



# vancouver moves

## Transportation System Plan Update

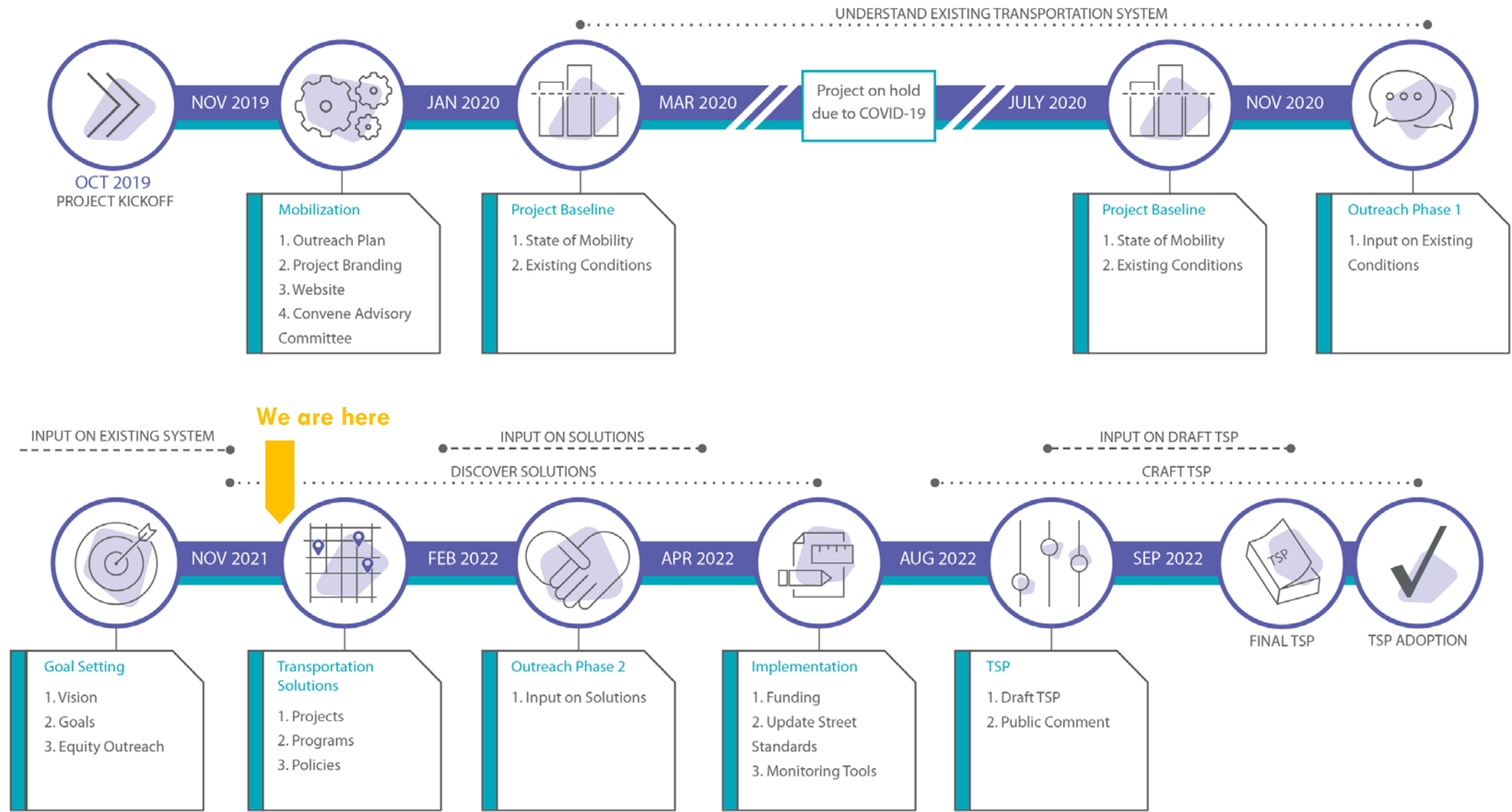
Transportation and Mobility Commission, January 4, 2022

Presenters: Stephanie Wright & Esther Needham

# Agenda

- 1 Enhanced Transit Network 4:45-5:15**
- 2 Equity Analysis Update 5:15-5:25**
- 3 Opportunities: Travel Patterns 5:25-5:45**
- 4 Community Values Outreach 5:45-6:00**

# Project Schedule



1

# Enhanced Transit Network

# Enhanced Transit Task Elements

- 1 What is Enhanced Transit and How Can the City Support Transit?**
- 2 Transit in Vancouver**
- 3 The Enhanced Transit Network**

## Document Purpose:

- *Describe existing transit conditions in Vancouver*
- *Identify how the system can expand to meet future growth*
- *Create targets for service schedules that increase transit convenience*
- *Begin a policy framework for how the City of Vancouver can support deployment of transit*

# What is Enhanced Transit?

1

**Expanded frequent transit service** that is fast, reliable, and permanent allows people to ride transit without a schedule and transfer with ease



2

**Transit information and legibility** lets riders know when transit will arrive and makes using the system intuitive



3

**Safe and convenient pedestrian and bicycle access** connect people to transit stops and key destinations



4

**On-demand services (e.g., Lyft and Uber) and bike share** serve first and last mile needs and expand service hours



5

**High-quality stops and stations** make transit accessible, comfortable, and convenient



6

**Flexible fare and pass programs** make transit easy to use and affordable for families and low-income people



7

**Coordinated land use, parking, and placemaking policies** help transit connect people to destinations efficiently



8

**Education and outreach** improve awareness and understanding of how to use the transit system



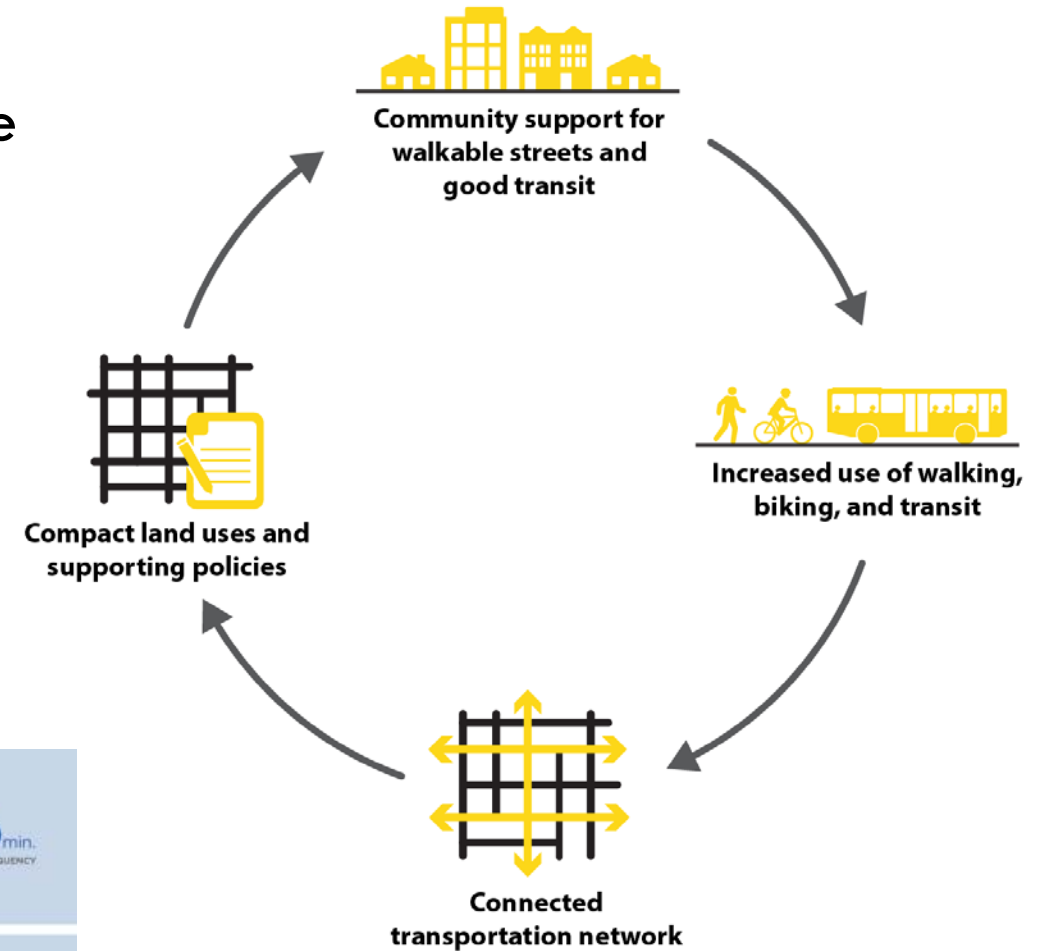
# Why an Enhanced Transit Network?

- Support the City's goals to improve the efficiency of the transportation system, improve safety for vulnerable road users, and reduce transportation emissions
- Guide decision-making about capital investments by:
  - Identifying a network of corridors where transit enhancements are merited
  - Analyzing barriers and solutions around access to transit
- Align City and C-TRAN priorities and needs for transit in Vancouver

# Land Use and Transit

- Dense land use and transit are mutually supportive
- Density is a major factor in achieving high transit ridership
- Denser areas can support higher frequencies, which makes service even more convenient

*Land use policies can create a virtuous cycle*





# What is the City's Role in Transit?

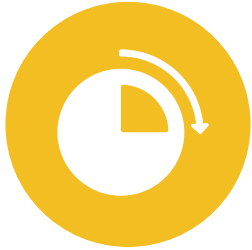
- The City plays an important role in shaping and supporting a local vision for transit, in collaboration with C-TRAN.
- The City is responsible for building and maintaining streets and sidewalks, as well as making decisions about how streets are used.
- The City can design streets that help transit service be faster and more reliable, and support access to transit with things like sidewalks and crosswalks.

**1. STREET DESIGN SUPPORTING FAST AND RELIABLE SERVICE**

**2. PROVIDING SAFE AND COMFORTABLE ACCESS**

**3. MANAGING GROWTH**

# Quality Transit Takes a Partnership



## Provide Frequent Service

✓ C-TRAN

City of Vancouver



## Keep Buses Moving

C-TRAN

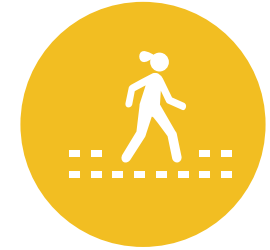
✓ City of Vancouver



## Supportive Land Use

C-TRAN

✓ City of Vancouver



## Safe, Comfortable Access

✓ C-TRAN

✓ City of Vancouver

# Transit in Vancouver Today

- In 2019, C-TRAN carried 20,800 average weekday boardings
- 38% of the population in Vancouver's Urban Growth Area (UGA) lives within 1/2 mile of service with 15-minute peak frequencies
- 76% of the UGA population lives within 1/2 mile of service with 30-minute peak frequencies



# C-TRAN's Existing Service Types

- Transit agencies provide different types of service to meet various markets that travel for different purposes, at different times, and from different locations
- C-TRAN provides a series of fixed routes, flex routes, demand response, and microtransit services to meet a variety of needs

## THE VINE - BUS RAPID TRANSIT

High frequency, high ridership; serving Fourth Plain corridor

## FIXED ROUTE – FREQUENT

Local service prioritizing direct connections and fast travel times; peak and off-peak frequencies vary

## FIXED ROUTE – COVERAGE

Local service prioritizing access to transit; frequency and span are more limited than frequent service

## EXPRESS

Limited stops; serving peak only weekday time periods

## CONNECTOR

Dial-a-ride service combined with regular stop service; serves Rose Village, Camas, La Center, and Ridgefield

## PARATRANSIT (C-VAN)

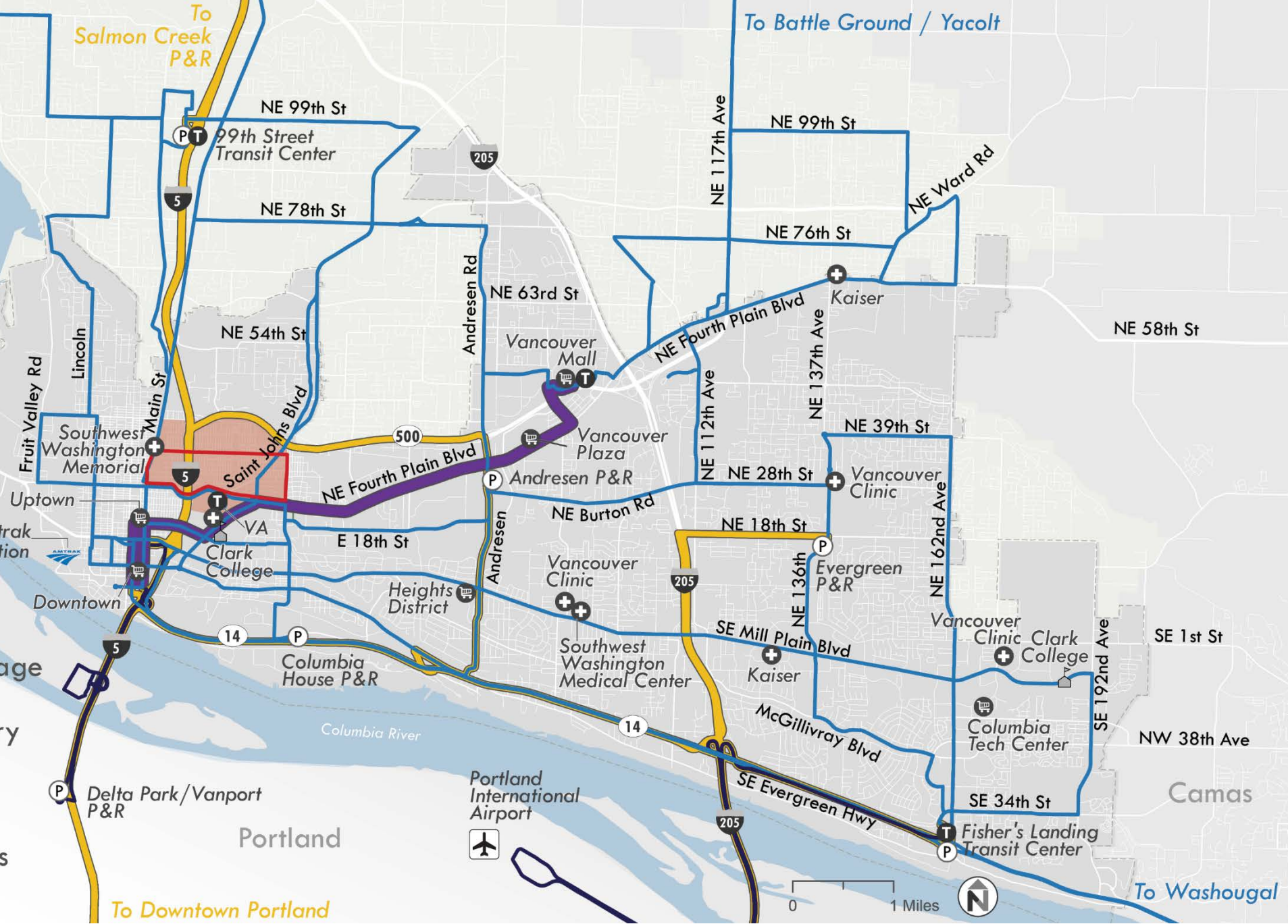
A reservation-based shared ride service that provides origin to destination trips for eligible populations

## VANPOOL

Small commuter groups traveling at least 10 miles in each direction with a start/end in C-TRAN's service area

## C-Tran Transit Service

- Local Routes
- Express Routes
- Regional Routes
- The Vine
- Connector: Rose Village
- Connector: Dial-a-Ride Boundary
- T Transit Center
- P Park and Ride
- Vancouver City Limits
- Vancouver UGA



# Getting to Transit

- All transit trips start and end with a walk, roll or bike ride.
- Vancouver's Pedestrian Crossing Improvement Policy specifies that locations that are frequented by pedestrians, including transit facilities, should be considered for marked crossings.
  - The policy does not provide guidance as to how far crossings should be from stops, and the City does not have a program or policy that specifically prioritizes crossings near transit stops

291 bus stops (49% of all stops in the City of Vancouver) are more than 200 feet from a marked crosswalk

39 stops (7% of all stops in the City of Vancouver) are on a block with no sidewalk

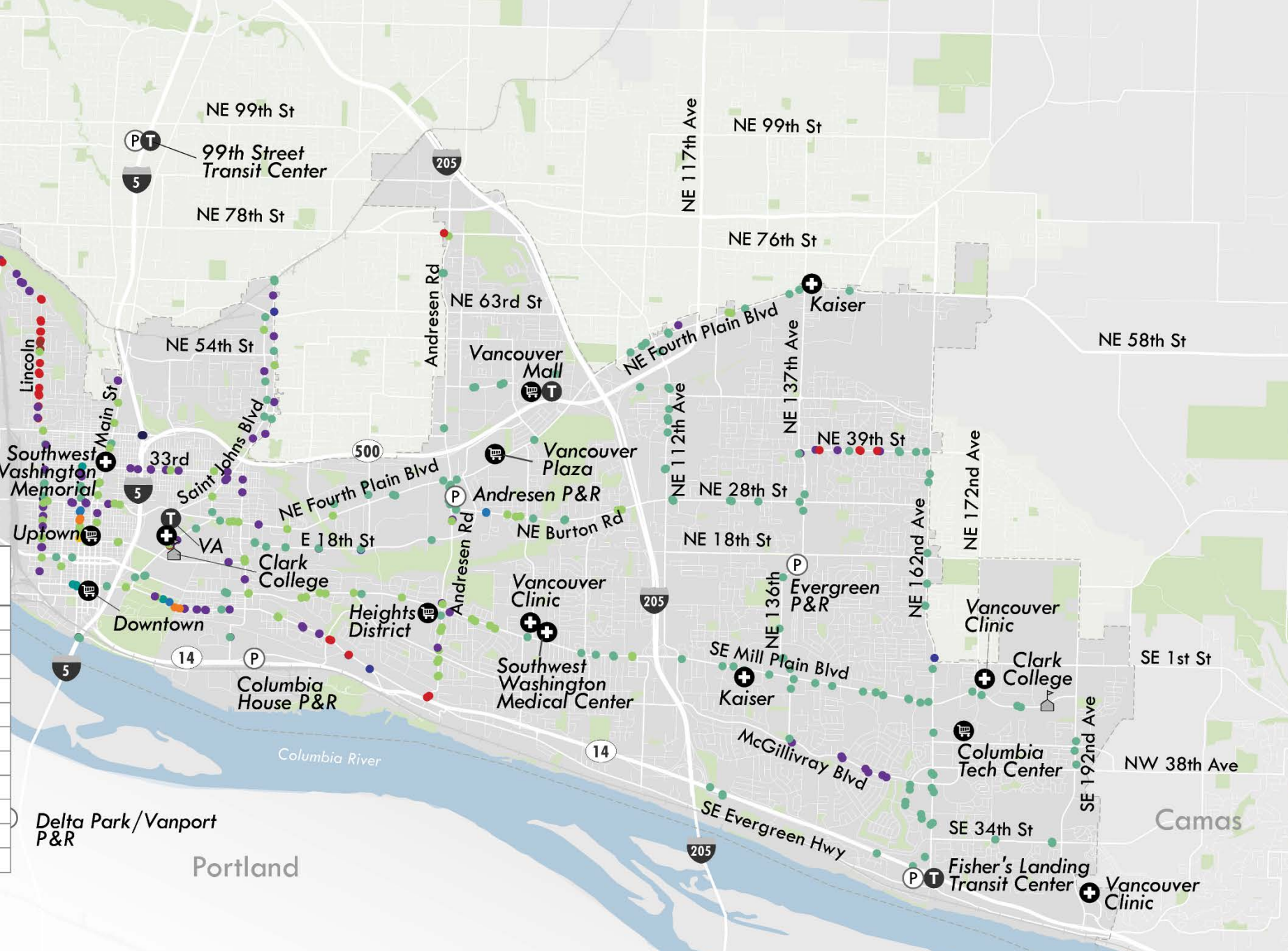
201 stops (34% of stops in Vancouver) are within a block of a missing curb ramp or a sidewalk in poor condition

# Stop Access Summary

## Bus Stop Access Summary

| Bus Stop                                  | Distance to Marked Crossing | Curb Ramp* | Sidewalk Condition* |
|---|-----------------------------|------------|---------------------|
| <span style="color: green;">●</span>      | > 200 ft                    |            |                     |
| <span style="color: lightgreen;">●</span> |                             | Missing    | Deficient           |
| <span style="color: teal;">●</span>       |                             |            | Not present         |
| <span style="color: blue;">●</span>       |                             | Missing    | Deficient           |
| <span style="color: darkblue;">●</span>   |                             | Missing    | Not present         |
| <span style="color: purple;">●</span>     | > 200 ft                    |            | Deficient           |
| <span style="color: darkpurple;">●</span> | > 200 ft                    |            | Not present         |
| <span style="color: orange;">●</span>     | > 200 ft                    | Missing    | Deficient           |
| <span style="color: red;">●</span>        | > 200 ft                    | Missing    | Not present         |

\* Evaluated within 300 feet of stops



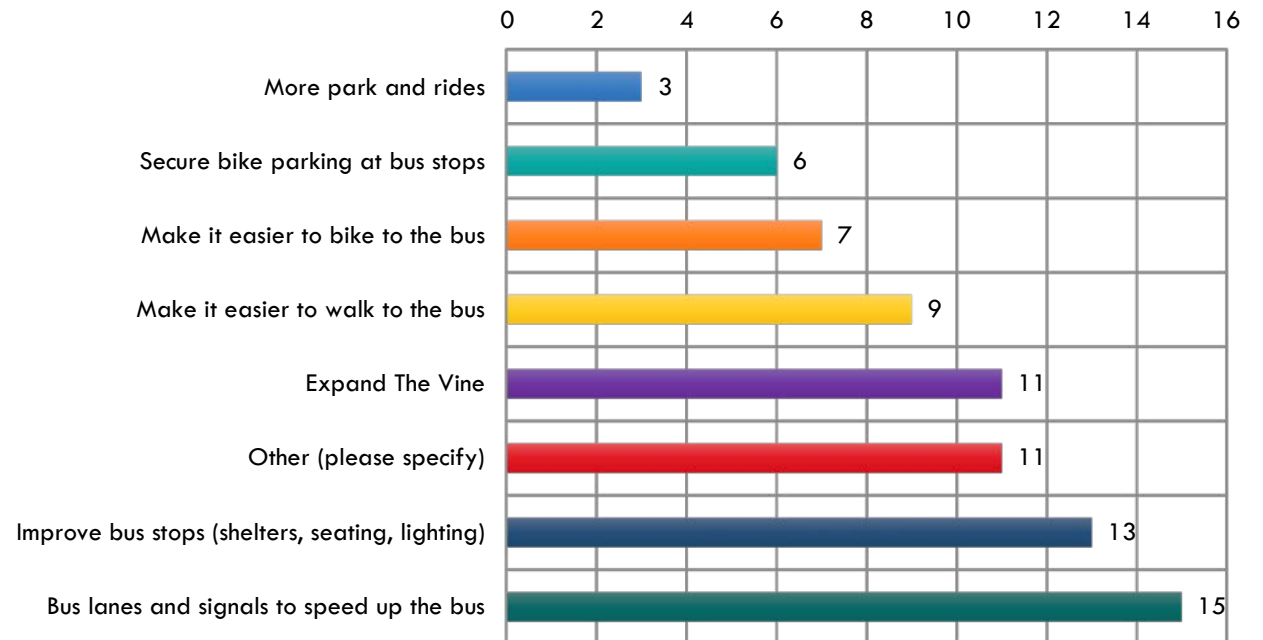
# The Public's Transit Priorities

Comments about transit gathered during Vancouver Moves outreach are focused on a few key themes. People want:

- Increased frequency
- Longer hours of service
- Expanded commuter service
- More routes/expanded coverage

The Vancouver Moves Online Open House asked about top priorities for the transit system

What are your top priorities for improving the City's transit system?





# How was the Proposed Enhanced Transit Network Identified?

The analysis looks at four main elements:

## Equity

- COVID ridership
- Equity focus areas

## Regional Growth

- Population and Employment projections

## Local Growth Priorities

- Centers identified in the Vancouver Comprehensive Plan

## Congestion

- Where buses are delayed

# Equity

- Additional routes were added to the analysis based on equity considerations
- Equity Focus Areas are census tracts where a high proportion of residents are economically vulnerable and likely to rely on transit
  - These places might not see the highest ridership, but they do see the greatest need for transit service
- The COVID-19 pandemic helped reveal where people rely on transit the most, as people were asked to limit themselves to essential trips

During the first few months of the pandemic in 2020, C-TRAN ridership fell 43% compared to 2019

But many routes, particularly those that serve Equity Focus Areas and regional destinations, saw a less severe dip in ridership than the average

On other routes, overall ridership was down but the stops that serve equity focus areas continued to see relatively steady boardings

# Routes and Stops with Low Ridership Loss

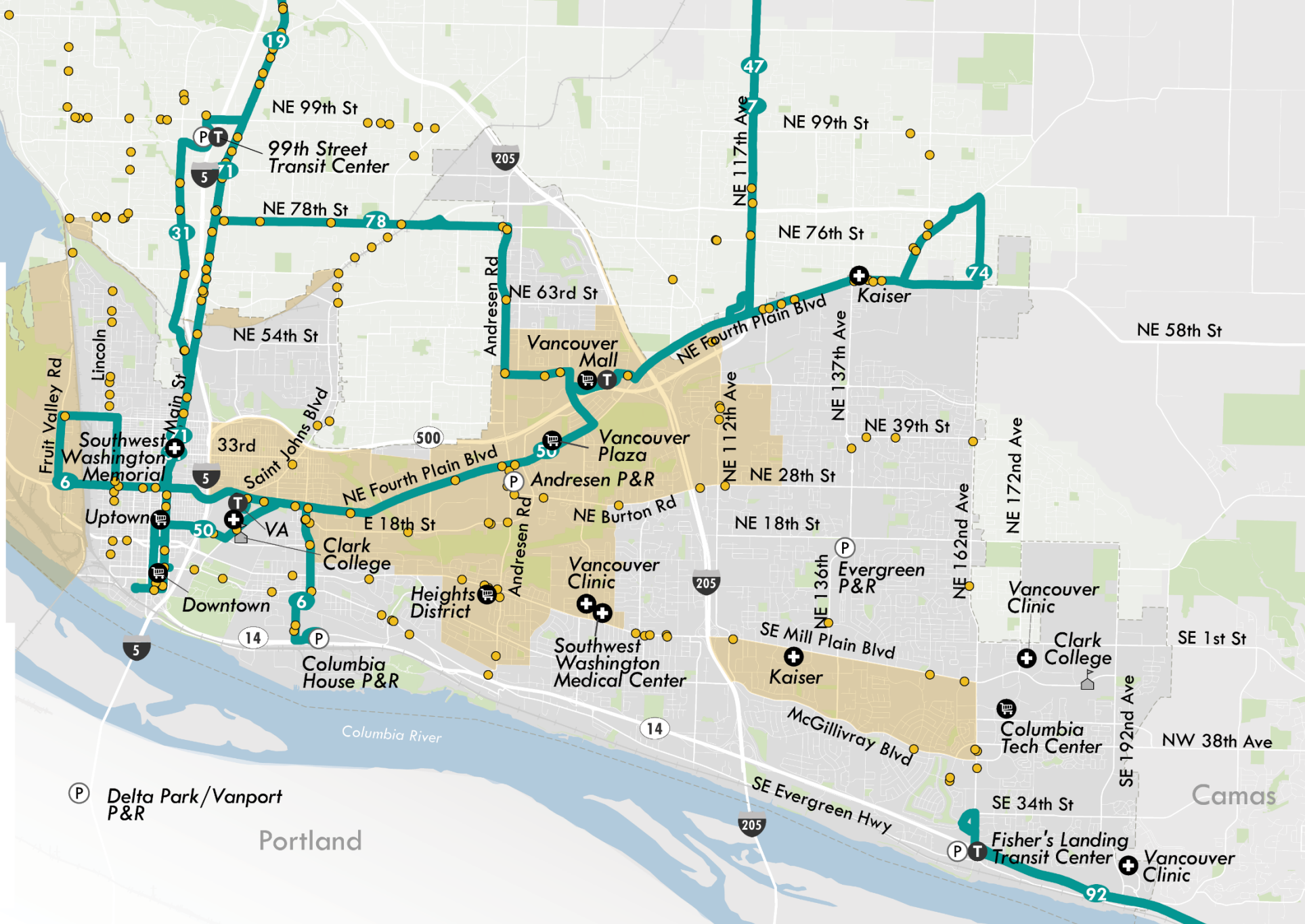
## Essential Transit Trips

- Stop with least ridership loss (bottom 25%)\*
- Route with least ridership loss (below average)\*
- T** Transit Center
- P** Park and Ride
- Equity Focus Area
- Vancouver City Limits
- Vancouver UGA

\* Percent loss of boardings in June 2020 compared to June 2019

## Routes with Lowest Loss

| Route                     | Type  | Loss (%) |
|---------------------------|-------|----------|
| 50 The Vine               | Vine  | -37%     |
| 31 Hazel Dell             | Local | -37%     |
| 92 Camas / Washougal      | Local | -36%     |
| 7 Battle Ground           | Local | -33%     |
| 74 East Fourth Plain      | Local | -30%     |
| 71 Highway 99             | Local | -25%     |
| 19 Salmon Creek           | Local | -23%     |
| 6 Fruit Valley / Grand    | Local | -22%     |
| 78 78th Street            | Local | -22%     |
| 47 Battle Ground / Yacolt | Local | +21%     |



# Household Density: 2015

## Household Density 2015

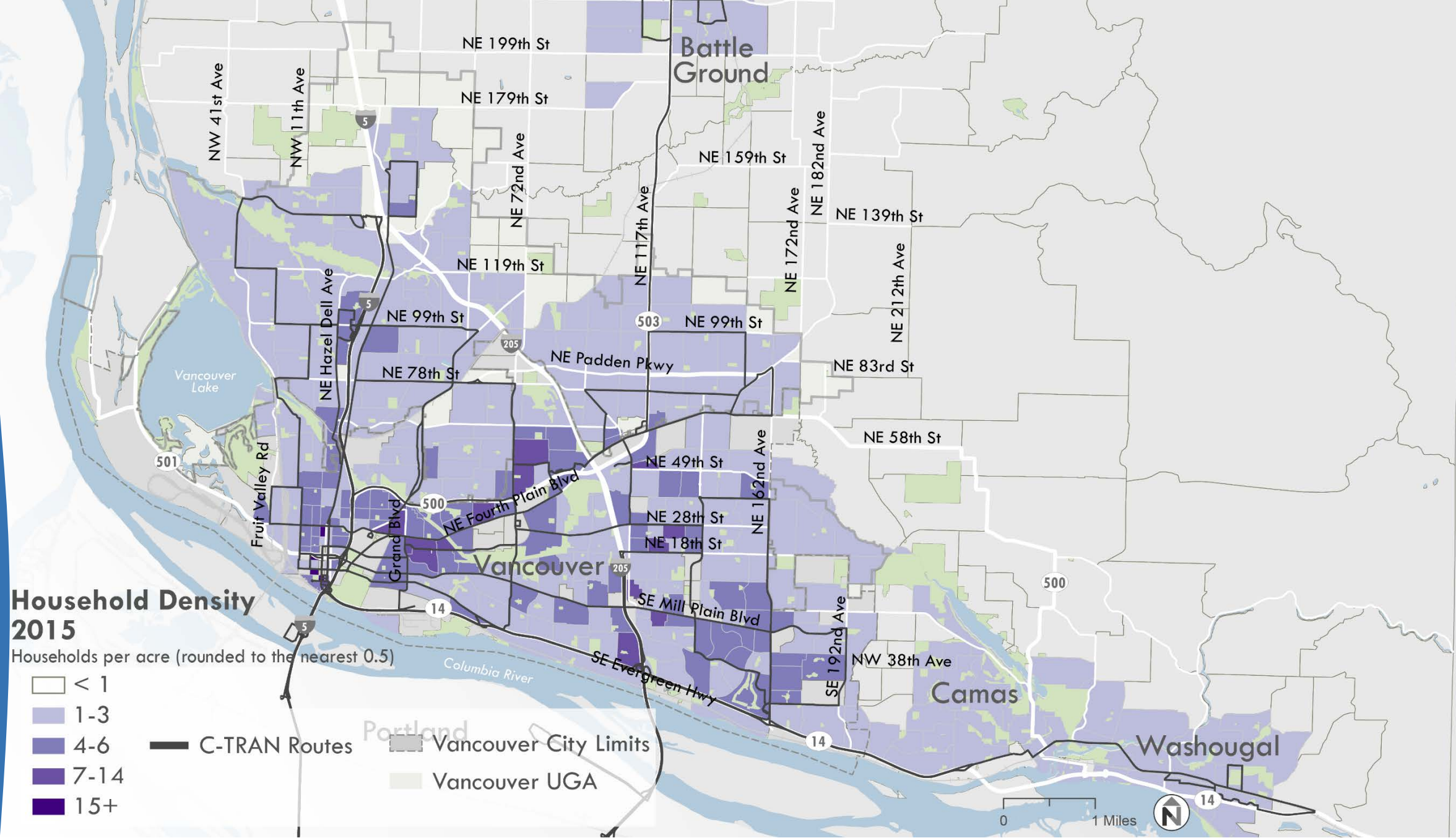
Households per acre (rounded to the nearest 0.5)

- < 1
- 1-3
- 4-6
- 7-14
- 15+

C-TRAN Routes

Vancouver City Limits

Vancouver UGA



# Household Density: 2040

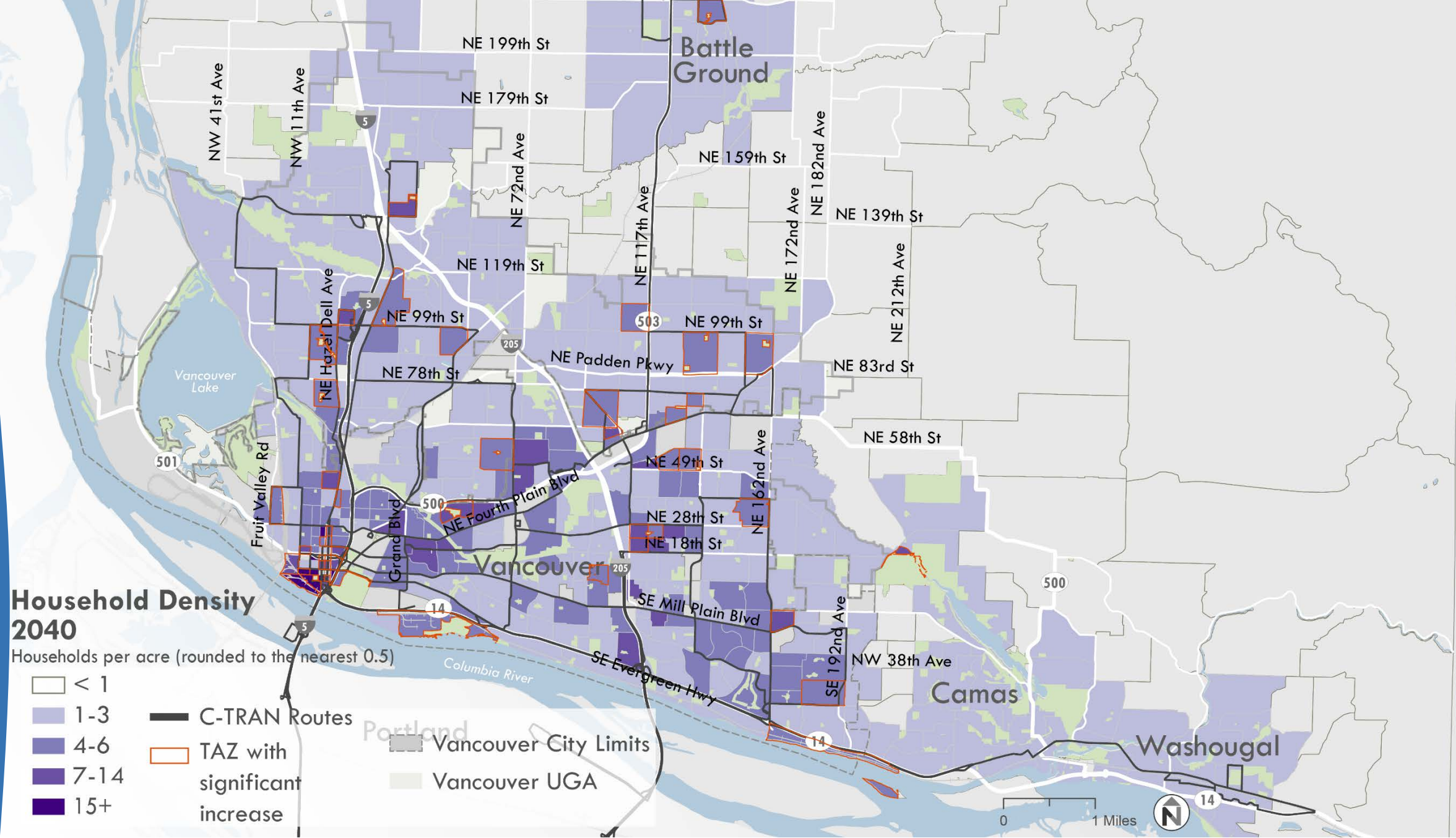
## Household Density 2040

Households per acre (rounded to the nearest 0.5)

- < 1
- 1-3
- 4-6
- 7-14
- 15+

- C-TRAN Routes
- TAZ with significant increase

- Vancouver City Limits
- Vancouver UGA



## Employment Density 2015

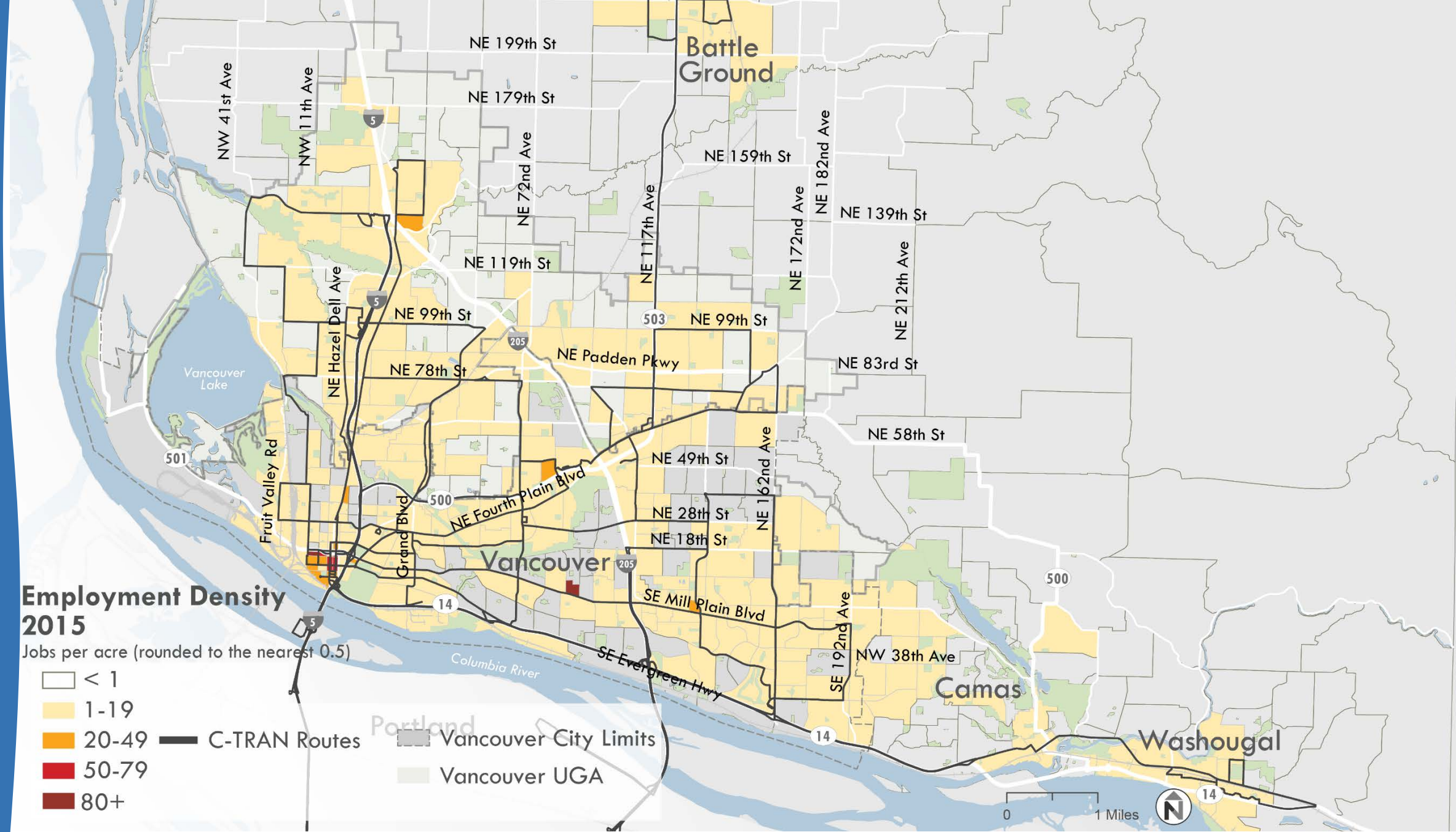
Jobs per acre (rounded to the nearest 0.5)

- < 1
- 1-19
- 20-49
- 50-79
- 80+

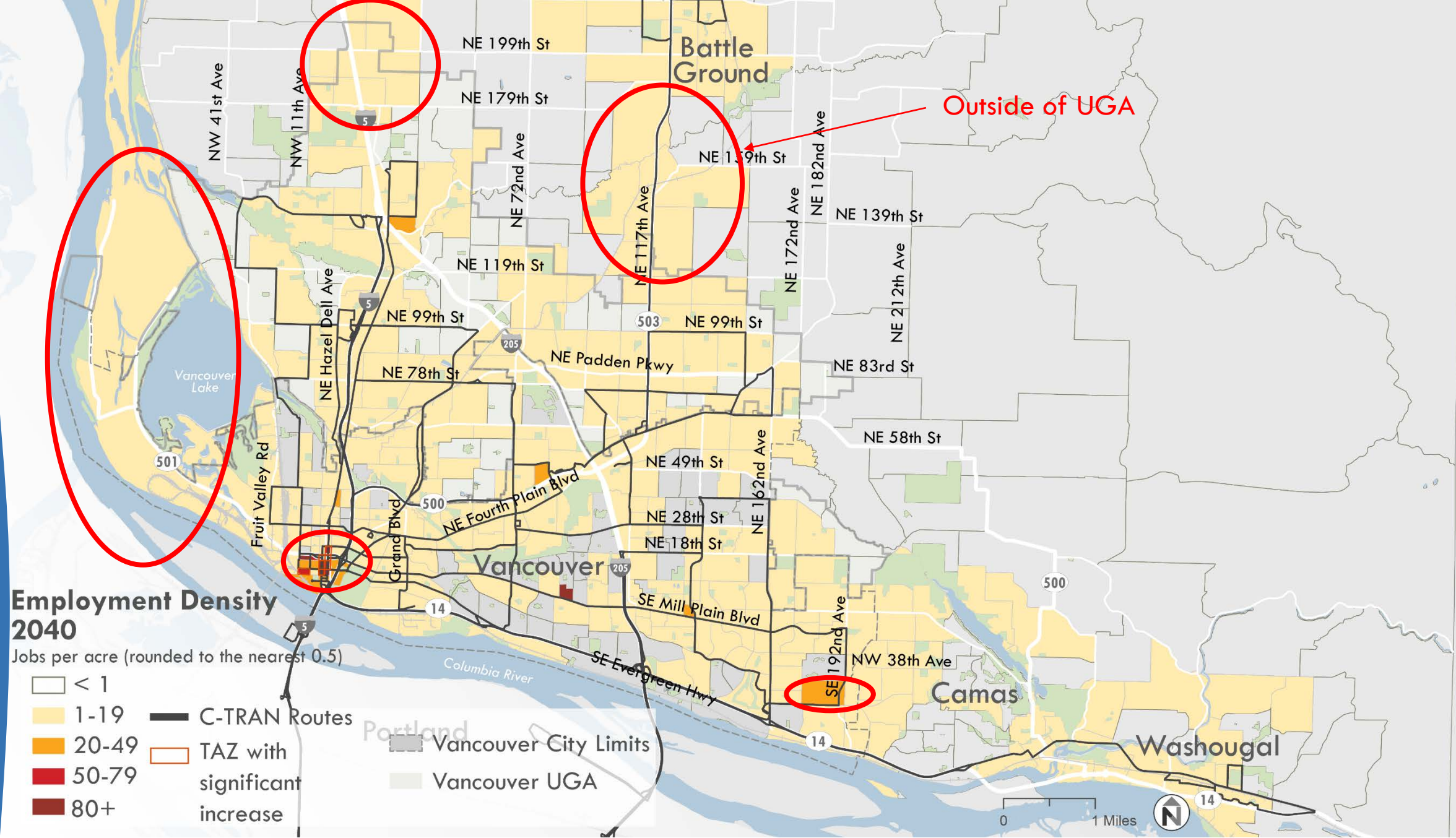
**—** C-TRAN Routes

Vancouver City Limits

Vancouver UGA



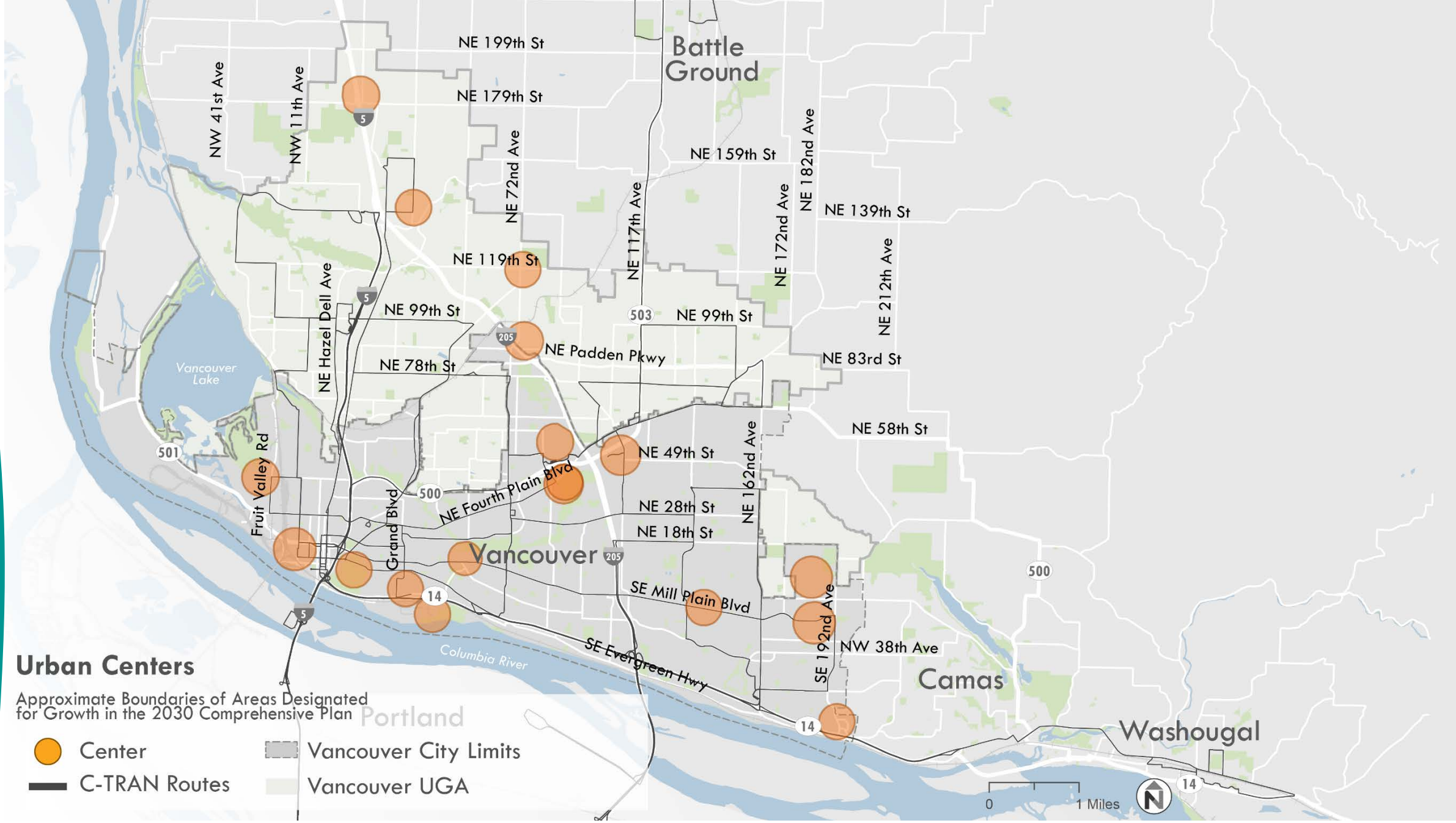
# Employment Density: 2040



# Local Growth Priorities

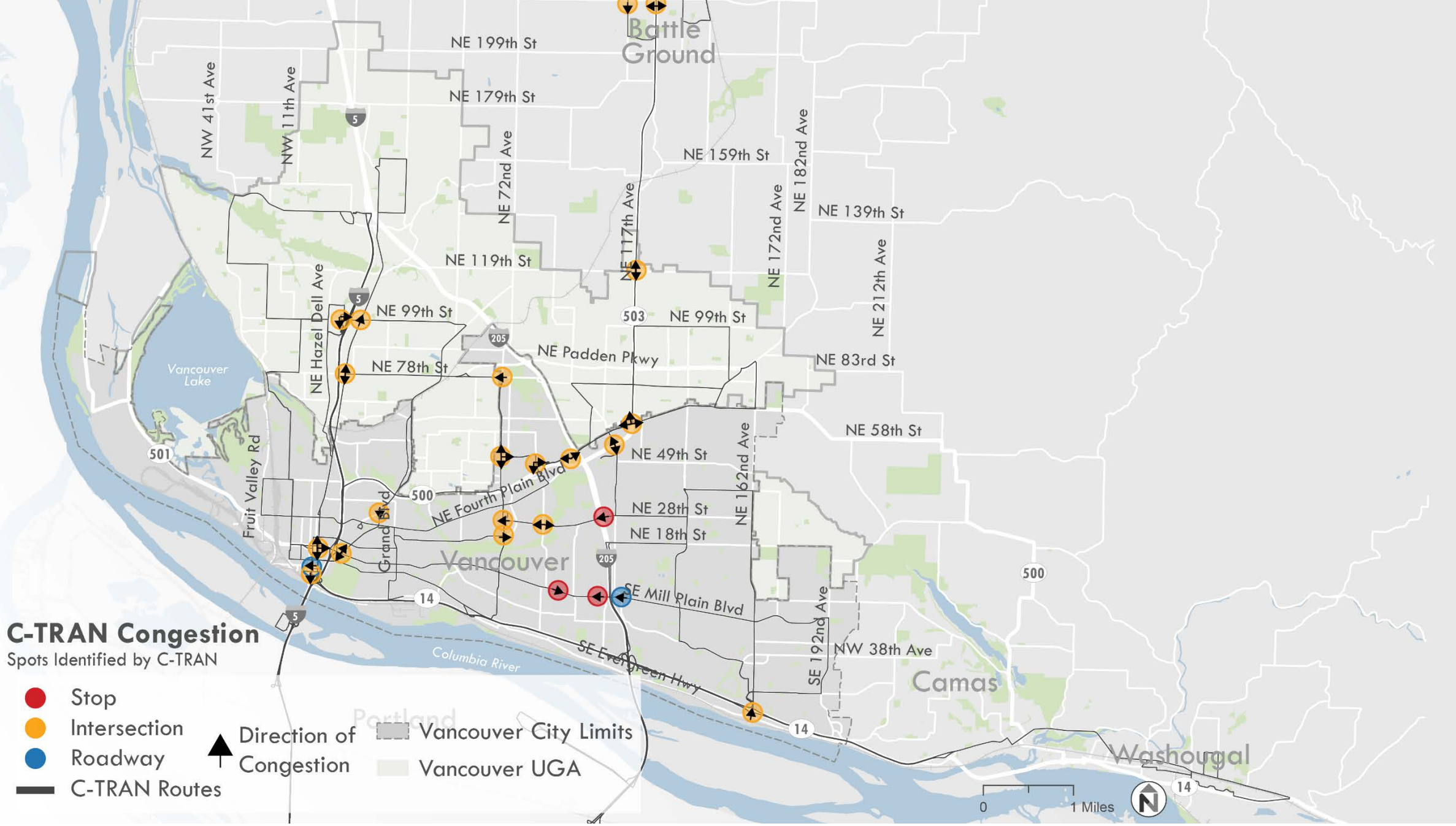
- To meet Vancouver's climate goals, many trips will need to use non-driving modes
  - Moving travel from driving to transit is key
- Denser development supports more frequent transit service, which in turn leads to higher ridership
- The Comprehensive Plan designates centers with the intent of:
  - Promoting livability and transit-supportive development patterns
  - Making efficient use of available land before greenfield development
  - Directing how future development should occur over the next 20 years
  - Focusing projected growth
- Each urban growth center will undergo, or has already undergone, sub area planning



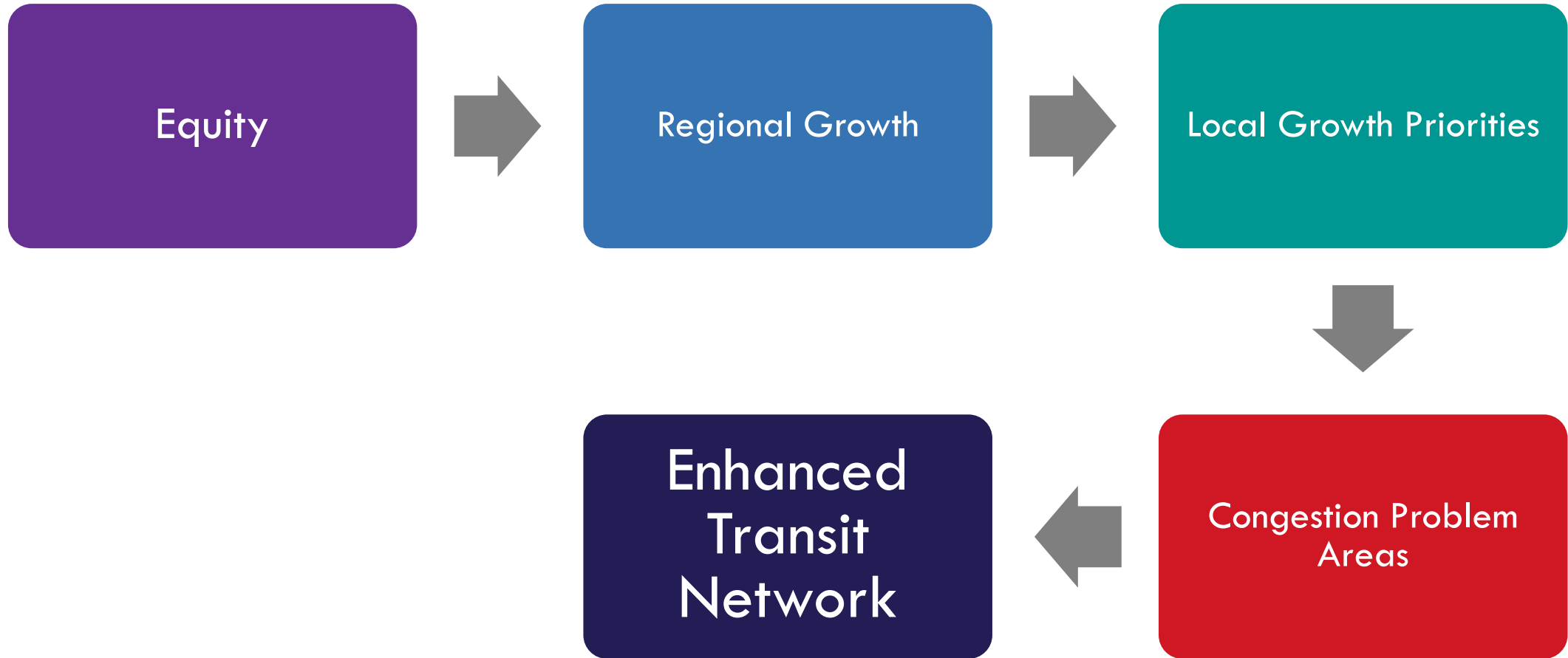


# Congestion

- C-TRAN surveyed bus drivers to find out where they regularly encounter congestion that causes bus delay
- Highlighted Issues
  - Signal cycle time and priority vehicle movement
  - Bus pull-out causes delay in PM peak period
  - Intersection congestion
  - Delay caused by congestion on I-5
  - Fishers Landing Transit Center and Vancouver Mall cited as areas of delay



# The Enhanced Transit Network



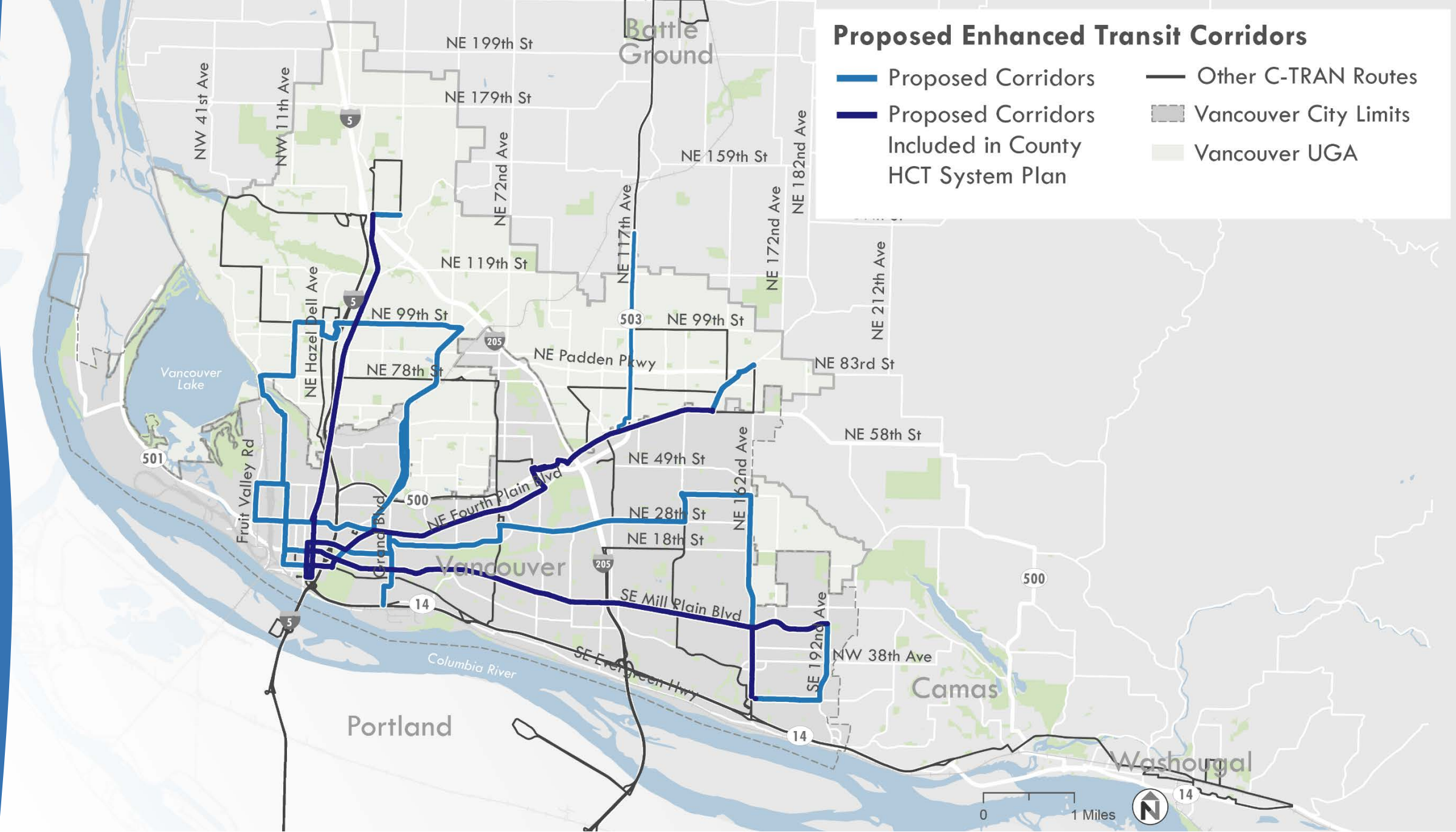
# Proposed Enhanced Transit Network

- Enhanced transit corridors serve:
  - One or more existing frequent bus routes
  - Equity focus areas and essential routes
  - Areas where projected growth would require more service
  - Comprehensive plan centers
  - Congestion points
- The network is restricted to streets within the urban growth boundary

# Enhanced Transit Corridors

### Proposed Enhanced Transit Corridors

- Proposed Corridors
- Proposed Corridors Included in County HCT System Plan
- Other C-TRAN Routes
- Vancouver City Limits
- Vancouver UGA



## Discussion

- What is our desired outcome for how the city can support high-quality transit?
- What steps can we take to get there?

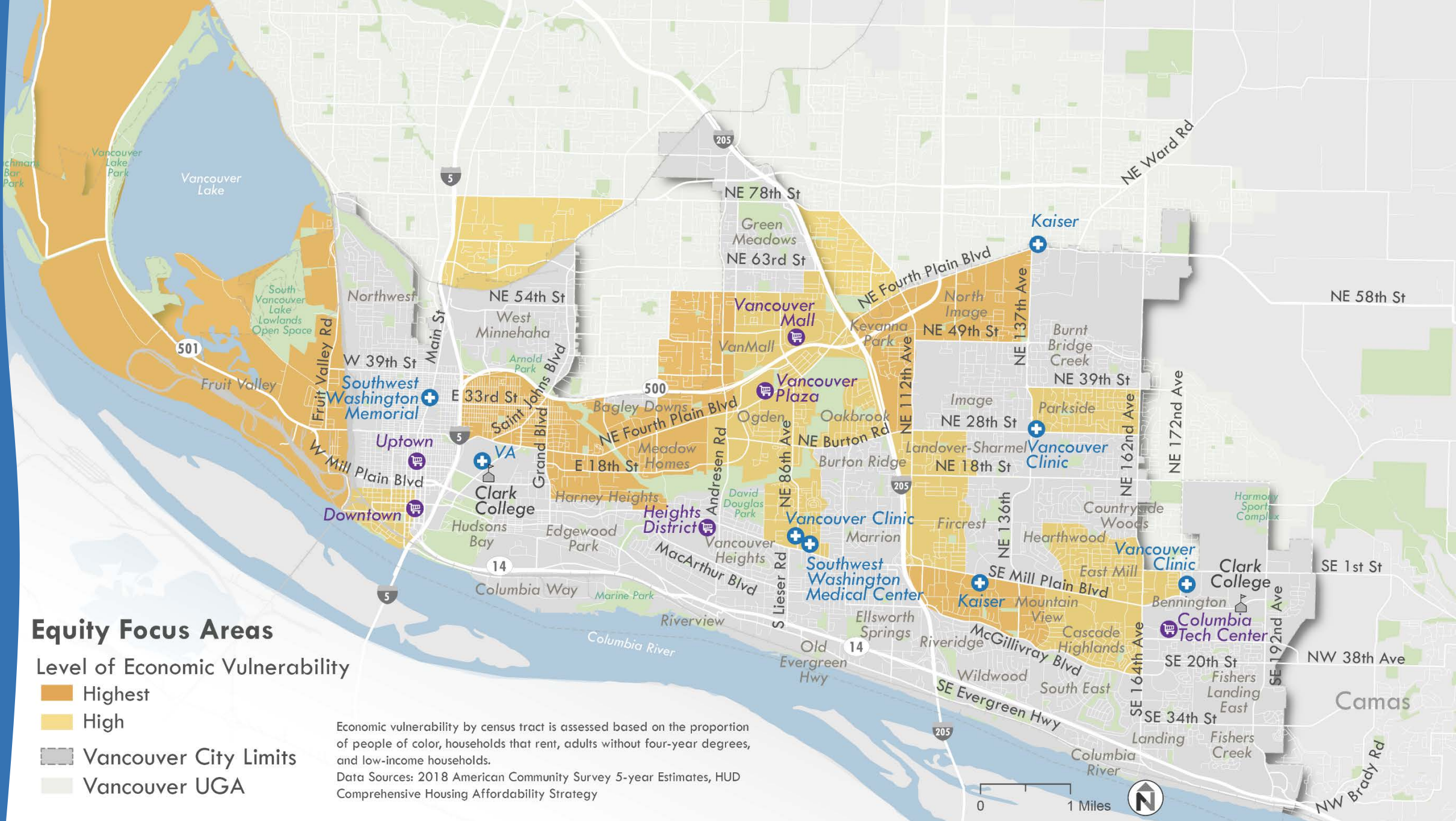
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# Equity Analysis Update

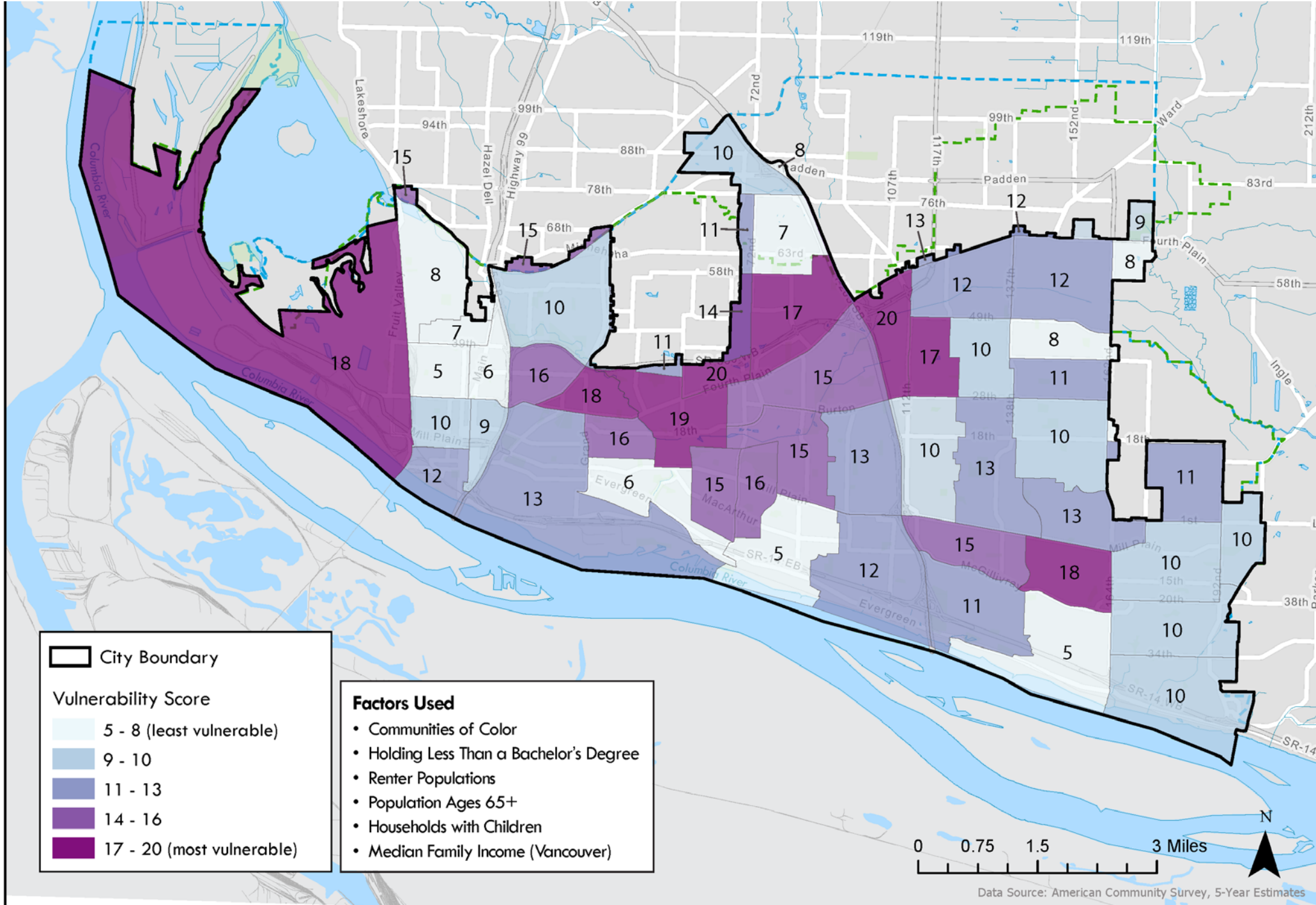


# Background

- First Draft Equity Focus Areas: Census tracts in Vancouver where key demographic groups represent a greater share of the population
  - Black, Indigenous, and people of color
  - Households with low incomes (under 80% of the HUD-adjusted median family income, which accounts for the cost of housing)
  - Renters
  - Adults without a four-year degree
- Final analysis adds:
  - Population 65 and older
  - Households with children



# 2019 Displacement Vulnerability



3

# Opportunities: Travel Patterns

# About StreetLight

- StreetLight is a vendor that processes Big Data on transportation and travel patterns
- Their data products derive from two types of anonymous locational data: navigation-GPS data (from connected cars and trucks) and Location-Based Services data (from apps on from mobile devices)
- This data represents only a sample of the total people and vehicles that travel in any given area
  - StreetLight normalizes the data by population and traffic volumes
- Typically, the data is represented in a relative way (percent change or percent of total) to avoid giving the impression that it is a full count of all trips

# Travel Patterns in the Pandemic - Auto

- We used data from Streetlight to compare traffic volumes from April-October of 2020 to volumes in 2019
- Weekday overall: 10% decrease ↓
- Weekday AM peak: 30% decrease ↓
- Weekday overall in downtown core (Mill Plain, Fourth Plain): 20% increase ↑
- The greatest relative decrease in volumes were on the northeast side of the city, ↓ including NE 18th Street, NE 162nd Avenue, and NE 137th Avenue

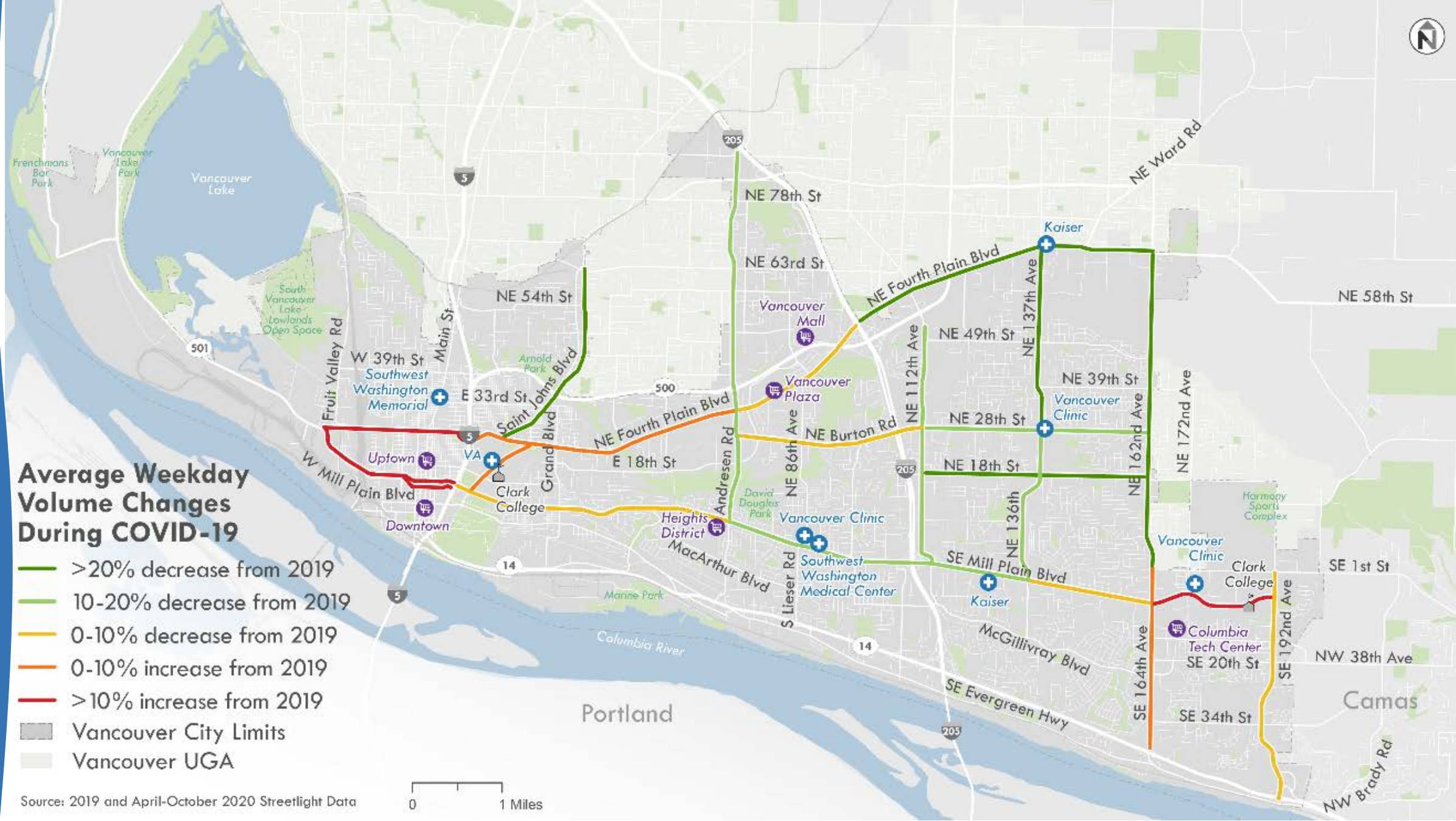
# Change in Traffic Volumes

## Average Weekday Volume Changes During COVID-19

- >20% decrease from 2019
- 10-20% decrease from 2019
- 0-10% decrease from 2019
- 0-10% increase from 2019
- >10% increase from 2019
- Vancouver City Limits
- Vancouver UGA

Source: 2019 and April-October 2020 Streetlight Data

0 1 Miles



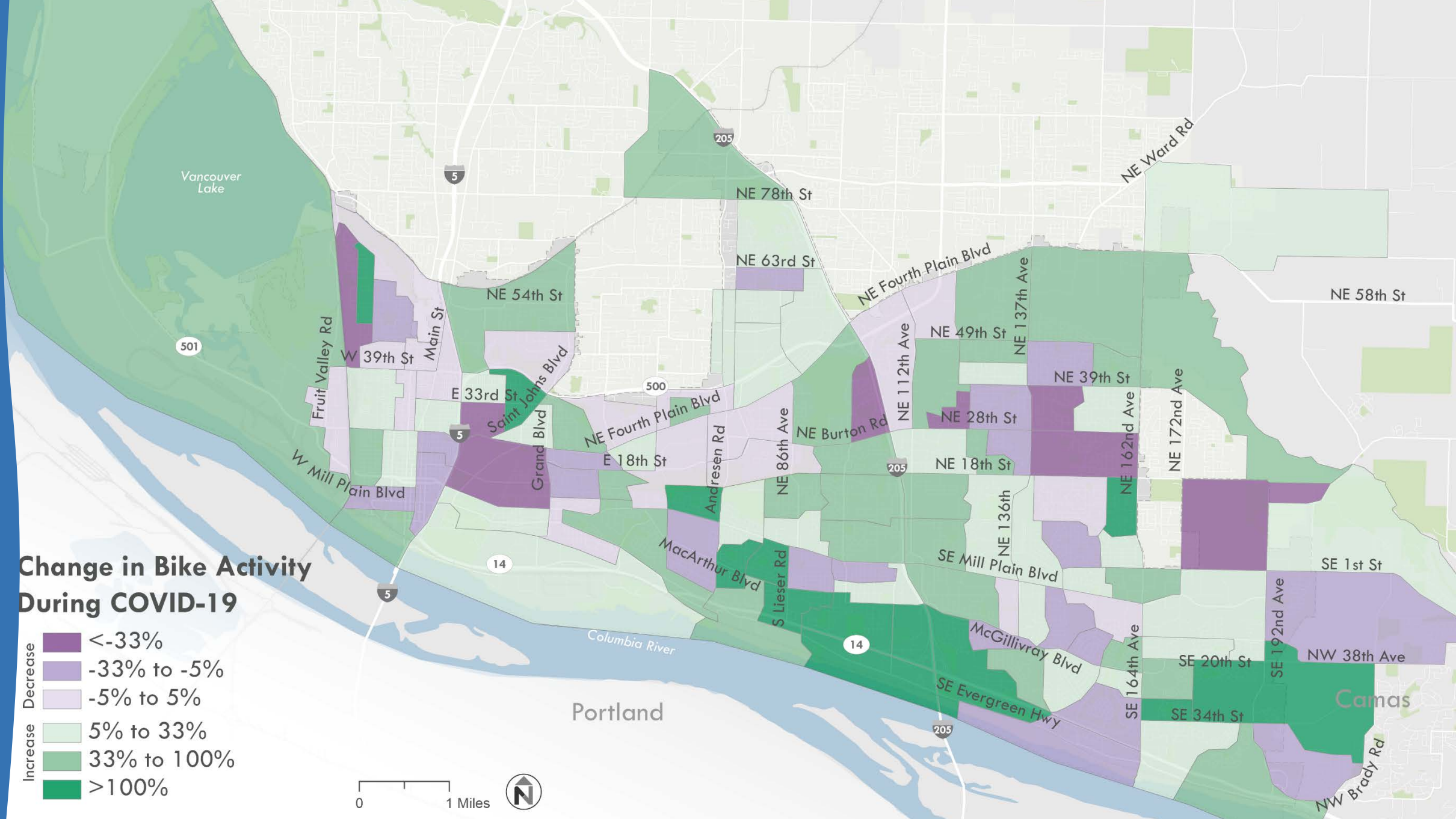
# Travel Patterns in the Pandemic - Bike

- We used Streetlight to look at the change in bicycle activity between 2019 and April-October 2020
- On an average day bicycle trips were up 14% compared to 2019
  - Consistent with experience in other cities – more neighborhood bike trips during stay at home
- Midday (10 a.m. -3 p.m.) trips had the highest increase at 18%



# Change in Bike Activity

## Change in Bike Activity During COVID-19



# Travel Patterns in the Pandemic - Transit

- C-TRAN's monthly ridership numbers were 43% lower in June 2020 than June 2019
- Riders during the pandemic likely included people that could not work from home, people traveling for medical appointments, and people traveling for errands
- Route 47 (Battle Ground/Yacolt) is the only route to experience an increase in ridership (+21%)
- The routes with the highest ridership loss were the express routes providing service to Portland, which likely served primarily people who could work from home
- The Vine, C-TRAN's BRT route, was in the group with the lowest ridership loss, meaning the Vine remained an essential service to many

# Change in Transit Ridership

## Highest Ridership Loss

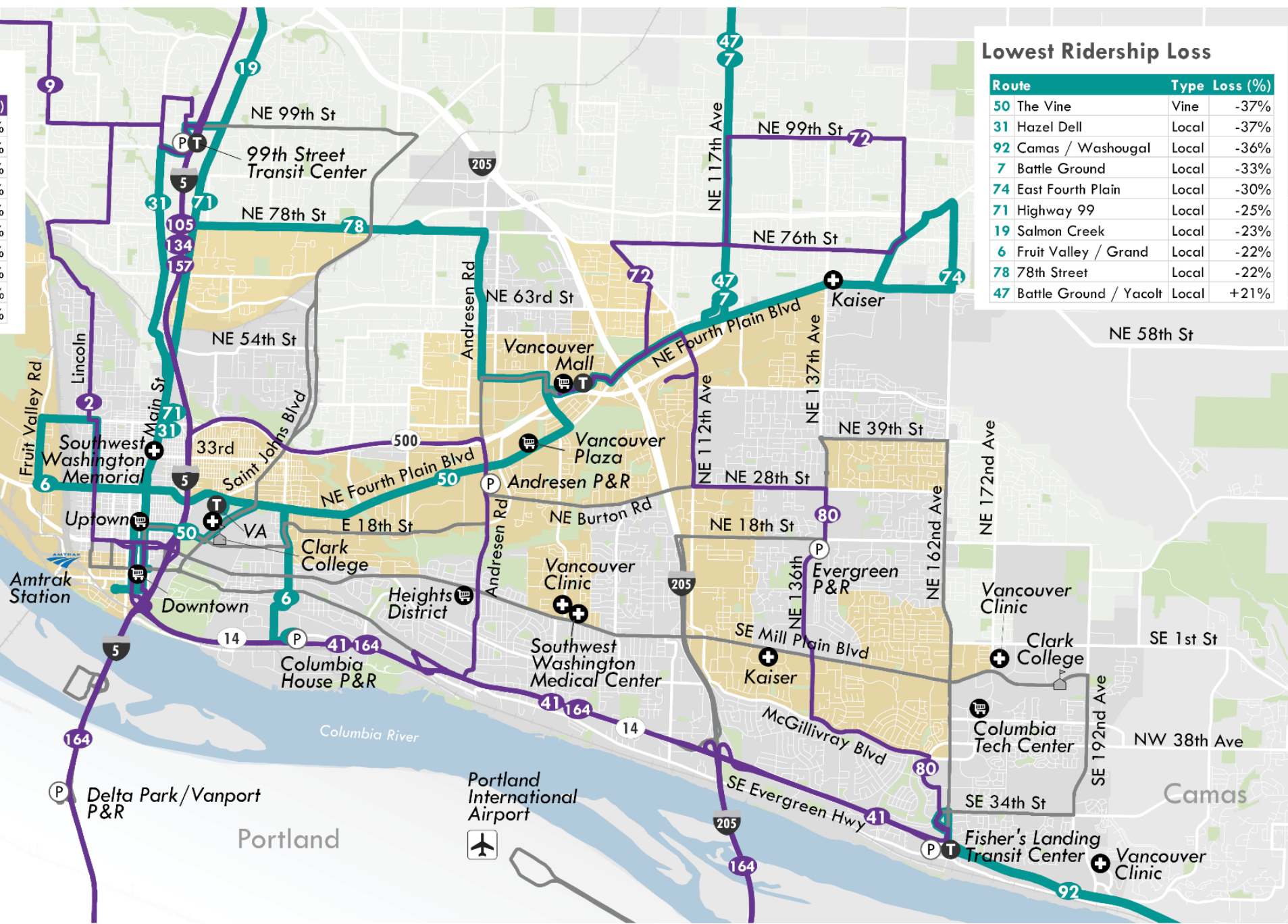
| Route                        | Type    | Loss (%) |
|------------------------------|---------|----------|
| 164 Fisher's Landing Express | Express | -89%     |
| 157 Lloyd District Express   | Express | -88%     |
| 134 Salmon Creek Express     | Express | -79%     |
| 190 Marquam Hill Express     | Express | -71%     |
| 105 I-5 Express              | Express | -67%     |
| 41 SR 14                     | Local   | -57%     |
| 2 Lincoln                    | Local   | -55%     |
| 72 Orchards                  | Local   | -54%     |
| 9 Felida                     | Local   | -50%     |
| 80 Van Mall / Fisher's       | Local   | -48%     |

## Lowest Ridership Loss

| Route                     | Type  | Loss (%) |
|---------------------------|-------|----------|
| 50 The Vine               | Vine  | -37%     |
| 31 Hazel Dell             | Local | -37%     |
| 92 Camas / Washougal      | Local | -36%     |
| 7 Battle Ground           | Local | -33%     |
| 74 East Fourth Plain      | Local | -30%     |
| 71 Highway 99             | Local | -25%     |
| 19 Salmon Creek           | Local | -23%     |
| 6 Fruit Valley / Grand    | Local | -22%     |
| 78 78th Street            | Local | -22%     |
| 47 Battle Ground / Yacolt | Local | +21%     |

## Change in Ridership June 2019 - June 2020

- Highest Ridership Loss
- Lowest Ridership Loss
- Other Routes
- T** Transit Center
- P** Park and Ride
- Vancouver City Limits
- Vancouver UGA



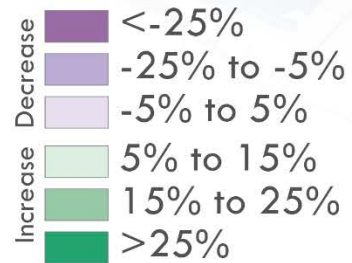
# Travel Patterns in the Pandemic – Work Trips

- We used Streetlight to understand the change in home-based work trips to the downtown area (people traveling from home to work) from April-October 2020 compared to 2019
- In central and west Vancouver, these trips declined significantly
- Areas that saw an increase in work trips are concentrated east of I-205 and further north

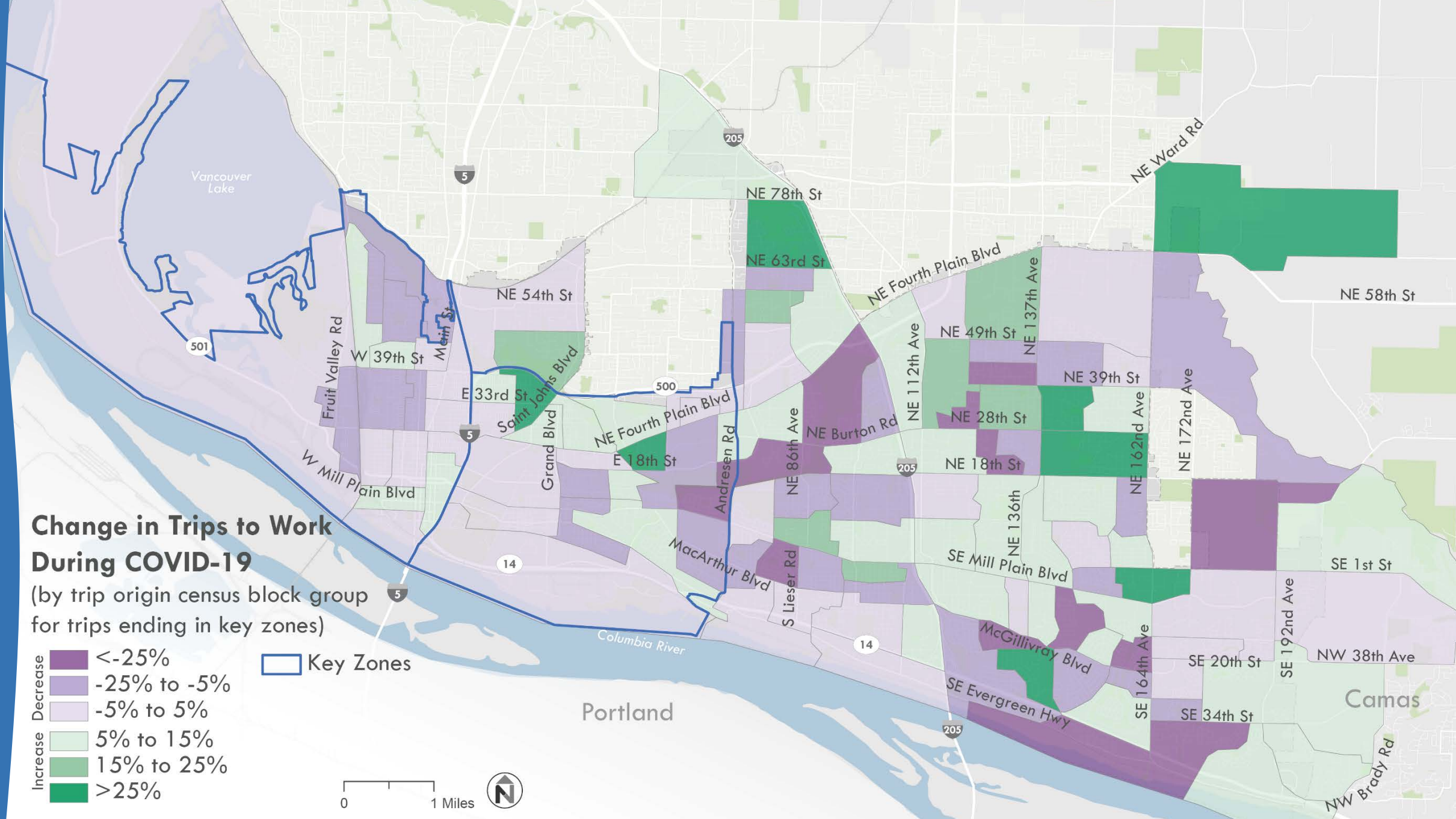
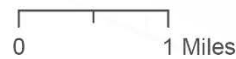
# Change in Trips to Work

## Change in Trips to Work During COVID-19

(by trip origin census block group for trips ending in key zones)



Key Zones



# Discussion

- Which of these trends have you seen continue through 2021?
- Which were short-lived?
- What kind of opportunities or consideration for the TSP does this information suggest to you?

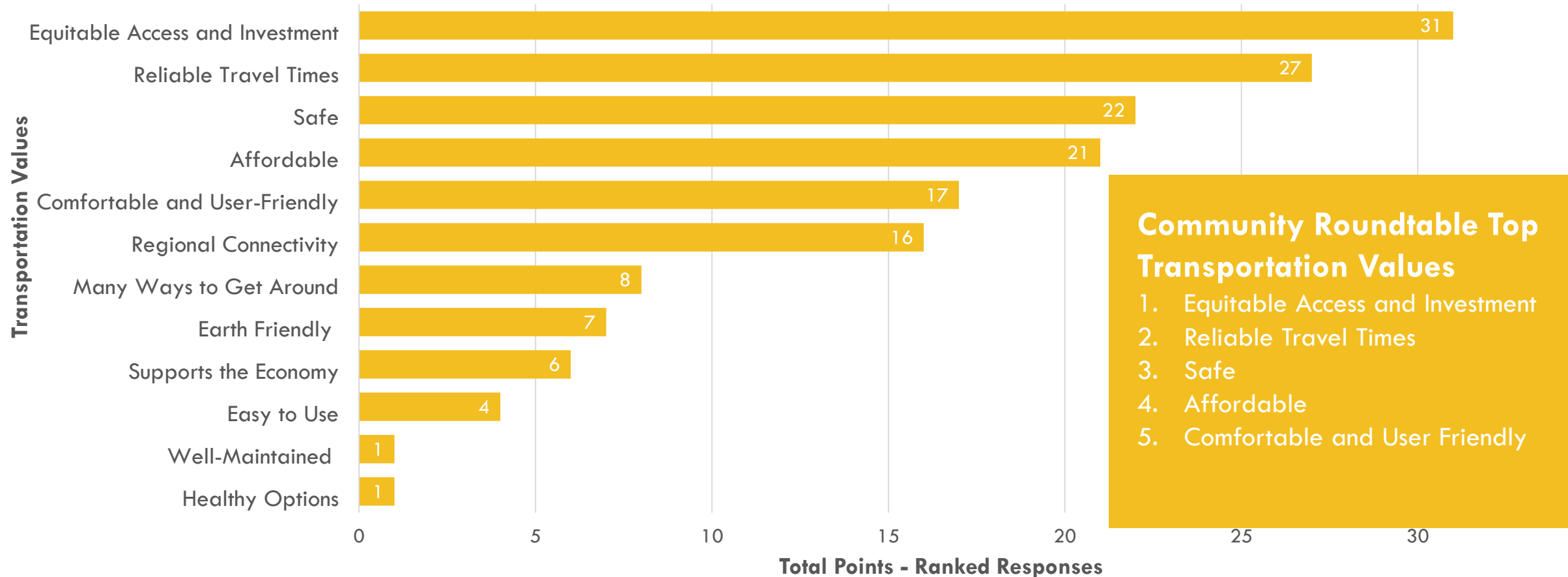
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# Community Values Outreach



# Community Roundtables – Response Summary

## Community Roundtables - Transportation Value Responses







# In-Person Outreach Events

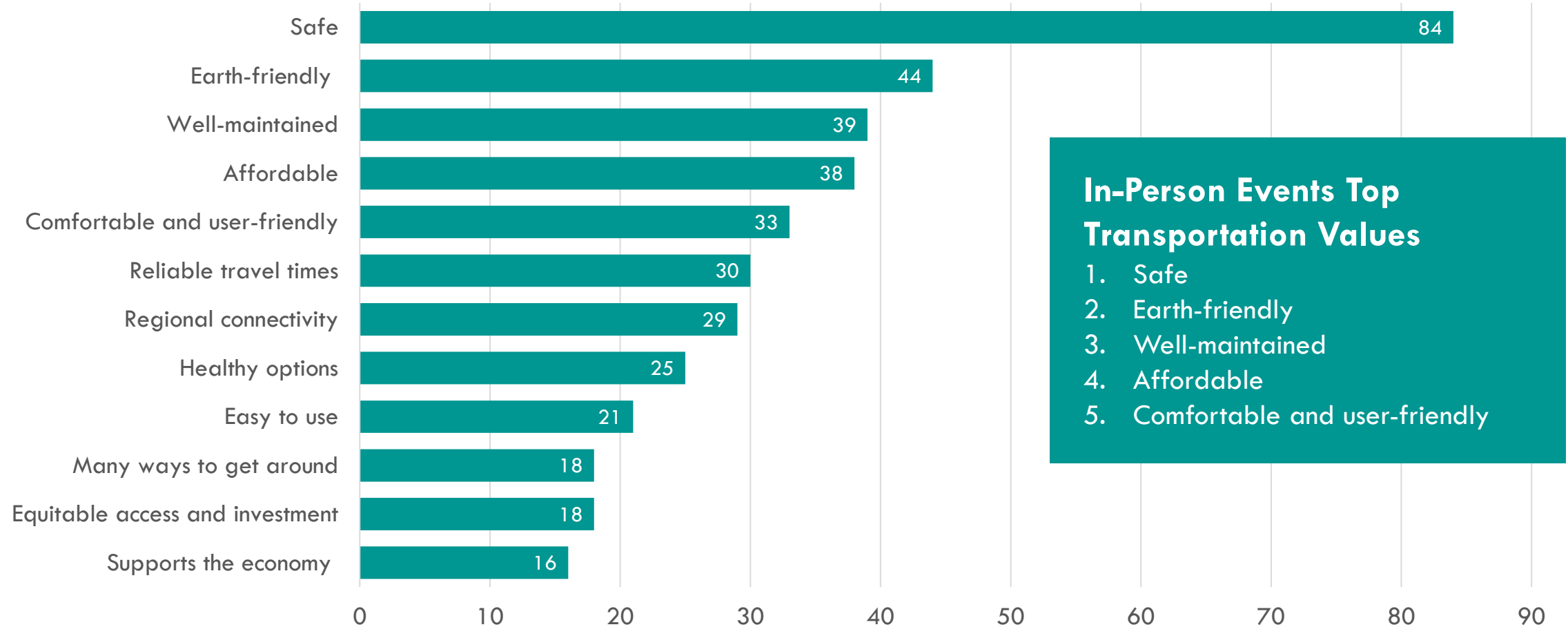
| Event                         | Date          |
|-------------------------------|---------------|
| East Vancouver Farmers Market | Aug 5, 2021   |
| Movies in the Park            | Aug 6, 2021   |
| Downtown Farmers Market       | Aug 14, 2021  |
| Party in the Park             | Aug 26, 2021  |
| Downtown Farmers Market       | Sept 25, 2021 |





# In-Person Outreach Events – Response Summary

## In-Person Events – Transportation Values Responses





# Transportation Values Survey

- Aug – Oct 2021 on [BeHeard.org/VancouverMoves](https://BeHeard.org/VancouverMoves)

Share your feedback on values



1. Please select **your top three (3) transportation values** from the wheel shown above.

- |  |  |
|--|--|
| <input type="checkbox"/> Earth-friendly        | <input type="checkbox"/> Equitable access and investment |
| <input type="checkbox"/> Healthy options       | <input type="checkbox"/> Comfortable and user-friendly   |
| <input type="checkbox"/> Well-maintained       | <input type="checkbox"/> Safe                            |
| <input type="checkbox"/> Easy to use           | <input type="checkbox"/> Many ways to get around         |
| <input type="checkbox"/> Regional connectivity | <input type="checkbox"/> Reliable travel times           |
| <input type="checkbox"/> Affordable            | <input type="checkbox"/> Supports the economy            |

Please note: Your top three values does not imply that the other values on the wheel are not important or will not be considered in the Transportation System Plan. The plan will address all of the values shown.

2. Please explain your answers in the space below.

Please add your comment here...

Submit

## Translations

English

Español

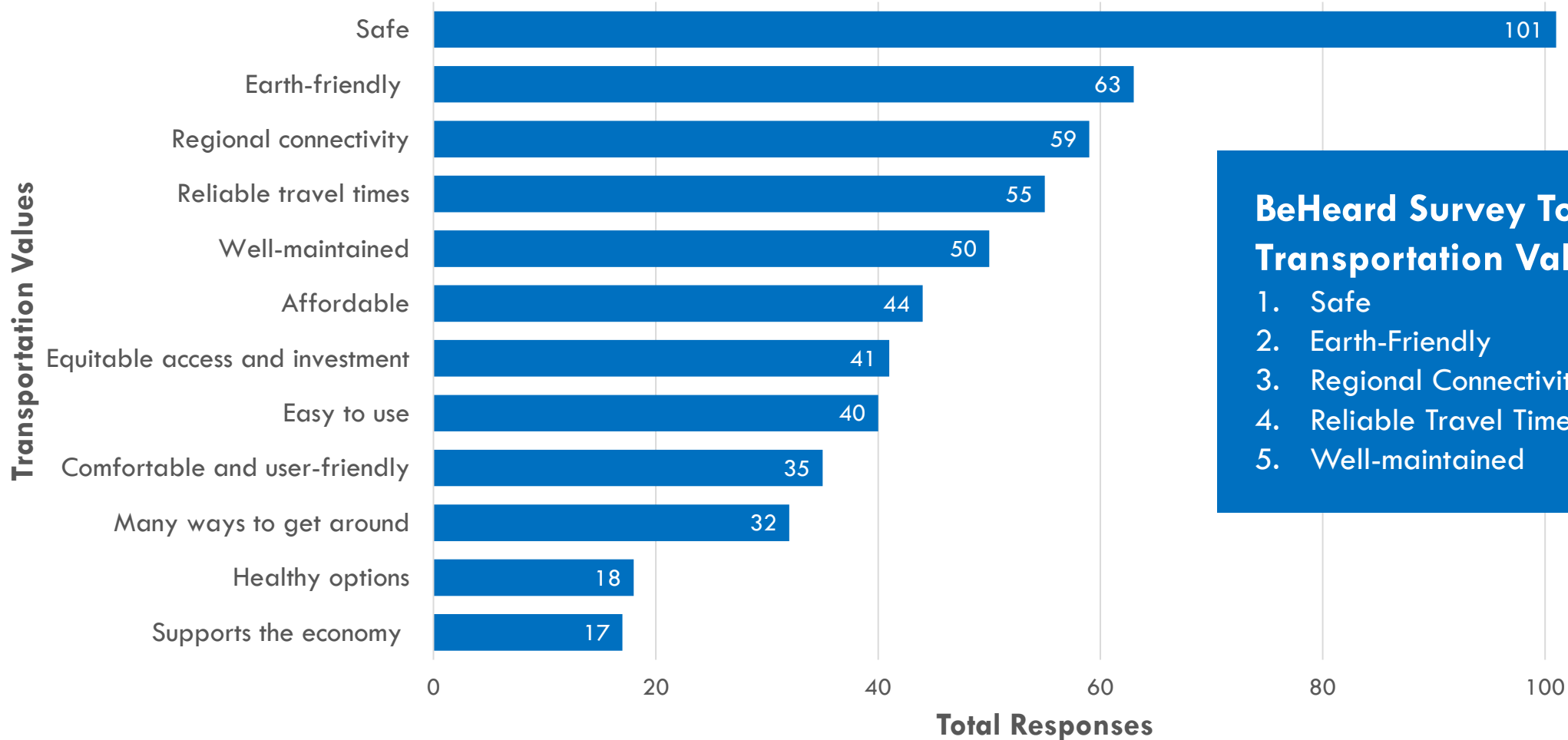
Tiếng Việt

русский



# Transportation Values Survey – Response Summary

Transportation Values Survey - Total Responses



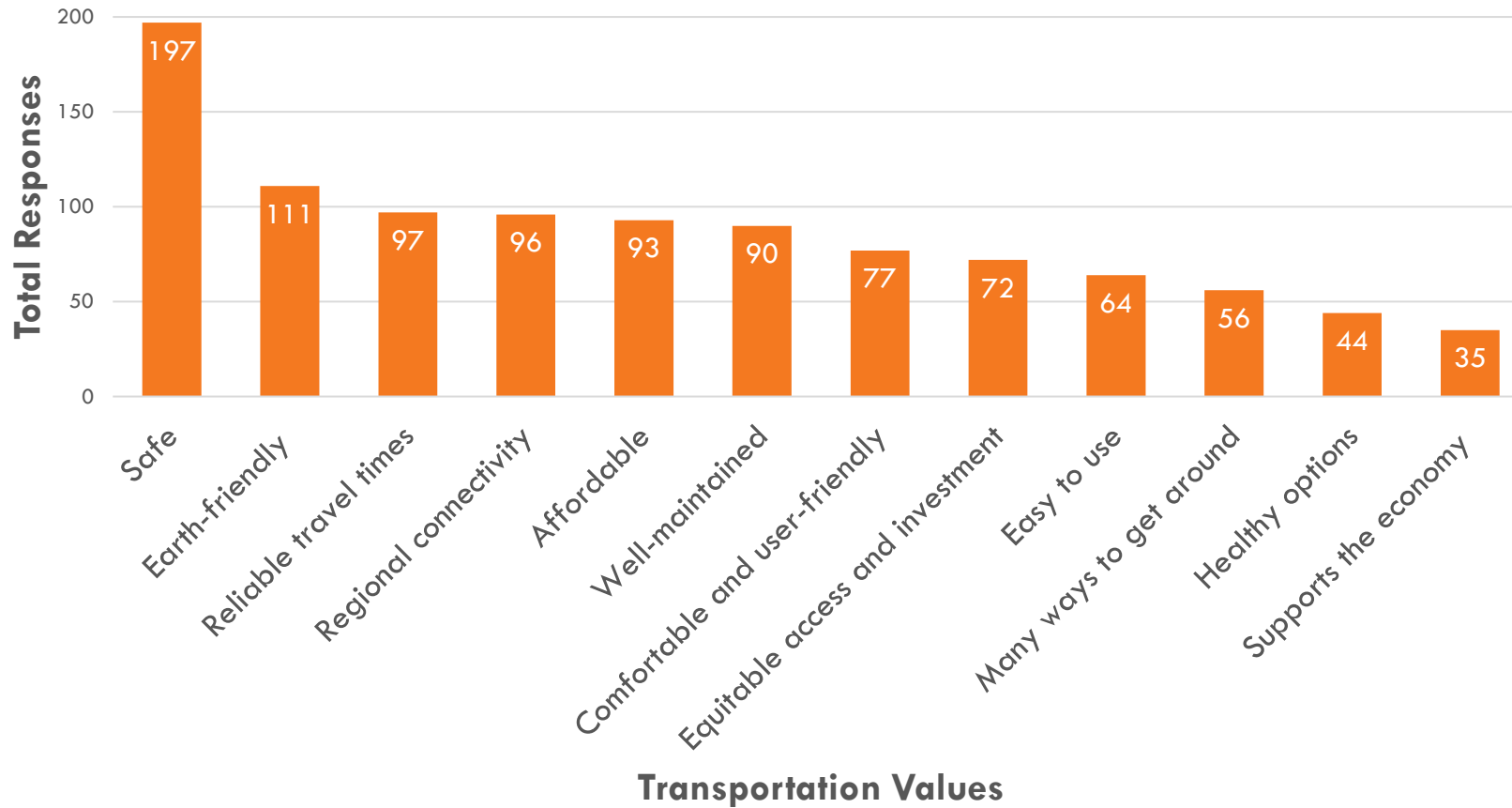
## BeHeard Survey Top Transportation Values

1. Safe
2. Earth-Friendly
3. Regional Connectivity
4. Reliable Travel Times
5. Well-maintained

# Transportation Values – Total Combined Feedback\*

## Transportation Values - Response Totals

May 28 - Sept 30, 2021



## Top Transportation Values

1. Safe
2. Earth Friendly
3. Reliable Travel Times
4. Regional Connectivity
5. Affordable

\* Accounts for feedback from Community Roundtables, In-Person Outreach, and Transportation Values Survey

# Questions and Discussion

## Thank You!

