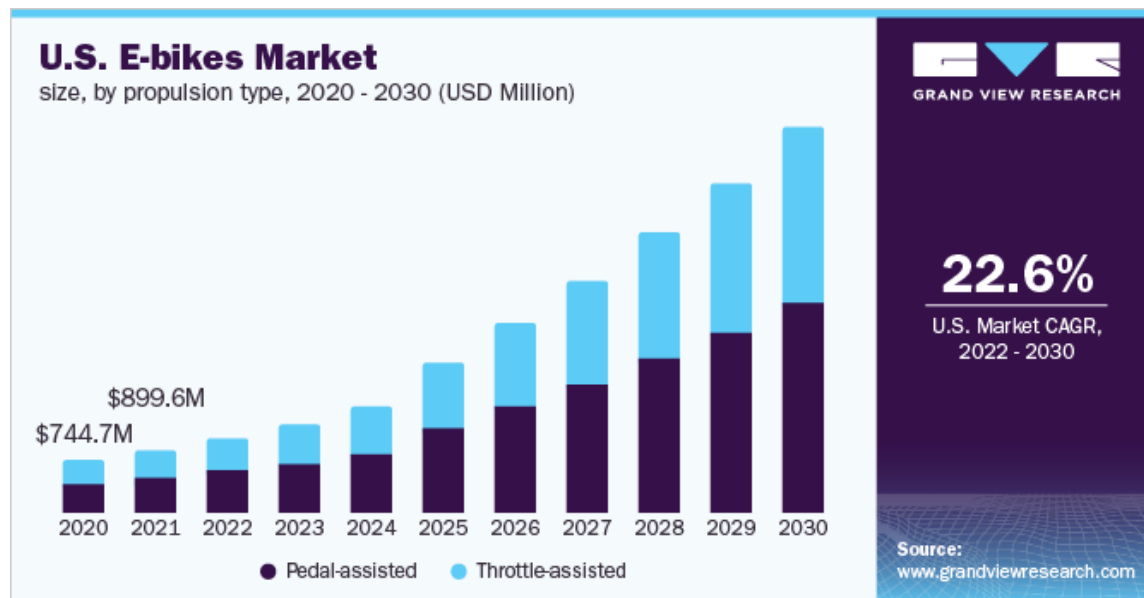


Options for Accommodation of eBike Charging Stations

St. James Civic Centre Expansion

As the city looks to expand and update the St. James Civic Centre, we hope that it will also look at ways to encourage people to be more active and to drive less. Planning for the St. James Civic Centre needs to account for a future where more people are making use of sustainable transport options, and where more and more people are making use of battery powered bikes and scooters.

The eBike market in Canada and the US is experiencing rapid growth. E-bikes provide users with a much longer range than traditional bikes, and can be especially beneficial for older adults who might have fewer transportation options as they age. Planning needs to account for a future in which riders of both traditional and e-bikes have access to a vastly improved bike network, a much longer range.



The eBike Market in Canada and the US is experiencing rapid growth.¹

¹ E-bikes Market Size, Share & Trends Analysis Report By Propulsion Type (Pedal-assisted, Throttle-assisted), By Battery Type, By Power, By Application, By Region, And Segment Forecasts, 2022 - 2030. Grand View Research. Available [online](https://www.grandviewresearch.com).

The expansion of the St. James Civic Centre provides the city with a unique opportunity to pilot a much more bike friendly experience for its patrons, with a higher level of service than has traditionally been offered to people on bikes.

An 2022 study by the Oregon Department of Transportation on the infrastructure needs for electrification of transportation included the following Key takeaways:

- Micromobility is expected to grow from 3% of urban trips in 2020 up to 25% in 2035; in rural areas micromobility is expected to grow more modestly from 0% of trips in 2020 up to 5% in 2035.
- The study assumes that micromobility is served by 110V outlets primarily at home locations, but that broader adoption will require a visible presence of charging opportunities at work locations and at public destinations, including parks, beaches, museums, etc²

Issues to Address

When thinking about bike parking for the St. James Civic Centre, or for other public or private sites, a number of criteria should be considered:

- Security of bikes - people will not ride their bikes (and especially their more expensive e-bikes) unless they are confident in the security of their bike. Provided bike racks and lockers must make use of high design and materials:
 - Recommended bike racks features:
 - Supports the bicycle in at least two places, preventing the bike from falling over
 - Allows locking of the frame and one or both wheels with a u-lock
 - Is securely anchored to the ground
 - Resists curing, rusting, bending, or deforming
 - Sites should accommodate a variety of bike styles (city, upright, cargo, trike, ...)
 - Recommended bike locker features:
 - Fully encloses the bicycle
 - Provides some weather protection
 - Is securely anchored to the ground
 - Resists tampering and vandalism
 - Sites should accommodate a variety of bike styles (city, upright, cargo, trike, ...)
- Security of e-bike charger - To feel comfortable leaving charging equipment with their bikes, methods to secure both the bike and the battery and charger should be provided.
- Safety - chargers need to be safe in outdoor situations, and the potential fire hazards from charging batteries should be taken into account.
- Access - bicycle parking should be located as close to the destination entrances as possible, and ideally on the pathway from the bike network to the entrances.

² Pg. 34, [Transportation Electrification Infrastructure Needs Analysis \(TEINA\)](#), Oregon Department of Transportation, August, 2022

- Visibility - bicycle parking needs to be located in visible, higher traffic areas to prevent theft. The presence of recorded video surveillance adds an additional layer of theft prevention.
- Weather protection - users should be provided with as much protection from weather as possible, ideally through integration with building design.
- Charger Interoperability and access - Chargers need to be interoperable to meet the needs of diverse chargers, and should provide access to chargers supporting open standards.
- Duration of Visit - bikes parked at the site for long periods of time, and especially bikes parked for longer periods of time (> 2-4 hrs) on a regular basis require a higher level of security than those parked irregularly for shorter periods of time. Both short term and long term parking must be provided.

Charging Options for eBikes

There are a number of ways that staff and visitors to the site can be provided with charging options for their ebikes. Chargers provided outside can be installed in lockers, integrated into bike racks, or included with chargers being provided for electric vehicles. Lockers that provide for storage of just the charger and removable battery can be offered in tandem with traditional racks and lockers, either outdoors or inside the building.

The following list of options and suppliers is meant to be a sampling of providers, not as a recommendation for or endorsement of any one provider or solution. Bike Winnipeg does not have any experience with any of these suppliers.

Combined Car/Bike Charging Stations

***bike-energy* POINT for e-bikes & e-cars**

Charging station with 2 connectors for e-bikes and 1 connector for electric car (Typ2 connector).



The [bike-energy POINT P2B1C](#) was specially designed for public, semi-public and private use and offers a high level of ease of use as well as standard-compliant and safe charging. With its

compact dimensions, the POINT P2B1C can be used flexibly on the wall or by means of a stand. This is how convenient and particularly easy you can load. The POINT P2B1C is quick to install and can be configured according to your requirements. Of course also in your desired color and individual design.

In addition, you can upgrade your charging station with:

- [Back board for POINT](#)
- Safety socket 230 V
- USB connector 2000 mA (USB5)
- Special foil in your company colors
- [Positioner](#) for POINT (free-standing)
- Activation via key switch

Price: 6.385,00 € ex. VAT.

***bike-energy* TOWER charging station for e-bikes & e-cars**

Charging station with 2 connectors for e-bike and 1 connector for electric car (Typ2)

The [bike-energy TOWER T2B1C](#) was specially designed for public, semi-public and private use and offers a high level of operating convenience as well as standard-compliant and safe charging. With its compact dimensions, the TOWER T2B1C with column can be used flexibly. Charging is convenient and particularly easy. The TOWER T2B1C is quick to install and can be configured according to your requirements. Of course also in your desired color and and/ or individual design.



In addition, you can upgrade your charging station with:

- Free-standing charging station for e-bikes & e-cars
- Comes ready to deploy for easy and quick installation
- Safety socket 230V

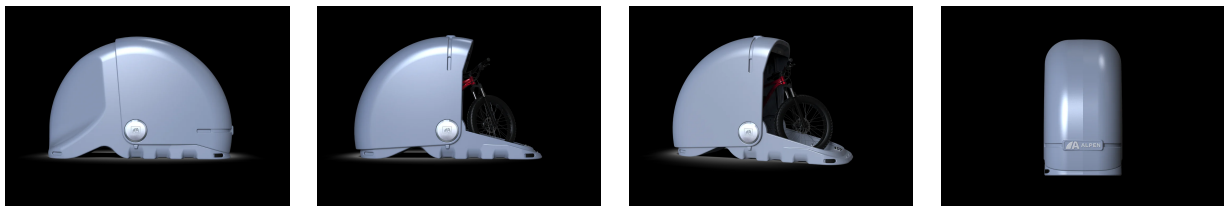
- Special foil in your company colors
- [screw foundation](#) for easy anchoring
- [baseplate](#) to set up like a gastro screen
- Activation via key switch

Price: 8.147,00 € ex. VAT

Chargers Integrated into Bike Lockers

ALPEN Basecamp Bike Capsule

The [Alpen Basecamp Capsule](#) combines an integrated Bluetooth lock & geolocation with ALPEN's smartphone app for convenient, secure, private, remotely reservable bike parking & e-bike battery charging.



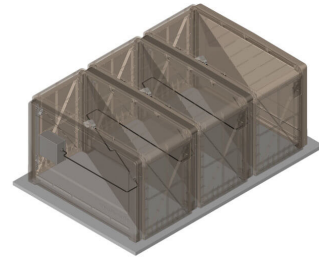
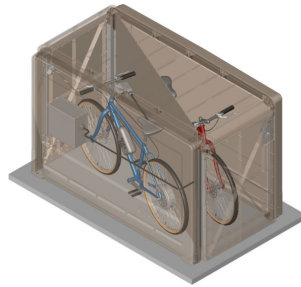
The ALPEN Basecamp is a smart bike storage unit designed to easily and conveniently store your bike while accommodating almost all bike types and sizes, including e-bikes. The Basecamp is weatherproof and has additional space for cycling gear, as well as a charging port for e-bikes. The unit's design is made with durable rotomolded materials and is proudly manufactured and assembled in the USA.

- Keyless Entry
- E-Bike Charging
- IoT Functionality
- Anti-Theft System
- Fire Detection
- Ample Interior Space

Price is \$3,373 Canadian.

Cycle Safe Power Station

The [Cycle Safe Power Station](#) is a 2-plug GFI outlet for charging electric-assist bikes and other accessories. Each stall in a bike locker bank is outfitted with its own outlet.



The Power Station not only charges electric bike batteries, but can also charge mobile phones, laptops, and tablets.

Existing bike lockers can be retrofitted with e-bike charging infrastructure.

Cycle Safe provides a number of [bike locker options](#).

Bikeep Smart Locker

[The Bikeep Smart Locker](#) provides secure parking in any condition.

Initially made for long-term bike parking, we developed our smart lockers with our customers. The result is innovation at its best: no need for clumsy keys, the locker is opened and closed through the Bikeep app or Contactless card (RFID/NFC), may it be a transit or an employee/student card of your choice.

- smart sharing system
- no need for physical keys
- elegant design
- e-bike charging
- centric admin panel for user management
- rectangular or trapezoidal shape

metroStor E-Bike Storage & Charging Lockers

Each [metroSTOR BIKE-E module](#) provides secure external storage and individual charging sockets for 4no. e-bikes within a 2550mm x 2195mm footprint enabling generous internal dimensions to accommodate larger e-bikes. The low profile design is suitable for accessible and on-street locations while the metroSTOR modular product system enables additional capacity to be added in the future as demand increases.



Design Features & Options

Access Control Options

App-based, electronic fob, mechanical keypad, key operated systems and integral slide bolt for individual padlock user access.

Integral E-Bike Charging Points

RCD protected system with an IP rated 3-pin electrical socket for each e-bike.

Lockable E-Bike Rack

Integral, stepped cycle trays and welded security locking points at the front of the store makes loading and securing cycles easy.

Optional Electricity Metering System

User chargeable energy consumption with contactless operated electricity metering options.

Door Lock Protection

Access doors are locked using a Kitemarked 3-Star Eurocylinder with external anti-drill plate welded to door frames.

Interior Lighting Options

Internal LED lighting options available.

Their [webiste](#) includes plenty of information on dimensions and plans, as well as other options for bike storage.

Chargers Integrated into Bike Racks

Integrating chargers into racks provides a space friendly solution for parking and changing of ebikes. Charging stations should ensure that both a wheel and the frame of the bike are supported. Many of the solutions highlighted below include options for secure locking of a charger as well as many options to customize sockets and hookups.

Q-Rack E-Plug: Bike Rack & Charging Station for E-Bikes in One



[Q-Rack](#) is a German company that offers a number of bike rack options with sockets for e-bike charging integrated into the rack design. Each rack can charge two bikes, and there are options that provide integrated storage for the charger/battery as well. Their website includes lots of information, but it's in German (I tried but could not download the English specifications sheet).

Prices range from 600,83 € – 4.741,47 €..



[EBike24.com](#) has a good article on the racks, in English, [here](#).

Saris eBike Charging Station

[Saris eBike Charging Stations](#) have a number of features.

- Available in worldwide power options 120V/240V; designed to be hardwired
- All units equipped with GFCI outlets
- Wheel wells accommodate 20" to 29" wheels and up to 5" tires
- Charging box door secured with user's padlock
- Active cooling system to prevent charger from overheating
- Can be installed indoors or outdoors with overhead protection
- User instructions on each unit
- UL/CE listed

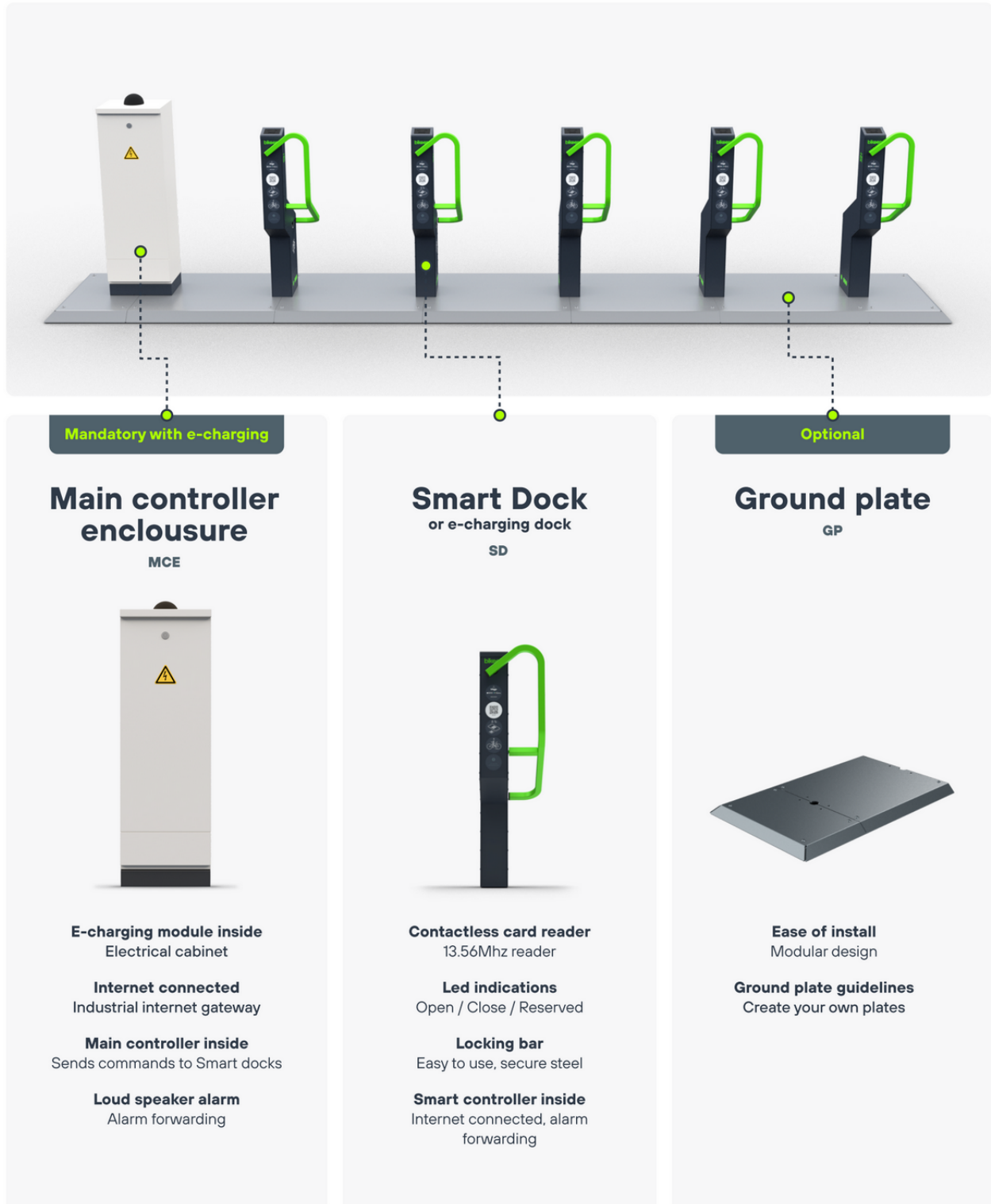


Price \$1,500 US

BiKeep Smart Bike Parking Station

The [BiKeep smart bike parking station](#) is for public, private, or commercial use. All our bicycle racks come with many benefits, one being E-bike charging.

- Locks the bike from the wheel and frame.
- Can be locked/opened with an app or a contactless card.
- Optional e-bike charging add-on.
- Distress signal forwarding and live usage overview.
- Comes in docks of 5 or 10 stations



Data sheets and CAD files are available through their [site](#).

Standalone Battery Charging Lockers

ThurMetall Outdoor E-bike charging station

The [ThurMetall E-bike charging station IP 44 outdoor locker](#) provides a charging station, valuables cabinet, personal locker: three functions in a single cabinet. Simple, practical and secure! Typically ThurMetall.



ThurMetall Indoor powered compartment cabinets

[ThurMetall offers a number of indoor lockers](#) that can be used for e-bike batteries, smartphones, tablets, laptops, operating data collection devices, battery-powered tools and much more...

