

ST. GEORGE RAINWAY

FINAL CONCEPT DESIGN ENGAGEMENT REPORT BACK

St. George Rainway is a Green Rainwater Infrastructure (GRI) and sustainable transportation project that re-imagines the street to support nature, mobility, community and learning. It will deliver core utility services of rainwater management by re-allocating road space towards green rainwater infrastructure, public space improvements, and sustainable transportation.

Our final phase of public engagement took place between April 1 and April 30, 2022. In this phase, we presented a final concept design for the Rainway and offered the community a chance to make last comments. The feedback we heard in this phase will be incorporated into a detailed design, with construction of the Rainway anticipated to start in early 2023.

To review the final concept design visit the [Phase 4: Final Concept Design boards](#). You can also check out results from our previous rounds of engagement:

- [Phase 1: Vision and Values](#)
- [Phase 2: Co-designing for Co-benefits](#)
- [Phase 3: Concept Designs](#)



Engagement process

Everyone potentially integrated in or impacted by an initiative has an opportunity to become involved, in accordance with the [City of Vancouver's Community Engagement Process](#). In addition to reaching out to people who live directly in the project area, we also connected with many local community groups and relevant organizations, including the Mount Pleasant Neighbourhood House, Mount Pleasant Elementary School, and the Mount Pleasant BIA, to name a few.

Here is a summary of where we heard from members of the community:

- **500** people attended “Let it Rain! St. George Rainway Community Event” to learn more about the project, show their support, and share their concerns
- **62** people filled out our online survey to share their thoughts on the final design
- **21** people shared their feedback through email, phone calls, and social media
- **60** youth had a chance to learn more about rainwater management and comment on the final design
- **12** advisory committee members provided their input and ideas on the final design and how to foster future use and stewardship of the Rainway



How your feedback is used

All feedback received is considered in the City's design decisions, including surveys, as well as input collected at open houses, and through email, phone calls, and meetings.

Decisions on the direction, scope and design of the St. George Rainway are determined by a number of factors, including:

- Public input from surveys; direct communication with individuals through phone, email or in person; and feedback from open house events
- Input from the St George Rainway Citizen Advisory Committee
- City-adopted policies and plans, including the Rain City Strategy, the Climate Emergency Action Plan, Transportation 2040, and the Mount Pleasant Community Implementation plan.
- Technical considerations, such as utility offsets, traffic counts, parking studies, bike lane connectivity, and tree canopy deficit.
- Financial considerations, including rainwater management cost-effectiveness and available budget in the capital plan
- Infrastructure needs based on projected growth to alleviate sewer pipe capacity pressure in the watershed
- Education opportunities near schools and public realm enhancement opportunities in the Mount Pleasant Community

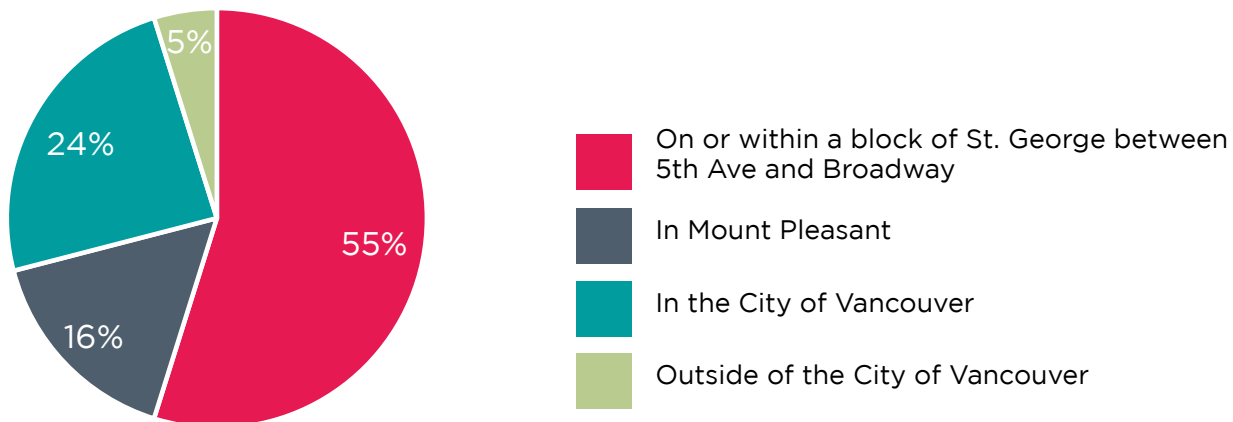
All of these components are taken into consideration by City staff working on the St. George Rainway design. They try to balance all of these factors to create a cohesive design that maximizes benefits, minimizes negative impacts, and satisfies a wide range of stakeholders.



Engagement Survey Results

62 people filled out our online engagement survey through Shape Your City. Of those, 34 people live on or within a block of St. George Street between 5th Avenue and Broadway.

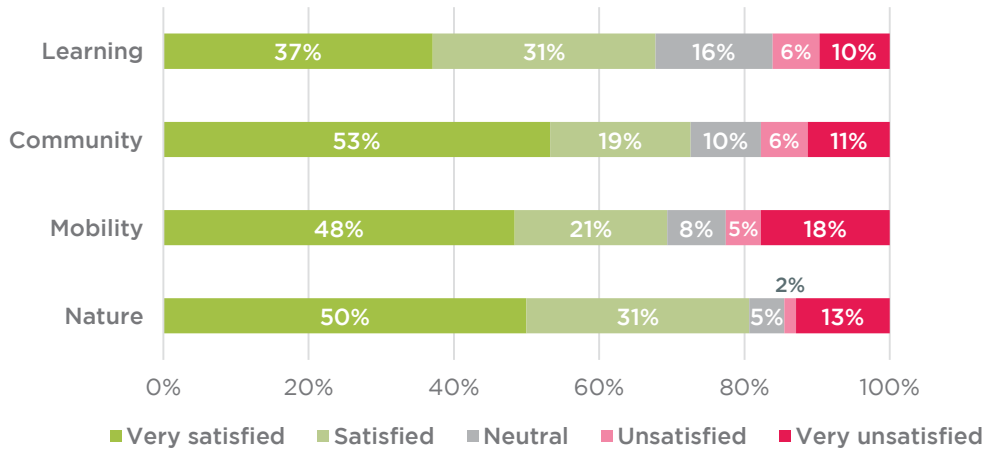
Location of Respondents



How well does the design meet the Rainway Values?

We asked how well the final concept design has met the Rainway values of nature, mobility, community and learning.

Satisfaction by Project Value



Nature - Let nature lead the design to strengthen ecosystems and community relationships with water and nature



Mobility - Design sustainable transportation for all ages and all abilities



Community - Focus on creating an accessible, welcoming and inclusive space that fosters a sense of connection between neighbours and the broader community

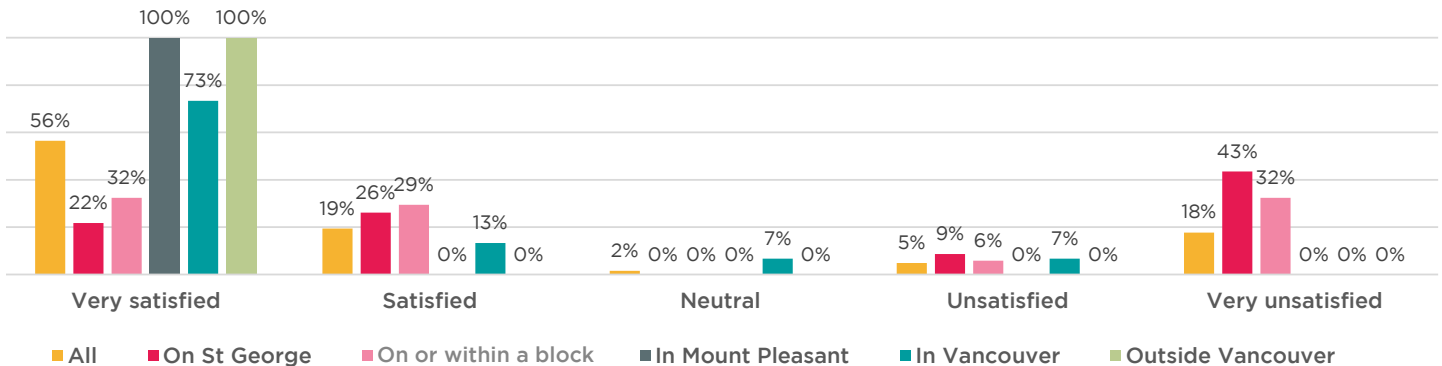


Learning - Integrate opportunities for hands-on formal and informal learning for the entire community

What is your overall satisfaction with the Rainway design?

We also asked how satisfied you are with the overall concept design.

Satisfaction with Overall Rainway by Respondent Location



75% of total respondents were satisfied or very satisfied with the final design concept. Some of the components respondents told us they are most looking forward to are:

- More green space
- AAA bike lanes
- Increased biodiversity

For those who live on or within a block of St. George Street between Broadway and 5th Avenue, 61% are satisfied or very satisfied with the final concept design. Some of the concerns shared with us about the design relate to the changes in parking, traffic patterns, as well as worries around community safety. Many of the questions and concerns shared through the survey are addressed later in this report.

Some of the changes you suggested that would improve your level of satisfaction include:

“I would’ve preferred opening up more of the street to nature, limiting parking more, and actually bringing the stream back...”

“Avoid seating directly outside of people’s homes & entrance ways...”

“...I’d like to encourage more Indigenous collaboration with knowledge keepers and artists from the host nations, and more focus on native plants that support food security and foraging...”

“Raise all pedestrian crossings, add yield signage to them. Narrow the roadways, make them crooked. Separate cyclists from cars, add a protected path.”



Let it Rain! St. George Rainway Community Event



On April 2, 2022, we held an open house community event to introduce the final concept design for the Rainway. Over 500 people attended the event to:

- Explore the future Rainway at our pop-up Rainway demo
- Provide ideas and feedback on the final concept design and ask their questions to the Rainway design team
- Get a free bike tune-up
- Join in hands-on activities, exhibits and demonstrations led by community partners

Some of the feedback we heard at the event included:

- Support for new cycling infrastructure along St. George Street
- Concerns over the removal of parking adjacent to residences
- Appreciation for the breadth and scope of public engagement efforts for the Rainway
- Worry that the car-free spaces will lead to increased traffic in the laneways
- Support for using green rainwater infrastructure to manage rainwater along St. George Street as well as the co-benefits it will bring
- Curiosity around how Rainways work
- Concerns that the Rainway will not be properly maintained
- Support for the project to expand to Kingsway in the future
- Interest in seeing more Rainways across the City of Vancouver
- Requests that all trees removed during construction be re-planted in Guelph Park
- Questions around accessibility for emergency vehicles, garbage trucks and deliveries



Youth Engagement

In Phase 3 of engagement, we consulted with local youth to get their thoughts on the Rainway. In this final phase of engagement, we went back to show youth how their input had been incorporated into the final concept design, and to see if they had any additional ideas for the Rainway.

We spoke to students at Mount Pleasant Elementary School, the 46th Chown Cub Scouts, the 7th Vancouver Guides, and the 5th Vancouver Brownies. These youth are supportive of car-free spaces, and hope that the Rainway will provide good habitat for birds, pollinators and small mammals such as skunks and raccoons. Some of their favourite Rainway features are boulder stepping stones, nurse logs, and the feature walls.



Some of the ideas youth shared with us on how we can improve the Rainway include:

- Put up signs that encourage people to pick up their dog waste
- Create pet-friendly spaces in the Rainway
- Add rain paint games like tic tac toe and hopscotch that only show up in the rain
- Have a mini-library that only contains kids books
- Make the sidewalks smooth for wheelie shoes and scooters
- Add bee boxes



Questions, Concerns, and Responses

Some questions and concerns about the project were raised through the open house event, survey responses, email and phone calls. We have addressed the most common ones below. If you have other questions you would like an answer to, please reach out to us at raincity@vancouver.ca.



Reduction in Parking

The proposed final Rainway design reduces parking significantly on St. George Street, with parking only remaining on the west side of St. George St between 5th and 6th Avenue. The decision to reduce parking is based on the need to re-allocate street space for rainwater management and sustainable transportation, as well as feedback we have received from the community to date, and information collected in a parking study.

Before proposing any specific parking changes, the City completed a parking study to better understand the parking needs of the neighbourhood. The study was conducted on June 22, 24 and 27th 2021. Counts were done between 11am – 3 pm and 6pm – 10 pm. This survey showed that St George Street has the lowest occupancy rates when compared to adjoining streets.

In our [Phase 3: Concept Design survey](#), we provided 4 different street layout options, which included a range of parking options. 67% of survey respondents selected Option 1: Car-free space at Broadway and between 6th and 7th Avenue. Conversely, 11% of overall survey respondents and 15% of respondents who live on or within a block of the project area preferred the option which retained the most parking (Option 4: One-way southbound Vehicular Travel with Moderate Parking). Based on these survey results, the City has opted to proceed with developing Option 1 as the final design for the Rainway.

Currently, the majority of on-street parking spaces in the area are unregulated, allowing any car to park on most streets for extended periods of time. This can cause issues for neighbourhood residents who cannot find parking close to home. Changing parking regulations to create a permit zone is a resident-initiated process. Permit parking in the area will be explored if there is support from residents.



Maintenance

The Rainway will be primarily maintained by the City of Vancouver's Green Infrastructure Operation and Maintenance program. Trained landscape professionals will complete routine maintenance including:

- Weeding and litter removal
- Pruning to ensure plants do not exceed 2 m in height
- Clearing of sediment and natural debris from inlets

We are also designing the Rainway to minimize maintenance. By designing with natural processes in mind, the Rainway will be a more self-sustaining ecosystem, requiring less maintenance than a typical manicured landscape.

We are also exploring opportunities for volunteer stewardship along the Rainway, and hope to incorporate it into the City's Green Streets program to promote further maintenance and stewardship. This would be maintenance above and beyond what will be completed by the City, not as a replacement.

We will also be installing trash receptacles at Broadway to assist with litter control.



Community Safety

Community safety has been brought up by some residents who live within the project area, including concerns around needles in the nearby Mount Pleasant Elementary school yard and Guelph Park.

It's a common practice to follow CPTED (Crime Prevention through Environmental Design) principles when designing public space. The Rainway aims to create a positive community culture that reduces motivation for drug use and more serious crime in the neighborhood. We are implementing many CPTED design strategies in the SGR design including:

- Using natural monitoring such as lighting and clear sight lines to put more “eyes on the street” and make illegitimate users feel uncomfortable.
- Lighting upgrades, including pedestrian scale lighting to improve visibility and safety for the community.
- Making sure blocks are well lit in the night time
- Installing educational signage in the neighbourhood to encourage ownership and sense of pride
- Installing trash receptacles at Broadway



Traffic Safety

Improved safety, comfort, and accessibility for people of all ages and abilities to walk, roll, and cycle is a priority. It will be achieved by reducing vehicle volumes and speeds and minimizing conflicts at intersections. The proposed design targets low motor vehicle speeds and volumes on St. George St to allow bikes and vehicles to safely share the road.

By converting sections of St. George Street to one-way southbound or closed to motor vehicle traffic, we anticipate vehicle volumes to be reduced to less than 500 per day. This will prevent vehicle shortcutting while maintaining access to the neighborhood. Narrowing the road and implementing curb bulges and a raised crossing will reduce vehicle speeds. Raised crossings at laneways and driveways will eliminate the need for curb ramps and notify drivers that they are to yield to pedestrians, helping to enforce right of way for pedestrians at driveways and lanes.

Traffic circles at 8th Ave and 6th Ave will be replaced with planted curb bulges, and two-way stop signs. Removing the traffic circles will provide space for curb ramps, improve pedestrian accessibility, improve visibility, and shorten the crossing distance while adding green space to the neighbourhood. Before removing the traffic circles, City staff will contact the traffic circle volunteer gardeners and work with them to save as many plants as possible.



AAA Bike Lane on St. George Street

St George Street was identified in the City of Vancouver's [5 year Cycling Network Plan \(2018-2022\)](#). The route provides a needed north-south link between Kingsway, the 10th Ave bikeway, and the False Creek Flats employment lands. The bike lane on St. George has been designed to meet the City's All Ages and Abilities Cycling Routes guidelines by designing for low motor vehicle speeds and volumes. According to guidelines, physical separation between cars and bikes are only required when volumes exceed 500 vehicles and day and speeds exceed 30 km/hr.



Meandering Sidewalks

A 2.0 metre wide meandering sidewalk is proposed on east side of St. George Street. The west sidewalk on St. George Street will also be upgraded but will run straight for the entire length. The functional purpose of the meandering sidewalk is to integrate into the green rainwater infrastructure, allowing sufficient space on both sides of the east sidewalk to treat rainwater. It was one of the key characteristics of the “Flow” concept which was preferred in the Phase 3 engagement survey.

In order to maintain the accessibility of a straight sidewalk, we’ve worked to ensure the edges are easily detectable, and the meander is kept to the minimum necessary. There is only one continuous and smooth bend in the sidewalk per half-block, meandering by no more than the width of the sidewalk itself, with no sharp turns. Where it passes through seating areas, across driveways, and over laneways, the clear width of the sidewalk is straight and continuous without interruption.



Seating areas close to homes

Places to sit were a popular design option highlighted in our Phase 1, 2 and 3 survey results. We have also heard from some residents who live directly on St. George Street who are concerned about the proximity of seating to their homes.

The final concept design proposed 8 seating areas, which complies with the City of Vancouver’s Accessible Street Design Guideline, which recommends areas for rest every 50 meters. To meet accessibility goals and respect the desire of the community to keep St. George Street a quiet community street, rest areas will be small to limit the number of people who can gather in them, and will be kept at a minimum 6 meters distance away from entrances and windows to residences.



Emergency vehicle access

Emergency vehicle access will be maintained on the streets, including in all car-free spaces. City staff have worked with Vancouver Fire and Rescue Services to ensure the design does not impact their operating requirements and provides emergency vehicles immediate access to car-free areas in the event of an emergency. The entrances to car-free areas will have low concrete medians to discourage vehicle access while accommodating emergency vehicles, including ambulances, fire trucks and police vehicles onto the bike paths. Careful consideration has also gone into placement of vertical elements such as furniture, landscaping and signs to accommodate service providers.



Deliveries to homes in the car-free zones between 6th and 7th Avenue

Deliveries will be able to use the laneway, as well as 6th and 7th Avenue to temporarily park their vehicles.



Garbage pick-up

City staff have designed the curbs to accommodate the turning movements for both garbage trucks and emergency vehicles. City staff have analyzed movements of vehicles, including garbage trucks and emergency vehicles using a software called AutoTURN to ensure there is adequate space for such vehicles in the proposed Rainway design.



Why the Rainway is being developed and delivered now

The City of Vancouver delivers a number of services to ensure Vancouver is a vibrant place for those who live, work and play here now, and into the future. We aim to deliver projects that meet Council approved priorities, policies and plans, balancing a variety of different community, environmental, population growth and infrastructure needs. The St. George Rainway contributes to meeting the goals of several city-wide plans, most notably Rain City Strategy, the Climate Emergency Action Plan, Transportation 2040, and the Mount Pleasant Community Implementation plan.

On the surface, the Rainway may look like a beautification project, however it is in fact critical city infrastructure. The Rainway will manage urban rainwater runoff, delivering important drainage infrastructure to the community. It will use Green Rainwater Infrastructure to:

- Reduce street flooding
- Treat rainwater pollutants from roadways
- Reduce combined sewer overflows into local waterways
- Enhance climate resiliency
- Increase biodiversity
- Cool the neighbourhood during summer heat



Indigenous Collaboration

We value requests from the community to ensure that we are incorporating Indigenous input and perspectives into the St. George Rainway project. The team is continually exploring ways to incorporate Indigenous ways of being and knowing into the project plan. Accordingly, we have notified the local Nations about the project through the City of Vancouver's official referral program. We have also reached out to local Indigenous groups to discuss collaboration, including the Native Education College and Resurfacing History program through Mount Pleasant Neighbourhood House. This summer, we plan to collaborate with an Ethnobotanist to develop some strategies and best practices around incorporating traditional ecological knowledge into Green Rainwater Infrastructure designs. There are also plans to create an interpretive signage experience which will also incorporate the rich history and cultural diversity of this unique place. The Rainway team recognizes the importance of incorporating the history and traditional ecological perspectives of the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and səliłwətaʔ (Tseil-Waututh). We continue to engage community to help inform the Rainway design.



Expansion of the Rainway to Great Northern Way and Kingsway.

Currently, the City does not own the land north of St. George between 5th Ave. and Great Northern Way. Therefore, it is not currently possible to extend the Rainway to create a pedestrian connection to Great Northern Way at this time.

The City is currently exploring opportunities to extend the Rainway along St. George Street to Kingsway. This work will be done as part of two additional phases, Phase 2: Broadway to 12th Ave and Phase 3: 12th Ave to Kingsway.



Desire for more space allocated to urban nature

We have heard that some people would like to see even more space allocated for trees and urban nature along the Rainway. The Rainway design team recognizes that a street needs to perform many functions and service a variety of different users. The current design balances urban nature with the ability for the community to get around. Urban streets provide important conduits for essential utilities, such as drinking water, gas, electrical and sewers. These utilities create

limitations. Utility clearance requirements for underground utilities on St. George Street means that rainwater can only be managed on the east side of the street. These clearances also prevent trees from being planted in the front boulevard on the west side of the street.

Impacts to adjacent streets

City staff have analyzed how the proposed changes will impact the streets surrounding St. George. Traffic volumes are expected to increase on Carolina, E 6th, and E 8th Ave; however, the proposed closures and southbound circulation on St. George will also discourage non-local traffic from using the neighbourhood as a shortcut between Great Northern Way and Broadway. The City will continue to monitor traffic patterns in the neighbourhood and will implement additional traffic calming measures on adjacent streets as necessary.

We expect that most drivers that would currently turn left onto Broadway from St. George would instead go to Fraser St because it has a full traffic signal. The City is not currently planning to install a full signal at Carolina St because it would likely attract more vehicles to this intersection and increase traffic volumes. A half signal is currently not being considered at this location because these are typically used to help pedestrians and cyclists cross arterials, rather than to facilitate left turning movements. The City may consider new signals at Carolina St. or other cross streets in the future based on future development and other long term area plans.

Use of concrete in the Rainway

Where possible, we are including natural materials such as boulders and nurse logs in the Rainway design. However due to the steep slopes in certain parts of the Rainway, some engineered structures that are durable and long lasting are needed. Beavers, nature's engineers, have taught us that dams are a good way to slow down the flow of water. We will be using a variety of different materials, including boulders, logs, and concrete check dams throughout the Rainway to slow and retain water, giving it time to absorb into the ground. They will also help to prevent erosion and retain soil along the steep slopes, helping plants to access air, water and nutrients.

Next Steps

Over the next 7 months, City staff will be working towards completing a detailed design for the Rainway. Construction is expected to begin in early 2023.

Minor changes may be made to the final design concept proposed in this phase based on public feedback, as well as technical and financial feasibility.

**we
are
here**



-  **Public Engagement 1: Values and Vision**
Fall 2020
-  **Public Advisory Committee Establishment**
March/April 2021
-  **Public Engagement 2: Co-design for co-benefits**
June 2021
-  **Public Engagement 3: Initial Concept Design**
Fall 2021/Winter 2022
-  **Public Engagement 4: Preferred Concept Design**
Spring 2022.
-  **City Staff Develop Detailed Design**
Spring-Fall 2022
The City completes a detailed design of the Rainway.
-  **Ready for Construction**
2023
The St. George Rainway is ready for the construction