



Bike Parking Implementation Plan 2025-2029

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Executive Summary

The Bike Parking Plan (BPP) has been developed to help guide the provision and management of bike parking across the city. The objective is to ensure bike parking is available and useful to all cyclists and those wanting to ride for more trips. It builds on past bike parking projects, including providing bike racks to businesses, installing short-term right-of-way (ROW) bike parking posts and racks, testing the use of secure bike lockers, developing Neighbourhood Bike Parking Guidelines, updating bike parking maps, and taking inventory of the state of bike parking at City community centres and arenas.

This Plan also helps to inform the implementation of London's Mobility Master Plan in the short-term but is structured so that future inputs can expand the scope of this Plan. For example, this version does not include input from the cycling public on needed locations or locations where opportunities to enhance security features would be welcomed.

The Bike Parking Plan has a five+ year horizon. The Implementation Plan in Appendix C is a key component of this document. It details necessary initiatives and their accompanying actions to ensure current and future cyclists' parking needs are met.

The Plan aims to address the needs of cyclists for both short and long-term bike parking by guiding how bike parking solutions are prioritized and provided in the future.

Introduction

Bike parking is a necessary component of any cycling trip and supports more trips to be made by bicycle. If London cyclists do not have a well-designed and appropriate bike parking solution at their destination, they will not choose to ride. In fact, public engagement for the Mobility Master Plan identified the lack of secure bike parking as one of the top three barriers to increasing cycling mode shares in London (2023). The City of London has received numerous requests and suggestions about increasing the amount of bicycle parking over many years and recognizes the need for increased availability of high-quality bike parking.

In North America, there are few examples of bike parking plans. Rather, examples of bike parking facility guidelines are more widespread. The widely referenced Association of Pedestrian and Bicycle Professionals' Bicycle Parking Guidelines 2nd Edition has proven a good resource for bike parking in London in the past. This Plan builds on these guidelines and includes provision timeframes for short and long-term bike parking, at varying degrees of security. The Plan outlines the roles of local organizations to provide bike parking and begins to estimate the costs of different versions of well-designed bike parking facilities.

Improving London's bike parking infrastructure has a significant impact on the community. In keeping with the City of London's Strategic Plan, the Climate Emergency Action Plan, the 2016 Cycling Master Plan, and the Mobility Master Plan (which supersedes the 2016 Cycling Master Plan), this BPP promotes a sustainable city that provides a safe and healthy option for Londoners to get around today and in the future.

The Climate Emergency Action Plan lists bike parking as a key action under Area of Focus 3, Transforming Transportation and Mobility:

- 2.h. Finalize and implement a city-wide bike parking plan, including neighbourhood bike parking and secure bike parking services

How to Use this Document

This Plan builds on past bike parking initiatives to develop a realistic plan to meet current and future bike parking demands. The audience is diverse, including City service areas, decision-makers, partner organizations, employers, cyclists, and individual Londoners. A glossary is included in Appendix A to help explain the terminology used in this document.

Local Context

History of Bike Parking in London

The City has been providing bike parking in a variety of contexts and for a variety of uses for many years. Table 1 presents a brief history of some bike parking projects that have led to the development of this BPP.

Table 1: Brief History of Bike Parking in London

Year	Item	Status
Since 1990s	Installation of bike racks or rings in parks and incorporated into City construction standards for new and improvement projects for all park types	Ongoing
Since 2004	Installation of bike posts and bike racks as budget permits on public property	Ongoing
2009	Inventoried and created a map of downtown bike racks and rings (public and private property)	Complete
2014	Stylized TeMo bike posts designed and manufactured as part of community partnership with the Urban League of London. Adopted as City of London standard.	Complete
2016	Installation of Bike Corrals at two central locations	Ongoing
2017	Downtown London Parking Study	Complete
2018-2021	Winter plowing of bike corrals	On hold
December 2018	Downtown bike parking inventory including details for each parking location conducted by the Cycling Advisory Committee	Complete
2019	City support for bike parking installed at two schools as part of Active & Safe Routes to School Program	Complete
2019-2020	Transportation Management Association Feasibility Study (included role of bike parking)	Complete
2019-2023	Neighbourhood Bike Parking Guidelines as part of Complete Streets Design Manual	Complete
2020	Identification of parking locations for bikes, bikeshare and potentially e-scooters	Complete

Year	Item	Status
2020	Introduction of Business Bike Rack Program	Ongoing
2020	Standardization of bike rack styles for downtown (TeMo posts and inverted U or loop racks anchored from the ground)	Complete
Aug 2021-Dec 2022	Bike Locker Pilot Project	Complete. Now permanent program.
2021-2022	Federal and provincial funding secured for a transit-oriented secure bike parking facility in downtown London.	Ongoing
2022	Prepared an inventory of bike parking facilities at City community centers and arenas	Complete
2022	Took initial steps in developing a crowd sourced bike parking map, in collaboration with Fanshawe's Urban 360 Lab and London Cycle Link.	Ongoing
2024	Developed the Downtown Bicycle Parking Locations Map in collaboration with Fanshawe's Urban 360 Lab and London Cycle Link.	Complete

Relevant City Guidelines, Policies, and By-laws

The City of London is committed to implementing bike parking, as shown in the evolution of City guidelines, policies, and by-laws. For a full list of relevant City documents, see Appendix B.

For example, in 2022, the City of London updated its Zoning By-law to better reflect the need for providing more bike parking in new developments and redevelopments.

The 2016 Cycling Master Plan included an action specific to bike parking. Action #8 Enhancing Bicycle Parking from the 2016 Plan states:

Objective: To provide cyclists with locations throughout the City to safely and securely lock-up their bicycle when they arrive at a destination.

Background: The City has identified a number of bicycle parking strategies that they have been exploring and implementing over the past several years. There are a total of five (5) types of bicycle parking that the City has identified as preferred options:

- **General Bike Parking:** Bicycle parking located on public property, which is intended to serve personal and business trips/use.
- **Downtown Parking Lockers:** Enclosed bike parking to be located at key downtown locations to serve downtown employers and employees.
- **Stylized Bike Racks:** 50 stylized bike posts were designed and produced to promote local neighbourhoods.
- **Bike Corrals:** Large rack installed in on-street parking spots in place of on-street parking for motor vehicles along major commercial corridors.
- **Bike Posts:** Bike posts have been installed at the entrances to all of London's ESAs to ensure secure bike parking is available while Londoners hike.

The Mobility Master Plan (MMP) builds on and supersedes the 2016 Cycling Master Plan. The MMP aims to make cycling easier, more convenient, and accessible for everyone. This includes supporting the Climate Emergency Action Plan action of finalizing and implementing this city-wide bike parking plan. The opportunity to upgrade cycling infrastructure is recognized as one way to provide high-quality facilities for users, such as secure bike parking available at destinations.

Existing Bike Parking

Short and long-term bike parking is provided by both the City on public property and by private establishments on private property. The total number of short-term bike parking spaces provided by the City is roughly 750 on the public road right-of-way. This includes bike posts with a capacity for two bicycles, and bike racks or corrals of varying capacities. Every year, City staff work to add more short-term bike parking to the total, primarily in the road right-of-way. The City also provides a limited number of secure bike parking, primarily for City employees at a few worksites, and for public access through the bike locker program downtown. Secure bike parking is a recognized need and something the City continues to expand.

There is no information available on the amount of bike parking provided on private property. However, these facilities include short-term bike racks, weather-protected bike racks, and secure bike parking facilities in multi-family residential buildings and office buildings.

Other Local Bike Parking Initiatives

There have been several recent bike parking initiatives. Here is a sample:

The **Downtown Bike Locker Pilot Project**. Learnings have included the need for secure and accessible bike parking downtown; the need to recognize the increasing popularity of bigger bicycle styles that may not easily lock to current bike racks or fit in bike lockers; and the recognition that ongoing support and maintenance is required. After the pilot project concluded at the end of 2022, City staff continue operation of the

lockers and monitoring of locker usage and are investigating opportunities to build more secure bike parking options.

Festival Bike Parking. The City purchased a festival bike parking system many years ago. It has been used at several festivals and events such as SunFest, Home County Music & Art Festival, and Gathering on the Green. The City has tried several models of providing the service or partnering with local groups to run the service. Moving forward, there is a need to formalize the provision and promotion of bike parking at larger events and festivals, especially in light of recent updates to the City's Special Events Policy, which require bicycle valet parking for events with over 2,000 attendees.

Recent **bike parking inventories** have been conducted at community centres and arenas, at City work sites, and throughout the downtown core and Old East Village. Inventories allow City staff to identify and prioritize needs for additional bike parking and infrastructure maintenance. When bike parking needs are met, more trips can be made by bicycle, thereby reducing traffic congestion and greenhouse gas emissions.

Eight **bike repair stations have been installed** throughout London, most in proximity to bike parking.

Public Bike Parking Promotion and Administration

Besides the City, other local partners play an important role in providing bike parking. These partners, including London Cycle Link, Big Bike Giveaway, London Bicycle Café, Green Economy London, Urban League of London, and Thames Region Ecological Association, may offer guidance and resources related to bike parking best practices, run and collect data on event bike parking (i.e. bike valets), help with bike parking inventories, and gather feedback from the public to help advocate for bike parking needs and issues.

Members of the public also play an important role in the provision of bike parking through individual requests, using the existing bike parking, reporting bike parking issues, and reaching out to private property owners to request bike parking.

Supporting Bike Parking on Private Property

Over several years, the City of London has encouraged and facilitated better bike parking on private property. Examples of this have included an initiative through the former Business Travel Wise Program for the provision of bike racks to small businesses – which evolved into the Business Bike Rack Program.

The Business Bike Rack Program is in its first phase. London is only one of a few Ontario municipalities with a similar program in place. The program was launched with a capacity for ten participating businesses. So far, five have received bike racks and another six have received bike racks installed on nearby public property. The advantage

to the business is that the City has done the research on well-designed racks and they don't have to contact manufacturers or pay for the freight. Other components of the program include:

- Rack delivery from the City, including mounting hardware. Installation of the bike rack on private property is the responsibility of the business owner.
- Advice from the City on spacing needs and installation location.

This program will be reviewed and can evolve to meet the needs of local businesses and employers. It is also a component of the Smart Commute London program, which is London's first Transportation Management Association (TMA) where the City works with local employers to, in part, improve bike parking options for staff and customers. A TMA is a non-profit, public/private partnership that serves as a transportation coordinator for businesses wishing to implement commuter programs such as carpooling, vanpooling, telework, transit discount programs, biking, walking, and parking management for their employees and customers. The program also helps increase knowledge of mobility choices.

Smart Commute London includes supports that facilitate and encourage more cycling to work trips. This could include the provision of bike racks, advice on secure bike lock-ups for staff, information on cycling routes to work, and campaigns to encourage more Londoners to cycle to work. Discussions about the expansion possibilities of existing secure bike lock-up locations, such as in downtown office parking garages, is another potential activity as part of Smart Commute London.

Bike Parking Best Practices

Bike parking best practices have evolved over the last decade or so to keep up with changing bike styles and riders' preferences. The Association of Pedestrian and Bicycle Professionals' (APBP) Bicycle Parking Guidelines 2nd Edition has been a trusted guideline document for municipalities across North America. It is currently undergoing revisions to incorporate updated standards and guidelines. Locally, the guidelines have been shared widely amongst City staff, and with local employers and consultants.

User Needs

When a landowner, such as the City of London, is voluntarily considering dedicating space to bike parking, the type and amount of bike parking provided depends on several factors, including who is or will be using it, and for how long. A variety of factors, including age and ability, purpose and preference, dictate what type of bike someone will ride. According to the Ontario Traffic Manual Book 18 – Cycling Facilities, the length of a typical adult bike is approximately 1.8 m and the width is 0.75 m. Cargo bikes and bikes with trailers may extend to 3 m or longer and have a desired operating width of 1.5 m.

Secure bike parking, especially for more expensive cargo and e-bikes, is particularly important since riders are less likely to purchase a bicycle and cycle regularly if they fear their bicycle will be stolen. Designated, secure bicycle parking is crucial to support the increasing uptake of e-bikes that play a role in achieving improved health and climate outcomes.

More importantly, the City's 2024 Anti-Racism and Anti-Oppression Framework applies to bike parking provision. Considerations in the delivery of this Plan could include using the accompanying Equity Tool to determine what equity-deserving groups will be impacted and how to ensure their needs are recognized and met. The goal is to ensure bike parking solutions cater to diverse user needs, including adapted bikes.

Ongoing engagement with the public is key to prioritize high-need areas and determine any specific considerations and situations that are context-sensitive. This is described in more detail in Section 7 Supporting Measures.

Other examples of equity considerations include:

- Acknowledging that cycling infrastructure in North America has been developed primarily to support male users. To support the changing demographics in cycling, effort should be made to understand the influence of gender on location and design of public bike parking.

- Distribution of bike parking must be equitable, promoting access to public bike parking for communities and locations that serve all users. While this is the intent in the development of this Plan, the ongoing analysis and inventory of potential bike parking locations will be key.
- The location, access and style of bike parking should ensure that vulnerable people are secure, not isolated by design and are comfortable using the facility. This is broadly recognized by Crime Prevention Through Environmental Design (CPTED), but user groups with specific concerns may benefit from additional design interventions where appropriate.
- Protection of a user's private property, most notably the bike, should be maintained paramount. A stolen/damaged/lost bike may be someone's only mode of transportation with no means for replacement. The delivery of this Plan will enable that person's continuing participation in public life and support their employment.

Parking Designs and Types

This Plan identifies two types of bike parking:

- Short-term bike parking (accessible to many users of the surrounding public space, generally unsecured, but in visible locations)
- Long-term bike parking (varying degrees of security)

For short-term bike parking, it is recommended that the City rely on the TeMo post standard as detailed in the City's Design Specifications and Requirements Manual. It can be anchored into the surface, and its small size means it can be installed in highly visible locations. The recommendation for bike racks is an inverted U or loop rack anchored from the ground. Other options for bike racks can include the preferred bike parking styles identified in the City of London's standard contract documents and the Neighbourhood Bike Parking Guidelines. This list relied heavily on APBP's Bicycle Parking Guidelines 2nd Edition. All options allow for locking the bike frame and at least one wheel with a U-lock. In addition, the City should develop a list of preferred bike parking suppliers for the various types of bike parking. These recommended design options should not limit the ability of the City to develop contextually specific solutions where appropriate. These options are also of use for the private sector for their own bike parking solutions on private property.

Parking Placement

Cyclists need an area around a bike rack to manoeuvre their bike in and out of it. In addition, some bike rack styles are meant to be accessed from two sides, so placement up against a wall will halve the rack capacity. APBP's Bicycle Parking Guidelines 2nd Edition provides guidance on bike rack placement, but each circumstance should be laid out and measured before installation to optimize access and capacity.

Bike Parking Index Tool

To better integrate public bike parking into the planning process and to better evaluate requests that are received, the City of Ottawa developed a Bike Parking Index Tool. It informs the implementation process using appropriate quantitative data. The intent is not to eliminate any flexibility or judgment on the City's part, but rather to provide additional information to allow City staff to make better decisions so that public bike parking is implemented where there is the greatest cycling potential. The tool may be applicable to the London context and further analysis should be undertaken.

Defining Conditions and Priorities

The City's 2016 Complete Streets Design Manual speaks, in part, to the provision of short-term bike parking, specifically in the context of boulevard provisions outside the pedestrian clearway, at cyclists' origins and destinations, and at or near rapid transit stations. The racks should be well-designed, and the amount of parking provided should meet peak demand. Long-term bike parking is not the focus of the Manual.

The London Plan (2016) defines complete streets as:

Complete streets are those that are designed to support many different forms of mobility. Complete streets provide physical environments that make all forms of mobility safe, attractive, comfortable, and efficient. Complete streets also provide a positive physical environment that supports the form of development that is planned for, or exists, adjacent to the street. In some cases, complete streets may also incorporate corridors for wildlife movement.

The London Plan designated a street classification for every street in London. The Complete Streets Design Manual includes a Complete Street Audit Tool to evaluate and visualize the 'completeness' of a street in its existing condition. It can also be used to evaluate a proposed design for a street.

In some cases where the ROW does not have sufficient width, and design alternatives have been exhausted, it may not be feasible to include all the desired street elements on a specific corridor. In this case, the Complete Streets Design Manual's Street Classification Priorities table provides guidance in determining which elements should be included within the constrained space available. The table can be used to indicate the relative priority ranking for each mode/street function based on the street classification.

Management

Currently, the City of London manages bike parking on public property through a range of service areas and programs. For example, bike parking in parks is provided and

managed by Parks Operations. Publicly available bike parking on private property is managed by individual property owners such as at commercial buildings, hospitals, and higher-education institutions.

The City of London recently completed a Secure Bike Parking Feasibility Study to determine how best to manage secure bike parking city-wide, including a review of best practices in other communities. It presents options for delivery and funding. It also includes a summary of implementation and operating cost considerations that can be used to determine the best parking solution depending on the scenario.

The advantage to the cyclist of managing bike parking city-wide is a more consistent availability of bike parking, increasing locations for secure bike parking, and ease reporting bike parking damage that is dealt with more quickly. A more strategic and potentially centralized approach to managing bike parking is also advantageous to the City, by improving efficiency, reducing duplication, and responding more pro-actively and swiftly to opportunities for bike parking provision.

Implementation Plan

The Implementation Plan outlines individual actions and timeframes to complete each bike parking action. Appendix C presents the full Implementation Plan, categorized by type of bike parking facility and by supports to bike parking.

Recommendations

The following list provides the recommended priorities to ensure the implementation plan is addressed successfully:

- Ensure the end-users' needs are top priority when determining locations and styles of bike parking;
- Need for additional security measures (such as monitored or control-access bike parking);
- Where possible, e-bikes and bikes of all sizes should be considered when bike parking locations and supports are designed (e.g., bicycle parking, bike share, bike repair stations, etc.);
- Develop an annual budget for the provision and management of bike parking;
- Address both public and private property bike parking by working with partners;
- Develop a management approach that ensures efficient use of resources across all types of bike parking provision, including at destinations, in parks and in the public ROW; and
- Ensure the process includes flexibility to adjust based on demand and feedback.

Timeframe

The Implementation Plan in Appendix C presents actions by three different phases:

1. 2025-2027,
2. 2028-2029, and
3. 2030 and beyond.

Some actions will continue beyond the scope presented in the implementation plan.

Locations

An analysis of existing individual bike parking locations should always be conducted to inform any improvements. An analysis tool was developed for application at City community centres and arenas, and at City worksites. It borrowed from the Bicycle Parking Design Guidelines from the City of Nelson, British Columbia. The London tool includes ten different criteria that were aggregated into three main themes based on their relevancy and type, ease of understanding, and practicality.

Table 2 presents the criteria for analysis. The assessment is based on three themes:

1. The **Rack** includes the physical and functional features of the rack design. Scored out of 4 points.
2. The **Environment** includes the appropriateness and security of the rack location and proximity of the rack to the facility. Scored out of 3 points.
3. The **User Experience** includes the accessibility of the rack and the quality of the rack design to handle a variety of bike styles. Scored out of 3 points.

Table 2: Criteria to Analyse for Existing Bike Parking

Criteria	Items
Rack	• Support the bicycle in at least two places • Allow locking of the frame and one or both wheels with a U-style lock • Be securely anchored to the ground • Be among recommended bike rack style (refer to Figure 1)
Environment	• Consider any cultural heritage and archaeological considerations of location • Addressing theft and vandalism by ensuring facility is in a convenient, well-lit, and highly visible location • Separated from car parking by a physical barrier or sufficient space • Located along a principal line of approach to a building
User Experience	• Located so as not to interfere with pedestrians • Provide easily accessible bicycle parking spaces • Allow enough space on the ends of the rack to park and lock a recumbent/trike/cargo/etc.

For short-term bike parking, the City's 2023 Neighbourhood Bike Parking Guidelines included analyses of bikeshed and walkshed for London that can help inform prioritizing locations for bike parking implementation.

The Bikeshed map shows 5-minute (1.30 km) areas around all existing transit stops and (at the time proposed) rapid transit stops. This helps inform where both short-term and

secure long-term bike parking is needed for those combining cycling and transit to make a trip.

The Guidelines' Walkshed map shows 10-minute (830 m) areas around existing transit stops and proposed rapid transit stops. This helps inform where secure bike parking is needed for those wanting to integrate cycling into their walk to/from transit to potentially make their first/last mile trip a longer distance.

Using the bikeshed analysis and municipal staff survey responses, the Neighbourhood Bike Parking Guidelines recommended that implementation of bike parking be prioritized at select bus stops, such as high-demand (ridership) routes, as a first step. Priority bus stops may also include stops along rapid transit, express bus routes, and high-volume transit corridors. Up to two additional North-South and East-West routes should be considered for prioritized or piloted implementation.

The following Table 3 presents a preliminary list of some locations for improved secure short and long-term bike parking. It is divided into a list of public property locations and a separate list of private property locations. The City has no jurisdiction over these existing private property locations. It would be up to the property owner to provide improved bike parking facilities. The City can provide advice on best-practice bike parking design and location. In addition, residential locations are not included; the numbering is not indicative of priority; and the list is not exhaustive. Prioritizing new installations depends on available resources and demand and is detailed in Section 5.5 below.

Table 3: Preliminary Locations for Improved Public Secure Bike Parking

Public Property	Private Property
1. City Hall (underway) 2. East Lions Community Centre (under evaluation) 3. North London Optimist Community Centre (under evaluation) 4. StarTech.com Community Centre 5. Carling Heights Optimist Community Centre 6. South London Community Centre 7. Stoney Creek Community Centre 8. East of RBC Place – Parking Lot #15 9. Kiwanis Seniors' Community Centre 10. Hamilton Road Seniors' Community Centre 11. Provincial Offenses Office – Parking Lot #7 12. Parking Lot #2 - east of Adelaide, south of Queens 13. Parking Lot #5 – west of Clarence and south of Dundas 14. Canada Life Place Plaza or Parking Lot #8 15. High-demand transit stops, including London Transit express routes (Private shopping centres shown in next column). 16. Rapid transit stations (under development) 17. Springbank Park, District Parks, and high-traffic locations near the TVP	1. Argyle Mall 2. Westmount Mall 3. Sherwood Forest Mall 4. Westmount Mall 5. White Oaks Mall 6. Masonville Mall 7. CitiPlaza 8. 100 Kellogg Lane 9. Western Fair Farmers Market (interest from Market and Western Fair District) 10. Cross-Cultural Learner Centre at 505 Dundas Street (interest) 11. Atlohsa Family Healing Services 12. Museum London 13. Downtown high schools (Central, Catholic Central, and Beal) 14. Intersection of Richmond and Oxford (includes public property) 15. Newcomer support service buildings

Site Selection Criteria

The placement of bike parking needs to serve cyclists' needs. Locations must be easy to use and conveniently located. Each potential location must take into account a range of considerations and trade-offs. In the end, these decisions must be made using a qualitative understanding of the needs of area cyclists, with a view to find the 'best possible' locations that meet the identified demand. The three key criteria when selecting an optimal location include:

- **Security:** including nearby pedestrian/cyclist traffic, providing a secure design, lighting, surveillance cameras, and proximity to destination.
- **Convenience:** including proximity to destination, proximity to cycling route facilities, and nearby complementary amenities.
- **Impact of Winter Maintenance*:** including ensuring space for snow clearing, bike racks and winter maintenance equipment won't be damaged, and pedestrian clearance to/from racks is maintained year-round. This applies to all locations, including in parks.

*Note: There is a proposal for the Ontario Minimum Maintenance Standards (MMS) for winter maintenance with regards to multi-use paths/on boulevard bike paths. If approved, this additional maintenance could increase rider volumes in the winter months throughout the city. New bike parking installations need to consider winter maintenance challenges at the design stage.

A site selection checklist is provided in Appendix D.

Design

There are many levels of bike parking provision. Each one requires different space allocation, number of bike parking spaces, and bike rack size. Consideration should also be given to coordinating new bikes racks with City standards and guidelines. For example, the City's Design Specifications & Requirements Manual (DSRM) specifies colours for bike racks based on their location.

Bike rack design should also consider what types of bikes will be locked to it. Examples include children's bikes, cargo bikes, e-bikes, long-tail bikes, and adult tricycles. E-bike charging outlets may, in certain circumstances, be needed. However, most e-bike users carry their battery with them. They would not leave a charging battery unattended due to its value. In addition, proximity to facilities such as transit stops, or destinations such as community centres, needs to be considered.

Below are descriptions for different levels of bike parking.

Unsecured Short-term Bike Parking

This type of bike parking facility includes TeMo posts and bike racks installed along public right-of-way and in parks as per the Neighbourhood Bike Parking Guidelines.

Criteria for installation include:

- Space availability (including manoeuvrability)
- Demand
- Lighting and safety
- Bike post/rack availability
- Level base that allows for proper anchoring of rack

Bike Corrals

The City has experience with the provision of bike corrals. These large racks are intended for placement in on-street motor vehicle parking spaces. Where one space can accommodate one motor vehicle at a time, it can accommodate up to 14 bikes at a time.

Criteria for installation include:

- Parking space availability
- Request from business or Business Improvement Area (BIA)
- Parking revenue needs
- Demand
- Lighting and safety
- Bike corral availability

Bike Lockers

Bike lockers provide a higher level of weather, theft, and vandalism protection. They come in a number of sizes and configurations, depending on the style of bikes to be locked up, and access options. They do require a larger footprint than bike racks and have a larger upfront cost per bike. In addition, City of London experience has been that there is an increased cost for staff time to deal with maintenance and administration.

Criteria for installation include:

- Available adjacent amenities
- Adjacent or nearby destinations
- Demand
- Lighting
- Safety (access, visibility, adjacent shrubbery/structures etc.)
- Concrete, level base

- Space availability
- Access for winter maintenance

Secure Bike Lock-Up

Building on the demand for more secure bike parking options downtown and the experience of bike lockers, there is an opportunity to provide a secure bike lock-up. There are examples at Western University, Fanshawe College, St. Joseph's Healthcare, City worksites, many office buildings, and in other communities.

Criteria for installation include:

- Demand
- Location and space availability (at-grade or storefront)
- Access options for users
- Administration needs covered
- Concrete, level base

The facility must feel safe, including these aspects:

- **Safety:** connecting paths, driveways, parking lots need specific attention for non-automobile traffic
 - Security
 - Lighting: both for ease of use and sense of security
 - Ventilation: against fumes and viruses
- **Inviting:** the facility should be inviting.
 - Kick plates to open doors
 - Wide hallways, no narrow or tight corner, no stairs
 - Art, themes, and colours! Make the space attractive
 - Whiteboard so that members can communicate with each other
 - Table for cyclists to place items on while locking up
- **Flexibility:** plan for bikes, e-bikes and more. See what people are currently using and plan a parking space for them.
 - Options for high-density vertical racks, while maintaining floor level rack options for heavier or larger bikes
 - Access to safe charging for e-bikes if required
 - Bike and battery policies for eliminating any fire hazard
 - Risk and liability consideration

Bike Station

Bike Stations are commonly found in downtown employment districts in North America as well as at train stations in Europe. In London, one ideal location for a Bike Station

would be an existing downtown storefront. This fee-based service would be designed to be easily accessible to cyclists living, working, or visiting downtown. It includes the same aspects of safety as secure lock-ups. It includes bike racks to park different sizes and styles of bikes, showers and lockers, repair tools and bike components for sale, and beverage and food vending machines. It can also allow for a lost and found service, bike rentals, and bike share services. Most importantly, it is staffed. It does not have to be a storefront setting. Other examples include part of a motor vehicle parking garage or in a park setting. There are examples in other communities, such as Toronto, Chicago, and Seattle.

Complementary Infrastructure

In addition to installing the most user-friendly bike parking designs, supportive measures are equally important and improve cyclists' experience. These can include seating, waste receptacles, repair stations, wayfinding signage, and storage for cycling-related personal items. The provision of these supporting items should be considered on a case-by-case basis.

Management Approach

It is important to integrate cycling facility planning with public bike parking provision. Specific design considerations related to cycling route and facility design not only include development applications, site plan development, and route maintenance, but also bicycle parking provision.

Management of all parking facilities includes coordination of all aspects (procurement, partner input, locating, installation, maintenance, and usage data gathering) combined with specific responsibilities in the delivery of bike parking. This function addresses the needs for procurement of bike parking racks, contract management, and administration of secure bike parking facilities.

A potential future introduction of bike share to London will affect bike parking provision, for shared bikes but also for personal bikes using the same pick-up/drop-off locations as the shared bikes. Introducing more short-term bike racks for general purpose tied to the bike share system is important. This should be considered as part of bike parking implementation if and when the shared system parameters are being developed.

Roles and Responsibilities

Several City service areas play key roles in the implementation of this plan. Specifically, for the provision, maintenance, and monitoring of bike parking, and the promotion of bike parking use. In addition, contractors, property owners and managers, businesses, and the public play equally important roles as partners in the provision, use, and monitoring of bike parking.

The recently completed Secure Bike Parking Feasibility Study helps inform specific management roles and responsibilities for bike parking, including administrative options. These can include:

- Administered by Municipal Department
 - Sub-option exists for the City to choose to enter into an agreement with a third party to operate the system.
- Administered by Transit Authority
- Administered by newly created Parking Authority

Roles need to be detailed for both the provision of bike parking and the ongoing maintenance and operation of the facility.

Costs

More attention is being paid to bike parking because of the recognition it is a key component of every cycling trip. Needs, applications, and costs will continue to change and evolve. Costing considerations include the procurement, delivery, installation (including potential increased costs for retrofit projects requiring asphalt or concrete pads), administration and maintenance of facilities. Costs may also vary based on materials, security features, and increasing maintenance needs.

The cost of constructing a parking space for a bicycle is approximately five per cent of the cost of a parking space for an automobile (Pucher, J. and Buchler, R. *Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany*, 2008).

The cost of providing a standard bike post or rack is \$7 per year, which is no cost for the user. Experience from the City's bike lockers has shown that the annual cost to park a car is \$1,000 per year whereas the annual cost to park a bike in a locker is now under \$300 per year per bike spot.

Compared to the provision of motor vehicle parking, parking for bikes is less of a burden on tax dollars. For example, bike lockers have a significant upfront cost per bicycle. The Downtown Bike Locker Pilot Project cost roughly \$4,150 per bicycle parking spot upfront. There have also been annual parking space rental and maintenance costs of roughly \$12,000 to \$17,000 per year - or up to \$850 per year per bicycle parking spot. However, this is much lower than the cost of providing motor vehicle parking.

In comparison, off-street motor vehicle parking, where the vehicle may be weather protected like a bicycle is in a bike locker, are estimated to average about \$1,000 annually per space with costs including land, construction, and operating expenses (Victoria Transport Policy Institute, 2022). Multiplied by the number of parking spaces provided in that off-street location (usually an at-grade parking lot or parking garage), this adds up quickly. With lockers, a minimum of six bikes can park in the space of two motor vehicle parking spots.

Short-term Bike Parking Options

Appendix E presents approximate capital and operating cost comparisons for different levels of short-term bike parking. Some of these options do include security features, such as controlled access and surveillance. There is a wide range of costs to provide this type of bike parking.

To complement these cost comparisons for short-term bike parking, the Secure Bike Parking Feasibility Study should also be consulted for cost estimates tied to various scenarios.

Long-term Bike Parking Options

Appendix E presents approximate capital and operating cost comparisons for different levels of secure bike parking. The cost to provide this type of bike parking is much greater than short-term parking. However, public demand for these facilities is growing and requesting more security.

To complement these cost comparisons, the Secure Bike Parking Feasibility Study should also be consulted for cost estimates tied to various scenarios.

Funding Approach

Funding needs are divided into the two types of bike parking: short-term and long-term. Bike parking is a key component of every cycling trip. Cyclists' needs, applications, and costs will continue to change and evolve. Costing considerations include the procurement, delivery, installation, and maintenance of facilities.

For 2026 and 2027, the required budgets are available in the adopted 2024-2027 Multi-Year Budget. Any future budget needs will be determined as projects develop.

It should be noted that bike parking needs tied to transit are for both short and long-term purposes. Also, this budget is not specific to private property. In addition to Site Plan Development standards, the City of London would continue to support businesses providing bike parking on their property through Smart Commute London.

There are also needs related to the integration of bike parking with transit, including both short and long-term, secure bike parking. Discussions and collaboration will continue between the City and London Transit to address bike parking and stop amenities. The ultimate goal is more Londoners cycling for their first-last mile connections to transit trips.

Potential sources of funding may include:

- Provincial or federal active transportation grants.
- Public-private partnerships (e.g., businesses contributing to bike parking near commercial districts).
- Green infrastructure or climate action funding.

There may be other models to help fund bike parking. For example, a fee-in-lieu model for new developments where instead of having to install bike parking, the City collects fee payments from developers to create a dedicated sustainable transportation parking account to be used exclusively for bike parking (racks, corrals, structures, lockers, etc.). The fund would be used to help create better, and smarter, bike parking at these new/redeveloped locations and around the city.

Another example is a motor vehicle parking fee that is dedicated to other forms of sustainable transportation, including bike parking.

Fees, Revenue and Sponsorship Opportunities

To help cover the cost of providing secure bike parking, a fee should be charged. This also helps the user recognise the value of the service. However, fees should not dissuade cyclists and potential cyclists from using their bike instead of a motor vehicle. Any paid secure parking should be balanced with encouraging Londoners to take action on climate change by cycling for more trips.

Sponsorship opportunities can also help cover costs. Examples include a network of short-term bike racks in the road right-of-way sponsored by a company. Selling advertising on bike racks, or a secure facility sponsored by an adjacent company.

Supporting Measures

There are several supporting measures that will help reduce barriers to bike parking in London and ensure cyclists are well-served. These are led by the City and other partner organizations. For example, London Police Services' use of the Garage 529 bike registry. Garage 529 is an App that works to alert other cyclists any time a bike is stolen or goes missing. Locally, once the user determines their bike is missing, they activate an alert notification to 529 Garage, which sends out a broadcast to all users in the London area to be on the lookout for the missing bicycle. This information, along with a police report, helps the police recover a bike in the case of theft.

Moving forward, the public's input on bike parking needs is key. An online format to receive ongoing feedback on bike parking experiences, challenges and opportunities will be established. Public input also ties into the City's Cycling Performance Measures Program (under development).

Transportation Demand Management Measures

The City's Transportation Demand Management (TDM) programs and initiatives are being rebranded as TravelWise London. The goal is to support Londoners using sustainable transportation choices for more trips, including work-related trips as part of the Smart Commute London program, school trips tied to the local Elgin London Middlesex Oxford Active & Safe Routes to School (ELMO ASRTS) partnership, and all daily trips, such as grocery shopping, to the library, or visiting friends.

Promotion is an important part of TDM, especially as it relates to the promotion of bike parking locations, how to make multi-modal trips, and how to use various bike parking facilities.

Data Collection on Bike Parking Need and Usage

The 2016 Cycling Master Plan included Action #9: "Establishing Performance Measures". At the time, few municipalities were tracking cycling usage or growth in infrastructure. This has slowly changed as more municipalities understand the need and advantages of measuring progress.

City staff has been developing a series of performance measures to track cycling progress in London. Performance Measure technique is a method that makes a correlation between community goals and measurable effects of transportation investments – in this case cycling investments.

London's Cycling Performance Measures (CPMs) Program will go beyond simply counting the kilometres of cycling facilities or how many people are cycling along them.

They will provide an opportunity to capture and track who is cycling, what neighbourhoods and populations are underserved, and highlight the supportive infrastructure and programs needed to encourage more trips be made by bike. The end goal is to create a cycling culture that supports all Londoners, of all ages and abilities, to ride a bike for transportation more often.

Several proposed measures are focused on bike parking, including the amount provided and the demand for additional bike parking.

Conclusion

This Plan is meant to help inform implementation of the Mobility Master Plan, recognise the importance of, and need for, bike parking, and raise projects and themes as areas for further development. Much as motor vehicle parking has been planned for, provided, and promoted, bicycle parking must also be strategically implemented in order to encourage more trips by bike.

There are many initiatives to build on to better support Londoners who already ride a bike for some trips, while also supporting and encouraging more Londoners to choose a bike and take direct, meaningful action on climate change.

APPENDIX A

Glossary

AODA - Accessibility for Ontarians with Disabilities Act

BIA - Business Improvement Area

Bikeshare - A rental system where bikes are shared by users who pay a fee to borrow a bike for a one-way trip generally in a defined area

BPP – Bike Parking Plan

Complete Streets - A system of design principles or standards applied to a road right-of-way that support multi-modal transportation infrastructure

COVID-19 - International pandemic which was declared in March 2020

CPMs – Cycling Performance Measures

E-bikes - Bicycles with an electric assist

E-Scooters – Electric kick-scooters with a platform to stand on, and handlebar with brake and throttle

London Transit - Operator of the City of London’s public transit system

Long-term bike parking - refers to usages/stays/storage that are at least several hours long. Example situations include for employees, residents, public transit users, and others that need to park their bike for several hours or more. Long-term bike parking is made up mainly of secure bike parking and can also include weather protection features.

Micromobility - any small, low-speed, human- or electric-powered transportation device, including bicycles, scooters, skateboards, electric-assist bicycles, electric scooters (e-scooters), and other small, lightweight, wheeled conveyances

MMLOS - Multi-Modal Level of Service

MMP - Mobility Master Plan

MMS – Minimum Maintenance Standards

Multi-Use Pathway - An off-street hard surfaced facility that is shared with users, such as pedestrians

Multi-Modal - encompasses all potential travel forms, such as pedestrian, bike, bus, and car

RFP - Request for Proposal

ROW - Right-of-Way

RT - Rapid Transit

Short-term bike parking - refers to usages/stays/storage that are roughly two hours or less. Short-term bike parking is focused mainly on bike parking at grade, in the public right-of-way and with limited security features. Examples include bike posts, bike racks, and bike corrals.

TDM - Transportation Demand Management is the use of policies, programs, services, and products that influence whether, why, when, where and how people travel. TDM strategies seek to increase the efficiency of a transportation system by influencing travel behaviour.

TOD - Transit Oriented Development

Wayfinding - An approach to signage, mapping and design that supports people locating themselves and their destination

APPENDIX B

Relevant City of London Guidelines, Policies, and By-laws

Anti Racism and Anti-Oppression Framework and Equity Tool

<https://london.ca/living-london/anti-racism-anti-oppression>

City of London Secure Bike Parking Feasibility Study (Administrative Options)
(available upon request)

Climate Emergency Action Plan, 2022

<https://getinvolved.london.ca/climate>

Complete Streets Design Manual, 2018

<https://london.ca/sites/default/files/2020-09/Complete%20Streets%20Design%20Manual.pdf>

Design Specifications and Requirements Manual

<https://london.ca/living-london/building-renovating/consultant-resources>

London Downtown Wayfinding Plan

<https://getinvolved.london.ca/downtown-wayfinding>

London ON Bikes Cycling Master Plan, 2016

<https://london.ca/sites/default/files/2020-11/London%20ON%20Bikes%20-%20Full%20Executive%20Summary%20-%20September%202016%20-Access.pdf>

London Neighbourhood Bike Parking Guidelines, 2023
(available upon request)

Mobility Master Plan (under development)

<https://getinvolved.london.ca/mobility-master-plan>

Parks and Recreation Area By-law - PR-2

<https://london.ca/by-laws/parks-recreation-area-law-pr-2>

Parks and Recreation Master Plan, 2019

<https://london.ca/government/council-civic-administration/master-plans-strategies/plans-strategies>

Smart Moves 2030 Transportation Master Plan, 2013

<https://london.ca/sites/default/files/2020-11/TMP%20Accessible.pdf>

Standard contract documents for municipal construction

<https://london.ca/living-london/building-renovating/consultant-resources>

The London Plan (Official Plan), 2016

<https://london.ca/government/council-civic-administration/master-plans-strategies/london-plan-official-plan>

Zoning Bylaw No. Z.-1, bike parking update 2022

<https://london.ca/by-laws/5111>

Other related agencies, boards, and commissions:

- Tourism London <https://www.londontourism.ca/>
- London Transit <https://www.londontransit.ca/>
- London Police Service <https://www.londonpolice.ca/en/Index.aspx>

APPENDIX C

Implementation Plan

Initiative	Action	Timing of Implementation		
		Phase 1	Phase 2	Phase 3
		2025-2027	2028-2029	2030 +
Bike Parking Facilities				
Installing Unsecured Short-term Bike Parking	Develop prioritized list of locations for posts and racks in ROW	✓		
	Develop/implement method to track posts/racks in storage with Roads Operations, Parks Operations, etc.	✓		
	Address Short term gaps in the ROW	✓		
	Ensure bike posts continue to be installed as part of City ROW projects	✓	✓	✓
	Develop annual budget for purchase of bike posts/racks for ROW		✓	
	Implement the Neighbourhood Bike Parking Guidelines with London Transit		✓ for routes directly tied to RT	✓ for all other routes
Bike Corrals	Manufacture 2 more corrals for central London installation		✓	
	Determine location for 3 corrals in central London.		✓	
Increase Bike Parking Options at Public City Facilities	Build on 2022 inventory to develop implementation plan for secure bike parking at City facilities (e.g., community centres, arenas)		✓	
	Pilot indoor bike parking at one community centre	✓		
	Assess pilot and develop parameters for application at more community centres		✓	

Initiative	Action	Timing of Implementation		
		Phase 1 2025-2027	Phase 2 2028-2029	Phase 3 2030 +
	Share results with partners such as London Public Library, local service providers, institutions, and employers		✓	
Bike Locker Program	Implement next steps to locker pilot project: -Annually update recommendations for bike locker rental fees for inclusion in the Fees and Charges By-Law. -Potential to test another locker manufacturer	✓	✓	
	Annual analysis of bike locker usage	✓	✓	✓
	Determine any expansion of locker program to new locations		✓	✓
Secure Downtown Bike Lock-Up	Finalize initial pilot location at-grade at City Hall	✓		
	Procure system and develop operational parameters	✓	✓	
	Implement pilot		✓	✓
	Assess pilot			✓
	Identify an additional central location for public use. Consider a rented downtown storefront that is staffed and provides other services.			✓
	Review potential locations outside downtown			✓
Downtown Bike Station	Build on the downtown lock-up to identify a downtown location for a full-service bike station.			✓
Corporate Secure Bike Lock-Ups	Build on 2022 inventory to develop an implementation plan for secure bike parking for City staff at City worksites			✓

Initiative	Action	Timing of Implementation		
		Phase 1 2025-2027	Phase 2 2028-2029	Phase 3 2030 +
Supportive Policies and Programs				
Research	Ongoing research to remain up to date on best practices. How do other municipalities approach this? Learnings that help adjust process? Experience elsewhere to address next steps?	✓	✓	✓
Bike Parking Plan Implementation	High level discussion to determine role and what is needed from others to fulfill the BPP, including budget, procurement, legal agreements, operations, installation, maintenance, security, input from public, and updates to public	✓		
	Internal discussions with other service areas to clarify / formalize roles and responsibilities.	✓	✓	
	Establish structure (roles and responsibilities) to ensure collaboration across service areas	✓	✓	
	Establish an online format to receive ongoing public feedback	✓		
Business Bike Rack Program	Advertise program. Revisit program format and City's role. Determine applicability for other forms of bike parking (e.g., secure, lockers, bike rooms)	✓	✓	✓
Increase Awareness of Secure Bike Parking	Develop and share guidelines for adding features of security for London employers (camera, locked, etc.)		✓	
	Develop and share guidelines for adding features of security for multi-unit housing use (camera, locked, etc.)			✓
	Promote Business Bike Rack Program	✓	✓	✓

Initiative	Action	Timing of Implementation		
		Phase 1 2025-2027	Phase 2 2028-2029	Phase 3 2030 +
Business Collaboration	Promote bike parking for employees through TMA	✓	✓	✓
	Work with large public institutions to increase both short and long-term bike parking	✓	✓	✓
Abandoned Bikes Framework	Work with partners to develop a formal process to identify and address abandoned bikes at City bike parking facilities			✓
	Implement process			✓
Festival Bike Parking	Continue to promote use of festival bike parking system at Victoria Park events	✓		
	Explore options for smaller events		✓	
	Continue to support formal festival bike parking provision and process with City service areas and festival partners	✓	✓	✓
Wayfinding	Continue to ensure consistency in bike parking wayfinding signage	✓	✓	✓
	Add info on London.ca		✓	
Bike Repair Stations	Complete review of existing bike repair stations in ROW (excluding TVP NDM stations).	✓		
	Determine maintenance standards and potential new locations	✓	✓	
Maps	Add more bike parking locations to Bike Map		✓	✓
	Continue to work with London Cycle Link and Fanshawe College to develop a crowdsourced bike parking location map.		✓	✓

Initiative	Action	Timing of Implementation		
		Phase 1 2025-2027	Phase 2 2028-2029	Phase 3 2030 +
Information-Sharing	Ensure bike parking information and locations are updated annually on London.ca and through partners		✓	✓
Ongoing Bike Parking Maintenance	Continue to repair damage to bike parking in a timely fashion	✓	✓	✓
Winter Maintenance for Bike Parking	Develop approach to identify winter maintenance requirements as part of MMP		✓	
Centralized/Digital requests	Strengthen and promote single intake point for public requests (i.e., Service London)		✓	✓
	Implement any digital access improvements (Xplore and Service London portal)	✓	✓	✓
Bike Parking Index Tool	Review City of Ottawa's Tool and determine applicability to London		✓	
Bike Parking Management/Administration	Review options for centralized administration of all City bike parking		✓	
	Implement any new management practices			✓
Bike Parking Inventory	Consolidate existing inventories	✓	✓	
	Develop and implement regular inspection protocols for proactive maintenance.		✓	✓
	Share inventories and recommendations with other service areas		✓	✓
	Update inventory			✓
Inventory Management	Clarify preferred bike rack types/options for internal use	✓		

Initiative	Action	Timing of Implementation		
		Phase 1 2025-2027	Phase 2 2028-2029	Phase 3 2030 +
	Develop and share list of preferred bike rack types/options for external requests	✓	✓	
Data Management / Collection	Develop parking usage monitoring approach as part of CPMs. Include all types of bike parking (ROW, short-term bike racks/posts/corrals, secure public bike parking)		✓	✓
	Implement data monitoring approach with partners		✓	✓
	Use data monitoring approach to address demand		✓	✓
Monitoring and Evaluation	Develop a framework to track progress and improve future phases	✓	✓	

APPENDIX D

Site Selection Criteria

Below is a list of criteria to consider when selecting a site for bike parking. This borrows heavily from the Association of Pedestrian and Bicycle Professionals' Bicycle Parking Guidelines 2nd Edition.

Short-term Bike Parking Criteria:

- Convenient to the cyclist's destination
- Located no more than 15 m from the entrance
- Visible from the destination
- If needed, consider a separate bike parking area for employees so that customer bike parking doesn't fill up
- Located in a high-traffic area with passive surveillance (eyes on the street)
- Identified by a sign at the destination pointing to its location
- Located near any cycling routes and along the cyclist's travel desire line
- Weather-protected where possible
- Located on a solid, paved surface
- Well-lit
- Meets City of London Design Specifications and Requirements Manual

Long-term Bike Parking Criteria:

- Easy access
- Wayfinding signage if needed
- Secure, controlled access (variety of access options)
- Weather protection
- Well-lit
- Video surveillance
- Adequate space to manoeuvre around
- Meets City of London Design Specifications and Requirements Manual

APPENDIX E

Cost Comparisons for Bike Parking Provision

Short-term Bike Parking Cost Comparison						
Capital Cost	Bike Shelter w Camera	Bike Shelter	Bike Corral w Camera	Bike Corral	Bike Rack	Bike Post
Initial Infrastructure Cost (concrete or asphalt pad extra)	\$15,000	\$10,000	\$10,000	\$5,000	\$800	\$200
Lifetime	15	15	15	15	15	15
Cost per year	\$1,000	\$667	\$667	\$333	\$53	\$13
Number of bikes (design)	10	10	10	10	6	2
Cost per bike per year	\$100	\$67	\$67	\$33	\$9	\$7
Capital cost per bike per day	\$0.27	\$0.18	\$0.18	\$0.09	\$0.02	\$0.02
Utilization rate	50%	50%	50%	50%	25%	25%
Number of estimated users per day	5	5	5	5	1.5	0.5
Number of estimated users per year	1,800	1,800	1,800	1,800	500	200
Number of estimated users over lifetime	27,000	27,000	27,000	27,000	8,000	3,000
Capital cost per user per day	\$0.56	\$0.37	\$0.37	\$0.19	\$0.10	\$0.07
Operating Cost						
Space rent, utilities, etc.	\$0	\$0	\$0	\$0	\$0	\$0

Short-term Bike Parking Cost Comparison						
Capital Cost	Bike Shelter w Camera	Bike Shelter	Bike Corral w Camera	Bike Corral	Bike Rack	Bike Post
Staff (assume part of another operation)	\$0	\$0	\$0	\$0	\$0	\$0
Technology, fees, etc.	\$1,000	\$1,000	\$1,000	\$1,000	\$0	\$0
Maintenance	\$2,000	\$2,000	\$2,000	\$2,000	\$0	\$0
Other	\$1,000	\$1,000	\$1,000	\$1,000	\$0	\$0
Total Annual Operating Cost	\$4,000	\$4,000	\$4,000	\$4,000	\$0	\$0
Annual cost per bike (design)	\$400	\$400	\$400	\$400	\$0	\$0
Annual operating cost per user	\$2.22	\$2.22	\$2.22	\$2.22	\$0.00	\$0.00

Secure Bike Parking Cost Comparison			
Capital Cost	Secure Bike Facility - Large	Secure Bike Facility - Medium	Bike Locker
Initial Infrastructure Cost (concrete or asphalt pad extra)	\$100,000 - \$150,000	\$75,000 - \$100,000	\$25,000
Lifetime	15	15	15
Cost per year	\$6,700 - \$10,000	\$5,000 - \$6,667	\$1,667
Number of bikes (design)	50-75	30-40	6
Cost per bike per year	\$90-\$200	\$125-\$220	\$278
Capital cost per bike per day	\$0.25-\$0.55	\$0.35-\$0.60	\$0.76
Utilization rate	50%	50%	50%
Number of estimated users per day	25-38	15-20	3
Number of estimated users per year	9,100 - 13,700	5,500 - 7,300	1,100
Capital cost per user per day	\$0.50-\$1.10	\$0.70-\$1.20	\$1.56
Operating Cost			
Space rent, utilities, etc.	\$15,000	\$10,000	\$0
Staff (assume part of another operation)	\$20,000	\$15,000	\$3,000
Technology, fees, etc.	\$2,000	\$1,500	\$500
Maintenance	\$5,000	\$4,000	\$500
Other	\$10,000	\$10,000	\$1,000
Total Annual Operating Cost	\$52,000	\$40,500	\$5,000
Annual cost per bike (design)	\$700 - \$1,040	\$1,000 - \$2,700	\$833
Annual operating cost per user	\$3.80 - \$5.70	\$5.50 - \$7.40	\$4.55