

“Proposed Model Bicycle Parking Zoning Provisions for Niagara”

Prepared by the Policy Task Force of the Regional Niagara Bicycling Committee

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Executive Summary:

Providing people with greater mobility choice is an important component of the vibrancy, health and liveability of our communities. To this end, Provincial, Regional and local municipal planning strategies are placing more emphasis on creating a built environment that supports more cycling, walking and transit. The development of “complete communities” and “complete streets” is part of this new planning paradigm.

While there are many strategies to encourage and support more active forms of transportation, enabling planning policies and zoning provisions are powerful tools to help reshape land use and transportation in communities. **This report focuses on one very important planning strategy that local municipalities, who have jurisdiction on the matter, can take significant leadership on.** The inclusion of new zoning provisions that provide for convenient, easily used and secure bicycle parking in new development will encourage more people to replace some of their car trips with bicycle trips and helps legitimize cycling as a transportation mode of choice.

The Regional Niagara Bicycling Committee (RNBC) has done a best practices review of bicycle parking zoning provisions in various sizes of cities across Canada. To assist local municipalities in their planning work, the RNBC has developed draft model zoning provisions for bicycle parking that can be adapted to local circumstances. The model provisions are contained in Appendices 1 and 2.

This report:

- Provides some **background** on the active transportation planning context that communities are working in today;
- Makes the case for **why short-term and long-term bicycle parking is important**;
- Outlines the **benefits** (i.e. economic, environment, health, social) for investing in a bicycle friendly community;
- Sets out the **principles of the “Made for Niagara” zoning approach** for bicycle parking; and
- Offers a **draft model municipal Zoning By-law** for bicycle parking in Niagara (Appendices 1 & 2)

For information purposes only [and not part of the proposed model Zoning By-law provisions in Appendices 1 & 2], the report includes some of the planning rationale for the proposed zoning provisions (Appendix A); provides suggested Canadian reference documents for municipalities who may want to prepare more specific bicycle parking planning & design guidelines for on-street bicycle parking, off-street bicycle parking & showers and clothing lockers (Appendix B); and describes the differences between short- and long-term bicycle parking which is referenced in the model By-law (Appendix C).

Background:

Over the past decade, leading thinkers, practitioners and decision makers from across North America and Europe have been sharing their perspectives and innovations on the “why” and the “how” of creating more liveable communities. The prosperity and livability of our cities is enhanced when we pay attention to how we can increase the numbers of people who move around by cycling, walking and transit. In fact, we are beginning to see a cultural shift that is resulting in more cycling as part of everyday living.

A strong policy foundation in Provincial, Regional and local municipal planning documents should clearly set out the requirements for establishing and supporting active transportation in all communities. That foundation is contained in the Provincial Policy Statement (2005) [Policy 1.7.1 (d), Part IV, Vision and Policy 1.8.1 (b)] , the Growth Plan for the Greater Golden Horseshoe (2006) [Policies 1.2.1, 2.2.3.7(d), 2.2.5.2, 2.2.7 (b), 3.2.2 (b) and 3.2.3 (b)], the Regional Policy Plan [Policy Section 9.F (Bicycling) and Policies 5.9.4, 6.2.3 and 6.4.1 c) in PPA 2-2009] and some new municipal Official Plans [e.g. St. Catharines, Welland and Wainfleet]. Policies and actions that support “complete communities” and “complete streets” are an important component of this framework. This work is underway in Niagara. Now is the time to develop and implement specific programs to provide the infrastructure for cycling.

Municipal programs to encourage cycling and to provide cycling infrastructure can take many forms. They can range from including money in capital budgets for bike lanes, trails and signage, good road design (bike boxes at intersections) and support for bike safety education to zoning by-law provisions requiring bicycle parking. In addition, Business Improvement Area associations can play an important role in facilitating bicycle parking in downtown commercial areas.

Zoning By-laws are an important mechanism through which local municipalities implement Official Plan policies related to built form, density, land use and transportation. They can be an effective planning tool in helping to create communities that cater to more active forms of transportation. “Convenient, easily used and secure bicycle parking encourages people to replace some of their car trips with bicycle trips and helps legitimize cycling as a transportation mode by providing parking opportunities equal to motorized modes.” (“Bicycle Parking Guidelines, 2nd Edition, 2010”, Association of Pedestrian and Bicycle Professionals). Integrating bicycle use with transit service, for example, is an effective means of attracting new riders by increasing the catchment areas of stations and stops without expensive investments in route expansion or new routes. Metrolinx, the Provincial transit authority, is building upon this premise.

Bicycle Parking: A Critical Component of Bicycle Facilities

Interest and participation in bicycling as a means of transportation is increasing but cycling will achieve its full potential only if adequate safe bicycling infrastructure is provided. The focus tends to be on bicycle routes – on-road bike lanes, ‘complete streets’ design and off-road trails. However, convenient, secure bicycle parking at one’s destination is just as important in encouraging cycling. To develop more bicycle friendly communities, the public sector needs to play a more prominent role of modeling and leading by example. Both short-term and long-term bicycle parking facilities are important.

If proper bike parking facilities are lacking, cyclists may avoid the area due to fear of theft (“Bicycle Parking” www.bicyclinginfo.org, 2013). Alternatively, if cyclists do visit such areas, they are then forced to use ad hoc methods to secure their bikes, such as locking them to sign posts, lamp posts, parking meters

and fences. Such arrangements may interfere with other street activities (blocked sidewalks) and may not be aesthetically pleasing.

It is essential that bike parking facilities provide security against theft, especially for longer term parking. The fear of bike theft can be a bigger deterrent to bicycling than the lack of bike parking. The above noted article estimated that in the U.S., 1.5 million bicycles are stolen each year. Bike thefts provide money for the underground street economy, especially within the illicit drug culture. Theft results in not only a monetary loss but also the frustration and hassle of having to replace one's bicycle. A secure parking facility should go beyond the physical hardware (bike locker or cage) and should also address issues of surveillance and access control.

Benefits of Investing for a Bicycle Friendly Community:

Economic

A bicycle costs much less to own and operate than an automobile. The average U.S. household owns 1.9 cars and spends \$16,700 a year on automobile expenses ("Straphanger", T. Grescoe, p. 10). A household by downsizing to one automobile by using bicycles can save a substantial amount of money (up to \$8,000); money that can be spent on non-auto goods and services. Furthermore, bicycle oriented households tend to spend a greater proportion of their money locally. Approximately 47% of automobile trips in the GTHA are less than 5 kilometres long (Transportation Tomorrow Survey, 2006); a distance that should be easy for most cyclists.

Bicycle oriented tourism is a rapidly expanding segment of the tourist market. Not only are the numbers of bicycle tourists increasing but also these tourists tend to be higher income professionals who spend more than the average tourist. Therefore, bicycle tourism can have a significant impact on the local tourism economy ("Economic Value: Active Transportation & Tourism", Healthy Living Niagara, 2010) and ("#CycleOn: Ontario's Cycling Strategy, MTO, 2013).

The positive impacts of bicycling on household spending and tourism can be achieved only if an adequate cycling infrastructure is present. Fortunately, the costs of providing cycling infrastructure are much less than the infrastructure for automobiles. For example, the cost of an on-road bike lane and restriping might be about \$20,000 per kilometre whereas to build a kilometre of paved road could cost about \$1.3 million. Similarly, the cost of bicycle parking is much less (\$500 per bike for a two-bike rack) compared to the provision of an automobile parking space (\$15,000) ("Economic Value: Active Transportation & Tourism", Healthy Living Niagara, 2010) and ("Boosting Local Business Workshop", Pam Damoff, Oakville Cycles, 2013).

Urban areas as they expand tend to experience traffic gridlock. This is a major problem in the GTHA where it is estimated that traffic congestion costs the economy \$6 billion a year (Toronto Coalition for Active Transportation, 2012). The provision of bicycle infrastructure can help to improve local traffic conditions.

In urban areas, considerable space is devoted to serving the automobile (roads and parking lots). Parking lots are a low value land use. More than a dozen bicycles can be parked in the same space that would be required for one automobile. Greater reliance on bicycle transportation would allow the redevelopment of

car parking lots for higher value uses. “Developers, owners and managers of privately owned commercial properties can benefit financially by providing convenient and secure bicycle parking for tenants, employees and customers” (Association of Pedestrian and Bicycle Professionals, 2010).

Environment

A shift from automobile transportation to more active transportation including cycling would result in less air pollution (CO₂, smog, ozone) (“#CycleOn: Ontario’s Cycling Strategy, MTO, 2013). Reduced pollution would mean less asthma, heart disease and bronchitis. About 40% of the greenhouse gas emissions generated in Niagara come from vehicle transportation (Niagara Region 2011, “Complete Streets for Niagara”). Increased cycling would reduce Niagara’s impact on climate change. Finally, the incorporation of enhanced bicycle parking facilities helps communities to meet LEED (Leadership in Energy and Environmental Design) standards for measuring sustainable building design and construction.

Health

Bicycling is a healthy low impact form of exercise which provides important health benefits. A thirty minute daily commute by bike can reduce the risk of diabetes by 35% (“Economic Value: Active Transportation & Your Health”, Healthy Living Niagara, 2010). Other health benefits include fewer overweight adults and children, less stress, fewer sick days (1.3 fewer days per year in the U.K.) and more productive workers. In contrast, long commutes by automobile have the opposite effects on health (“Niagara Bike Friendly Business Districts Guidebook”, Green Octopus Consulting, March, 2013).

Social

Car driving is isolating for the individual and high vehicular traffic can separate neighbourhoods (“Liveable Streets”, Donald Appleyard, p. 21, 1981). On the other hand, cycling promotes more social interaction, community cohesion and can contribute to neighbourhood safety by being the ‘eyes and ears’ for the area. The presence of cyclists encourages more people to cycle.

Cycling contributes to social equity. A significant portion of the population (approximately 30%) either cannot afford a vehicle or are unable to drive because of age (too young) or physical conditions. Bicycling allows more people to access employment opportunities, shopping and amenities. In addition, in a phenomenon called “demotorization”, young adults are becoming less likely to obtain a driver’s licenses compared to their parents’ generation (Globe and Mail, “Is the Car Dead?”, October 11, 2012) and The Standard, Autonet.ca, “Teens Prefer a Licence to Type”, September 20, 2013). Cycling provides a transportation choice that does not require a license or the expense of an automobile.

Principles of the “Made for Niagara” Zoning Approach for Bicycle Parking:

The Regional Niagara Bicycling Committee has undertaken a fairly comprehensive, Canadian “best practices” review to assist Niagara’s local municipalities in developing appropriate bicycle parking zoning provisions which currently appear to be absent from the majority of local planning documents. The review involved documents from the Association of Pedestrian and Bicycle Professionals, the City of Toronto, City of Ottawa, City of London, City of Vancouver, City of Victoria, City of Richmond, Town of Sarnia, and the City of Edmonton.

At the outset, it is recognized that local municipalities (not the Niagara Region) have jurisdiction over zoning matters within the local context. Niagara’s twelve municipalities have an opportunity right now to lead other jurisdictions in Ontario in the establishment of cycling related best practices that will help increase the mode share for cycling across the region. This document and the model provisions contained herein are offered to Niagara’s local municipalities for consideration and possible incorporation in whole or in part into their own by-laws. They can be adapted to both large and small urban area settings that are found throughout Niagara. It is suggested that minimum parking requirements be set out in the General Provisions section of the comprehensive Zoning By-law either during a municipal comprehensive Zoning By-law update or by an individual amendment to the Zoning By-law. Through their inclusion in local documents, it is anticipated that they will substantially satisfy Provincial and Regional policy requirements for facilitating active transportation modes like cycling.

Based on a best practices review by the Regional Niagara Bicycling Committee, the model provisions suggested here represent minimum bike parking requirements (i.e. number of spaces) in zoning by-laws with the opportunity to establish more rigorous “pathfinder” provisions (e.g. removal of one on-street vehicle parking spot to establish in-street bicycle corral parking in front of commercial developments) that encourage and support more active forms of transportation like cycling. The zoning requirements would not apply retro-actively to existing uses. However, it is suggested that significant expansion or change in land use should incorporate bicycle parking provisions.

Requirements will differ depending on the type of land use and also requirements for long-term and short-term parking. Long-term parking tries to address the issue of security to minimize the risk of bicycle theft. For example, retail or commercial uses generally require more short-term parking than long-term parking, while high density residential uses, major transit stations and major employment uses generally require more long-term parking than short-term parking. A table describing the differences between short and long-term parking is included in this document (Appendix C).

The model zoning provisions do not touch on all aspects of the type, location or design of bike parking or way finding signage which can be better addressed as part of a separate urban design exercise, development agreement, site plan review, streetscape improvement program, transportation demand management study, etc. It is generally accepted however that:

- Accessible bicycle parking should be located near the principal accessible entrance to any commercial development.
- Where sheltered bicycle parking facilities are provided they should be located in highly visible, well-lit or security-monitored locations to help discourage vandalism and theft.
- Bicycle parking is necessary at trail heads, trail staging areas, transit locations and all public parks/recreational facilities.
- Shared parking arrangements (including sheltered facilities for bicycles) amongst uses are helpful in reducing the need for separate parking spaces within a development.

In terms of next steps, as is the case in other leading edge jurisdictions like Vancouver, Portland, Los Angeles, Tucson and Cambridge, Niagara’s municipalities are encouraged to prepare more detailed “Bicycle Parking Planning & Design Guidelines for On-Street Bicycle Parking, Off-Street Bicycle Parking & Showers and Clothing Lockers” to assist developers and property managers in the provision of high quality bicycle parking facilities. A list of recommended guidelines is attached as Appendix B. The

guidelines would explain the benefits of bicycle parking, describe municipal bicycle parking design requirements and offer practical advice on how to provide high quality facilities either retro-actively or in the original design process. The guidelines also would assist local municipal planners who would review development applications for compliance with approved bicycle parking requirements.

A Recommended Model Municipal Zoning By-law for Bicycle Parking (Appendices 1 & 2):

This document recommends that a municipal Zoning By-law should:

1. Specify the number of bicycle parking spaces by land use type.
2. Require long-term parking for most land uses, but particularly for workplaces, transit stations and multi-use residential development.
3. Require adequate short-term parking for other land uses.
4. List or recommend guideline references for bicycle parking planning and design for on-street parking, off-street parking and showers and clothing lockers.

The rates of bicycle parking in the following model Zoning By-law are suggested minimum amounts based directly on unit count by land use type, the proportion of a building’s square footage, and/or building occupancy.

Appendix 1

Draft Model Zoning Provisions for Bicycle Parking in Niagara

Schedule ---

- Section --- **(1)** In this section,
- (a) “**constructed**” includes built, erected, and reconstructed;
 - (b) “**Short-term parking**” means a short-term (i.e. less than 2 hours in duration) visitor bicycle parking facility that may offer some security, and may be partially protected from the weather, for example a simple bike rack at a building’s entrance.
 - (c) “**Long-term parking**” means a more secure, weather-protected bicycle parking facility used to accommodate long-term parking (i.e. greater than 2 hours in duration), such as for residents or employees, usually within a room or covered, fenced area. Security measures may include bicycle lockers, an on-site parking attendant and/or video surveillance.
- (2)** The minimum number of off-street bicycle parking spaces that must be provided and maintained on a lot in connection with the uses of a newly constructed building on that lot are the numbers of spaces set out in the following *Table of Minimum Number of Bicycle Parking Spaces Required* (Sub-Section 4), that correspond with the classes of uses set out in the first column of that Table.

(3) If the zoning requirement in a land use category is a fraction of a bicycle parking space, round up to the next whole number.

(4) **Table of Minimum Number of Bicycle Parking Spaces Required**

Use	Short-term Bicycle Parking Spaces Required	Long-term Bicycle Parking Spaces Required
Residential:		
• Single family dwellings, 2 family dwellings, freehold street townhouses	No requirement	No requirement
• Cluster townhouses on private streets	Minimum of 2 spaces plus 0.5 spaces per dwelling unit over 10 units	No requirement; however, if no private garage, or private locked storage unit, then minimum 2 spaces per unit
• Apartments and rooming houses (including senior's housing, student residences at colleges and universities)	Minimum of 2 spaces plus 0.5 spaces per dwelling unit over 10 units	Minimum 1 space per unit
Commercial:		
• <i>Retail Commercial-</i>		
i) Street frontage retail stores in the downtown core ¹	Minimum 2 spaces per retail unit provided in partnership with local municipality (e.g. BIA)	Minimum of 1 space per retail unit, plus 1 space for each additional 500 sq. metres of gross floor area
ii) Stand-alone retail stores outside of the downtown core with on-site customer parking	Minimum 2 spaces per retail unit for the first 2000 sq. metres of gross floor area, or part thereof, plus 2 spaces per 2000 sq. metres of additional gross floor area	Minimum of 1 space per retail unit, plus 1 space for each additional 500 sq. metres of gross floor area
iii) Shopping centres and strip malls with common parking area ¹	Minimum 2 spaces per retail unit for the first 1000 sq. metres of gross floor area, or part thereof, plus 1 space per 1000 sq. metres of additional gross floor area	Minimum of 1 space per retail unit, plus 1 space for each additional 500 sq. metres of gross floor area

¹ "The required bicycle parking for this land use type can be clustered in a common area, rather than in front of each retail unit. However, the municipality in partnership/consultation with local businesses may consider on-street bicycle corrals as a possible design solution for accommodating public bicycle racks."

Use	Short-term Bicycle Parking Spaces Required	Long-term Bicycle Parking Spaces Required
• <i>Special Commercial-</i>		
i) Local convenience stores	Minimum 6 spaces per unit	Minimum of 1 space per retail unit, plus 1 space for each additional 500 sq. metres of gross floor area
ii) Restaurants & bars	The greater of: - minimum 1 space per 10 seating capacity, or - minimum 6 spaces per commercial unit for the first 1000 sq. metres of gross floor area, or part thereof, plus 2 spaces per 1000 sq. metres of each additional gross floor area	The greater of: - minimum 1 space per 20 seating capacity, or - minimum of 1 space per commercial unit for the first 550 sq. metres of gross floor area, plus 1 space for each additional 500 sq. metres of gross floor area
iii) Hotels & motels	Minimum of one, 6 space visitor's bicycle rack	Minimum 1 space per 10 guest rooms
iv) Bed & Breakfast Establishments	No requirement	Minimum of 2 spaces per guest room
v) Private/Non-governmental office buildings	Minimum of 1 space per office unit for the first 2000 sq. metres of gross floor area, or part thereof, plus 2 spaces per 2000 sq. metres of additional gross floor area, or part thereof	Minimum 1 space per office unit, plus 1 space for each additional 500 sq. metres of gross floor area
Industrial:		
• <i>Manufacturing, warehousing, utility uses and transport terminal/depot-</i>	Minimum of 2 spaces per unit at each public building entrance	Minimum of 1 space per 1000 sq. metres of gross floor area, or part thereof, or 1 space for every 20 employees on a maximum work shift, whichever is greater
Institutional:		
• <i>Government offices-</i>	Minimum of 6 spaces for the first 2000 sq. metres of gross floor area, or part thereof, plus 1 space per 500 sq. metres of additional gross floor area Bicycle parking shall be located at public entrances.	Minimum of 6 spaces for the first 2000 sq. metres of gross floor area, or part thereof, plus 1 space per 500 sq. metres of additional gross floor area

Use	Short-term Bicycle Parking Spaces Required	Long-term Bicycle Parking Spaces Required
<ul style="list-style-type: none"> <i>Hospitals-</i> 	Minimum of 6 spaces, plus 1 space per 4000 sq. metres of gross floor area, or part thereof Bicycle parking shall be located at public entrances.	Minimum of 1 space per 1000 sq. metres of gross floor area, or part thereof
<ul style="list-style-type: none"> <i>Educational Facilities-</i> 		
<ul style="list-style-type: none"> <i>(i) Elementary (all day)</i> 	Minimum of 6 spaces at each public entrance	Minimum of 2 spaces per 10 students of planned capacity, plus 1 space per 10 employees
<ul style="list-style-type: none"> <i>(ii) Secondary (all day)</i> 	Minimum of 6 spaces at each public entrance	Minimum of 1 space per 10 students of planned capacity, plus 1 space per 10 employees
<ul style="list-style-type: none"> <i>(iii) Colleges & Universities</i> 	Minimum of 6 spaces at each primary public entrance, plus 1 space for each 10 students of planned capacity Bicycle parking shall be located at public entrances.	Minimum of 1 space per 10 students of planned capacity, plus 1 space per 10 employees
<ul style="list-style-type: none"> <i>Places of Worship-</i> 	Minimum of 6 spaces, or 1 space per 50 seats, whichever is greater	Minimum of 2 spaces
<ul style="list-style-type: none"> <i>Library, Museum, Art Gallery, Banquet Hall-</i> 	Minimum of 6 spaces, or 1 space per 250 sq. metres of public floor area, whichever is greater. Bicycle parking shall be located at public entrances.	Minimum of 2 spaces, plus 1 space per 10 employees
<ul style="list-style-type: none"> <i>Long-term Care (Personal Care, Retirement Home, Nursing Home, Group Home)-</i> 	Minimum of 6 spaces at each public entrance.	Minimum of 1 space per 10 employees per shift
<ul style="list-style-type: none"> <i>Transportation Hubs (Bus & train stations, parking garages, carpool lots)-</i> 	Minimum of 6 spaces	Minimum bicycle parking spaces to accommodate 2% of peak period ridership

Use	Short-term Bicycle Parking Spaces Required	Long-term Bicycle Parking Spaces Required
Recreational:		
<i>(i) Stadium, arena, pool, exhibition hall and similar facilities with public assembly/spectator areas</i>	Minimum of 6 spaces at each public entrance, plus 1 space per 300 spectator seats, and 1 space per 100 sq. metres of public assembly area	Minimum of 6 spaces
<i>(ii) Gymnasium, health spa, bowling alleys and curling rinks(non-public assembly areas)</i>	Minimum of 6 spaces at each public entrance, or 1 space per 200 sq. metres of public floor area, whichever is greater (Note: May need to define the public floor area more precisely)	Minimum of 6 spaces
All other non-residential uses: (except non-retail agricultural uses)	Minimum of 2 spaces per use	Minimum of 2 spaces per use

(5) General Provisions:

- (i) Where there is more than one land use in a building, the number of bicycle parking spaces required will be a cumulative total of all the bicycle parking spaces required for each land use category.
- (ii) Owners of existing buildings may convert motor vehicle parking spaces to long-term bicycle parking spaces at the ratio of 1 motor vehicle parking space to 10 bicycle parking spaces, in order to meet the minimum number of bicycle parking spaces required under this By-law.
- (iii) The local municipality may consider a further reduction in motor vehicle parking requirements for the provision of shower rooms, change rooms, locker rooms and other similar facilities intended for the use of bicyclist in conjunction with required or provided bicycle parking.
- (iv) If a developer or owner is seeking a reduction in bicycle parking requirements as set out in this By-law, consideration may be given through the zoning amendment or minor variance processes and dealt with on a case by case basis.
- (v) Significant expansion, alteration or change in land use will incorporate the bicycle parking provisions required under this By-law.

Appendix 2

Schedule --- to the Comprehensive Zoning By-law

Location and Design Principles

1. For all uses, except street frontage retail stores in the downtown, bicycle parking shall be located on the same lot as the use or building for which it is provided.
2. Bicycle parking spaces shall be located in order to provide convenient access to main entrances or well used areas.
3. Minimum bicycle parking space dimensions (including orientation, space width and space length) and aisle access shall be set out in a separate planning and design guideline document recommended by the municipality.
4. All bicycle parking racks shall be securely anchored to the ground or a fixed structure, and preferably designed to allow locking of a bicycle in 2 locations.
5. Long-term bicycle parking should preferably be located within:
 - a) A building or structure, or
 - b) A secure area such as a supervised parking lot or enclosure with secure entrance, or
 - c) Bicycle lockers.

The entry door to a bicycle room, compound or bicycle locker shall be within sight of building or parking security, where such exists, an elevator, or an entrance.

6. Examples of bicycle parking planning and design guidelines for parking racks, storage facilities, etc. are offered in Appendix B to this By-law for possible use and guidance by the local municipality, developers and property owners.

Appendix A

Rationale

1. Stand-alone Retail Stores vs. Shopping Centres and Strip Malls:

There should be a higher requirement for bicycle parking in shopping centres and strip malls than for stand-alone retail stores due to the fact that there normally is a greater variety of retail uses present that potentially can generate more bicycle traffic. Also, they are more of a destination attraction than stand-alone retail stores.

2. Local Convenience Stores:

These uses potentially can generate more bicycle traffic within the surrounding neighbourhoods than other types of retail uses of a similar size.

3. Manufacturing and Warehousing:

The demand for bicycle parking can be quite variable for this category. No distinction has been made between specific activities within this land use class. Thus, a minimum requirement has been proposed.

4. Hospitals:

As an example, the proposed parking requirements at the new St. Catharines Hospital on 4th Avenue (@ 1 million sq. feet) would require 25 short term bicycle parking spaces and 100 long term bicycle parking spaces.

5. Library, Museum, Art Gallery:

Examples from other jurisdictions are quite variable for short term bicycle parking requirements. The literature indicates that for “X” amount of public floor area, 1 bicycle parking space is required. The numbers are as follows: for Victoria (100 sq. metres), APBP (1000 sq. metres) and Vancouver (1500 sq. metres). For Niagara, it is suggested that the requirement should be more in line with that of Victoria, a centre more representative of larger communities in Niagara. Victoria’s population is about 80,000.

Appendix B

Suggested Reference Documents:

Bicycle Parking Planning & Design Guidelines for On-Street Bicycle Parking, Off-Street Bicycle Parking & Showers and Clothing Lockers

- Association of Pedestrian and Bicycle Professionals, “Bicycle Parking Guidelines- 2nd Edition”, 2010
- Ontario Traffic Manual Book 18, “Bicycle Friendly Design Guidelines: Appendix B” (Draft), June, 2013
- City of Toronto, “Guidelines for the Design & Management of Bicycle Parking Facilities”
- City of Ottawa, Bicycle Parking Design Guidelines
- City of Vancouver, Bicycle Parking Design Guidelines
- Victoria Transport Policy Institute, “Bicycle Parking, Storage & Changing Facilities”
- City of Richmond, Bicycle Parking Design Guidelines
- Town of Sannich, Bicycle Parking Design Guidelines
- City of Edmonton, Bicycle Parking Design Guidelines
- City of Calgary, “Bicycle Parking Handbook- A Developer’s Guide”

Appendix C

Core Concepts for Short-Term and Long-Term Bicycle Parking

(Source: “APBP Bicycle Parking Guidelines, 2nd Edition”, Table I-1, p. 1-2, 2010)

All bicycle parking facilities fall into two categories: *short-term* and *long-term*. The following table describes the differences between short- and long-term bicycle parking.

Criteria for short-term and long-term bicycle parking

Criteria	Short-term	Long-term
Parking duration	Less than two hours	More than two hours
Fixture types	Simple bicycle racks	Lockers, racks in secured area
Weather protection	Unsheltered	Sheltered or enclosed
Security	Unsecured, passive surveillance (eyes on the street)	Secured, active surveillance
		Unsupervised:
		“Individual-secure” such as bicycle lockers
		“Shared-secure” such as bicycle room or cage
		Supervised:
		Valet bicycle parking
Typical land uses	Commercial or retail, medical/ healthcare, parks and recreation areas, community centers	Paid area of transit station
		Residential, workplace, transit

The majority of bicycle parking is short-term parking. Even cities with a large amount of bicycle parking usually have mostly short-term facilities. In some cases, short-term parking can function as long-term, through strategies such as shelters and locating parking in areas with high pedestrian volumes (i.e., eyes on the street or passive surveillance). However, properly designed long-term parking almost always offers a superior level of security. Secure long-term parking should always prevent non-users from accessing the bicycle (e.g., lockers, user-restricted or valet parked bicycle rooms or cages) and ideally would prevent access to bicycle accessories, so that a cyclist does not have to remove them.

Note:

The Regional Niagara Bicycling Committee recognizes that traditionally the majority of bicycle parking facilities have focused on short-term use (e.g. daily shopping). One of the goals of the proposed model bicycle parking zoning provisions set out in this document also is to encourage the provision of longer-term parking facilities for those requiring an extended stay (e.g. workplaces). This will better support more people who may choose to travel by bicycle for both their utilitarian and recreational needs.