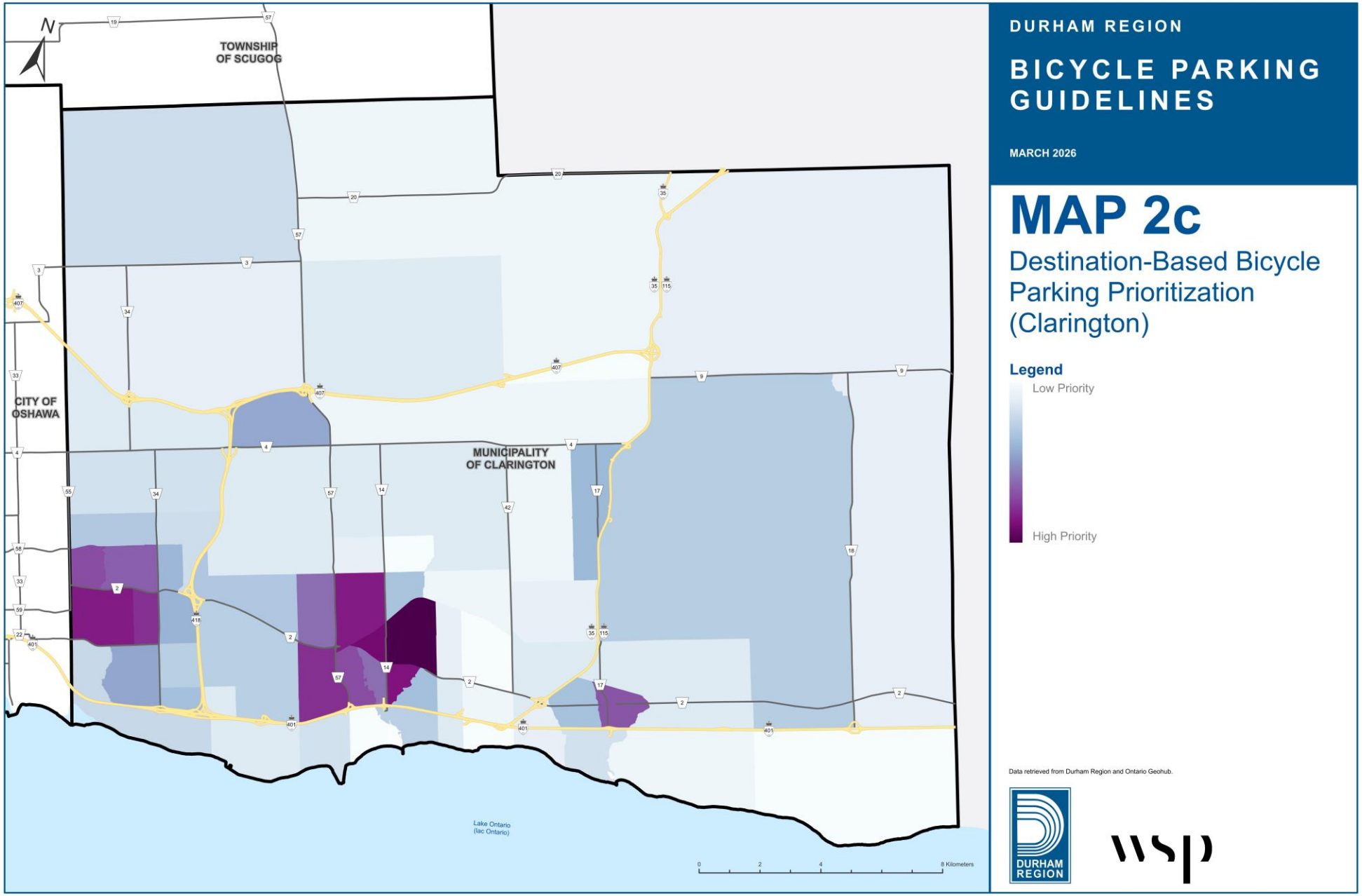
Lower Priority

Higher Priority

Data retrieved from Durham Region and Ontario Geohub.


N
Lake Simcoe
Canal Lake
Mitchell Lake
Balsam Lake
Cameron Lake
Sturgeon Lake
Lake Scugog
TOWNSHIP OF BROCK
TOWNSHIP OF UXBRIDGE
TOWNSHIP OF SCUGOG
CITY OF PICKERING
TOWN OF WHITBY
CITY OF OSHAWA
MUNICIPALITY OF CLARINGTON
0 9 18 Kilometers
DURHAM REGION
BICYCLE PARKING GUIDELINES
MARCH 2026
MAP 2a
Destination-Based Bicycle Parking Prioritization (Brock, Scugog, Uxbridge)
Legend
Low Priority
High Priority
Data retrieved from Durham Region and Ontario Geohub.
DURHAM REGION
wsp


TOWNSHIP OF UXBRIDGE
TOWNSHIP OF SCUGOG
CITY OF PICKERING
TOWN OF WHITBY
CITY OF OSHAWA
TOWN OF AJAX
Lake Ontario
(lac Ontario)
0
2
4
8 Kilometers
DURHAM REGION
BICYCLE PARKING GUIDELINES
MARCH 2026
MAP 2b
Destination-Based Bicycle Parking Prioritization (Pickering, Ajax, Whitby, Oshawa)
Legend
Low Priority
High Priority
Data retrieved from Durham Region and Ontario Geohub.
DURHAM REGION
wsp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TOWNSHIP OF SCUGOG
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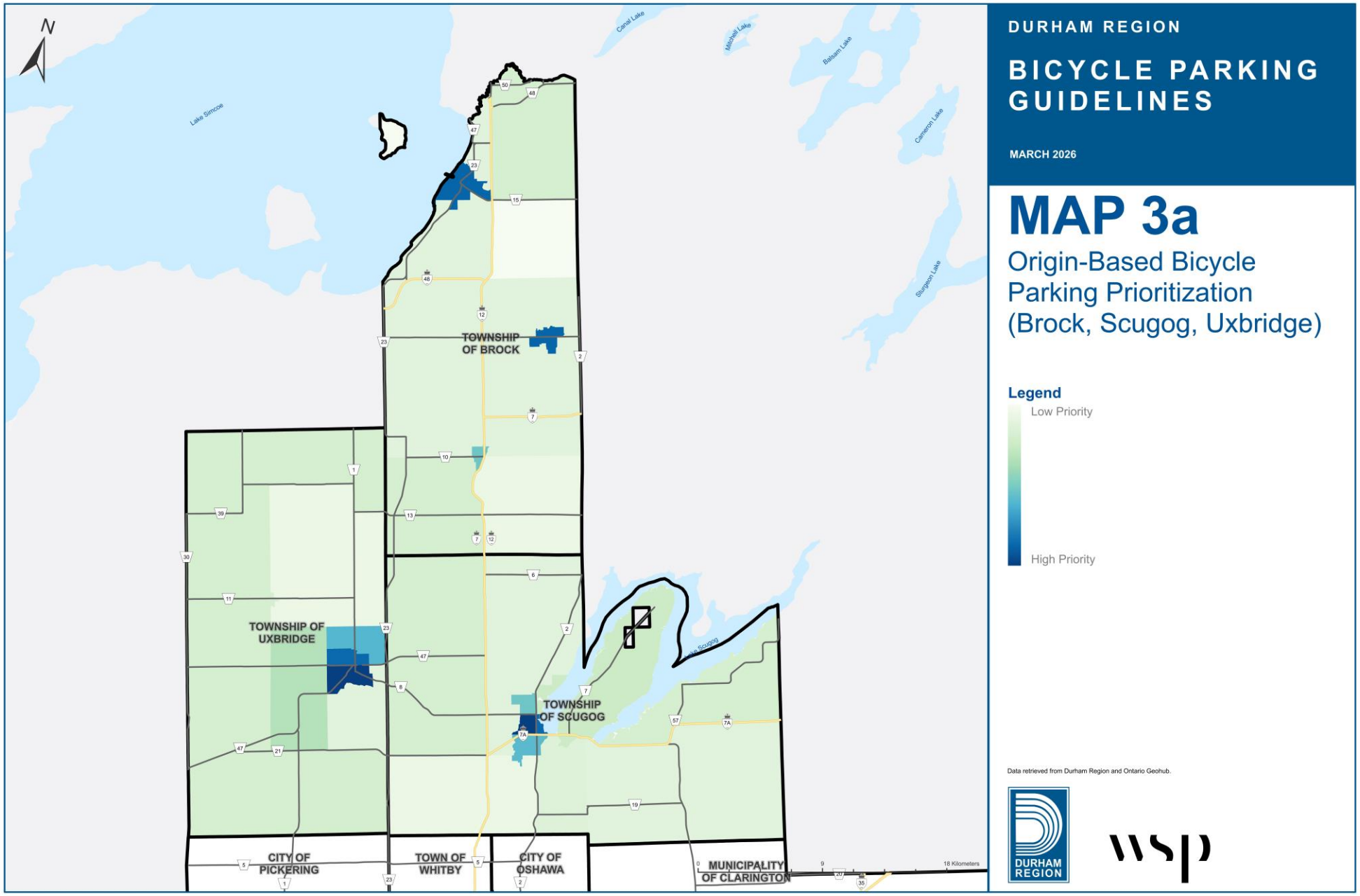
Lake Ontario
(lac Ontario)
0 2 4 8 Kilometers
DURHAM REGION
BICYCLE PARKING GUIDELINES
MARCH 2026
MAP 2c
Destination-Based Bicycle Parking Prioritization (Clarington)
Legend
Low Priority
High Priority
Data retrieved from Durham Region and Ontario Geohub.
DURHAM REGION
wsp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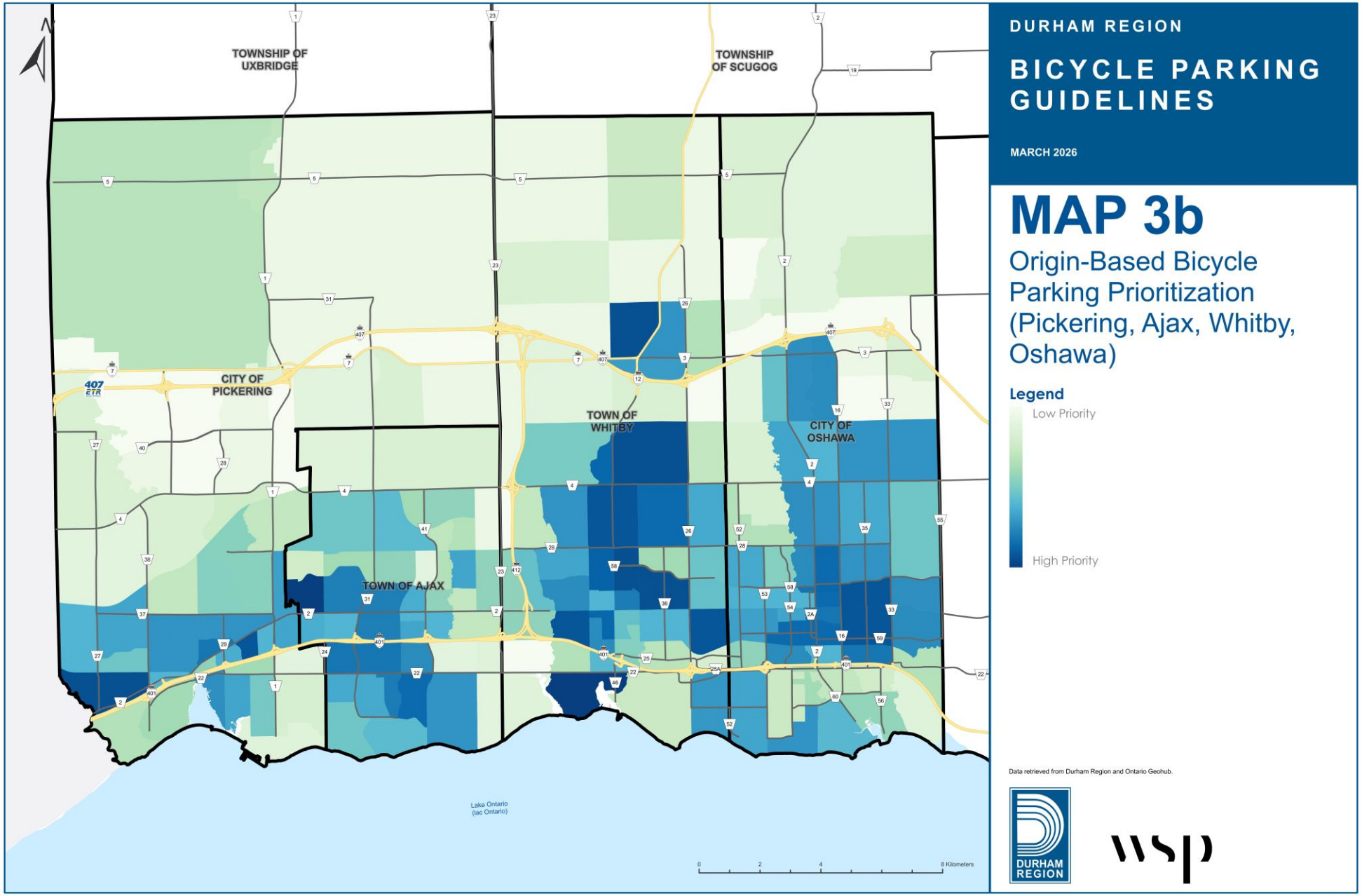
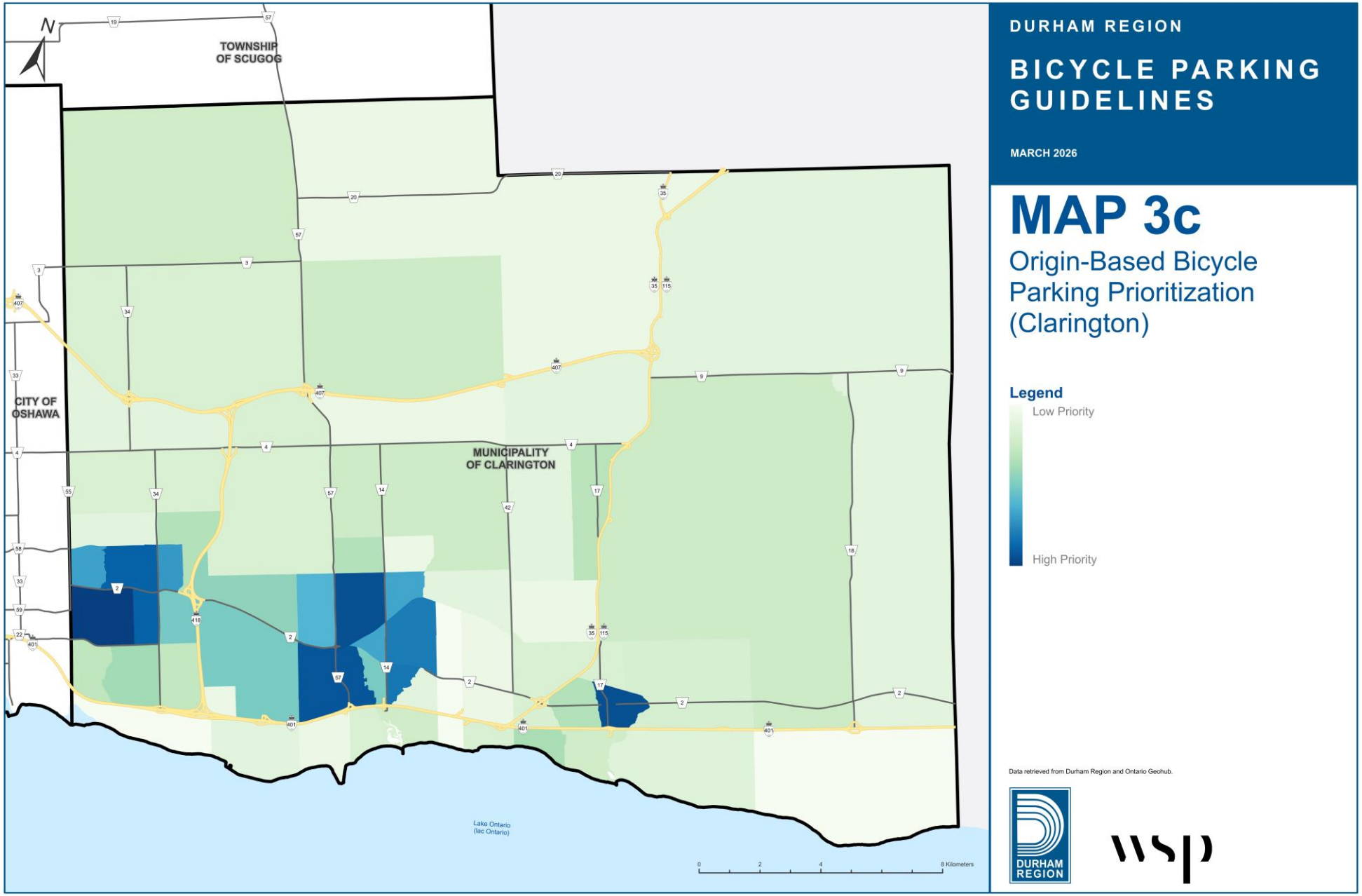
Lake Simcoe
Canal Lake
Mitchell Lake
Balsam Lake
Cameron Lake
Sturgeon Lake
Lake Scugog
TOWNSHIP OF BROCK
TOWNSHIP OF UXBRIDGE
TOWNSHIP OF SCUGOG
CITY OF PICKERING
TOWN OF WHITBY
CITY OF OSHAWA
MUNICIPALITY OF CLARINGTON
18 Kilometers
DURHAM REGION
BICYCLE PARKING GUIDELINES
MARCH 2026
MAP 3a
Origin-Based Bicycle Parking Prioritization (Brock, Scugog, Uxbridge)
Legend
Low Priority
High Priority
Data retrieved from Durham Region and Ontario Geohub.
DURHAM REGION
wsp


TOWNSHIP OF UXBRIDGE
TOWNSHIP OF SCUGOG
CITY OF PICKERING
TOWN OF WHITBY
CITY OF OSHAWA
TOWN OF AJAX
Lake Ontario
(lac Ontario)
0 2 4 8 Kilometers
DURHAM REGION
BICYCLE PARKING GUIDELINES
MARCH 2026
MAP 3b
Origin-Based Bicycle Parking Prioritization (Pickering, Ajax, Whitby, Oshawa)
Legend
Low Priority
High Priority
Data retrieved from Durham Region and Ontario Geohub.
DURHAM REGION
wsp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MUNICIPALITY OF CLARINGTON
Lake Ontario
(lac Ontario)
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DURHAM REGION
BICYCLE PARKING GUIDELINES
MARCH 2026
MAP 3c
Origin-Based Bicycle Parking Prioritization (Clarington)
Legend
Low Priority
High Priority
Data retrieved from Durham Region and Ontario Geohub.
DURHAM REGION
wsp

### 5.1.3 Conceptual phased implementation plan

The conceptual phased implementation plan provides a roadmap for deploying bicycle parking over time, reflecting differences in site readiness, cost, infrastructure complexity, and funding availability. A phasing plan is meant to be flexible, allowing for adjustments based on evolving data, priorities, and emerging opportunities.

It is proposed that the phases of implementation be guided by three primary considerations:

1. **Priority level:** Areas scoring highest in the prioritization analysis (e.g., dense, high-demand, or equity-priority zones) would be considered for earlier phases.
2. **Feasibility and readiness:** Sites with available public right-of-way space or coinciding capital works would be easier and more cost-effective to implement early.
3. **Facility complexity:** Simpler surface-mounted racks could be installed quickly, while secure or indoor facilities may require planning, partnerships, and construction coordination.

Given the current availability of public facility inventories (libraries, community centres, municipal offices, etc.), initial phases of implementation could focus on these sites, where the Region and LAMs have control over upgrades. This approach ensures that early actions can be highly visible, feasible, and impactful.

Future phases could expand to partnership sites or development-driven installations coordinated through development review and TDM processes. This approach allows implementation to evolve as additional data and opportunities become available.

**Table 5.2** outlines conceptual short, medium, and long-term phases of implementation, focus areas, suggested bicycle parking facility types, and key actions. It is intended to be used as a template for future application rather than a finalized plan.

**Table 5.2: Conceptual phases of implementation**

| Phase | Timeframe | Focus areas | Typical facility types | Key actions |
|---|---|---|---|---|
| **Phase 1: early actions** | Short-term (one to two years) | High-priority zones with strong cycling potential or equity need. | Temporary racks/corrals quick-install public racks. | Low-cost, visible installations leverage existing right-of-way space or public property. |
| **Phase 2: network integration** | Medium-term (three to five years) | Areas with planned cycling network expansion, municipal centres. | Permanent racks in boulevards covered shelters. | Coordinate with road reconstruction or streetscape projects. |
| **Phase 3: secure and long-term parking** | Long-term (five or more years) | Higher-density nodes, transit hubs, employment clusters. | Enclosed/secure facilities long term bicycle parking. | Integrate with redevelopment and major capital projects. |

#### 5.1.3.1 Implementation guidance

**Integration with capital works**

Whenever possible, new bicycle parking installations should be strategically coordinated with other capital infrastructure projects, such as roadway improvements or development projects, to maximize efficiency and minimize cost. It is important to consider:

- **Timing alignment:** Schedule bicycle parking construction to coincide with road resurfacing, sidewalk reconstruction, or major development phases to reduce duplication of mobilization and labor costs.
- **Minimize disruption:** Coordinating with other projects reduces repeated closures or disruptions for residents and businesses.
- **Shared resources:** Leverage existing crews, equipment, and traffic management plans from the primary project to streamline implementation.

## Integration with costing and funding

Unit costs are essential for linking prioritization to budgeting and capital planning. Each phase of implementation can be costed using unit rates (see **Table 4.3**) applied to the anticipated quantity and type of racks or facilities. This approach provides practical guidance for integrating bicycle parking into capital projects and regional or municipal planning.

Key considerations include:

- **Allocation of costs**: Costs should be allocated according to ownership and site type. For example, Regional facilities (transit hubs, Regional buildings, etc.) would be budgeted by the Region, while LAM facilities (community centres, parks, main streets, etc.) would be budgeted by LAMs.
- **Unit costs and bulk planning:** Applying standardized unit rates (which can be converted into per bicycle rates) helps inform bulk purchasing decisions, installation planning, and maintenance responsibilities, ensuring cost-effectiveness across multiple sites.
- **Funding support:** Linking prioritization and phased implementation to unit cost estimates strengthens funding applications by demonstrating readiness, prioritization rationale, and equity considerations.
- **Illustrative approach:** For each conceptual phase, practitioners could estimate the total cost by multiplying the number of proposed racks or facilities by the unit cost in **Table 4.3**. This provides a high-level cost envelope that can be refined during detailed project planning.
- **Integration with lifecycle costs:** Future implementation should consider incorporation of maintenance and lifecycle costs into annual operations budgets to ensure long-term functionality.

## Other implementation considerations

The following considerations can help support the phased implementation of bicycle parking:

- **Early integration:** Incorporating bicycle parking into site plans early in the design process to ensure compatibility with adjacent infrastructure and avoid costly retrofits.
- **Equity integration:** Areas with high equity needs should be prioritized in early phases, even if cycling demand is currently low.
- **Annual review and coordination:** Prioritization and phasing of bicycle parking should be reviewed annually with LAMs to align with local capital works and development schedules.

- **Flexibility:** Phasing should be adaptable, responding to monitoring data (see **section 5.6**), user feedback, and emerging priorities.
- **Communications:** Early installations should be promoted to build visibility and encourage cycling uptake. See more information on communications campaigns in **section 5.5.6.**

By combining practical guidance on facility types, siting, and lifecycle considerations with a conceptual prioritization and phased implementation strategy, the Region can make informed, strategic investments that maximize impact. The integration of unit cost estimates and high-level budgeting guidance ensures that bicycle parking planning aligns with capital planning cycles and supports funding opportunities.

Together, these elements provide a flexible, data-informed approach that can adapt to evolving needs, new development, and monitoring outcomes, setting the foundation for successful implementation and ongoing support of the Region's active transportation objectives.

### Prioritization framework recommendations

**R5.1** Adopt a data-driven prioritization framework that classifies areas into priority zones to guide bicycle parking investments, support phased implementation, and ensure equitable access to bicycle parking.

**R5.2** Use travel behaviour and trip data (e.g., cycling counts, transit access, school travel patterns, and short-trip analysis) to identify and prioritize new installation locations where demand and access potential are highest.

**R5.3** Align bicycle parking installation to coincide with other capital works and development projects to reduce costs, minimize disruptions for residents and businesses, and leverage shared resources.

**R5.4** Integrate unit cost estimates and lifecycle costs into planning to strengthen budgeting and funding applications.

**R5.5** Review prioritization and phasing annually with municipal partners to maintain flexibility and respond to new data and emerging opportunities.

## 5.2 Bicycle parking supply

Bicycle parking should meet current demand while allowing capacity for future growth. Recommended minimum bicycle parking supply typically vary by land use type, such as residential, commercial, institutional, or recreational, and are often based on the number of units or gross floor area (GFA) of a building.

For mixed-use developments, bicycle parking supply is calculated by applying the appropriate minimums to each land use type and summing the totals.

**Table 5.3** and **Table 5.4** provide recommended minimum bicycle parking supply standards for residential and non-residential land uses. These serve as a baseline however, actual demand will depend on factors such as land use, density, cycling infrastructure, the built environment, road networks, and overall bicycle travel patterns. Therefore, these minimums should be treated as guidance and adjusted to reflect local context, with flexibility to exceed minimums where necessary to meet community needs.

In larger bicycle parking facilities or locations with high demand, regardless of land use, at least five per cent of spaces should be provided to accommodate larger bicycles, such as cargo bicycles and adaptive bicycles. Clear signage or pavement markings are recommended to identify these designated areas and distinguish them from standard bicycle parking.

### Table 5.3: Suggested residential bicycle parking supply minimums

| Building use | Building type | Short-term spaces | Long-term spaces |
|---|---|---|---|
| **Residential** | Single family dwelling | • No short-term spaces required. | • No long-term spaces required. |
| **Residential** | Multi-family dwelling | **With private garage for each unit:**<br>• No long-term spaces required.<br>• One short-term space for each 30 dwelling units. Minimum is four short-term spaces.<br>**Senior housing:**<br>• One short-term space for each 40 dwelling units.<br>• Minimum is four short-term spaces. | **With private garage for each unit:**<br>• No long-term spaces required.<br>**Without private garage for each unit:**<br>• One long-term space for each two dwelling units. Minimum is two long - term spaces.<br>**Senior housing:**<br>• One long-term space for each two dwelling units.<br>• Minimum is four long-term spaces. |

Notes: Typical parking supply minimums based on Association of Pedestrian and Bicycle Professionals (APBP), Town of Ajax, and City of Mississauga

### Table 5.4: Suggested non-residential bicycle parking supply minimums

| Building use | Building type | Short-term spaces per 1,000 m² | Long-term spaces per 1,000 m² |
|---|---|---|---|
| **Cultural/ recreational** | Non-assembly cultural (library, government buildings, etc.) | • Four spaces per 1,000 m²<br>• Minimum is four spaces. | • One space per 1,000 m².<br>• Minimum is two spaces. |
| **Cultural/ recreational** | Assembly (theaters, parks, sports/recreation centre/complex, beaches, etc.) | • One space per 1,000 m²<br>• Minimum is 10 spaces. | • One space per 1,000 m².<br>• Minimum is two spaces. |
| **Cultural/ recreational** | Place of worship or other religious use | • One space per 1,000 m².<br>• Minimum is four spaces. | • One space per 1,000 m².<br>• Minimum is two spaces. |

| Building use | Building type | Short-term spaces per 1,000 m² | Long-term spaces per 1,000 m² |
|---|---|---|---|
| **Healthcare** | Hospital | • 0.2 space per 1,000 m².<br>• Minimum is four spaces. | • 0.5 space per 1,000 m².<br>• Minimum is two spaces. |
| **Healthcare** | Medical office or other health care | • One space per 1,000 m².<br>• Minimum is four spaces. | • One space per 1,000 m².<br>• Minimum is two spaces. |
| **Manufacturing and industrial** | Manufacturing and Industrial | • 0.5 spaces per 1,000 m².<br>• Minimum is four spaces. | • 0.7 spaces per 1,000 m².<br>• Minimum is four spaces. |
| **Education** | Public or private elementary, middle, junior high and high schools | • Three spaces for each classroom.<br>• Minimum is 10 spaces. | • One space per 1,000 m².<br>• Minimum is two spaces. |
| **Education** | Colleges and universities | • 12 spaces per 1,000 m².<br>• Minimum is 20 spaces. | • 10 spaces per 1,000 m².<br>• Minimum is four spaces. |
| **Transportation** | Rail/bus terminals and stations | • Spaces for 1.5 per cent of a.m. peak period daily ridership. | • Spaces for five per cent of projected a.m. peak period daily ridership. |
| **Commercial** | Entertainment, retail, etc. | • Three spaces per 1,000 m². | • 1.5 spaces per 1,000 m². |
| **Commercial** | General office | • 1.5 spaces per 1,000 m² or short-term bicycle parking for 7.5 per cent of peak visitors.<br>• Minimum is four spaces. | • Long-term bicycle parking spaces for 10 per cent of employees. |
| **All other non-residential uses** | | • 0.05 spaces per 1,000 m². | • 0.05 spaces per 1,000 m². |

Notes: Typical parking supply minimums based on APBP, Town of Ajax, and City of Mississauga.

**Bicycle parking supply recommendation**

**R5.6** Consider using minimum bicycle parking rates by land use type as a baseline, while allowing flexibility to adjust for local context and future growth. Where possible, exceed minimums to better meet community needs.

## 5.3 Design for evolving needs

### 5.3.1 Future proofing bicycle parking

To accommodate evolving transportation trends, bicycle parking facilities should be designed with flexibility for future needs. Future-proofing ensures that investments remain relevant as cycling modes diversify and electrification becomes more common. The following should be considered to ensure things are future-proofed:

- Allocate space for larger bicycles, including cargo bicycles, adaptive cycles, and e-bikes.
- Integrate infrastructure for emerging technologies, such as electric charging stations, sensors, or digital systems for real-time usage monitoring.
- Install electrical conduits during initial construction to enable future power access points and minimize disruption and expense later.
- Plan for anticipated growth and demand, ensuring capacity and layout can adapt as cycling volumes increase and new micromobility options emerge.

### 5.3.2 Retrofitting existing buildings

Retrofitting older and existing buildings to include bicycle parking is an effective way to meet growing demand for bicycle parking in places where facilities were not originally provided. Many older buildings were built before bicycle parking was a standard practice and often lack dedicated parking areas or ramps to make indoor bicycle storage feasible. Providing secure, accessible parking nearby can improve convenience and support more equitable access for cyclists.

Given most buildings were not designed with bicycle parking in mind, retrofits often require creative use of existing spaces and adherence to modern design principles.

Potential solutions include adding short-term racks near entrances and providing long-term options such as bicycle rooms, cages, or lockers for residents or employees. Underutilized areas, such as wide hallways, unused corners, basements, former storage rooms, and parking garages often offer opportunities to incorporate bicycle parking without major structural changes (refer to **Figure 5.1** and **Figure 5.2** for examples of retrofits).


**Figure 5.1: Example of an under-utilized space in an existing building that was retrofitted to include an access-controlled bicycle cage in Ottawa.**


**Figure 5.2: Example of a parking garage retrofitted to include an access-controlled bicycle cage in Hamilton.**

### Meeting evolving needs recommendations

**R5.7** Design bicycle parking facilities to accommodate future needs by planning for larger bicycle dimensions, anticipating increased demand, and incorporating electrical conduits to support e-powered devices and emerging technologies.

**R5.8** Retrofit older buildings to provide secure bicycle parking where facilities were not originally included, making cycling more practical, maximizing underused space, and improving equitable access.

## 5.4 Integration into the development review and site plan process

Although the Region does not have direct planning approval authority, it can play a leadership role by encouraging secure and accessible bicycle parking in new commercial, retail, and mixed-use developments, particularly those located near cycling routes or transit-supportive areas.

Bicycle parking should be considered early in the development review process, such as during pre-consultations or prior to the submission of site plan applications, to ensure that facilities are accessible, well located and fully integrated with the site design. Early coordination helps align bicycle parking with site layout, pedestrian circulation, vehicle access, and transit connections, while ensuring compliance with regional standards and policies.

The following subsections provide guidance on key considerations for effective integration into the development review process.

### 5.4.1 Regional coordination with development review processes

Regional staff typically provide input on bicycle parking provisions when site plans are circulated as a courtesy by LAMs or during reviews that are tied to larger planning applications (e.g., local official plan amendments, rezonings, or condominium plans). This input is usually provided through the review of a Transportation Impact Study (TIS) submitted by the applicant in support of the development. In some cases, typically for standalone site plans, comments may also be provided through TIS reviews circulated by the Region's Works Department. These comments and coordination help ensure bicycle parking supports the PCN in the RCP and multimodal connections, including access to transit stations, rapid transit corridors, and frequent transit routes.

To improve bicycle parking integration, it is recommended to offer guidance on potential site constraints, such as roadway access, utilities, or drainage, that could affect placement or layout. Recommendations should be clearly documented in Regional review comments, including considerations for orientation, type, and placement. These efforts help align bicycle parking with the Region's objectives for active transportation, accessibility, safety, and sustainable mobility.

### 5.4.2 Integrating bicycle parking into site plan review and development processes

LAMs are encouraged to integrate bicycle parking considerations into their site plan review and development approvals processes. Where existing guidance is limited, LAMs may consider developing a bicycle parking review checklist or incorporating bicycle parking criteria into their site plan application guidelines to support consistency across developments.

### 5.4.3 Aligning local standards and zoning requirements with regional bicycle parking guidelines

LAMs should consider aligning local standards and zoning requirements with the Region's Bicycle Parking Guidelines to ensure consistent quality, accessibility, and visibility of bicycle parking across the region.

**Development review recommendations**

**R5.9** Integrate bicycle parking early in site planning, development review, and capital projects to ensure facilities are accessible and seamlessly incorporated into the broader site design.

**R5.10** LAMs without existing bicycle planning guidance should consider developing a Bicycle Parking Review Checklist or incorporating bicycle parking criteria into their Site Plan Application Guidelines to support consistency across developments.

**R5.11** Align local standards and zoning requirements with this bicycle parking guideline.

## 5.5 Supportive initiatives and programs

To complement bicycle parking infrastructure, supportive programs and partnerships can encourage adoption and enhance user experience. Initiatives listed in this section can strengthen implementation of bicycle parking by offering innovative approaches to implementation increase visibility and impact and address barriers to bicycle parking.

### 5.5.1 Pilot projects

Pilot projects provide an opportunity to test bicycle parking concepts in real-world conditions before committing to broader implementation. These trials also help identify installation and maintenance challenges, refine design decisions, and build community support. Ideal pilot locations include areas with strong partner and community collaborator interest and high potential demand, such as downtown areas or transit hubs. Selecting sites with minimal design complexity supports quick delivery and smoother implementation.

### 5.5.2 Partnerships with businesses

Partnering with businesses is an effective way to expand bicycle parking beyond public spaces and encourage cycling for everyday trips. The Region and LAMs should consider supporting businesses by facilitating bulk purchasing programs for bicycle racks, coordinating with other organizations, such as with the Economic Development and Tourism Division, to streamline installation efforts, and recognition programs like “Bicycle-friendly business” certifications. Where appropriate, the Region could also explore opportunities to apply for joint grants with partners to offset costs. These partnerships increase parking availability in high-demand areas and promote local economic activity.

**What we heard**

Businesses are seeing demand for bicycle parking at their locations, but they often lack information and capacity to implement safe and convenient bicycle parking. Desired support includes information on rack styles, funding options and siting guidance, as well as the ability to request the installation of rack on nearby public property.

### 5.5.3 Preferred vendors and design

Identifying preferred vendors or design options for various types of bicycle parking can help establish consistent specifications for size, material, and cost across the region.

These preferred design options should not restrict the ability of municipal partners or the Region to develop context-specific solutions or seek out other designs or vendors, where appropriate.

### 5.5.4 Bicycle lock lending programs

**What we heard**

The need to purchase and carry a bicycle lock was frequently identified as a barrier to cycling during engagement activities. People are interested in lock-lending programs.

A bicycle lock lending program is a simple yet impactful initiative that promotes active transportation, equity, and community accessibility. These programs can be found across Canada and make cycling more inclusive for everyone and remove a common barrier to biking. They can help remove barriers to cycling for those who do not have a lock, prefer not to carry one, or need to make stops that require secure parking.

These programs offer locks for same-day use or short-term use (e.g., up to four hours). Common places to find lock lending programs include libraries and post-secondary institutions. LAMs and local businesses are encouraged to explore similar programs in the Region.

#### Local initiative: Whitby Public Library

Several of the Whitby Public Libraries offer bicycle locks for loan to individuals with a valid library card. Locks can be borrowed at the front desk for the day, and signage on bicycle racks informs cyclists about this service. The program was initiated after staff observed library patrons leaning their bicycles up again the library window during their visit (**Figure 5.3**).

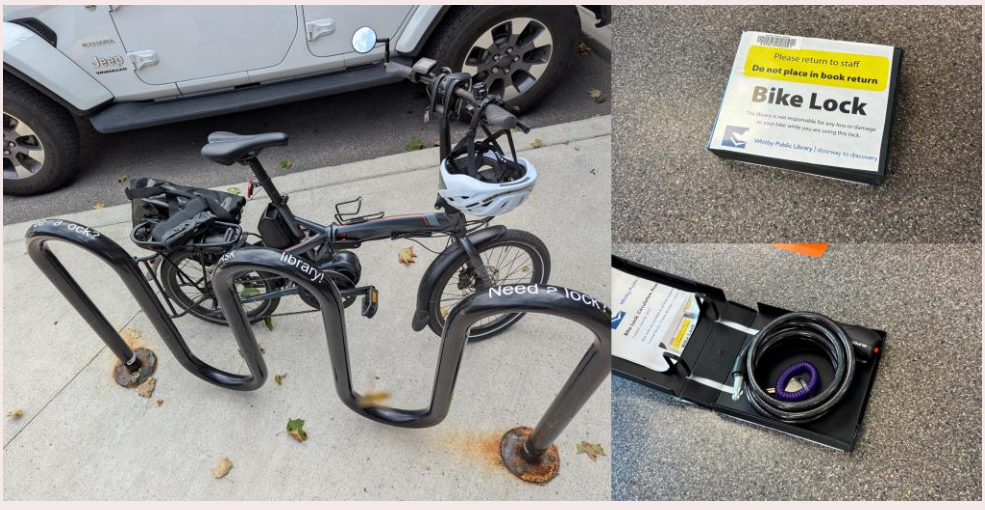


**Figure 5.3: Whitby Public Library bicycle racks display information about the library's lock lending program.**

### 5.5.5 Event bicycle valet and pop-ups

Valet and pop-up bicycle parking services provide temporary parking at large events such as festivals, concerts, and sports games. These services, discussed earlier in **section 3.1.6**, reduce congestion, encourage cycling to events, and enhance the attendee experience by reducing theft concerns. Event organizers can partner with local cycling advocacy groups or hire specialized providers to manage these services.

### 5.5.6 Communications campaign

**What we heard**

Bicycle parking can be hard to locate, and people would benefit from tools such as a public bicycle parking map, wayfinding signage, and a standard bicycle parking symbol for signage.

A communications and outreach campaign can educate cyclists on how to use bicycle parking facilities safely and effectively, improve and promote secure, convenient practices and increase awareness of available amenities. LAMs are encouraged to develop or enhance their own communication programs to support these goals.

Key elements may include:

- Information on where bicycle parking is located.
- Instructions for using facilities (e.g., how to properly secure a bicycle).
- Guidance on choosing suitable locks (e.g., U-locks, chain locks, folding locks).
- Signage at racks, QR codes linking to instructional videos, and online content through websites and social media. All signage should align with the established Region of Durham or applicable municipal branding standards to ensure clarity of ownership and consistency across all materials.

These tools help reduce barriers, empower new riders, and reinforce consistent practices across the region.

**Supportive programs recommendations**

**R5.12** Consider implementing supportive initiatives and programs and partnerships to help accelerate adoption and enhance user experience.

## 5.6 Monitoring and evaluation

Monitoring, evaluation, and reporting is essential to track and assess whether infrastructure is in good condition and achieving its intended goals. Establishing a clear monitoring framework for bicycle parking facilities helps the Region and its partners make informed, responsive decisions that support future investments.

### 5.6.1 Monitoring process

There are three main steps to implementing a monitoring and evaluation framework:


- **Phase 1 - Benchmarking and inventory**: The Region should create an inventory of existing bicycle parking on Regional property which can be used as a baseline to help assess current performance and future placement decisions.
- **Phase 2 - Data collection**: The Region should work with agency partners and LAMs to collect data on bicycle parking facilities located in public sites. Municipalities and agency partners should establish consistent procedures for checking the KPIs presented in **Table 5.5**.
- **Phase 3 - Regular updates**: Data should be collected and updated regularly. The frequency will depend on the resources available and the specific KPI (discussed in **section 5.6.3**). For instance, the number of bicycle racks installed may be updated annually or as new installations occur, while condition and utilization data may be collected less frequently.

### 5.6.2 Inventory and data collection

The Region, LAMs, and partner agencies should work together to develop and maintain an inventory of bicycle parking facilities. The data should use both quantitative and qualitative methods. Approaches to data collection may include:

- In-field audits
- Manual occupancy counts
- Online and in-person public surveys
- Partner agency and public engagement
- Installation records

- Maintenance logs
- GIS mapping/spatial analysis
- Automated monitoring (where feasible)

The inventory should be treated as a living resource to ensure it remains current.

It is recommended that data be collected throughout a one-week interval and across seasons to capture variations in usage and identify when and where bicycle parking is most needed, similar to the approach for seasonal traffic counts. Public surveys should be conducted regularly (e.g., annually), using consistent questions to support comparisons over time. Partner and collaborator outreach may be undertaken on a standalone basis, but may also be bundled with other public meetings and relevant projects, hosted by the Region or its partners.

**Automation opportunity**

Emerging technologies, such as bicycle detection sensors and automated monitoring systems, can help reduce labour costs associated with tracking usage. These tools can also provide real-time information to cyclists on available spaces, similar to parking guidance systems in large car garages. These technologies are most effective in large indoor bicycle parking facilities where demand and turnover are high.

A standardized format for storing and reporting data should be developed to ensure consistency across all parties. Integrating bicycle parking data collection into broader cycling infrastructure monitoring programs also helps ensure position bicycle parking is recognized as a fundamental component of the active transportation network, rather than an isolated element.

### 5.6.3 Key performance indicators (KPIs)

KPIs, summarized in **Table 5.5**, measure usage levels, supply, performance, condition, and user satisfaction of public bicycle parking. These metrics, along with travel behaviour and trip data, establish a baseline and, when evaluated over time, support trend analysis and help prioritize new installation locations where demand and access potential are greatest.

A monitoring framework should integrate KPIs into new regional active transportation plans and broader transportation policies, as well as regular policy and plan updates.

### 5.6.4 Reporting and sharing data

Monitoring of results should be shared publicly to promote transparency and community awareness. This can be done through existing regional reporting mechanisms, such as the Region's annual Active Transportation Progress Report, as well as open data platforms or other public reports.

Integrating bicycle parking reporting into broader cycling infrastructure monitoring, such as inclusion in Regional progress reports, ensures that bicycle parking is evaluated as part of the active transportation network. This approach enables planners to assess how well the overall infrastructure supports cycling uptake and identify areas for improvement.

**Table 5.5: Examples of key performance indicators and monitoring frequencies for public bicycle parking facilities**

| Indicator | Value | KPIs | Suggested collection frequency |
|---|---|---|---|
| **Utilization rate** | Percentage (%) | • Percentage of short-term racks occupied during peak and off-peak hours.<br>• Percentage of long-term racks occupied during peak and off-peak hours. | • Quarterly utilization counts.<br>• Consider continuous automated counts (where feasible) for high-demand areas. |
| **Bicycle parking supply** | Number (#) and percentage (%) | • Number of bicycle parking spaces per 1,000 residents. | • Annual inventory update. |
| **Transit** | Number (#) and percentage (%) | • Number of bicycle parking spaces at transit stations.<br>• Percentage of racks occupied during peak/off-peak hours.<br>• Percentage of transit users arriving by bicycle. | • Annual inventory update (or after major development changes).<br>• Quarterly utilization counts.<br>• Consider continuous automated counts (where feasible) for transit hubs. |
| **Equity** | Percentage (%) | • Percentage of new bicycle parking installed in underserved or high-demand areas annually. | • Annual inventory update (or after major development changes). |
| **Accessibility** | Percentage (%) | • Percentage of bicycle parking aligned with convenience standards (e.g., within 30 metres of main entrances).<br>• Percentage of bicycle parking aligned with AODA accessibility standards. | • Annual review.<br>• Best practice is to validate compliance during installation and through periodic audits. |
| **User satisfaction** | Various | • Survey-based metrics on convenience and adequacy for users, such as percentage (%) of users rating bicycle | • Every one to two years via intercept surveys or online questionnaires. |

| Indicator | Value | KPIs | Suggested collection frequency |
|---|---|---|---|
| | | parking as “adequate” or “excellent” in surveys. | |
| **Maintenance** | Number (#) and cost ($) | • Number of bicycle racks requiring repair or replacement annually.<br>• Average maintenance cost per bicycle rack per year. | • Inspected twice a year, ideally in spring and fall. |
| **Condition** | Percentage (%) | • Percentage of bicycle racks rated in “good” or “excellent” condition during annual inspections. | • Inspected twice a year, ideally in spring and fall. |

**Table 5.6** provides an example format for collecting and reporting bicycle parking data. The specific KPIs included will vary based on the objectives of each data collection effort. The Region will collaborate with its LAMs and partners to establish a standardized approach for consistent data collection.

**Table 5.6: Example Template for Monitoring and Evaluating Bicycle Parking Facility Conditions**

| Location | Last survey | Type of parking | Condition | Peak occupancy (per cent, %) | Off-peak occupancy (per cent, %) | Alignment with accessibility standards |
|---|---|---|---|---|---|---|
| **Location A** | 09/04/2025 | Post and Ring Rack | Good | 85% | 40% | Yes |
| **Location B** | 12/03/2025 | Bicycle corral | Fair | 60% | 25% | Needs improvement (specify) |
| **Location C** | 09/11/2024 | Bicycle room | Excellent | 45% | 10% | Yes |

### 5.6.5 Continuous improvement

To ensure continuous improvement and alignment with evolving community needs, regular monitoring, stakeholder feedback, and analysis of usage data should inform updates to guidelines and standard practices, ensuring they reflect emerging best practices and support the Region's active transportation objectives.

**What we heard**

There can be a mismatch between what is recommended, what is available in the marketplace, and what is possible within site specifications. Ongoing information sharing and communication is needed between implementation partners.

**Monitoring and evaluation recommendations**

**R5.13** Develop and maintain a regional inventory of facilities, in collaboration with LAMs, partners, and agencies, who will provide and update data on an ongoing basis.

**R5.14** The Region should establish which regional groups or departments will be responsible for carrying out inspections and completing follow-up tasks, such as inventory management and tracking usage.

**R5.15** Develop a monitoring and evaluation framework to track and assess KPIs. Incorporate KPIs into all new active transportation and transportation policies and plans, and during their reviews.

**R5.16** The Region will track and report on bicycle parking installations and partnerships through the annual Active Transportation Progress Report.

**R5.17** The Region should update these guidelines and standard practices based on results of monitoring, feedback and emerging best practices.

## 5.7 Practical guide for planning and implementing bicycle parking

This section provides a practical guide for planning and implementing bicycle parking, tying together the concepts outlined throughout this guideline. It is not intended as a formal framework or a rigid step-by-step process. Instead, it highlights common actions, decision points and general steps, and considerations that typically arise during project planning and delivery across a range of contexts.

To support clarity, the guidance is organized into four phases: planning, design, implementation, and operations, reflecting the general progression of most bicycle parking projects. However, the level of detail, and specific activities may vary depending on the site, partners, and circumstances.

**Figure 5.4** summarizes key actions and considerations for each phase to ensure a structured approach that addresses user needs, site conditions, and long-term maintenance. Engagement with property owners, businesses, cycling advocacy groups, and the public should also be incorporated where appropriate, even though it is not shown as a standalone step.

The following sections provide additional detail on actions commonly undertaken within each phase. These considerations are intended to support best practices across a range of project types, rather than prescribe one approach.

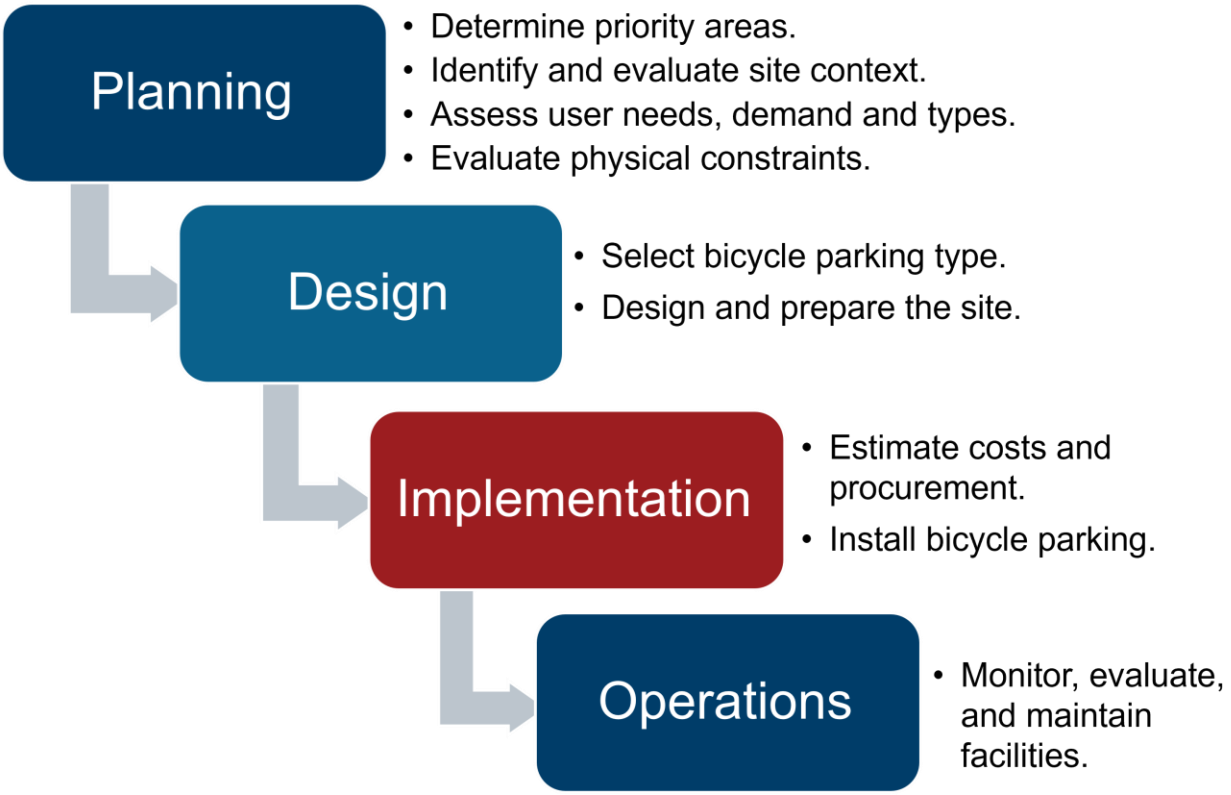


**Figure 5.4: Summary of step-by-step guide of considerations for planning and implementing bicycle parking.**

The following is a more detailed overview of key actions and considerations for planning and implementing bicycle parking. Following these steps ensures a consistent, user-focused approach to bicycle parking that supports long-term sustainability and accessibility goals.

### 5.7.1 Implementation considerations and steps

#### 5.7.1.1 Planning

- **Determine priority areas:**
  - Follow a prioritization framework to identify locations with the greatest need for bicycle parking (**section 5.1**).
- **Identify and evaluate site context:**
  - Determine the type of site (e.g., school, transit hub, park, mixed-use area).
  - Confirm whether the site is a key destination or trip generator.
- **Assess user needs, demand and types:**
  - Engage users through surveys or consultations to understand bicycle-parking needs, conducting outreach periodically or during major planning efforts rather than for each installation.
  - Estimate potential ridership and trip frequency to determine capacity needs (e.g., bicycle corrals, bicycle rooms).
  - Consider parking duration:
    - Short term (e.g., visitors, customers): prioritize quick access and visibility.
    - Long-term visitors (e.g., employees, residents, transit users): prioritize security and weather protection.
  - Consider the use of e-bikes and other larger bicycles.
- **Evaluate physical constraints:**
  - Assess available space, clearance for maneuvering bicycles, visibility, lighting, and exposure to weather.
  - Confirm if it is compatible with accessibility standards.
  - Identify opportunities for indoor or outdoor bicycle parking.

#### 5.7.1.2 Design

- Select bicycle parking type priority areas:
  - Select appropriate short term, long term, or high-density parking facilities based on site context, demand, and physical constraints (see **sections 3.1 and 3.2**).
- Design the bicycle parking facility:
  - Plan the layout and placement of racks and facilities, including for wide range of bicycles and micromobility device types (such as e-devices) (**section 3.2**).

  - Incorporate enhancements into design such as weather protection, signage, lighting, and repair stations and security features (e.g., greater visibility, video surveillance, etc.).

#### 5.7.1.3 Implementation

- Estimate costs and procurement:
  - Calculate costs for equipment, installation, signage, and ongoing maintenance. Identify funding sources (municipal budgets, grants, developer contributions) (**section 4.4**).
  - Select vendors and procure racks and related equipment for the chosen facility type.
- Install bicycle parking:
  - Prepare sites for installation (**section 4.1.1**).
  - Schedule installation and oversee installation according to design specifications.

#### 5.7.1.4 Operations

- Monitor, evaluate, and maintain facilities:
  - Conduct regular inspections for damage, misuse, or safety concerns.
  - Track and evaluate KPIs (see **section 5.6**).
  - Share results through reports and adjust facilities as needed based on outcomes.
  - Incorporate maintenance and lifecycle costs into annual operations budgets.

## 5.8 Conclusion

Together, the strategies and processes outlined in the Guidelines provide a comprehensive framework for planning, designing, implementing, and maintaining high-quality bicycle parking across the region. By integrating equity considerations, aligning with municipal planning processes, supporting adoption through complementary programs, and monitoring performance over time, the Region, local area municipalities and its partners can ensure bicycle parking across the region is accessible, secure, and responsive to community needs. This coordinated approach will help ensure that bicycle parking supports broader goals for active transportation, sustainability, safety, and healthy, connected communities now and into the future.