

ST. GEORGE RAINWAY

Executive Summary

About the St. George Rainway

St. George Rainway will deliver core utility services of rainwater management in the neighbourhood. Road space will be reallocated to green rainwater infrastructure (GRI), urban nature, public space improvements and sustainable transportation. The project is guided by 4 principles:



Nature

Let nature lead the design



Mobility

Design for all ages and all abilities



Community

Focus on function and accessibility



Learning

Integrate formal and informal learning



Example of green rainwater infrastructure and active transportation improvements at 53rd Avenue and Prince Edward Street, Vancouver.

Location



What is a Rainway?

A multi-block series of GRI designed to acknowledge a historic stream. The green rainwater infrastructure collects and cleans rainwater from surrounding areas such as streets, sidewalks, and laneways to honour the lost stream.

Objectives

Green Rainwater Infrastructure (GRI)

- Use GRI to reduce combined sewer overflows, decrease pressure on the pipe system, and treat runoff pollution in accordance with the City of Vancouver's targets and regulatory requirements.
- Design the Rainway to create visual and educational connections to the historic creek.
- Incorporate elements and opportunities for placemaking, artistic expression, education, and informal play into the project design.

Transportation

- Make cycling safe, convenient, comfortable and fun for **All Ages and Abilities (AAA)**, including families with children, seniors, and new riders.
- Improve comfort and accessibility for people walking or rolling.
- Accommodate the loading and access needs of adjacent businesses.
- Reallocate road space for GRI
- Ensure adjacent residents can continue to park within a reasonable walking distance of home.

ST. GEORGE RAINWAY

Background | Policy Context

These are the primary City policies and strategies guiding the development of the St. George Rainway.

The Rain City Strategy

Strategy goals and objectives:

Water quality:

- Improve and protect Vancouver's water quality.
- Increase total green area that treats urban rainwater runoff.

Climate resilience:

- Increase Vancouver's resilience through sustainable water management.

Livability:

- Enhance Vancouver's livability by improving natural and urban ecosystems.
- Mitigate urban heat island effect.

Performance target:

- Capture and clean a minimum of 90% of Vancouver's average annual rainfall volume.



Climate Emergency Action Plan

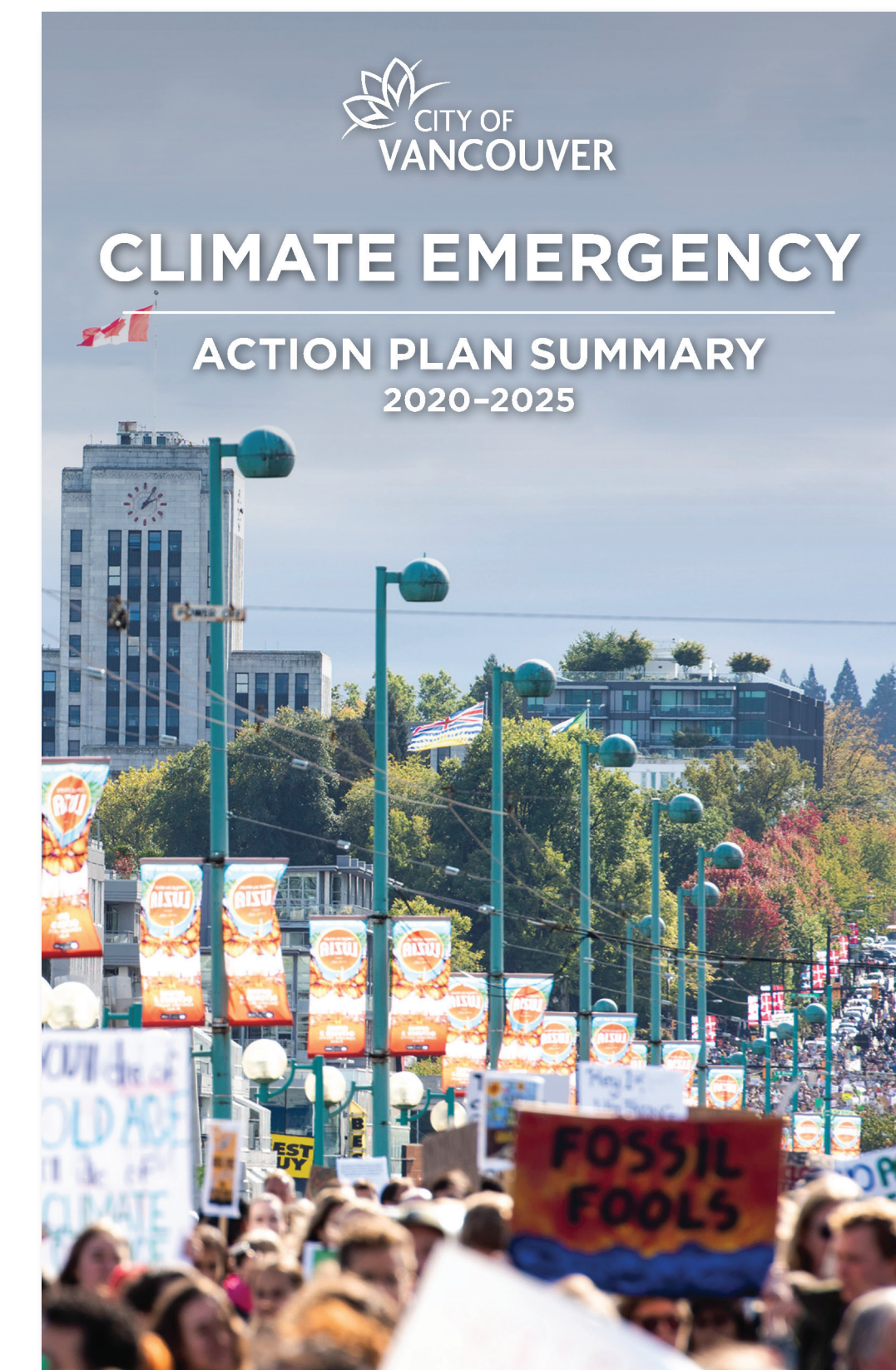
Targets relevant to this project:

Carbon sequestration:

- Remove and sequester at least 1 million tonnes of CO₂ by 2060.

Sustainable transportation:

- 90% of people will live within an easy walk/roll of their daily needs.
- 2/3 of all trips will be by active transportation and transit.



Transportation 2040

Policy Directions:

Walking (with or without mobility aid):

- Make walking safe, convenient, comfortable, and delightful.
- Ensure streets and sidewalks support a vibrant public life and encourage a walking culture, healthy lifestyles and social connectedness.

Public space:

- Streets and sidewalks are not just spaces to move through, but places to be.

Cycling:

- Make cycling safe, convenient, comfortable, and fun for people of all ages and abilities.



The St. George Rainway is a part of the City's [Capital Plan \(2019-2022\)](#) and will also support the following City of Vancouver & Park Board strategies & motions:

Rainwater Management

- [Integrated Rainwater Management Plan](#)
- [Council Motion - Accelerate Combined Sewer Overflow Mitigation](#)

Environment & People

- [Climate Change Adaptation Strategy](#)
- [Van Play](#)
- [Urban Forest Strategy](#)
- [Biodiversity Strategy](#)
- [Healthy City Strategy](#)
- [Mount Pleasant Community Plan](#)

Streets & Transportation

- [Complete Streets Policy Framework](#)
- [5 Year Cycling Map](#)
- [Council Motion - 11% Road Space Reallocation for people-focused public space](#)

ST. GEORGE RAINWAY

Background | Phase 3 Engagement Summary

What we heard

In our third phase of public engagement, we asked you to rank your preferred four street layout options and three concepts for the Green Rainwater Infrastructure for St. George Rainway.

Street layout options

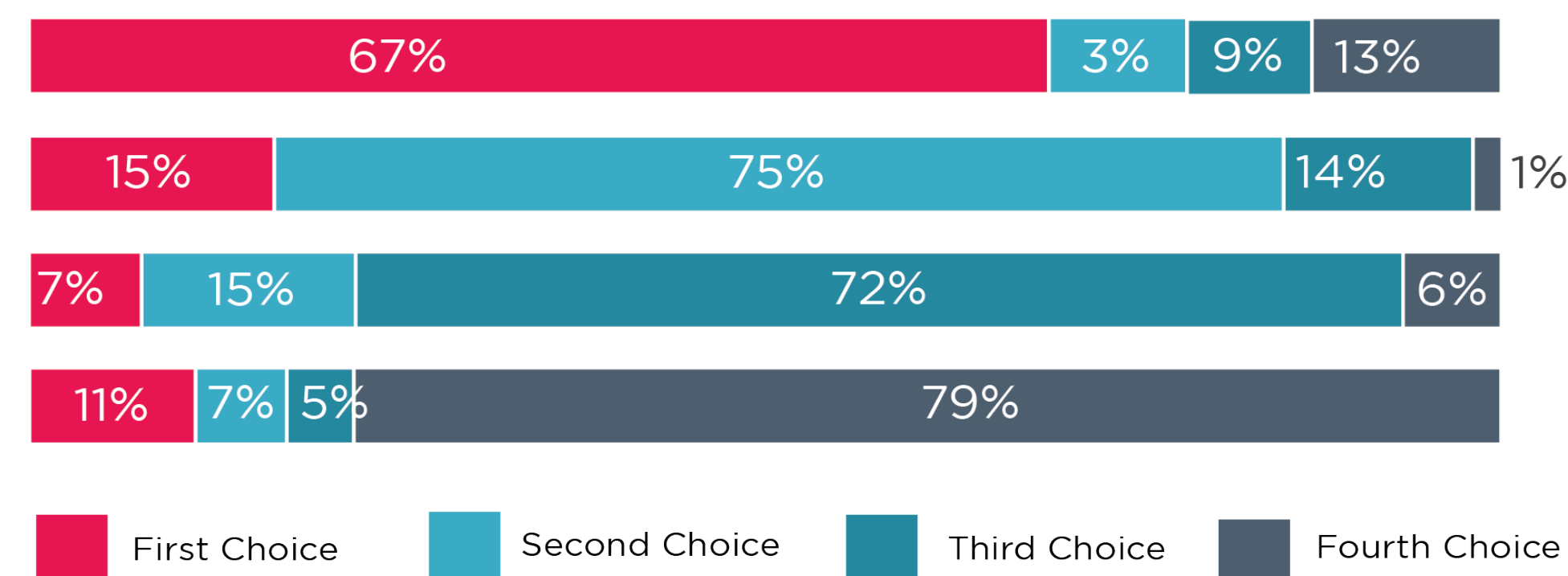
4 street layout options were presented for the street layout of St. George, from Broadway to 5th Ave, which were ranked as follows:

Option 1: Car-free space at Broadway & from 7th to 6th Ave

Option 2: Car-free Space from 7th to 6th Ave

Option 3: One-way Southbound Vehicular Travel

Option 4: One-way Southbound Vehicular Travel with Moderate Parking



Of the presented options for the street layout, the top ranked was:

Option 1: Car-free space at Broadway and from 7th to 6th Ave

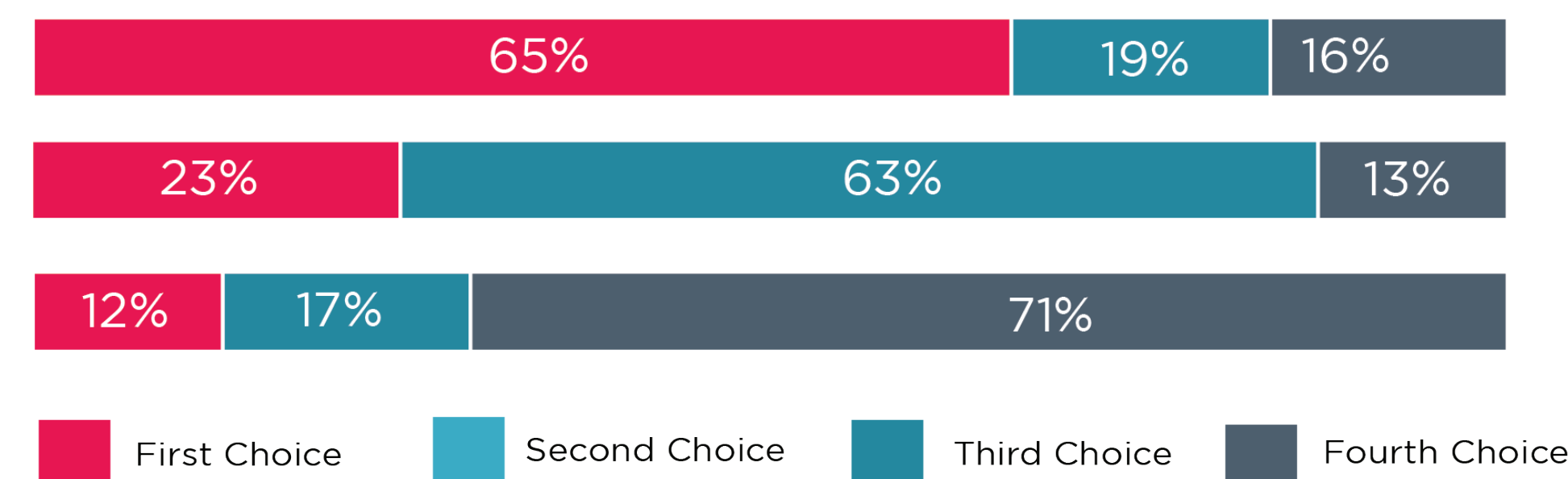
GRI concept design

The rankings for the three Green Rainwater Infrastructure concepts are::

Concept A: Flow

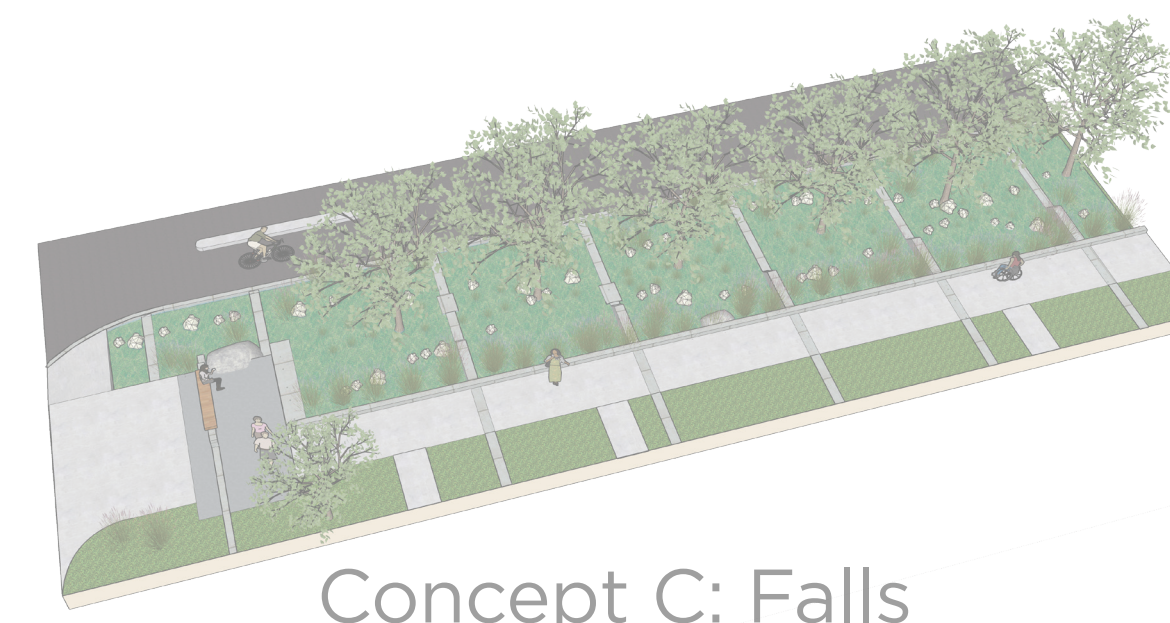
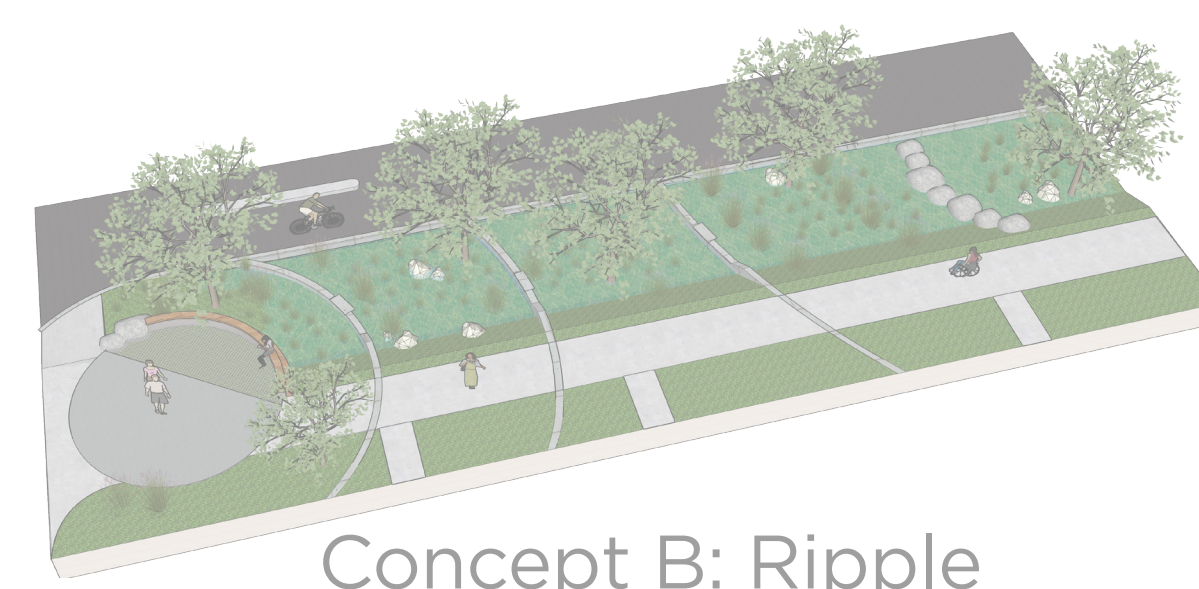
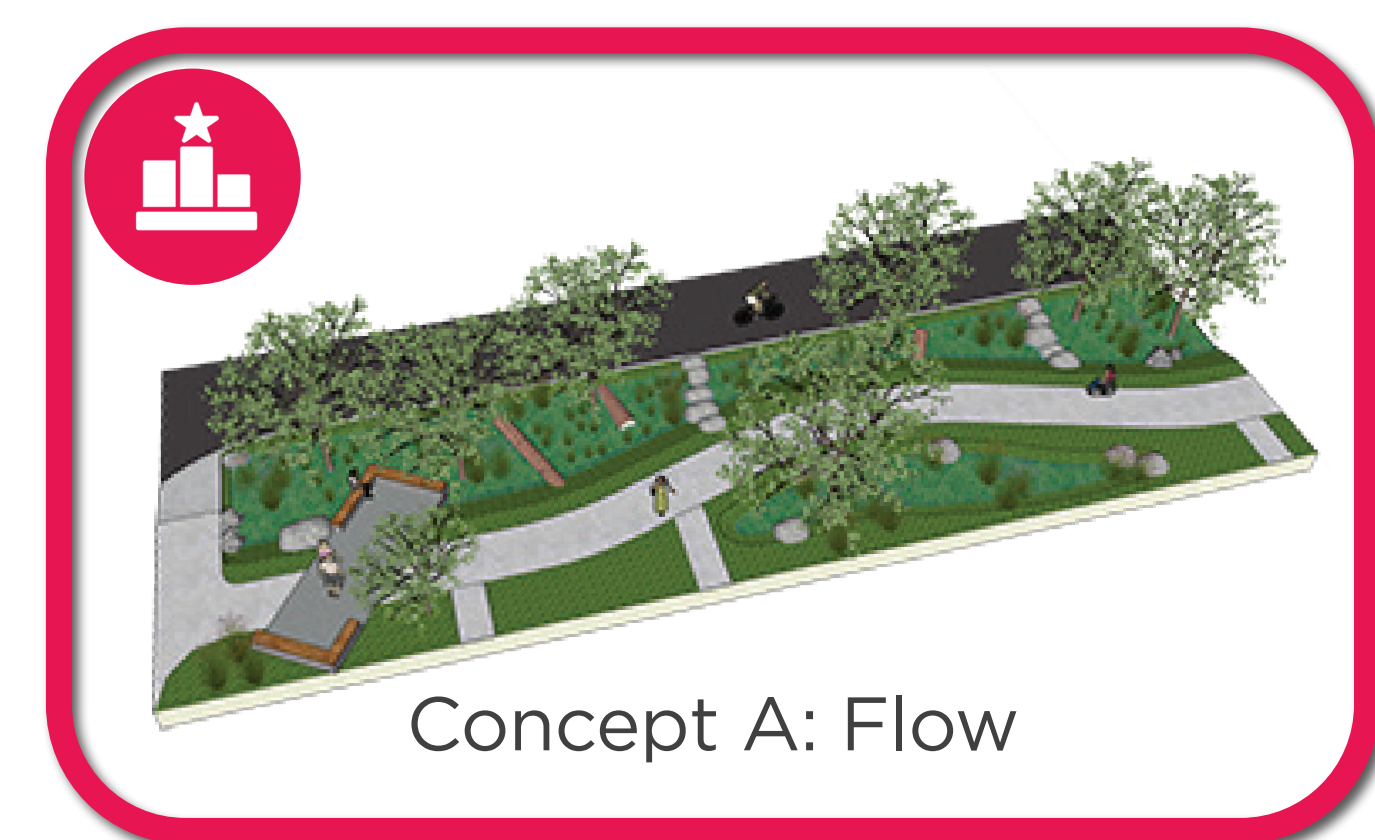
Concept B: Ripple

Concept C: Falls



The top ranked Green Rainwater Infrastructure concept was:

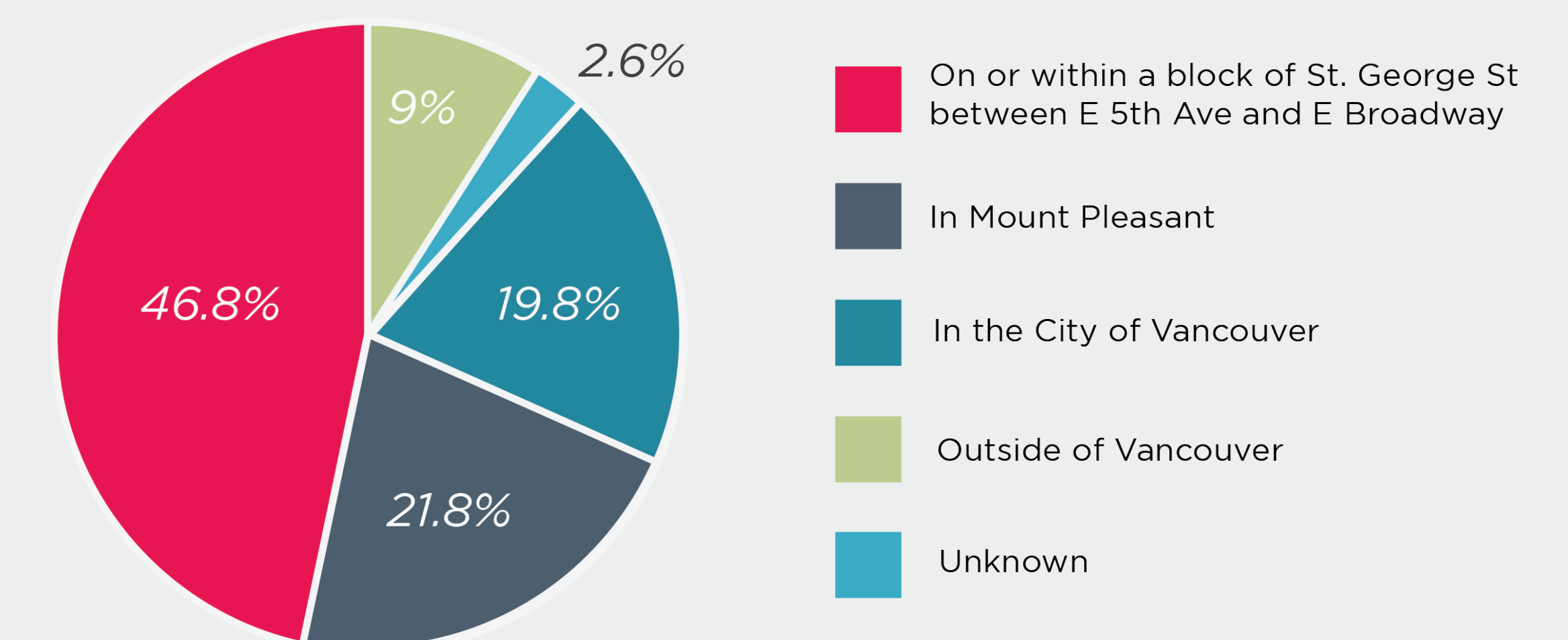
Concept A: Flow



Who we heard from

Over two thirds of the feedback we received in this phase came from locals who would be affected by the project, with 46.8% of survey responses coming from people who live within a block of the project, and an additional 21.8% coming from residents of the wider Mount Pleasant neighbourhood.

Where survey respondents live



From the community

The rankings were consistent between residents of St. George Street and overall survey respondents, for both the street layout options and the Green Rainwater Infrastructure options. Children and youth also agreed, ranking the GRI options the same way as the adult survey respondents.

This consistency shows a high level of agreement between the various user groups for the Rainway, with children, adults, and neighbours all preferring the Option 1: Car-free space at Broadway and from 7th to 6th Ave and Concept A: Flow

ST. GEORGE RAINWAY

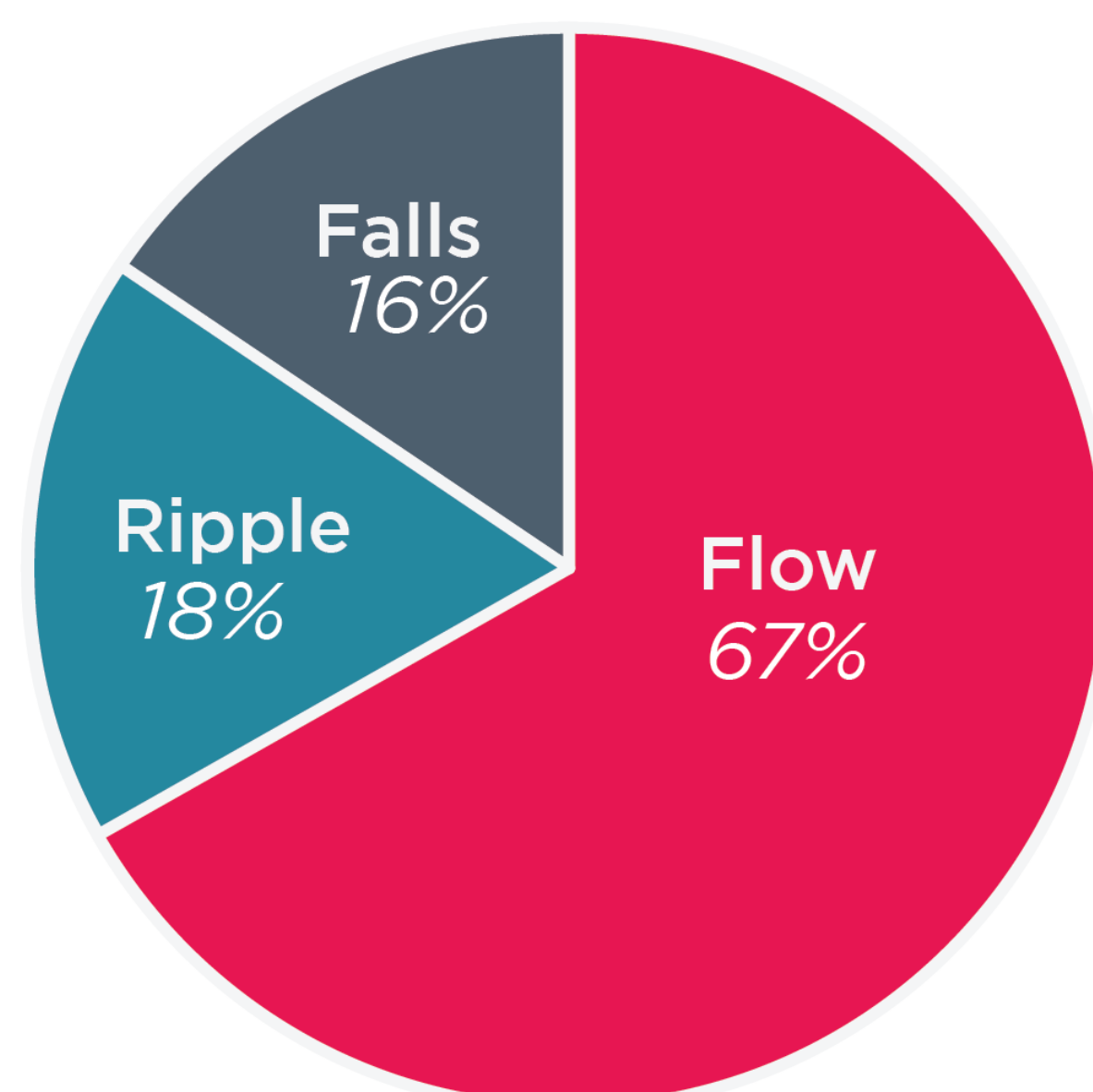
Background | Youth Engagement

What we heard from local youth

We asked the kids of the neighbourhood to tell us what they would like to see in the St. George Rainway. We talked to 67 kids at Mount Pleasant Elementary, Florence Nightingale Elementary, and 3 different Brownies and Cub Scouts groups.

Here's what you told us!

Your favourite design for the Rainway was Flow, which was the adults favourite too. The final design is based on Flow, with some changes inspired by the suggestions we got from you and the rest of the neighbourhood.



Favourite GRI design for youth

You had a lot of great suggestions for how to design the Rainway, and we're doing our best to include as much as we can.

"[My favourite part of my collage is] the person in the wheelchair, it represents that everyone deserves to be treated equally and safely."

"We love seeing how much you care about your neighbours, and we're working with some experts to make sure everyone can enjoy the Rainway safely."

"I do not want to see pollution because that would just defeat the purpose!"

"We totally agree! We are hoping to include plenty of garbage cans to help reduce litter, and the rain gardens will clean the water and air to help get rid of pollution in the neighbourhood."

"It could be really cool to see no cars at all in one area and it would improve the air around us too!"

"The Rainway is going to have two areas with no cars, including one right next to Mount Pleasant school!"

"I would like more colour and life."

"Wonderful! We really hope the final design will help bring the colour and life you're looking for. If you have any feedback on how we could do better, ask an adult to help you fill out the survey on our website."

Student collages

You made collages that showed us what you thought the Rainway could look like. They were full of plants, animals, art, and people enjoying the space. Check out examples of each other's beautiful work!



ST. GEORGE RAINWAY

Background | What is Bioretention?

How does a Rainway work?

The Rainway is inspired by nature and designed to mimic natural water cycles and ecosystem functions.

- 1** Beavers, nature's engineers, have taught us that dams are a good way to slow down the flow of water. The Rainway will use human made **check dams** to slow the flow of rainwater and give it time to clean, cool and absorb.
- 2** Inspired by the headwaters of a stream, **inlets** are areas where rainwater enters into the Rainway.
- 3** Layers of **gravel and rock** underground provide additional storage for rainwater as it slowly re-joins the groundwater system. Providing underground storage helps to prevent flooding and pooling of water above ground.
- 4** **Soils** are natural water filters, removing rainwater pollutants and helping to store it in the ground. Soils also store carbon and are home to billions of organisms that support biodiversity and ecosystem services.

- 5** **Plants** help to collect and filter pollutants found in rainwater. They also provide added benefits of urban cooling, carbon sequestration, and food and habitat for wildlife.
- 6** **Trees** act as natural air conditioning by evaporating rainwater off their leaves to create cooler air temperatures.

