



Hamilton Great Neighbourhoods Visualization Project

Hamilton has many great neighbourhoods, in all areas of the city. One of the things that makes a neighbourhood great is its visual appeal. The buildings, landscaping, tree canopy, street activities, signage and commercial activities and other features are all things that make neighbourhoods appealing and memorable.



In this project, we are planning to use the **MUVR System (Mobile Urban Video Recording System)** to record a few seconds of video and audio on every street in Hamilton.

After we collect the video, we bring it back to the CRUNCH laboratory at McMaster* and convert the images into scores that summarize neighbourhood features. These scores are then used to examine their relationship to important outcomes such as health, child development and neighbourhood satisfaction.

We expect our findings will be important to governments, business associations, community groups and residents who seek to make their neighbourhoods the best places to live that they can be. We have relationships with many such groups, and we will make sure our findings are distributed widely.

This project is the first of its kind to be conducted in Canada, and one of the first in the world.

We plan to collect video data Mondays to Fridays, from May to October, weather permitting.

We welcome your ideas and suggestions about how this information can be used to improve Hamilton neighbourhoods. If you have ideas or questions, please consult our FAQ sheet at www.crunch.mcmaster.ca. If you have other questions, you can contact us at 1-8445-CRUNCH.

*CRUNCH is the Collaboratory for Research on Urban Neighbourhoods, Community Health and Housing



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This is MUVR
Mobile Urban Video Recording System



1) Data Collection: A 360-degree camera is mounted on the car. The car will drive through Hamilton and record a few seconds of audio and video on every street



2) Data Analysis: Researchers will 'code' the images for features like trees, road safety traffic levels, building types, condition of buildings and street activity



3) Sharing the Findings: We will share our findings with community groups, residents and governments that want to make neighbourhoods great places to live

Welcome to the MUVR Car!



Here is what this car and camera do

What *is* this car?

Hello! This car belongs to a research lab at McMaster University, and is called MUVR: Mobile Urban Video Recording System

What's that thing on top?

Affixed to this car is a 360° video and audio recording system.

Is it like a Google car?

This camera system is very similar to the one used by Google to record the images on the Street View website. However, this system can also record background noise. This car belongs to McMaster University, and we have no affiliation with Google.

There are some important differences from our research and Google. First, Google posts images on the internet and makes them publicly available. **We will not be posting images on the internet except in rare instances to demonstrate specific research concepts, like the characteristics of a 'walkable' street. All of our images will be stored securely at McMaster University on password-protected computers. When we do use images to illustrate our findings, if there are people in those images, we will blur the faces and other identifying details of the people so that they cannot be identified.**

The camera gathers information about what is happening on the street, the same way as any person would who is walking, biking or driving by.

What are you doing with the camera? What are you recording?

Hamilton is a city that is going through many changes, and lots of people want to learn from and study those changes. We are recording information about the visual appearance of neighbourhoods, including buildings and other features of properties, what is happening on the street, and the level of background noise. We may come back to the same neighbourhood over a few months or years to observe what has changed.

How will this information be used?

The information we collect will help us understand what makes neighbourhoods healthy and welcoming places. For example, the levels of noise on a street at different times of day, or the presence of street lights or sidewalks can give us information about things like how safe residents feel walking on that street, or letting children play outside.

Will you be snooping on me and my neighbours?

No. We will be driving at about 10km per hour so any individual point will only be in the picture for a few seconds. The camera only gathers images of what is happening on the street in plain view for all to see, the same way as any person would who is walking, biking or driving by.

We are not recording the activities of specific people and our cameras do not have the technical capability to see inside somebody's house, behind fences, etc. Our camera resolution is low, so it is rare that we will get images that could identify individuals. It can only record things happening in plain view. In part because it is moving, the microphone only captures background noise, we cannot hear actual conversations. Regardless, the images and sound will be stored on secure, password-protected computers at McMaster University.

Who will be looking at the video?

A small group of researchers at McMaster University, who work for a research lab called the Collaboratory for Research on Urban Neighbourhoods, Community Health and Housing (CRUNCH) will analyze the images. We do not share the video data with anyone outside of the lab. Some small extracts of the recordings (still images, short video clips, sounds) may appear in public documents or presentations, but the information is never displayed in a way that will identify people.

Can you hear through walls? What about my computer and WiFi connection?

The audio system can only hear the kind of background noise that regular human ears would hear from the street, the same as a person who is walking, biking or driving on the street. We don't have the technical capability to eavesdrop on conversations, and since the microphone is moving on the car, we won't have more than a word or two from any person anyway. There are no "secret" or high-tech sound recording systems.

We do not collect any digital information, such as your WiFi connection or cell phone conversations.

Why not just use the images on the Google Street View website?

Google takes their street view images at a time that suits them, which is usually only in nice weather, and we don't know when the images were taken, because they only come to each city every few years. By having this technology in Hamilton and working with local residents groups, we can do things like go on the streets at different times of day, or in different seasons, to see how people's experience of that same street is different during these times. We can also return to the same neighbourhood each year to see how things are changing.

Who is paying for this?

The Mobile Urban Video Recording system is funded through grants from the Canada Foundation for Innovation and the Ontario Ministry of Research and Innovation.

How can I suggest a research question? Where can I learn more? How will I know when the car will be in my neighbourhood?

We want to hear from you! Do you have ideas for research questions that this technology can answer? You can visit the lab's website: crunch.mcmaster.ca or call: 1-8445-CRUNCH (1-844-527-8624)