

E. Supplementary Document Four

ARTA Guidance Note for Cycle Parking Facilities 2007

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- > Cycle Action Auckland – Bevan Woodward and John Gregory
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- > Manukau City Council – Steve Patton
- > North Shore City Council – Richard Murray
- > Papakura District Council – Alan Peddie
- > Rodney District Council – Ahmed Khaled and Belinda Matheson
- > Waitakere City Council – Sandy Mills.

Note: Prices indicated are only to be used as a guide as at 1 June 2007. Please contact the suppliers direct in order to obtain a fixed quote.

1. Introduction

1.1 The Vision

The Auckland Regional Transport Authority (ARTA) is committed to facilitating the implementation of a Regional Cycling Network. The network has been developed in collaboration with all of the seven Auckland Territorial Local Authorities (TLA's) and will comprise over 939km of connected cycle routes. The implementation of the regional cycling network will make cycling a safer and more attractive travel option thus working towards ARTA's aim of doubling the number of cycle trips by the year 2016.

ARTA recognises that it is also important to ensure that there is regional consistency with facilities that will support the cycle network. Therefore, these guidelines have been developed in order to inform TLAs, education providers and private businesses/developers on how to and where to install bicycle parking.

- > These guidelines summarise the different levels of bicycle parking which should be implemented within Auckland, and the requirements for the different types of bicycle parking. The guidelines also include a list of products available from local suppliers.
- > Some TLAs would also like to ensure that all new developments include the provision for bicycle parking and other trip end facilities. Therefore, these guidelines provide a reference for TLAs until such time as these requirements are included in individual district plans.

1.2 Why the need for these Bicycle Parking Guidelines

- > These guidelines address the need for bicycle parking to be consistent and secure.
- > The design of bicycle parking facilities should ensure easy recognition through consistent signage and locations.
- > All bicycle parking should be provided so that it supports bicycles of all shapes, sizes and designs.
- > To ensure the appropriate level of security for all bicycle users, five types of bicycle parking (with varying levels of security) are recommended. As many cyclists have a large amount of money invested in their bicycles (and all the equipment attached), the level of security is considered the most important aspect for these cyclists.
- > To ensure the personal security of cyclists and security of the parked bicycle, the guidelines address the need to consider aspects such as lighting and the location of facilities
- > Many cyclists will lock their bicycles to the most convenient feature near to their final destination for convenience and security. This latent demand is a key consideration when determining where cycle parking should be provided.

1.3 Who should use these Guidelines

These guidelines should be used by anyone involved in providing bicycle parking. This includes:

- > Territory Local Authorities
- > Town Planners/landscape architects
- > Transportation planners or engineers
- > Travel planners
- > Developers
- > Education providers
- > Public transport providers.

2. Types of Bicycle Parking

There are five levels or types of bicycle parking which are to be considered. These are:

- > Type One – Customer/Visitor Short-Term Bicycle Parking
- > Type Two – Customer/Visitor Short to Medium-Term Bicycle Parking
- > Type Three – Public Long-Term Bicycle Parking
- > Type Four – Private Long-Term Bicycle Parking
- > Type Five – Temporary Bicycle Parking.

2.1 Type One – Customer/Visitor Short-Term Bicycle Parking

This level of bicycle parking should be provided outside destinations where visitors are only expected to stay for five to 30 minutes.

This level of bicycle parking should be installed within 20 metres of the main pedestrian entrance to a building/shop.

Possible locations for this type of bicycle parking:

- > Local shopping centres
- > Neighbourhood stores (e.g. dairies or take away stores)
- > Outside libraries or video hire stores
- > Playgrounds and beaches
- > At key points along popular cycle routes (e.g. public toilets or cafés)

- > Outside commercial premises, office buildings, council civil buildings etc. (to provide for bicycle courier/short-term visitor parking).

The general requirements of this type of bicycle parking are:

- > Approved bicycle stands
- > Located in such a manner as not to block the footpath
- > Located within 20 metres of a pedestrian access to a destination
- > Good passive surveillance and lighting
- > Clear signage
- > Undercover, if there is an existing shelter available.

If parking facilities are not conveniently located, cyclists will ignore the facility and will secure their bicycles to nearby railings, posts, seats, parking meters, trees etc.

In town centre areas, which have traffic running through the centre (strip shopping centres), the Type One bicycle parking should consist of either one or two bicycle stands located every 50 metres along the strip.



Photograph 2.1.1

Example of Type One – bicycle parking which is undercover, and within 10 metres of the main pedestrian entrance to a public building.

2.2 Type Two – Customer/Visitor Short – Medium-Term Bicycle Parking

This level of bicycle parking should be provided outside destinations where customers/visitors are expected to stay for 30 minutes to three hours.

This level of bicycle parking should be installed within 100m of the destination, or so that it is closer than the nearest carpark (excluding disabled carparks).

Possible locations for this type of bicycle parking:

- > Town centres, supermarkets, or shopping malls
- > Places of assembly
- > Leisure centres/swimming pools.

The general requirements of this type of bicycle parking are:

- > Approved bicycle stands (number to reflect demand for bicycle parking)
- > Located within 100m of the destination or so that it is closer than the nearest carpark (excluding disabled carparks)
- > Clear signage
- > Good passive surveillance and lighting
- > Undercover.

In town centres with pedestrian only malls, Type Two bicycle parking should be provided in clusters near the different entrances to the pedestrian mall.



Photograph 2.2.1

Example of Type Two – Bicycle parking within a supermarket carparking area, (bicycle parking would be even better if located closer than the nearest carpark) (Photo: Cycle Action Auckland)

2.3 Type Three – Public Long-Term Bicycle Parking

This level of bicycle parking should be provided where there is a demand for public high security long-term bicycle parking.

This level of bicycle parking should be installed so that it is easy to access and is close to the main destination point for cyclists (i.e. near the pedestrian entrance to PT stations).

This level of bicycle parking should be installed within 100 m of the destination, or so that it is closer than the nearest carpark (excluding disabled carparks).

Possible locations for this type of bicycle parking:

- > Public Transport (PT) stations

- > Town centres/central business districts.

The general requirements of this type of bicycle parking are:

- > High-security storage areas that have limited access
- > Provision for personal bicycle locks to be used
- > Clear directional signage
- > Clear instructions for use
- > Good passive surveillance and/or CCTV coverage
- > Good lighting
- > Undercover.

Acceptable types of facilities

- > Lockers
- > Limited access enclosures
- > Bike station.



Photograph 2.3.1

Example of Type Three – Bicycle public parking lockers at PT stations

2.4 Type Four – Private Long-Term Bicycle Parking

This level of bicycle parking should be provided by private companies or organisations for use by employees or students who work/study on the site. The bicycle parking should be high security and limited access, so that employees or students can confidently leave the bicycle for long durations.

Possible locations for this type of bicycle parking:

- > Intermediate and High Schools

- > Tertiary educational facilities
- > Office buildings
- > Shopping malls (staff carparking)
- > Industrial/commercial workplaces
- > All other workplaces.

The general requirements of this type of bicycle parking are:

- > High-security storage areas with limited access
- > Clear instructions on how to gain access to the storage area
- > Undercover
- > Good lighting
- > Located so that personal security is not compromised
- > Provision for personal bicycle locks.



Photograph 2.4.1

Example of Type Four – Bicycle enclosure at an intermediate school (bicycle parking would be better if covered and the old type bicycle stands were updated). (Photo: ARTA)

Most private developments will be required to provide both Type Four parking for staff/students and Type One parking for visitors.

2.5 Type Five – Temporary Bicycle Parking

This type of bicycle parking covers the provision for temporary bicycle parking which can be included as part of a traffic management plan for a specific event or public gathering which is being held in an venue which is not usually used for such gatherings. The bicycle parking should be high security and continuously patrolled.

Types of events where temporary bicycle parking should be considered:

- > Sporting events with a large spectator crowd (either a specific stadium or other locations)
- > Festivals (e.g. Pasifica, the Grey Lynn Festival and Devonport Wine and Food Festival)
- > Large open air concerts (e.g. Christmas in the Park).

The general requirements of this type of bicycle parking are:

- > High-security fenced areas with no public access
- > Appropriate bicycle storage system
- > Appropriate system for identifying individual bicycles and their owners
- > Constant surveillance from staff.

The temporary bicycle parking should be located in such a way that it is:

- > Close to the pedestrian entrance to the venue
- > Is clearly signposted
- > Does not obstruct the flow of pedestrians entering or exiting the venue
- > Is promoted as part of the travel to the venue.



Photograph 2.5.1

Example of Type 5 – Temporary bicycle parking for a major sports event.

Summary of Criteria

The Table below summarises the most important aspects for the different types of bicycle parking.

Table 2.6.1 Summary of Key Issues for the Different Types of Bicycle Parking

Type	Duration	Convenient Location	Undercover	Secure
Type One	5min – 30 min			
Type Two	30 min – 3 hours			
Type Three	All day			
Type Four	All day			
Type Five	3-6 hours			

Legend:

 Least important

 Moderate importance

 Very important

3. Bicycle Parking Hardware

This section sets out the requirements for bicycle parking hardware.

3.1 General Requirements for all types of Bicycle Parking Hardware

All bicycle parking facilities should:

- > Support all types of bicycles, including those without a diamond shaped frame
- > Enable both wheels and frame to be secured using a personal bicycle lock
- > Not cause damage to wheels, frame or other components
- > Be securely anchored to the ground, wall or ceiling, so they cannot be easily removed
- > Be of sufficient strength to resist vandalism and theft
- > Be smooth, so that the stand does not scratch the bicycle frame.

3.2 Bicycle Stands

General Requirements

Bicycle stands should:

- > Support the bicycle upright by its frame in two places to prevent the bicycle from tipping over

- > Enable wheels and frame to be locked to the device without damage, including scratching of the frame
- > Support all types of bicycles, including those without a diamond shaped frame
- > Be securely anchored to the ground, so they cannot be easily removed
- > Be of sufficient strength to resist vandalism and theft.

Typical Design

The typical and preferable design of a public bicycle stand is the “Sheffield” stand, which incorporates a bicycle parking symbol, as shown in Figure 3.2.1.

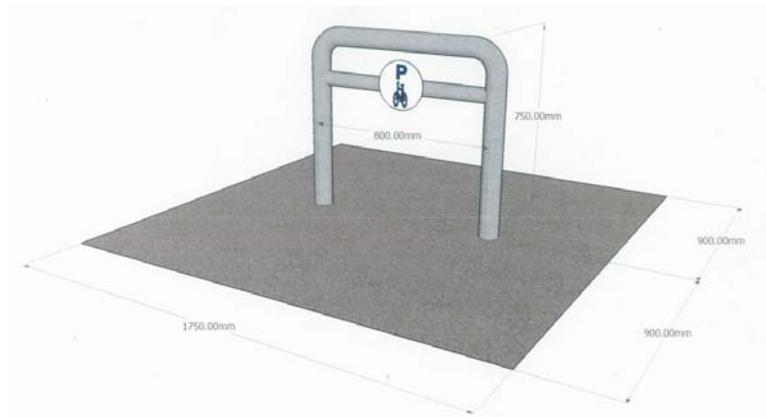


Figure 3.2.1

Preferred design of bicycle stand

Layout of Bicycle Stands

The design envelope for a horizontally parked bicycle is considered to be 700mm wide x 1750mm long.

Bicycle stands should be located a minimum of 900mm from any wall, fence or barrier. The spacing between bicycle racks should be a minimum of 1200mm.

The minimum clearances between a parked bicycle and the edge of a vehicle traffic lane, or parking lanes is 600mm. If the parking is located next to a road with a speed limit of 60km/h or greater then this distance should be increase to 1000mm.

The minimum aisle width is the space between any part of a bicycle using the provided bicycle stands. The minimum aisle width varies depending on the angle of the bicycle stands, as summarised in Table 3.2.1. on the following page.

Table 3.2.1 Minimum Aisle width

Angle	Minimum Aisle Width (m)
90°	1.5
60°	1.3
45°	1.1
30°	1.1

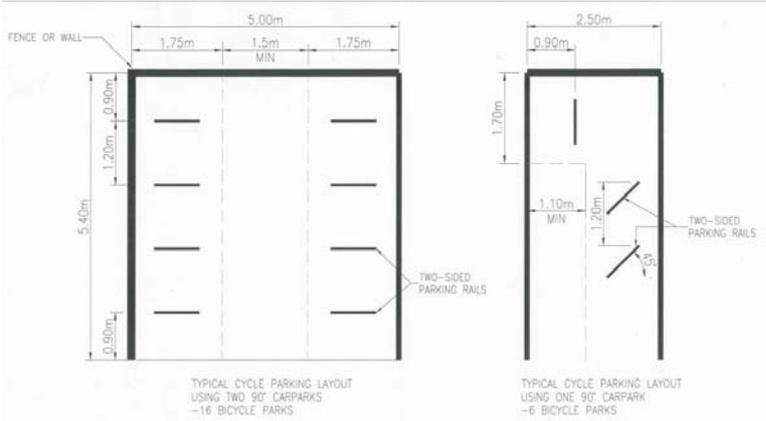


Figure 3.2.2
Possible layout of bicycle parking, utilising a double and single car parking space

Bicycle parking should always be protected from the traffic with a physical barrier such as kerb & channel, bollards, or car stops.



Figure 3.2.3
Artist impression of bicycle parking on a kerb build out – near the entrance to a pedestrian mall.

Customised Design

TlAs or developers may develop their own customised bicycle stand design in order for the stands to match the surrounding street furniture. This may include variations in shape, colour, materials and other features. The development of a customised bicycle stand is generally considered acceptable, as long as the bicycle stands meet all the requirements specified in Section 0 and there is clear signage. For example, North Shore City Council has developed a customised bicycle stand design, as shown in Figure 3.2.4. on the following page.

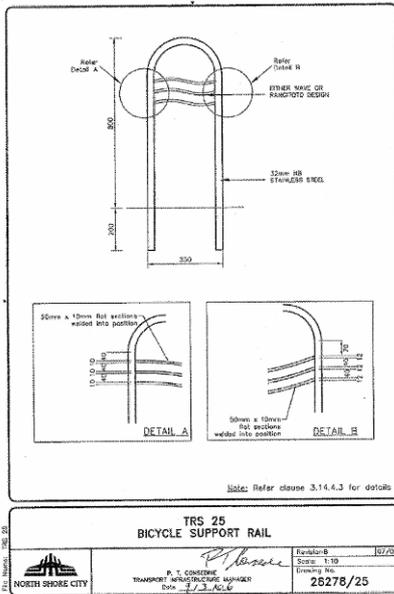


Figure 3.2.4
North Shore City Council Standard
Design for Bicycle Support Rail

3.3 Vertical Mounted Bicycle Holders

General Requirements

Vertical mounted bicycle holders may be installed within enclosures to maximise the number of bicycles which can be stored. Wall mounted bicycle holders should:

- > Support the bicycle without damage
- > Be easy to use
- > Be securely anchored to the wall/ceiling
- > Have provision for each bicycle to be secured to the wall using a personal bicycle lock.

Note: Not all cyclists will have the strength to lift their bicycles onto a vertical-mounted bicycle holder. Therefore, vertical-mounted bicycle holders should be installed in conjunction with ground level cycle stands.

Typical Design – Vertical Mounted Bicycle Holders

The following photograph and drawings show examples of vertical mounted bicycle holders.



Photograph 3.3.1

Artist impression of basic vertical-mounted bicycle holders located within a secure enclosure. Note that there is no means to secure each bicycle with a personal bicycle lock, which is required.

(Photo: Sandy Mills, Waitakere City Council)

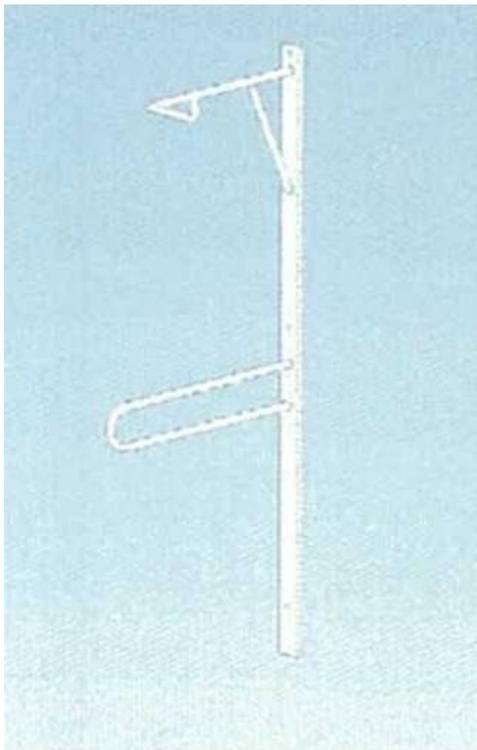


Figure 3.3.1

Example of vertical mounted rack available from A.E. Tilley Ltd. System includes bar; which supports the bicycle and provides an area for a personal lock to be secured

(Drawing : A.E.Tilley Ltd)



Figure 3.3.2

Example of vertical mounted bar with hooks for bicycle wheels. The central bar provides a means for cyclists to secure the bicycle using a bicycle lock.

Layout of Vertical-Mounted Bicycle Holder

The design envelope for a vertically parked bicycle is considered to be 700mm wide x 1750mm long x 1200mm deep.

The layout of vertical mounts should be:

- > 700mm minimum horizontal spacing if the hooks are at the same level
- > 400 mm horizontal spacing if hooks are staggered vertically by more than 500mm.

Depending on the vertical mounting configuration, the mount should be positioned to ensure that bicycles can be hung without touching the floor. Vertical mounts should not be placed any higher than 2.5m above the floor level.

The minimum aisle width, between any part of a hanging bicycle, is 2.0m.

3.4 Bicycle Shelters (Bike Sheds)

General Requirements

Bicycle shelters should:

- > Protect bicycles from sun and rain
- > Protect bicycle from sea spray in marine areas
- > Contains bicycle stands or vertical mounts.

Typical Design

Rodney District Council has recently developed a basic design for a bicycle shelter for schools in the district.

The photographs below are two examples of bicycle shelters in the UK.



Photograph 3.4.2

(Photo: ARTA)



Photograph 3.4.3

(Photo: ARTA)

Building Consent

A building consent will usually be required for the construction of a bicycle shelter. Please contact the local consenting authority for more information.

3.5 Enclosures (for Type Three and Type Four)

General Requirements

An enclosure is a communal compound that is used to store bicycles. Typically, enclosures are located at workplaces, schools or other educational facilities.

Bicycle enclosures should:

- > Have an appropriate entry control, such as an employee swipe card or special key provided to specific people only. For schools, it is possible to have the door to the enclosure unlocked at the start of the day and locked when school starts and the door remains locked until the end of the school day.
- > Be sheltered from the weather. This may be in the form of an over-head shelter for schools. Alternatively for workplaces, the enclosure may be located within an under-cover car parking area or service area.
- > Allow for easy storage of bicycles, with bicycle stands/vertical mounts that allow for the bicycle to be locked with a personal bicycle lock.
- > Be located so that they can be reached by bicycle, and as close as possible to the building access. They should also be positioned so that they are convenient to trip end facilities, such as showers and lockers.

In multi-storey car parking buildings, cycle parking should be located near the main ground-floor entrance and cyclists should not be expected to travel up/down floors in order to access the enclosure.

In shared situations, a code of conduct agreement may be required to be signed by all parties wishing to use the enclosure. An example of a code of conduct agreement is shown in Appendix C.



Figure 3.5.1

Artist impression of an enclosure located under a ramp on a multi-storey car parking building.



Photograph 3.5.1

Example of sheltered enclosure at a UK primary school
(Photo: ARTA)

Enclosures at Passenger Transport (PT) Stations

Enclosures could be provided at PT stations. These sheltered enclosures could be accessed by an electronic swipe card, which can be obtained from a central service area. The swipe card would be valid for a specified period (for example 12 months).

It is recommended that enclosures be installed at locations where there is a manned kiosk, extensive passive surveillance, or CCTV coverage. Below are photographs of two examples of public bicycle enclosures at PT stations in the UK.



Photograph 3.5.2

Example of a bicycle enclosure at a PT station in the UK
(Photo: ARTA)



Photograph 3.5.3

Example of a bicycle enclosure at a PT station in the UK
(Photo: ARTA)

3.6 Cycle Lockers

General Requirements for Cycle Lockers

Cycle lockers are lockers which are used to store individual bicycles.

Cycle lockers should:

- > Be of sufficient strength to stop vandalism and forced entry

- > Be robust in order to withstand damage from kicking, or the weight of people sitting on the lockers
- > Be graffiti proof.

There are various types of suitable locking mechanisms; consideration of the type of locking mechanism will depend on who the user of the lockers will be. Locking mechanisms include:

- > Personal padlocks
- > Normal key operation (requires prior arrangement in order to use the lockers)
- > Electronic keys
- > Coin-operated locks.

Lockers take up a lot of space on site and therefore should be designed to blend into the surrounding area.

General Requirements for the location of Cycle Lockers

When determining suitable sites for locating bicycle lockers, consideration should be given to:

- > Security
 - Be in public view and have CCTV coverage
 - Have good lighting.
- > Safety of users and the lockers
 - Be located outside the path of pedestrians and vehicles
 - Be protected from vehicles
 - Be easily accessible from the road (no steps or obstacles to carry cycle over nor are cyclist encourage to illegally cycle on the footpaths).
- > Ease of use
 - Be arranged so that parking and unparking manoeuvres will not result in touching or damaging adjacent bicycles, lockers or parked carparks
 - Be close to the cyclist's ultimate destination, preferably located closer than the nearest carpark
 - Be clearly signed as bicycle parking, with clear instructions for their use and clear signage directing cyclists to parking area.

Layout

Cycle lockers generally come to two configurations: horizontal and vertical.

The horizontal lockers are generally configured as single lockers or double lockers, which allow access from both sides. Figure 3.6.1 indicates the typical layout of a double sided horizontal bicycle locker.

The minimum aisle width of 1.5m is required along all sides of the lockers to allow cyclists to access and manoeuvre between the lockers.

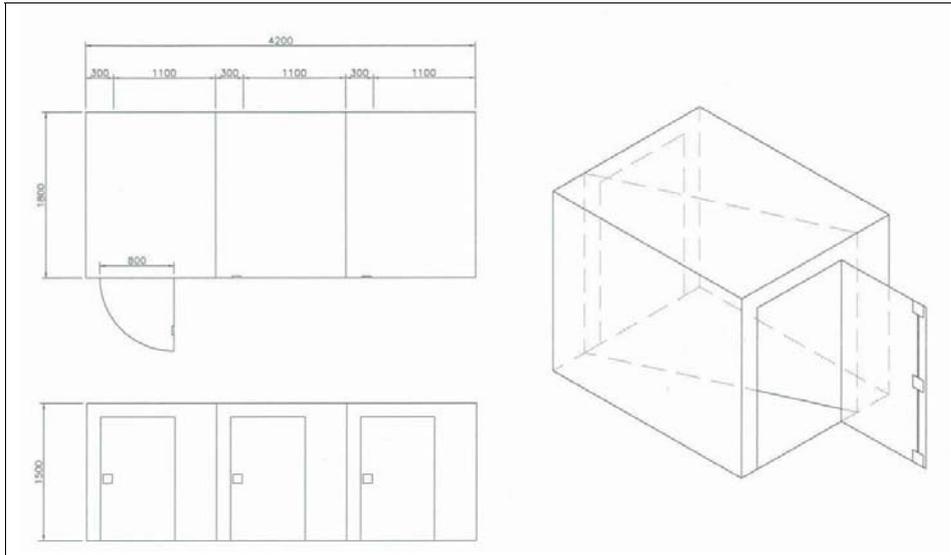


Figure 3.6.1
Typical layout of
double sized
horizontal lockers

Revenue Source

Depending on the location of the lockers, it may be possible to place advertising material on the vacant end panels of the cycle lockers. This is a possible revenue source for councils or other land owners whom have cycle lockers located in prominent locations.

Lease Agreement

Local authorities, car parking operators or business complex managers may decide to supply cycle lockers and lease these to the public for a specific period of time (i.e. a three-month period).

The terms of the lease would be established by the owner, but would typically require a refundable deposit and a monthly rental. A typical lease agreement for this type of arrangement is shown in Appendix C.

To ensure long-term security of the lockers, it is important that the keys are not able to be copied.

Building Consent

If a small number of bicycle lockers are to be installed, then a building consent will generally not be required. If a higher number of lockers are to be installed, a building consent may be deemed necessary by the consenting authority. It is recommended that the consenting authority be contacted to confirm if there are any specific consenting requirements.

3.7 Cycle Lockers at Public Transport (PT) Stations

Local authorities should install cycle lockers at all public transport terminals, located in residential areas, in order to assist in creating an integrated transportation network.

ARTA would encourage that cycle lockers installed in conjunction with PT stations to have the same regional appearance. Therefore, the lockers should:

- > Be the colour MAXX Blue (Pantone PMS 288, or 100c, 85m, 0y, 10k)
- > Have clear signage indicating how to use the lockers or how to arrange for the leasing of each locker. The signage should have MAXX branding, as shown in Figure 4.3.2. For information on the layout and style of the signage, please contact: Jo Martin, ARTA, (09) 379-4422.
- > Have a perforated panel that allows the public to see what is stored in the locker
- > Have some means to secure the bicycle to the ground within the locker, using a bicycle lock
- > Be individually numbered.

The type of locking mechanism for the lockers is dependent on the site and the local authority's policy. In areas where vandalism is expected, the lockers should be secured at all times and access to the lockers should be controlled.

If a high level of vandalism is expected, then it may not be practical to install proprietary bicycle lockers that are not designed to withstand sustained vandalism. Concrete housing with steel doors may be required in areas where vandalism and potential damage to the lockers is expected.

When cycle lockers are installed in a park and ride carpark, the installation of the cycle lockers should be incorporated in the local authorities CCTV coverage and overall security monitoring of the site.

3.8 Bike Stations

Bike stations are manned bicycle shelters or enclosures which the public can use to store their bicycles for the day. Bike stations are often set up in conjunction with a bicycle shop or cafe and may have showers and other trip end facilities.

The cost of operating a bike station is relatively high; therefore, decisions regarding bike stations should be based on economic feasibility and demand.

3.9 Temporary Bicycle Parking

The temporary bicycle parking should be in the form of a secure compound area, where cyclists can “check” their bicycle in and receive a security tag, which they must present at the end of the event to collect their bicycle, i.e. similar to a coat check at a hotel.

It is anticipated that the bicycle stands within a temporary fenced compound would be one continuous bar, from which bicycles can be hang from their seats or handle bars, similar to what are used at triathlons. An example of this type of stand is shown in the photograph below.



Photograph 3.9.1
Example of Triathlon Type bicycle racks



Photograph 3.9.2
Example of Triathlon Type bicycle racks

3.10 Future Bicycle Parking Options

Innovative bicycle parking solutions have been developed around the world to address issues which some cities have. Some examples of innovative bicycle parking solutions are included in Appendix A.

4. Lighting, Signage and Trip End Facilities

This section describes the other requirements for successful bicycle parking facilities. These include: lighting, CCTV, signage and trip end facilities.

4.1 Lighting

Bicycle parking areas should be well lit to minimise theft and vandalism, to reduce the pedestrian hazard, and for the safety of cyclists.

The minimum level of lighting in pedestrian malls and town centres should comply with AS/NZS 1158.3.1 Category P6.

Where bicycle parking is located in conjunction with a PT station, the minimum lighting should comply with the requirements for the surrounding area. Where bicycle parking is located in conjunction with a public open car park, the lighting levels directly surrounding the bicycle parking should comply with AS/NZS 1158.3.1 Category P12 (disabled car parks); the surrounding car parking area should comply with Category P11.

Lighting of private car parking areas that are used for bicycle parking is required for personal security. Sufficient lighting should be provided in bicycle parking areas to ensure personal safety, bicycle security and enable personal bicycle lockers to be unlocked.

4.2 CCTV

Where possible, bicycle parking should be covered by CCTV coverage. Where practicable the location of the bicycle parking should be moved to fall into a coverage area. Alternatively, the CCTV cameras to be moved to include the bicycle parking.

If a large isolated area of bicycle parking is being implemented, then consideration should be given to incorporating CCTV coverage into the design and implementation of the parking.

4.3 Signage

Bicycle Parking Signage

Signage should be incorporated in bicycle parking facilities in order to:

- > Define the parking area
- > Promote the presence of the bicycle parking
- > Explain how to use the bicycle stand.



Photograph 4.3.1

Example of bicycle parking signage near cycle stands

(Photograph: ARTA)



Photograph 4.3.2

Example of bicycle parking signage near cycle stands

(Photograph: ARTA)



Figure 4.3.1 RP9 Sign.

The standard sign to indicate bicycle parking is RP9, as specified in the Land Transport New Zealand Traffic Control Devices Rule. Refer to <http://www.transfund.govt.nz/roads/tcd/sign-p04-03-01.html> for more information.

(Drawing : LTNZ)

Cycle lockers or enclosures, of which the purpose may not be immediately obvious, must have instructional signs. Figure 4.3.1 shows an example of the signage on existing cycle lockers explaining their use.



Figure 4.3.2
MAXX Signage indicating how to gain access to the cycle lockers

Directional Signage

Directional signage should be installed at large sites such as PT stations, town centres or shopping malls in order to direct cyclists to secure bicycle parking.



Figure 4.3.3
Indicative directional cycle parking signage

This signage could also be incorporated in the park and ride car parking signs or as part of other council or MAXX branding. Photographs 4.3.3 and 4.3.4 are two examples of where cycle parking directional signage could be incorporated with other signage.



Photograph 4.3.3

Example of existing directional signage which could have the cycle parking direction signage included.



Photograph 4.3.4

Example of existing directional signage which could have the cycle parking direction signage included.

4.4 Trip End Facilities

Showers

Showers should be provided in all places of employment and education for all employees and students who wish to cycle to work or their place of study. The shower facilities need to be provided so that they can be easily accessed by cyclists without disturbing other staff members or students.

In the situation for schools or educational facilities, the recreation centre/gymnasium should be available for use by cyclists. If the recreation centre/gymnasium are not located in a central location for education facilities, then showers should be provided in each building/department.

Lockers

It is desirable that lockers be provided for all staff and students who would like to cycle to work/ their place of study. However, it is important that lockers are provided for staff/students that do not have an individual secure work stations in order to securely leave the equipment/ clothes etc. The lockers should be located close to the showers.



Photograph 4.4.1

Lockers for Cyclists at Waitakere City Council Civic Centre

(Photo : Waitakere City Council)

Drying Room

It would be desirable for all employees to have access to a drying room/clothes rack which would allow for cyclists to hang up and dry their cycling clothes, helmet, gloves, jackets and shoes before the cycle home at the end of the day. This could be in the form of a designated well ventilated room/closet that can only be accessed by the same staff as those accessing the bicycle enclosure.

Bicycle Maintenance Facilities

It is desirable to provide basic bicycle maintenance facilities and equipment in employee and student secure enclosures. This includes:

- > Good quality floor pump
- > Tools for emergency repairs
- > Puncture repair kits
- > Covered space to undertake repairs.

In school situations, where it is not possible to supply sheltered bicycle parking, an area could be provided for students to store plastic bags, or similar, in order for them to cover their bicycle seats on rainy days.

5. Evaluation of Existing and New Public Bicycle Parking

5.1 Evaluation Form

An evaluation form has been developed to evaluate Type One and Two bicycle parking. This form is shown in Figure 5.1.1, and in Appendix B.

The evaluation form has identified the key elements of good bicycle parking. Some of the elements (identified by the shading) are considered to be critical for the usefulness of the bicycle parking.

When using the evaluation form, the reviewer must answer yes, no or not applicable (N/A) to the elements identified.

If all the elements are answered as 'yes', the bicycle parking is rated as good.

If all the critical elements are answered as 'yes', but some of the other elements as 'no', then the bicycle parking is rated as adequate.

If one or more of the critical elements are answered as 'no', the bicycle parking is rated as poor.

Figure 5.1.1 Evaluation Form of Public Bicycle Parking

Location:		Completed By:	
Address:		Date:	
Number of Bicycle Stands:			

1.0	Type of Stand/s	Yes	No	n/a	Comment
1.1	Accommodates all types of bicycles				
1.2	Supports frame of the bicycle				
1.3	Secured to the ground				
1.4	Of sufficient strength to stop vandalism				
1.5	Smooth (i.e. will not scratch bicycle)				
1.6	Both wheels of a bicycle can be easily secured to the stand/s				
1.7	A bicycle does not slip when leant against the stand				

2.0	Positioning of the Stand/s	Yes	No	n/a	Comment
2.1	Correctly spaced				
2.2	Free from obstructions (i.e. street furniture, signs, parked vehicles, walls etc.)				
2.3	Clear from the path of pedestrians				
2.4	Stand/s can not be blocked by parking vehicles				
2.5	All aspects of the all of bicycle stand/s can be utilised. (i.e. both sides of the stand/s can be used)				

3.0	General Location of the Stand/s	Yes	No	n/a	Comment
3.1	Located close to key destination/s				
3.2	Under shelter				
3.3	Positioned for the parking demand (i.e. are there bicycles locked to other objects within 50 metres of the stand)				

4.0	Security	Yes	No	n/a	Comment
4.1	Good passive surveillance				
4.2	Good lighting				
4.3	CCTV (critical for long-term – low security public bicycle parking)				

5.0	Signage	Yes	No	n/a	Comment
5.1	Parking signage				
5.2	Ease of use				
5.3	There are clear instructions for use (if required)				

6.0	No. of Bicycle Parking Spaces	Yes	No	n/a	Comment
6.1	There is a sufficient number of stands				

Key	Overall Rating
Critical Items	Good / Adequate / Poor

Overall Rating Criteria

Good – Yes to all items

Adequate – Yes to all critical items

Poor – No to one or more critical items

5.2 Examples of Existing Cycle Parking

The following photographs show existing bicycle parking which has been evaluated using the evaluation form shown in Figure 5.1.1. Where the bicycle parking is considered to be poor, the critical elements which the parking is missing are noted under each photograph.

Bicycle Parking – Rated as Poor



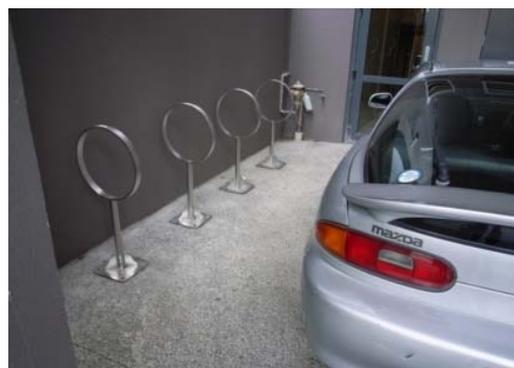
Does not comply with critical elements 1.1, 1.3, 1.4



Does not comply with critical element 5.1



Does not comply with critical elements 1.1, 1.2, 1.3, 1.4.



Does not comply with critical elements 2.2, 2.3.

(Photo: Cycle Action Auckland)



Does not comply with critical elements 3.1.



Does not comply with critical elements 1.1, 1.2 and 5.1.

Bicycle Parking – Rated as Adequate



(Photo: NSCC)



Bicycle Parking – Rated as Good



(Photo: NSCC)



(Photo: Cycle Action Auckland)

6. Implementation

This section describes the recommended priority for the implementation for bicycle parking.

6.1 Public

The recommended priority for the implementation of public bicycle parking on road-reserve or council property is:

1. Public facilities – where there is an existing demand (i.e. where bicycles are being locked to other street furniture, trees etc.)
2. Public facilities – outside community facilities such as libraries, leisure centres, civic centres, swimming pools, tourist information centres, playgrounds, and public toilets (on cycle routes)
3. PT stations, including train stations, bus terminals and ferry terminals
4. Town centres/local shopping centres, potential opportunities to develop long-term bicycle parking in public carparking buildings.

6.2 Private

The recommended priority for TLAs to encourage the installation of private bicycle parking is:

1. All new developments or sites which are being redeveloped
2. Intermediate and secondary schools (roll > 500)
3. Major tertiary education facilities
4. Supermarkets
5. Shopping malls/town centres (where there is no public land available for bicycle parking)
6. Other employment centres.

6.3 Funding Sources

Local Territorial Authorities

TLAs can apply to Land Transport New Zealand for funding to assist in the development of their cycling network and infrastructure which supports alternative modes of transport, including bicycle parking.

Bicycle parking should be provided in town centres where TLAs are focusing on developing their cycling network. Funding for the bicycle parking could be incorporated into the overall funding application for the bicycle infrastructure in these areas.

Private Development

The implementation of bicycle parking facilities as part of a new or upgraded development should be at the developers cost.

All new employment buildings/centres should be required to incorporate visitor and employee bicycle parking, showers and other trip end facilities.

Town Centre

TLA's should incorporate bicycle parking into the upgrade of any town centre re-developments. The short to medium-term parking should be incorporated in the urban landscape design.

Schools

Schools involved in school travel plans may be able to use some of the implementation funding to install bicycle parking.

Funding is also available through the Ministry of Education, particularly for bicycle parking facilities at new schools.

ARTA is currently pursuing possibilities with Greenfleet, who are interested in sponsoring the installation of covered bicycle parking enclosures in schools. Other sponsorship or funding sources may be through local trusts.

Other Agencies

Funding may be available through numerous grants. A list of available grants can be viewed on the following websites:

<http://www.sparc.org.nz/about-sparc/funding>
<http://www.community.net.nz/how-to-guides/funding/>

7. Bicycle Parking Ratios

7.1 Ratios for Bicycle Parking for Private Developments

The ratios specified in Table 7.1.1 can be used to determine the number for bicycle parking spaces which should be provided at all private developments. The ratios are to act as guidelines only and the actual ratio used will depend on the following factors:

- > Accessibility – if a site has good cycling accessibility, then it is likely that more people will cycle. Therefore, more parking should be provided.
- > Location of the site in relation to target audience i.e. employment centres located close to residential areas.
- > Availability of car parking, i.e. CBD areas, where there is limited carparking, more people will look for alternative means of transport.

The following notes relate to the ratios specified in Table 7.1.1:

- > The term “employee” relates to the maximum number of employees working on site at any one time
- > Ratios refer to the number of parking spaces for each bicycle (some bicycle stands provide parking spaces for two bicycles)
- > Employee parking:
 - > Recent business travel plan surveys have indicated that an average of 3-5% of employees currently cycle to work
 - > In order to accommodate the aims of the Regional Land Transport Strategy, which aims to double the number of cycle trips, a provision of 10% of employees to cycle is considered achievable and not excessive
 - > This ratio may be considered to be too high for some TLA’s. Therefore a range of one per 10 to 15 employees is considered reasonable
 - > However, in areas where there is good cyclist accessibility, the higher ratio of one per 10 employees is considered desirable.
- > In some situations there is an overlap in shift workers requiring bicycle parking. Employers should ensure that the appropriate number of bicycle parks are provided to allow for the overlap.
- > Schools – for new schools and schools in areas with good accessibility, the ratio should be increased to one per five pupils and staff.
- > Some schools allow for after hours private use of facilities/venues, (such as a gymnasium or auditorium). In these situations, bicycle parking should be provided in the vicinity of

these facilities/venues. The bicycle parking ratios should be consistent with the type of activity the facilities/venues are likely to be used for,

- > The provision for showers and lockers at private developments will generally be for staff or students only.
- > The ratio for tertiary education facilities depends on the course structure. If all students are on campus at the same time then the higher ratio needs to be provided. However, if students are staggered throughout the day or are not on campus, then the lower ratio may be more appropriate. The parking at tertiary education facilities needs to be located in strategic locations throughout the campus where there is demand.

Table 7.1.1 Proposed Ratios for Bicycle Parking for Developments

Development	Type 1 (min. of 2)	Type 2	Type 3	Type 4	Type 5	Showers	Lockers
Shopping malls / retail areas		1 for each 10 car parking spaces required as part of the D.P. for public areas.		1 per 10 to 15 employees.		✓	✓
Primary school	1 per 500 students and staff at the school, located outside the school office.			1 per 10 to 15 employees.		✓	✓
Intermediate school	1 per 500 students and staff at the school, located outside the school office.			1 per 10 to 15 students and employees.		✓	✓
Secondary school	1 per 500 students and staff at the school, located outside the school office.			1 per 10 full-time equivalent students and 1 per 10 to 15 employees.		✓	✓
Tertiary education facility	1 per 800 m ² of office space located outside the main entrance of each department.		1 per 10 to 20 students	1 per 10 to 15 employees.		✓	✓
Residential apartment	1 per 20 units located outside the main entrance.			1 per unit .			
Office building	1 per 800 m ² located outside the main entrance/s.			1 per 10 to 15 employees.		✓	✓
Industrial				1 per 10 to 15 employees.		✓	✓

Development	Type 1 (min. of 2)	Type 2	Type 3	Type 4	Type 5	Showers	Lockers
Recreation facilities		1 per 10 to 20 visitors.		1 per 5 employees.		✓	✓
Hospitals		1 per 50 visitors.		1 per 10 to 15 employees.		✓	✓
Places of assembly including churches, movie theatres, sports arenas and stadiums.		1 per 50 visitors.	1 per 50 visitors.	1 per 10 to 15 employees.		✓	✓
Public gatherings, outdoor concerts, markets etc. which are not held in a normal place of assembly.					1 per 50-200 people (per day or event) predicted to attend the event depending on accessibility of venue.		

7.2 Public Transport (PT) Stations

At PT stations with ticket offices, a minimum of two Type One bicycle parks should be provided in the vicinity of the ticket office, in order to accommodate the bicycles of cyclists whom wish to purchase tickets.

The number of long-term bicycle parks at PT stations will depend on a number of factors, including:

- > Land use surrounding station, i.e. residential, commercial or industrial
- > Cyclist accessibility
- > Social economic area
- > Perceived level of security
- > Existing number of local residents using the PT station.

Where a PT station is located in a prominently residential area, the ratio of bicycle parking should be in the order of one Type Three bicycle park per 30 residential PT users, who live within the cycling catchment around the PT station (i.e. those whom live within the a radius of four kilometres from the PT station, but outside the 800m radius).

It is recommended that a small number of Type Three bicycle parking facilities be provided initially, and if demand increases, then the provision for bicycle parking is also increased.

Type One bicycle parking, to cater for a minimum of four bicycles, should also be provided at all PT Stations to allow for overflow bicycle parking, or short term bicycle trips.

7.3 Town Centres

Types One and Two bicycle parking should be provided in town centres.

As specified in Section 2.1, Type One bicycle parking should consist of one or two bicycle stands located every 50 metres in the town centre.

Type Two bicycle parking should be provided in the existing carparking areas within Town Centres. The number of bicycle parks should satisfy the demand in the area.

7.4 Central Business Districts (CBD)

Types One and Three bicycle parking should be provided in a CBD.

As specified in Section 2.1, Type One bicycle parking should consist of one or two bicycle stands located every 50 metres in the CBD. However, if private bicycle parking has been provided outside some office building, then the distance between public facilities could be greater.

Type Three bicycle parking should be provided to cater for longer stay visitors to the CBD. This level of bicycle parking could be provided in existing council parking buildings/areas. Showers and other trip end facilities should also be made available for cyclists using the Type Three bicycle parking facilities.

Reference Documents

AS2890.3 – 1993 Parking Facilities Part 3: Bicycle Parking Facilities (1993), Standards Australia, New South Wales, Australia.

Austrroads Guide to Traffic Engineering, Part 14 – Bicycles (1999), Austrroads, Sydney, Australia.

Christchurch City Council, District Plan, Christchurch, New Zealand

City of Portland Bicycle Master Plan (1998) – Section IV Trip End Facilities, Office of Transport, Portland, USA.

Transport for London, Street Management Cycle Parking Standards, TFL Proposed Guidelines, Mayor of London, England.

Land Transport Safety Authority, Cycle Network and Route Planning Guide (2004) Land Transport Safety Authority, New Zealand

Land Transport New Zealand, Traffic Control Devices Rule

RTA NSW Bicycle Guideline – Issue 1.2 (2005), Roads and Traffic Authority NSW, Australia.

SPARC – Cycle Friendly Employer, (2003), SPARC, Wellington, New Zealand

Transit New Zealand Supplement to Austrroads Guide to Traffic Engineering, Part 14 – Bicycles (2005), Transit New Zealand, Wellington, New Zealand

Regional Land Transport Strategy (RLTS), Auckland Regional Transport Authority, (2006), Auckland.

Appendix A

Future Bicycle Parking Options

Below are some other examples of other bicycle parking options used overseas. These may be too advanced for Auckland in the short-term, but may be options in the future.

Biceberg

Biceberg is an underground bicycle storage area, which can accommodate 23, 46, 69, 92 bicycles. The Biceberg is operated by one central control centre (the only part which above ground). The storage area is access by an access swipe which opens the door; a bicycle is then placed in the 'lift area'. The door then closes and the bicycle is then automatically lowered and placed in the storage area. The bicycle can be retrieved by swiping the same card.

This system would be very good where there is little above ground space available and where there is a large open town square area. Ideal for universities. The Biceberg is considered to be a Type Three or Four—long-term bicycle parking facility.



Photograph 1

Photograph of the above ground element of the Biceberg. Bicycles are stored underground .

(Photo: c/o www.biceberg.es)

Vertical Cycle Parking

The following are examples of vertical cycle parking stands:

Cyclepod



Photograph 2 – Cyclepod

(Photo: c/o www.cyclepod.co.uk)

Bike Tree

Bikes are raised up vertically, and are stored under the canopy of the “tree”.



Photograph 3 – Biketree

(Photo: c/o www.biketree.com)

Other Bicycle Parking Options

The following are examples of other bicycle parking options.

Clamp Style Bicycle Stands



Photograph 4

Byk-Klamp

(Photo : ARTA)



Photograph 5

Byk-Klamp

(Photo : ARTA)



Photograph 6

Clamp style bicycle stands

(Photo : ARTA)

Sheffield Stand incorporating Bicycle Pump



Photograph 7

Sheffield stand incorporating pump

(Photo: c/o www.heklucht.nl/)

Creative Modified Bicycle Stands



Photograph 8

Bicycle stand incorporating croquet set design

(Photo: c/o www.apbp.org)

Appendix B

Audit Checklist

Location:		Completed By:	
Address:		Date:	
Number of Bicycle Stands:			

1.0	Type of Stand/s	Yes	No	n/a	Comment
1.1	Accommodates all types of bicycles				
1.2	Supports frame of the bicycle				
1.3	Secured to the ground				
1.4	Of sufficient strength to stop vandalism				
1.5	Smooth (i.e. will not scratch bicycle)				
1.6	Both wheels of a bicycle can be easily secured to the stand/s				
1.7	A bicycle does not slip when leant against the stand				

2.0	Positioning of the Stand/s	Yes	No	n/a	Comment
2.1	Correctly spaced				
2.2	Free from obstructions (i.e. street furniture, signs, parked vehicles, walls etc.)				
2.3	Clear from the path of pedestrians				
2.4	Stand/s can not be blocked by parking vehicles				
2.5	All aspects of the all of bicycle stand/s can be utilised. (i.e. both sides of the stand/s can be used)				

3.0	General Location of the Stand/s	Yes	No	n/a	Comment
3.1	Located close to key destination/s				
3.2	Under shelter				
3.3	Positioned for the parking demand (i.e. are there bicycles locked to other objects within 50 metres of the stand)				

4.0	Security	Yes	No	n/a	Comment
4.1	Good passive surveillance				
4.2	Good lighting				
4.3	CCTV (critical for long-term – low security public bicycle parking)				

5.0	Signage	Yes	No	n/a	Comment
5.1	Parking signage				
5.2	Is it obvious how to use the bicycle stands				
5.3	There are clear instructions for use (if required)				

6.0	No. of Bicycle Parking Spaces	Yes	No	n/a	Comment
6.1	There is a sufficient number of stands				

Key		Overall Rating
	Critical Items	Good/Adequate/Poor

Overall Rating Criteria

Good – Yes to all items

Adequate – Yes to all critical items

Poor – No to one or more critical items

Appendix C

Example of Enclosure Access Agreement and Cycle Locker Lease Agreement

Example Code of Conduct Agreement for Access to an Enclosure

Enclosure Location:

Instructions: Read, complete (please print clearly) and sign this form and return to:

.....

Applicant ("Cyclist") Name:

Company:

Day time telephone:

Email:

Conditions of Use

1. The enclosure is to be used for storing bicycles only.
2. The enclosure door must remain locked at all times.
3. Do not lend the enclosure key to any third parties.
4. The use of the enclosure shall at all times be at the sole risk of the Cyclist.
5. A personal bicycle lock should be used to secure individual bicycles within the enclosure.
6. The cyclist must ensure that the enclosure is kept in a clean condition and free from litter.
7. The issued key must not be copied.
8. The cyclist must notify management of any damage to the enclosure.
9. The key to the enclosure shall be returned if no longer required, or at the termination of employment within the building.

I have read, understand and accept all the terms and conditions above.

Cyclist signature:

Date:

Example Bicycle Locker Lease Agreement

Locker Location Request:.....

Instructions

- Read, complete (please print clearly) and sign this form.
- Mail form with cheque for \$..... payable to at the address below.
- A key and a copy of this form will be returned to you indicating the assigned locker number.

Applicant (cyclist) Name:

Address:.....

Unit No.

Street

Suburb

Postal Code

Email/Fax:.....

Telephone:.....

Day time

Evening

Conditions of Use

1. The rental of the cycle lockers is \$..... per month.
2. A refundable security deposit of \$..... and months rental must be paid prior to the issuing of a key.
3. Cycle lockers are leased on a monthly basis.
4. The term of the use may be extended for an additional month term by written notice given by the cyclist to no later than seven days prior to the expiry of the term.
5. If the use is terminated or not renewed, all items are to be removed from the locker by the last day of the end of term and the key returned to, at which time the security deposit will be returned by mailed cheque. If the locker is not vacated by the end of the term, the cyclist has caused damage to the locker or the key is not returned, the security deposit shall be forfeited to and shall be entitled to remove and dispose of any items left in the locker.
6. This use may be terminated early by either the cyclist or for any reason by written notice to the other.
7. If the lease is terminated by the cyclist prior to the end of the lease period, the remaining rental will not be refunded.
8. The locker is to be used solely for the purposes of storing a bicycle, helmet jacket or other outer clothing, a pack and other related cycling gear by individuals who commute regularly by bicycle.
9. The contents of the locker shall at all times be at the sole risk of the cyclist and shall not be responsible for any loss of, or damage to, such contents nor for any injury resulting from the use of the locker. It is the responsibility of the cyclist to ensure the locker is locked at all times. The cyclist is responsible for any damage caused by the cyclist.
10. The cyclist must ensure that the locker is kept in a clean condition and free from litter.
11. The cyclist must ensure that the locker is locked at all times.
12. The issued key must not be copied.
13. The locker shall be subject to inspection by, or its agents at any time without notice.
14. The cyclist must notify of any changes.....

I have read, understand and accept all the terms and conditions above.

Cyclist signature:

(Or parent/guardian signature if cyclist under age 18)

Date: