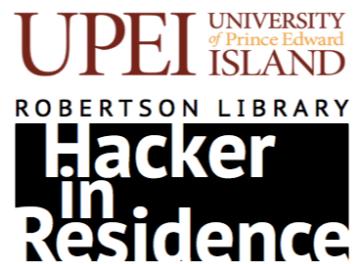


Where PEI Public Servants Live and Work

(and can we get them to
leave their cars at home?)

Applied Geospatial Research in Public Policy Workshop
University of Prince Edward Island
October 4, 2019



Peter Rukavina

Hacker in Residence, Robertson Library, University of Prince Edward Island
prukavina@upei.ca



orcid.org/0000-0002-7690-4909



Provincial Admin Buildings

Image from Google Street View, Captured October 2015





**1935
0 Spaces**

1935 Aerial
Survey,
National Air
Photo Library,
Natural
Resources
Canada



**1968
150 Spaces**

1968 Aerial
Survey,
National Air
Photo Library,
Natural
Resources
Canada



**2010
330 Spaces**

2010 Aerial
Survey,
Province of
Prince
Edward
Island

Clear Form



Request to Access Information

Personal information on this form is collected under Prince Edward Island's *Freedom of Information and Protection of Privacy Act* and will be used to respond to your request. See instructions for completing this form.

About You

<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms. <input type="checkbox"/> Dr. <input type="checkbox"/> Mrs. <input type="checkbox"/> Miss	Last Name Rukavina	First Name Peter
Name of company or organization (if applicable)		
Mailing Address 100 Prince Street		
City or Town Charlottetown	Province PE	Postal Code C1A 4R4
Telephone (day)	Email peter@rukavina.net	

About Your Request

1. What kind of information do you want to access?
 General Information (An initial fee of \$5.00 is required – see instructions for explanation of fees.)
 Personal Information (No initial fee is required for personal information.)

2. To which public body are you making your request? (Please fill in the name of the organization.)
PEI Public Service Commission

3. Do you want to: (a) receive a copy of the record? OR (b) examine the record?

4. **What records do you want to access?** Please give as much detail as possible. (*If you want access to your own personal information, be sure to give all your previous names. For another person's information, you must attach proof that you can legally act for that person.*)

“A spreadsheet providing the postal code of the home address of each employee of the PEI public service, across all departments and agencies, and the civic address (or, if not available, building name) of their primary work location.”



PO Box 2000, Charlottetown
Prince Edward Island
Canada C1A 7N8

PEI Public Service
Commission

Commission de la Fonction
Publique de l'Î.-P.-É.



C.P. 2000, Charlottetown
Île-du-Prince-Édouard
Canada C1A 7N8

September 27, 2019

2019-207 PSC

Peter Rukavina
100 Prince Street
Charlottetown, PE C1A 4R4

Dear Mr. Rukavina:

Re: *Freedom of Information and Protection of Privacy Act* (the "Act")

You have requested access to records under the Act from the Public Service Commission, as follows:

"A spreadsheet providing the postal code of the home address of each employee of the PEI public service, across all departments and agencies, and the civic address (or, if not available, building name) of their primary work location."

I am writing to inform you that we are providing access to the information you have requested by creating a table of relevant information. A copy of the record is attached.

Pursuant to section 60 of the Act, you may make a written request to the Information and Privacy Commissioner to review this matter. You have 60 days from the date of this notice to request a review by writing to the Information and Privacy Commissioner at the J. Angus MacLean Building, P. O. Box 2000, Charlottetown, PE C1A 7N8.

When requesting a review, please provide the Commissioner with the following information:

- the file number noted at the top of this letter;
- a copy of this letter; and
- a copy of your original request form.

.... /2

Row Labels	Count of Indicator
B2G 0E2	1
Brudenell Admin Office	1
B2X 2T5	1
Provincial Admin Building	1
B3L 3B4	1
Sherwood Business Centre	1
B4P 0C5	1
Holman Building (Ch'town)	1
B4V 2S1	1
Red Road Homes	1
C0A 0H9	1
Ch'Town Government Garage	1
C0A 1A0	35
185 Beach Grove Road	1
40 Enman Crescent	1
40A Burns Ave.	1
Borden Scale House	1
Brudenell Admin Office	1
Brudenell Golf	1

Transform the Data

```
<?php

$current_postal_code = '';

if (($handle = fopen("public-servants-work-home.csv", "r")) !== FALSE) {
    while (($data = fgetcsv($handle, 1000, ",")) !== FALSE) {
        if (preg_match("/^[A-Z][0-9][A-Z]\s?[0-9][A-Z][0-9]$/", $data[0])) {
            $current_postal_code = normalizePostalcode($data[0]);
        }
        else {
            $out .= $current_postal_code . ',' .
                $data[0] . ',', .
                ($data[1] > 0 ? $data[1] : $data[2]) . "\n";
        }
    }
    fclose($handle);
}
file_put_contents('public-servants-work-home-transformed.csv', $out);

function normalizePostalcode($postal) {
    if (strpos($postal, ' ') === FALSE) {
        $postal = substr($postal, 0, 3) . ' ' . substr($postal, 3, 3);
    }
    return $postal;
}
```

CSV One Row per Postal

B2G 0E2,"Brudenell Admin Office",1
B2X 2T5,"Provincial Admin Building",1
B3L 3B4,"Sherwood Business Centre",1
B4P 0C5,"Holman Building (Ch'town)",1
B4V 2S1,"Red Road Homes",1
C0A 0H9,"Ch'Town Government Garage",1
C0A 1A0,"185 Beach Grove Road",1
C0A 1A0,"40 Enman Crescent",1
C0A 1A0,"40A Burns Ave.",1
C0A 1A0,"Borden Scale House",1
C0A 1A0,"Brudenell Admin Office",1
C0A 1A0,"Brudenell Golf",1
C0A 1A0,"Ch'Town Government Garage",3
C0A 1A0,"Coles Building",1
C0A 1A0,"Frank Gaudet Nursery",1
C0A 1A0,"Georgetown Government Garage",1
C0A 1A0,"J. Angus MacLean Bldg",1
C0A 1A0,"Montague Cannabis Store",2
C0A 1A0,"Northumberland Park",1
C0A 1A0,"Orwell Corner Museum",1
C0A 1A0,"PEI Medicare Office",2
C0A 1A0,"Provincial Admin Building",11

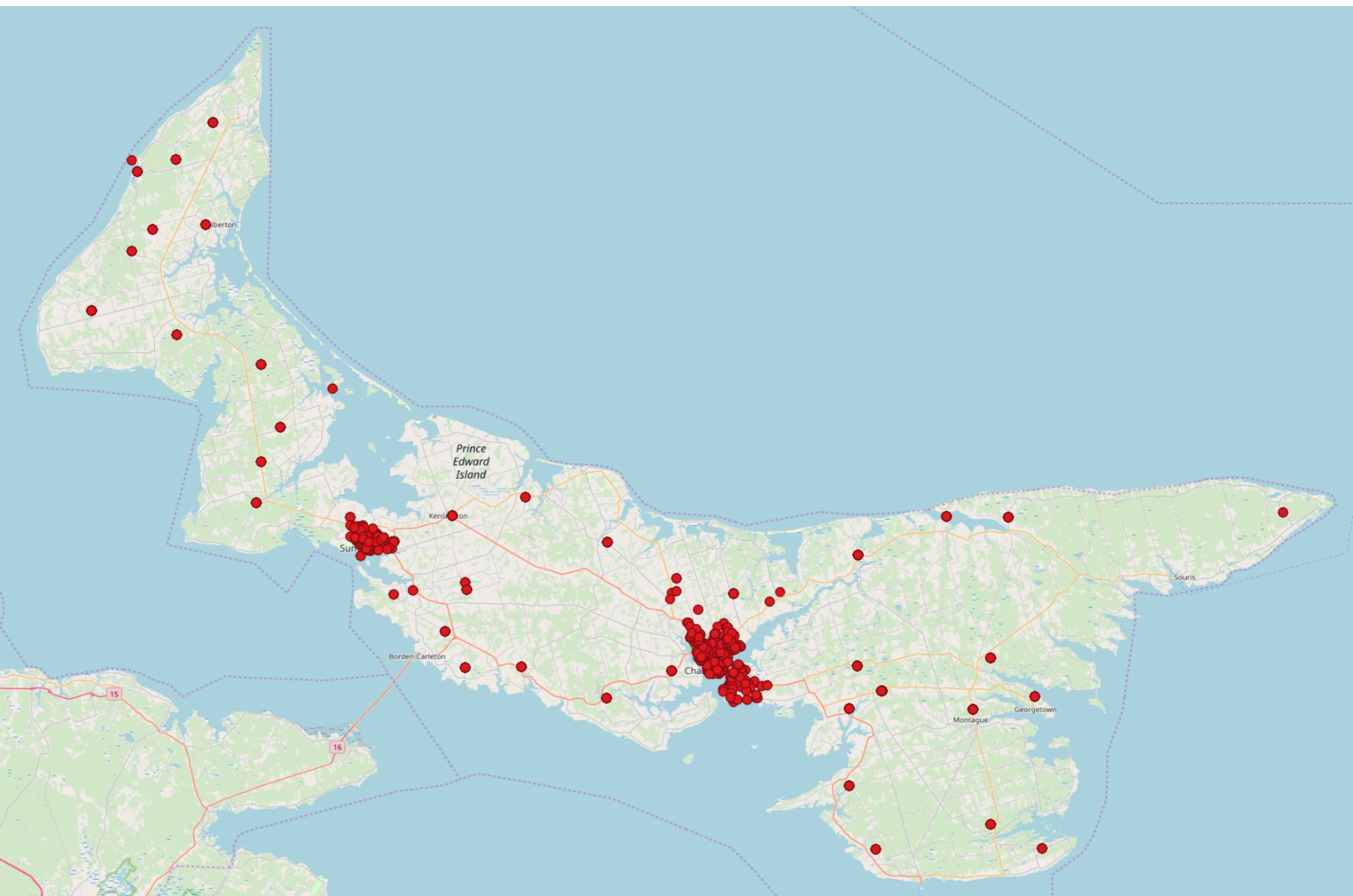
Canadian Postal Code Data

postalcode,place,citytype,provincetfull,state,areacode,timezone,dst,latitude,longitude,gmtoffset
C0A 0A1,Crapaud,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0A2,Mount Stewart,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0A3,Bonshaw,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0A4,Hunter River,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0A5,Montague,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0A6,Morell,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0A7,North Rustico,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0A8,Souris,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0A9,Vernon Bridge,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0B1,Belle River,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0B2,Murray Harbour,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0B3,Georgetown,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0B4,St. Peters Bay,D,Prince Edward Island,PE,902,Atlantic,Y,46.4345,-62.583,-4
C0A 0B5,Cornwall,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0B6,Belfast,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0B7,Cardigan,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0B8,Murray River,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0B9,Green Gables,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0C1,York,D,Prince Edward Island,PE,902,Atlantic,Y,46.241141,-62.864116,-4
C0A 0C2,North Wiltshire,D,Prince Edward Island,PE,902,Atlantic,Y,46.2079,-62.8216,-4

Geolocate Home Addresses

```
select
    `postal_c`.`latitude` as home_latitude,
    `postal_c`.`longitude` as home_longitude
from
    `postal_c`, `public_servants_home_work`
where
    `postal_c`.`postalcode` =
    `public_servants_home_work`.`postalcode`
```

4,519 Public Servants' Homes



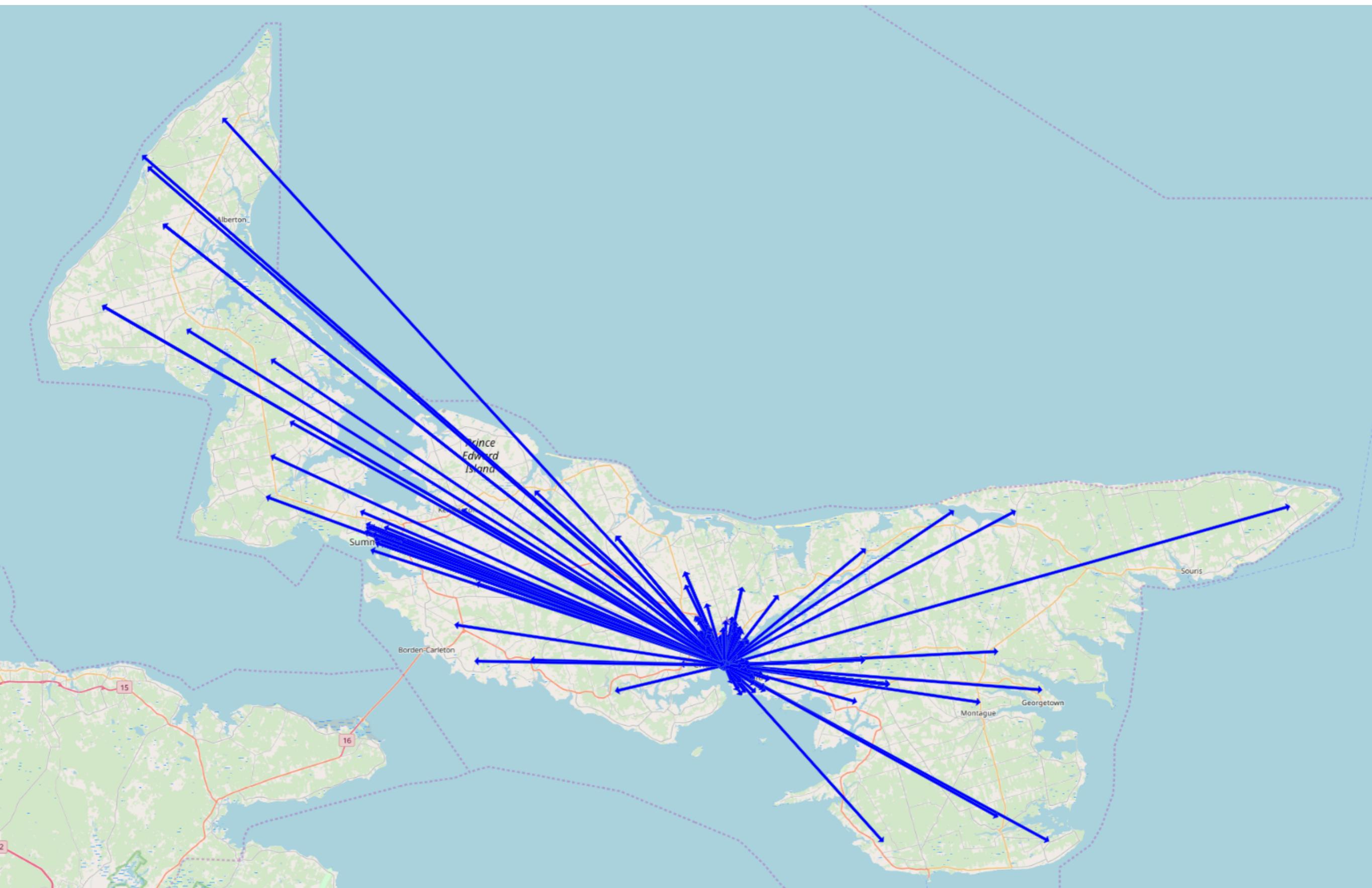
postalcode	work_location	employee_count
B2X 2T5	Provincial Admin Building	1
C0A 1A0	Provincial Admin Building	11
C0A 1B0	Provincial Admin Building	2
C0A 1C0	Provincial Admin Building	16
C0A 1E0	Provincial Admin Building	8
C0A 1G0	Provincial Admin Building	9
C0A 1H0	Provincial Admin Building	31
C0A 1H1	Provincial Admin Building	13
C0A 1H2	Provincial Admin Building	6
C0A 1H3	Provincial Admin Building	15
C0A 1H4	Provincial Admin Building	15
C0A 1H5	Provincial Admin Building	12
C0A 1H6	Provincial Admin Building	8
C0A 1H8	Provincial Admin Building	13
C0A 1H8	Provincial Admin Building	1
C0A 1H9	Provincial Admin Building	3
C0A 1J0	Provincial Admin Building	11
C0A 1K0	Provincial Admin Building	2
C0A 1L0	Provincial Admin Building	4
C0A 1N0	Provincial Admin Building	25
C0A 1P0	Provincial Admin Building	1
C0A 1P0	Provincial Admin Building	35
C0A 1R0	Provincial Admin Building	24
C0A 1S0	Provincial Admin Building	13
C0A 1T0	Provincial Admin Building	27
C0A 1V0	Provincial Admin Building	3
C0A 1W0	Provincial Admin Building	7
C0A 1X0	Provincial Admin Building	4
C0A 1Y0	Provincial Admin Building	22
C0A 1Y0	Provincial Admin Building	1
C0A 2A0	Provincial Admin Building	8
C0A 2B0	Provincial Admin Building	9

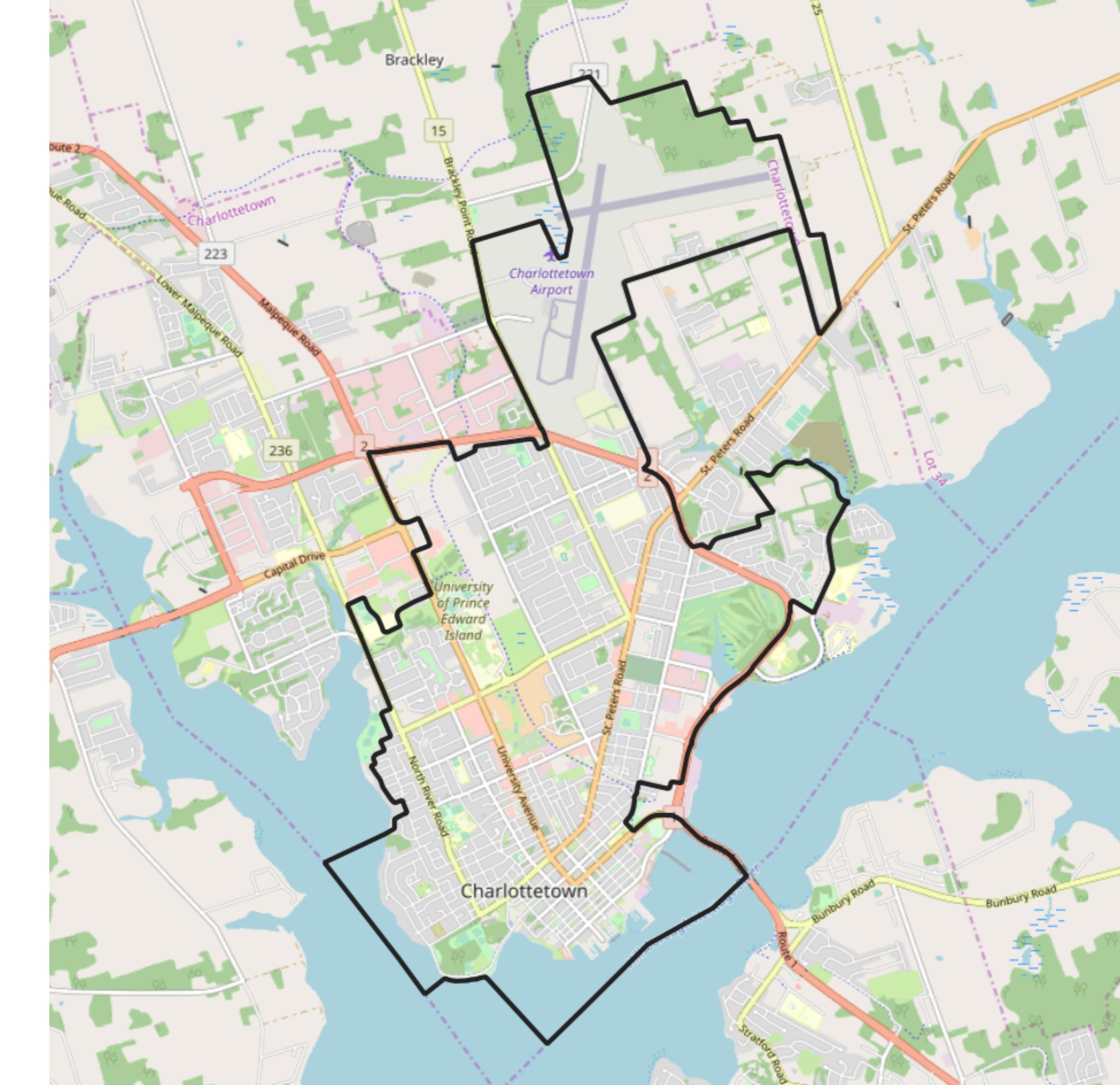
**1,048
people
work here
(23% of the
public
service)**



2010 Aerial
Survey,
Province of
Prince
Edward
Island

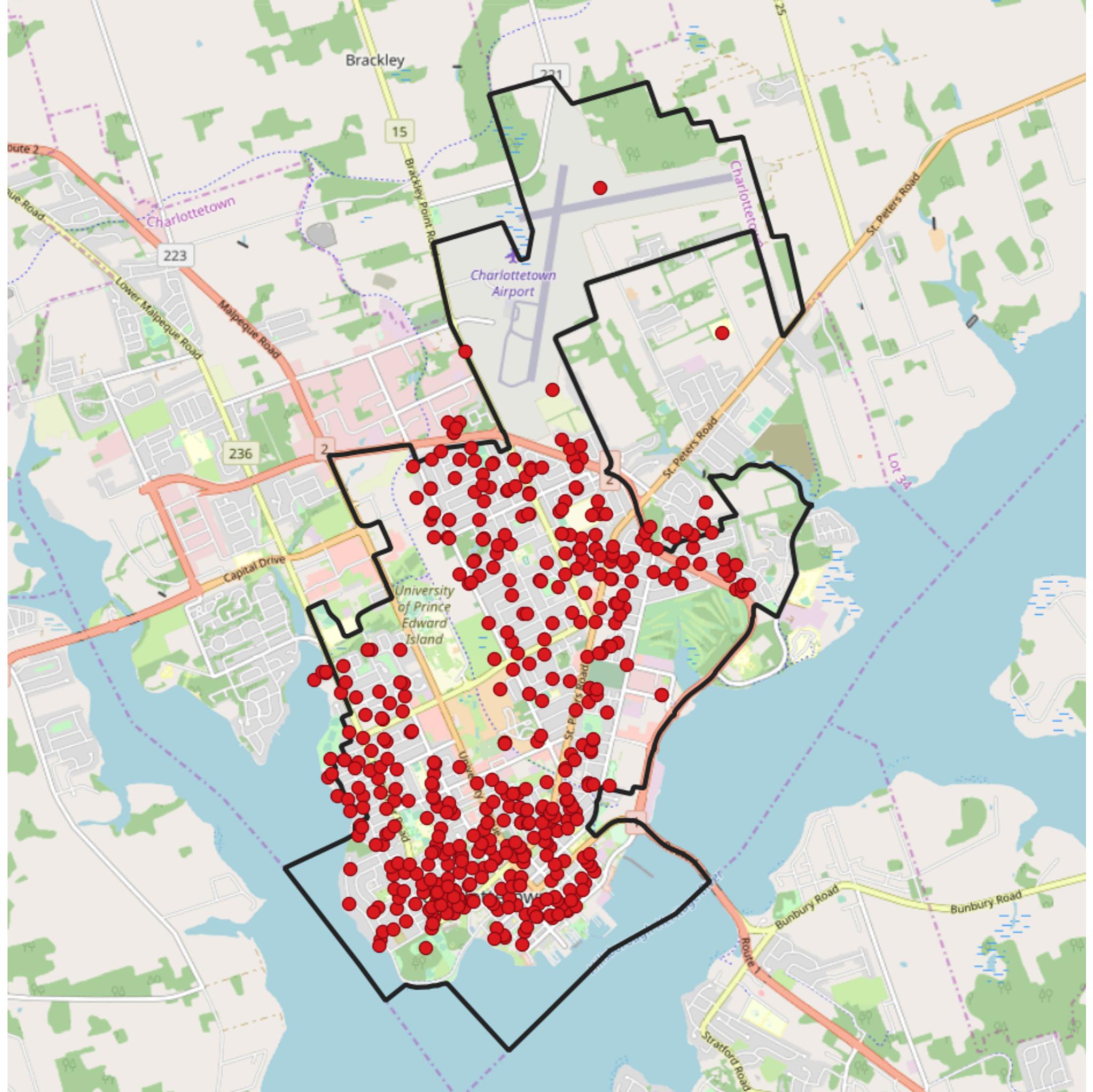
And they commute from...





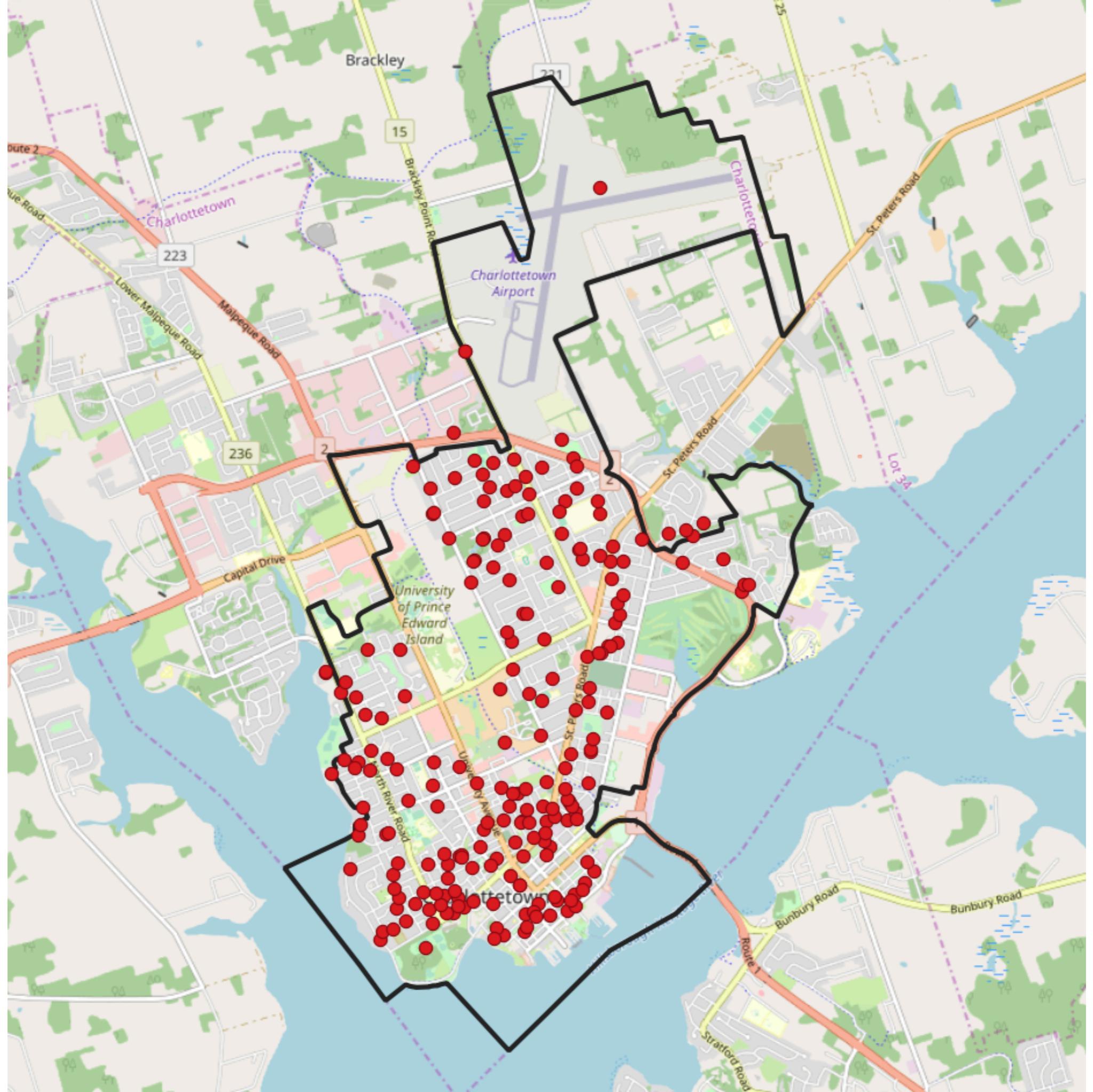
C1A

Statistics
Canada
Forward
Sortation
Areas,
2016

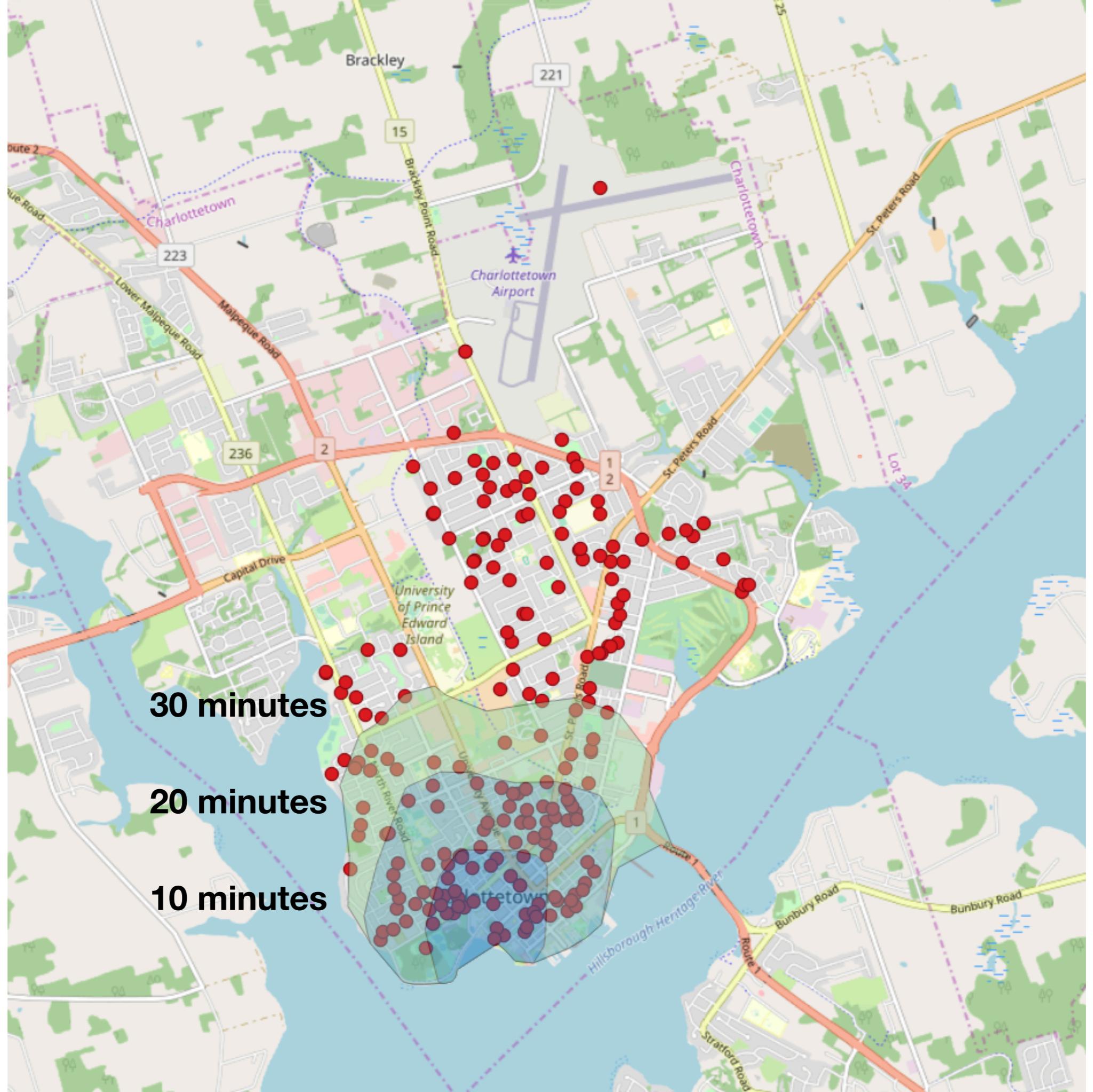


520
employees
live in
C1A

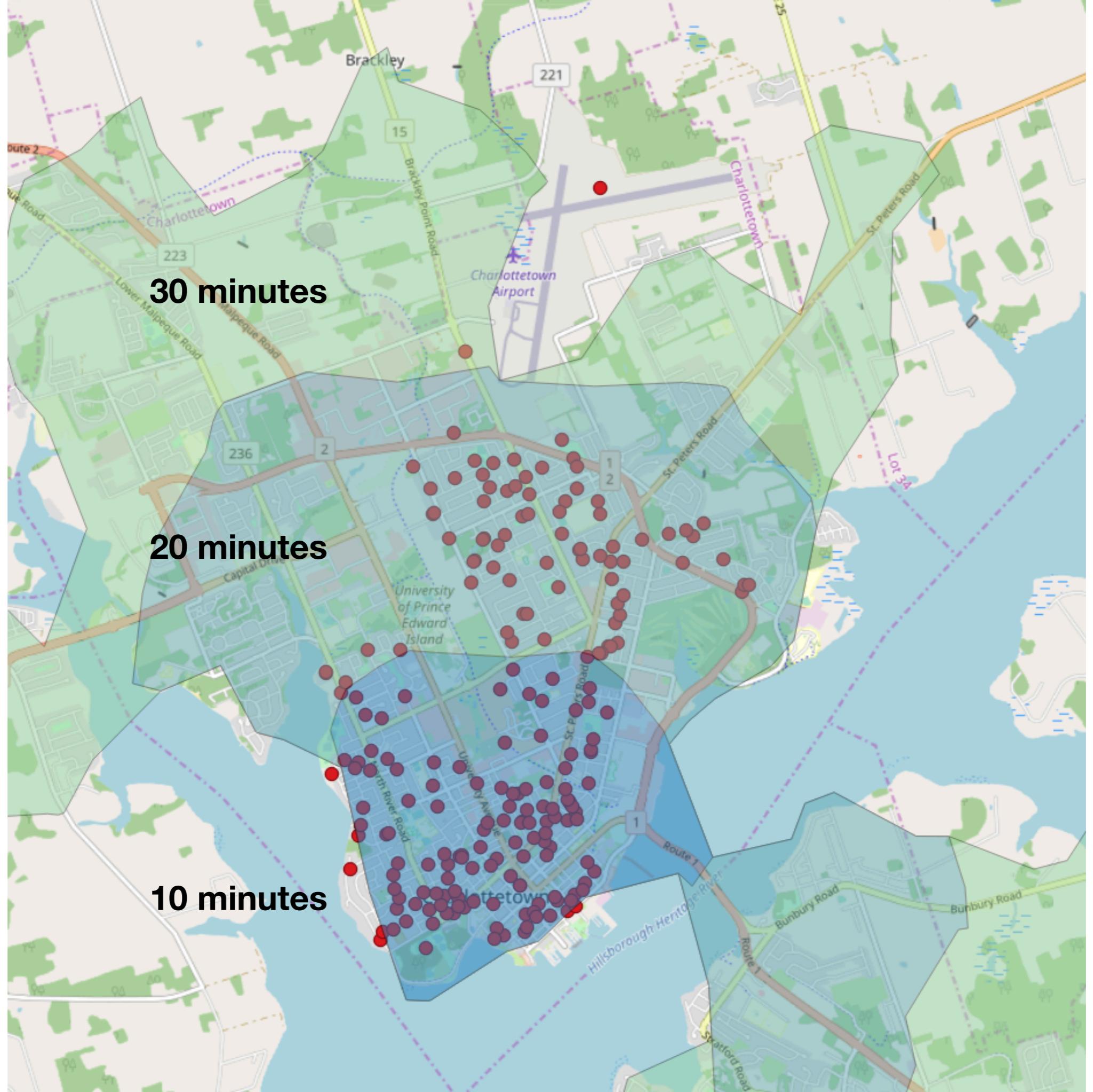
**252
employees
work in
Provincial
Admin
Buildings
and live in
C1A**



**Walking
Time
to
Work**

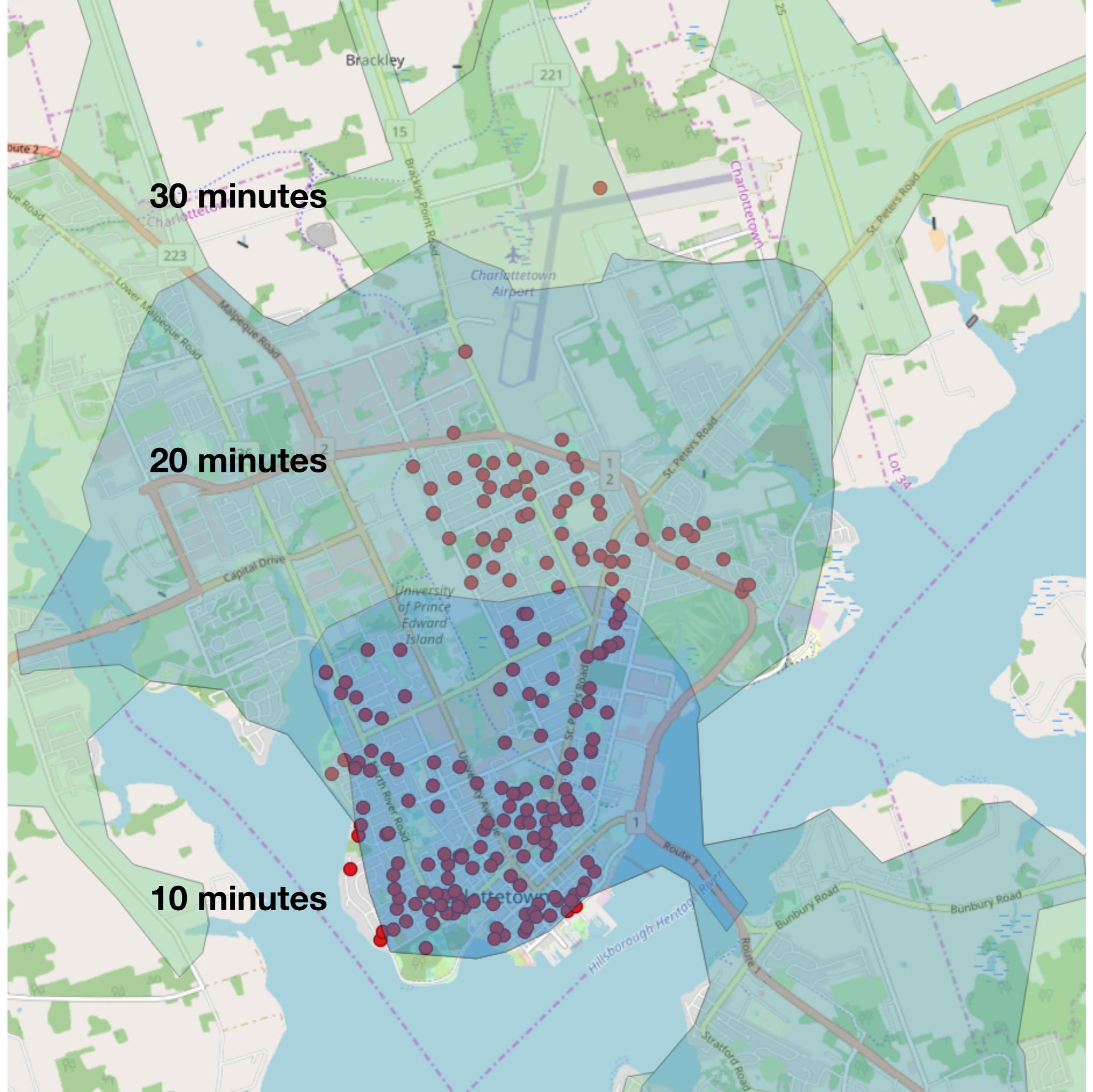


**Cycling
Time
to
Work**

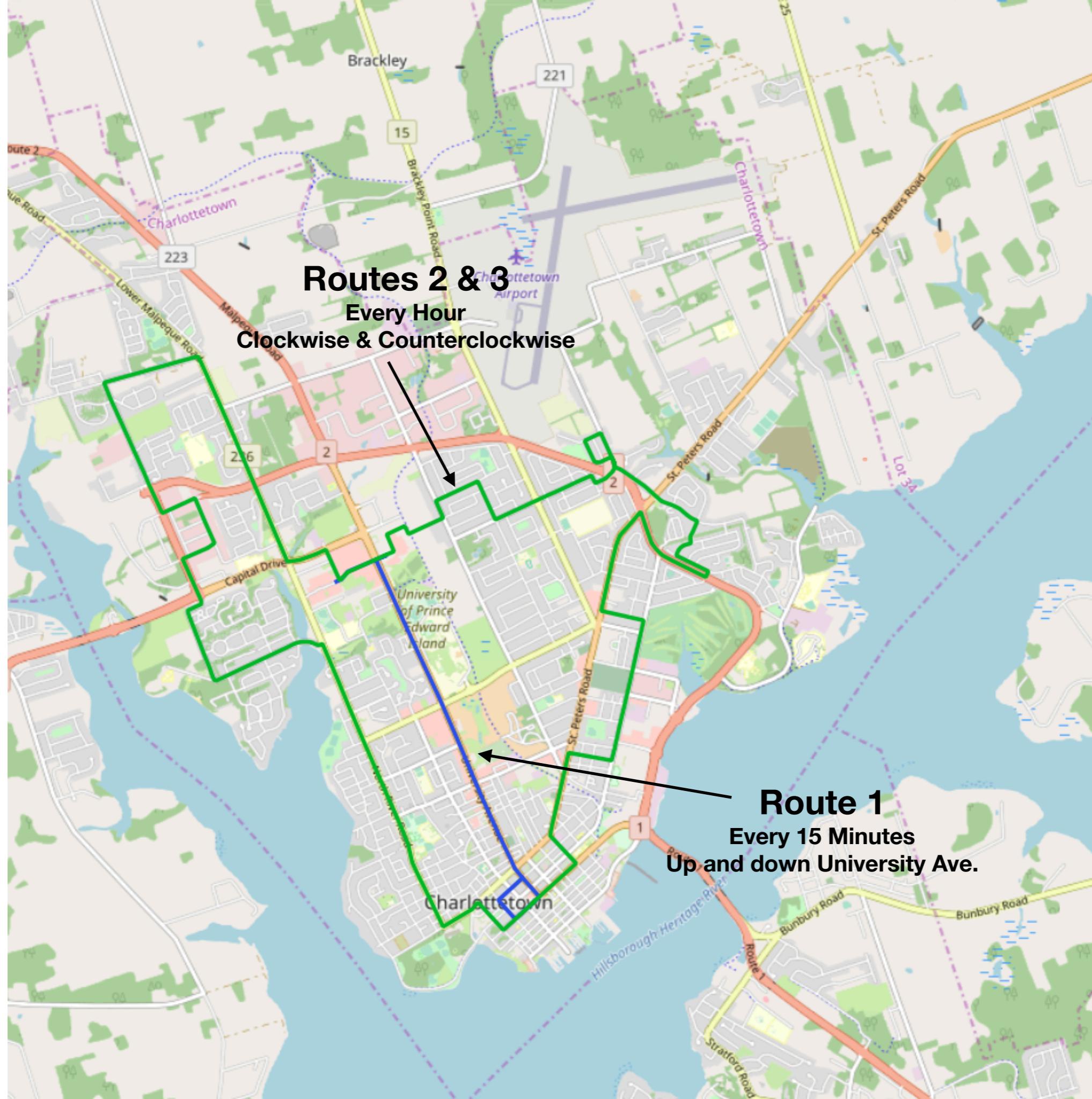


Isochrones
from
ORS Tools
Plug-in for
QGIS,
using
Open Route
Service

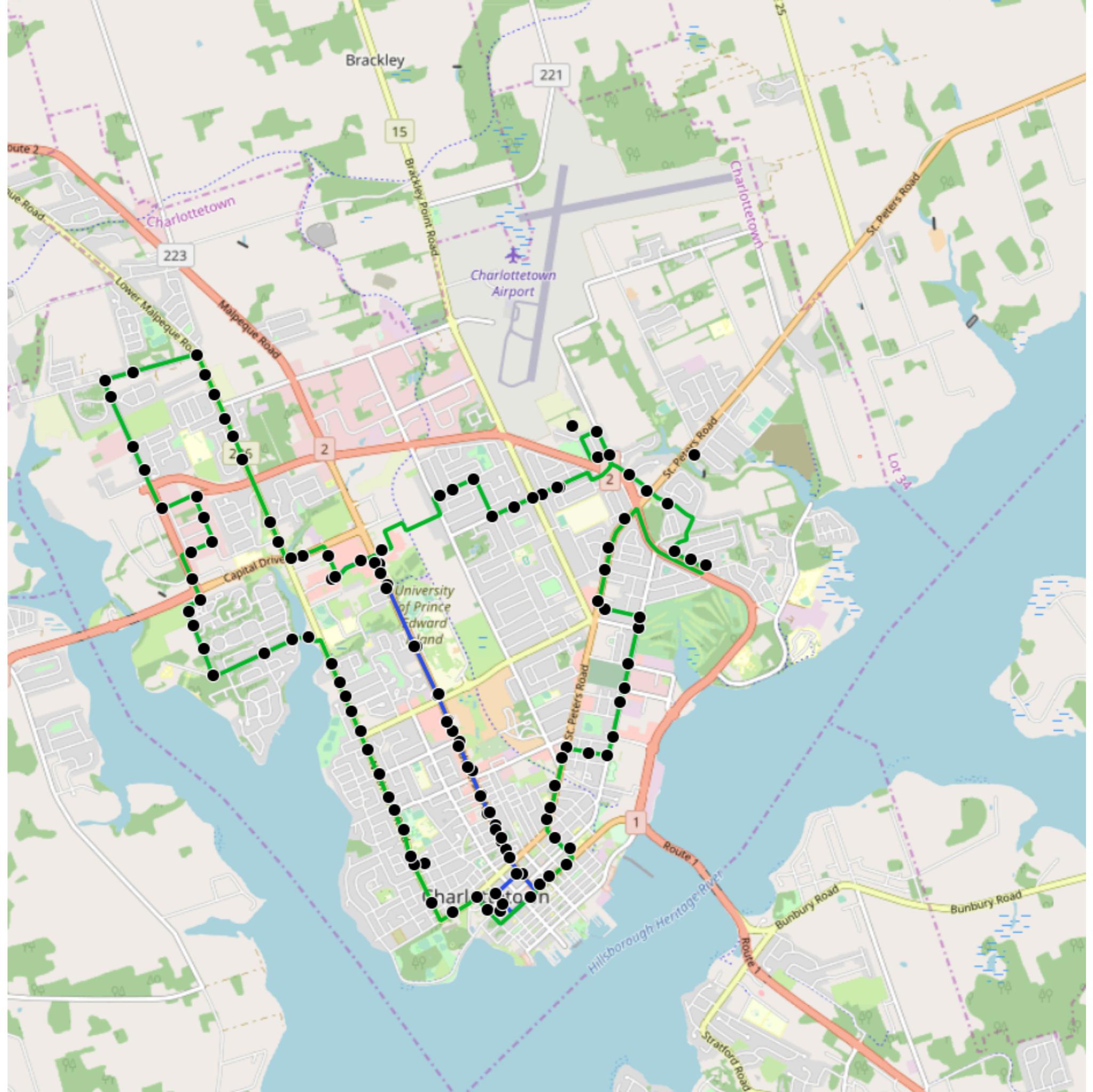
Electric Cycling Time to Work



Public Transit Routes

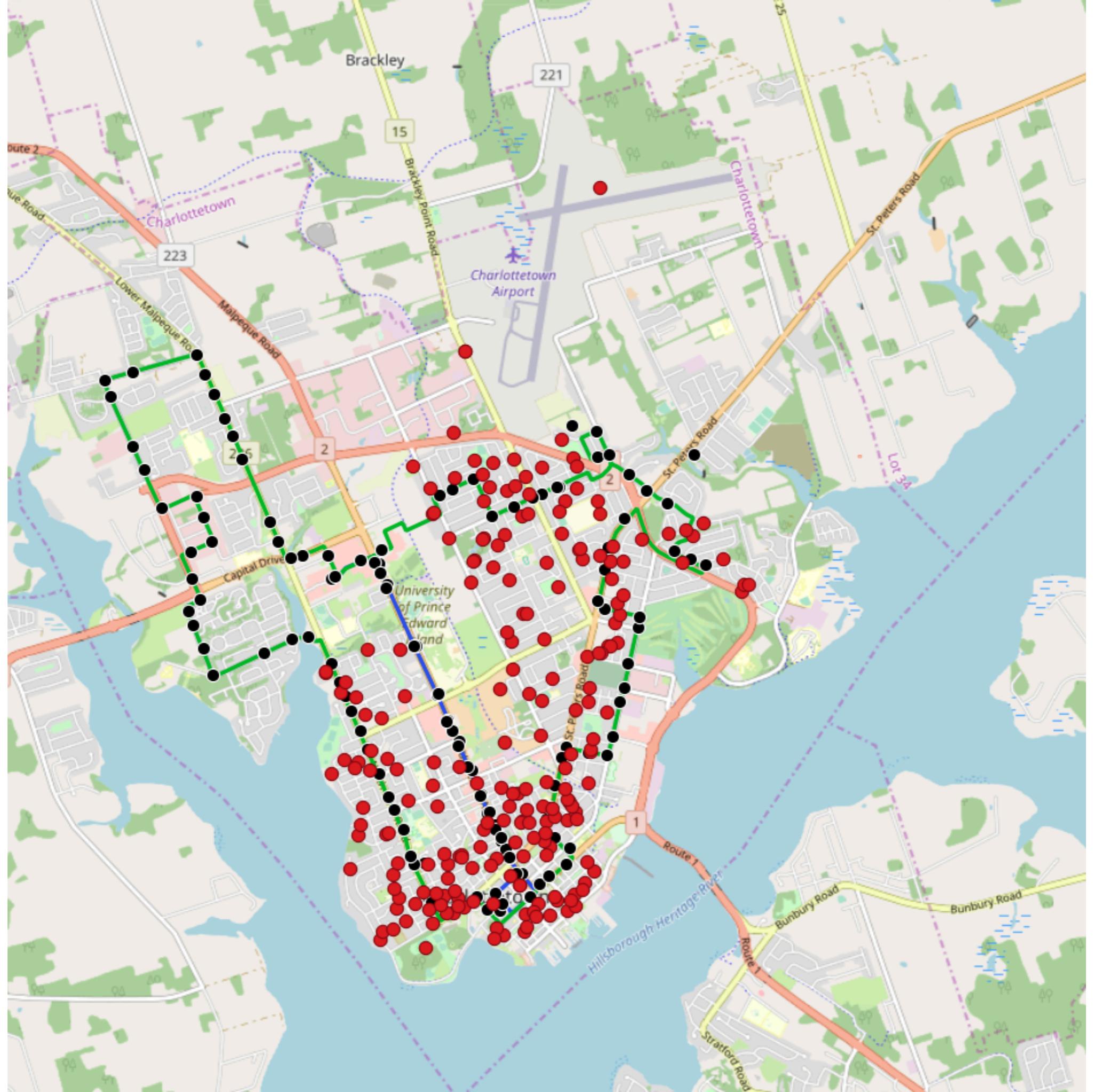


Public Transit Stops

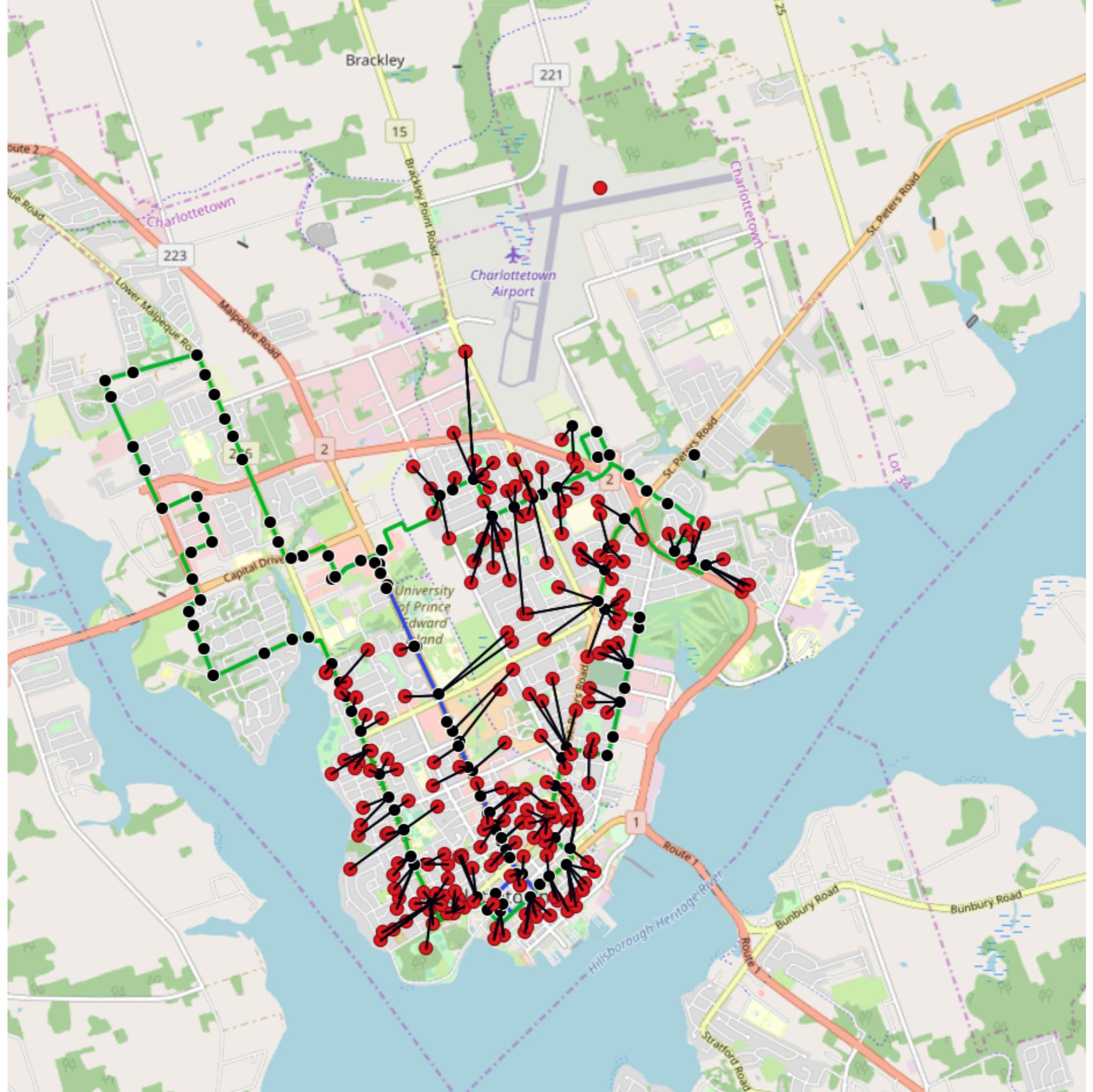


T3 Transit
Stops
from
ReadyPass
Live Transit
Map

Public Transit Stops and Employee Homes

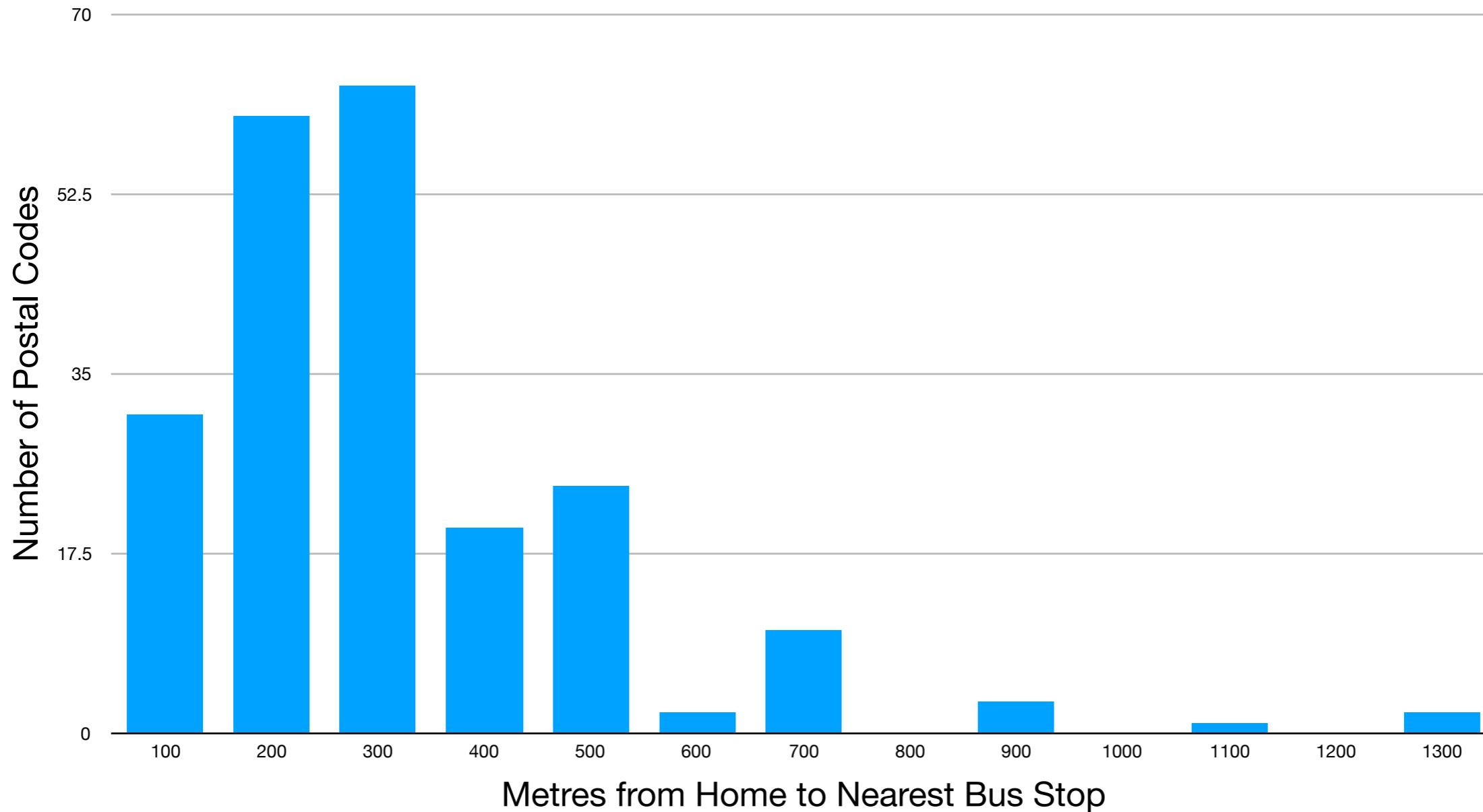


**Nearest
Bus Stop
to
Each
Employee**



Nearest bus
stop
calculated
with QGIS
Distance
Matrix Tool

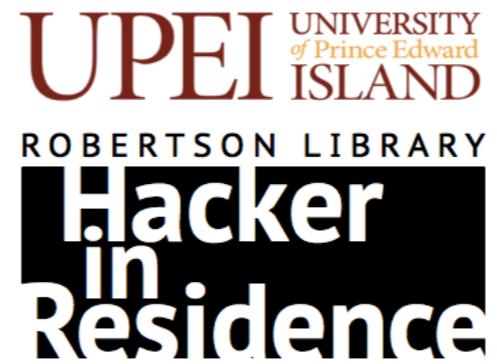
Distance to Nearest Bus Stop



**92% of homes are within 500 m of a bus stop.
234 employees.**

In Summary

- 4,519 people work for the Provincial Government
 - 1,048 work in the Provincial Admin Buildings
 - 252 (24%) live in a C1A postal code
 - 248 (98%) can **cycle to work** in under 20 minutes
 - 234 (92%) live within 500 m of a **bus stop**
 - 121 (48%) can **walk to work** in under 30 minutes



Slides are online at
<https://ruk.ca/agripp>

Data is online at
<https://ruk.ca/agripp-data>



These slides are released under a Creative Commons license.
You are encouraged to distribute them as far and as
wide as possible under the terms of the license.