



The Corporation of the District of North Vancouver

## ADMINISTRATIVE AND OPERATIONAL POLICY

Title	Bicycle Parking and End-of-Trip Facilities
Section	Engineering and Public Works

### POLICY

**This policy is intended to guide staff regarding the provision of adequate bicycle parking and end-of-trip facilities when processing rezoning and variance applications for new development and significant renovations.**

#### 1.0 DEFINITIONS

- (a) *“Class 1 Bicycle Space”* means a bicycle space primarily designed to provide long-term bicycle parking for employees and/or residents of the building that is secure and weather-protected (also known as Class A or long-term);
- (b) *“Class 2 Bicycle Space”* means a bicycle space primarily designed to provide short-term transient bicycle parking for persons who are not residents or employees of the building (also known as Class B or short-term); and
- (c) *“End-of-Trip Facilities”* are designated places that support cyclists in completing trips and includes secure bicycle parking, locker facilities, change rooms, and showers.

#### 2.0 BICYCLE PARKING RATES

The rates in Table 1 for Class 1 Bicycle Spaces and Class 2 Bicycle Spaces should be considered as the base rates.

#### 3.0 CLASS 1 BICYCLE SPACES

The design and layout of Class 1 Bicycle Spaces, including associated rooms, compounds, lockers, bicycle racks and access requirements, should satisfy the considerations, guidelines and requirements set out in Table 2.

#### 4.0 CLASS 2 BICYCLE SPACES

The design and layout of Class 2 Bicycle Spaces including associated, bicycle racks and access requirements, should satisfy the considerations, guidelines and requirements set out in Table 3.

## 5.0 END-OF-TRIP FACILITIES FOR NON-RESIDENTIAL USES

The design and layout of End-of-Trip Facilities should satisfy the considerations, guidelines and requirements set out in Table 4 and should include a toilet, sink, clothing lockers and a shower, unless the development has changing and shower facilities in a common area.

Shower rooms should include:

- mirrors, electrical outlets (for electric shavers and hair dryers), iron and ironing boards, first-aid kits, hooks and/or benches;
- Location for a clothes dryer for wet gear facilities in a well ventilated area; and
- non-slip surfaces, heating, privacy, security, adequate lighting and ventilation.

Where End-of-Trip Facilities are provided, an equal number of clothing lockers as Class 1 Bicycle Spaces should be provided, and the clothing lockers should satisfy the following requirements:

- Each locker should be a minimum of 0.30 metres wide, 0.45 metres deep, and 1.8 metres high;
- Available for use during all hours that employees are on-site;
- Installed adjacent to the showers facilities in a safe and secure area; and
- Include adequate lighting and ventilation

## 6.0 PROCEDURE

The following procedure is used to implement this Policy but does not form part of the Policy. This procedure may be amended from time to time at the discretion of the Municipal Engineer.

- (a) Applicant provides the following using the table provided as Appendix A:
- i. A calculation of the number and type (e.g., Class 1, Class 2) of bicycle parking spaces required for compliance with the Zoning Bylaw;
  - ii. The number of bicycle parking spaces proposed;
  - iii. The number of bicycle parking spaces as per the provisions of this policy;
  - iv. The number and type of End-of-Trip Facilities proposed as per the provisions of this policy; and
  - v. Details on electric charging facilities.

(b) Review

Development Engineering staff (or designated person) reviews the applicant's bicycle parking and End-of-Trip Facilities proposal against the criteria and guidelines set out in this procedure. Development Engineering staff may require more information from the applicant, and may request changes be made to the proposal.

(c) Conditions and Agreements

If the applicant's bicycle parking and end-of-trips proposal is approved by Council, then the rates and facilities must be secured as appropriate.

*(d)* Plans

Applicant shall provide architectural and/or civil plans with appropriate documentation showing how the design meets the bicycle parking and End-of-Trip Facilities plan, and conditions of approval as a condition of building permit issuance. Plans must include details regarding electrical outlet locations in bicycle storage room(s), placement of bicycle racks, etc.

Policy approved on: December 4, 2019

TABLE 1  
RATES FOR BICYCLE SPACES

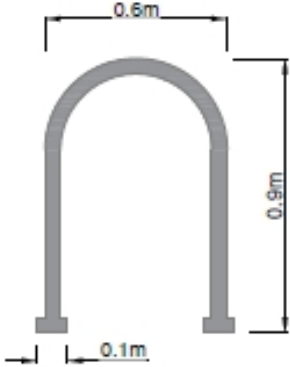
Property Use	Required Bicycle Spaces	
	Class 1 Bicycle Space	Class 2 Bicycle Space
<b>Residential</b>		
Multiple unit residential building including live work units	A minimum of 1.5 spaces for Studio or one-bedroom unit  A minimum of 2 spaces for two or more bedroom unit	0-19 units: 4 spaces 20-59 units: 6 spaces 60 or more units: 6 spaces per every 60 units or part thereof
Senior citizen housing where it is covenanted that 90% of the residents are 55 years or older	A minimum of 0.5 spaces for every dwelling unit	A minimum of 6 spaces for any development containing 20 or more units
<b>Commercial</b>		
Office purposes	A minimum of 1 space for each 250 square metres of gross floor area	A minimum of 3 spaces for each 1,000 square metres of gross floor area or portion thereof
All commercial uses		A minimum of 3 spaces for each 500 square metres of gross floor area or portion thereof
<b>Industrial</b>		
All Industrial uses	A minimum of 1 space for each 500 square metres of gross floor area in the building(s)	A minimum of 2 spaces
<b>Institutional</b>		
Homes for the aged; Nursing home; Multi-Level Care Facility	A minimum of 1 space for every 50 beds	A minimum of 6 spaces
Elementary school	A minimum of 1 space for each 1,000 square metres of gross floor area	A minimum of 1 space for each 1,000 square metres of gross floor area
Secondary School; Post-Secondary School		A minimum of 1 space for each 100 square metres of gross floor area
Gallery; Dance hall; Club	A minimum of 1 space for	A minimum of 4 spaces for

Property Use	Required Bicycle Spaces	
	Class 1 Bicycle Space	Class 2 Bicycle Space
house and banquet facilities	each 500 square metres of gross floor area	each 1,000 square metres of gross floor area or portion thereof
Auditorium; Theatre	A minimum of 1 space for any portion of each 200 person seating capacity	A minimum of 6 spaces for any portion of each 200 person seating capacity
Religious buildings	No requirement	A minimum of 6 spaces
<b>Recreational</b>		
Recreational building; Arena; Rink; Gymnasium; Bowling alley; Activity centre or similar place of assembly; Building used for bingo, casino or movie theatre; Library	A minimum of 1 space for each 500 square metres of gross floor area	A minimum of 4 spaces for each 1,000 square metres of gross floor area or portion thereof
Fitness centre	A minimum of 1 space for each 250 square metres of gross floor area	A minimum of 12 spaces for each 1,000 square metres of gross floor area or portion thereof

TABLE 2  
DESIGN AND LAYOUT CONSIDERATIONS OF CLASS 1 BICYCLE SPACES

Attributes	Bicycle Room	Bicycle Compound	Bicycle Locker
<b>Location</b>	<p>Bicycle room(s), bicycle compound(s) or bicycle locker(s) are recommended to be located at grade that is secure and weather-protected; however, where possible no lower than the first complete parking level below grade.</p> <p>Each bicycle locker is recommended to be at least 2 metres away from the side edge of the nearest parking space. Minimum setback will be adjusted on a case by case basis by the Designated Person for each project.</p>		
<b>Security</b>	<p>All of the interior of the bicycle room is recommended to be visible from the entry door. Ensure clear sight lines are met and consider breaking the storage into multiple rooms when layouts fail to meet Crime Prevention Through Environmental Design (CPTED) principles.</p>	<p>The bicycle compound wall shall extend from floor to ceiling. The metal mesh is recommended to be designed in such a way as to prevent a hand, tool or device from slipping through the mesh to open the door or slip gear off of stored bicycles.</p>	<p>Bicycle lockers are recommended to be constructed of theft resistant material with a lockable door which opens to the full width and height of the locker. Bicycle lockers shall comply with the District's "Enclosed Parking Garage Guideline".</p>
<b>Entry Doors</b>	<p>The entry door may have a separate lock and key or programmed entry system, and the locks should be high security in nature.</p>	<p>Entry doors and walls to the bicycle compound are recommended to be constructed from expanded metal mesh and door with a non-reflective coating. The lockset or programmable entry is recommended to be placed in a steel plate box welded to the door structure.</p>	-

Attributes	Bicycle Room	Bicycle Compound	Bicycle Locker
<b>Size</b>	The maximum number of bicycles within a bicycle room or bicycle compound shall be approved by the Designated Person on a case by case basis.		The minimum external dimensions of a bicycle locker are recommended to be 0.9 metres in width, 1.9 metres in length, and 1.21 metres in height. Figure B-1 Appendix B illustrates typical dimensions of a bicycle locker.
<b>Access</b>	Where bicycle room, bicycle compound or bicycle locker is located at grade, direct and easy to use access to the exterior is preferred. Where bicycle room, bicycle compound or bicycle locker is located above or below grade consider how to ensure access is as simple and easy to use as possible by locating storage facilities close to parkade ramps or elevators		
<b>Lighting</b>	Lighting in the bicycle room, bicycle compound or bicycle locker area should be equivalent to lighting for “Service rooms and Laundry areas” to conform to the BC Building Code lighting requirements for public areas. One or more motion-activated security lights enclosed in a tamper-proof housing are recommended to be provided in each room to provide sufficient light levels.		
<b>Supervision</b>	Improve safety and security by ensuring the entrance to bicycle storage areas are in a clearly visible location with passive overlook such as next to a lobby or overlooked by businesses and dwelling units. Bicycle storage areas are recommended to be included in the surveillance system, where such exists, a security camera system and/or a motion detector.		
<b>Electrical Outlets</b>	A minimum of one (1) duplex 110 volt electrical outlet is recommended to be provided for each four (4) Class 1 Bicycle Spaces.		
<b>Horizontal and Vertical Bicycle Spaces</b>	A minimum of 75% of Class 1 Bicycle Spaces must provide for the bicycles to be placed horizontally. No more than 25% of Class 1 Bicycle Spaces may be vertical. Alternative approaches may be considered.		-
<b>Accommodating Longer Bicycles</b>	In order to accommodate non-standard bicycles (i.e. bicycles with trailers, tricycles, cargo bicycles, tandems and recumbents), 5% of Class 1 Bicycle Spaces are recommended to be 3 metres long to prevent spillover into access aisle.		-

Attributes	Bicycle Room	Bicycle Compound	Bicycle Locker
<p><b>Bicycle Space Size and Access Requirements</b></p>	<p>(a) Each Class 1 bicycle space shall have:</p> <ul style="list-style-type: none"> <li>• A minimum vertical clearance meeting the BC Building Code requirements for headroom clearance in access to exits;</li> <li>• A minimum length of 1.8 metres and width of 0.6 metres if a bicycle is placed horizontally; and</li> <li>• A minimum length of 1 metre and width of 0.6 metres if a bicycle is placed vertically;</li> </ul> <p>(b) A Class 1 bicycle space shall have an aisle a minimum 1.2 metres in width between rows of bicycle parking spaces and the perimeter of the area devoted to bicycle parking</p> <p>Figure B-2 in Appendix B illustrates an example of minimum spacing requirements for Class 1 Bicycle Spaces.</p>		-
<p><b>Bicycle Rack s</b></p>	<p>Bicycle racks Class 1 Bicycle Space shall be constructed of sturdy theft-resistant material and shall be firmly secured to the floor or ground by fixing them in concrete. The bicycle rack shall support the bicycle frame above the centre of gravity and shall enable the bicycle frame and front wheel to be locked with a U-style lock. Innovative rack design may be approved by the Designated Person on a case by case basis.</p>		-
<p><b>Preferred Bicycle Rack s</b></p>	 <p>The diagram shows a U-shaped bicycle rack. The top horizontal bar has a width of 0.6m. The vertical posts are 0.9m high. The base of the posts is 0.1m wide. The rack is shown in a perspective view, standing on a flat surface.</p>		-



Attributes	Bicycle Room	Bicycle Compound	Bicycle Locker
<b>Central Bicycle Maintenance Area</b>	<p>Central bicycle maintenance area is recommended to be reserved for self-serve bicycle repair stations and bicycle-wash area. However, a bicycle repair station may be co-located with the bicycle room or may be part of a larger workshop area. If the development requires multiple bicycle rooms, one central bicycle maintenance area is preferred. The dimensions of the central bicycle maintenance area will be approved by the Designated Person.</p>		
<b>Bicycle Repair Station</b>	<p>For adequate clearance to maneuver and make bicycle repairs, recommended clear area of a repair stand is 2.4 metres by 1.2 metres, with the back of the repair stand placed at least 0.3 metres from the wall. A basic bicycle repair stand is recommended to have:</p> <ul style="list-style-type: none"> <li>• Supporting arm to hold a bicycle without causing damage;</li> <li>• Basic tools attached to the stand with tamper-proof hardware; and</li> <li>• An air pump attached to the stand with tamper-proof hardware.</li> </ul>		
<b>Bicycle Wash Area</b>	<p>A bicycle-wash area may be combined with the car wash and/or pet-wash station with hot and cold water facilities. A waste drain pipe to grease interceptor is required for the bicycle-wash area (mechanical permit is required for grease interceptor, if renovating an existing structure). The location of the bicycle-wash area within the central bicycle maintenance area will be approved by the Designated Person on a case by case basis.</p>		

TABLE 3  
DESIGN AND LAYOUT CONSIDERATIONS OF CLASS 2 BICYCLE SPACES

Attributes	Class 2 Bicycle Spaces
<b>Location</b>	Class 2 Bicycle Spaces must not interfere with a pedestrian walkway and are recommended to be located within 15 metres of a principle building entry. If the racks are not readily visible to visitors to a site, directional signage to the racks is recommended to be provided.
<b>On-site Class 2 Bicycle Spaces</b>	A minimum of 50% of the Class 2 Bicycle Spaces are recommended to be located on private property. However, the number and siting of on-site Class 2 Bicycle Spaces will be approved by the Designated Person on a case by case basis.
<b>Design and Security</b>	Class 2 Bicycle Spaces are recommended to be provided in a convenient, well-lit location that allows visual surveillance by occupants of the building the bicycle parking is intended to serve.
<b>Bicycle Space Size and Access Requirements</b>	<p>Each Class 2 Bicycle Space is prohibited from obstructing pedestrian traffic or interfering with the use of the pedestrian area;</p> <ul style="list-style-type: none"> <li>• Each parked bicycle shall be accessible without moving another bicycle;</li> <li>• Bicycle rack that is parallel to the curb shall be located a minimum of 0.6 metres from the curb face;</li> <li>• Bicycle rack that is perpendicular to the curb shall be located a minimum of 0.9 metres from the curb face.</li> </ul> <p>Figure B-3 in Appendix B illustrates an example of minimum spacing requirements for Class 2 Bicycle Spaces.</p>
<b>Bicycle Rack s</b>	Bicycle racks Class 2 Bicycle Spaces shall be constructed of sturdy theft-resistant material and shall be firmly secured to the floor or ground by fixing them in concrete. The bicycle rack shall support the bicycle frame above the centre of gravity and shall enable the bicycle frame and front wheel to be locked with a U-style lock. Innovative rack design may be approved by the Designated Person on a case by case basis.

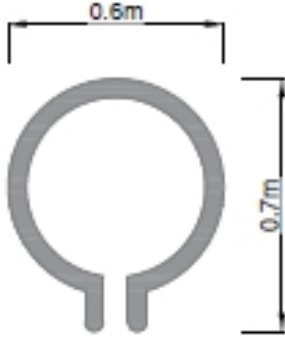
Attributes	Class 2 Bicycle Spaces
Preferred Bicycle Racks	 <p>The diagram shows a circular bicycle rack with a diameter of 0.6m and a height of 0.7m. The rack has a circular top section and two vertical posts extending downwards from the bottom center.</p>

TABLE 4  
END-OF-TRIP FACILITY RATES

Required Number of Class 1 Bicycle Spaces	Minimum Number (unisex)		
	Toilets	Wash Basins	Showers
1 - 10	A minimum of 1 universal toilet room and 1 shower compartment that conforms to BC Building Code		
11 - 20	2	2	2
21 - 30	3	2	3
31 - 40	4	3	4
Over 40	4 plus 2 for each additional 40 Class 1 Bicycle Spaces or part thereof	3 plus 1 for each additional 40 Class 1 Bicycle Spaces or part thereof	4 plus 2 for each additional 40 Class 1 Bicycle Spaces or part thereof

APPENDIX A  
 SAMPLE TABLE SUMMARIZING PROPOSED BICYCLE PARKING SPACES  
 RELATIVE TO ZONING BYLAW

	<b>Class 1 Bicycle Spaces</b>	<b>Class 1 Bicycle Spaces</b>	<b>End-of-Trip Facilities</b>
Requirements as per Zoning Bylaw			
Requirements as per the Policy			
Number of spaces proposed			
Number of electrical outlets proposed			

APPENDIX B  
MINIMUM SIZE & SPACING REQUIREMENTS

FIGURE B-1: Bicycle locker dimensions

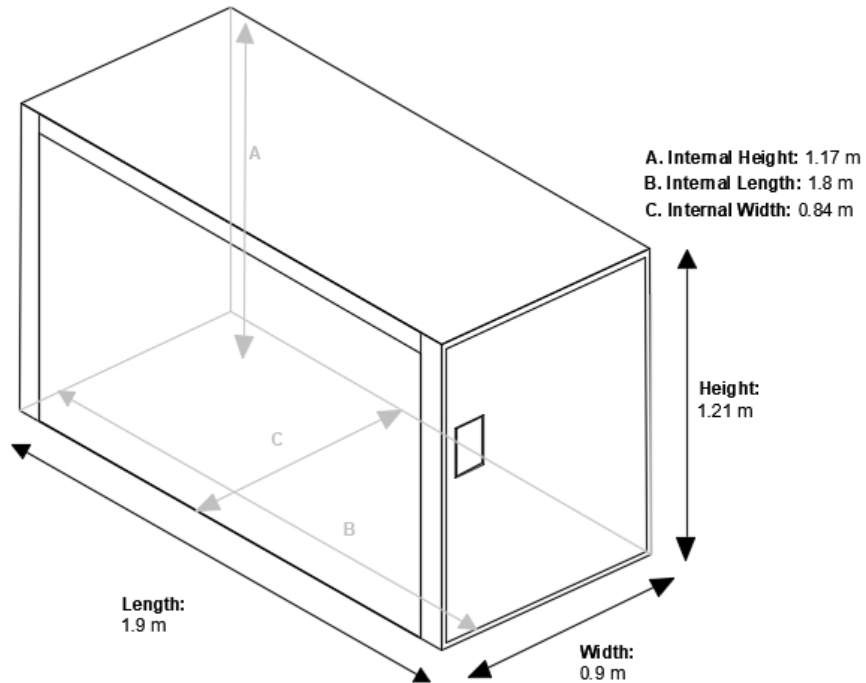


FIGURE B-2: Example of minimum spacing requirements in a bicycle room

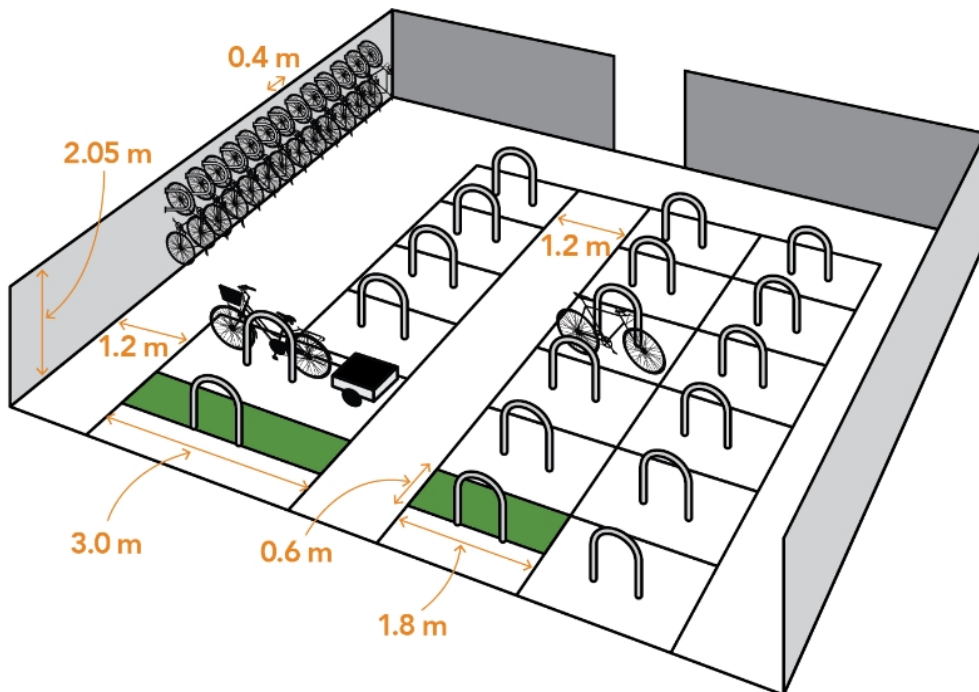


FIGURE B-3: Example of minimum spacing requirements for Class 2 Bicycle Spaces in the public right-of-way

