

# PowerCounter™

## Montreal counts on you.

PowerCounter is a project conceptualized by Carmen Draxler and Violette Arnaud supervised by Carmela Cucuzzella, Ph.D. and Morteza Hazbei

Montréal compte sur vous.

How can we encourage Montreal's citizens to switch to a more sustainable mode of individual transportation by using and displaying data?

### What is PowerCounter?

PowerCounter is a pressure-sensitive counter that generates energy while counting different modes of individual transportation in real-time. It is smart, self-sufficient, and off-grid. Citizens interact with PowerCounter when crossing smart floor tiles.

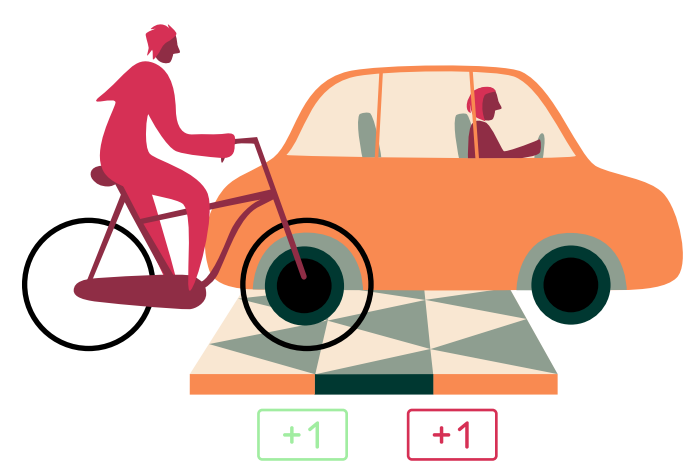
Both, bikers as well as drivers are taken into account to encourage behavioral change towards the more sustainable mode of individual transportation while strengthening the biking community.

PowerCounter is a scalable technology that can be placed any intersection in a bike-friendly area. To increase the project's impact we suggest to place the first at Avenue du Parc and Rue Prince Arthur O, as there is a large discrepancy between cars and bikes.

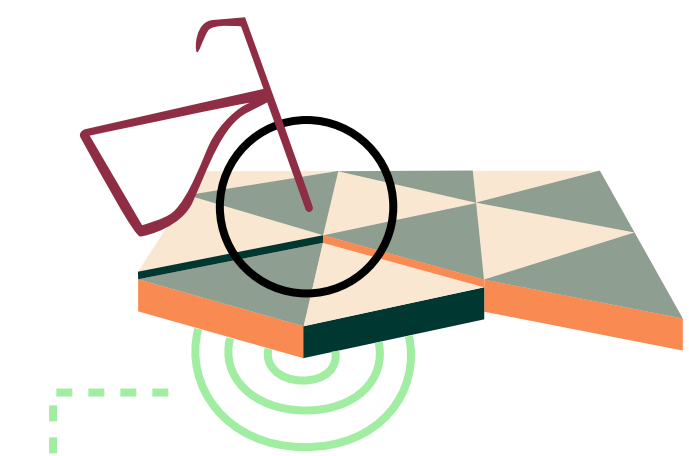


### How does it work?

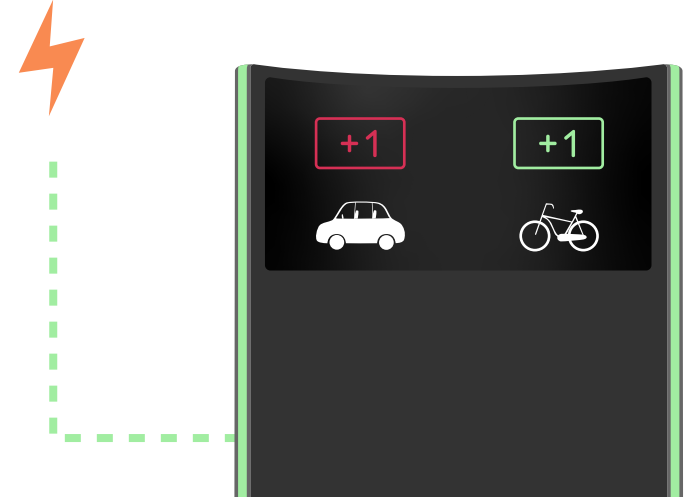
The panel is connected to the rhythm of the traffic lights. During green traffic lights the display continuously counts cars and bikes. As soon as traffic stops, the data displayed will encompass more detailed information on count-based trends.



**Smart data collection:**  
Light sensors in the floor tiles count passing bikes and cars anonymously and sustainably.



**Informative data display:**  
The amount of cars and bikes as well as additional data resulting from this count are displayed on a panel.



**Clean energy generation:**  
Pressure-sensitive floor tiles turn the kinetic energy of bikes and cars into electric energy. This powers the panel self-sufficiently and off-grid.

### What is distinctive about PowerCounter?

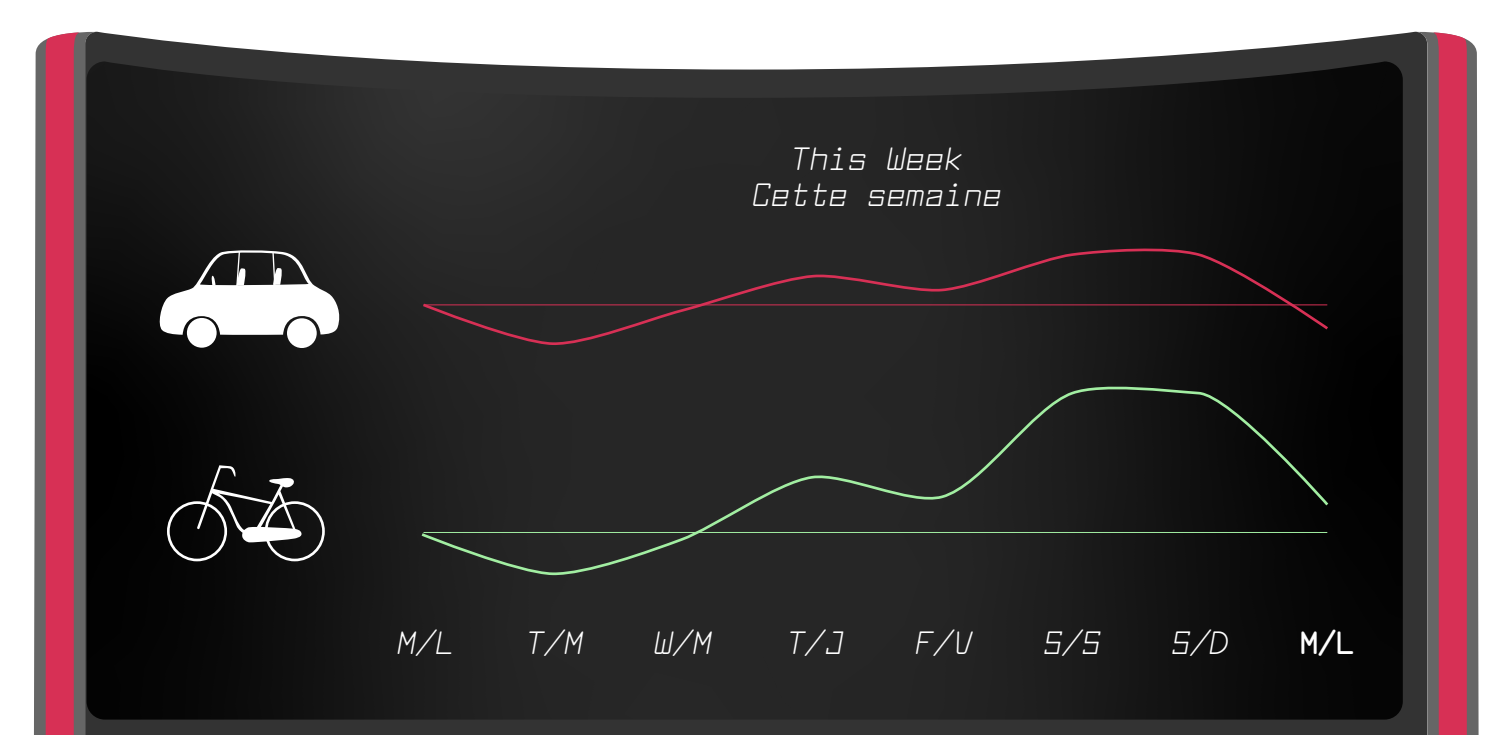
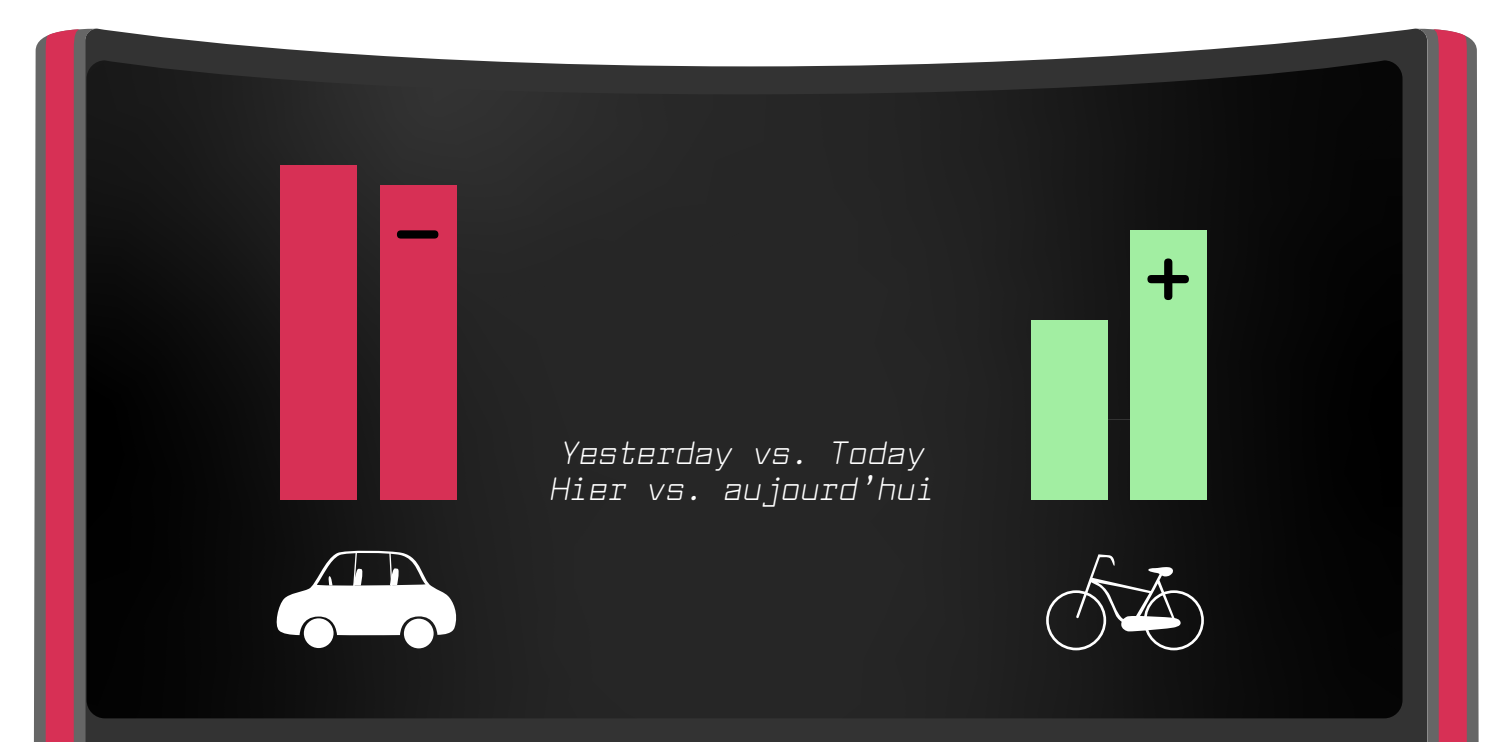
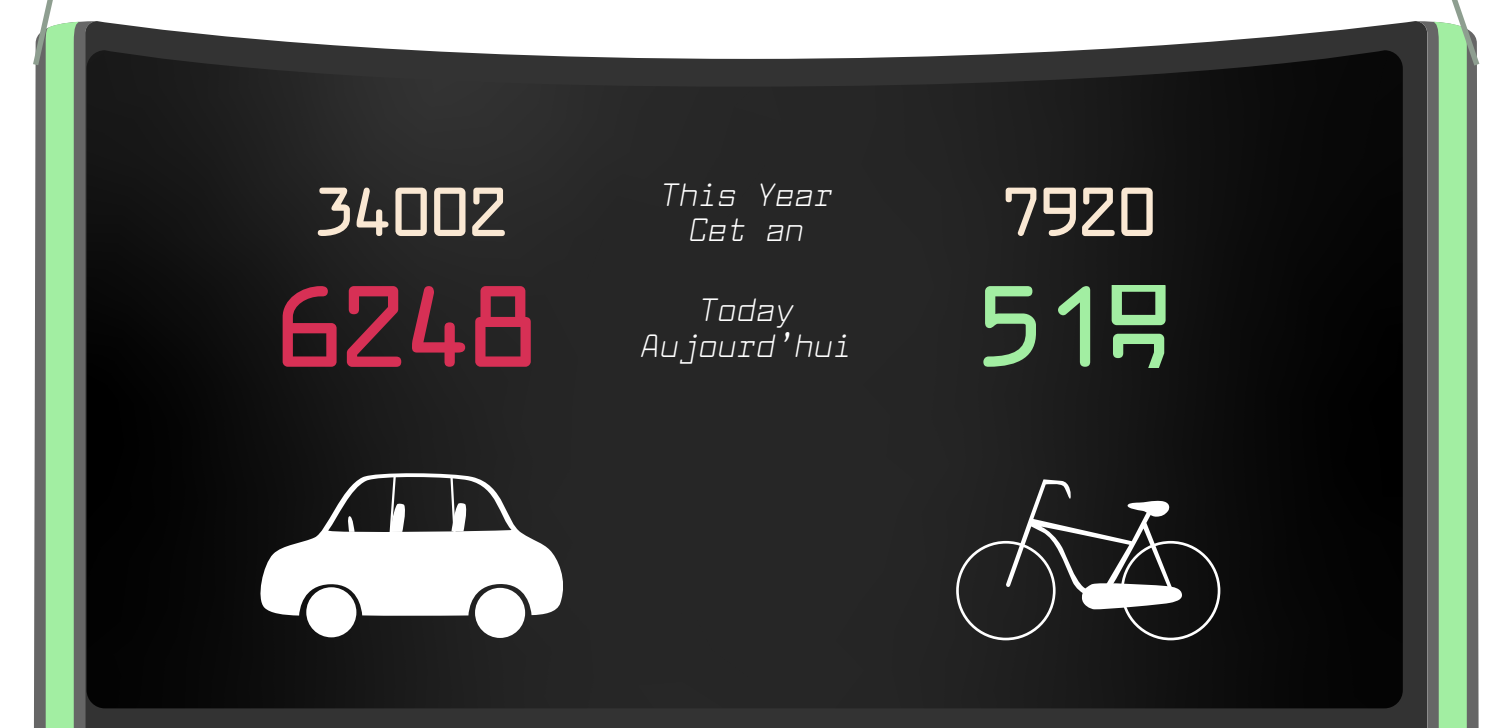
PowerCounter brings bike counters to the next level: It sets innovative goals and combines existing smart technologies, like bike counters and pressure-sensitive floor tiles. Thus, we believe that it is technically easy to realize. Also, this project would perfectly fit with the spirit of Montreal. PowerCounter is distinctive, because it displays the collected data in an eye-catching, interactive, and playful way.

Finally, it encourages citizens to act more sustainably by motivating them to take a bike instead of their car. PowerCounter questions personal habits while also empowering the biking community.

We are aware of the diversity in means of transportation and their special requirements. Some of these variables can be compensated by technology; others eliminated by e.g. subtracting the fix amount of busses according to their schedules.



**Partners:** Jeremie Valluet (CitéStudio Montreal)  
**City staff and community partners:** Philippe Fortin (Comité de la Ville Montréal)



### What is the project's impact?

The main goal of this project is to collect real-time data for the City of Montreal. The data is sourced sustainably, and anonymously which possibly helps the City to identify changes on private transportation over time, and inspires to act accordingly. The display of the data educates citizens publicly while offering a solution for traffic congestion, air as well as noise pollution, and occupied urban space.

PowerCounter also positively impacts on the personal level: citizens will be encouraged to practice a healthier lifestyle. We believe that this display is possible to make and is also a great way to facilitate change in a didactic way.