European Velo Stops

Kathryn Theall
*Sheridan College*

Follow this and additional works at: https://source.sheridancollege.ca/student_work_fast_architecture

Part of the [Architectural Technology Commons](https://source.sheridancollege.ca/architectural_technology_commons), [Environmental Design Commons](https://source.sheridancollege.ca/environmental_design_commons), and the [Tourism and Travel Commons](https://source.sheridancollege.ca/tourism_and_travel_commons)

SOURCE Citation

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License.
European Velo Route 6 crosses 10 countries, through both urban and rural landscapes that have unique architectural vocabulary. Bicycle tourism allows the rider a unique connection to their environment. This design allows the user to maintain that connection to their surrounding environment, while being sensitive to the changing landscapes. This is done by providing a simple form that is both adaptable & identifiable as a Velo stop. It accomplishes this through the use of custom columns, material selection and repetition of form.

The design of the columns is inspired by the triangle that traditionally forms the frame of a bicycle. The frame of a bicycle acts as a base element that allows all other components to be brought together to make the final form. In our design, the columns perform this same function; allowing modular elements to be added in different configurations. The triangular form is incorporated at both the base and top of each column, to provide balance and structural stability.

This visual cue allows all shelter configurations to be identifiable as a route 6 amenity. Modularity allows for the shelters to be configured in many different layouts and sizes to better respond to particular sites, landscapes and desired amenities. In its simplest form, the column itself acts as a vertical bike rack. Two columns allow for a shelter to be created with a roof and the ability to add additional horizontal bike racks, a picnic table, or a hammock with bug netting hung from the roof's overhang. The deluxe cabins are designed for sustainable services, including rainwater collection and solar panels. Modularity allows for more functions through added components, which can include: 2-4 person sleeping modules with lockable storage, a kitchen with a sink and propane stove top, washroom with compostable toilet and rainwater sink & shower, ladder & guardrail, picnic seating with a counter that folds out for preparation and additional bike storage (see plan board).

For construction, the components are prefabricated off-site and packaged into deliverable bundles by stages that can be transported by helicopter or a trailer attached to a bicycle. They are then assembled on site through bolting and other methods requiring only hand tools and no heavy machinery (see construction board).
PLANS

LEGEND
01 - Bench & Counter
02 - Hammocks
03 - Column
04 - Bike Rack
05 - Helical Piles
06 - Prefabricated Wall Panel
07 - Pocket Door
08 - Lower Bunk with Storage
09 - Ladder Rungs Bolted
10 - Washroom Module
11 - Kitchen Module
12 - Prefabricated Roof Panel
13 - Firepit
14 - Gaurdrail

SMALL SHELTER
1 Small Bench & Counter
2 Hammocks
4 Columns
1 Small Bike Rack
8 Helical Piles
1 Fire Pit

MEDIUM CABIN
1 Bench & Counter
2 Hammocks
4 Columns
1 Bike Rack
8 Helical Piles
1 Cabin Wall Prefab Pack
1 Pocket Door
2 Lower Bunks with Storage
1 Firepit

DELUXE CABIN
1 Bench & Counter
2 Hammocks
8 Columns
2 Bike Racks
16 Helical Piles
1 Cabin Wall Prefab Pack
2 Pocket Doors
2 Lower Bunks with Storage
1 Ladder Rungs Pack (to be bolted into column holes)
1 Prefab Washroom Module
1 Prefab Kitchen Module
2 Prefabricated Roof Panels
1 Firepit
1 Gaurdrail Pack (to be attached into column hole)
Pin the site and drive Helical Piles into ground and level, using hand held pile-drivers. Helical Piles reduce the impact on the ecosystem while securing the structure.

Bolt the prefabricated columns to the installed piles to erect the structure. The columns feature pre-drilled bolt holes to allow for the attachment of the different components of the design. This limits on the on-site assembly time and expertise required.

Prefabricated floor panels (formed offsite by sandwiching rigid insulation with plywood) and bunk/storage system package are delivered. The package includes; floor panels (plywood with rigid insulation sandwiched in between), 6 prefabricated lockable plywood boxes, a prefabricated step that can be rotated to act as a ladder, and attachment hardware. The floor panels bolt through the base of the columns. Then prefabricated boxes are bolted in place to form the 2 lower bunks & storage. The step is put in place without attachment as it is a movable component.

* The washroom module base is installed at this point with the service hookups built-in under an elevated floor.

Walls panels are pre-manufactured off-site with marine grade plywood on the interior and Japanese Shou Sugi Ban wood paneling on the exterior that is burnt to create a rot-resistant barrier. Walls are bolted to the columns.

*For deluxe cabins that have roof access, install the ladder rungs that are bolted to columns prior to installing the wall panels.

Additional accessory components are then to be delivered to site. Benches/fold-open counters have rods which go through column holes and then are bolted in place. Extra bike racks utilize traditional bolts to attach to the columns. (These also add additional rigidity to the structure.) The pocket door slides into the track that was installed in the wall panels in premanufacturing. Hammock connections can be added through bolting an industrial o-ring into the column. Carabiners are then used to attach or remove a hammock easily throughout the season. Blinds or other finishes can be screwed directly into the plywood.

*For the deluxe cabins sustainable fixtures would be installed in the kitchen and/or bathroom. Fixture options include a hand pump sink that uses potable fresh water tank, rainwater shower and sink that requires solar power, propane stove, and compostable toilet.

Integrated panels are used to form the roof; 2 sheets of plywood sandwich rigid foam insulation, with a polycarbonate system that is lightweight. Solar panels can also be accommodated. The panel colours would be customized to best suit the local environment.

* For deluxe cabin with roof access, the guardrail system can be installed by inserting the vertical elements into the pre-drilled holes in the roof that attach to the top of the column. Wire is then run in tension to create the guard.