

## Wireless, solar power drives Montreal bike rentals

By: [Kathleen Lau](#) - ComputerWorld Canada (11 Nov 2008)

**The city plans to roll out a self-serve system called BIXI that helps users plan short inner-city trips by picking up and returning vehicles from terminals. Where RFID fits in**

Following a pilot phase that began last September, the City of Montreal will roll out next spring a self-service bicycle rental system through solar-powered, wireless “intelligent terminals” that act as point of sale kiosks.

The bike rental system, called BIXI, is a combination of Bicycle and taXI and is designed for short inner-city trips where bikes can be rented from one terminal and returned to another. The inspiration for the self-service bicycle network, according to Darren Becker, spokesperson for the mayor’s office of City of Montreal, stems from European cities like Paris where such bicycle rental systems have successfully been implemented.

“In Montreal,” he said, “people don’t just use their bikes for recreational purposes, it’s an actual mode of transportation.”

The plan is to have 300 intelligent stations and 2,400 bicycles next year.

The underlying technology is provided by 8D Technologies Inc., a Montreal-based developer of wireless machine-to-machine point of sale systems. The company’s president and CEO Isabelle Bettez said that by being solar-powered, the intelligent terminals respond to the environmental initiatives common to many cities these days. And, by not requiring electric power to operate means there are no wires and that “makes this solution a lot easier because you don’t have to dig.”

Having a wireless system also makes it modular in that the terminals can be easily moved during the snowy winter months, and is scalable so that more terminals can be brought in for temporary events expected to attract a lot of people traffic so “it will be pretty easy to drop the stations every place you want,” said Michel Philibert, director of communications and marketing with Stationnement de Montreal, which runs the BIXI project.

The bicycle system actually plugs into an existing infrastructure of the same technology by 8D Technologies that manages the City of Montreal’s pay-as-you-go street parking system, which already handles more than 1.8 million transactions per month through 1,600 pay-as-you-go stations. That made the bicycle rental project relatively easy given the technology foundation was in place, said Philibert, because “it’s an important piece of the puzzle if you are implementing a brand new system, and we already have this piece of the puzzle.”

While the terminals are environmentally-friendly by being solar powered, so are the bikes which are built entirely from recyclable material. The system uses radio frequency identification (RFID) to monitor rented bicycles and ensure they are returned to the terminals after usage.

RFID also enables subscribers of the rental system to bypass the terminal by sliding an RFID-enabled key into a bicycle to unlock it (the City has already sold 2,000 annual memberships to bike rental subscribers). Non-subscribers of the system or “walk up renters” can use a credit card at the terminal where they will be required to specify the amount of time for which they will be renting the bicycle. The terminal will then issue a number that unlocks a bicycle.

Bettez envisions that such technology will be applied more broadly in cities to solve the congestion and pollution problem by way of a single-user card to access a variety of transportation services: “You take your car and then you park before you get in the city, then take the train and from the train you could grab a bike and then go to your office... and do the same thing on your way back.”