

metrovancover

Welcome

View of the Second Narrows Bridge



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# Agenda

View of Metro Vancouver



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# Meeting Notes

View of Metro Vancouver



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# Metro Vancouver Updates and Invited Presentations

View of Metro Vancouver





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SERVICES AND SOLUTIONS FOR A LIVABLE REGION



MORRISON HERSHFIELD

# Performance Metrics

## Metro Vancouver's Solid Waste Management Plan Update

Veronica Bartlett, Senior Solid Waste Planner,  
Morrison Hershfield

Terry Fulton, Senior Project Engineer,  
Solid Waste Services, Metro Vancouver

Presentation to the Public and Technical Advisory Committee Meeting on September 7, 2023

# Meeting Outline

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- Introductions
- Background and process
- Current performance metrics
- Morrison Hershfield's scope of work
- Examples of new metrics used elsewhere
- Discussion
  - What should we include in our research?

# Background & Process

- The Environmental Management Act mandates regional districts to develop plans for the management of municipal solid waste and recyclable materials
- Metro Vancouver has set out a multi-phase process
- A Consultant hired to support

We are here



# Current Key Performance Metrics

Waste generation rate (tonnes/capita)



Disposal rate (tonnes/capita)



Disposal rate (tonnes/household)



Recycling rate (%)



Reuse estimates



# Performance Reporting

- Annual reporting
- Biennial Reporting
- Metro Vancouver's waste composition studies

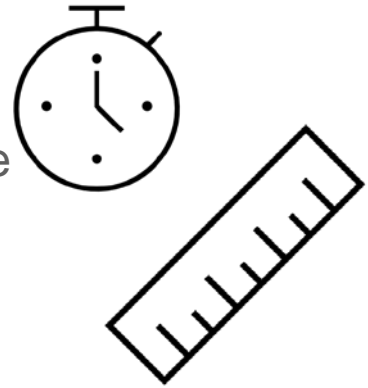


# Creating Goals and Targets



# MH's Scope of Work

1. Jurisdictional and organizational review
  - Build on the Jurisdictional Scan performed in 2022
  - Identify and assess potential additional and alternative targets and performance metrics
2. Develop long list of potential performance targets
  - Research and develop a long list of potential performance metrics and targets to be considered for an updated SWMP
3. Review of Metro Vancouver's existing performance metrics
  - Assess current targets and performance metrics



# MH's Scope of Work

- Consider data accessibility, transparency, measurement feasibility, accuracy, benefits, and applicability to the updated SWMP
- Research metrics and targets to assess progress toward:
  - The 5Rs Waste Reduction Hierarchy
  - Reducing GHG emissions
  - Supporting social equity
  - Increasing education and awareness, and
  - Transitioning toward a circular economy



# Approach

- Feedback on research focus
- Research best practices
  - Leading jurisdictions
- Determine applicability to Metro Vancouver
  - Current metrics
  - Potential future strategies in the updated SWMP



# Examples of Other Performance Metrics



Repair and reuse

Reuse store tonnage  
(Edson, AB)



Consumption based  
emissions (environmental)

Tonnes CO<sub>2</sub> emissions per capita  
(Peterborough, UK)



Circular/green jobs  
(societal)

Recycling & reuse-related economy employment and payroll  
(Austin, TX)



Economic value (\$) of  
circular economy activities

Net added value of the circular economy  
(Amsterdam, NL)

# Performance Metrics Discussion



- What's important to your organization for reporting?
- What data do you have access to that can inform this project?
- Are there specific jurisdictional examples we should consider?

# Thank you!

Any additional comments send to  
[zerowaste@metrovancover.org](mailto:zerowaste@metrovancover.org)



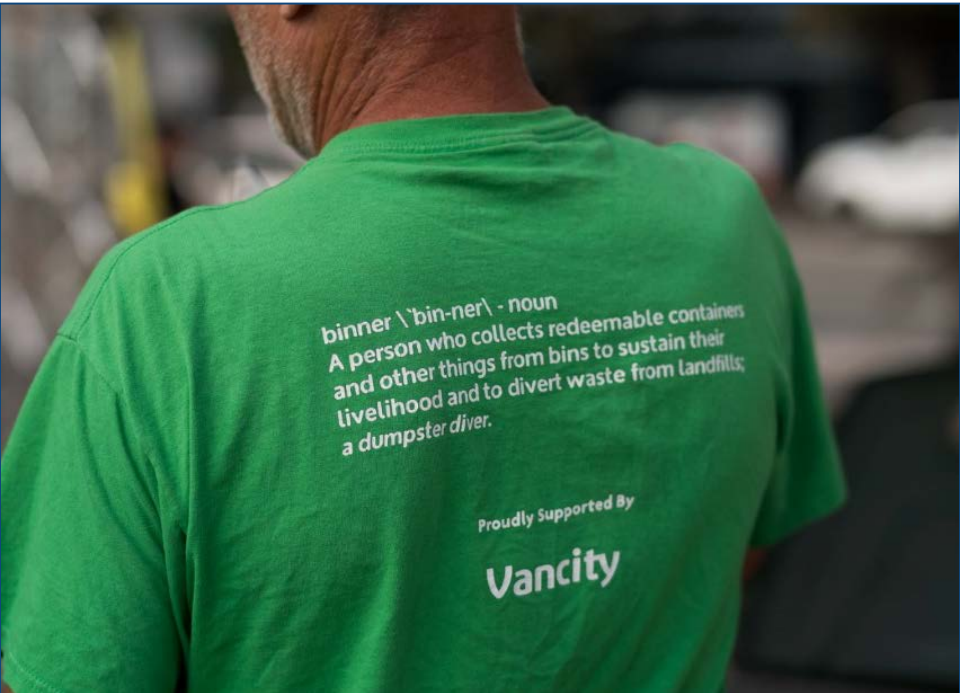




# Welcome!

Brianne De Man, Binners' Project

Photo credits: Lani Brunn, Bao Khanh (Taiwan Festival 2019), Sam Reeve



# Who Are We?

binner \bɪn-ner\ - noun

a person who collects redeemable containers and other things from bins to sustain their livelihood and to divert waste from landfills; a dumpster diver.



# Our Mission

Through our programs, we empower binners as part of the circular economy – building a community from the bottom up. We aim to:

- Reduce stigma associated with binning
- Improve economic opportunities for Binners
- Support waste diversion in Vancouver

Binners' Project is committed to principles of dignity, independence, integration, and equal opportunity.

# Where We Began



# BINNERS' MEETINGS





COFFEE CUP REVOLUTION

# Community Pickups



# Bidders Hook Universal Cart Initiative





# Social Enterprise Program



Back-of-House Waste Sorting



Events

# Questions?





**THANK YOU!**



Reuse Day at North Shore Recycling and Waste Centre

## Reuse and Repair Initiatives

Karen Storry, P.Eng

Senior Engineer, Solid Waste Services

PTAC Meeting September 7, 2023

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# PRESENTATION OUTLINE

Reuse and repair projects

1. Reuse at Recycling and Waste Centers
2. Reusable Cups and Containers for Offices and Events
3. Food Recovery Network
4. Construction and Demolition
5. Repair Café Funding





# Reuse at Recycling and Waste Centres

North Shore Recycling and Waste Centre – Reuse Days

# 2014-2019

## Continuous Improvements

- Trailer: Value of material is in the eye of the beholder
- Events: Line-ups are challenging if the event is advertised as a one-time event
- 2019 – 2 day weekend pilot

## Reuse Trailer

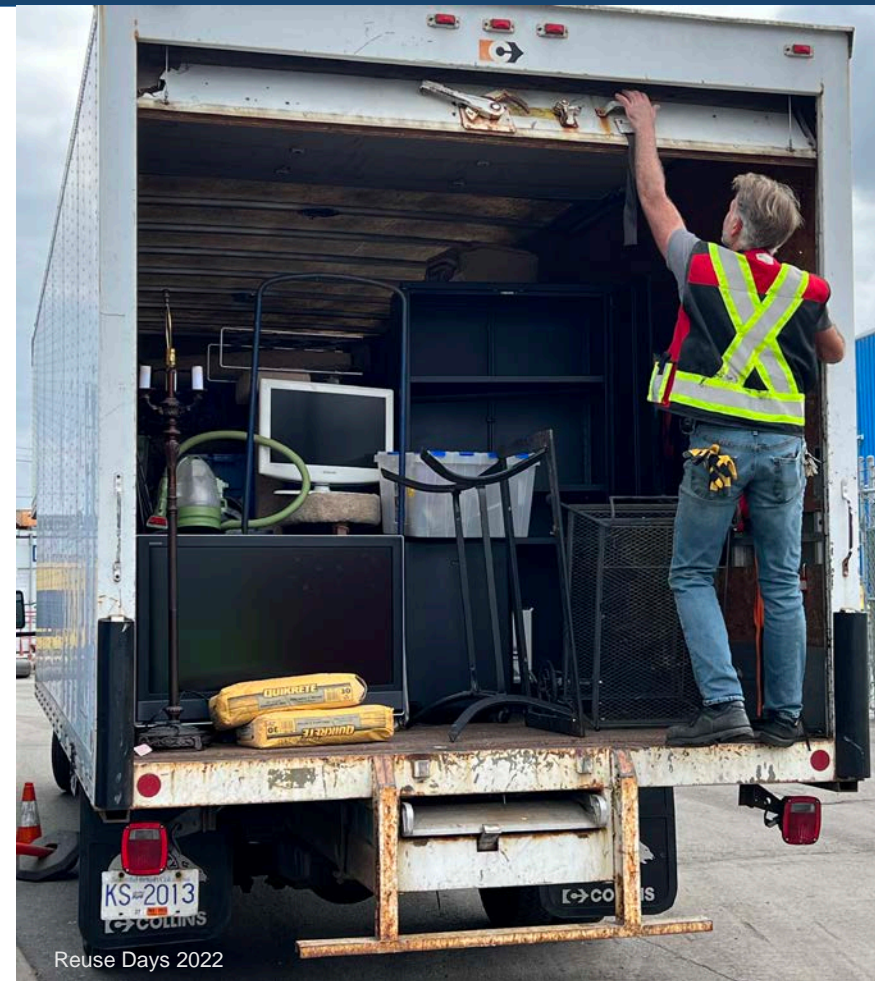


Items  
Collected for  
Reuse

# REUSE DAYS 2022

Post Covid Restart

- Pilot (relaunch) at North Shore Recycling and Waste Centre
- 3 events – 300-500 kg/hour reusable materials
- Lumber, small appliances, furniture, hardware, housewares and electronics







# REUSE DAYS 2023

## Scaling up

- Continue working with Urban Repurpose at the North Shore facility
- Last two Saturdays of each month
- Temporary storage to collect more items
- Continue to look for more organizations so we can expand to other recycling and waste centres

Reuse Days Truck 2023

The image shows two rectangular metal containers filled with food, placed on a wooden pier. The container in the foreground is filled with orange-colored spiral pasta. The container behind it contains a salad with various vegetables and nuts. The background is a blurred view of a body of water with a boat and a sunset or sunrise sky. A dark blue vertical bar is on the left side of the image, containing the text.

# Reusable Cups and Containers

Reusable containers (From East of Seymour Pilot project)

# PROJECT OBJECTIVES

- Increase collective behavioral change to promote reuse and prevent single-use item disposal
- Encourage other options where the reusable network isn't available



Bring Your Own Mug Coffee Pour



## REUSE AT OFFICES

- Engage with 40-60 offices
- 2023: Begin an initial discussion with workplaces
- 2024: Support workplaces to implement reusable cup and container platforms

Downtown Vancouver Offices

# METROTOWER III PILOT

## Increase Reuse at Metro Vancouver Offices

- Work with procurement to provide reusable to-go options at the Metrotower III cafeteria
- Support staff behavior change through tactics like Lunch & Learns
- Encourage surrounding businesses to join the reuse network



Google Maps Street View of Metrotower III



OAC Booth at 2022 PNE

# COMMUNITY EVENTS

## Ocean Ambassadors Branded Booth

- Attend 12-16 events per year to promote awareness and education of the single-use item problem
- Target non-environmental focused events throughout the region
- 2023 focus on building relationships and education
- 2024 explore working with motivated event organizers on cup and container reuse platform



# Food Waste Reduction

Breakfast of food rescue champions

# LOVE FOOD, HATE WASTE

Preventing avoidable household waste

- Regional campaign launched in 2015
- National campaign launched by the National Zero Waste Council in 2018





# REGIONAL FOOD RECOVERY NETWORK

## Purpose

- Rescue and redistribute surplus food to highest end-use
- Create secondary markets
- Reduce waste



# YEAR 1 RESULTS

Reported by FoodMesh:

## What the Metro Vancouver Regional Food Recovery Network has achieved to date

1 September 2021 – 31 August 2022

*Note: This does not include food that is recovered in the region outside of FoodMesh's programs and services*



[Our stats explained](#) ⓘ

A large pile of clean wood waste, including pallets and planks, is shown under a clear blue sky. The wood is light-colored and appears to be in good condition. In the background, a blue pole and a blurred mountain range are visible.

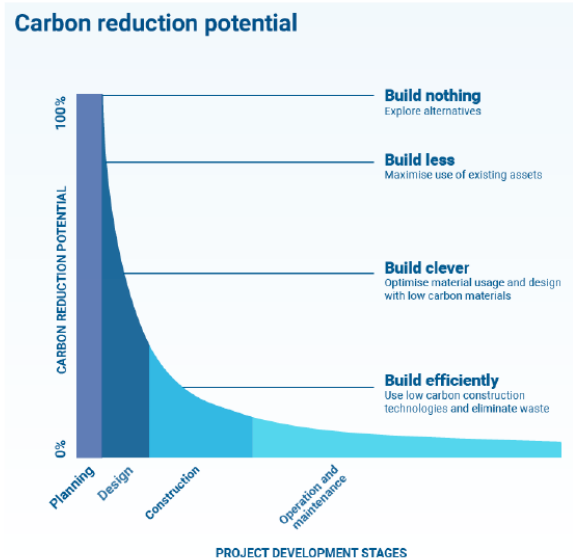
# Construction and Demolition

Clean wood waste pile

# THE BUILT ENVIRONMENT

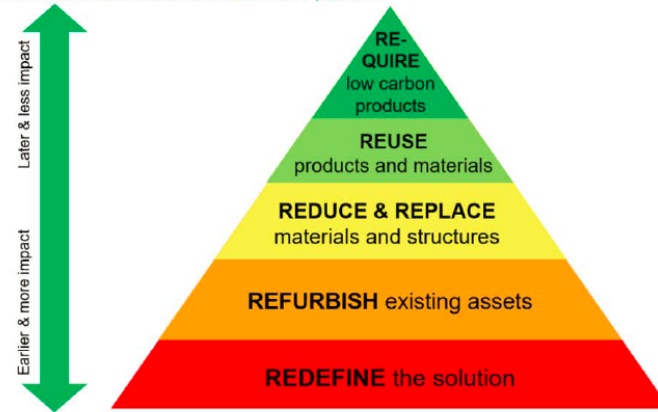
## Embodied Carbon Work Shows the Benefits of Reuse

### Policy Leadership on Embodied Carbon



WGBC 2019, HM Treasury 2013

Figure 2 Embodied Carbon Reduction Pyramid



CNCA 2020

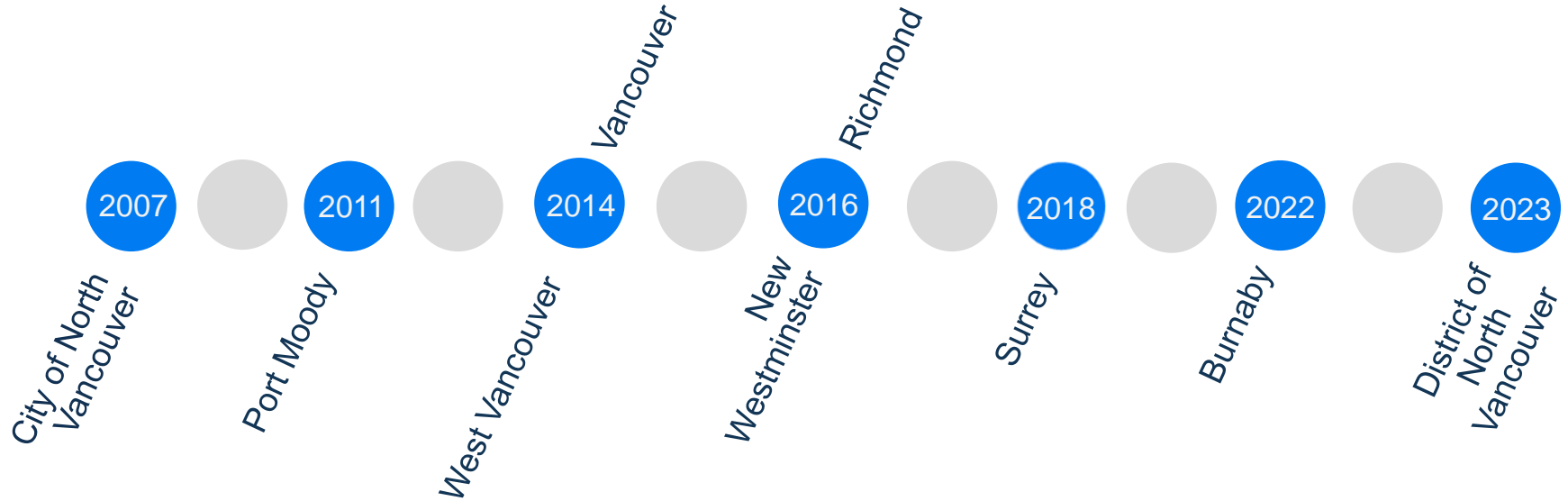
# C&D WASTE REDUCTION AND RECYCLING TOOLKIT

Alternatives to Demolition

- Adaptive Reuse
- House Moving
- Deconstruction
- Salvage and Reuse



# MUNICIPAL C&D DIVERSION PROGRAMS





# Repair Café Funding

# REGIONAL WIDE REPAIR CAFÉ MODEL

Working with member jurisdiction to increase the number of events in the region

- A pop-up event comprised of repair experts
- Residents are able to bring in items and access repair services free of charge
- Attendance open to all residents of Metro Vancouver



Photos courtesy of Ridge Meadows Recycling Society



# MUNICIPAL EVENTS WITH METRO VANCOUVER SUPPORT

Working on two approaches to increase events in the region:

- Member hosted (50/50 funding)
- Regional contractor (in progress)

Community	Events/Year
Coquitlam	4
Maple Ridge	4
Richmond	12
Surrey	4
Vancouver	12
<b>Total events co-funded</b>	<b>36</b>



Vancouver Skyline

Thank you

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Traffic Zone Dataset Vancouver Map

# Assessment of Regional Solid Waste System

## DRIVE TIME ANALYSIS MODEL – SCENARIOS

Allen Jensen, P.Eng. AScT

Senior Project Engineer, Solid Waste Services

PTAC Meeting September 7, 2023

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# BACKGROUND

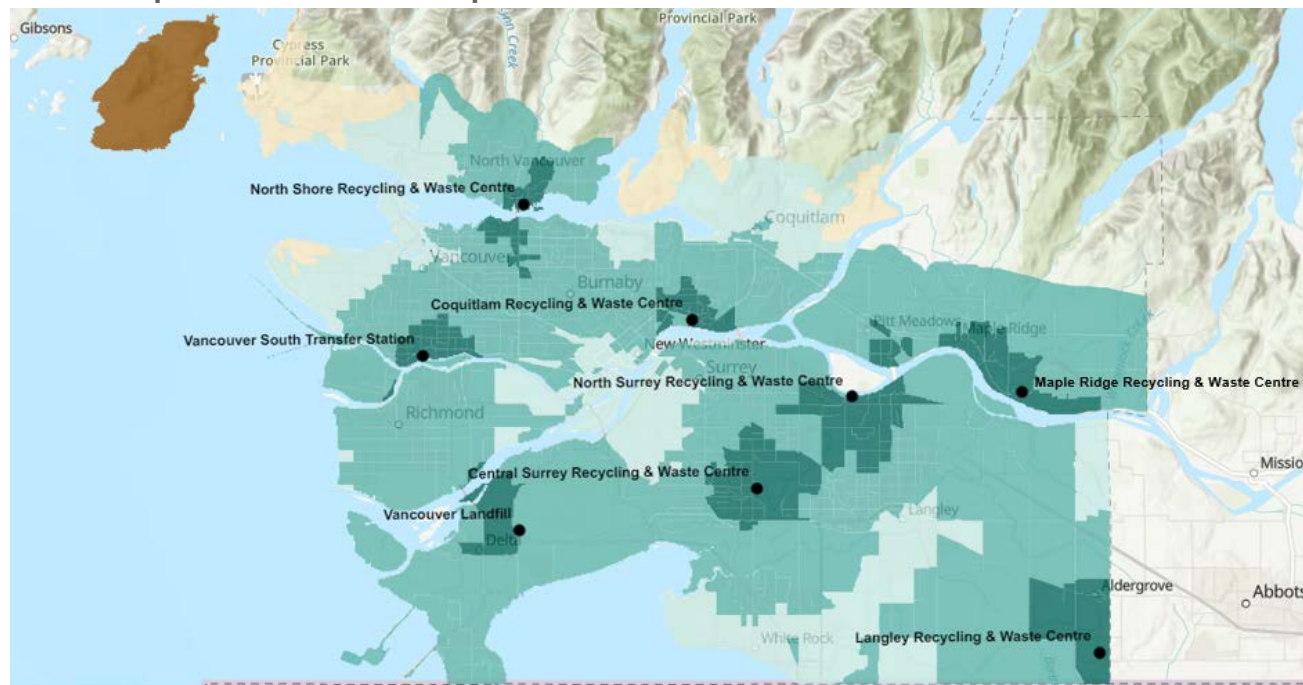
- Solid waste management plan update in progress
- Foundational studies are being conducted to support plan development
- System modelling has been completed to assist in future scenario planning
- Presentation shows drive-time, drive distance and GHG data for various facility scenarios

# BASELINES & SCENARIOS

- Small Loads Baseline Waste (Current System)
- Vancouver South Transfer Station Closure
- Vancouver Landfill Closure
- Baseline without Central Surrey Recycling and Waste Centre
- False Creek Flats Recycling and Waste Centre
- Barnet/Lansdowne Recycling and Waste Centre
- Langley Recycling and Waste Centre Options
- Commercial Hauler Loads Baseline

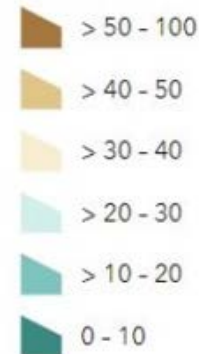
# SMALL LOADS BASELINE WASTE (CURRENT SYSTEM)

2050 Population - 4:00 pm



Traffic Zone Drive Time

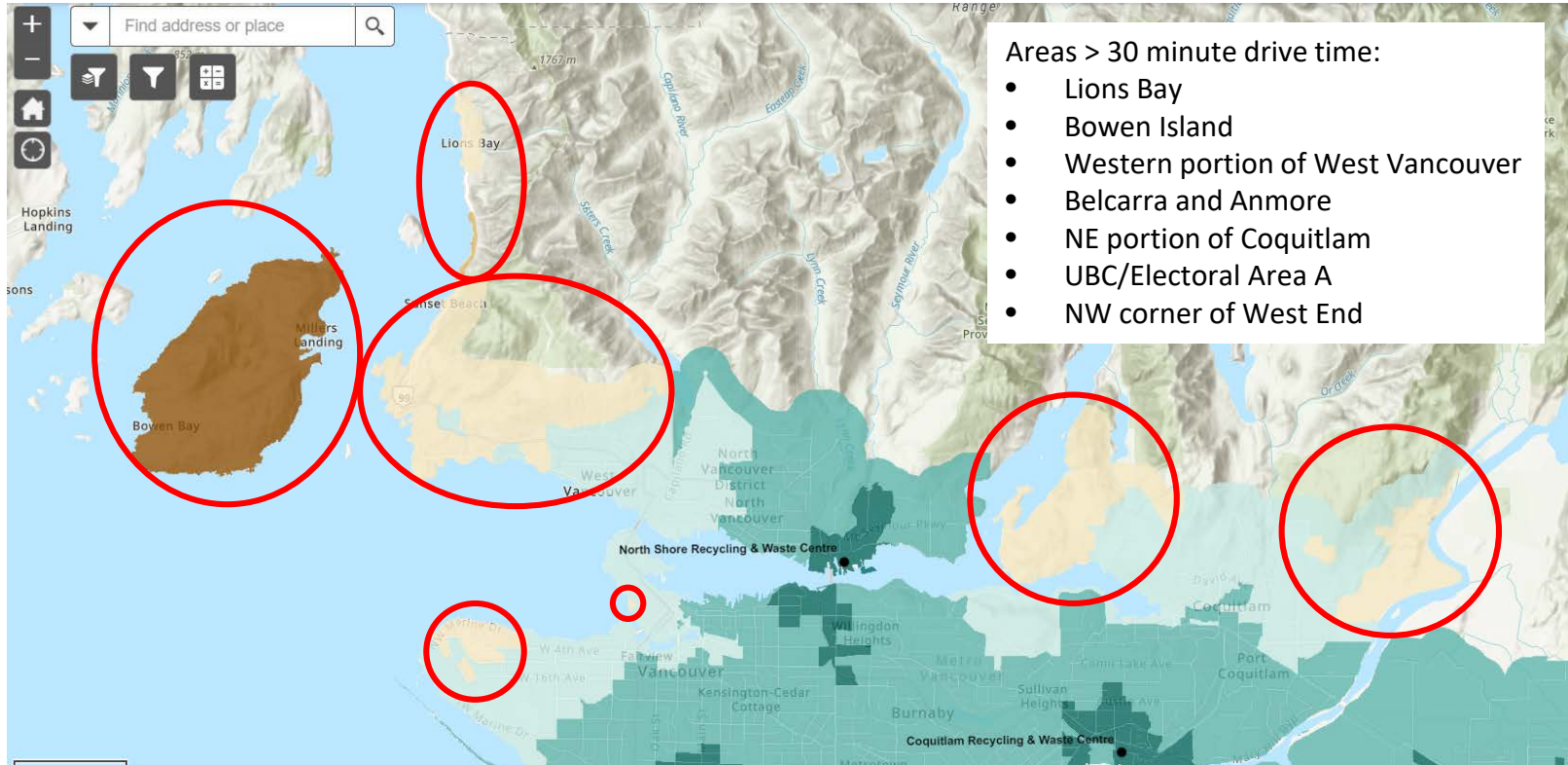
minutes



2050 Pop. >= 30 Min. Drive	KM vs. Baseline	Hours vs. Baseline	Tonnes eCO2 vs. Baseline
55,058	0	0	0

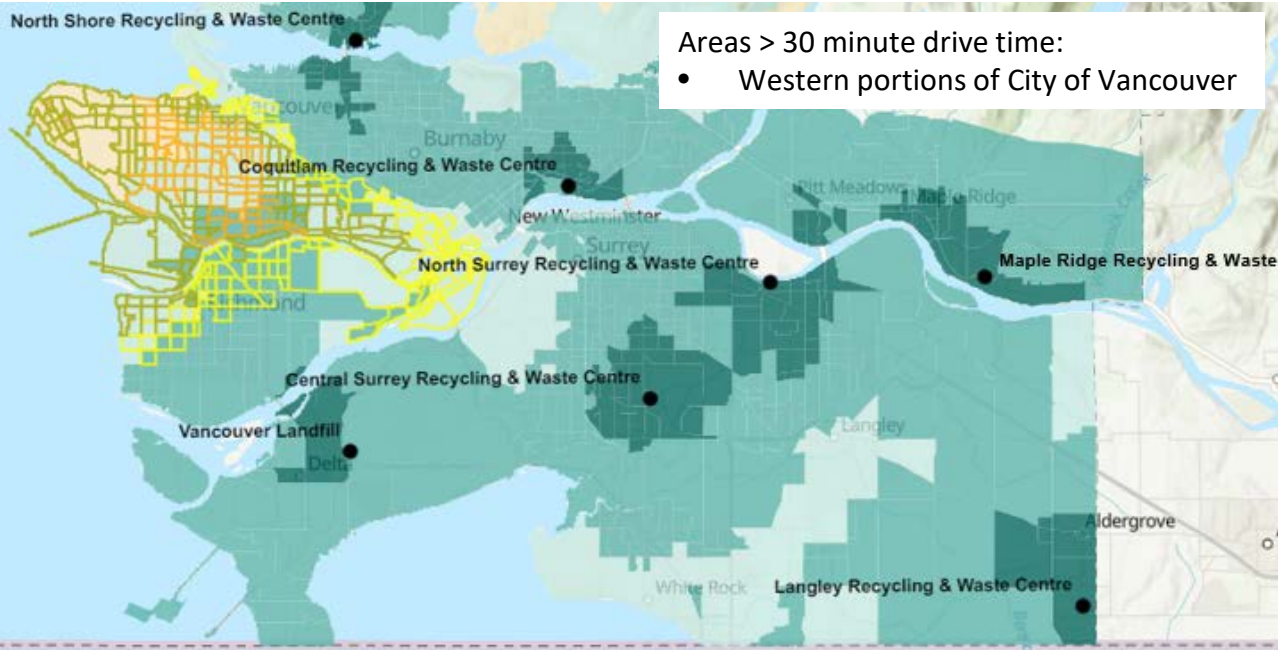
# BASELINE WASTE (CURRENT SYSTEM)

Areas > 30 minute drive time – Population: 55,058



# VANCOUVER SOUTH TRANSFER STATION CLOSED

2050 Population - 4:00 pm



Areas > 30 minute drive time:  
 • Western portions of City of Vancouver

## Legend

- 
- Difference in Drive Times
- CH\_minutes
- > 20 - 38
- > 10 - 20
- > 5 - 10
- > 0 - 5
- > -5 - 0
- > -10 - -5
- > -20 - -10
- < -20

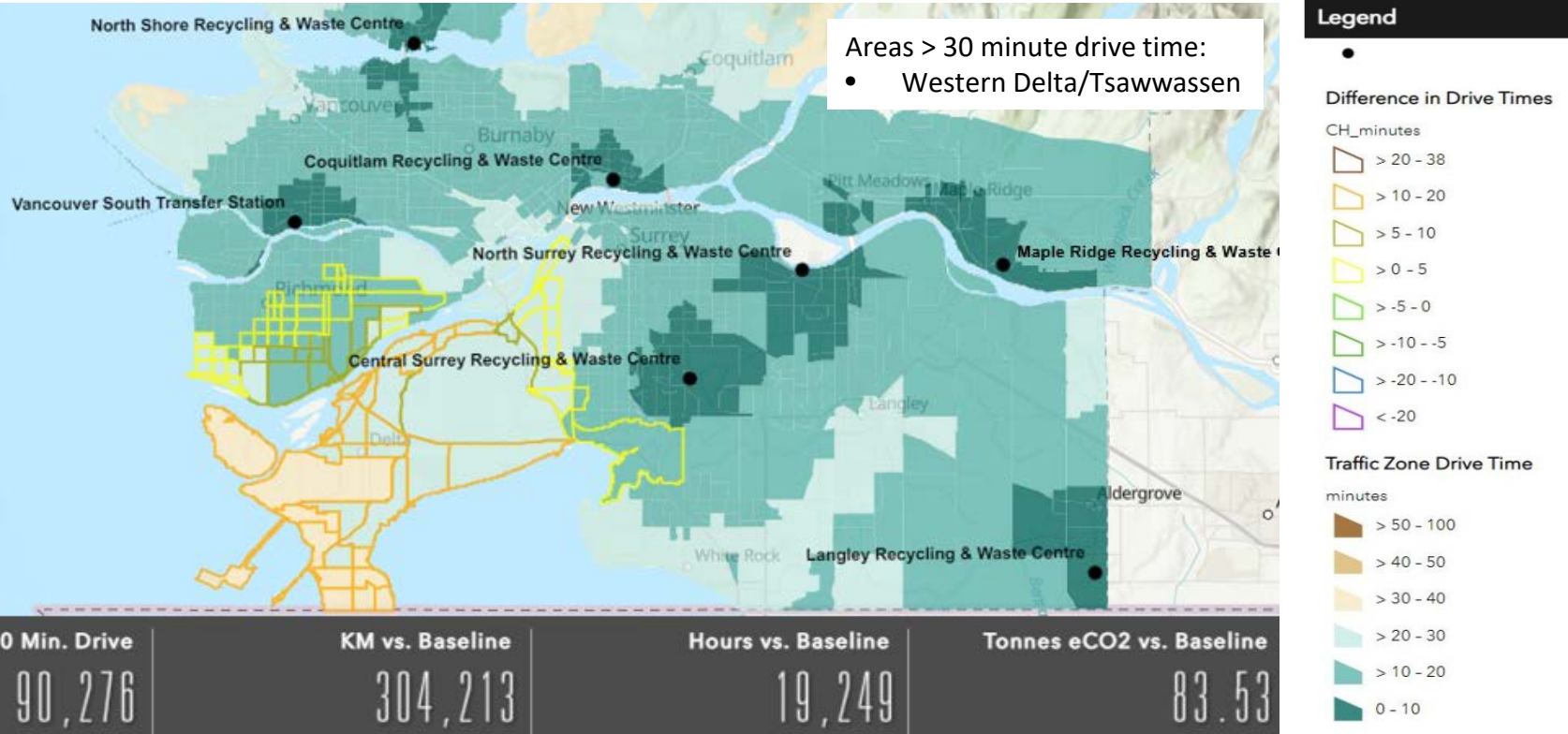
- Traffic Zone Drive Time
- minutes
- > 50 - 100
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

2050 Pop. >= 30 Min. Drive	KM vs. Baseline	Hours vs. Baseline	Tonnes eCO2 vs. Baseline
225,343	5,609,732	71,028	1,540



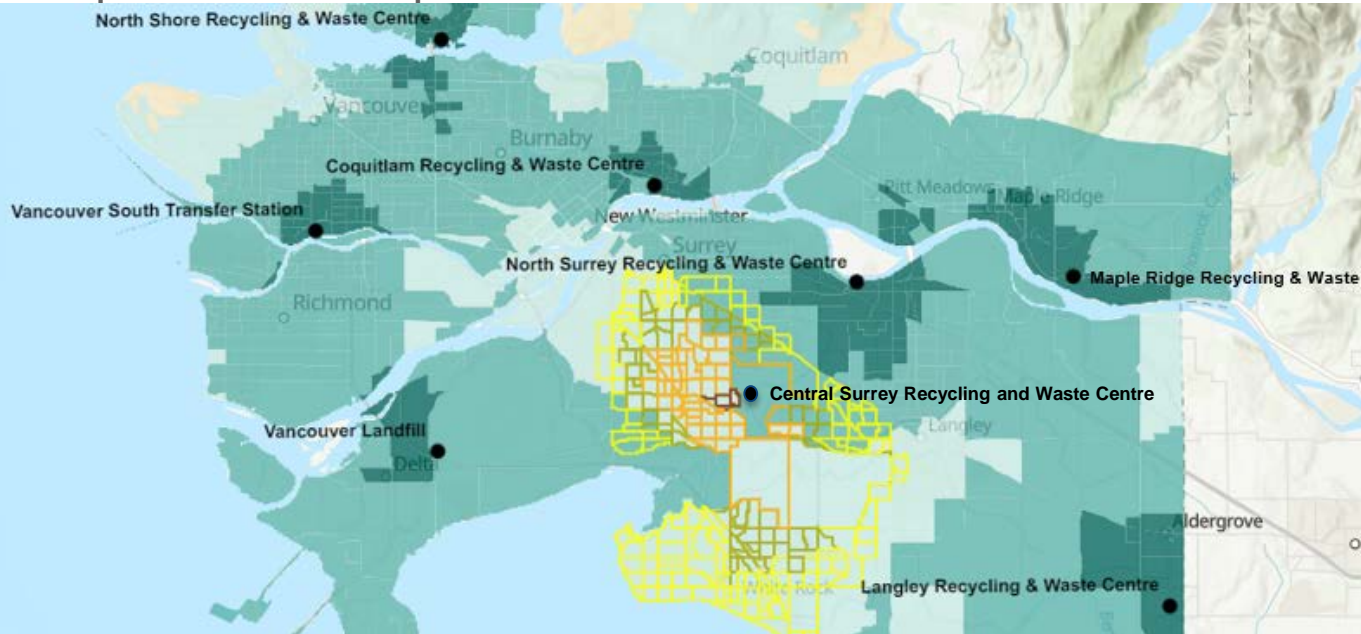
# VANCOUVER LANDFILL CLOSED

2050 Population - 4:00 pm



# BASELINE WITHOUT CENTRAL SURREY

2050 Population - 4:00 pm



## Legend

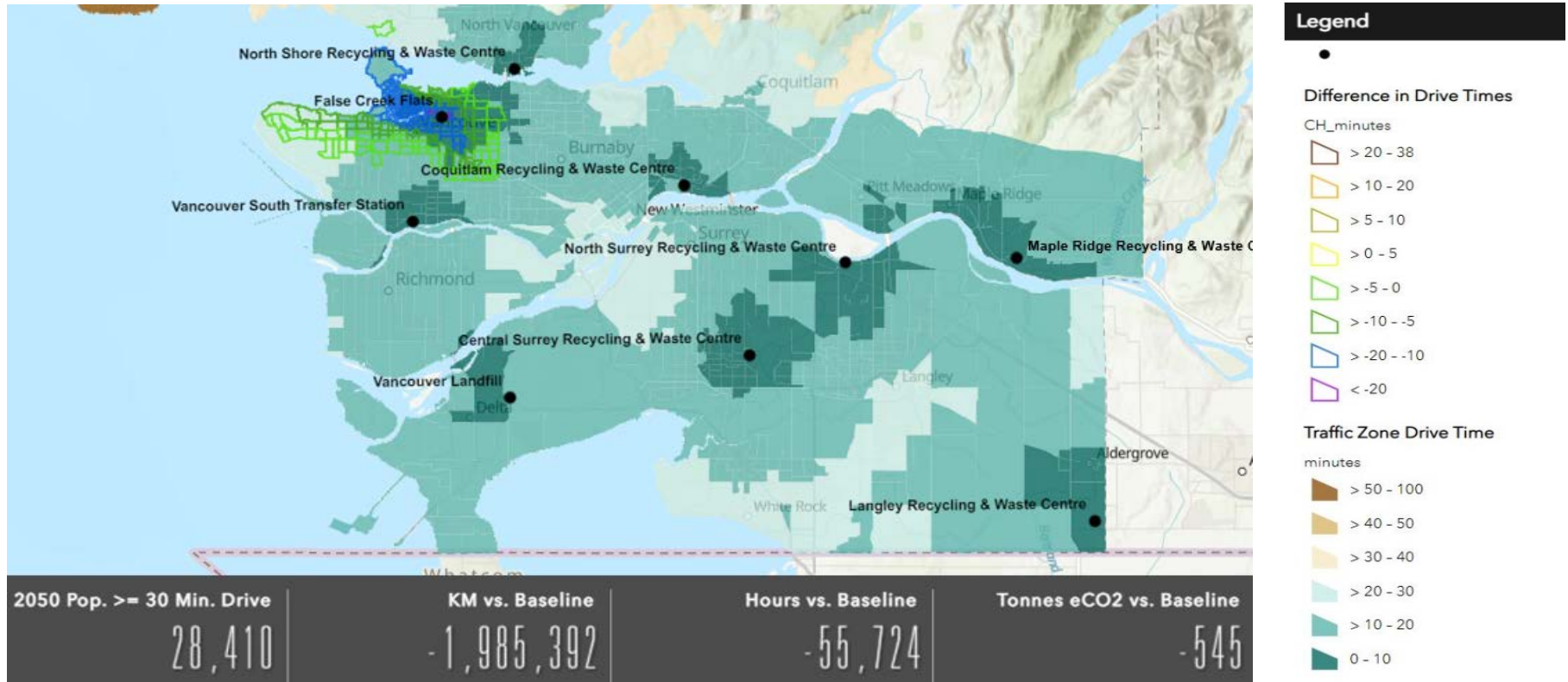
- 
- Difference in Drive Times**
- CH\_minutes
- > 20 - 38
- > 10 - 20
- > 5 - 10
- > 0 - 5
- > -5 - 0
- > -10 - -5
- > -20 - -10
- < -20

- Traffic Zone Drive Time**
- minutes
- > 50 - 100
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

2050 Population ≥ 30 Minute Drive	Kilometres Driven vs. Baseline	Hours Driven vs. Baseline	Tonnes eCO <sub>2</sub> vs. Baseline
55,240	2,233,236	21,768	613

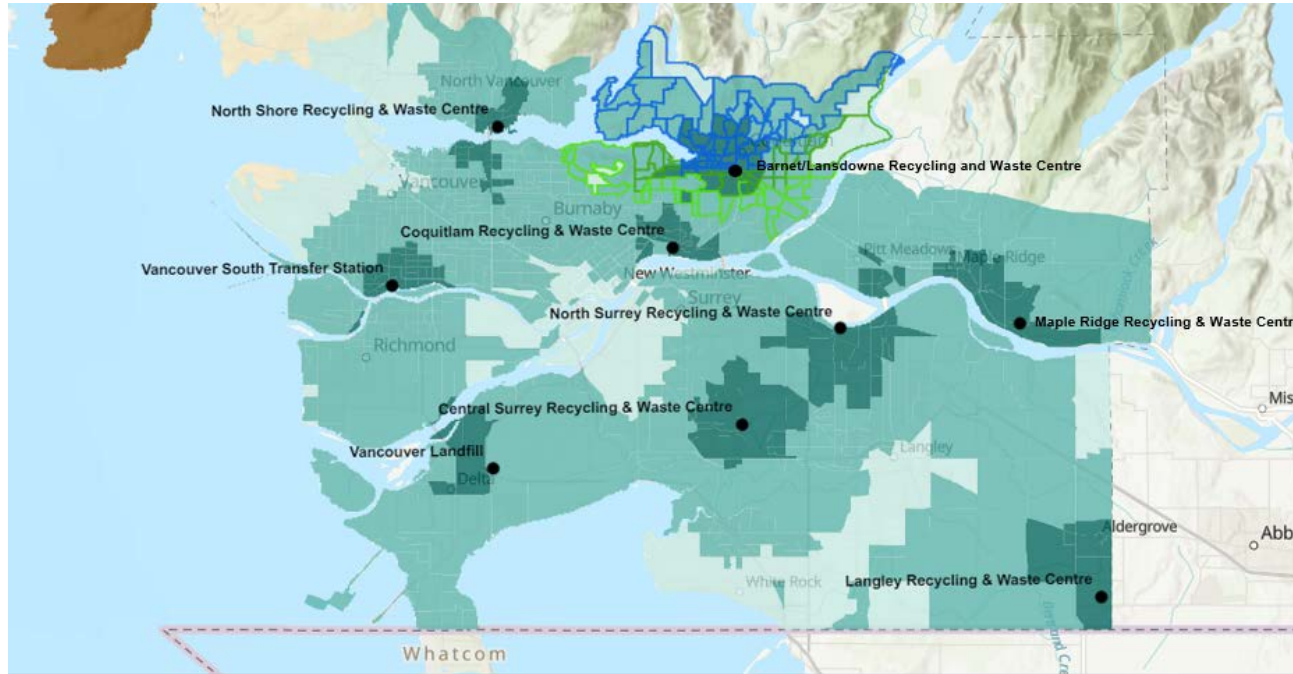
# FALSE CREEK FLATS RECYCLING AND WASTE CENTRE

2050 Population - 4:00 pm - Site Option



# BARNET/LANSDOWNE RECYCLING AND WASTE CENTRE

2050 Population - 4:00 pm - Site Option



## Legend



### Difference in Drive Times

CH\_minutes

- > 20 - 38
- > 10 - 20
- > 5 - 10
- > 0 - 5
- > -5 - 0
- > -10 - -5
- > -20 - -10
- < -20

### Traffic Zone Drive Time

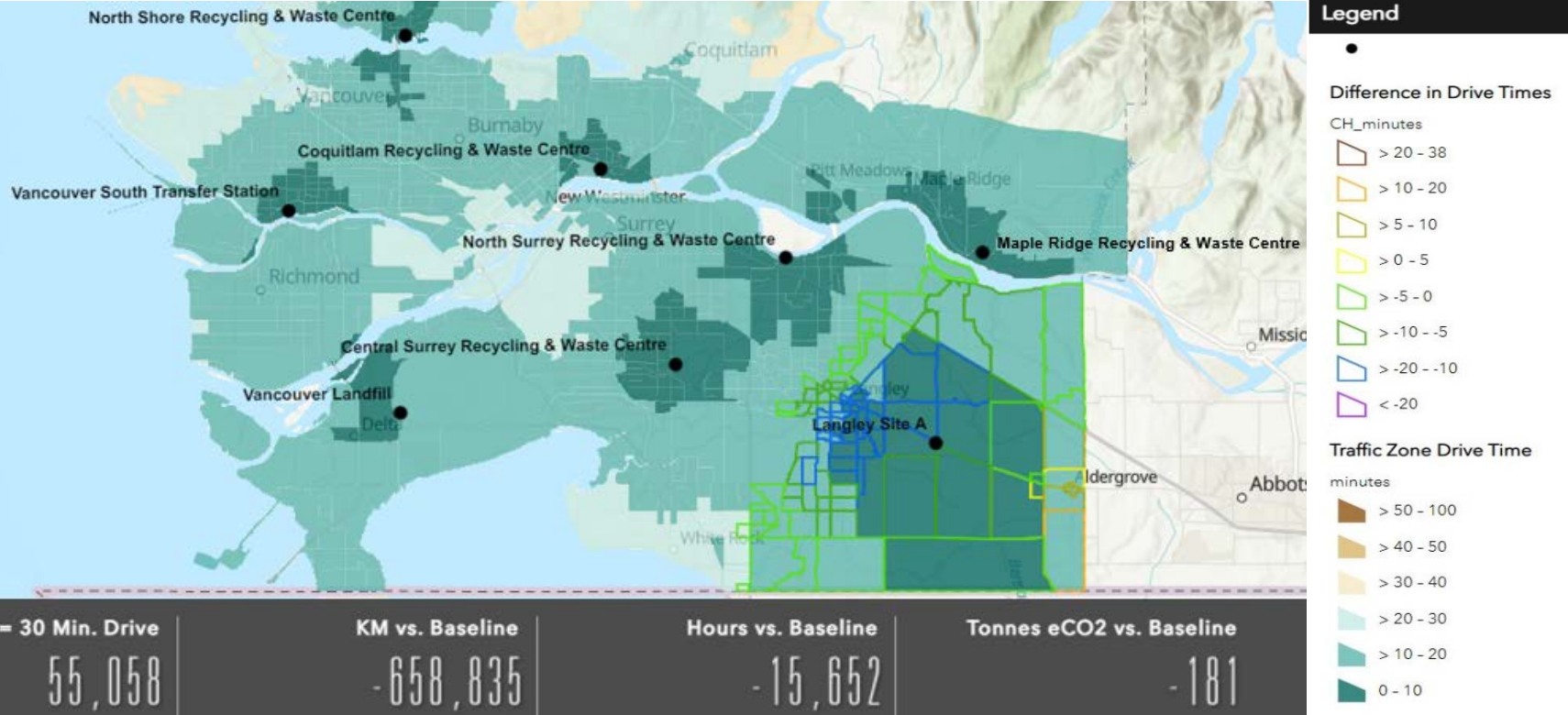
minutes

- > 50 - 100
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

2050 Pop. >= 30 Min. Drive	KM vs. Baseline	Hours vs. Baseline	Tonnes eCO2 vs. Baseline
50,977	-1,254,631	-29,901	-344

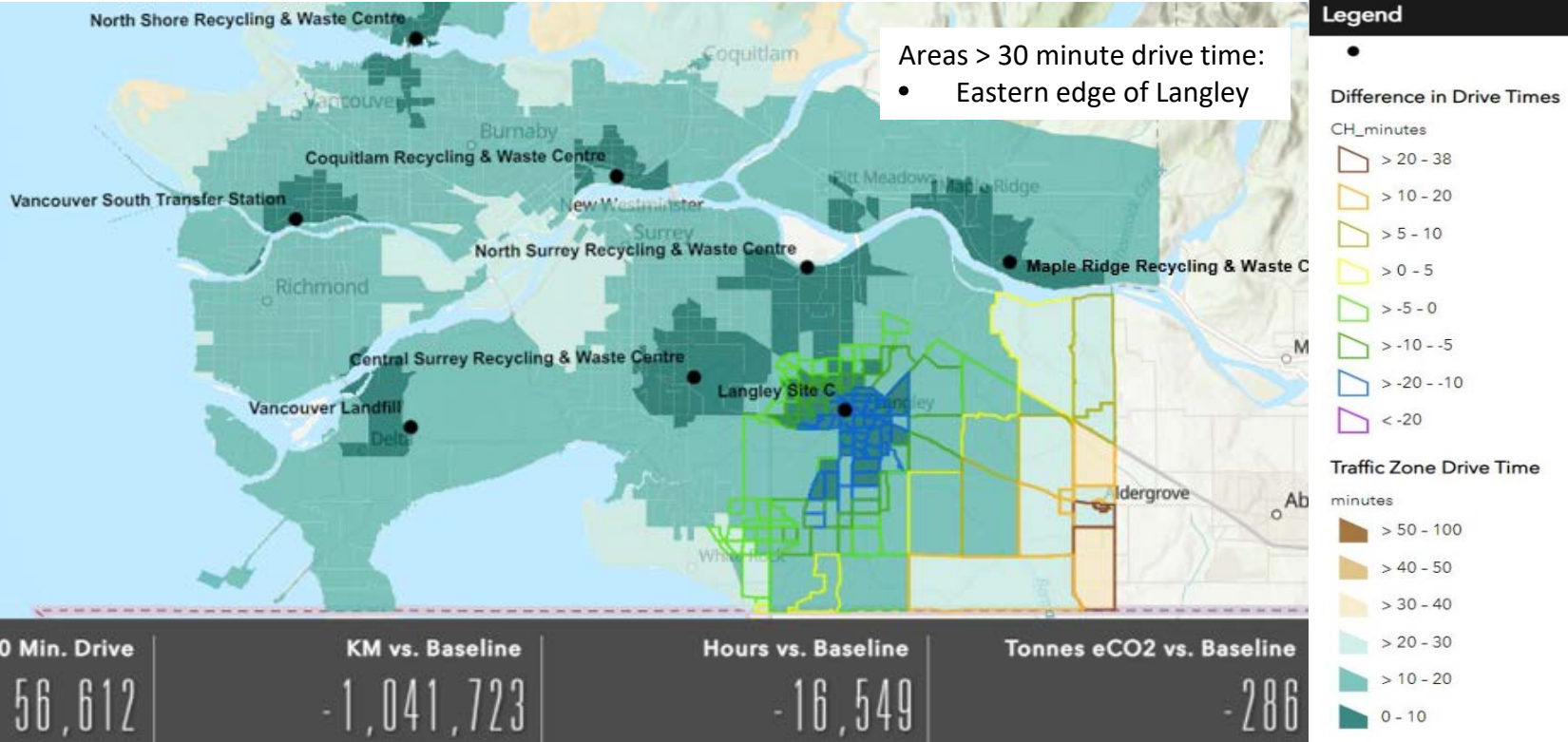
# LANGLEY RECYCLING AND WASTE CENTRE

2050 Population - 4:00 pm - Site A Option



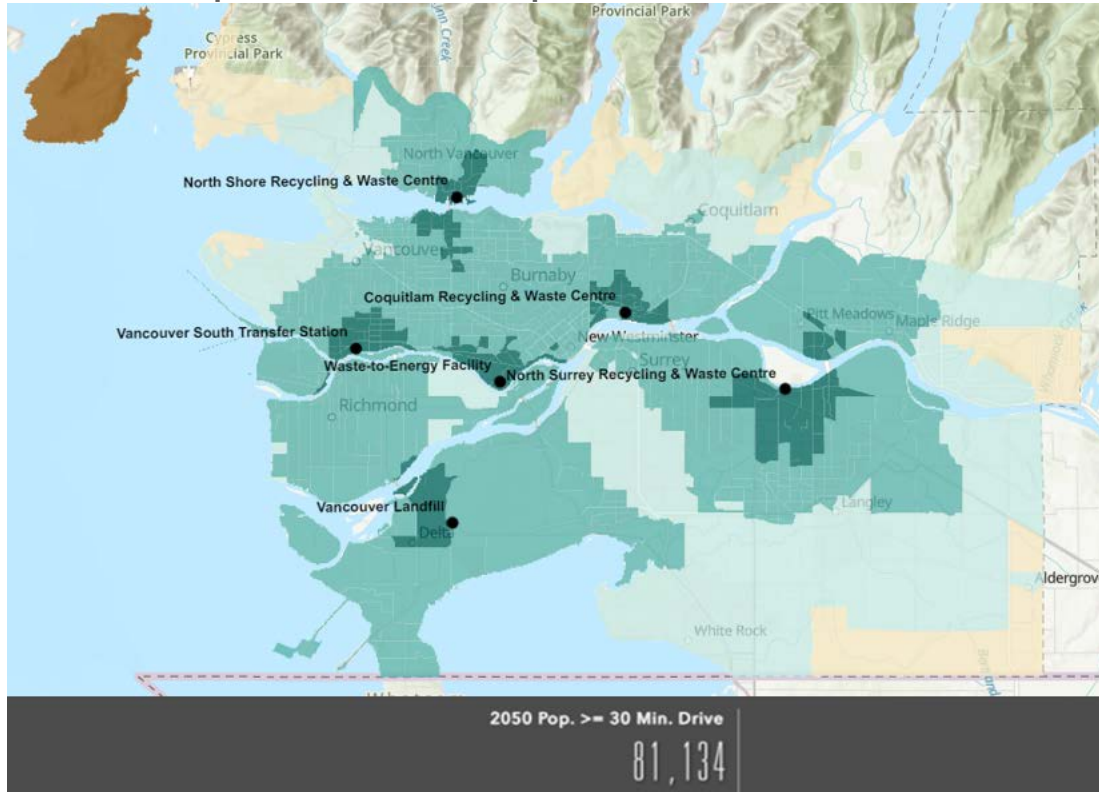
# LANGLEY RECYCLING AND WASTE CENTRE

2050 Population - 4:00 pm - Optimal Site Option



# COMMERCIAL HAULER LOADS BASELINE (CURRENT SYSTEM)

2050 Population - 4:00 pm

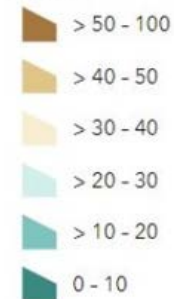


Areas > 30 minute drive time:

- Lions Bay
- Bowen Island
- Western portions of West Vancouver
- Belcarra and Anmore
- NE area of Coquitlam
- UBC
- Eastern regions of Maple Ridge
- Southern and eastern portions of Langley
- NW corner of West End

## Traffic Zone Drive Time

minutes



# CONCLUSION

- System provides maximum 30 minute drive times for 98% of the regional population
- All current facilities important for service delivery
- Future considerations:
  - False Creek recycling and waste centre
  - Replacement of Vancouver Landfill with future recycling and waste centre
  - Full-service facility for future Langley Recycling and Waste Centre
  - North-East sector recycling and waste centre





Vancouver Skyline

Thank You

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# Zero Waste Committee Updates

Paul Henderson

General Manager, Solid Waste Services

PTAC September 7, 2023 Meeting

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# DRAFT TIPPING FEE BYLAW UPDATES

## Overview

- July 13, 2023 Zero Waste Committee report
  - Introduced draft updates
  - Committed to engaging with solid waste and recycling industry prior to bringing draft updates to the Zero Waste Committee and Board for consideration
- The draft updates:
  - Simplify and improve consistency of definitions
  - Strengthen records management requirements related to the generator levy
  - Promote generator levy compliance (max fine and inspection powers)
  - Do NOT affect generator levy amount, application, or exemptions

# SMART WASTE PROGRAM

## Overview

- July 13, 2023 Zero Waste Committee report – introduced the program for information
- The Smart Waste Program:
  - Uses location-based devices deposited in publicly accessible bins to observe the movement of waste around the region
  - Enhances our understanding of waste flows
  - Assists with future solid waste system/facility planning
  - Supports generator levy compliance
- Low environmental impact and negligible health and safety risks
- No personal information will be collected

# DRAFT TIPPING FEE BYLAW UPDATES AND SMART WASTE PROGRAM

Hauler concerns communicated at IAC and Zero Waste Committee meeting, and via letters

## Tipping Fee Bylaw updates

- Previous strong opposition to the generator levy
- Misconception that the updates expand generator levy applicability to construction and demolition waste
- Language is complicated and ambiguous
- Record keeping requirements may risk potentially proprietary commercial information
- Overreach, including new max fines for non-compliance

## Smart Waste Program

- Lack of prior engagement
- Protection of proprietary business information (e.g. customer and route info)
- Legality of program; consent required?
- Safety and environmental concerns related to batteries in waste bins

# ENGAGEMENT ON BOTH INITIATIVES TOGETHER

Draft Tipping Fee Bylaw Updates and Smart Waste Program

- October 3 – Propose engaging the waste and recycling industry through a scheduled Industry Advisory Committee Meeting (in-person workshop)
- Date TBD - Webinar to engage any additional industry members who are not a part of the Industry Advisory Committee
- Facilitated by a 3<sup>rd</sup> party consultant

# ENGAGEMENT – DRAFT TIPPING FEE BYLAW UPDATES



## Engage with the solid waste and recycling industry to:

Ensure updated definitions are complete and logical

Ensure enhanced record keeping requirements are practical for the waste and recycling industry

Ensure exemptions are clear and appropriate

Increase awareness of generator levy requirements

# ENGAGEMENT – SMART WASTE PROGRAM



## Engage with the solid waste and recycling industry to:

Identify potential impacts of the program and ways to mitigate prior to program implementation.

Review program details such as data storage/access, notifications, frequency of data collection, and protection of any perceived proprietary information.





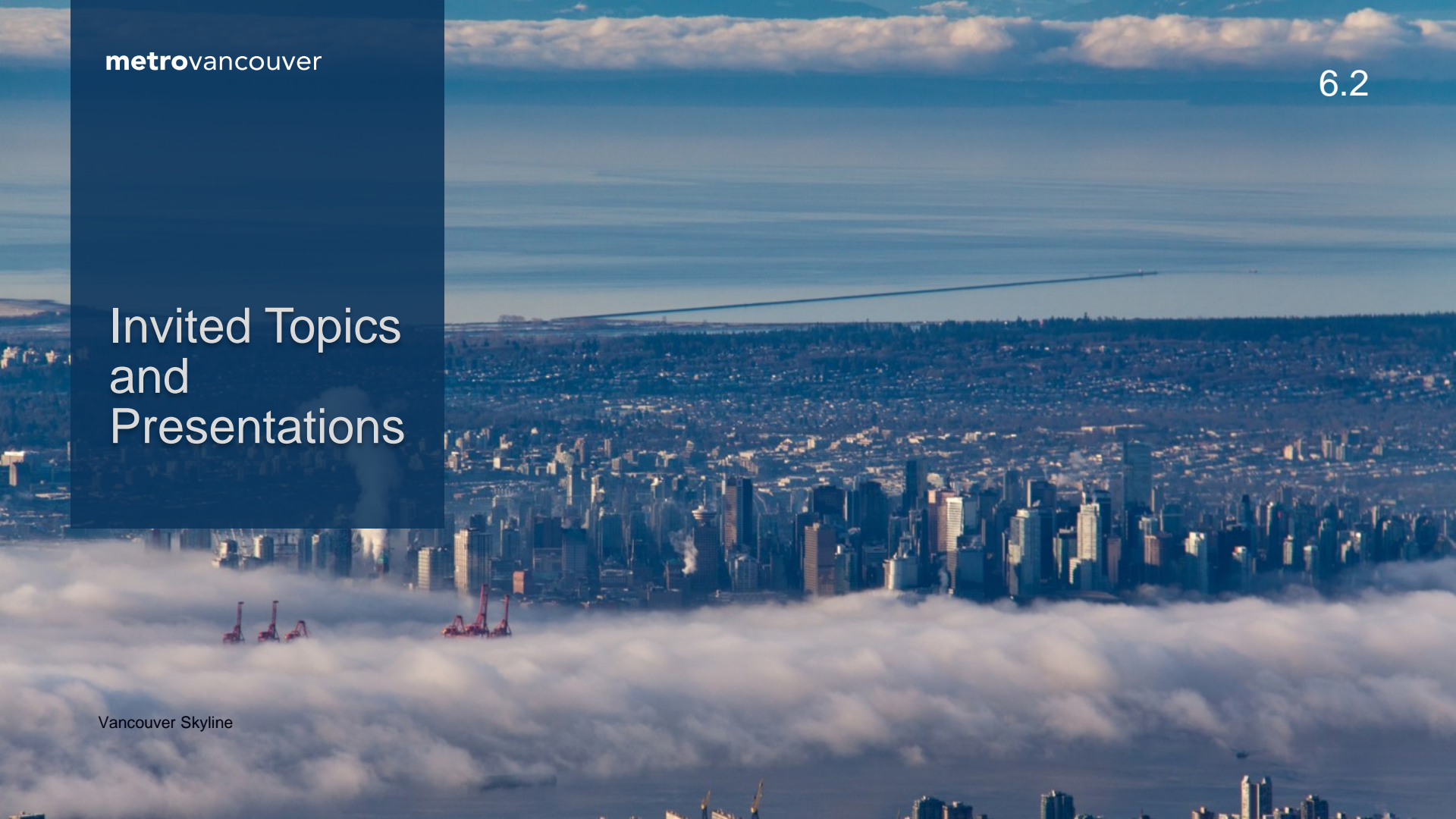
Vancouver Skyline

# Questions

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# Invited Topics and Presentations

Vancouver Skyline



# INVITED PRESENTERS AND TOPICS DISCUSSION

June 1 2023 Meeting

- **Community-based social marketing** (Professor Doug Mackenzie Mohr)
- **Natural disaster** impacts on waste management (Cameron Baughen)
- Latest technology for backend sorting **material recovery facilities**
- **Lighthouse** - Investigation of waste composition leaving construction sites from the generation side
- Opportunities for **recycling organics** (markets, pick-up options, processing, separation, end-use)
- **ReFED** - Data and insights (Dana Gunders)
- **Waste-to-Energy** (Mike Ewall)
- **Zero Waste BC** - Circular economy strategy and costs for various disposal options

# NEXT STEPS

- Other ideas for presented topics? Email [zerowaste@metrovancover.org](mailto:zerowaste@metrovancover.org)
- Vote on priority topics of interest at November meeting
- Present draft 2024 work plan at November meeting

Collaborative  
Engagement  
Outreach  
Opportunity



# COLLABORATIVE ENGAGEMENT

Working with not-for-profit organizations to engage their networks

We are developing a toolkit of materials to support not-for-profit organizations to facilitate engagement activities within their own unique communities.

Engagement activities may include:

- Interviews
- Online questionnaires
- Focus groups with experts in the field
- Consultation sessions
- Webinars, workshops, and presentations
- In-person events

Let us know if your organization is interested

# COLLABORATIVE ENGAGEMENT TOOLKIT

Working with not-for-profit organizations to engage their networks

The toolkit includes:

- Backgrounder
- Discussion guide and agenda for webinars, workshops, and seminars
- Presentation slide deck templates for workshops and webinars
- Social media guide
- Key messages
- In-person workshop planning and facilitation guide
- Templates: notetaking, invitation emails, participant evaluations, supplies list

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Metro  
Vancouver  
Solid Waste  
Services  
Department  
Name





# MENTIMETER ACTIVITY

- Go to Menti.com
- Code: **8314 8700**
- What name best describes the work that the Solid Waste Services department does?
  - Recycling and Waste Reduction Department
  - Solid Waste Services
  - Waste and Recycling Services
  - Waste Diversion Department
  - Zero Waste Solutions
  - Other?

# ZERO WASTE CONFERENCE REGISTRATION

- November 1 and 2 – Vancouver Convention Centre
- PTAC members invited to attend at no cost
- Email [zerowaste@metrovancover.org](mailto:zerowaste@metrovancover.org) if you would like to attend in-person or virtual



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# Information Items

