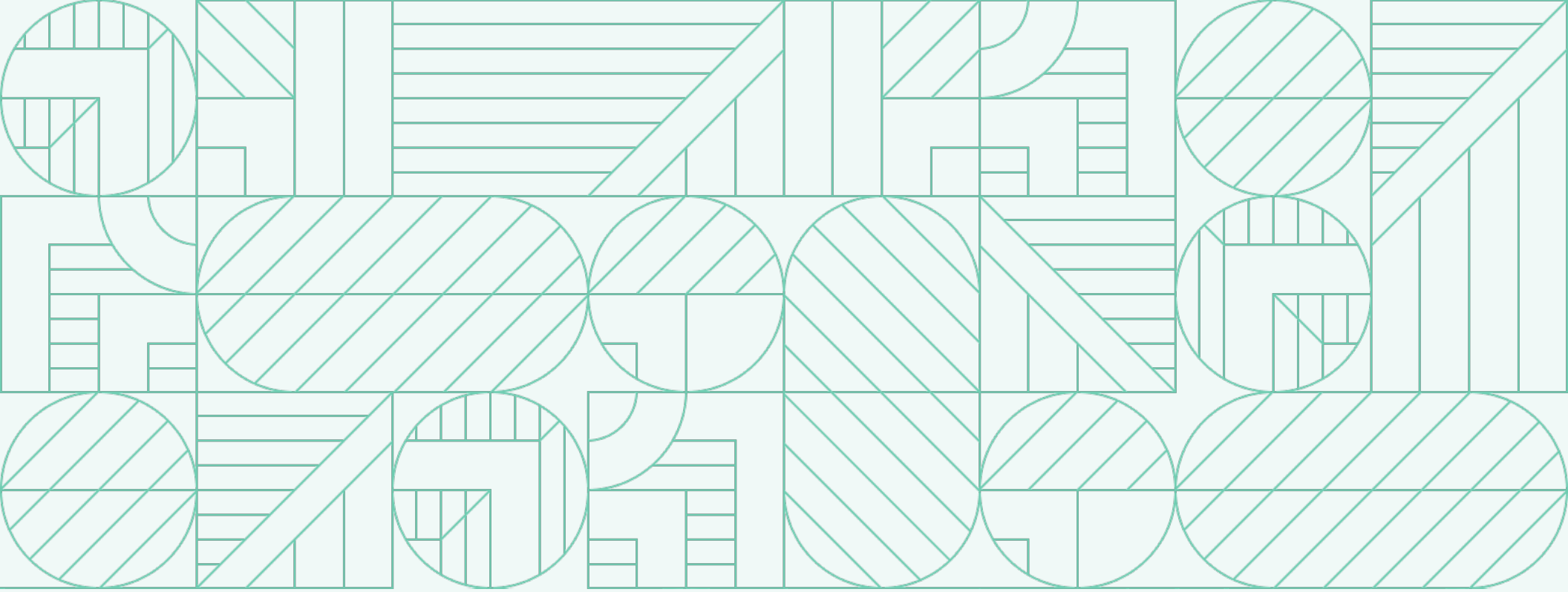
UNDER GARDINER PUBLIC REALM PLAN

Vision and Opportunities Report

March 2024

the bentway

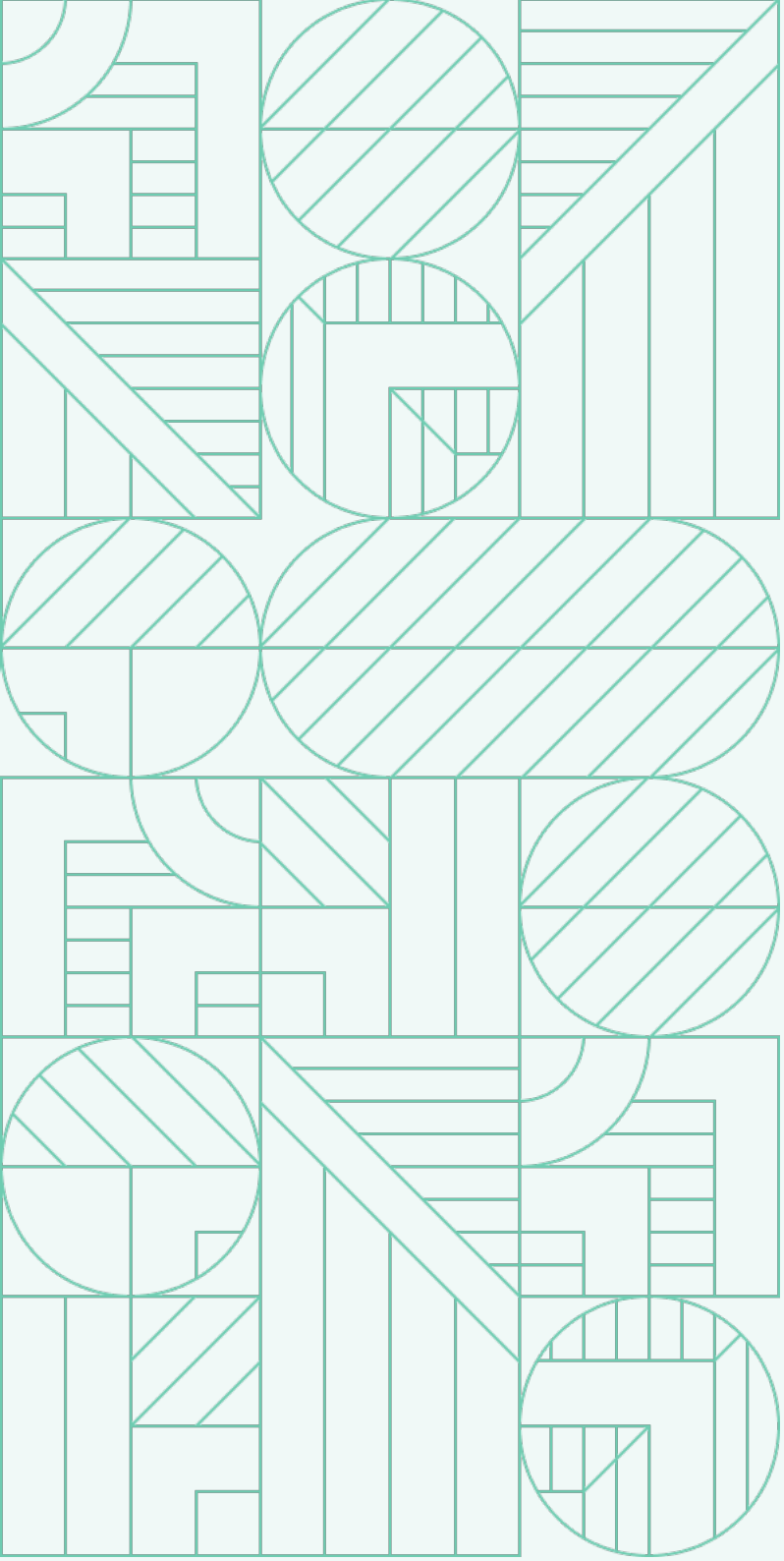
TORONTO



Land Acknowledgement

We would like to acknowledge that the Gardiner Expressway occupies the treaty lands of the Mississaugas of the Credit and the traditional territory of the Wendat, the Haudenosaunee, the Métis, and many other Indigenous nations.

Toronto, a name which originates from the Mohawk (Kanien'kehá:ka) word Tkaronto (meaning "place in the water where the trees are standing"), is now home to many diverse Indigenous peoples. We recognize them as the past, present, and future stewards of this land. We would like to pay our respects to all who have gathered and will continue to gather in this place. We are grateful to have the opportunity to work together to care for this land and act as stewards of these spaces.



Equity Impact Statement

As a city-building project, the Under Gardiner Public Realm Plan recognizes that urban planning practices, particularly those associated with major infrastructure and industrial development, are historically entrenched in and perpetuate settler coloniality, which has excluded, displaced, and harmed many communities and cultures, particularly Indigenous communities, Black communities, and low-income and unhoused communities. The net result is an ongoing environment of distrust between formal planning policy and city-building processes and members of these communities.

The Under Gardiner Public Realm Plan recognizes the critical nature of establishing positive, supportive, and ongoing relationships with unhoused individuals, to ensure that their experiences are acknowledged and inform the outcomes of this plan. Throughout the research, consultation, and planning phases of developing the Under Gardiner Public Realm Plan, the project team remains committed to meeting community members where they are at.

This work reflects ongoing trust-building based in fostering positive relationships with the communities within and around the Gardiner Expressway. This commitment works to respect the treaties that govern this land, including the Dish With One Spoon Wampum, the Two Row Wampum, and Treaty 13. Working with urban Indigenous community members and Treaty Rights holders is just the beginning of a relationship-building process and represents a perpetual commitment to mutual exchange and understanding in the stewardship of the under Gardiner spaces.

See Section 1.6: Key Learnings From Consultation (pg. 21) for a summary of engagement activities.

Image 1: Aerial view, looking west from Lower Simcoe Street, of the Gardiner Expressway and Lake Shore Boulevard.

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Executive Summary

In 1964, on the eve of the completion of what would become known as the Gardiner Expressway, the man responsible for this piece of major infrastructure (Frederick G. Gardiner) was quoted as saying:

"I've looked at this darn thing from one end to the other and I can't think of anything I would like to change."

To state the obvious, Toronto and its waterfront have changed considerably since Frederick "Big Daddy" Gardiner made his fateful claim. The active industrial port of the mid-century has transformed into a thriving metropolitan core, home to tens of thousands of residents and host to many more employees, tourists, and visitors of all descriptions. Densification has resulted in demand for new services and mobility choices and a renewed urgency to respond to the climate crisis and better balance the impact of human use and activity. In light of these changes and the city's incredible, continued growth trajectory, the following report attempts to "take a look at the darn thing" once again and reveal the opportunities for improvement and innovation that recognize the complex and interconnected realities of ecology, economy, culture, and community.

The work to reimagine the space under the Gardiner began in earnest in 2016 based on a visionary proposal for a 0.75-kilometre stretch of land, a landmark philanthropic gift from Judy and Will Matthews and a unique public-private partnership with the creation of the Bentway Conservancy. The Bentway Conservancy was created to steward, program, and maintain this revived stretch of land on behalf of and in partnership with the City of Toronto. At the time, the prospect of transforming a section of the Gardiner into a vibrant public space was met with a mix of excitement, curiosity, and even scepticism. Today, The Bentway's provision of critical neighbourhood amenities, sustainable landscape improvements, community programming, and connective routes for active transportation hold key lessons that can be extended along the under Gardiner corridor.

This plan builds on the success of this unique partnership established between the City of Toronto and The Bentway Conservancy, and their shared goal of unlocking the Gardiner's public-realm potential at street level. The collaboration leverages the City's expertise and institutional knowledge alongside The Bentway's creative character and practical experience working under the Gardiner.

Image 2: View west toward Strachan Avenue from The Bentway Phase 1 site.

The **Under Gardiner Public Realm Plan** (Under Gardiner PRP) is founded on the premise that the under Gardiner corridor has the potential to better serve the public. It aims to reposition the under Gardiner corridor as an essential part of Toronto's downtown public realm, establish new public space conventions, and set priorities for investment and improvement that help transform a mono-functional highway into a contemporary, forward-looking piece of hybrid infrastructure. The Under Gardiner PRP:

- Prioritizes landscape as infrastructure and **seeks to restore balance** with natural systems and ecological processes;
- Improves the experience of under Gardiner spaces through **new physical and visual connections** to ensure all road users are safe and welcome;
- Embraces a holistic understanding of climate change and **promotes the resilient urban spaces** that enable outdoor activity all year round;
- Removes barriers to **facilitate improved connectivity** and active transportation:
- Guides the design of exceptional, **publicly accessible spaces that enable a diversity of uses** and contribute to thriving neighbourhoods; and
- Supports the development of **sustainable maintenance and upkeep processes** that help to address the Gardiner's fiscal, environmental, and social impacts.

Simply put, the Under Gardiner Public Realm Plan sets forth a vision to activate the spaces under the elevated expressway through improved pedestrian and cycling connections, more resilient rainwater management strategies, and an increased number of community amenities.

The Under Gardiner PRP presents a range of recommendations that support the continued stewardship of public space under the Gardiner Expressway. United through a suite of corridor-wide systems and informed by ongoing stakeholder input and community consultation, the recommendations are grounded in a landscape-first approach and aim to strike a new balance between competing factors. These recommendations fall into two complementary categories:

- **A new baseline** of streetscape standards for the consistent performance and identity of the public realm below the Gardiner Expressway;
- **Site-specific opportunities** that deliver on much-needed community amenities, result in connectivity and new productive ecologies, and support enhanced public programming along the corridor.

Continued transformation of the under Gardiner spaces will require ongoing collaboration between multiple public, private, non-profit, and institutional sectors. Working together presents exciting opportunities to leverage planned investment and introduce new amenities.

The recommendations of the Under Gardiner Public Realm Plan will be implemented incrementally, over time, and their phasing should closely follow major civic investments and leverage planned private investment along the corridor in the coming years.

Major infrastructure projects along Toronto's waterfront — including the Gardiner Expressway Strategic Rehabilitation, Lower Yonge Precinct, East Bayfront, Keating Channel, Quayside, the Port Lands Flood Protection Project, and the Ontario Line — will bring significant change to the under Gardiner corridor. The implementation of the improvements captured in the Under Gardiner PRP must be carefully coordinated with the many other projects and developments unfolding in the area, and the practical realities of working with active, functional infrastructure.

As such, the plan identifies both long-term projects and near-term interventions, which can be used to test design strategies and showcase how Toronto's waterfront and the under Gardiner spaces can be reimagined. Examples of near-term pilot projects include the Waterfront ReConnect design interventions at York Street and Lower Simcoe Street, and the upcoming "Staging Grounds" installation at the Dan Leckie-Lake Shore Triangle.

The Under Gardiner PRP is not a prescriptive document, but rather an aspirational vision, one that reimagines the under Gardiner corridor as an integral feature of Toronto's downtown waterfront. Today, 75 years after the highway first opened, the City of Toronto has committed to the continued investment, maintenance, and upkeep required to keep an elevated expressway in safe and operable condition for the coming decades. The Under Gardiner PRP outlines how strategic investment in the Gardiner's future will allow it to fulfil its ongoing regional mobility objectives while living up to the promise and potential of public life, fulfilling the need for dynamic public space through hybrid infrastructure in the heart of downtown Toronto.

Image 3:
View west from Lake Shore Boulevard toward Bay Street, under the Gardiner Expressway.

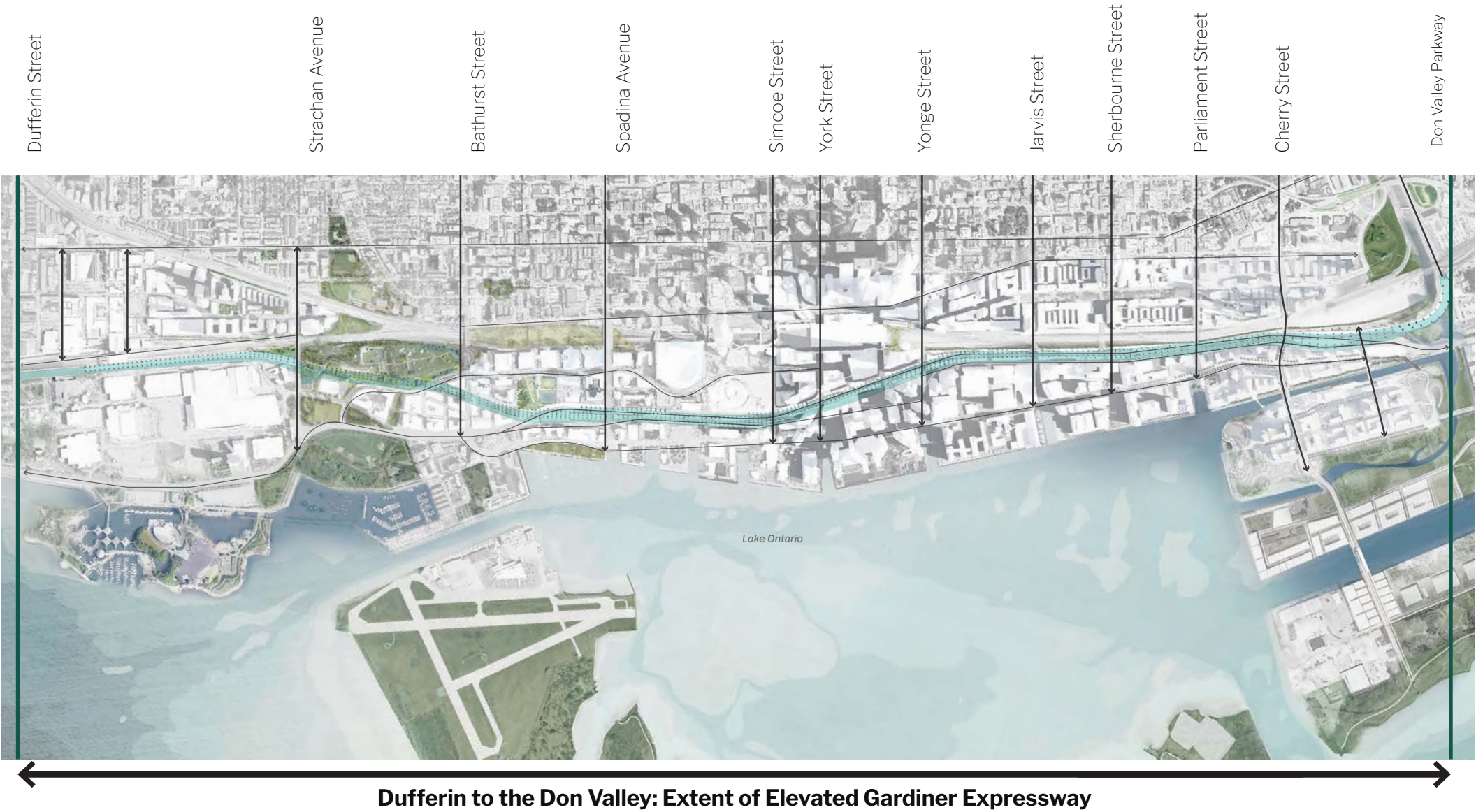


Figure 1: Context map of the extent of the under Gardiner corridor, from Dufferin Street to the Don Valley.

Part 1: **Introduction**

1.1 Project Partners

The Under Gardiner PRP is a collaborative effort between the City of Toronto and The Bentway Conservancy that brings together asset owners, subject matter experts, diverse perspectives, and practical experience in planning, programming, operating, and animating the public realm. This project advances the strategic goals of removing barriers to the waterfront and making new connections, building on the success of initiatives such as Underpass Park, Waterfront ReConnect, the Lake Shore Boulevard East Public Realm Plan, and The Bentway.

The Bentway Conservancy

The Bentway Conservancy is an independent not-for-profit and registered charity founded in 2016 to drive a reimagining of the Gardiner. The Conservancy currently operates, programs, and animates The Bentway Phase 1 site (located just west of Bathurst Street) and The Bentway Studio (facing Canoe Landing Park). The Bentway is an internationally recognized exemplar of active reuse and hybrid infrastructure.

The City of Toronto

The City of Toronto, as a partner, is represented in this project by a wide range of City divisions, providing needed public services while building a great city. A series of working groups and a Technical Advisory Committee (TAC) informed the development of the Under Gardiner PRP. This included senior leadership and staff from the Economic Development and Culture, Transportation Services, Parks, Forestry, and Recreation, Corporate Real Estate Management, and Urban Design departments and the Waterfront Secretariat.

1.2 Design Team

The Under Gardiner PRP is supported by a design team comprised of subject matter experts and the following industry leaders:

Public Work

Public Work is an urban design and landscape architecture studio focused on the intelligent evolution of the contemporary city. The studio aims to produce transformative works that invigorate the public realm, optimize and enhance the performance of urban systems, and support public life by adding new layers of experience to the city.

Two Row Architect

Two Row Architect is a 100% Indigenous-owned and operated firm from the Six Nations reserve in southern Ontario. Two Row Architect focuses on guiding the realignment of mainstream ways of thinking on their journey toward Indigenous ways of knowing, being, design, and architecture. Their ultimate goal is to promote architecture that has a positive impact on nature, humanity, and our current sense of civilization.

Transsolar KlimaEngineering

Transsolar KlimaEngineering is a diverse team of engineers focused on creating climate-responsive built environments. In partnership with the world's leading architects, Transsolar's unique approach has led to numerous breakthrough projects, including the most energy-efficient office tower in North America. Transsolar has been operating for more than 25 years, with offices in Stuttgart, Munich, Paris, and New York.

Third Party Public

Third Party Public specializes in making large, complex multi-stakeholder projects constructive and manageable. Established in 2004 under Swerhun Inc., the team works exclusively with governments, public agencies, and occasionally non-profits working to serve public interests. Third Party Public is advising and supporting the Bentway-led public stakeholder consultation process that informs the Under Gardiner Public Realm Plan.

Frontier

Frontier designs big stories — brave, imaginative, and guiding stories — that help organizations thrive. Its Purpose Design methodology connects brand strategy with business strategy. Frontier works on projects in branding, storytelling, strategy, digital design, and team engagement.

1.3 Problem and Opportunity Statement

Since 1964, the Gardiner Expressway has been a major transportation artery for the city, and continues to be so today. As the City of Toronto continues to grow and we reinvest in our infrastructure systems, there is an opportunity to reimagine how the whole of the Gardiner, can connect, perform, and inspire.

The Under Gardiner PRP outlines how the spaces under the Gardiner can work to better serve our communities and our city.

With Toronto's rapid growth, the Waterfront neighbourhood is supporting more and more residential, commercial, and cultural activities. In anticipation of a rehabilitated road deck resulting from the City's state of good repair efforts, the under Gardiner lands must be recognized as spaces in need of investment and integral components of Toronto's evolving public realm.

The Under Gardiner PRP provides guidance for the spaces under, and adjacent to, the Expressway's central elevated section between Dufferin Street and the Don Valley Parkway. Working with communities, leveraging the value of existing assets, and aligning with large-scale infrastructure projects, the Under Gardiner PRP provides direction to improve the experience for pedestrians, cyclists, commuters, tourists, and all inhabitants of these lands.

Image 4: Aerial view south of the skate trail at The Bentway Phase 1 site.

Why Now?

The City of Toronto is undertaking a major Strategic Rehabilitation Plan to keep the entire Gardiner Expressway in a safe and operable condition, now and into the future. To date, this state-of-good-repair has included replacement of road deck and girders where needed and essential repairs to the supporting concrete bents. This reinvestment will revive the aging and deteriorating elevated expressway, providing opportunities to leverage a renewed highway as a backdrop and canvas that support long-term transformation of underutilized spaces below. The Under Gardiner PRP is also underpinned by existing City plans and guidelines such as the Vision Zero Road Safety Plan, TransformTO Net Zero Strategy, and Complete Streets Guidelines. Collectively, this represents a once-in-a-generation opportunity to set direction toward a new future for the elevated roadway.

The vision articulated through the Under Gardiner PRP represents an inventory of ideas, opportunity sites, and potential interventions for ongoing study, and will be implemented on a decades-long timeline. The neighbourhoods adjacent to the under Gardiner are continuing to rapidly develop, creating new residential-commercial mixed-use communities. This increased densification is changing the landscape of the city's waterfront, from industrial rail yards to a collection of vibrant and growing communities. This urban change presents an opportunity for innovation and a chance to address unmet and evolving needs. As the remaining available properties along the under Gardiner corridor are built out, an integrated and interconnected public realm is essential for public life and the ongoing prosperity of Toronto's downtown core.

Image 5: Maintenance operations on the Gardiner Expressway.

Working toward the City's stated climate goals, the Under Gardiner PRP presents an exciting vision which builds upon the larger waterfront revitalization efforts, with attention paid to new active transportation routes, public space, and parkland investment. The Under Gardiner PRP provides a long-term roadmap for a series of improvements to benefit these emerging neighbourhoods, including provisions for pedestrians, cyclists, neighbours, and drivers. The plan informs the development of a cohesive identity and a more welcoming environment, repositioning the under Gardiner corridor as an essential part of Toronto's downtown public realm.

1.4 Objectives and Tactics

The objectives of the Under Gardiner PRP are:

1. To establish guidelines to support a cohesive vision for the Under Gardiner as a key component of the 'Shoreline Stitch' (as described in the TOcore: Downtown Parks and Public Realm Plan);

2. To set specific parameters and priorities for infrastructure investment and improvements; and

3. To allow for effective implementation and coordination between private sector, government, and community-based initiatives.

Project Tactics:

Identify and solve infrastructure challenges such as stormwater management, cycling and pedestrian safety, and ongoing operational and maintenance needs.

Recommend short, medium, and long-term opportunities for public realm and mobility improvements that align with future work by public and private partners.

Establish a cohesive sense of place for the under Gardiner corridor through enhanced wayfinding, material palettes, approaches to planting and vegetation, and more.

Support the advancement of pilot projects and prototypes that highlight shared interests between municipal efforts and local stakeholders.

Develop the scope and timeframe for various initiatives impacting the under Gardiner corridor, in order to facilitate investment and promote engagement in the process of transformation.

Image 6: Members of the project team gathering feedback and insights from participants at the 2022 Street Summit consultation pop-up booth.

1.5 Project Principles

To realize the full potential of the Gardiner Expressway as civic infrastructure, the Under Gardiner PRP is anchored by the following key principles and tactics, informed by project stakeholders.

From Obstacle to Connector

Create inviting physical and visual connections that link neighbourhoods, community assets, transportation hubs, and public right-of-ways in order to address concerns around the safety and accessibility of the under Gardiner spaces.

Image 7: Underpass Park, Toronto, Ontario.

Prioritize the Public Realm

Guide the development of distinctive and exceptional public and semi-public spaces to support a diversity of use, fostering unique gathering places for civic engagement and activity.

Image 8: The Underline, Miami, Florida.

Harness the Gardiner's Unique Character

Enhance the identity of under Gardiner spaces through design and programming strategies that celebrate its uniquely urban quality, built heritage, layered history, and adjacent distinct communities.

Image 9: The Bentway, Toronto, Ontario.

From Highway to Hybrid Infrastructure

Identify opportunities to support an efficient and coordinated approach to Gardiner Expressway maintenance and upkeep, leading to new and innovative ways of reimagining the public realm along the under Gardiner corridor.

Image 10: The Caulfield to Dandenong Level Crossing Removal project, Melbourne, Australia.

Advocate for Equitable and Sustainable Growth

Support the development of socially and economically resilient public infrastructure that addresses long-standing environmental and public health concerns along the Gardiner Expressway.

Image 11: El-Space irrigation planter in Sunset Park in Brooklyn, New York, New York.

Resilient Economic Development for Toronto's COVID-19 Recovery

Work toward Toronto's economic recovery by repurposing underutilized public infrastructure, investing in downtown neighbourhoods, and developing creative programming for residents and visitors alike.

Image 12: The Bentway, Toronto, Ontario.

1.6 Key Learnings From Consultation

In the summer (Q3) of 2022, an initial round of public consultation was conducted in support of the Under Gardiner PRP, including both in-person and online engagement. The objective for this round of engagement was to seek stakeholder and community feedback about what people liked or disliked about the existing conditions under the highway and ideas for how to improve the under Gardiner spaces.

A second round of public consultation, in the winter (Q1) of 2023, centred on a series of four public open house sessions. Specified stakeholders, community members, and the broader public were invited to join an interactive exhibit at The Bentway Studio (55 Fort York Blvd.), to (a) confirm what was heard during the initial round of consultation, and (b) provide feedback on preliminary site-specific opportunities and proposed baseline recommendations for improving the under Gardiner spaces.

In the summer of 2023 (Q3), a third engagement session will be held in order to report back on the Under Gardiner PRP's conclusions and recommendations.

The following is a high-level summary of the key learnings that were identified during the first two rounds of consultation. The Under Gardiner Public Realm Plan Consultation Summary report includes a detailed breakdown of consultation approaches, strategies, and outcomes, highlighting the specific focus given to communities that have unique and continuous connections to the area, such as unhoused communities and Indigenous peoples.

Activity (2021 - 2023)	In Person	Online
7 technical advisory meetings	✓	
10 district-specific stakeholder consultations	✓	
2,000+ website visits, an online survey, and an interactive map (150+ unique comments)		✓
Street Summit consultation pop-up	✓	
Open houses (120+ participants)	✓	
Outreach and engagement with Indigenous communities (ongoing)	✓	
Outreach and engagement with unhoused communities (ongoing)	✓	

Figure 2: Summary table reflecting both Phase 1 and Phase 2 consultation and engagement activities.

Consultation Phase 1: High-Level Takeaways

From the first round of the consultation process, many respondents positively referenced the creative and adaptive use of space The Bentway has produced under the Gardiner, a previously underutilized space. Specifically, community members and visitors enjoy the animation of public space for recreational, active, and artistic uses. Stakeholders highlighted how they would like to see these same visions and aspirations expanded throughout the under Gardiner spaces.

Consultation participants underscored the poor connectivity and unpleasant environment in the under Gardiner spaces as contributing to a lack of safety in the area. Other safety-related concerns included pedestrian crossings that are too short, worn street markings, and flooding. Specifically, stakeholders identified conflicting uses of space and a lack of obvious separation of different uses of space as a major challenge under the Gardiner. Stakeholders mentioned that the environment feels dominated by fast-moving cars, high noise levels, and dirtiness, thus dissuading hybrid uses of space.

However, many participants saw the opportunity for change and improvement in the under Gardiner spaces. Stakeholders urged the improvement of safety, accessibility, and comfort overall, improving the public realm via the beautification of the space and improving active transportation infrastructure in the area, as well as adding more public art and opportunities for cultural expression.

> **“I’d like to protect the access to the lake from the north side of the Expressway and Lake Shore Boulevard. The covered area seems uniquely suited to many mixed uses for people living and working in the area, as well as an area that might appeal to tourism if developed properly.”**
>
> ***— Participant comment from Consultation Phase 1***

Consultation Phase 2: High-Level Takeaways

During the second round of consultation, interventions and opportunities in rainwater management excited many participants, specifically as they pertain to reducing water pollution and managing rainwater runoff. Participants highlighted the potential to reuse rainwater to support plant life, reduce flooding, and improve pedestrian experiences in the area.

Stakeholders responded well to suggestions of increased amenities along the under Gardiner corridor, among other aspects of the safety and comfort features of the new baseline. Consultation participants underscored the need for more public seating and thoughtfully designed furnishings to help increase the usability of public space for rest, socializing, and recreational activities.

In regard to predictable amenities, many participants commented on a need for public washrooms that are clean, reliable, inclusive, and accessible along or adjacent to the under Gardiner corridor.

> **“At least 50% of space should be earmarked for bioswales and vegetation to detox Gardiner runoff throughout all areas. The issue of flooding affects a lot of people. We also have to better manage our water and waterways.”**
>
> ***— Participant comment from Consultation Phase 2***

Part 2: **Context and Study Areas**

2.1 Under the Gardiner: Dufferin to the Don

The elevated Gardiner Expressway stretches seven kilometres along the waterfront and through the heart of Toronto. The Under Gardiner PRP focuses on a primary study area under the Gardiner between Dufferin Street and Yonge Street. Five districts emerge within this area, each bounded by distinct neighbourhoods, civic assets, existing public realm networks, trails, and landmarks, and each having their own unique relationships to the Gardiner. The secondary study area covers the portion under the Gardiner from Yonge Street to the Don Valley Parkway, with approved Environmental Assessments and public realm plans.

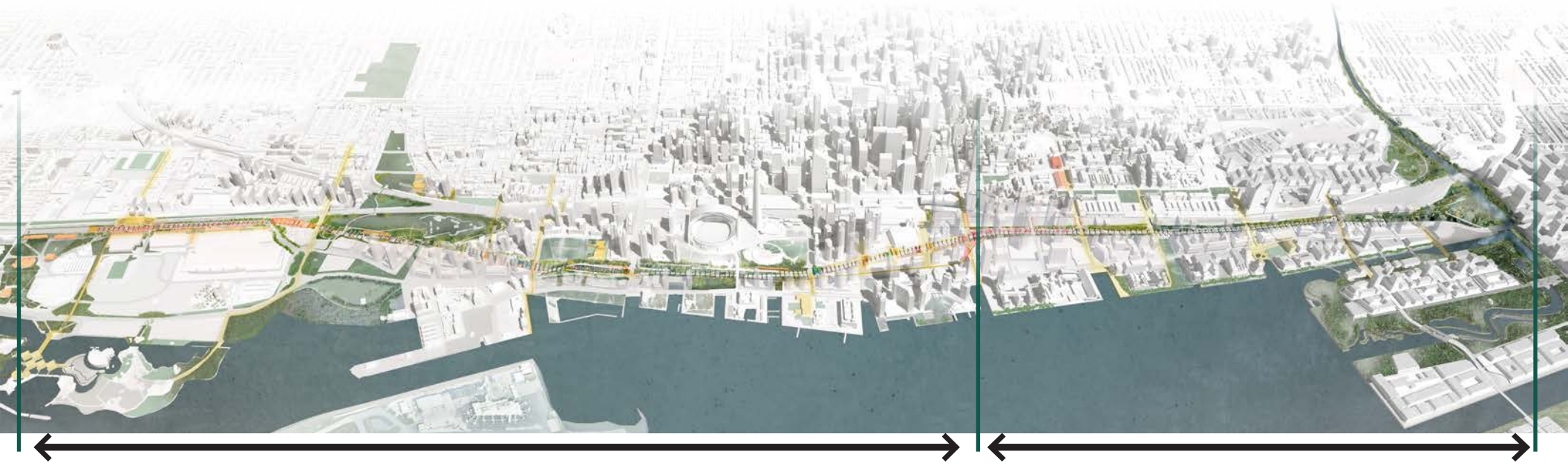


Figure 3: Rendered map indicating the extent of the primary and secondary study areas.

Within the primary and secondary study areas, a district-specific approach further reflects geographic contexts, local priorities, and driving factors influencing development along the under Gardiner corridor.

A series of opportunity sites and projects have been identified in each district, which build on the key learnings and successes of existing under Gardiner spaces. The following section will introduce each of these districts, the map below is provided to help orient the districts in relation to eachother.

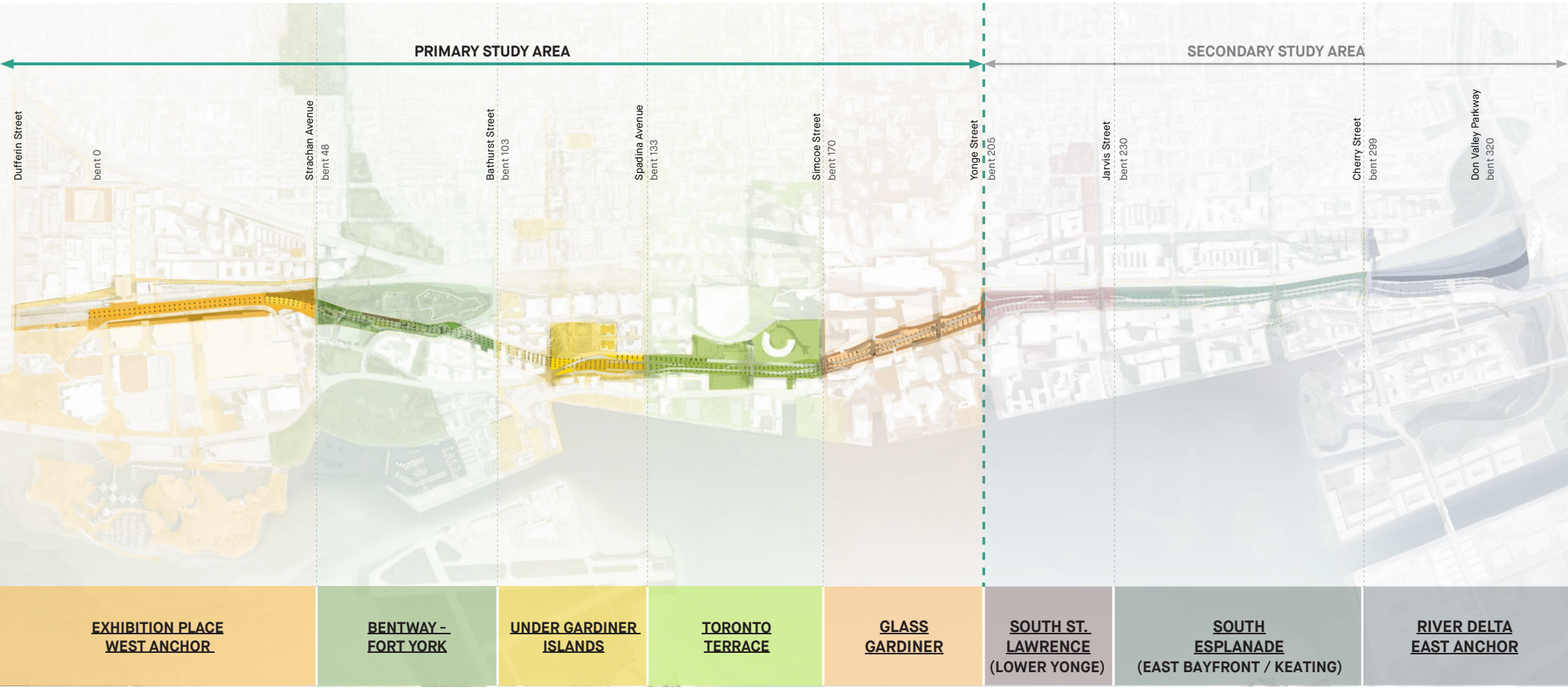


Figure 4: Key map indicating the extent of the primary and secondary study areas and identified districts.

2.2 Defining the Districts: Primary and Secondary Study Areas

Exhibition Place West Anchor

Dufferin Street to Strachan Avenue: Bents 1-46

Primary Study Area

Exhibition Place West Anchor is bordered by Dufferin Street to the west and Strachan Avenue to the east, with the Gardiner Expressway and rail corridor acting as a barrier between Liberty Village to the north and Exhibition Place, The Bentway Phase 1 site, Ontario Place, and other waterfront destinations. This district is characterized by linear spaces, including Manitoba Drive, a TTC streetcar loop, a GO Transit station, a long, straight under Gardiner space, and large enclosed municipal storage rooms under the Gardiner. With the introduction of the Ontario Line terminus station, the Exhibition Place West Anchor district will play a critical role in enhancing connectivity for transit users, local residents, tourists, and event-goers.

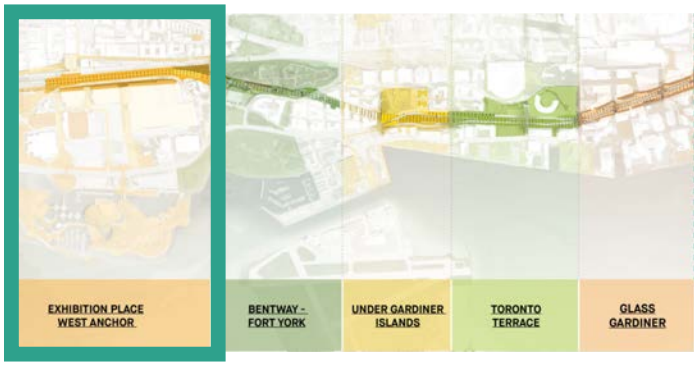


Image 13: View looking east under the Gardiner Expressway from the TTC streetcar loop north of Manitoba Drive.

Image 14: View looking west of The Bentway Skate Trail and bioswales.

Bentway-Fort York

Strachan Avenue to Fort York Boulevard : Bents 46-96

Primary Study Area

Located between Strachan Avenue to the west and Bathurst Street to the east, Bentway-Fort York is home to The Bentway Phase 1 site on the grounds of the Fort York National Historic Site. These two sites tell complementary stories about the history of Toronto. Year-round indoor and outdoor programming of these cultural spaces has demonstrated what is possible for the under Gardiner spaces.

Under Gardiner Islands

Fort York Boulevard to Spadina Avenue: Bents 96-132

Primary Study Area

As the name suggests, this district contains a series of disconnected under Gardiner spaces, in varying states of development. Situated between Bathurst Street to the west and Spadina Avenue to the east, these spaces are either privately owned public spaces (POPS) supporting commercial and residential access to adjacent developments or expansive medians between lanes of traffic on Lake Shore Boulevard under the City's jurisdiction.

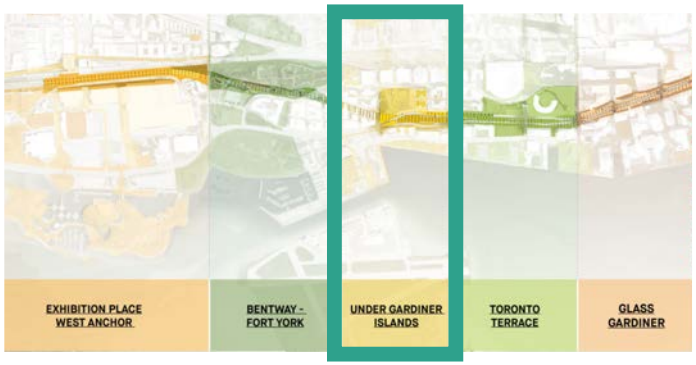


Image 15: View looking east from the central traffic medians, or under Gardiner Islands, between Dan Leckie Way and Spadina Avenue.

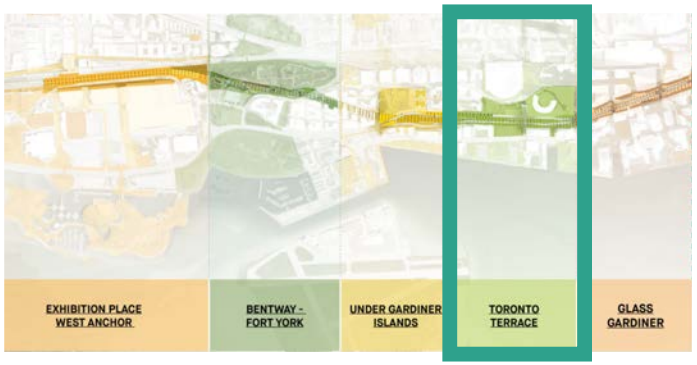
Image 16: View looking east from Rees Street and Lake Shore Boulevard West of the Roundhouse Park retaining wall (Wall of Toronto)

Toronto Terrace

Spadina Avenue to Lower Simcoe Street: Bents 133-170

Primary Study Area

Between Spadina Avenue to the west and Lower Simcoe Street to the east, this district is marked by a cultural and tourist plateau to the north of the Gardiner Expressway, and a low-elevation waterfront neighbourhood to the south. Here, the Under Gardiner PRP will prioritize people, safety, comfort, rainwater management, and inspiring access points to one of Toronto's greatest assets, Lake Ontario.



Glass Gardiner

Lower Simcoe Street to Yonge Street: Bents 170-204

Primary Study Area

In this hyper-urban stretch of the under Gardiner corridor between Lower Simcoe Street and Yonge Street, the presence of Lake Shore Boulevard West below the elevated expressway forms a double-stacked highway with high-speed automotive traffic on both levels. At the ground level, a mix of residential lobbies, enlarged traffic medians, and back-of-house conditions creates a dynamic and lively streetscape. This streetscape supports vertical communities and connects the city to its waterfront.

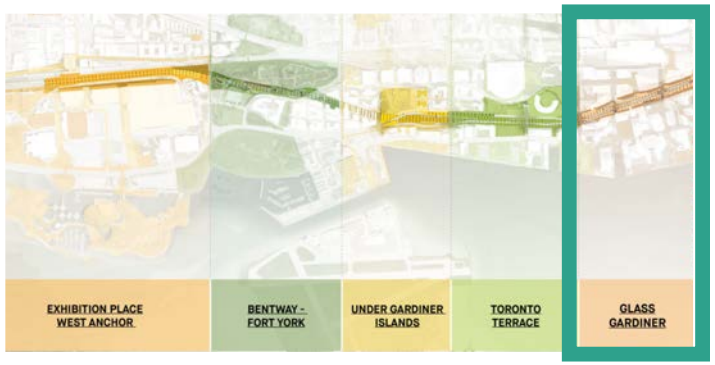


Image 17: View looking west from the Union Station Bus Terminal.

Secondary Study Area

A secondary study area covers the portion of the under Gardiner corridor from Yonge Street to the Don Valley Parkway. Corridor-wide systems and consistent baseline elements are recommended to be implemented in the secondary study area, to support existing projects with approved environmental assessments such as the City's Lake Shore Boulevard East Public Realm Plan. The Under Gardiner PRP is intended to be complementary and reinforce the direction established in the Lake Shore Boulevard East Public Realm Plan, Vision Zero Road Safety Plan, TransformTO Net Zero Strategy, and Complete Streets Guidelines.

	Primary Study Area	Secondary Study Area
Corridor-wide system approach and recommendations	✓	✓
District-level recommendations	✓	
Identification of key priority sites and opportunities	✓	
Strategies for implementation and governance	✓	✓

Figure 5: Table summarizing the distinction between primary and secondary study area objectives. District-level and site-specific recommendations are out of scope for the secondary study area.

The Under Gardiner districts within the secondary study area include:

South St. Lawrence (Lower Yonge)

This district is bounded by Yonge Street to the west and Jarvis Street to the east and is undergoing large-scale transformations through the coordinated efforts of various City agencies and private landowners. Anticipated parks, expanded pedestrian and cycling connections, major roadway improvements, the Gardiner Expressway Rehabilitation Strategy, and an influx of residential and commercial offerings make this one of the city's most critical and exciting public realm projects.

South Esplanade (East Bayfront / Keating)

Bounded by Jarvis Street to the west and Cherry Street to the east, this district contains a number of pilot projects and long-term improvements, as highlighted in the Lake Shore Boulevard East Public Realm Plan. With the completion of the Gardiner rehabilitation and the continued development of new residential neighbourhoods, public realm enhancement under the Gardiner will contribute to essential connections and amenities for residents of new communities and trail users.

River Delta East Anchor

On the east end of the corridor, from Cherry Street to the Don Valley Parkway, this district is impacted by a number of the City's ongoing efforts, including the Gardiner Expressway Realignment, Ontario Line, East Harbour, Portlands Planning Framework, and Lake Shore Boulevard East Public Realm Plan. Improvements to the under Gardiner in this area will enhance the experience of accessing these emerging destinations and the existing network of north-south and east-west trails.

2.3 Environment, Economy, and Comfort

Context of Intensification

The evolution of Toronto's waterfront, including the introduction of the Gardiner Expressway in the 1960s, is an integral part of the city's history and identity. The Under Gardiner PRP backround report highlights how following the infill of Lake Ontario, from the former 1850 shoreline at Front Street down to the newly formed Lake Shore Boulevard (1920), Toronto saw decades of industrial development along the waterfront. This increased Toronto's capacities for transport and shipping, but drastically impacted the natural landscape and access to the waterfront.

Like many major cities in North America, the mid-1900s were marked by significant investment in large-scale transportation infrastructure to support increased widespread automobility. In response to suburbanization and urban sprawl in the Greater Toronto Area major roads and highways have been constructed around the city and through the downtown core. In the subsequent decades, development projects along the Gardiner corridor and across the waterfront have attempted to reconcile the city's industrial heritage with the lake, to varying degrees of success.

The ongoing development of communities adjacent to the under Gardiner corridor continues to densify, bringing with it the need for new services and public spaces, as well as the compounding issues of a warming climate, the urban heat island effect, and decreased comfort and safety for pedestrians.

According to TOcore, the city's downtown core and central waterfront supports approximately 250,000 of the city's total residents and 500,000 jobs, with density having increased by 30 per cent from 2006-2016. The land in this area accounts for only three per cent of Toronto's official land area while containing 38 per cent of its residential units and 40 per cent of its non-residential gross floor area (GFA).

Image 18: Then-and-now perspectives of development along the Gardiner Expressway: 1969 (left) and 2022 (right).

Along with this growth and density comes an increased need for social amenities and infrastructure that can accommodate everyday civic activities and large influxes of visitors for city-based events and stay resilient in the face of extreme public health, safety, and climate events that strain the public realm.

In the 2050 climate scenario projected by Transsolar KlimaEngineering, Toronto will experience an increase in extreme daily minimum temperatures by 13 °C, and more overall precipitation in the summer months. It is projected that the number of "heat waves" (i.e., events with more than three consecutive days of temperatures greater than 32 °C) will increase from an average of 0.57 occurrences per year to five occurrences per year. Addressing these pressing concerns through design is not a problem for 2050, but for today.

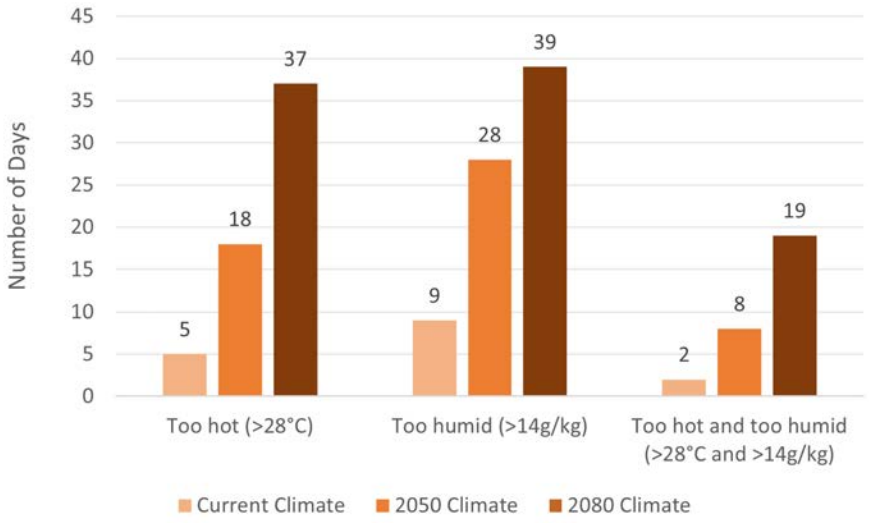


Figure 6: Climate projection indicating expected changes in weather patterns. Preliminary analysis conducted by Transsolar KlimaEngineering in 2022.

Prioritizing Climate and Environment

With the climate crisis growing increasingly urgent, the window to make significant and lasting change is closing, and immediate action at scale is required to respond to this environmental change. This involves setting new standards for the performance of our built environment (including landscape and infrastructure), shifting toward low-carbon transportation options (including walking, biking, public transit, and electric vehicles), reducing our demand and impact on existing utility infrastructure (including waste and stormwater management and the electricity grid), and embracing new forms of renewable energy that contribute to a resilient, carbon-free grid. To achieve these aims, the City of Toronto has issued over $625 million in Green Bonds, an innovative financing tool which supports a range of key climate resilience and mitigation projects, including, but not limited to, improvements to the city's cycling infrastructure network, energy-efficiency retrofits in social housing, and flood protection efforts.

The Under Gardiner PRP builds on and reinforces the City's ambitious targets of achieving net zero greenhouse emissions by 2040. According to the City's TransformTO Net Zero Strategy, 36 per cent of Toronto's overall greenhouse gas (GHG) emissions can be attributed to the transportation sector, primarily from cars, trucks, vans, and buses. It is critical that every effort is made to encourage active transportation as an alternative and ensure that it is comfortable and safe.

Prioritizing Human Comfort

Today, the location and scale of the Gardiner Expressway create environmental conditions above and below the roadway that are unique in Toronto. Key factors impacting the under Gardiner's distinct microclimate include natural phenomena (such as radiation, relative humidity, weather conditions, etc.) as well as byproducts of increased human activity (such as noise and air pollution, congestion, etc.). These environmental conditions are amplified by the effects of the climate crisis, urban densification, and increasing demands on infrastructure to support civic life.

Outdoor comfort is greatly threatened by the effects of climate change, especially extreme weather events and the increased occurrence and severity of heat waves. Strong heat stress poses a considerable risk and will become more recurrent in high latitudes such as Toronto.

Solar radiation plays a significant role in outdoor comfort, as it contributes to the urban heat island effect. This phenomenon occurs when darker materials (such as black asphalt or dark concrete) heat up during the day and often are not able to cool down during the night and continue to emit radiation back into the environment, long after solar exposure. The combination of higher density and less open air (open view to sky) traps heat accumulated during the day to the day after. This effect is intensified by the presence of highly reflective façades of tall buildings that bounce direct light around the canyon condition, inducing glare and spots of thermal discomfort.

2 Solar Access

Passive solar radiation and natural daylight received on-site, closely related with season and time of the day.

2 Solar Access

Passive solar radiation and natural daylight received on-site, closely related with season and time of the day.

3 Wind Comfort

Wind behavior caused by regional wind pattern and local urban topography.

4 Visual Comfort

Illuminance and luminance on different surfaces, which can lead to glare or high contrasts.

5 Acoustic Comfort

Acoustical pollution caused by traffic and surrounding materials with low absorption.

6 Air Quality

Air pollution caused by traffic and building sites.

7 Water Management

Rainwater management from the Gardiner to the underground.

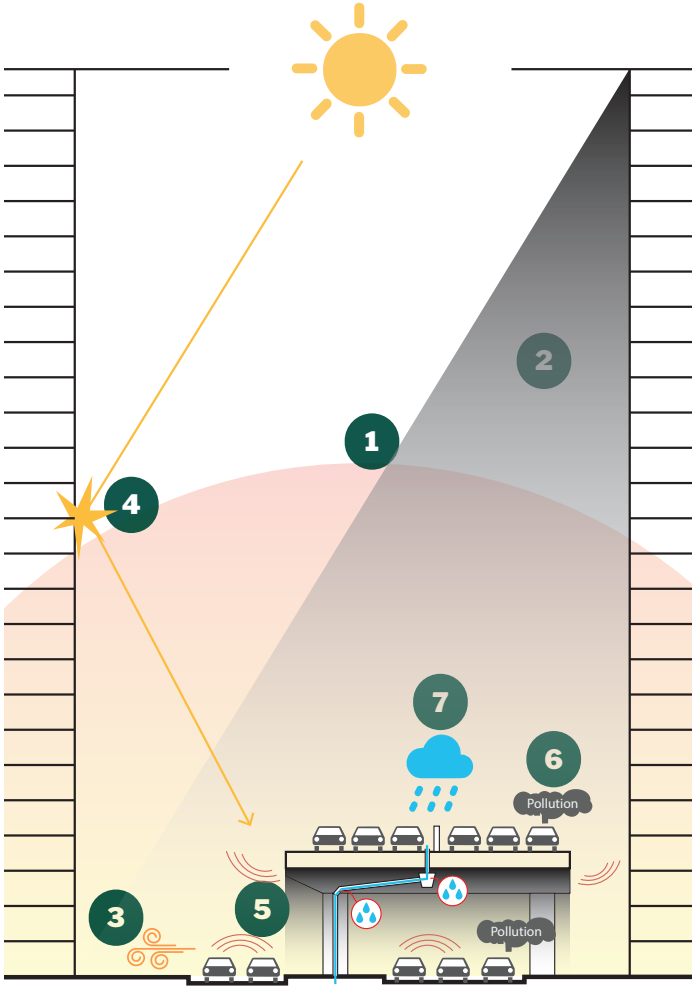


Figure 7: Environmental factors influencing human outdoor comfort along the under Gardiner corridor.

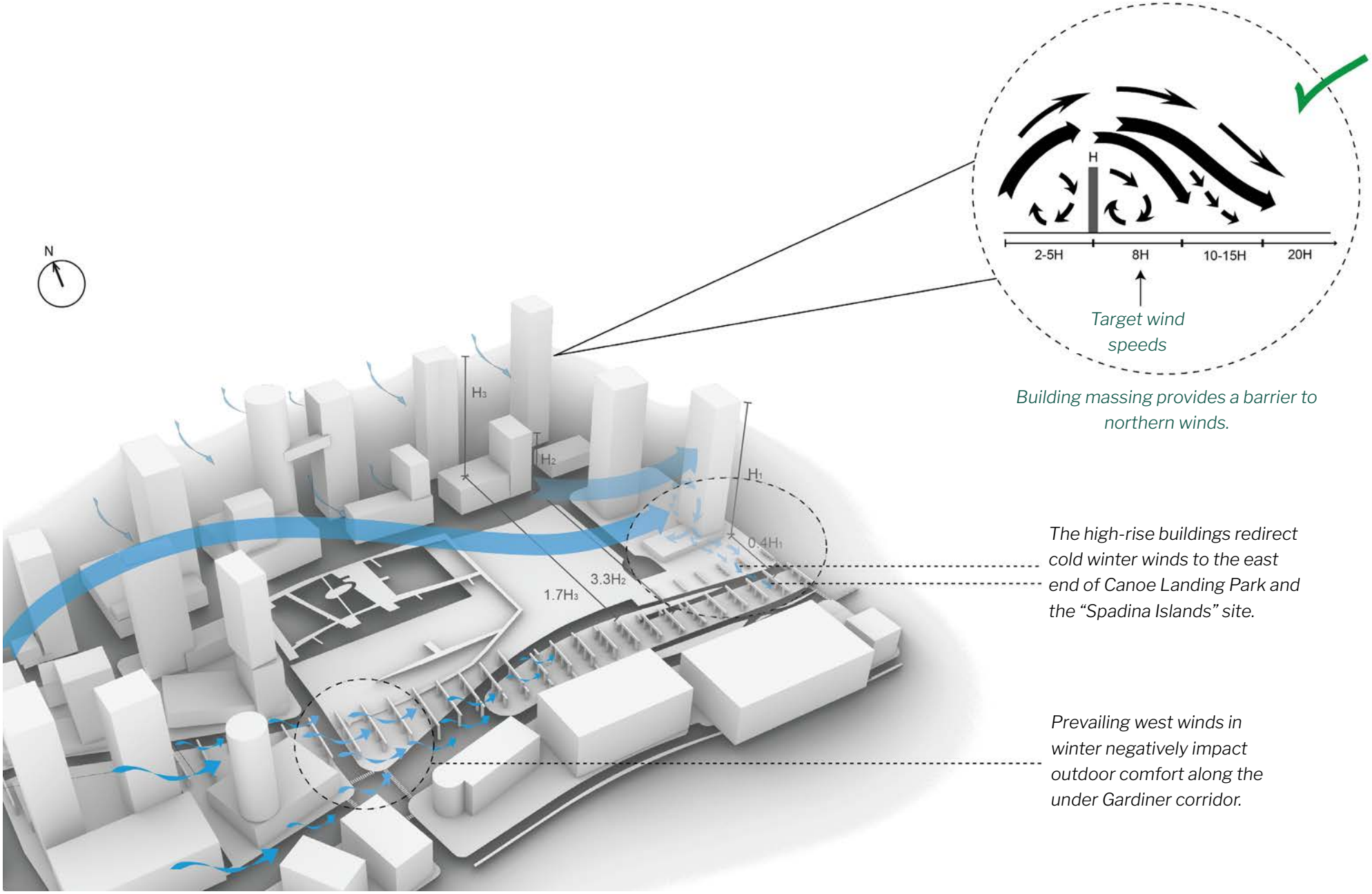


Figure 8: Wind flow patterns in the Under Gardiner Islands district. Desktop analysis provided by Transsolar KlimaEngineering.

The presence of high-rise development in close proximity to the Gardiner Expressway in the Glass Gardiner district, between Yonge Street and Simcoe Street (Fig. 5), produces a wide range of microclimate impacts, including winds channelled under and along the corridor, turbulent and accelerated winds (vortex shedding), and downdrafts at street level at the base of tall buildings, which contribute to a negative impact on pedestrian comfort. While overheating from solar radiation and the urban heat island effect are primary concerns during the summer season, the built environment impacts wind patterns and precipitation year-round.

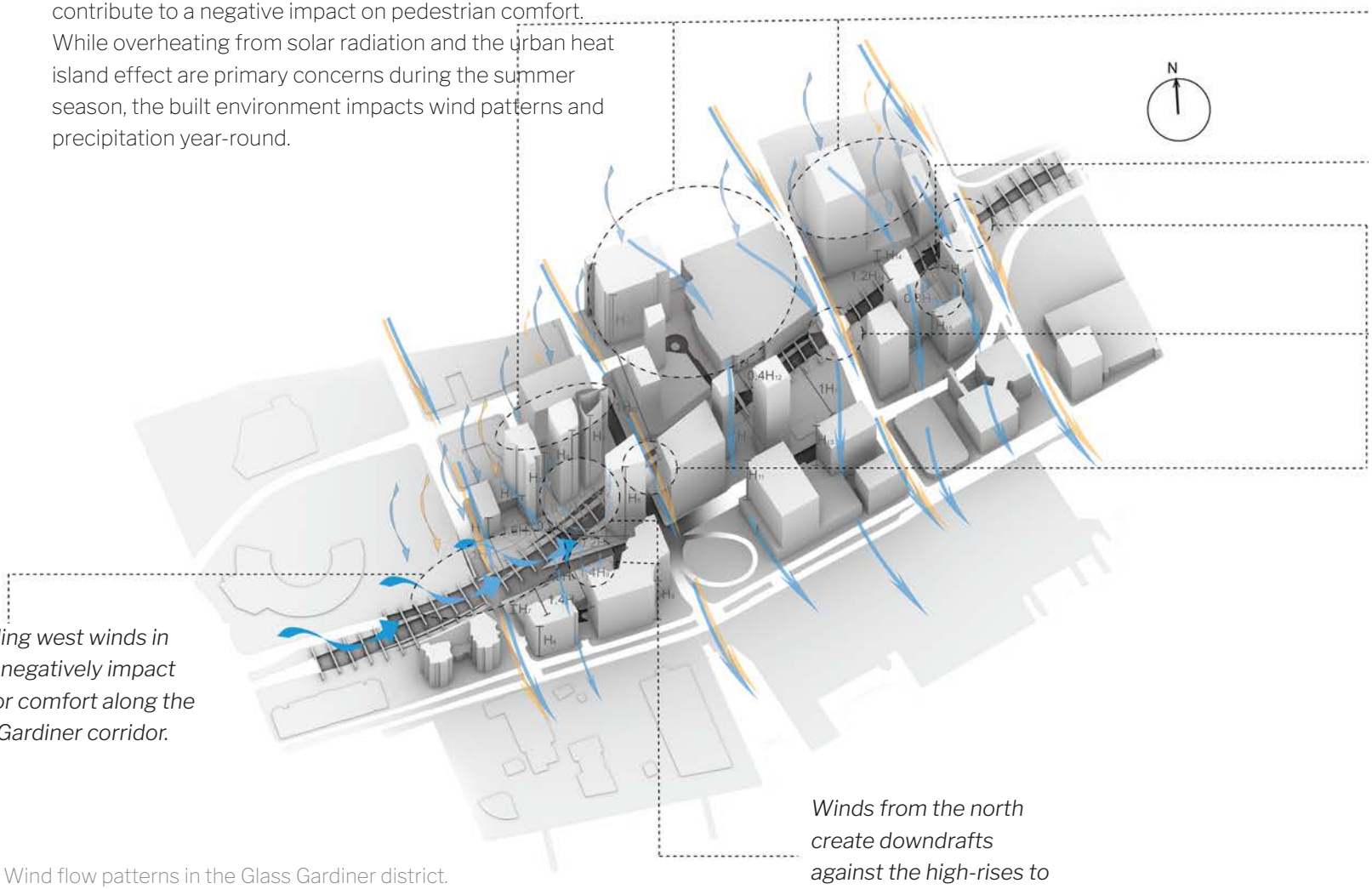


Figure 9: Wind flow patterns in the Glass Gardiner district. Desktop analysis provided by Transsolar KlimaEngineering.

Shade structures, evaporative vegetation, and active ventilation are important for making outdoor spaces more comfortable during peak summer heat waves. During the cold, dark winter months, outdoor spaces can be made more comfortable by using the low angle of the sun to reflect more light and warmth into the under Gardiner spaces. Deploying passive approaches such as wind protection and radiant heating could be effective.

The most effective measure to reduce noise pollution and enhance air quality under the Gardiner would be to reduce the traffic intensity and speed on Lake Shore Boulevard and the Gardiner Expressway.

To mitigate air pollution and create a comfortable space beneath the Gardiner Expressway for the public realm, there are numerous potential strategies. The best solution from the perspective of potential impact, level of difficulty, and durability is adding vegetation across the under Gardiner corridor. Natural plant material will absorb pollutants to provide some purification, and help to reduce some impacts from noise.

Image 19: View looking east of the Fort York Visitor Centre and interpretive shoreline bioswales.

Image 20: Artist rendering of the Toronto Terrace district, highlighting the coexistence of ecological, mobility, and maintenance needs.

Part 3: **Corridor-Wide Systems**

3.1 Systems Thinking

United through a suite of corridor-wide systems and informed by what was heard during the first consultation phase, the Under Gardiner PRP recommendations take a landscape-first approach and aim for a new balance between commuters and residents; wind and rain; plants and trees; animals, birds, and insects; concrete and nature.

The preliminary recommendations and emerging opportunities identified in this report are the product of two complementary approaches. The first approach involves holistic systems thinking that aims to bring cohesive identity and predictability to the corridor. The second approach, district-specific and grounded in response to particular conditions along the corridor, is detailed in Section 4.

Image 21: View looking east toward Rees Street of pooling water and resilient plant life persisting along the edges of the elevated expressway.

Figure 10: Regrounding Landscape: Blue-Green Infrastructure

Regrounding Landscape: Blue-Green Infrastructure

In the decades since the highway's construction, our understanding of human impacts on the natural environment has advanced as well. The Under Gardiner PRP recommends reframing the highway's relationship with local hydrology, including the way the landscape retains, filters, and distributes water as part of a renewed blue-green infrastructure system. Rather than a top-down approach to infrastructure that attempts to control and impose order on ecological systems, the Under Gardiner PRP seeks to coexist with larger ecological processes and the natural environment.

Ground Porosity & Drainage

- Bioretention landscape - processes Gardiner drainage
- Bioswale - processes Gardiner drainage
- Downspout Intervention - processes Gardiner drainage
- Planting
- Porous Paving

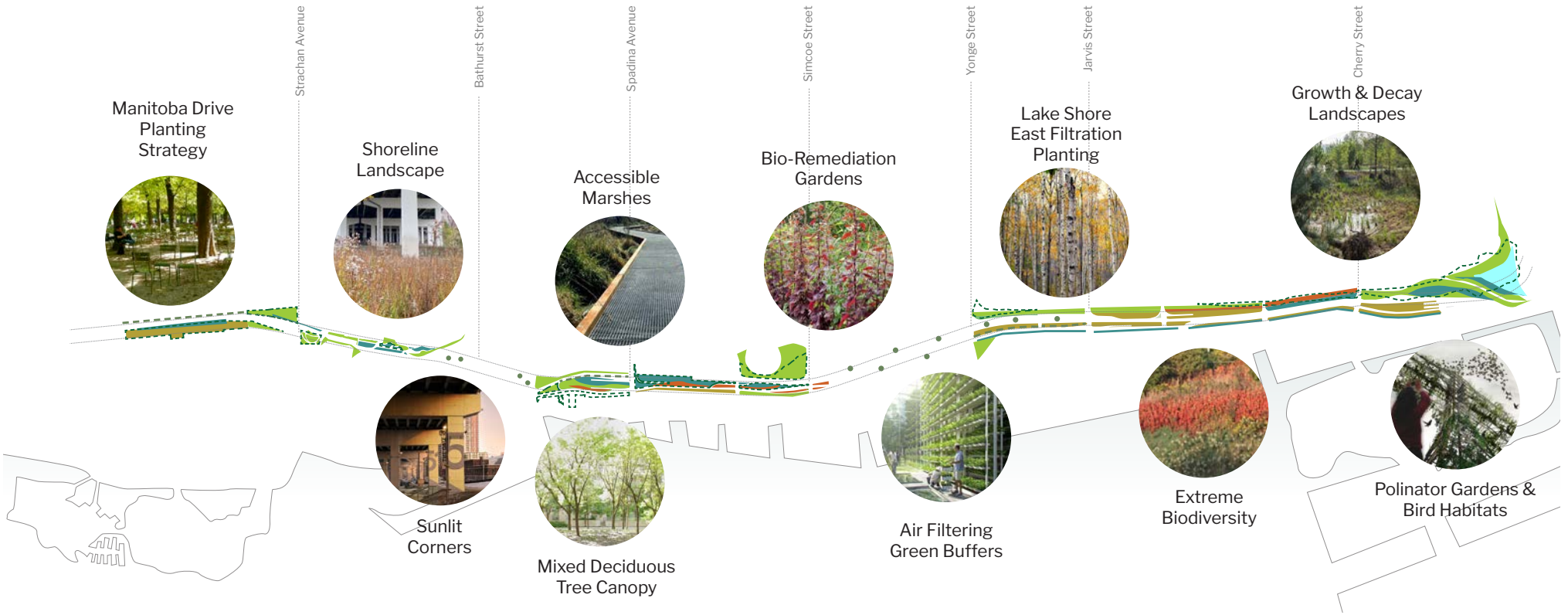


Figure 11: Immersive Ecologies: High-Performance Planting

Immersive Ecologies: High-Performance Plantings

Building on a renewed strategy for water management and sensitivity to the specific environmental conditions in the corridor, the Under Gardiner PRP recommends expanding on existing planting strategies used for vegetated wind buffers, bioswales for water retention and filtration, and pollinator and medicinal gardens, among others. To implement these effective planting strategies, the plan recommends further study informed by consultation with Indigenous knowledge keepers and horticultural specialists who have experience planting in and around manmade infrastructure systems with high-salt, low-light environments.

Groundcover, Plants & Trees

- Native, biodiverse planting
- Marsh landscapes
- Remediation gardens
- Porous ground with planting Enhanced tree canopy
- Vertical green structures

Figure 12: Connectivity and Accessibility: Stitching the City to the Shoreline

Connectivity and Accessibility: Stitching the City to the Shoreline

The Gardiner Expressway represents a physical and psychological barrier between the city's downtown core and the waterfront. To help remedy this long-standing disconnect, the Under Gardiner PRP recommends reframing street-level intersections to prioritize pedestrian connectivity, north/south gateways, and filling in connectivity gaps by establishing a cohesive east-west network of paths.

Paths, Connections & Crossings

Under Gardiner multi-use Path:
- Existing path
- Enhanced existing path
- Proposed path
- Planned path
- Conceptual north-south path network

- Existing City trails & cycling lanes
- Planned City trails & cycling lanes
- Existing crossing
- Proposed/enhanced crossing

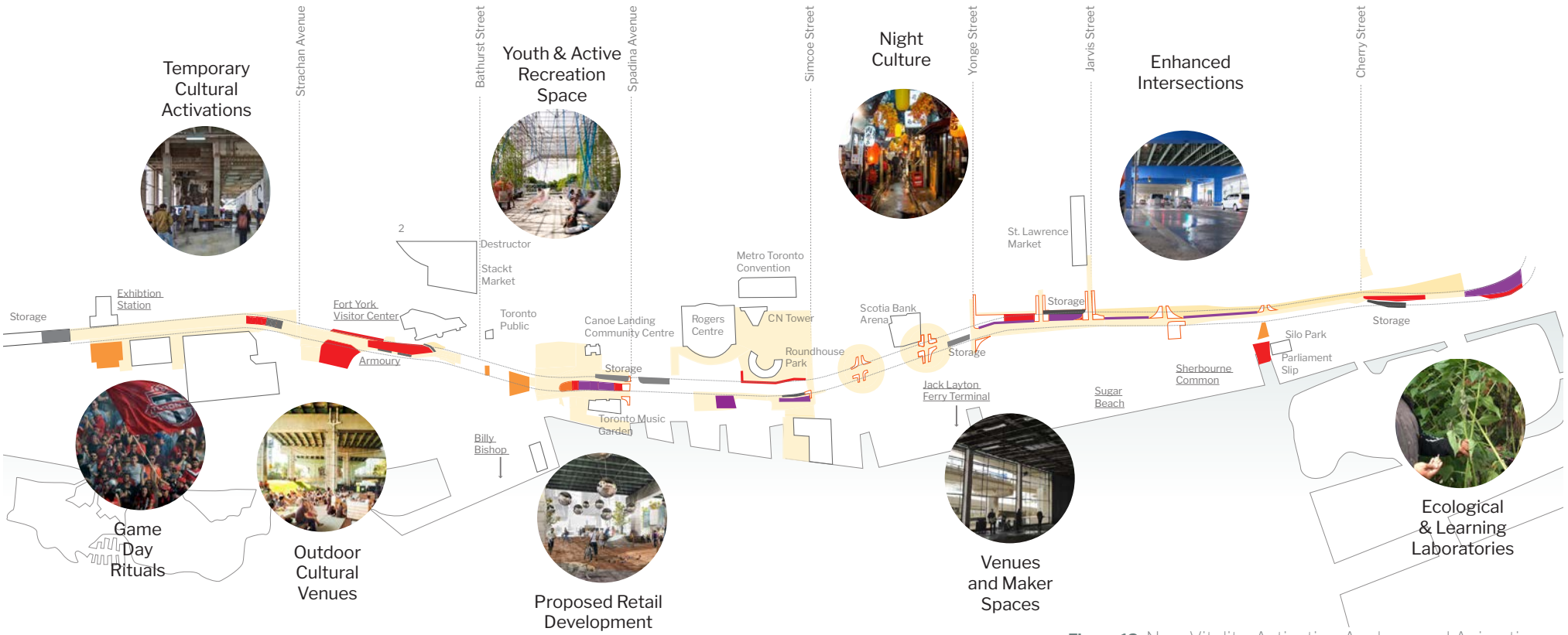


Figure 13: New Vitality: Activation Anchors and Animating the Spaces Between

New Vitality: Activation Anchors and Animating the Spaces Between

The under Gardiner corridor is an urban spine linking numerous destinations, hubs of activity, cultural landmarks, and transportation centres, but these adjacencies could be greatly enhanced. In addition to enhancing connections among cultural institutions and commercial destinations, the Under Gardiner PRP recommends introducing new frontages and uses in previously underappreciated and overlooked spaces.

Conceptual Activation Anchors

- Arts & Culture
- Active recreation
- Commercial
- Active corner
- Storage/back-of-house
- Flexible activation space

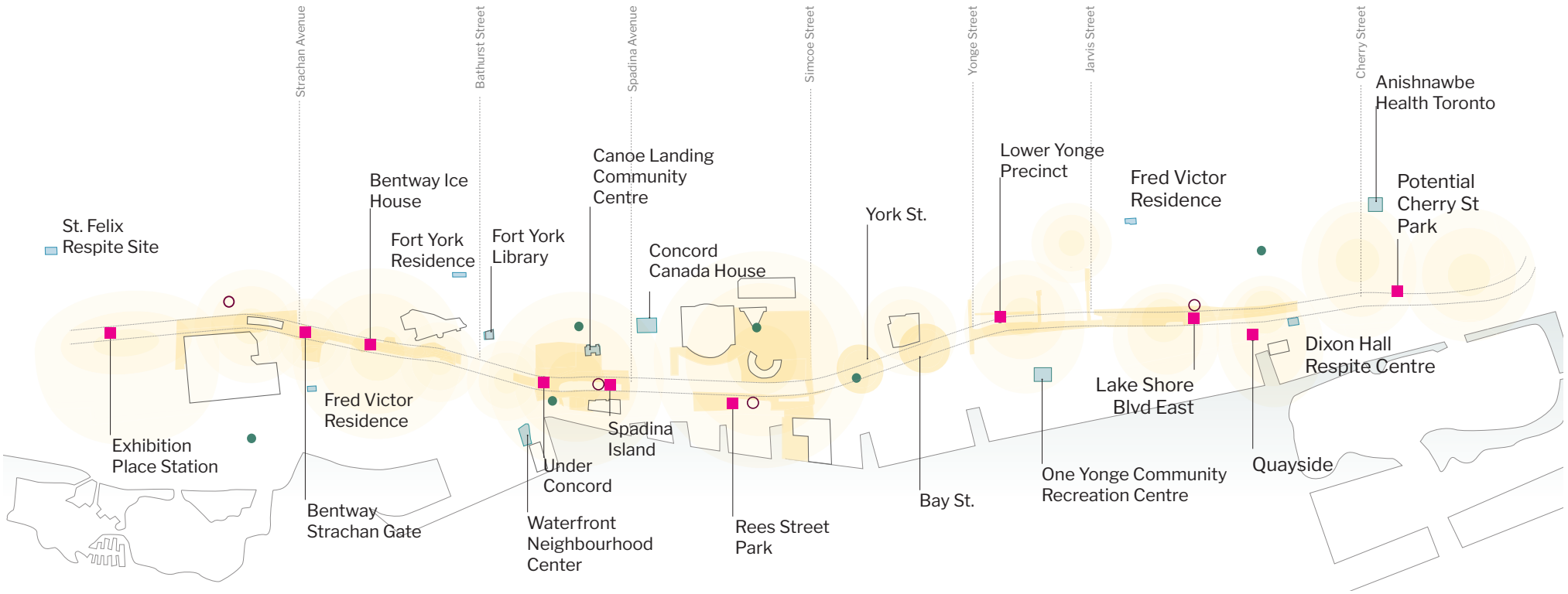


Figure 14: Community Care: Social Infrastructure

Community Care: Social Infrastructure

As central waterfront communities intensify with new high-rise buildings, it is imperative that social infrastructure keeps pace with the growing population. This means expanding on existing access to local child care, libraries, schools, and community centres. Year-round, public amenities such as washrooms, warming stations, water fountains, access to Wi-Fi, and cycling infrastructure should be also be considered corridor-wide. Conceptual 'micro-mobility kiosks' are identified in anticipation of widespread use of e-bikes and other alternatives to conventional modes of transportation that may arise in the future. While not a housing plan or comprehensive response to chronic poverty and homelessness, the provision of basic, publicly accessible amenities in under Gardiner spaces will benefit all members of the public, including people who are unhoused. Harm reduction should be a central tenet of an inclusive and socially resilient public realm.

Social Infrastructure

- Existing respite centers and shelters
- Existing community centres
- Existing bike share stations
- Conceptual micro mobility kiosk locations
- Conceptual amenity & activity hubs

3.2 A New Baseline: Recommended Elements

The Under Gardiner PRP recommends a new baseline of streetscape standards for the performance and identity of the public realm. These elements align with the recommended streetscape standards outlined in the Lake Shore Boulevard East Public Realm Plan and are to be consistent throughout the length of the under Gardiner corridor. The new baseline aims to improve the overall experience of the corridor, enhancing the safety, accessibility, and predictability of amenities. The following section presents an inventory of recommended features and components, organised into four mutually reinforcing themes:

- **Safety and Comfort;**
- **Predictable Amenities;**
- **Wayfinding and Identity; and**
- **Productive Ecology.**

To illustrate the potential applications of the new baseline recommendations, in addition to descriptions of the proposed new baseline features themselves, the following section includes a series of indicative vignettes.

These indicative vignettes are presented as potential responses to typical conditions and prominent typologies along the under Gardiner corridor, spotlighting the mutually reinforcing nature of the proposed new baseline features and the benefits of colocation. The vignettes represent a prototypical/conceptual approach that will need to be supplemented with detailed design studies, taking into account specific geographies, delivery methods, and maintenance. The application of the new baseline recommendations should consider ongoing maintenance operations adjacent to the under Gardiner corridor.

A Guide to the New Baseline:

Throughout this following section there are a serise of illustrative vignettes intended to help visualize the proposed features of the New Baseline. The following icons are incorported in these vignettes to help point out how the New Baseline can be integrated into the under Gardiner public realm.

Safety and Comfort:

Corridor-Wide Connections

Pedestrian Lighting

Pedestrian Safety at Intersections

Predictable Amenities:

Accessible Seating

Accessible Outlets & Wi-Fi

Cycling Amenities

Accessible Washrooms

Water Fountains

Cohesive Identity:

Standardized Bent Numbers

Reflective Intersection Treatments

Signage Cages

Productive Ecology:

Rainwater Management

Resilient Planting Strategies

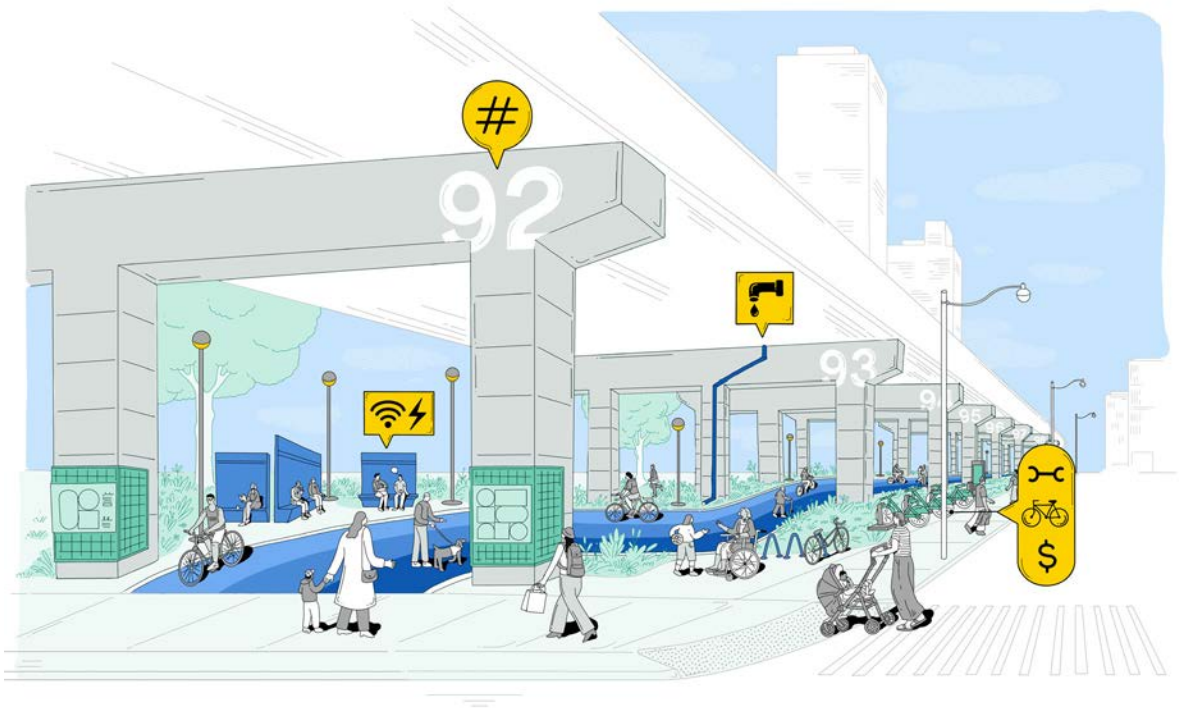


Figure 15: Conceptual artist rendering of the Under Gardiner Path, a dedicated continuous connection along the under Gardiner corridor.

New Baseline Features:

- Accessible Outlets & Wi-Fi
- Standardized Bent Numbers
- Rainwater Management
- Cycling Amenities

Under Gardiner Connections

A protected and continuous multi-use path along the under Gardiner corridor will contribute to establishing effective east-west connectivity and support multimodal transportation along the corridor.

The provision of a safe, dedicated multi-use path to complement the well-used Queen's Quay/Martin Goodman Trail was mentioned frequently throughout the consultation process. Considering the distinct qualities of the under Gardiner corridor (including high-speed traffic on Lake Shore Boulevard), and the constraints on available property, it is important that every opportunity be taken to enhance and support the safe use of space. This requires not only providing space for the path of travel, but additional safety and comfort amenities such as traffic-calming features, pedestrian lighting, consistent signage, cycling infrastructure, seating areas, and elements of productive ecology, among other supportive placemaking features.

Safety and Comfort

Safety and comfort features include pedestrian lighting, traffic calming, seating and rest areas. These features ensure that public spaces are safe, comfortable, and accessible for people of all backgrounds, ages, and abilities. These features will work together to create a space beneath the Gardiner that is welcoming, drawing people to it and through it. They help to establish a sense of place that supports a variety of uses and users.

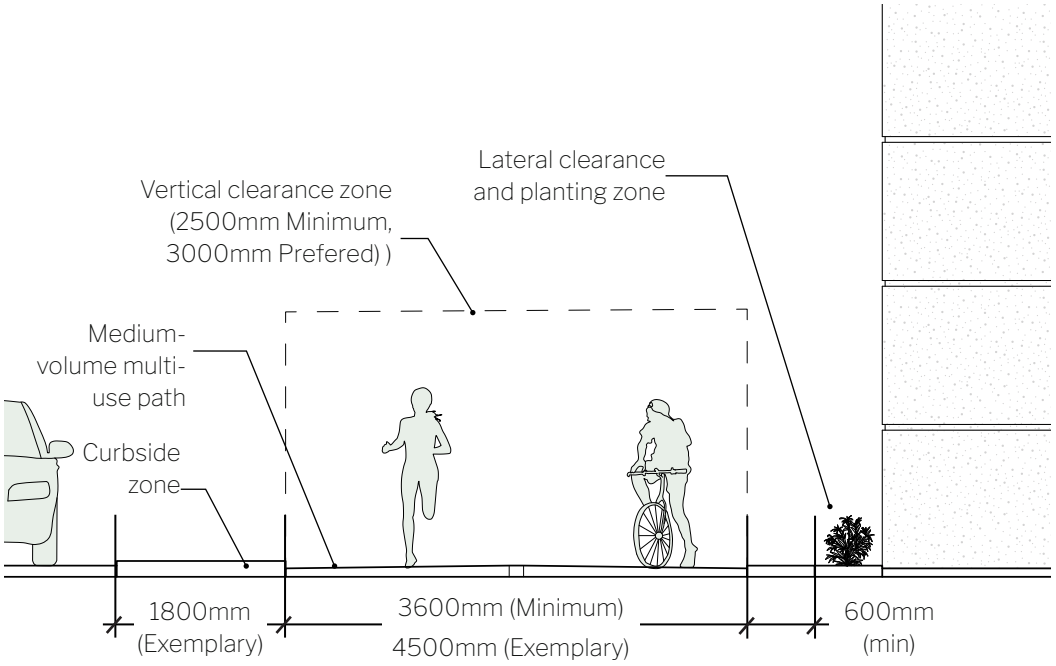


Figure 16: Under Gardiner Path dimensions, including minimums and exemplary targets

Corridor-Wide Connections

Currently, there is no consistent, separate, or protected path for pedestrians and/or cyclists across the under Gardiner corridor. As reflected in the Connectivity and Accessibility diagram (figure 11), gaps can be addressed to create a continuous east-west path network along the 7-kilometre corridor.

Connecting the Ontario Line station at Exhibition Place to the Lower Don Trail in the east, thus establishing safe pedestrian and cycle routes along the under Gardiner corridor, will complement the City's 10-year cycling plan's goal of connecting, growing, and renewing existing cycling infrastructure.

Future connections should incorporate the minimum dimensions to accommodate a safe and comfortable path for cyclists and pedestrians, with room for planting and furnishing zones, consistent with the City of Toronto Multi-use Trail Design Guidelines wherever possible.

High-capacity design is recommended wherever possible, with space for many combinations of users to pass each other. As per Toronto Multi-Use Trail Design Guidelines, a 3.6 metre minimum dimension provides space for three cyclists at their minimum operating space of 1.2 metres each, or for a cyclist at 1.5 metres to pass two pedestrians walking abreast. A minimum buffer of 0.6 metres must also be achieved.

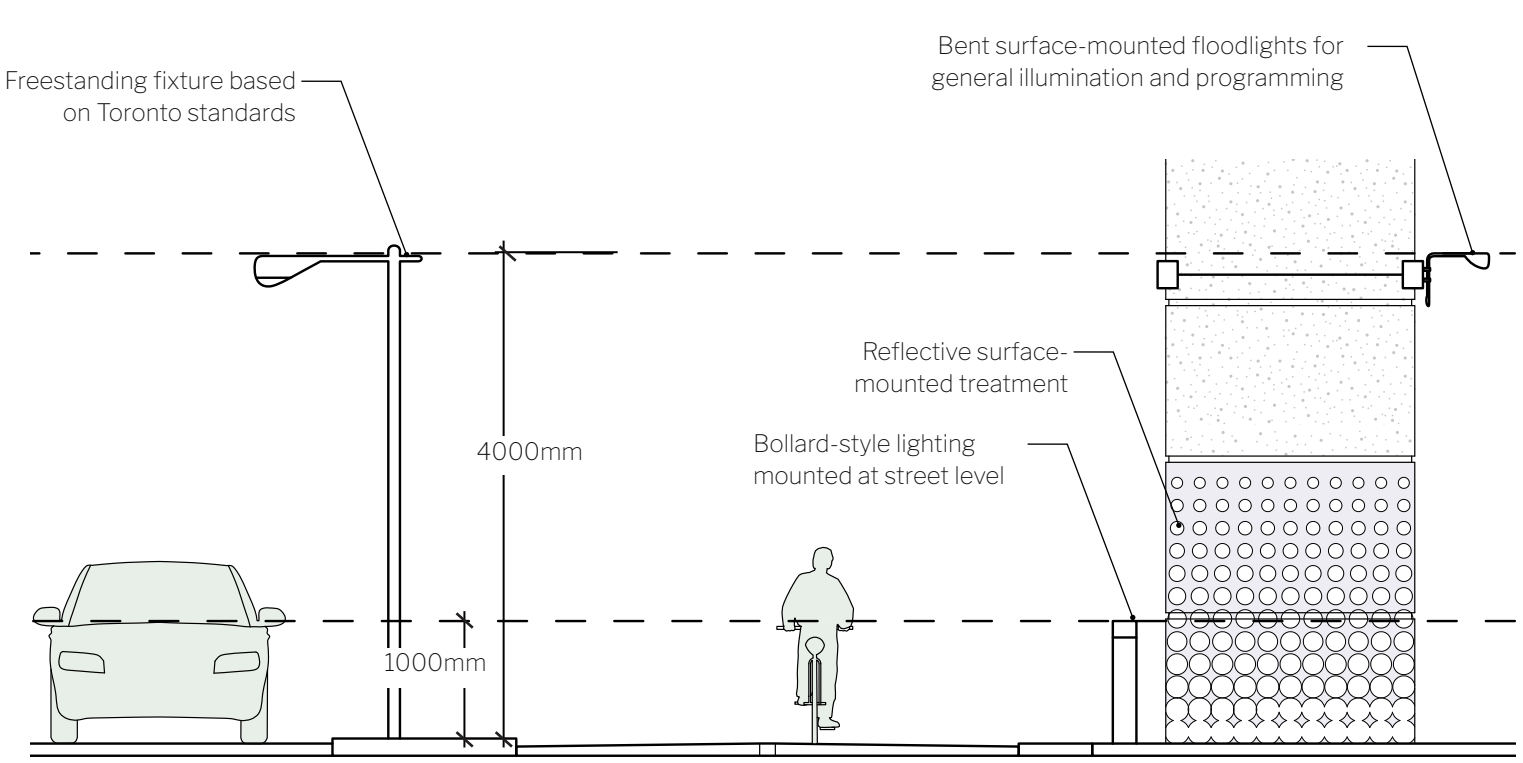
These widths are considered appropriate and comfortable for medium-volume trails. To optimize utility and comfort a 4.5 metre width and 1.8m buffer should be accommodated where possible.

Pedestrian Lighting

The under Gardiner spaces often suffer from poor lighting conditions, which are further amplified by the potential high contrast between surfaces with adjacent sunlit spaces, creating a perceived darkness under the expressway. Lighting can be improved to prioritize pedestrians and cyclists, with emphasis given to active transportation paths and pedestrian crossings under Gardiner intersections.

Along path segments, preferred fixtures would direct light downward to the surface where it is needed. They minimize uplight, which causes skyglow and glare to an observer. Lighting mounted at height is to be integrated into a freestanding fixture or surface-mounted on bent faces at a height of four metres above the path.

At activity hubs and plaza spaces, lighting should build on existing strategies used at The Bentway, including bent-corner-mounted flood lighting at high elevations, allowing for general illumination of programmable areas.



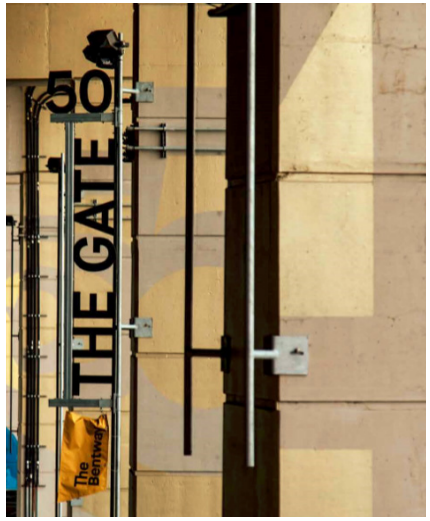


Image 22: (above) An example of an effective bent-mounted floodlight system from The Bentway Phase 1 site.

Figure 17: (left) Illustration of mounting strategies and dimensions for pedestrian-oriented lighting

Figure 18: Conceptual artist rendering of potential public gathering and community spaces under the Gardiner.

Intersections

Intersections along the under Gardiner corridor represent important nodes of north-south connectivity for the city's waterfront area. The Under Gardiner PRP identifies intersections as prime sites to achieve multiple design objectives, including traffic calming, placemaking, pedestrian lighting, and wayfinding. Increasing the sense of safety at intersections is a priority to capitalize on them as places of reconnection.

New Baseline Features:

- Accessible Washrooms
- Standardized Bent Numbers
- Rainwater Management
- Pedestrian Lighting
- Corridor-Wide Connections
- Accessible Seating
- Signage Cages

Pedestrian Safety at Intersections

The disconnect created between the waterfront and the broader city by the Gardiner could be remedied by addressing the perceived safety of the experience crossing Lake Shore Boulevard. Known equally for periodic congestion and high-speed traffic, the roadway can be unpredictable. General improvements geared toward safer conditions for pedestrians and cyclists are a key consideration at intersections and formalized crossings where there is increased pedestrian and cyclist activity.

Building on the recommendations from the Lake Shore Boulevard East Public Realm Plan, pedestrian crossings at formalized intersections should be enhanced, where possible, through widened zebra stripes, dedicated cycling lane, and cycle crossing indicators. The use of bollards, signage, and vegetation along road edges, as well as the integration of pedestrian-oriented lighting and color treatments at intersections, would further contribute to an overall sense of multi-functionality at key crossings, slowing traffic speeds and improving safety for all road users.

The notion of the Shoreline Stitch emerged as one of the Big Ideas of the TOcore: Infrastructure Strategies. The Under Gardiner PRP seeks to provide additional specificity and direction for what shape the Shoreline Stitch takes and how it operates.

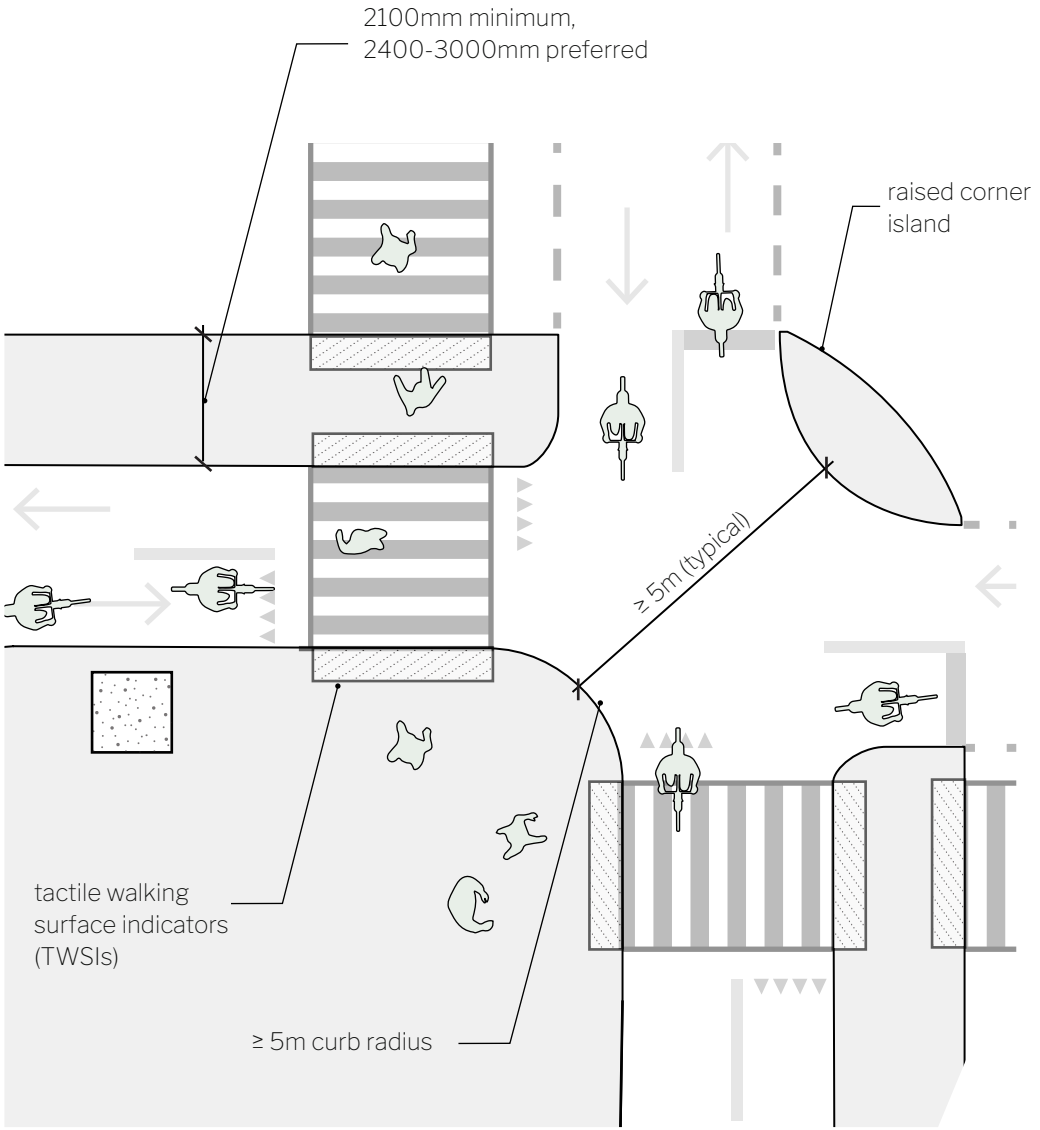


Figure 19: Conceptual diagram for protected Intersection with Two-Way Cycling Facilities, based on Ontario Traffic Manual Book 18, Section 6. Location of all safety features and design elements to be determined through futher study.

Predictable Amenities

Predictable amenities include reliable and accessible features, such as public washrooms, water fountains, bicycle parking and repair stations, Bike Share stations, and seating, and they are vital to a thriving public realm. As we increasingly rely on digital technologies, personal devices, and the Internet, an ability to connect to Wi-Fi and use charging stations in public spaces also greatly improves accessibility. These predictable amenities meet many basic needs and allow for the spaces along the corridor to be used in a multitude of different ways by various user groups.

Publicly Accessible Seating, Outlets, and Wi-Fi

In instances where there are long, uninterrupted blocks or at the midpoint of existing multi-stage crossing sites, the provision of simple street furniture, such as benches or wind-breaks at rest stops, can be an important safety and accessibility accommodation. Benches along the under Gardiner corridor can double as part of a protective buffer strategy and can easily be colocated with other amenities to provide comfortable spaces to stop, rest, and find shelter from the heat in summer or the harsh winds in winter. Consistent furniture treatments can also help to reinforce a unique identity for the corridor. Accessible seating design must consider non-defensive features, and should be durable.

Where possible, low-barrier access to Wi-Fi and charging outlets should be considered to help mitigate the digital divide in public space, allowing for multifaceted connectivity and a supportive user experience. The City's ConnectTO initiative is already working to expand access to free public Wi-Fi across Toronto neighbourhoods, starting with community centres, civic squares, and transit. The colocation of seating alongside Wi-Fi and charging outlets, away from high-traffic multi-use paths, will mediate competing uses of space.

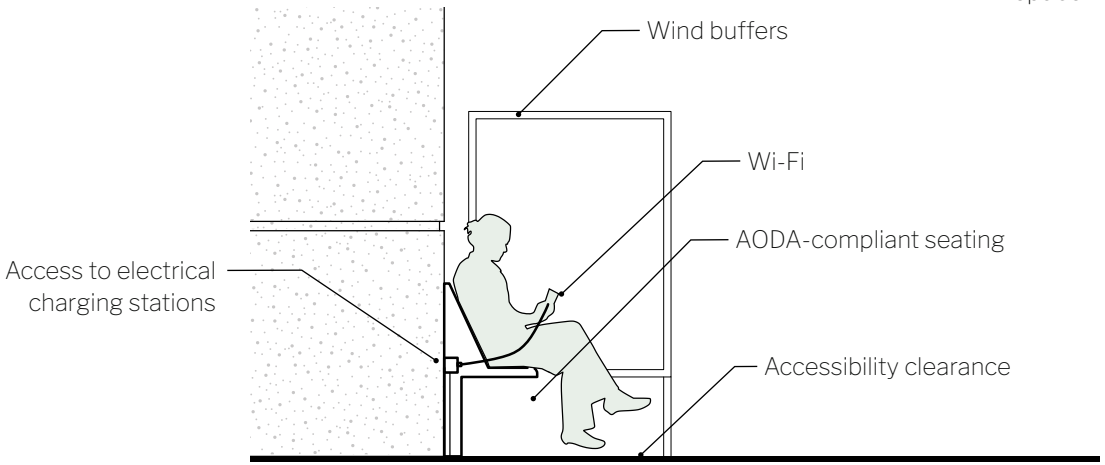


Figure 20: Diagram showing co-location of amenities in under Gardiner spaces

Cycling Amenities, Accessible Washrooms, and Water Fountains

In consultation with the Toronto Parking Authority, bike parking, Bike Share docks, and bike repair stations, colocated at regular intervals adjacent to the Under Gardiner Path and built from an all-ages approach, will support accessible active transportation throughout the corridor. Their provision, strategic siting, and colocation with other useful amenities play a role in shaping a more sustainable and healthier future for the under Gardiner corridor.

Bike Share exists within broader Complete Streets and Vision Zero-style policies. Like bike lanes, Bike Share stations can be tools to improve safety by increasing pedestrian visibility at intersections and providing pedestrian refuge areas.

The City of Toronto has already installed DIY bike repair stations at TTC interfaces and in certain parks. This kind of infrastructure should be further developed and implemented in coordination with local stakeholders and BIAs.

Universally accessible and all-gender washrooms equipped with harm reduction features are recommended across the corridor, at the discretion of the site operator, as well as bottle filling stations and water fountains for both humans and pets. These washrooms and water fountains should be integrated into planned projects and colocated with municipal service hubs and/or commercial uses to facilitate efficient cleaning and upkeep while creating multifunctional nodes of activity throughout the corridor.

Examples include the washrooms and/or water fountains included at The Bentway Phase 1 site, Exhibition Go Station, Union Station Bus Terminal, the planned Rees Street Park and future developments such as the 1 Yonge site.

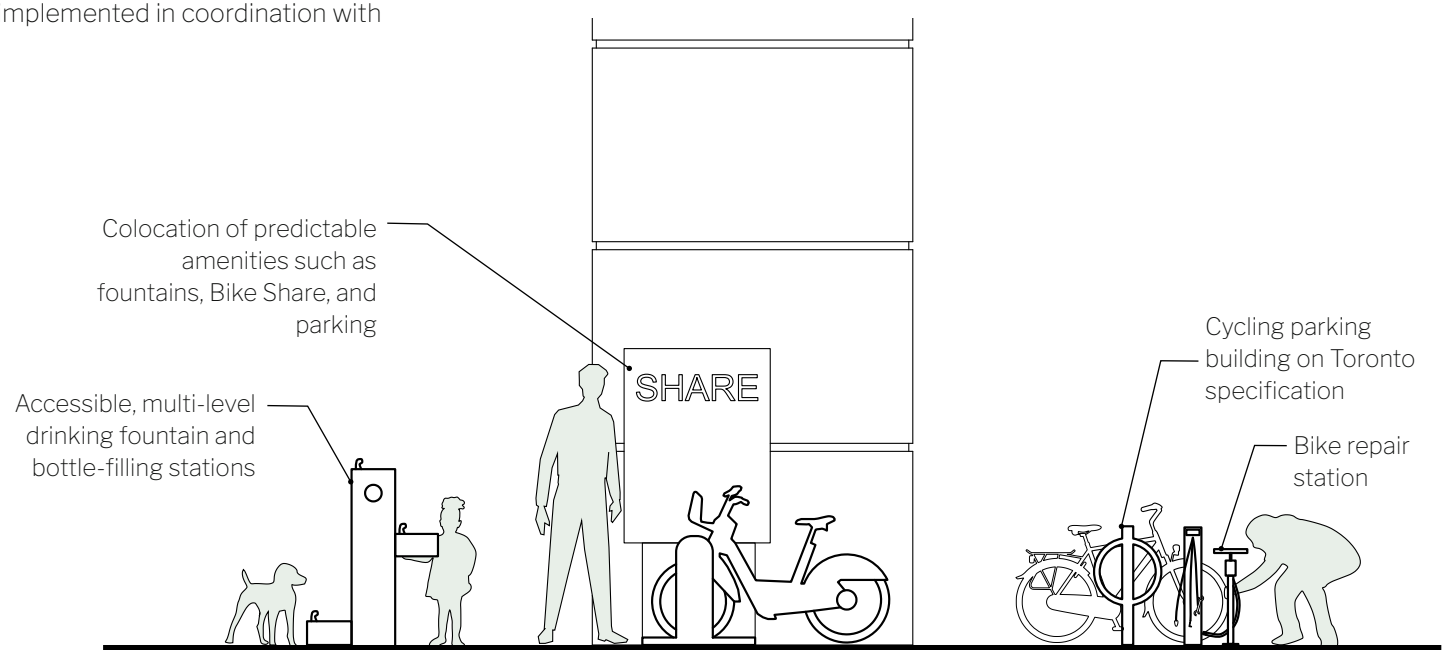


Figure 21: Diagram demonstrating co-location of amenities

Figure 22: Conceptual artist rendering of potential public gathering and community spaces under the Gardiner.

Plazas and Gathering Spaces

The plazas and gathering spaces proposed in the Under Gardiner PRP represent an innovative application of community infrastructure. The corridor will work to link a series of public and private nodes of activity, representing a range of uses, including resting spaces, recreational spaces, harm reduction supports, and space for arts, culture, and commerce, among others.

These focal points of activity will draw on privately owned and publicly accessible spaces, many of which may already be in development. Working with new frontages and uses in previously underappreciated and overlooked spaces, the Under Gardiner PRP enhances the connections among cultural institutions and commercial destinations along the corridor, strengthening the networks of activity.

New Baseline Features:

- Water Fountains
- Standardized Bent Numbers
- Rainwater Management
- Pedestrian Lighting
- Accessible Wi-Fi

Cohesive Identity

The size of the Gardiner Expressway can be overwhelming for pedestrians and cyclists. To aid navigation of the space, the Under Gardiner PRP recommends wayfinding and identity features, such as consistent bent numbers, reflective intersection treatments, and signage cages. Currently, the under Gardiner corridor presents as a non-space, despite the fact that it runs directly through 17 neighbourhoods and in close proximity to many notable destinations and attractions. The recommended wayfinding and identity features will improve communication between local partners and the public, demarcating landmarks and areas of interest along the corridor. This allows for the public to better understand the Gardiner's history and architecture.

Standardized Bent Numbers

Borrowing from The Bentway and consistent with the Lake Shore Boulevard East Public Realm Plan, the Under Gardiner PRP recommends standardized bent numbers that echo the existing engineering index. Priority should be given to numbering at key under Gardiner intersections and junctions as Gardiner Rehabilitation work is completed. This consistent system will strengthen the under Gardiner identity and ease navigation across the city. As Toronto continues to grow, especially the neighbourhoods adjacent to the corridor and along the waterfront, it is increasingly important that accessible wayfinding features are implemented consistently.

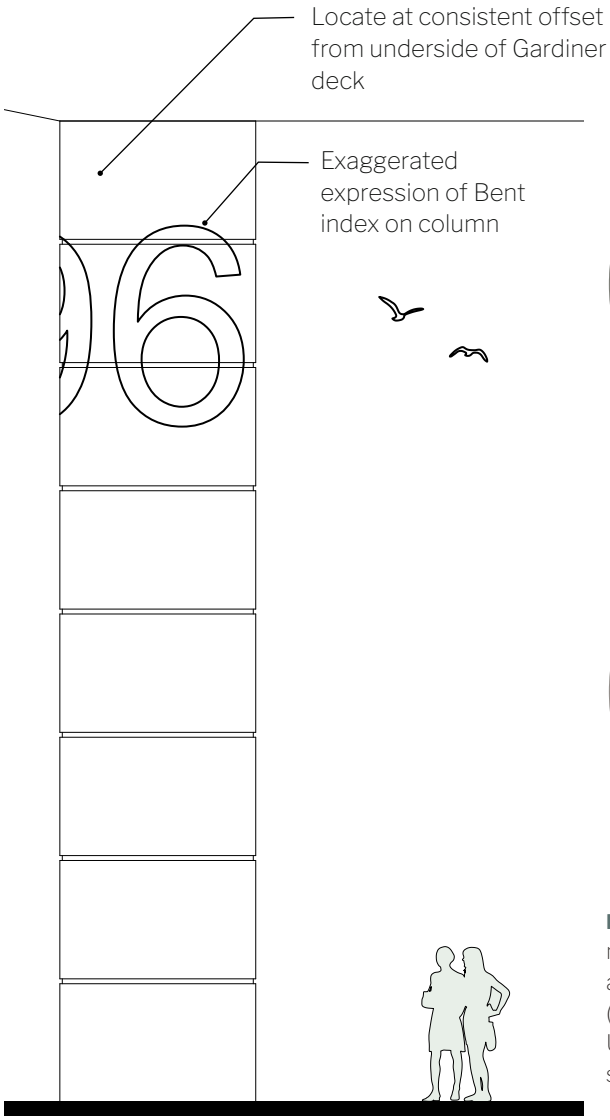


Figure 23: Diagram showing the scale and location of the Bent numbering system.

Image 23: Examples of a bent number wayfinding system as applied to vertical surfaces (above) or inlaid as part of the Under Gardiner Path ground surface treatment (below).

Reflective Intersection Treatments

In addition to the introduction of a corridor-wide bent numbering system, increased visibility and awareness at intersections is a low-impact, high-reward tactic also identified in the Lake Shore Boulevard East Public Realm Plan. In the absence of an accessible power supply for electric lighting, using reflective surface treatments is a low-cost strategy to increase visibility for wayfinding and directional signage. As demonstrated by the selected design intervention from the Waterfront ReConnect competition, installed at York Street in the summer of 2023, using reflective paint and/or vinyl appliqués can be an effective means of redirecting the light from passing vehicles to illuminate intersections and was observed to provide increased visibility for visually impaired pedestrians, thereby serving as an effective accessibility improvement as well.

Image 24: The Boom Town Waterfront ReConnect installation by 5468796 Architecture Inc. and Office ISO makes effective use of reflective vinyl as a visual accent at the York Street intersection.

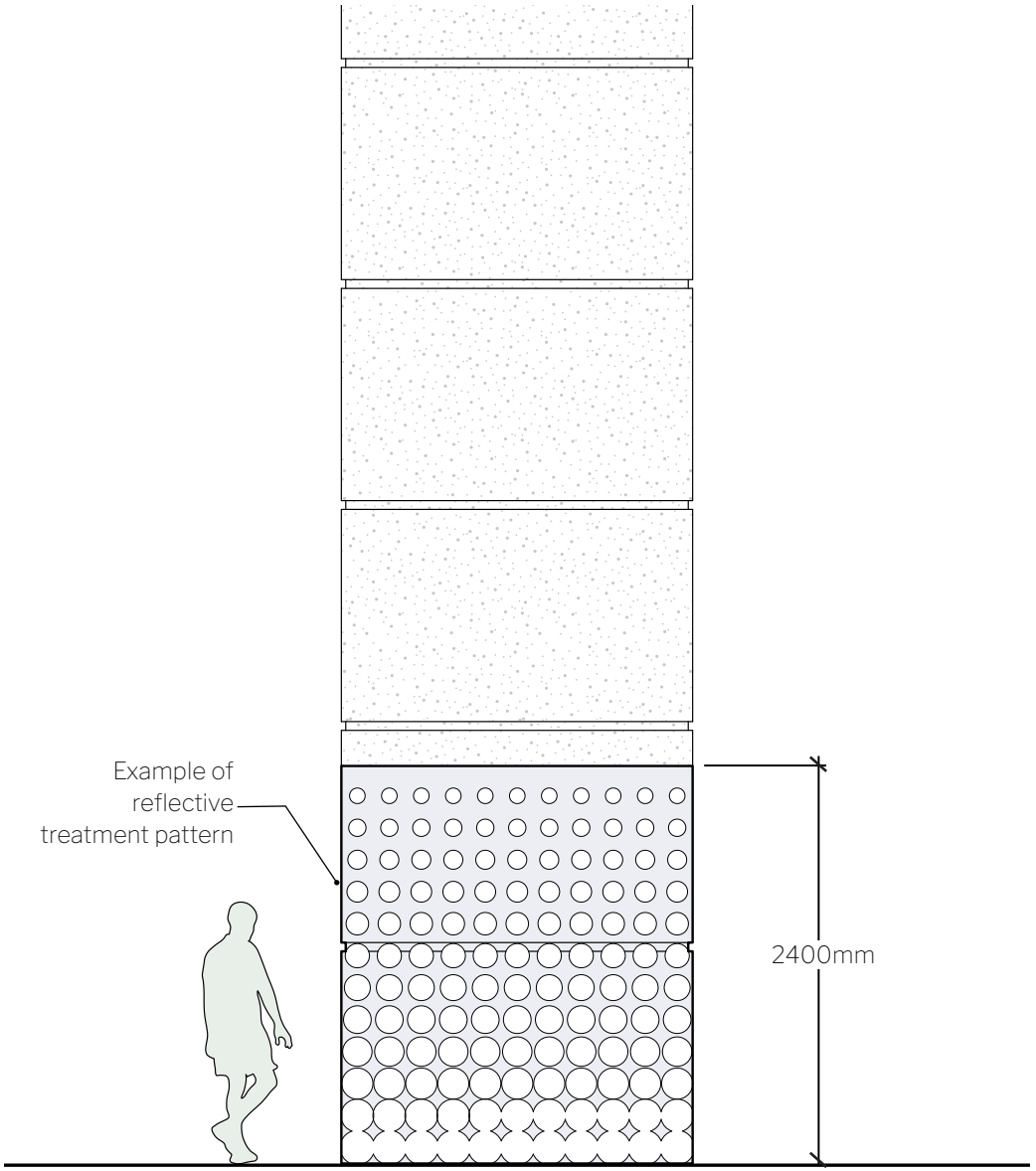


Figure 24: Diagram of a typical reflective treatment applied to the Gardiner

Signage Cages

Given the number of people who move through the under Gardiner spaces daily and the corridor's proximity to many notable destinations and attractions, the provision of relevant messaging for both the local community and more formal institutions would benefit visitors and local businesses alike. Wraparound signage cages could be installed strategically across the corridor and support standardized signage managed by local BIAs. Ensuring that these signage cages remain accessible for regular maintenance would avoid any damage to and support upkeep of the bents.

Image 25: Simple yet effective signage cages support community messaging and event posters, a low-tech complement to the City's TO360 wayfinding plinths.

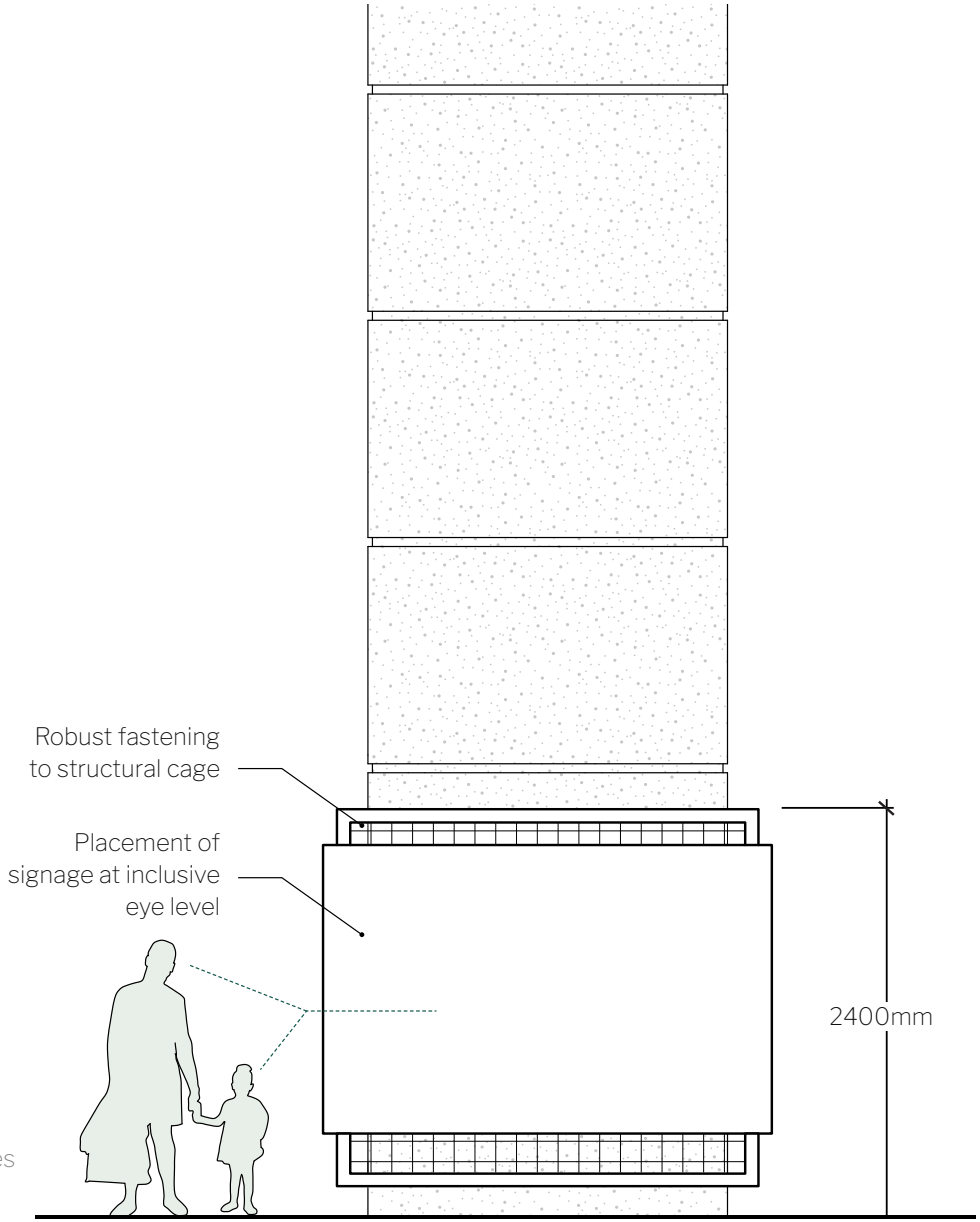


Figure 25: Diagram of typical signage cages found at The Bentway

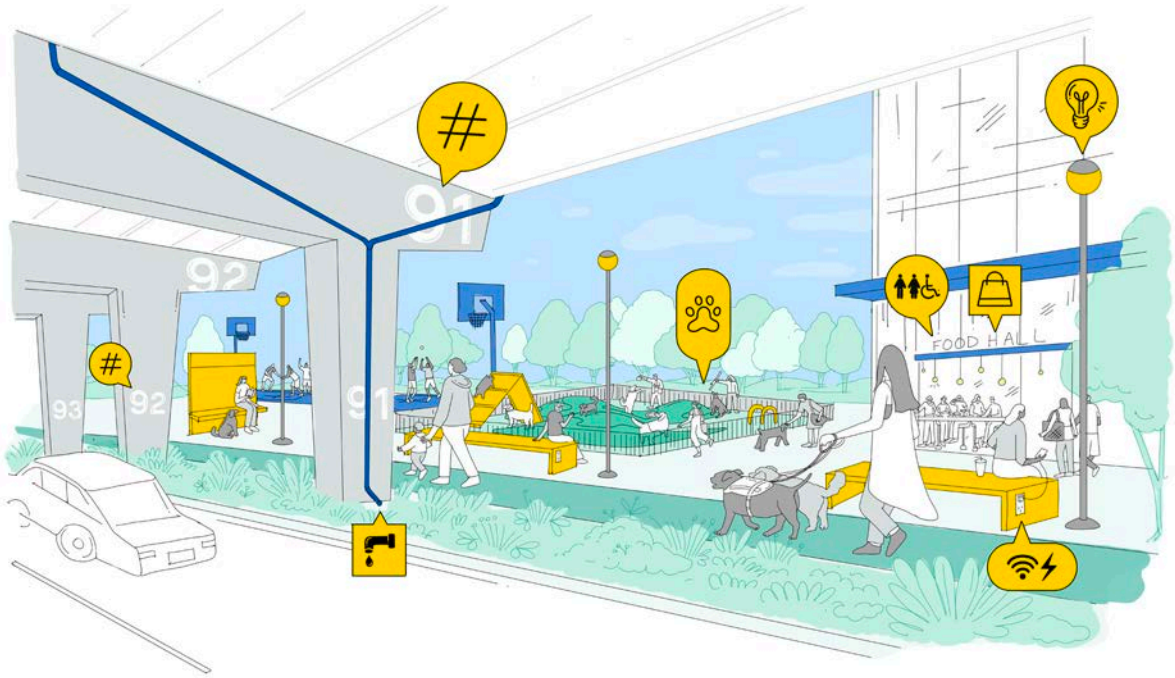


Figure 26: Conceptual artist rendering demonstrating the complementary interface between parks, private development, and the Under Gardiner Path.

New Baseline Features:

- Accessible Washrooms
- Standardized Bent Numbers
- Rainwater Management
- Pedestrian Lighting
- Accessible Outlets & Wi-Fi

Active Frontages

Active frontages are the residential, retail, commercial, and other public-facing developments that will open onto the under Gardiner corridor, as it develops into an animated space under the expressway. This applies both to new developments and existing sites in need of improvements. As the corridor transforms into a civic street within a growing community that is alive and vibrant, it is key that the public experience of this space shifts to complement the evolving role and neighbourhood.

Active frontages are crucial thresholds that represent the interface between private development, parks and public development, local residents, and the under Gardiner corridor. The aim of the Public Realm Plan is to help shift the perception of the Gardiner Expressway corridor to it being an asset as opposed to a liability, leveraging the opportunities presented by neighbouring developments and proximity to an integrated network of public and private destinations.

Figure 27: Conceptual artist rendering demonstrating potential productive ecology interventions alongside maintenance under the Expressway.

New Baseline Features:

- Water Fountains
- Standardized Bent Numbers
- Pedestrian Lighting
- Resilient Planting Strategies

Blue-Green Medians

The intent of the Under Gardiner PRP is to reframe the Gardiner Expressway as hybrid infrastructure: a movement corridor, a functional public space, and a site of productive ecology. Integrating absorptive, porous, and planted areas on the corridor's many traffic medians and islands brings together infrastructure and the environment and provides many benefits to the natural and built context. Blue-green medians consist of a variety of ecological features, with a mind to rainwater management, effective flood mitigation, and pollution reduction, among other resilience strategies.

Acoustic comfort can be enhanced by reducing noise pollution with barriers and absorption materials. In general, the rougher a surface, the greater its absorption, and the closer a barrier is to the source or noise, the more effective it will be in preventing noise from traveling. An effective way to address this is to use vegetation based solutions, rather than using noise barriers which can create undesired visual impacts.

Productive Ecology

The Gardiner Expressway traces the historic shoreline of Lake Ontario, which has been extended southwards through human intervention in the 19th and 20th centuries. The original wetlands supported an ecosystem of freshwater plants and animals, birds, insects, and fish. The Under Gardiner PRP recommends reintroducing some of these native plants, as well as new productive plantings that thrive in harsh conditions and filter road salt and other pollutants. The features of productive ecology allow for alternative understandings of land management to persist and for care to be put back into the Earth as it supports activities along the under Gardiner corridor.

Rainwater Management

Rainwater runoff management in urban and suburban areas is critical to prevent toxins from entering waterways, especially in coastal areas, as well as to reduce significant flood risks. The average city block can generate more than five times as much runoff than a forest area of equal sizing. As rainfall hits an impermeable surface, it carries along the existing pollutants residing on that surface, such as road salt, sediment, trash, oils, heavy metals, toxic chemicals, fertilizer, waste, bacteria, and viruses, which then enter the city's waterways untreated. Drinking water supplies, public health, aquatic habitat, and recreational areas are at risk from impaired waterways.

Green infrastructure is a cost-effective alternative to traditional "gray" water management systems. Green systems capture the rain where it falls and mimic natural hydrological processes, utilizing natural means to do so, such as with soil and vegetation to retain water and improve water quality.

Green infrastructure simultaneously provides other benefits, such as reducing the urban heat island effect through evaporation and evapotranspiration, providing cooler and cleaner air that can reduce heat-related illnesses and respiratory issues. In compliance with the City of Toronto's Green Infrastructure Standards, Specifications, and Criteria, various water management strategies can be implemented to creatively support ecology along the under Gardiner corridor.

Water management strategies include:

1. Downspout Disconnection

Redirect runoff from storm drains to a permeable surface, such as to a vegetated area or bioswale. This can greatly reduce the amount of stormwater filtrating into the municipal sewer system.

2. Rainwater Harvesting

By redirecting rainwater to cisterns or planter beds, rainwater capture, storage, and use has the potential to meet 21 to 90 per cent of a city's non-potable water needs. This can provide added resiliency to neighborhoods, reducing the impacts of flooding and drought from climate change.

The effectiveness and potential yield of various water management strategies depend on the construction materials used. The yield is dependent on the runoff coefficient (the runoff collected vs. overall rainfall) and imperviousness coefficient (the fraction of surfaces that impede rainfall) associated with the surface materials. The combination of these two parameters help to quantify the potential impact of water management systems.

Bioswale Strategy

The placement of bioswales across the under Gardiner would allow for improved filtration of rainwater prior to entering the city storm systems and waterways. This strategy is viable where it can be demonstrated that ongoing Gardiner maintenance and inspection can occur. Plants with high salt tolerance would be prioritized, as well as plant species with phytoremediation capacity, as they would be able to withstand the harsh environment that exists along the under Gardiner corridor.

Long, deeper channels of native plants, grasses, and varying soil types can treat a large quantity of runoff, as well as filtering out pollutants. Effective bioswales can capture and filter as much as 90 per cent of solids, 80 per cent of trace metals and oils, and 65 per cent of phosphorus. Varying in size and setting, bioswales are flexible mitigation strategies that contain native plantings in shallow basins to trap rainwater runoff from the expressway.

Resilient Planting Strategies

The inclusion of low-maintenance, robust perennials, as well as native plant species, across the under Gardiner medians and at downspouts would allow for the under Gardiner spaces to support the wetland ecology that has historically been present in the area. Following direction from Indigenous knowledge keepers and horticulture experts, this approach can support a biodiverse environment. Along the under Gardiner corridor, low-level dense vegetation with complete coverage from ground to top has been shown to have a positive impact on air quality.

For this site, with open roads on either side of the site in question, vegetative barriers that are thick, dense, and tall have a positive impact on air quality. Barriers closer to the pollutant source remove considerable concentrations of pollutants. Further analysis and measurement is recommended to more thoroughly assess the air quality benefit of these solutions.

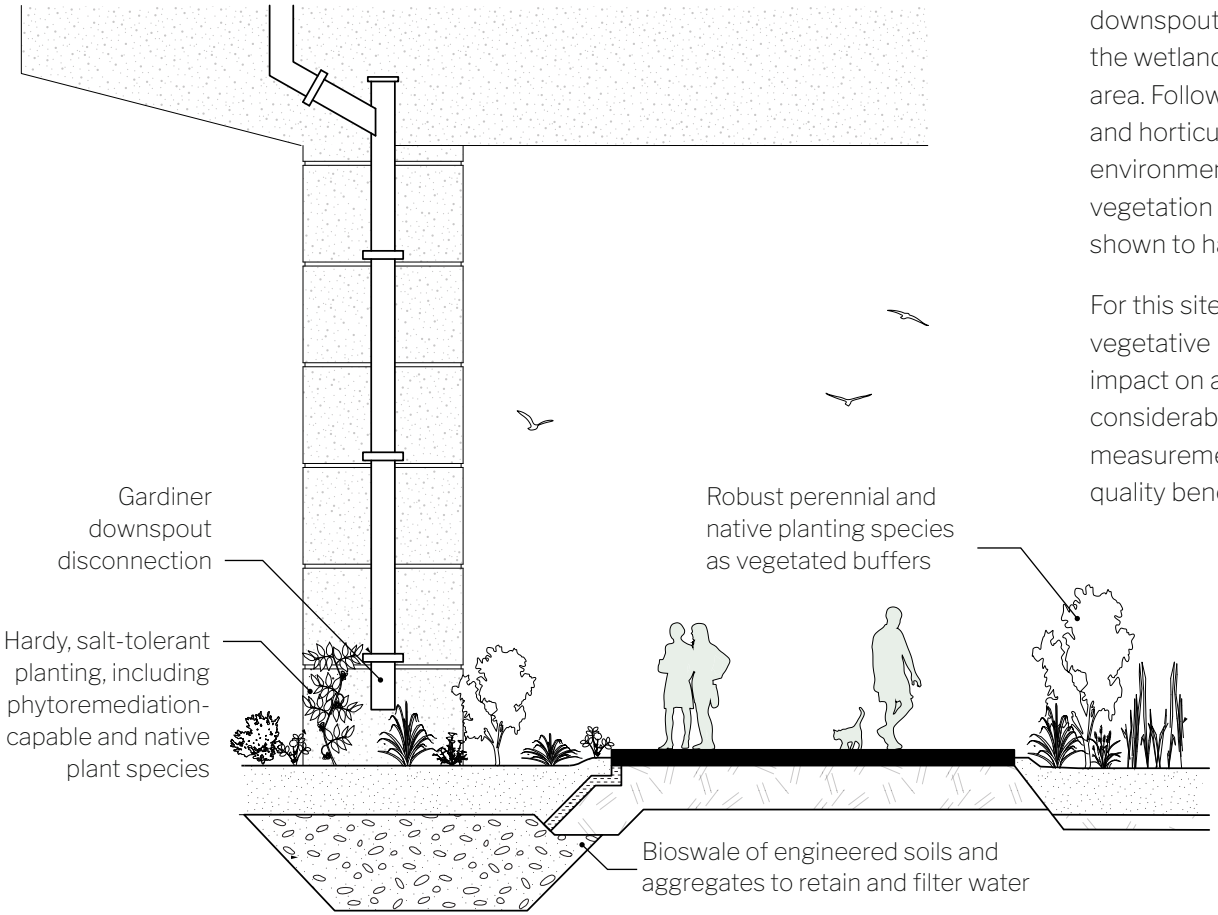


Figure 28: (left) Conceptual diagram demonstrating water catchment areas below the Gardiner. Site-specific opportunities must address local conditions and ensure water is diverted from any column footings.

Image 26: (right) Native halophytes (salt-tolerant plants) such as Atriplex naturally remove road salts and contaminants.

Part 4: **Site-Specific Recommendations**

4.1 Key Recommendations by District

Image 27: Artist conceptual rendering of the Glass Gardiner district, at night, characterized by high pedestrian activity and the presence of multiple active frontages.

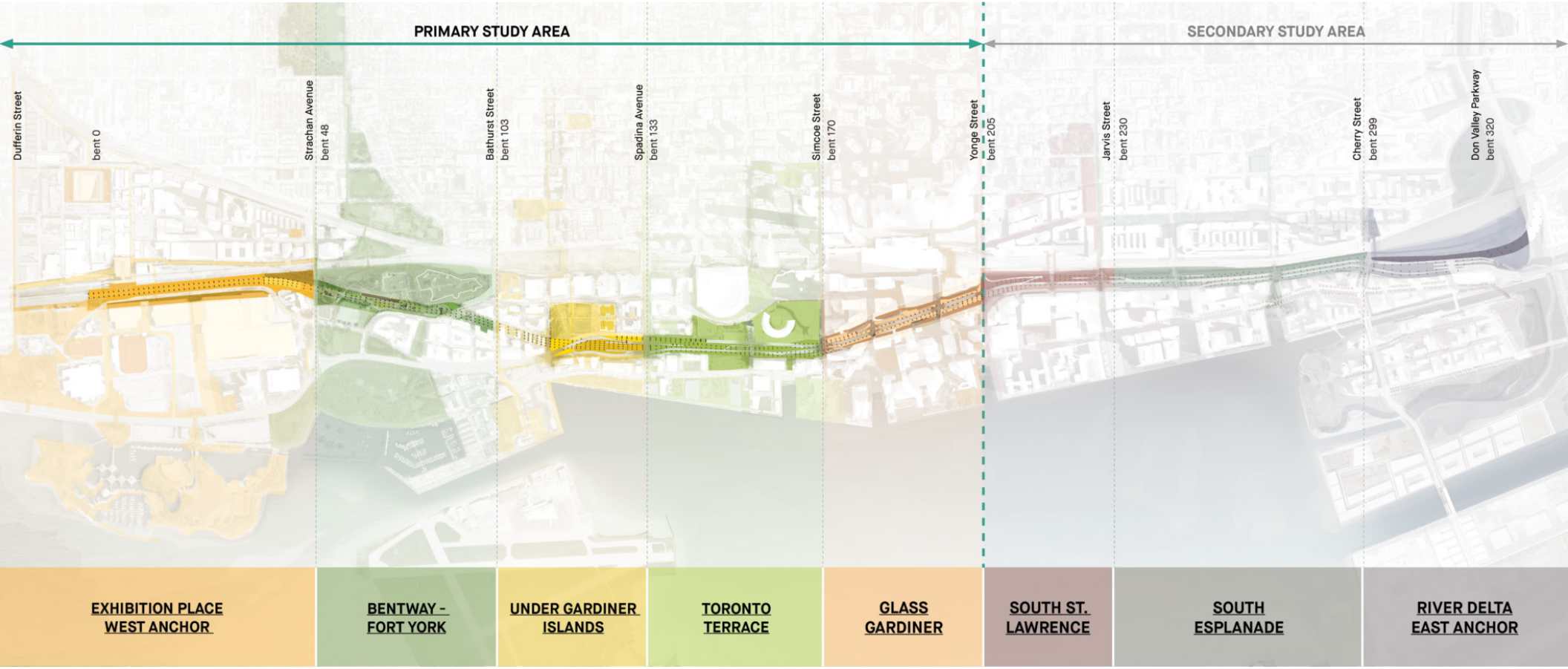


Figure 29: Key map indicating the extent of the primary and secondary study areas and identified districts.

4.1 Key Recommendations by District

The identification of the following opportunity sites and recommendations have been informed by stakeholder and community input. The proposed interventions seek to respond to key learnings from programming, upkeep, and maintenance experience under the Gardiner.

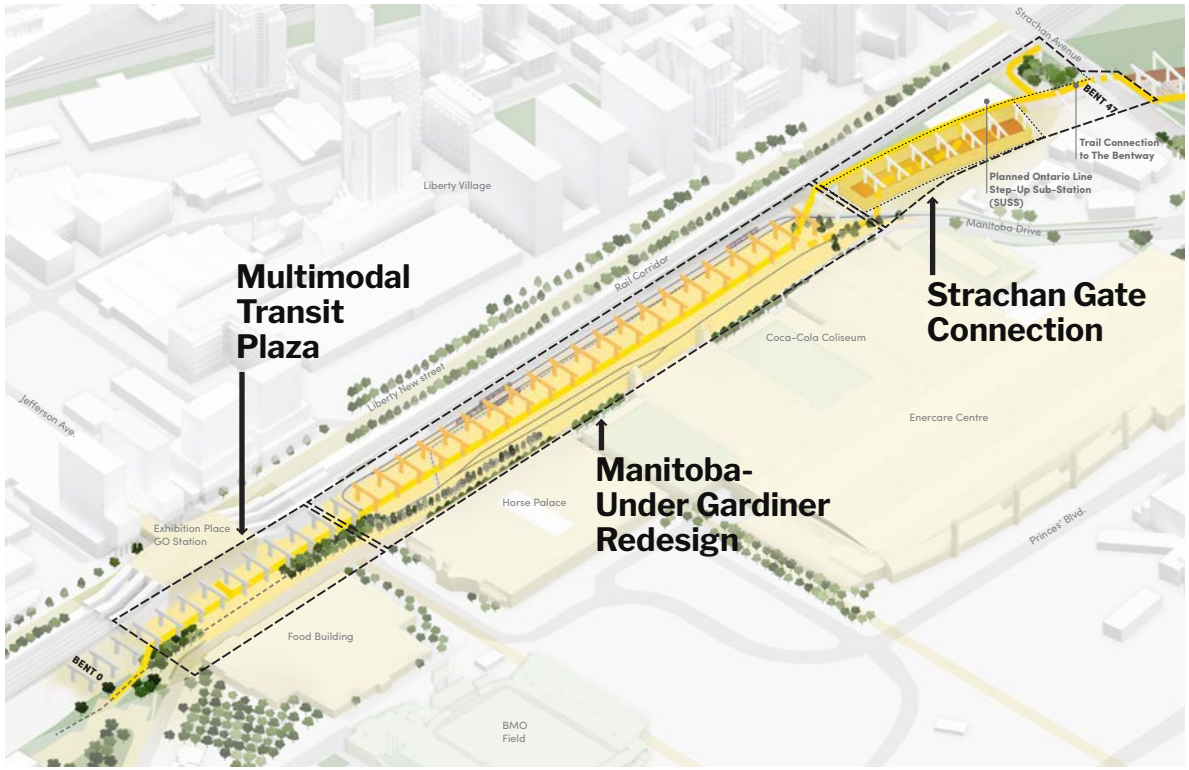


Figure 30: Conceptual plan for the Exhibition Place West Anchor district

Exhibition Anchor

Bents 1-46: Dufferin Street to Strachan Avenue

Consultation with district stakeholders and community members saw access and connectivity emerge as priorities for many of the sites within the Exhibition Anchor district. These priorities were also echoed in the Next Place Plan 2020 report. Near-term transit investment and the continued growth of major events in this area will result in a significant rise in pedestrian traffic. The need for improvements, including new east-west connections under Strachan Avenue and multimodal circulation, were highlighted. Additionally, the need to preserve critical operations for the Exhibition Place campus (parking, transit, and storage) was highlighted as a key consideration. Exhibition Place is conducting additional studies to identify key areas of need within the vicinity.

Image 28: View into existing streetcar station at along Manitoba Drive.

Image 29: Artist conceptual rendering of Manitoba Drive, looking north into streetcar loop.

Multimodal Transit Plaza

With the western terminal station of the new Ontario Line under construction, the existing Exhibition GO Station is poised to become a significant transit hub and multimodal interchange. Alongside new infrastructure and transit-oriented development, commensurate investment in the public realm is needed to deliver on the promise and potential of well-rounded, inclusive, and accessible transit-oriented communities.

The South Station Plaza will act as a new doorstep to Exhibition Place and numerous waterfront destinations. The future Exhibition GO Station will connect travellers from the existing regional GO Transit with the new Ontario Line and TTC streetcar service. The design of the plaza should prioritize multimodal transit connections and provide a safe, accessible, and welcoming experience at the point of arrival.

While design and construction of the new station advances, a number of studies regarding servicing and circulation are ongoing. Highlighting the Exhibition Station South Transit Plaza as an opportunity site within the Under Gardiner Public Realm Plan should not preclude or prevent additional design work and analysis; however, it does reinforce and emphasise the importance of public-facing services and amenities for locals, commuters, and tourists alike.

Features of the new baseline should be incorporated into the planning of the future multimodal transit plaza. These include under Gardiner wayfinding, signage, Bike Share stations, bike parking, and bike repair and e-bike charging stations, along with other cycling infrastructure that encourages safety, accessibility, and comfort. Other features that could be incorporated into the site include transit-supportive retail and amenities to support sustainable multimodal transportation journeys.

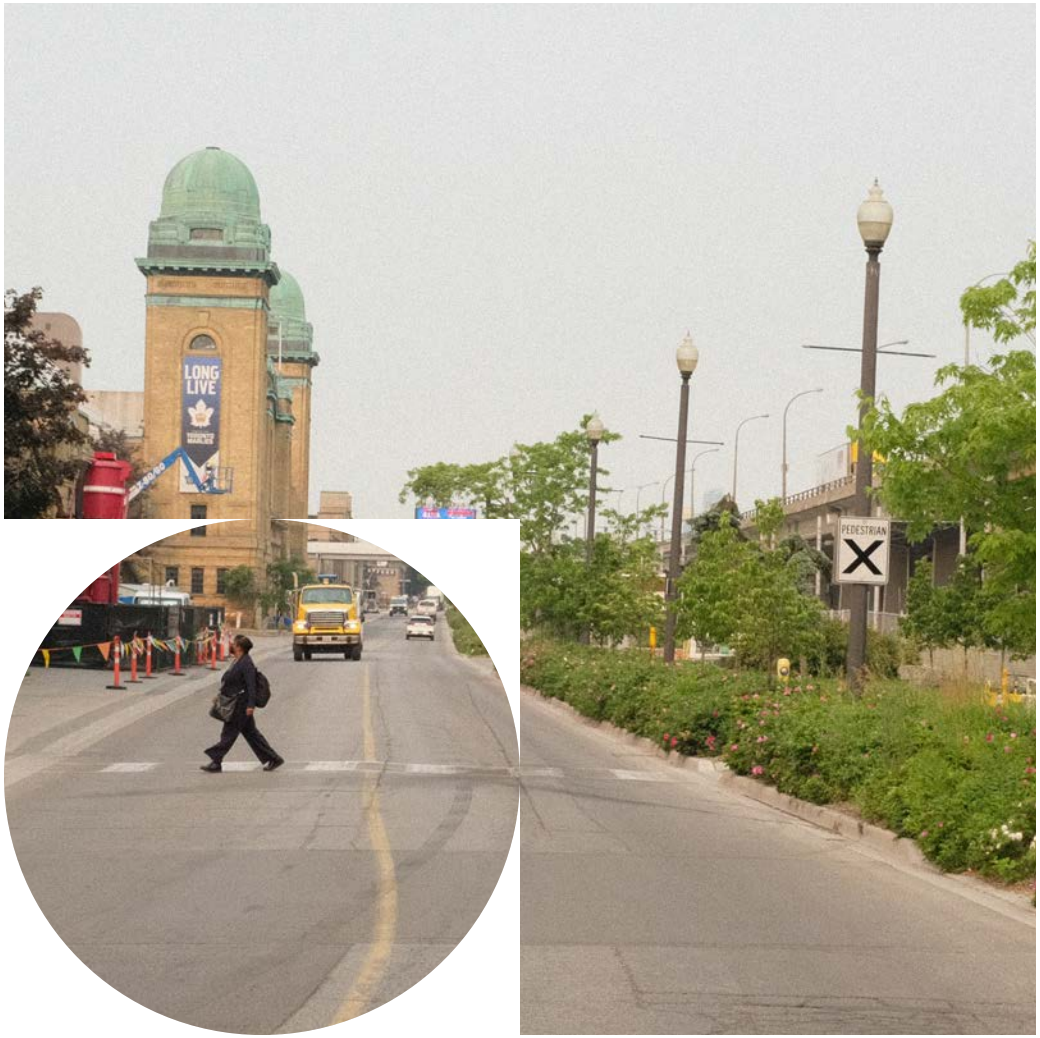


Image 30: View of Manitoba Drive, looking west

Manitoba-Under Gardiner Redesign

Redesign of the Manitoba-Under Gardiner interface presents a significant opportunity site. Improvement here can enhance the experience of arrival at Exhibition Place and the planned Ontario Line Exhibition Place Station. Stakeholder engagement underscored the importance of future improvements to the public realm in the area not inhibiting the operations of Exhibition Place, the TTC, or Metrolinx.

Through further study, Manitoba Drive and the under Gardiner corridor could be reimagined as a 400-metre-long multifunctional passageway supporting the many programmatic and operational needs at Exhibition Place. Planned studies to inform the area include Exhibition Place's Event Logistics and Multimodal Transportation studies, TTC loop redesign studies, and future landscape design development. Operational capacity and servicing requirements will need to be balanced alongside programmatic opportunities that will complement day-to-day transit users, as well as large-scale events and festivals.

Strachan Gate Connection

The Strachan Gateway is a key connection between the upcoming Ontario Line Exhibition Place Station and major trip-generating destinations such as the Fort York Historic Site and The Bentway. Both the Fort York National Historic Site and The Bentway offer programming that activates the space under the Expressway all year round. The Strachan Gate Connection is an opportunity to extend the existing Garrison Crossing multi-use path to the northeast and further link the new Ontario Line station to the waterfront neighbourhoods to the south.

An Ontario Line step-up substation will be delivered by Metrolinx on the north edge of this site. The presence of essential infrastructure such as this will have a significant impact on this small site. However, the opportunity remains to create a key point of connection between the major event destinations and transit infrastructure to the west. Together, this network of parks and public spaces traces the historic path of Garrison Creek and the former Grand Trunk Railway through the downtown west end.

Key recommendations for this site include the extension of The Bentway's multi-use path connection to the new transit station and integration of the new baseline features to support active transportation and multimodal connectivity, as well as using public art and signage to showcase the layered stories of this location.

Image 31: View looking west from Strachan Avenue. Pictured temporary Strachan Gate Connection temporarily installed for October 2021 and 2022, demonstrating a potential link between The Bentway and Exhibition Place.

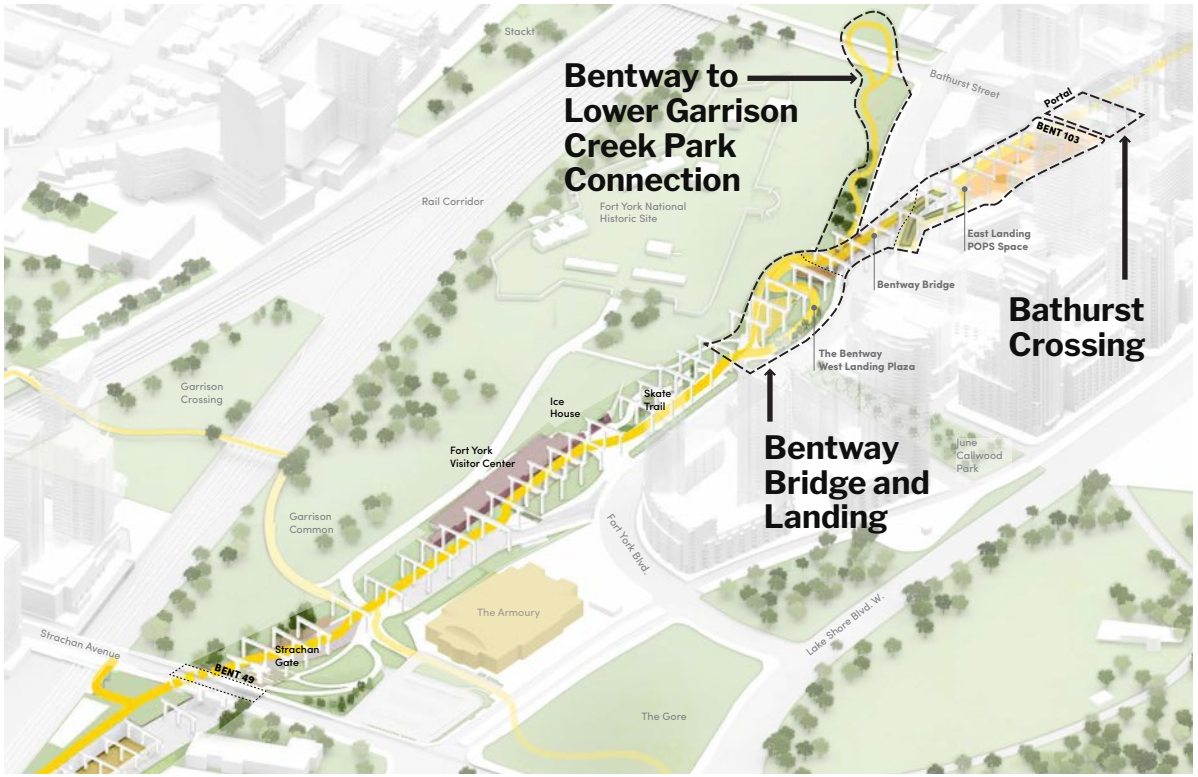


Figure 31: Conceptual plan for the Bentway-Fort York district

Bentway-Fort York

Bents 46-96: Strachan Avenue to Fort York Boulevard

The public-facing amenities and programming of the under Gardiner spaces in The Bentway-Fort York District have already seen significant investment and are well used by the local community. Public washrooms, power stations, water fountains, and shelter from inclement weather serve visitors from across the neighbourhood, including under-resourced communities who rely heavily on these accessible services.

The Bentway Bridge and Landing

The Bentway Bridge will provide a new, safe way for cyclists and pedestrians to cross Fort York Boulevard and improve access to The Bentway, the Fort York National Historic Site, and emerging commercial destinations to the east. The project will build on the connectivity that the Garrison Crossing Bridge provides and offer unique vistas into the Fort York National Historic Site. The Landing plazas will result in new public spaces for informal and coordinated gathering, public art presentations, celebrations, and recreation spaces, as well as concealed space to support The Bentway's operations maintenance.

The Bridge will support active transportation across the corridor and presents an opportunity to bolster access to local cultural programming and economic development. This project responds to key themes that emerged throughout the consultation process, such as the need for improved connection between the public realm and parklands in the Fort York/CityPlace neighbourhood and improved access to programming and amenities for all communities proximate to the under Gardiner spaces.

Image 32: Artist rendering of a potential pedestrian and cyclist bridge under the Gardiner, demonstrating improved connectivity between the Fort York National Historic Site and CityPlace Communities.

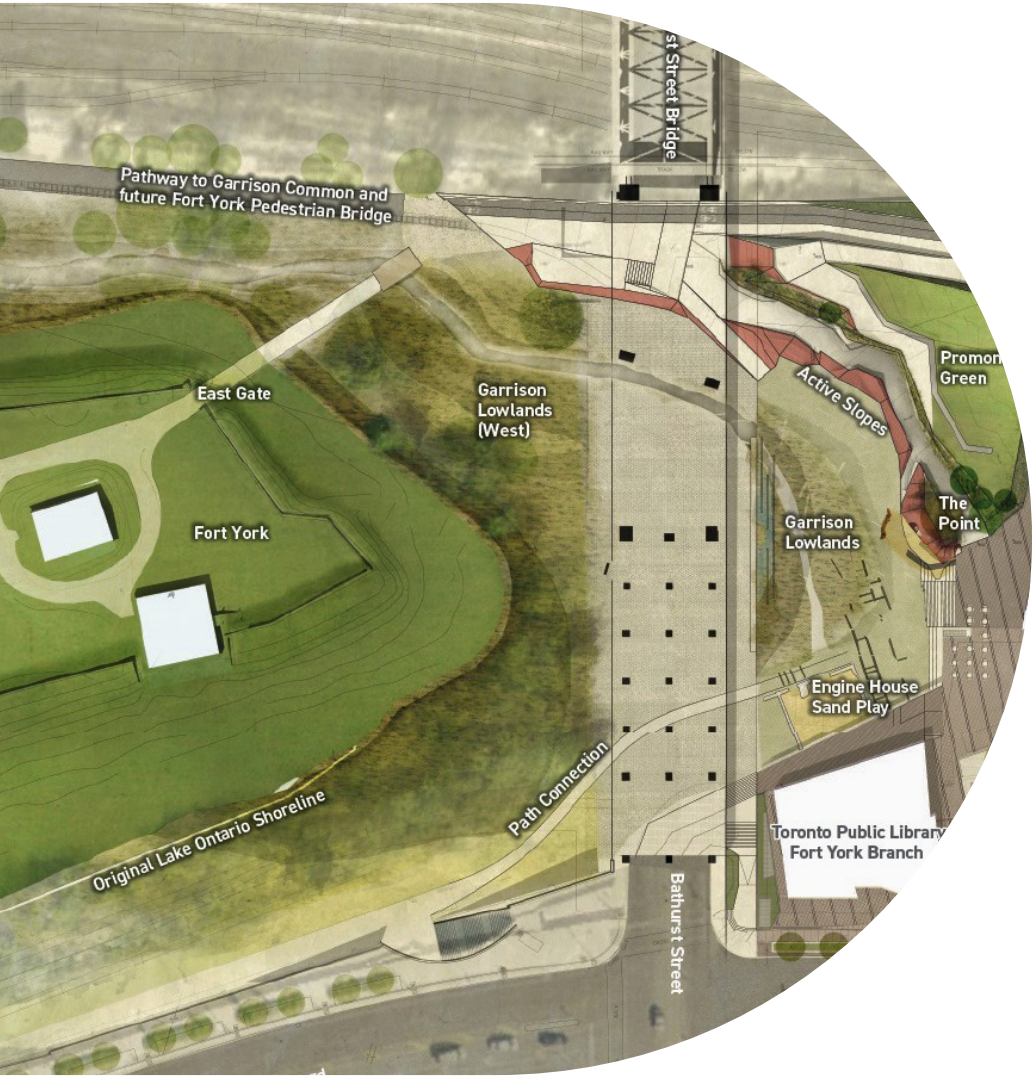


Image 33: Plan rendering of the future Lower Garrison Creek Park.

Bentway to Lower Garrison Creek Park Connection

An interpretive shoreline trail extension will create a necessary link between The Bentway Landing and the planned Lower Garrison Creek Park and Northern Linear Park. This extension will include a multi-use path that traces the southern edge of the Fort York site. This new path, connecting below the Bathurst Street bridge, will complement the existing pathways and recreation activities at The Bentway.

Image 34: View southwest toward The Bentway Phase 1 site from the future Lower Garrison Creek Park connection.

Bathurst Crossing

Bathurst Crossing is a critical east-west connection on this rapidly developing edge of the downtown core. Many pedestrians and cyclists use this crossing informally to access privately owned public spaces (POPS) to the west and commercial spaces to the east. A formalized at-grade crossing is recommended at this location to provide a safe pedestrian crossing, pending further study to determine feasibility and precise location.

The Bathurst crossing site presents a unique opportunity for a mid-block pedestrian crossing. The adjacent grade-separated conditions on both the east and west sides of Bathurst Street are a legacy of the recent development in the vicinity. TTC track replacement work was conducted in 2020, with track maintenance and sidewalk work coordinated within that time frame. Studies and design consideration have been undertaken to regulate the significant grade differential; however, this work has not been completed and retail improvements continue. With the introduction of the West Block development, which takes advantage of the Gardiner's unique covered condition to incentivize increased pedestrian activity between the CityPlace and Fort York neighbourhoods, it is important to improve accessibility and safety.

In order to ensure that accessible connections can be provided at this location while maintaining streetcar flow, civil engineering analysis and coordination with the TTC will be required.

Image 35: The current condition of the Bathurst Street crossing under the Gardiner Expressway. Precise crossing location to be confirmed through further study. Already a highly-trafficked desire line, formalizing this crossing will ensure safety of all users.

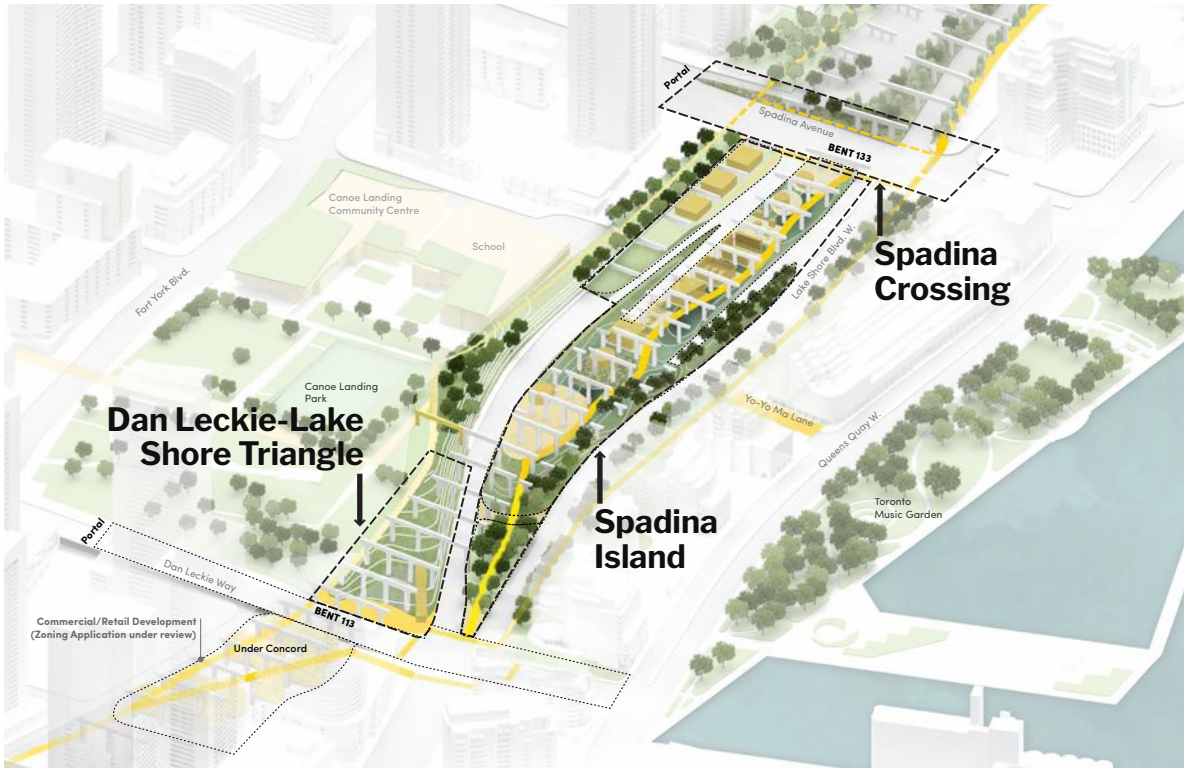


Figure 32: Conceptual plan for the Under Gardiner Islands district

Under Gardiner Islands

Bents 96-132: Fort York Boulevard to Spadina Avenue

Throughout the consultation process, the large underused medians that characterize the Under Gardiner Islands district were discussed as latent opportunities to create new destinations for programming and community gathering, and as extensions to the well-used Canoe Landing Park to the north. Generally reducing car speed was identified as a key improvement for safety, access, and connectivity in this district due to the high speeds that vehicles on Lake Shore Boulevard typically travel at. Addressing connectivity, safety and access between neighborhood destinations in this area has the potential to further bolster economic development in CityPlace and along the waterfront, while complementing the successful amenities of Canoe Landing Park.

Dan Leckie-Lake Shore Triangle

The Dan Leckie-Lake Shore Triangle is at the doorstep of numerous downtown neighbourhoods, including CityPlace/ Fort York, Little Norway, Bathurst Quay, and the Waterfront. As per Member Motion MM42.23, adopted in 2022, the site is earmarked for a park expansion that will bring new and enhanced amenities to the area, including off-leash areas, multi-use paths, cultural programming, and blue-green infrastructure. The motion underscores the strong need in CityPlace to continue to make the most of existing parks and look for opportunities to make use of underutilized spaces. This is especially important for such a dense vertical community where many people live in high-rise apartment buildings and the local park acts as a shared backyard for many residents. The sunlight in this area is ideal for plant growth and lighting to offset power requirements for passive and active programming of the site.

Image 36: Left: View looking west of the Dan Leckie-Lake Shore Triangle and Terry Fox Miracle Mile trail. Right: View looking east toward the Spadina off-ramp and the Dan Leckie-Lake Shore Triangle.

Spadina Island

Spadina Island is a large transportation median bounded by Lake Shore Boulevard to the north and south, Dan Leckie Way to the west, and by Spadina Avenue to the east. Flanked by on- and off-ramps providing vehicular access from Lake Shore Boulevard to the Gardiner Expressway, the site is exposed to traffic noise and maintenance and construction materials. Despite these constraints, it represents a significant amount of underused space, nearly 14,000 m^2. It is one of the largest remaining undeveloped sites below the Gardiner, comparable in scale to The Bentway Phase 1 site, both in terms of site area and multistory height below the road deck.

A future design concept for Spadina Island should be developed in concert with that of the Dan Leckie-Lake Shore Triangle and provide multiple access points as part of a holistic approach to district connectivity. Given the constraints to the north and south, due to the presence of Lake Shore Boulevard, the easiest points of access would be from the Spadina Avenue and Dan Leckie Way intersections to the east and west, respectively.

In anticipation of future use and activity, Spadina Island should be designed to complement the community-oriented recreational offerings at Canoe Landing Park. It is a site of significant programming opportunity. With the implementation of safe access and traffic buffers, the site can support multifunctional operations, as well as potential municipal storage. Vegetation around the north and west perimeter of the site would work to reduce noise from adjacent traffic, improve air quality, and create a sense of enclosure in the space.

Image 37: View looking east of the Spadina Island site; note the construction materials and maintenance equipment.

Spadina Crossing

At the foot of Spadina Avenue, pedestrians, cyclists, transit riders, and drivers are met with a challenging intersection. Streetcar tracks, highway on/off-ramps, and turn lanes all compete for space and attention, leaving little room for error and resulting in extended crossing times. With an increase in local residents and the construction of two elementary schools and a community centre in the immediate vicinity, there is renewed interest in finding solutions for the complex crossing that ensure that the needs of all modes are met, including cars, transit vehicles, and pedestrians.

Spadina Crossing represents one of the significant gaps along the corridor that interrupts both east-west and north-south access and limits connectivity between existing trail networks, such as Southern Linear Park to the north and the Queen's Quay waterfront to the south. The intersection should be studied further to remove barriers to these critical connections for pedestrians and cyclists. Given the complexities present at the crossing, such a study is required to determine the most appropriate type of improvements and their locations.

Image 38: View looking south from the northwest corner of the Spadina and Lake Shore multi-staged pedestrian crossing.

Figure 33: Conceptual plan for the Toronto Terrace district

Toronto Terrace

Bents 133-170: Spadina Avenue to Lower Simcoe Street

The major destinations and attractions located at Roundhouse Park are separated from the waterfront by a significant grade differential. The presence of disjointed segments of public space here speak to the former industrial landscape that influenced development in the area and once defined its character. Despite significant transformations and investments in the public realm, such as the Highline Parkette at the northeast corner of Rees Street and Lake Shore Boulevard West, there remains no cohesive public realm in the area. Improvements to circulation and accessibility in this district would help to make a more pedestrian-friendly space that connects major attractions in the central waterfront.

Image 39: Rainwater management landscape at Infra-Space 1 in Boston treats water diverted from the elevated highway above.

Image 40: Natural wetland meadows beneath highway infrastructure promote biofiltration and create habitat.

Image 41: Stepped blue-green medians supporting urban vegetation below the Aurora Bridge in Seattle, WA.

Blue-Green Medians

There are large transportation medians throughout the under Gardiner corridor. Between Spadina Avenue and Rees Street, these transportation medians provide an opportunity to explore regenerative, resilient, and biodiverse blue-green infrastructure. Through strategic planting, the City can redirect the runoff water from the highway deck and use natural processes to take pressure off of Toronto's sewer systems. The design of these areas must preserve access to the Gardiner Expressway deck and bents for inspection and maintenance.

Rainwater management was identified as a top priority by a number of stakeholders, particularly in the Toronto Terrace district. The stretch of traffic medians between Rees Street and Spadina Avenue is well positioned to test ecological protection and productive ecology interventions at scale, due to relatively unobstructed southern sunlight. The presence of strategic planting and vegetation can contribute to evaporative cooling, bioremediation of rainwater runoff, and carbon dioxide absorption. Incorporating blue-green medians into this site demonstrates the most significant transformation of the highway infrastructure: from polluter to mitigator of environmental and ecological impacts.

Image 42: View of the existing pedestrian path south of Lake Shore Blvd West, below the Gardiner Expressway, looking west

Under Gardiner Path (Rees Park Interface)

A key segment of the proposed Under Gardiner Path extends from Spadina Avenue to Yonge Street and can be a critical link for pedestrians and cyclists within the overall under Gardiner corridor. This segment of trail covers an important stretch of the central waterfront area, directly south of many major tourist destinations and just north of growing waterfront developments and new open park spaces.

Existing conditions include a combination of dappled shade, along a tree-lined colonnade, alongside an ongoing process of redevelopment to reorient adjacent parks and private property. There is a crucial opportunity present to locate active uses toward the Gardiner and contribute to a shift in perception of the Gardiner from vehicular to multimodal connector.

The central section of the Gardiner corridor is set to see significant investment, including the forthcoming Rees Street Park and other planned developments. These projects will result in further use by pedestrians and cyclists. As such, the Under Gardiner Path will interface with active frontages along the under Gardiner corridor, turning a former back-of-house condition into a front door. Enhancements to this segment of the Under Gardiner Path will support active transportation for nearby residents and complement the activities on Queen's Quay.

Wall of Toronto

To connect the parks and major tourist destinations in proximity to the Toronto Terrace, an enhanced trail and connection between Roundhouse Park and Lake Shore Boulevard are recommended. These improvements, in addition to widened sidewalks, will support pedestrian connectivity. The retaining wall on the north side of Lake Shore Boulevard presents a prime opportunity for rotating murals and other artistic programming.

Image 43: Left: looking east from Rees Street and Lake Shore Blvd West intersection. Right: large retaining wall (Wall of Toronto) between Lake Shore Blvd West and the raised Roundhouse Park

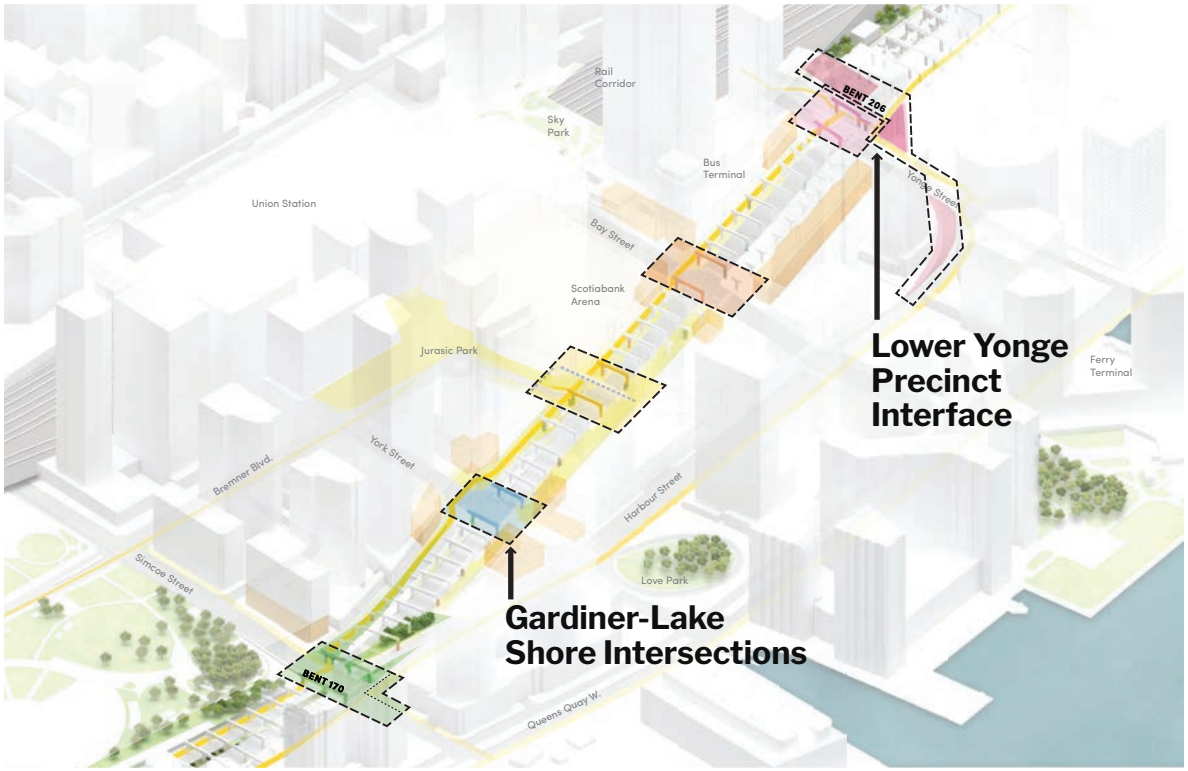


Figure 34: Conceptual plan for the Glass Gardiner district

Glass Gardiner

Simcoe Street to Yonge Street: Bents 170-204

The Under Gardiner PRP seeks to increase pedestrian safety, as well as comfort, for residents, employees, and all those looking to access and enjoy waterfront amenities and cultural destinations.

This section of the under Gardiner corridor reflects a critical mass of new development and activity. As such, the intersection portals and adjacent POPS provide opportune locales for intervention. The public realm space below the Gardiner is bordered by residential towers, office buildings, and major sports and entertainment venues, as well as the Union Station Bus Terminal.

Image 44: View looking west of the Boom Town demonstration project, the realization of the Waterfront ReConnect Design Competition, a collaboration between The Bentway, the City of Toronto, the Waterfront BIA, and the Toronto Downtown West BIA.

Gardiner-Lake Shore Intersections

Given the competing objectives and demand for public space in the Glass Gardiner district, the intersections take on increased significance. In an area that is defined by an intensity of new development right up against the Gardiner Expressway itself, there is very little remaining area for intervention, and therefore, almost by default, the intersections emerge as the key to improving the experience of the public realm for the thousands of residents, visitors, and employees in the area.

Improvements to pedestrian safety at these crossing points are crucial, as the intersections are the primary gateways between the city and the waterfront. As demonstrated by the ongoing Waterfront ReConnect interventions at Rees Street (2019), York Street, and Simcoe Street (2022), by prioritising pedestrian safety, visibility, and lighting interventions at intersections, the perception that the Gardiner Expressway/Lake Shore Boulevard corridor is a physical and psychological barrier between the city and the waterfront can be challenged.

Lower Yonge Precinct Interface

There are a number of planned and proposed development sites in this area that will deliver a set of open spaces along Lake Shore Boulevard, adjacent to the under Gardiner corridor. Through public-private collaboration and coordination, there are exciting opportunities to leverage planned investment and introduce new amenities. The Under Gardiner Public Realm Plan aims to identify priorities and key considerations that can inform the design of these spaces as a way to coordinate cumulative benefit.

Image 45: View looking east from Yonge Street and Lake Shore Boulevard.

Part 5: **Implementation, Operations, and Governance**

5.1 Governance Considerations

The Under Gardiner PRP represents an ambitious and long-term vision to transform the spaces beneath the Gardiner Expressway into a connected and cohesive public realm. Through this plan, all the relevant stakeholders involved in the Gardiner Expressway's maintenance, growth, and future, including the City of Toronto and The Bentway, have come together to support this effort.

Due to the multi-sectoral nature of the Under Gardiner PRP, a technical advisory committee was established with representation from both The Bentway and the City of Toronto, with involvement from the following City departments and agencies: Waterfront Secretariat; Transportation Services; Parks, Forestry, and Recreation; Community Planning; Urban Design; Real Estate Services; Encampment Services; Toronto Water; and Toronto Hydro, among others. It is recommended that the group is formalized as a collaborative working table, moving forward, to coordinate the implementation and improvements captured in this report at scale and over time. Coordination at this level is necessary not only for capital improvements, but crucially for ongoing operations, upkeep, and long-term stewardship of the public realm under the Gardiner. The working table's efforts will be further supported by advisory groups such as the City and Waterfront Design Review Panels (DRPs), who can help to ensure that proposed projects align with the recommendations captured in the Under Gardiner PRP and Lake Shore Boulevard East Public Realm Plan, by providing recommendations to asset owners.

5.2 Coordination with Existing Maintenance Cycles

A series of annual and long-term maintenance operations are conducted by the City of Toronto under and on the Gardiner Expressway. These maintenance routines, including hammer sounding, concrete chipping and resurfacing, and storm drain flushing, are necessary to ensure the safe working order of the highway, and the proposed public realm improvements need to be coordinated with the operation of existing assets.

Image 46: Maintenance operations on a bent under the Gardiner Expressway.

Hammer Sounding Inspections

Hammer sounding inspections are managed by Engineering and Construction Services' (ECS) Bridges, Structures, and Expressways Unit. This process includes the sounding of all concrete elements of the elevated expressway to identify loose or unsound concrete that may require removal. These inspections occur twice per year, for two weeks in the fall and spring. This ensures that the expressways and all adjacent spaces remain safe for pedestrian, vehicle, and other uses underneath.

Chipping Operations

All chipping work on the Gardiner Expressway is to be carried out by an external contractor and managed by Transportation Services' Road Operations. This work is typically completed using elevated work platforms and lightweight chippers, removing concrete identified through hammer sounding processes. Chipping operations occur one to two times per year.

Deck Drain Cleaning and Flushing

The Gardiner Expressway is shut down for two to three days annually for cleaning and maintenance of all elements. This process is to be completed by a contractor and managed by the City of Toronto's Transportation Services' Road Operations.

Bent Resurfacing

The City of Toronto typically completes and manages bent resurfacing within their Engineering and Construction Services Division. This work includes the patching of chipped areas, completed once every 10-25 years as part of major infrastructure rehabilitation projects.

Understanding that the spaces under the Gardiner are functional aspects of the public realm and supportive of a variety of activities, specific considerations should be put in place to ensure that maintenance work can continue without interruption and does not unreasonably impact other activities or uses of space. Considerations include:

- Coordination of ground crews to ensure public safety below during planned work above;
- Emergency response coordination to address public risk if and when it occurs;
- Long-lead coordination with public space operators to minimize conflict with events and other activities;
- Advance planning for long-term shutdowns to mitigate the impact on public access and programming;
- Acknowledgement of district-specific needs, schedules, and design features during the procurement process for external contractors.

Public space designers must preserve and plan for these regular maintenance cycles when planning for improvements below the Gardiner Expressway. Key considerations for the creation of new public spaces include:

- All Gardiner surfaces must be visually and physically accessible for maintenance procedures.
- Weight and access restrictions of the hard and soft surfaces must match the equipment required to maintain infrastructure.
- The width and slope of pathways need to be able to accommodate machinery.
- Bent dimensions become irregular as pieces are removed through cumulative chipping.
- All surfaces around the Gardiner storm pipes must be resistant to chipping debris and salt from the Gardiner deck and pipes.
- Displays of public art are not to be installed in areas susceptible to chipping debris or in the direct path of maintenance vehicles.

5.3 Implementation Strategy and Phasing

In tandem with the continued development of Toronto's waterfront, the Gardiner Expressway will be subject to significant change over the coming decades. This change will be enacted through considerable committed resources and major infrastructure projects in the area, as well as necessary rehabilitation work. These projects include the Gardiner Expressway Rehabilitation Strategy, the Gardiner Expressway and Lake Shore Boulevard East Reconfiguration, the York-Bay-Yonge Off-Ramp and Harbour Street Improvements, the Lower Yonge Precinct, the Lake Shore East LRT, as well as the Ontario Line construction, among others.

The corridor-wide strategies and new baseline recommendations indicated in the Under Gardiner Public Realm Plan are long-term aspirations that will take many decades to realize, and require careful coordination with the many other projects and developments unfolding along and adjacent to the Gardiner. In some instances, improvements will occur in tandem with other infrastructure projects. The timing for other improvements will occur where possible as sites adjacent to the Gardiner corridor are redeveloped.

Recommendations will be implemented incrementally over time, and their phasing should closely follow major civic investments and leverage planned private investment along the corridor. Many of the Under Gardiner PRP's proposed interventions require technical feasibility studies and detailed design work. The implementation of potential improvements outlined in this plan will rely on meaningful coordination between public, private, and non-profit sectors. By working in collaboration with planned development, implementation can be phased in a manner that is consistent, consolidated, and efficient.

5.4 Funding and Operational Considerations

The following table demonstrates a suite of potential implementation strategies for the Under Gardiner PRP, including both baseline and project recommendations. The table captures options for potential funding partners and sources and delivery mechanisms, as well as operations and maintenance partners. These partners include private, public, and non-profit sector players from a variety of fields. The diversity of implementation strategies reflects the multiplicity of stakeholders along the Gardiner Expressway and the under Gardiner corridor.

Implemenation of the Under Gardiner PRP recommendations will require multiple funding sources. Potential funding sources from other levels of govenrment include federal and provincial funding such as grants for public and active infrastructure.

Funding can also be realized through alignment with existing programs and project initiatives, such as transportation or transit improvements, and potentially BIA funding through the City's Streetscape Improvement Program. Other opportunities may involve private philanthropy, or partnerships with adjacent landowners along the under Gardiner corridor. Efforts should be made to coordinate and find alignments between the rehabilitation efforts and the recommendations in this report.

The under Gardiner corridor touches a number of existing, planned, and proposed development sites, and while the City levies development charges and community benefits charges, these are one-time transactions at the application stage and do not account for ongoing property value uplift (unearned increment), which is supported, in part, by improvements to the surrounding public realm. Public realm improvements associated with the Under Gardiner PRP should be included for future consideration in a Development Charge and Community Benefits Charge study.

Partnering with other agencies in the study area who could diversify and supplement the current maintenance protocols below the Gardiner will be key for implementation and ongoing operations. These agencies may include the Toronto and Region Conservation Authority (TRCA), Waterfront Toronto, and Metrolinx. Additionally, continuing partnerships with local business improvement areas, such as the Waterfront BIA, CityPlace Fort York BIA and Toronto Downtown West BIA, will allow access to BIA funding for project work aligning with their goals.

Baseline Implementation Table

	Description of Constituent Elements	Enabling Studies and Other Required Works	Status	Pilot Project Opportunity: Pre-Gardiner Rehabilitation	Phased Implementation Opportunity: Post-Gardiner Rehabilitation	Funding Status
Safety and Comfort						
Pedestrian Safety	• Lighting mounted on bents • Lighting along multi-use path • Tactile pavers as per City standards • Improved zebra crossings • Pedestrian priority at existing signalized intersections (such as leading pedestrian intervals, removing two-stage crossings, or adjusting signal timing, where needed) • Curb radius and lane width reductions (when major reconstruction occurs)	• Multimodal traffic anaysis study • Photometric (lighting) study • Utilitiy study (re: heating and cooling) • Feasibility study associated with Under Gardiner Path connections and seating	Recommended	✓	✓	Future funding to be secured
Seating and Rest Areas	• Seating flanking Under Gardiner Path • Vegetation • Wind buffers • Water fountains • Heating and/or cooling features		Recommended	✓	✓	Future funding to be secured
Multi-Use Path	• Continuous and dedicated pedestrian and cycle path that connects, and enhances, existing multi-use paths and cycling network		Recommended		✓	Future funding to be secured

Figure 35: Table outlining implementation requirements and status for baseline elements. Completion of the Gardiner Expressway Rehabilitation Strategy is a universal enabling condition. Opportunities for public realm improvement will require detailed design and consultation following the completion of Gardiner rehabilitation.

Baseline Implementation Table (Continued)

	Description of Constituent Elements	Enabling Studies and Other Required Works	Status	Pilot Project Opportunity: Pre-Gardiner Rehabilitation	Phased Implementation Opportunity: Post-Gardiner Rehabilitation	Funding Status
Predictable Amenities						
Public Wi-Fi and Charging Stations	• Publicly accessible Wi-Fi, aligned with the ConnectTO program from parks to other public spaces • Accessible electrical outlets	• Feasibility study associated with Under Gardiner Path • Data privacy and digital security policy review consistent with ConnectTO program • Coordination with Bike Share Toronto 4-Year Growth Plan	Pilot underway (Bentway Phase 1)	✓	✓	Future funding to be secured
Bike Share, Bike Parking, and Repair Stations	• Bike Share docking stations • City-standard bike parking • Bike repair station		Recommended		✓	Future funding to be secured
Publicly Accessible Washrooms	• Publicly accessible washrooms provided in coordination with existing and planned projects		Recommended		✓	Future funding to be secured
Productive Ecology						
Interpretive Shoreline Planting	• Freshwater shoreline/wetland species to highlight historic shoreline of Lake Ontario	• Comprehensive landscape study to include: • Indigenous heritage interpretation study • Horicultural viability study • Hydrology and drainage study • Additional studies as indicated by Toronto Water • Soil health study	Pilot underway (Lake Shore Boulevard East PRP Quick Starts)	✓	✓	Future funding to be secured
Resilient Plants	• Robust, salt-tolerant plant species that can contribute to bioremediation and contaminant removal		Pilot underway (Lake Shore Boulevard East PRP Quick Starts)	✓	✓	Future funding to be secured
Rainwater Management	• Downspout disconnection and redesign • Rain gardens and bioswales		Pilot underway (Lake Shore Blvd East PRP Quick Starts, Bentway Phase 1, Leckie Lakeshore Phase 1)	✓	✓	Future funding to be secured

Baseline Implementation Table (Continued)

	Description of Constituent Elements	Enabling Studies and Other Required Works	Status	Pilot Project Opportunity: Pre-Gardiner Rehabilitation	Phased Implementation Opportunity: Post-Gardiner Rehabilitation	Funding Status
Wayfinding and Identity						
Consistent Bent Numbers	• Standardized bent numbers applied as painted elements to columns and in-ground details along multi-use path	• Implementation aligned with other major reconstruction, maintenance, and upkeep • Reflective intersection treatments should align with recommendations of the Lake Shore Boulevard East Public Realm Plan • Signage implementation subject to access and maintenance considerations related to Gardiner upkeep	Pilot underway (Bentway Phase 1 and Waterfront ReConnect at Rees Street)	✓	✓	Future funding to be secured
Reflective Intersection Treatments	• Reflective surface treatments (vinyl and/or paint) on bent columns at under Gardiner intersections		Pilot underway (Waterfront ReConnect at York Street)	✓	✓	Future funding to be secured
Signage	• Simple armature for messaging about community events and programs • A combination of Toronto 360, Cycling, and Toronto Parks and Trails wayfinding strategies, as determined by City staff in later phases of work		Pilot underway (Bentway Phase 1)		✓	Future funding to be secured

District Project Implementation Table

	Essential Parties	Status	Enabling Studies and Other Works	Pilot Project Opportunity: Pre-Gardiner Rehabilitation	Phased Implementation Opportunity: Post-Gardiner Rehabilitation	Funding Status
Exhibition Place West Anchor						
Exhibtion Station Multimodal Plaza	• Metrolinx • TTC • Exhibition Place • Transit Expansion Office • Transportation Services	In design	• Gardiner Rehabilitation Section 2 • Ontario Line Station and step-up substation construction • Exhibition Place servicing and logistics studies • TTC streetcar study associated with Dufferin Bridge reconstruction		✓	Funded (Ontario Line)
Strachan Gate Connection	• Metrolinx • Transportation Services • Exhibition Place • The Bentway • Fort York National Historic Site	Recommended		✓	✓	Future funding to be secured
Manitoba-Under Gardiner Redesign	• Exhibition Place TTC Transportation Services	Pending studies			✓	Future funding to be secured
Bentway-Fort York						
Bentway Bridge and Landing	• Transportation Services • The Bentway • Fort York National Historic Site	60% designed	• Gardiner Rehabiltation Section 4 • Schematic design for Bentway Landing interim state • Bathurst Crossing feasibility study • Under Gardiner Path feasibility study • Lower Garrison Creek final design	✓	✓	Future funding to be secured
Bathurst Crossing	• Transportation Services • TTC	Pending Studies			✓	Future funding to be secured
Shoreline Trail (Lower Garrison Creek Park Trail Extension)	• Fort York National Historic Site • Parks, Forestry, and Recreation • The Bentway	Recommended			✓	Future funding to be secured

Figure 36: Table outlining implementation requirements and status of recommended opportunity sites. Completion of the Gardiner Expressway Rehabilitation Strategy is a universal enabling condition. Opportunities for public realm improvement will require detailed design and consultation following the completion of Gardiner rehabilitation.

District Project Implementation Table (Continued)

	Essential Parties	Status	Enabling Studies and Other Works	Pilot Project Opportunity: Pre-Gardiner Rehabilitation	Phased Implementation Opportunity: Post-Gardiner Rehabilitation	Funding Status
Under Gardiner Islands						
Dan Leckie-Lake Shore Triangle	• Transportation Services • Parks, Forestry, and Recreation • The Bentway	Pilot underway (Staging Grounds)		✓	✓	Design development funding confirmed
Spadina Island	• Transportation Services • Parks, Forestry, and Recreation • The Bentway • City of Toronto Building Division • Corporate Real Estate Management • Toronto Water • Emergency Services • Toronto Hydro • Third Party Utilities	Recommended	• Traffic analysis and mobility study • In-service road safety review • Maintenance and Access Plan • Gardiner Rehabiltation Section 4 • Bathurst Quay Neighborhood Revitalization • CityPlace Fort York BIA Streetscape Masterplan		✓	Future funding to be secured
Spadina Crossing	• Transportation Services • TTC	Recommended			✓	Future funding to be secured

District Project Implementation Table (Continued)

	Essential Parties	Status	Enabling Studies and Other Works	Pilot Project Opportunity: Pre-Gardiner Rehabilitation	Phased Implementation Opportunity: Post-Gardiner Rehabilitation	Funding Status
Toronto Terrace						
Blue-Green Medians	• Transportation Services • Environment and Climate	Recommended	• Gardiner drainage study • Comprehensive feasibility study • Completion of Rees Park design • Performance analysis of existing bioswales (at The Bentway Phase 1 site) • Maintenance and Access Plan • Gardiner Rehabilitation Section 4 • Roundhouse Park Revitalization Plan • Input from Public Utilities Coordinating Committee	✓	✓	Future funding to be secured
Under Gardiner Path (Rees Park Interface)	• Transportation Services • Parks, Forestry, and Recreation • Private land owners • The Bentway	Recommended			✓	Future funding to be secured
Wall of Toronto	• Parks, Forestry, and Recreation • StART • Enwave • Metro Toronto Convention Centre	Recommended		✓	✓	Future funding to be secured
Glass Gardiner						
Gardiner-Lake Shore Intersections	• Transportation Services • BIA Office • Downtown West BIA • Waterfront BIA	Pilot underway (Waterfront ReConnect at York St., Simcoe St., and Rees St.)	• Public Utilites Coordinating Committee • Harbour Street Realignment • Lower Yonge Precinct Plan • Downtown Waterfront Mobility Strategy • Maintenance and Access Plan • Gardiner Rehabiltation Section 4	✓	✓	Funded (pilot)
Lower Yonge Precinct Interface	• Transportation Services • Community Planning • Private land owners • Parks, Forestry, and Recreation	Planned			✓	Funded (through associated development)

Part 6: **Conclusions**

6.1 From Highway to Hybrid Infrastructure

In conclusion, the recommendations of the Under Gardiner Public Realm Plan (PRP) identify opportunities for intervention across a multi-decade timeline. They provide a roadmap for transforming one of Toronto's most iconic arteries in the years to come. While there are indicative concepts detailed to help illustrate the intent, the projects and improvements identified will require additional studies, detailed design work, and consultation to advance.

Implementing the recommendations of the Under Gardiner PRP is a complex undertaking. It requires balancing visionary aspirations alongside grounded and pragmatic operational realities. This plan provides a vision for an ongoing process of evolution which requires collaboration and coordination among multiple public, private, not-for-profit, and institutional actors. The development of the Under Gardiner PRP is itself a product of cooperation and consensus building, which has resulted in the identification of opportunity sites in each of the five districts identified within the primary study area, as well as a suite of "new baseline elements" to be applied across the corridor at large in order to support predictability, cohesion, and connectivity.

Though the transformations will unfold over many years, the plan identifies a series of near-term demonstration projects that make use of the time during the Gardiner Expressway Rehabilitation Strategy to test experimental and innovative approaches to enhancing the public realm under the Expressway. The City of Toronto and its partners are building on a track record of successful short-term urban interventions that provide the impetus for new uses and innovative possibilities. These possibilities demonstrate the capacity of the under Gardiner corridor to support an active and innovative public realm. The Under Gardiner PRP identifies practical recommendations and strategic opportunities to transform 7 kilometres of underutilized space below the Gardiner Expressway. This is more than an exercise in adaptive reuse; this is active reuse, augmenting the capacity of a once mono-functional infrastructure corridor in ways that were never anticipated. The Under Gardiner PRP is inspired by the limitless potential of urban innovation. Reimagining the public realm under the Gardiner beckons forth a vibrant future, where concrete highways give way to thriving and imaginative community spaces that support human and environmental connections.

Image 47: Concept rendering of the "Staging Grounds" temporary demonstration project. Staging Grounds seeks to activate an underused site by harnessing the rainwater from the elevated road deck to irrigate planter beds and test the potential to improve water management strategies at scale.

Image 48: Artist rendering of potential connectivity and improved use of space under the Gardiner Expressway.

Figure 37: Rendered map of the Under Gardiner Public Realm Plan and its surrounding context.

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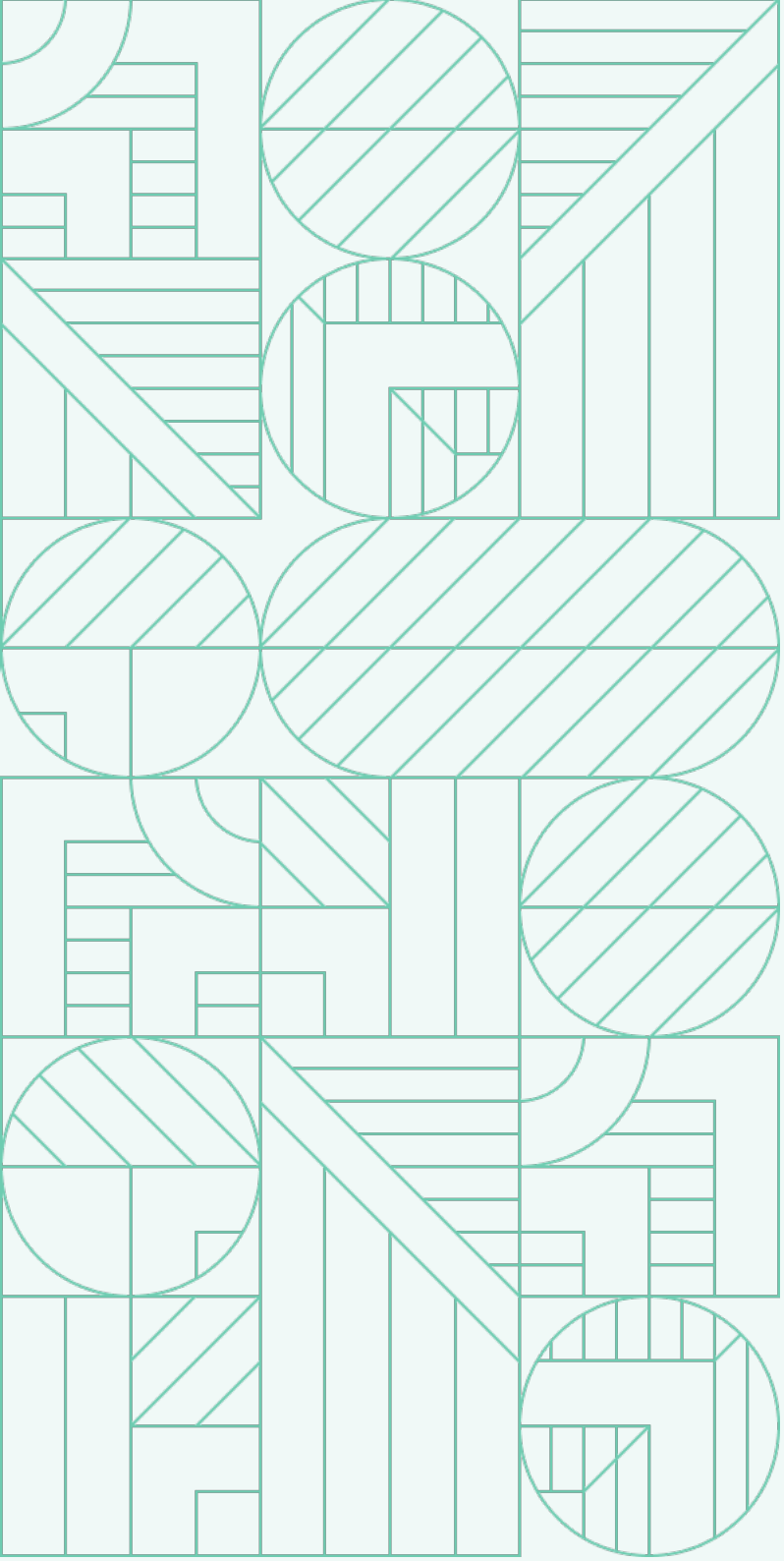

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