BRIDGING FORWARD

A Bridgeland-Riverside Land Use + Development Study

presented by LAM Consulting
to Francisco Alaniz Uribe
for EVDP 644 Advanced Professional Planning Studio

UNIVERSITY OF CALGARY

LAM CONSULTING

Prepared for
Bridgeland-Riverside Community Association

By

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VISION

A well-connected, diverse community; one which reflects both its unique history and forward-looking values through a character-rich public realm, providing residents and visitors with a wealth of options and experiences.

INTENT

A plan which steadily enhances the community through the application of design guidelines which improve the experience of inhabiting and using public spaces.

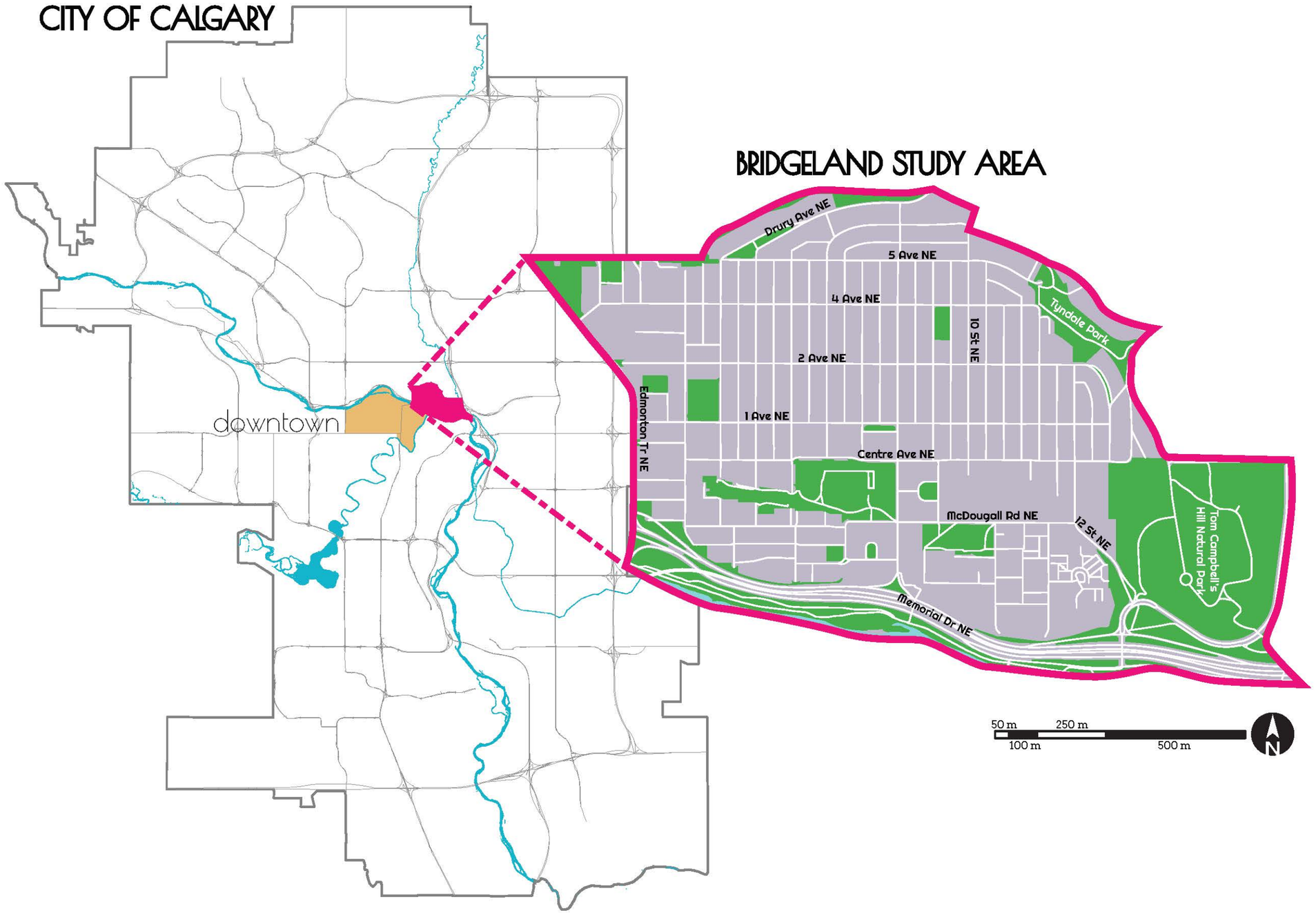
EXECUTIVE SUMMARY

Calgary is not an old city, but Bridgeland and Riverside are old by Calgary standards - as old as the city itself. For over one hundred and thirty years, this bowl on the north side of the Bow opposite the city's founding Fort has housed the city's immigrants and workers, from the Jagodnaya Polyana immigrants of the 1880s to the Syrian refugees resettled in the last six months.

As the city grows (and Calgary is a city that grows, so much so that it's almost a cliché, an inherent characteristic - through floods, political shifts, and economic turbulence, the city grows), that growth needs to be absorbed in a way that is socially healthy, financially manageable, and environmentally responsible. Increasingly, through policies like the Municipal Development Plan (MDP), that means directing growth into the inner city, and communities like Bridgeland-Riverside. In fact, the community's population is projected to double in the next quarter-century.

The community does have room for growth. The demolition of the Calgary General Hospital in 1998 took jobs and dollars and left fragmented regions - a low-density single-family area to the north, isolated higher-density pockets in the south-west, and orphaned institutional grounds in the south-east. The Bridges, an award-winning Transit-Oriented Development project, has seen repeated stalls and setbacks, taking years longer than anticipated to complete. The Bridges is an amendment to the Bridgeland-Riverside Area Redevelopment Plan, a document which dates back to 1980 and does not reflect or address the community's current conditions and needs.

A thorough analysis of the community, including iterative stakeholder engagement, was performed by the LAM team in the early months of 2016. This analysis covered environmental, historical, built form, transportation, and demographic aspects of the community. The needs and conditions of the community as a whole were identified, as well as four distinct planning districts within it. Designs and guidelines have been developed for: Connections, or how people move to, from, and throughout the community; Parks + Open Space, which are key to a community's health; Infill + Redevelopment, a pressing concern as the population swells; and Corridors + Hubs, the focal areas of the community's commercial activity.



TERMS OF REFERENCE

Background and Purpose

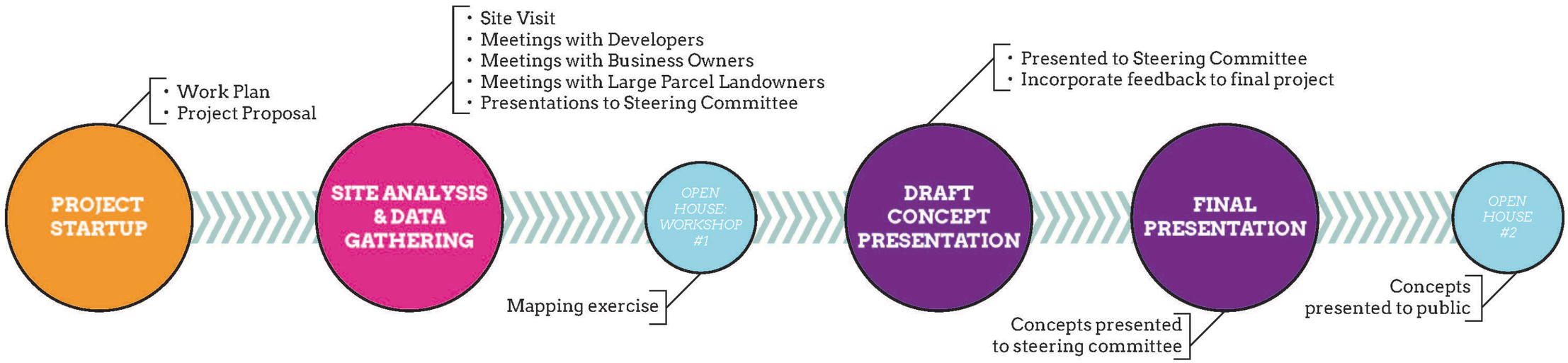
"In the fall of 2015 the Bridgeland-Riverside Community Association (BRCA) identified the need for a comprehensive plan that could address the existing and forthcoming issues associated to land use and development throughout the neighbourhood. In collaboration with the Federation of Calgary Communities (FCC), and as part of the Urban Alliance, a partnership between the City of Calgary and the University of Calgary, the Faculty of Environmental Design (EVDS) was approached to work together with the BRCA to develop a study that could become the foundation for a future land use and development plan and provide guidance in the decision making process of land use and development changes." (Land Use and Redevelopment Study Project Brief, 2015).

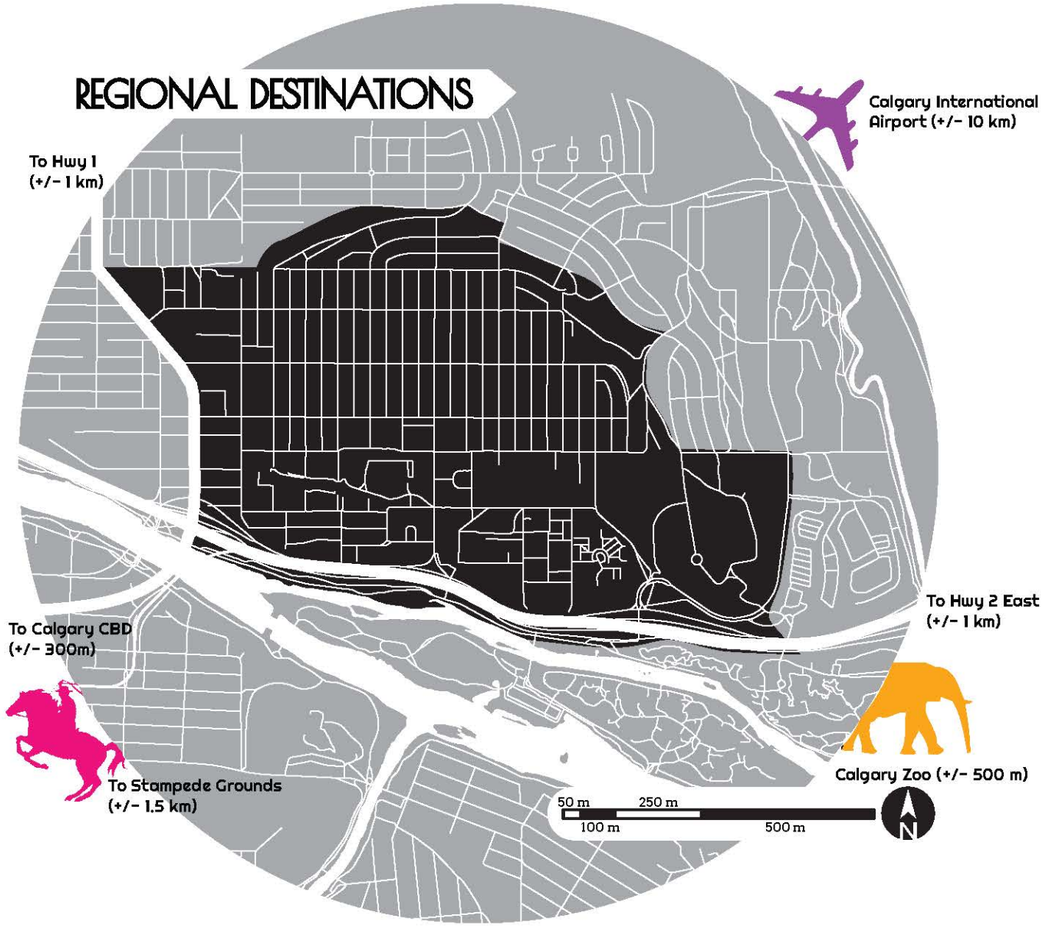
In response to this request, the **Bridgeland Land Use and Development Study** was selected as the final project for the course EVDP 644 - Advanced Professional Planning Studio in the Master of Planning program at the University of Calgary. The project will focus on current urban development issues, internal and external connections, as well as parks, open space, and commercial amenities, through the production of a final document which addresses the most pressing issues, while providing strategic recommendations for future development within Bridgeland.

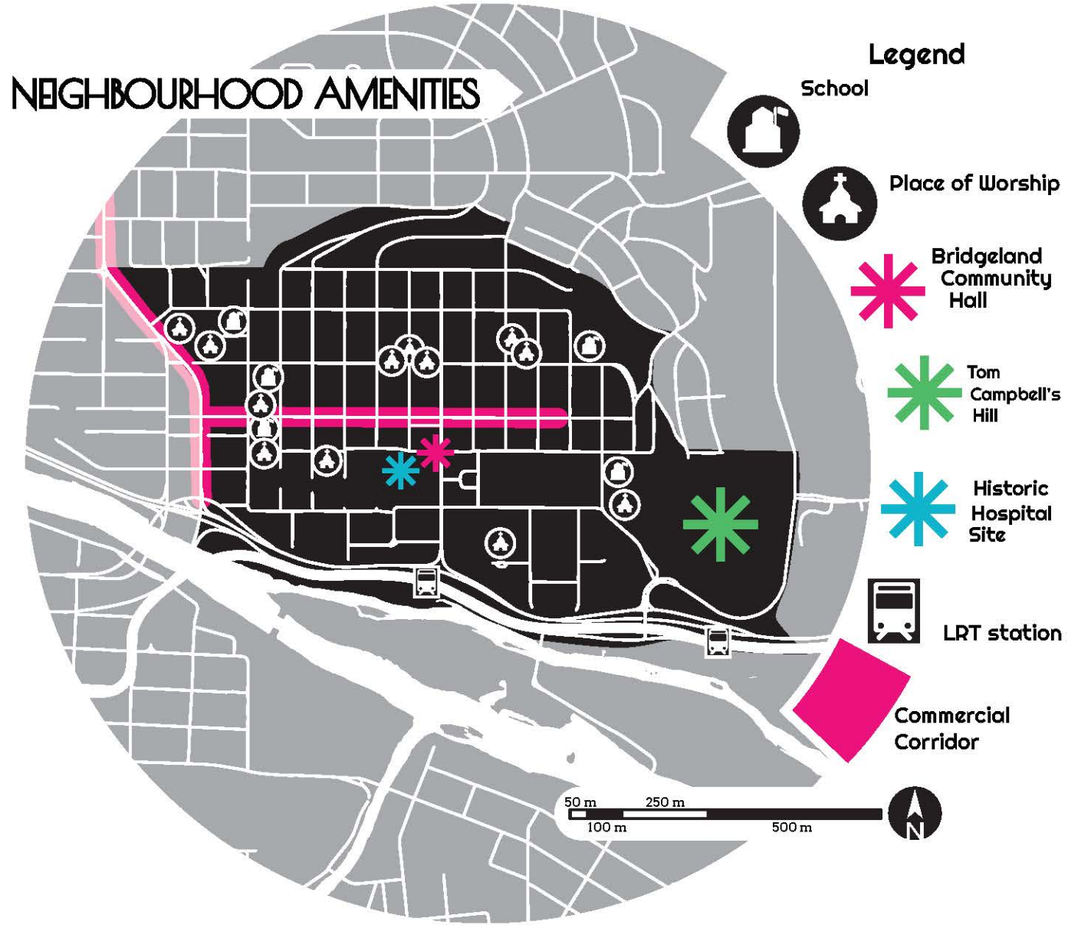
Approach

The existing Area Redevelopment Plan (ARP) for Bridgeland-Riverside has been updated sporadically, but is no lunger functioning as a plan that best represents the needs for the future of the community. Therefore, this document is intended to provide a future vision which will incorporate the current needs of the community in the form of a **Land Use and Redevelopment Study**.

The project spanned a duration of four months, incorporating the input from a series of stakeholder engagements involving a steering committee and local business owners, a comprehensive site analysis performed by the project team, as well as multiple public engagement events. A synthesis of the feedback has been incorporated into the project, and is intended to best represent the intentions and desires of all parties involved throughout the process.







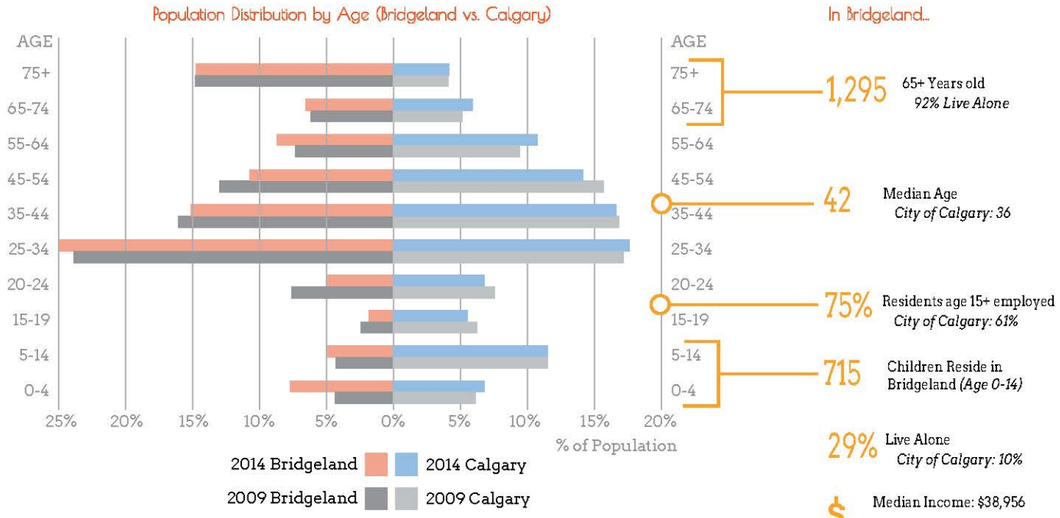
Bridgeland-Riverside

- 153.28 hectares
- Located in inner-city Calgary
- North of Bow River
- Adjacent to downtown
- Approximately 10 km to Airport
- Surrounding amenities: Stampede Grounds, Calgary Zoo, Telus Spark, Scotiabank Saddledome, St Patrick's Island, Inglewood, Riverwalk, etc

Amenities

- 13 churches
- 5 schools
- Community Centre
- Historical Landmarks - Calgary General Hospital
- Tom Campbell's Hill
- LRT access

The People



In Bridgeland...

- **1,295** 65+ Years old — *92% Live Alone*
- **42** Median Age — *City of Calgary: 36*
- **75%** Residents age 15+ employed — *City of Calgary: 61%*
- **715** Children Reside in Bridgeland *(Age 0-14)*
- **29%** Live Alone — *City of Calgary: 10%*
- **$** Median Income: $38,956
  Average Income: $51,373

The Place

2,954 Dwellings...

Hillhurst/Sunnyside: 3%
Renfrew: 10%

Hillhurst/Sunnyside: 21%
Renfrew: 46%

Hillhurst/Sunnyside: 10%
Renfrew: 22%

Hillhurst/Sunnyside: 66%
Renfrew: 21%

...56% rented & 44% owned

The Future

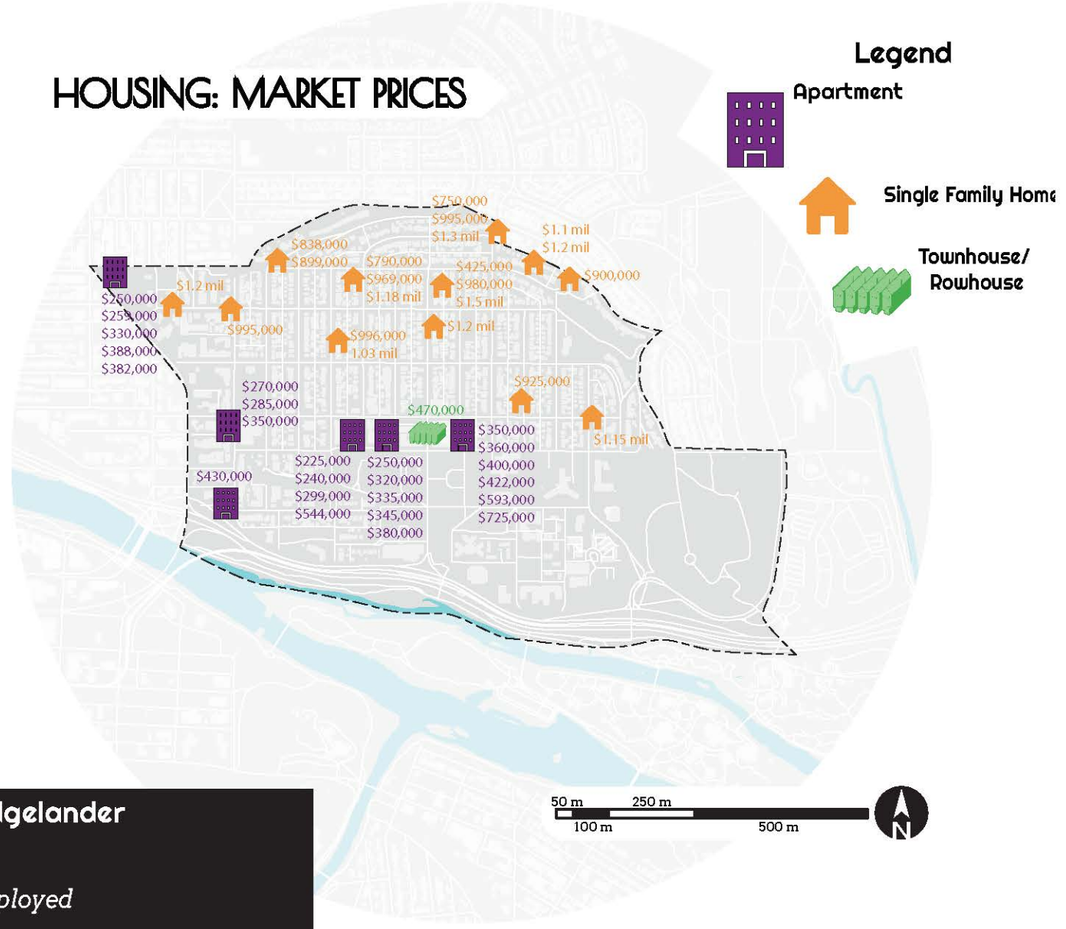
2014 Population: 5,962

2040 Projection: 11,328

The Average Bridgelander

- *Is Employed*
- *Earns $30-$46,000/year*
- *Drives to Work*
- *Rents an Apartment*
- *Is Post-Secondary Educated*

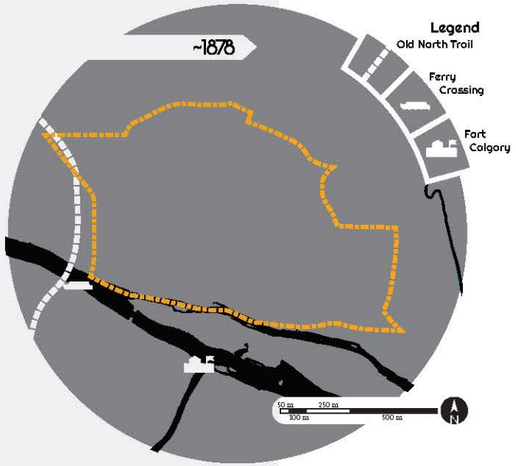
HOUSING: MARKET PRICES

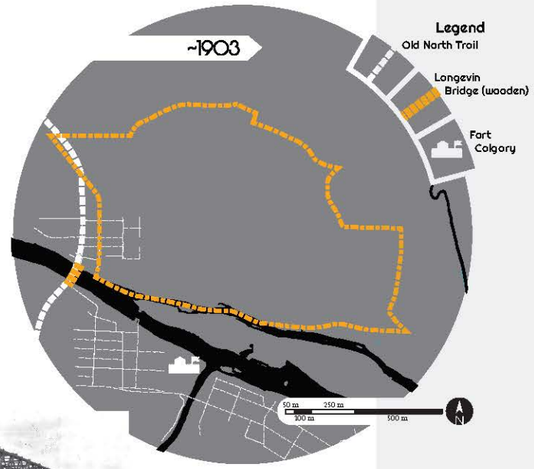


Average Home Price:

- Bridgeland-Riverside: $663,500
- Sunnyside: $543,126
- Eau Claire: $888,120
- East Village: $532,347
- Renfrew: $750,142
- Calgary: $437,20

Sources: Jim Sparrow, todayscalgaryhomes.com, www.creb.com





1870 Fort Calgary Established
H. Paquette's Ferry Crossing

1880 The Biggest Flood
CPR arrives in Calgary

1890 First Langevin Bridge Built

1900 The Biggest Measured Flood
A Big Flood
Riverside Village Incorporated

1910 Langevin Bridge Opens, Riverside Annexed
BRCA Founded, General Hospital Cornerstone Laid
Bridgeland Annexed

1920 Another Big Flood

1930 Riverside YMCA Established
Calgary Zoo Established, A Big Flood

1940

Pre-Colonial Era
- Indigenous settlements in present-day Riverside
- Old North Trail ran roughly along present-day Edmonton Trail

Arrival of the Fort
- First Ferry Crossing at Old North Trail crossing site; now Langevin Bridge
- Original Fort Calgary gone within 7 years

Germantown Era
- Influx of Russian Germans including Volga Germans from Jagodnaya Polyana
- Brothels in Riverside - "the women from across Langevin Bridge"

Village of Riverside
- CPR arrival in Calgary brings population boom
- Wood Truss Langevin Bridge means end to ferry era

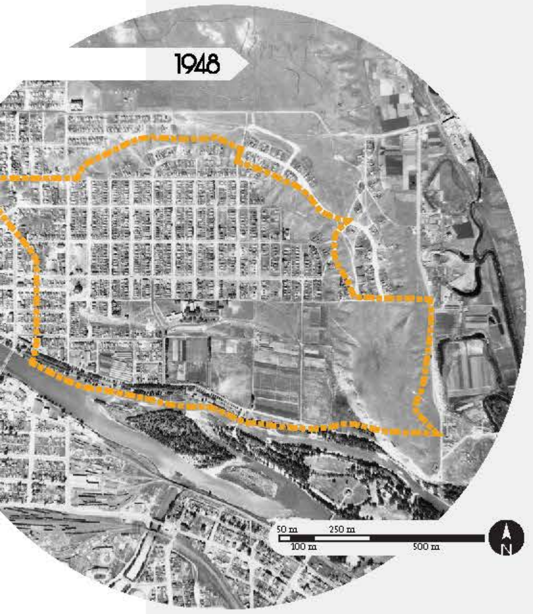
Pre-war Boom Era
- Economic & building boom
- First Calgary Stampede

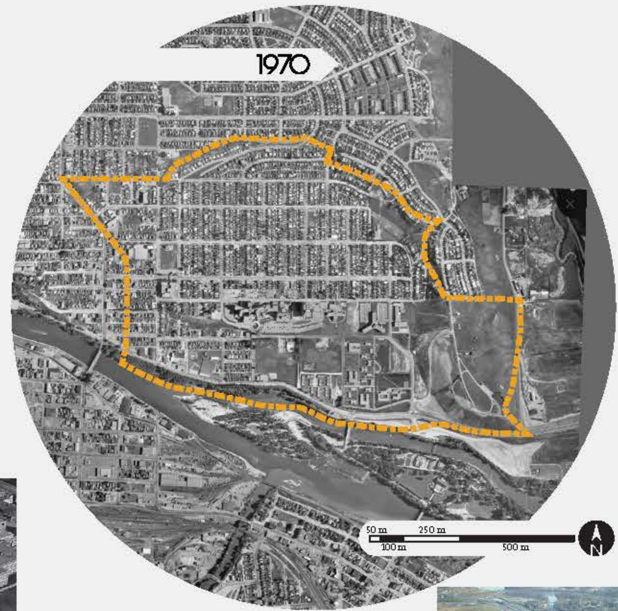
Wars and Depression Era
- Glenmore Dam catches 1932 flood
- Wartime industry and "saloon riots"

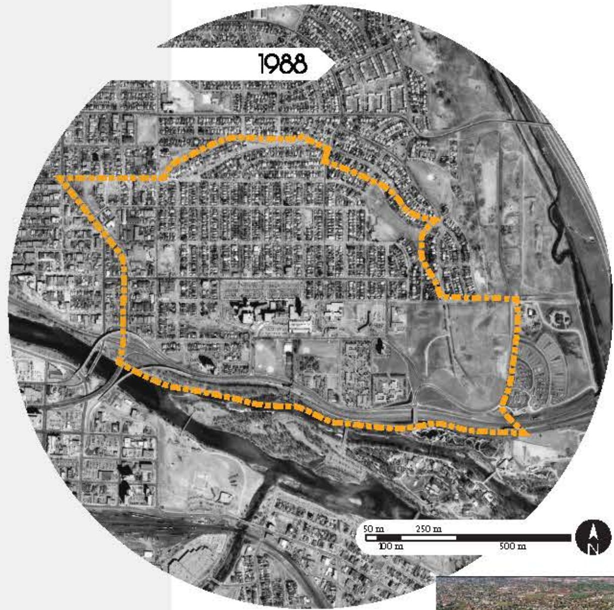
Annexed to the City
- Steel Langevin Bridge provides streetcar link
- Langevin, Stanley Jones, and Riverside Bungalow schools built

Community Growth
- Many community programs and amenities started

COMMUNITY HISTORY




















1950

New General Hospital Opens

1960

Deerfoot Tr Constructed

1970

4th Ave & 5th Ave Fly-Overs Open

Baines Bridge Constructed

1980

CTrain Stations Open

1990

Tom Campbell's Hill Park Designated

General Hospital Demolished

2000

The Bridges Starts

Langevin Bridge LEDs

2010

2013 Flood

Post-war Boom Era
- 1947 Oil Boom
- 1973 Arab Oil Embargo

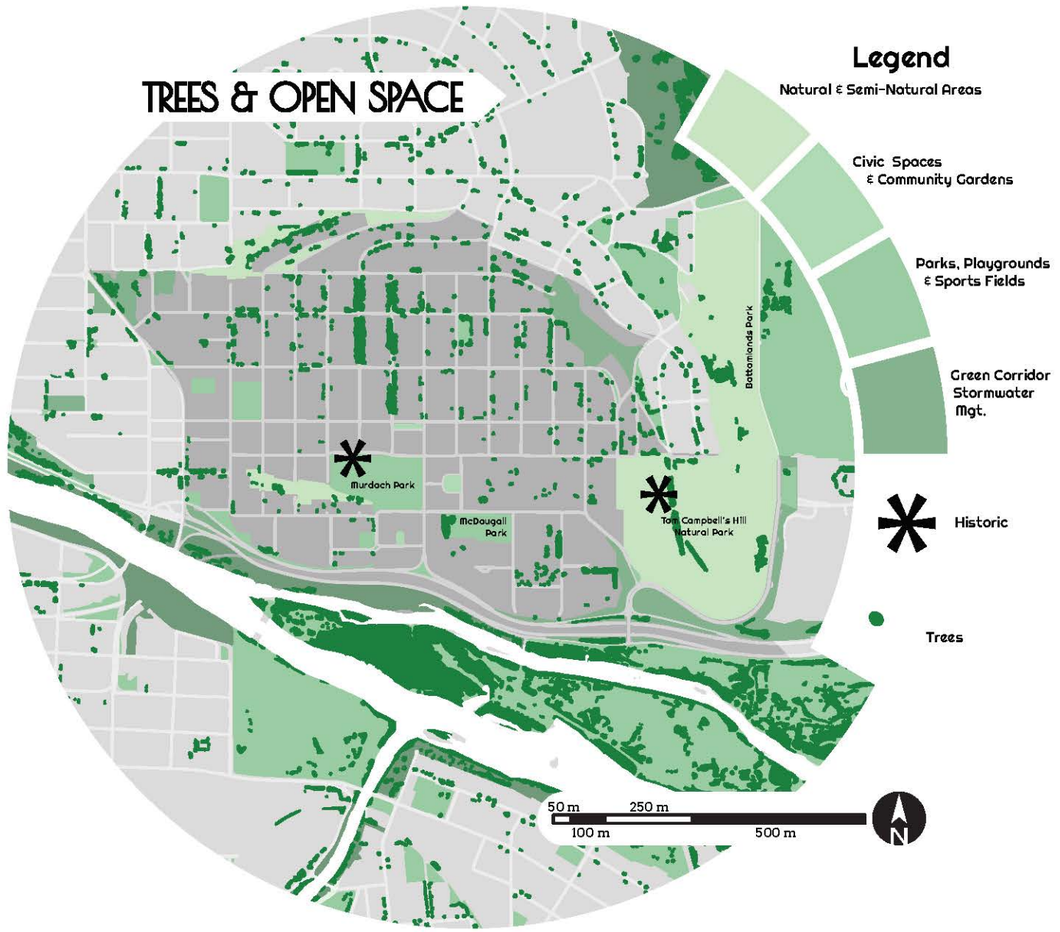
Infrastructure Expands
- New General Hospital
- Deerfoot Tr means that Edmonton Tr is no longer Highway 2
- Bridges and CTrain stations

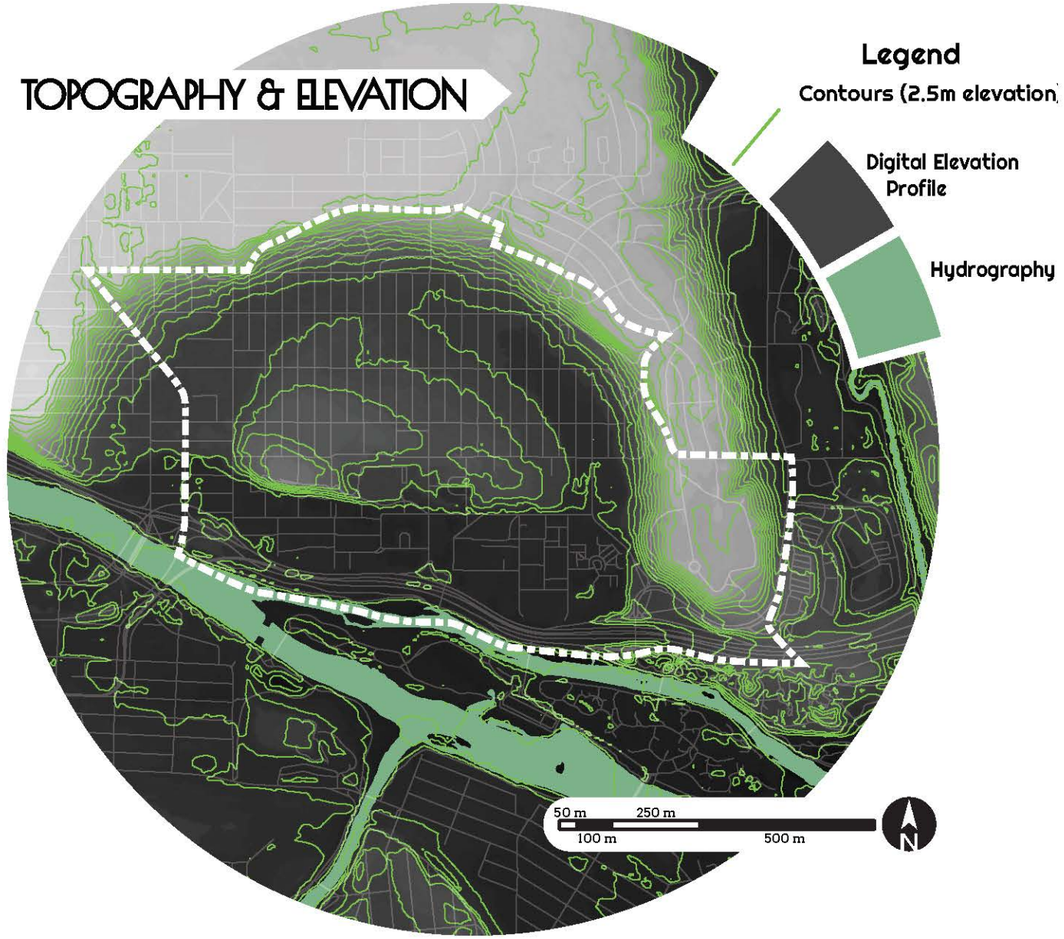
Cutback Era
- Oil glut results in price collapse
- Growth in homelessness

Last Years of the Hospital
- Closed in 1997, demolished in 1998

The Bridges Era
- Oil prices climb again, as do house prices
- Record population growth in Calgary

Transit-Oriented Development
- The Bridges wins awards at the outset, but encounters delays in build-out





Open Spaces

23% of the study area is open space
(34.97 ha of open space out of 153.28 ha total), however open spaces are **disconnected** and **concentrated in the South and East**

Neighbourhood Trees

Approximately **1900 street trees** in Bridgeland-Riverside according to City of Calgary data. This would mean a **deficit of 13,100 trees, or 87.3%**. This data is inaccurate (many existing trees are not present in the data), but points to a significant tree deficit in the community nonetheless.
(City of Calgary guidelines recommend trees every 5m along streets, and assuming 37.5 km of surface streets, there should be roughly 15,000 trees in the neighbourhood)

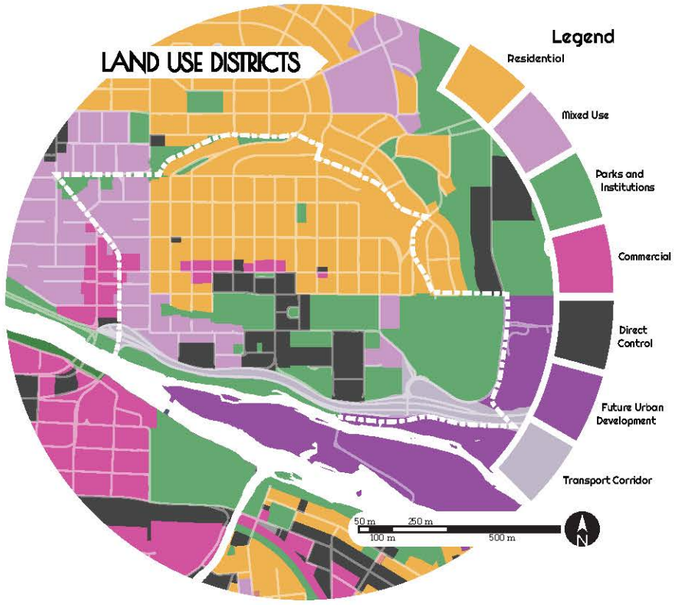
The Bluff

- Total Elevation Change: +/- 40 m
- South facing: views & sun

The Valley

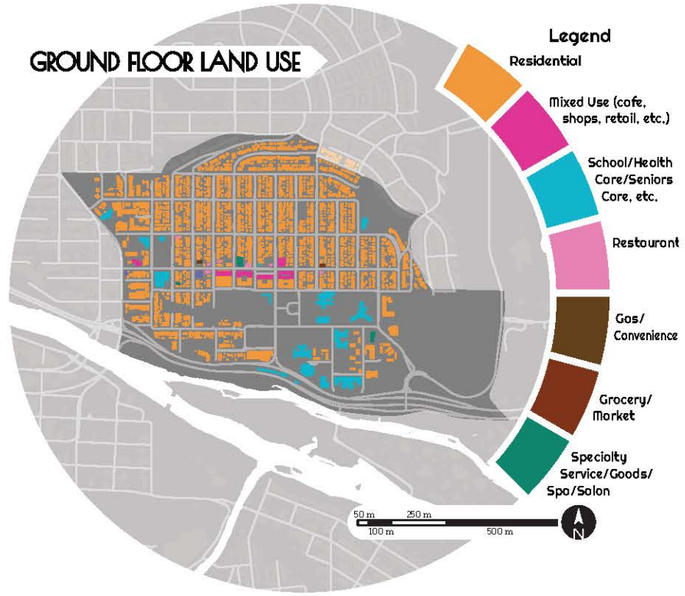
- Proximity to the river
- Surrounded by physical barriers

SPATIAL ANALYSIS



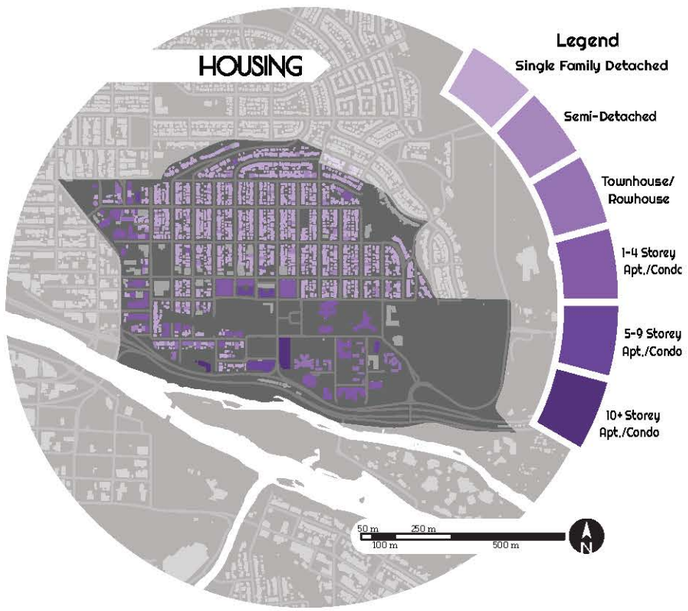
Land Use Districts ("Zones")

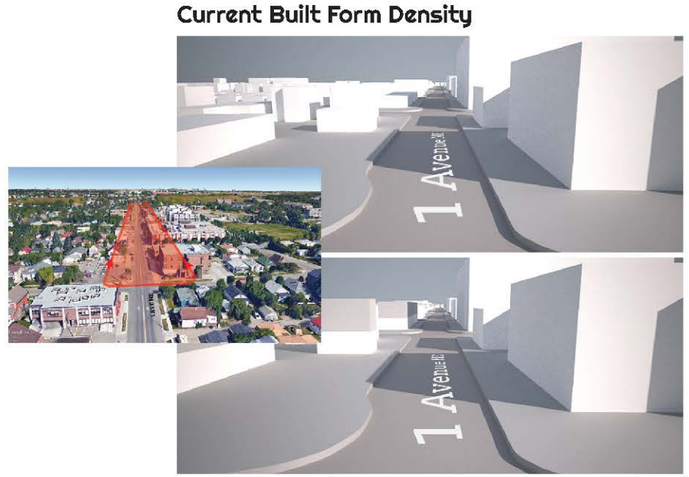
- Predominantly residential
- High occurrence of Direct Control along key corridors
- Mixed Use: Edmonton Trail and Riverside
- High density is zoned in the SW, low density zoned in the NE



Ground Floor

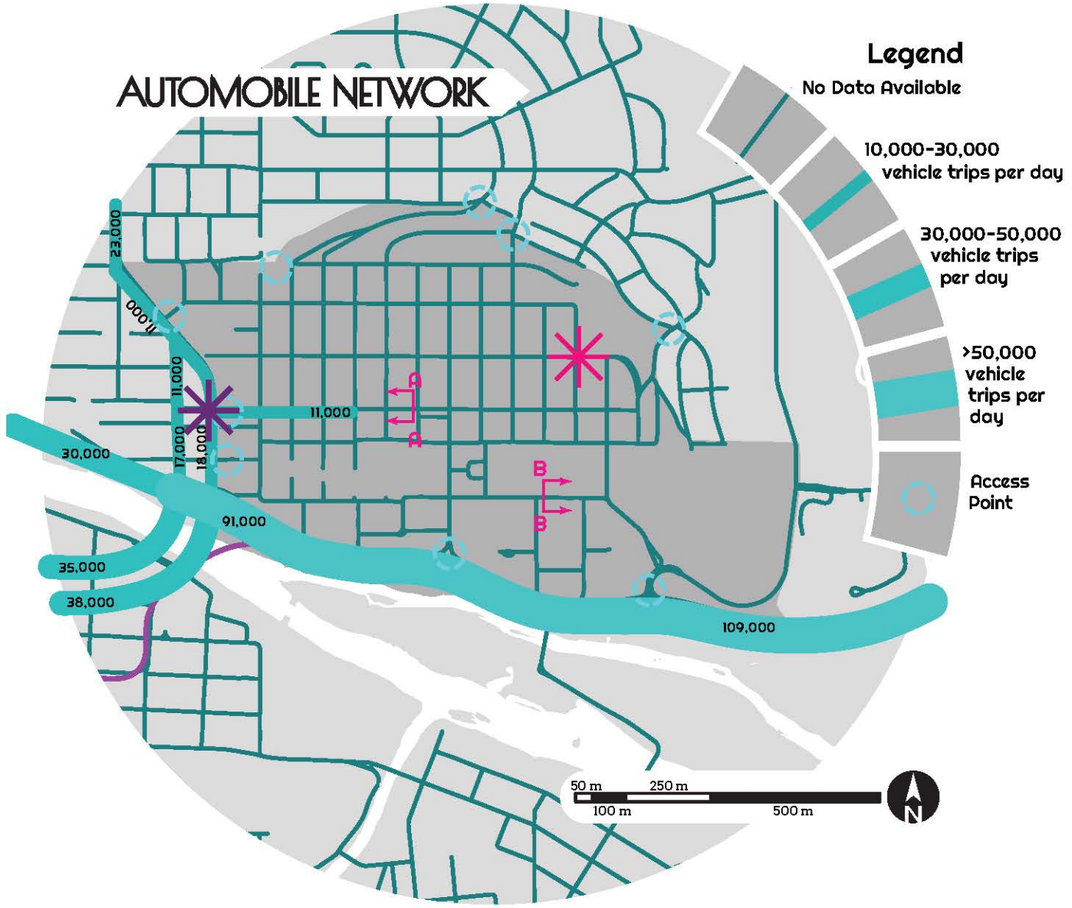
- Shows actual uses of buildings
- Upper storeys generally residential





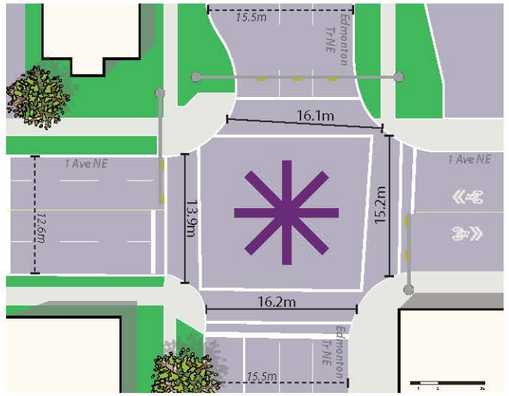
Density

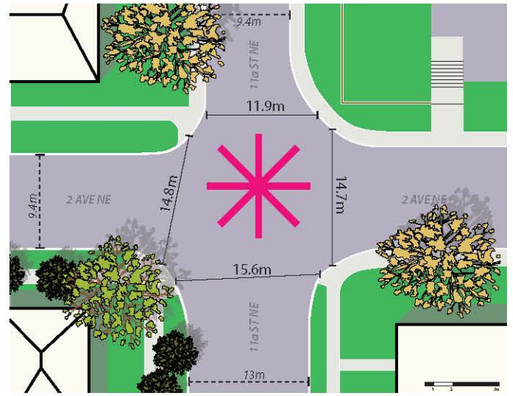
- What does densification look like under current zoning?
- Cannot reach 11,328 population under current zonings without relaxations



Traffic Volume

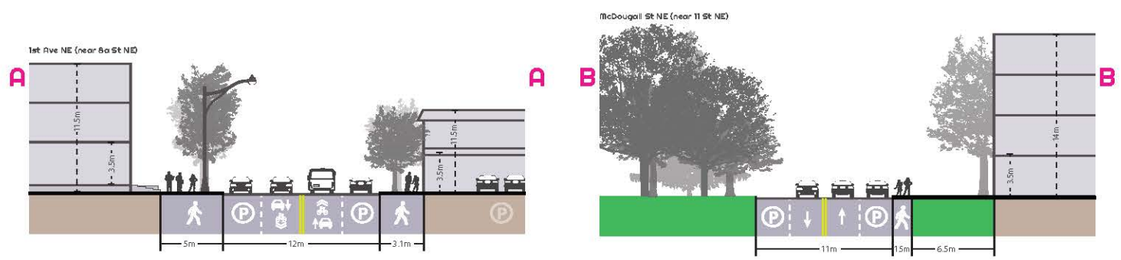
- Memorial Drive and flyovers connecting with downtown are most heavily trafficked
- Through traffic along 12 Street NE and McDougall NE





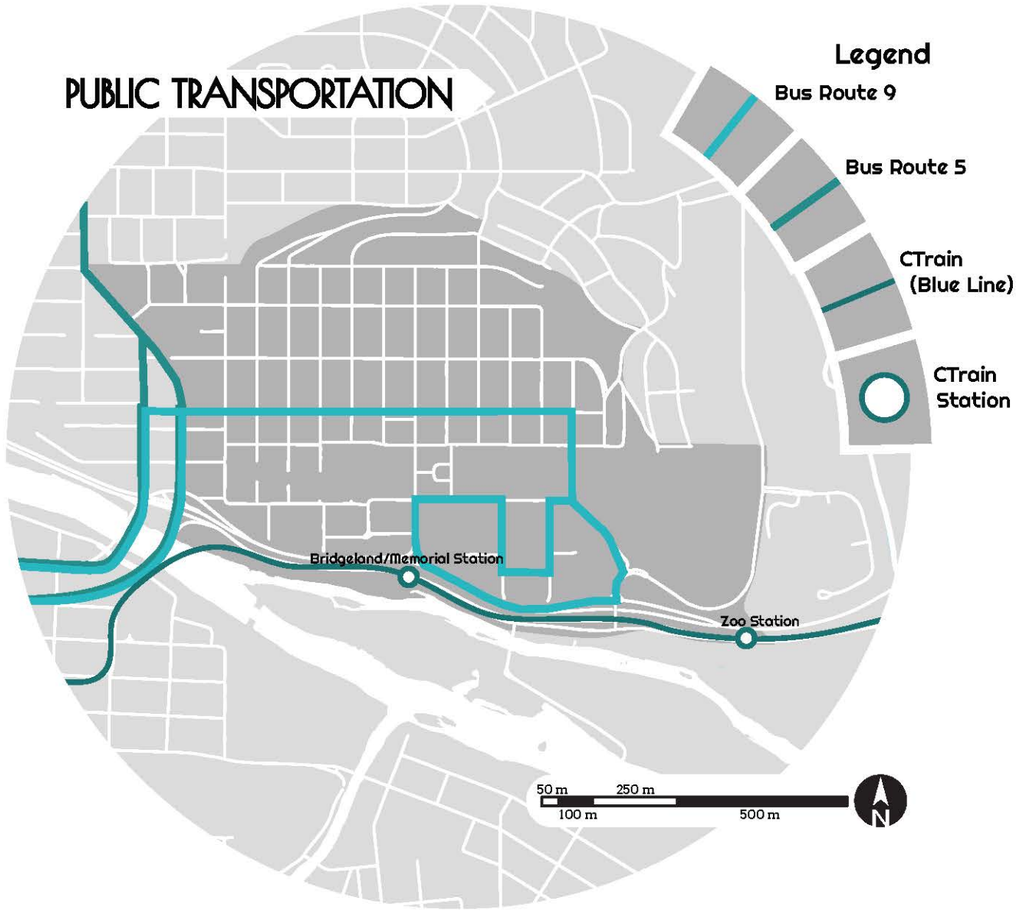
Street Crossings

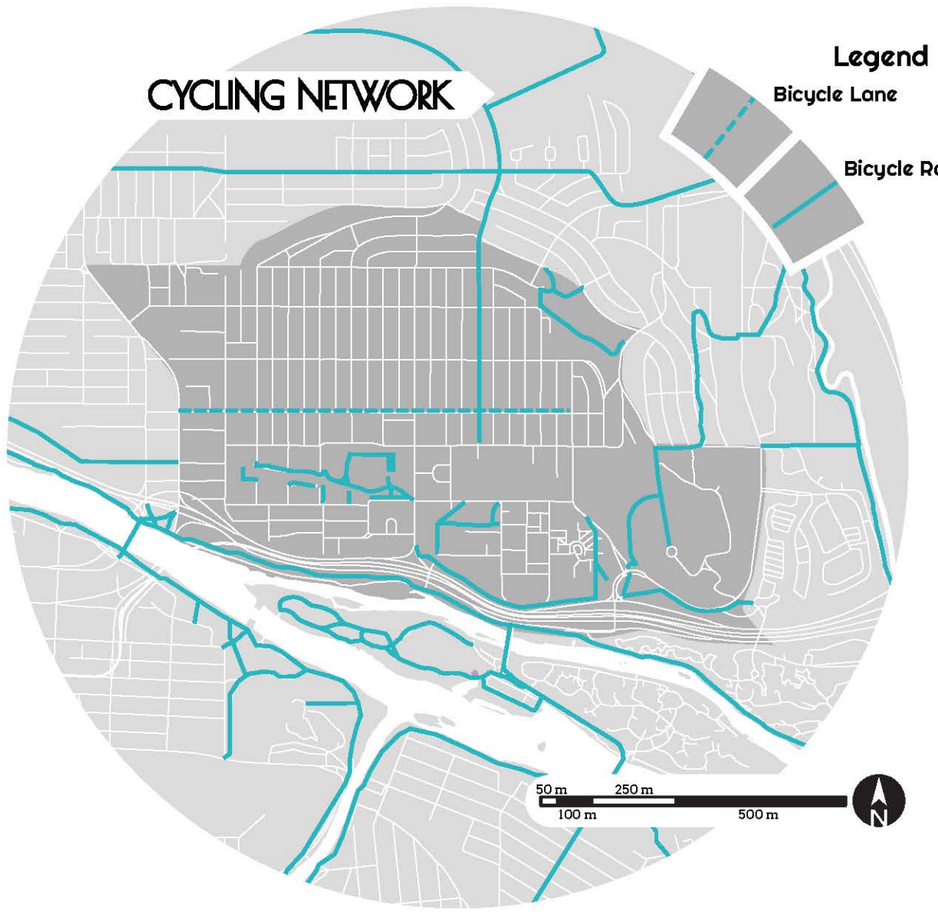
- Wide crossings at both main roads and quiet residential streets can be difficult for pedestrians



Cross Sections

- 1st Ave NE has low-rise buildings with wide sidewalks, street trees, and street parking that separates pedestrians and traffic.
  McDougall Rd NE has minimal separation between pedestrian and automobile, smaller sidewalks, and faster-moving traffic.





Bus Routes

- Two bus routes in or near community: Route #5 and #9
- Only one route enters the neighbourhood: #9 - serves East Riverside predominantly

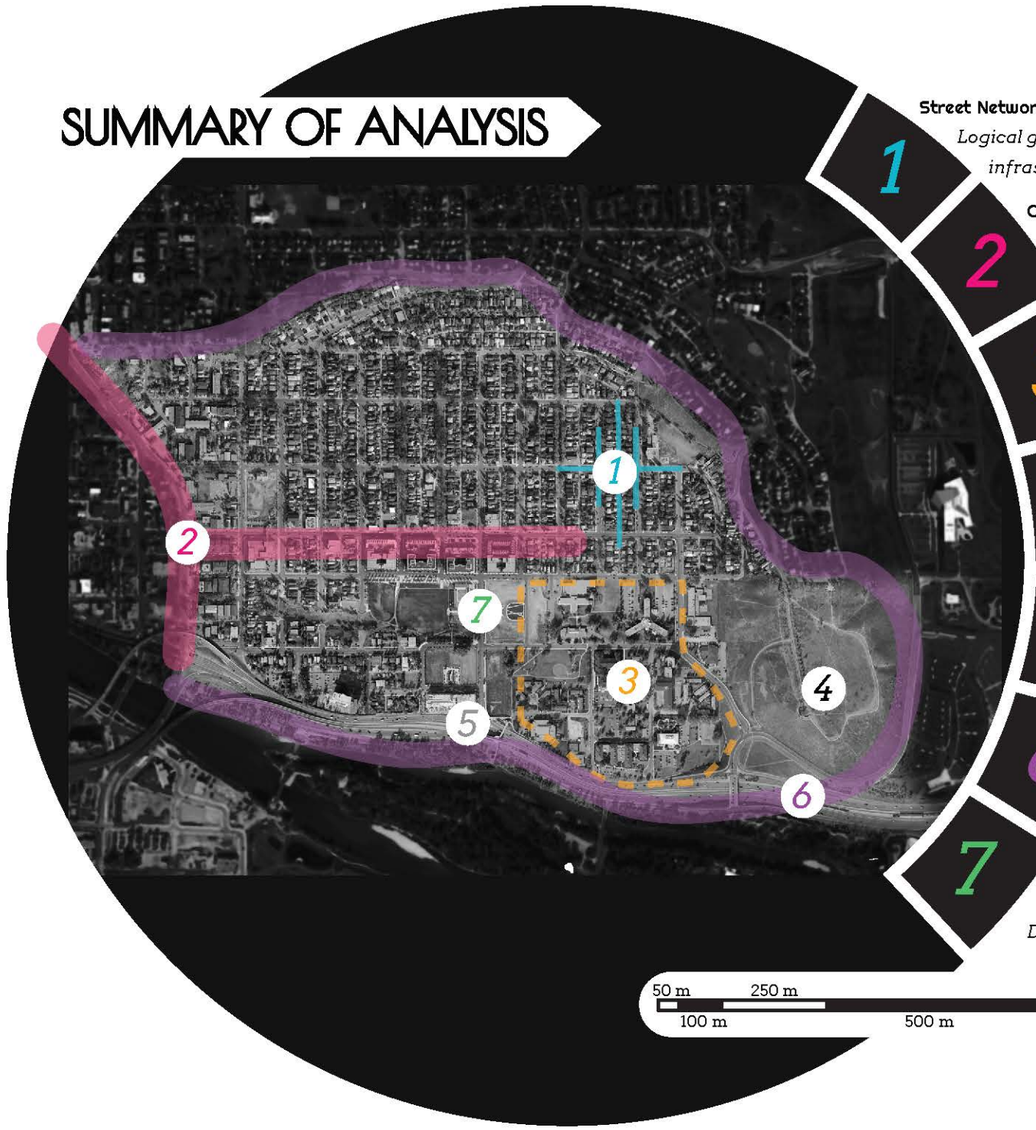
CTrain Access

- Two Stations: Bridgeland/Memorial Station and Zoo Station
- North Bridgeland is not within "comfortable walking distance"
- Pedestrian and public realm around station is poor

Cycling Network

- No separated cycling lanes North of Memorial Drive
- Memorial is a barrier for River Path access and southern destinations

SUMMARY OF ANALYSIS



Legend

Street Network and Complete Streets:
Logical grid network enhances walkability but active transportation infrastructure is lacking

Corridors for Commercial Activity:
Edmonton Trail and 1Ave NE provide community amenities but are not fully developed

Underutilized Institutional Lands:
East Riverside is under-utilized, disconnected, lacks amenities and demographic mix

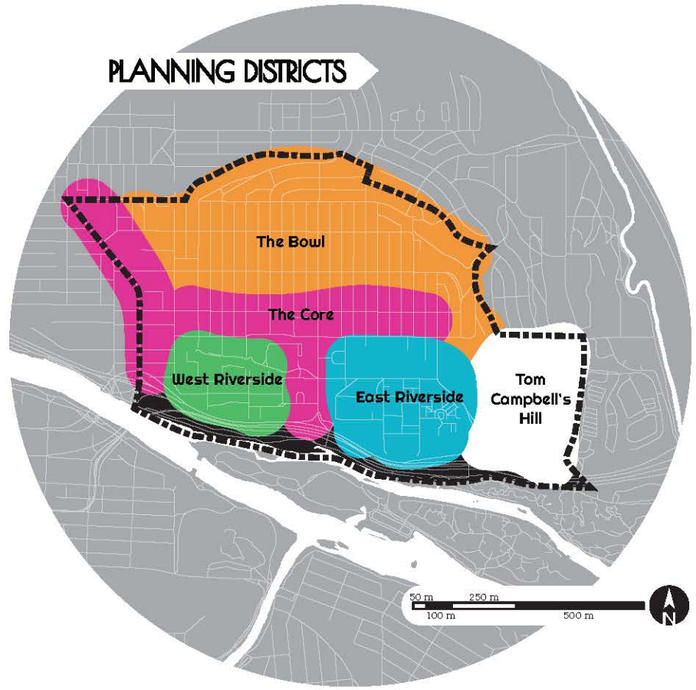
Open Space:
Access to open space but large portion is unusable due to topography

CTrain Access:
Public transportation connection to the city and nearby amenities, but station environment is poor and disconnected from commercial corridors

Physical Barriers and Isolation:
Topography, Memorial Drive, and limited community entry points isolate the community

Community Character and Heritage
Distinct character and heritage that can be enhanced

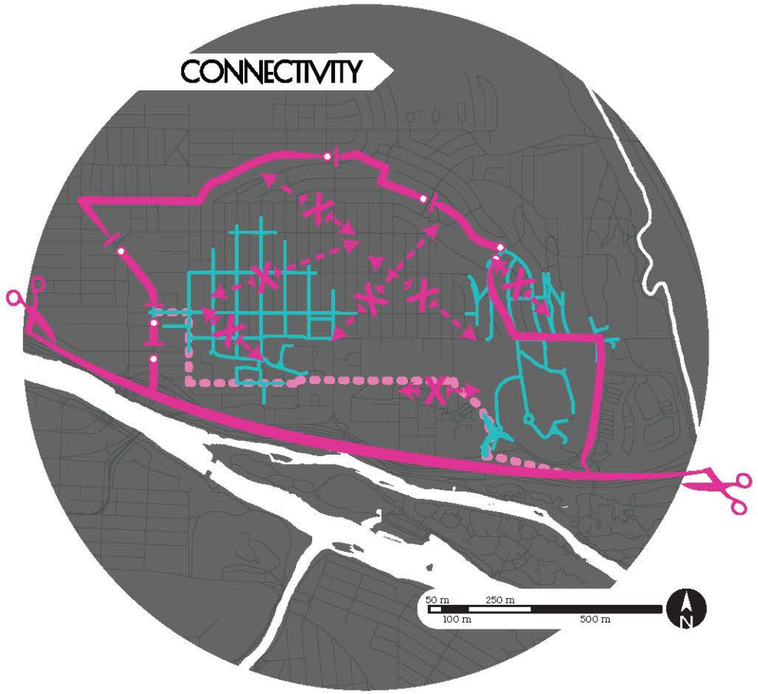
PLANNING DISTRICTS

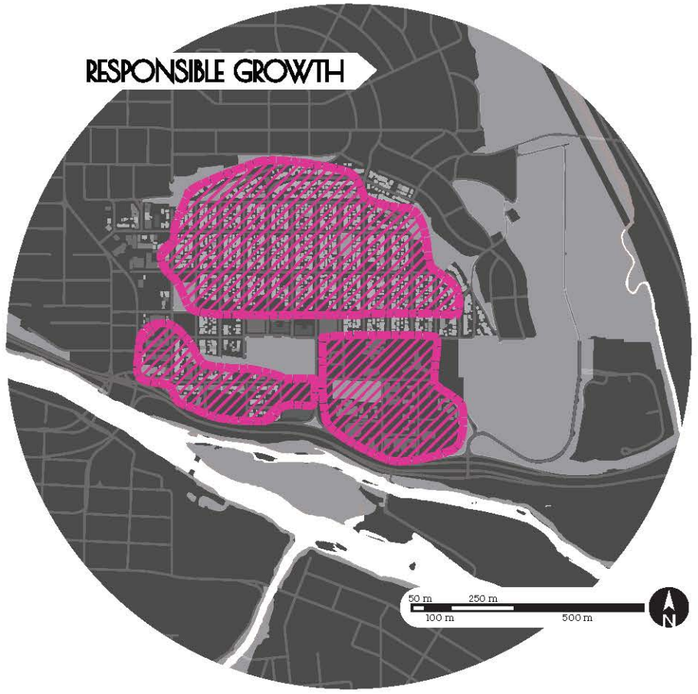


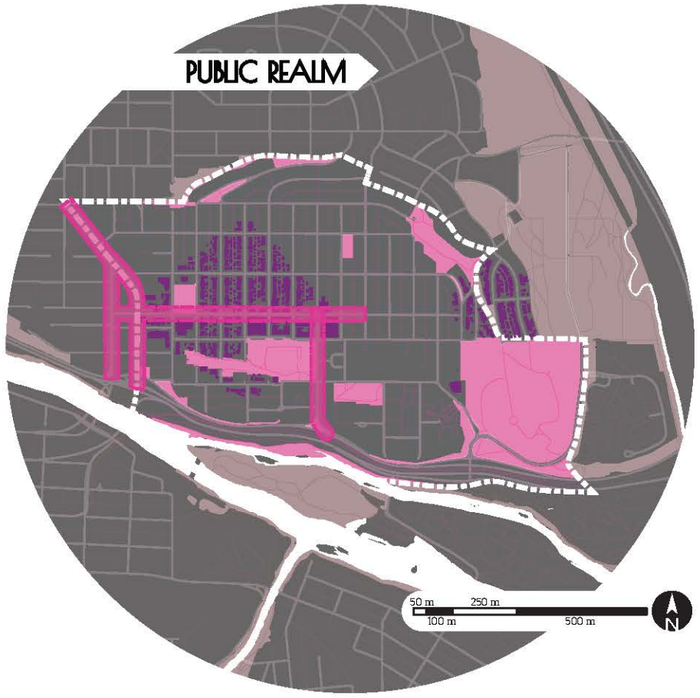
In addition to our other findings, through our analysis we found that Bridgeland consists of four distinct planning districts, each with their own conditions and requirements:

- **The Bowl** is mainly low density residential;
- **West Riverside** is medium-high density residential;
- **The Core** is oriented around the community's mixed-use and commercial corridors;
- **East Riverside** consists of large parcels which belong to four institutional landowners.

These districts and the conditions found therein form the basis of some of our spatial design, and will be referred to further in this document.





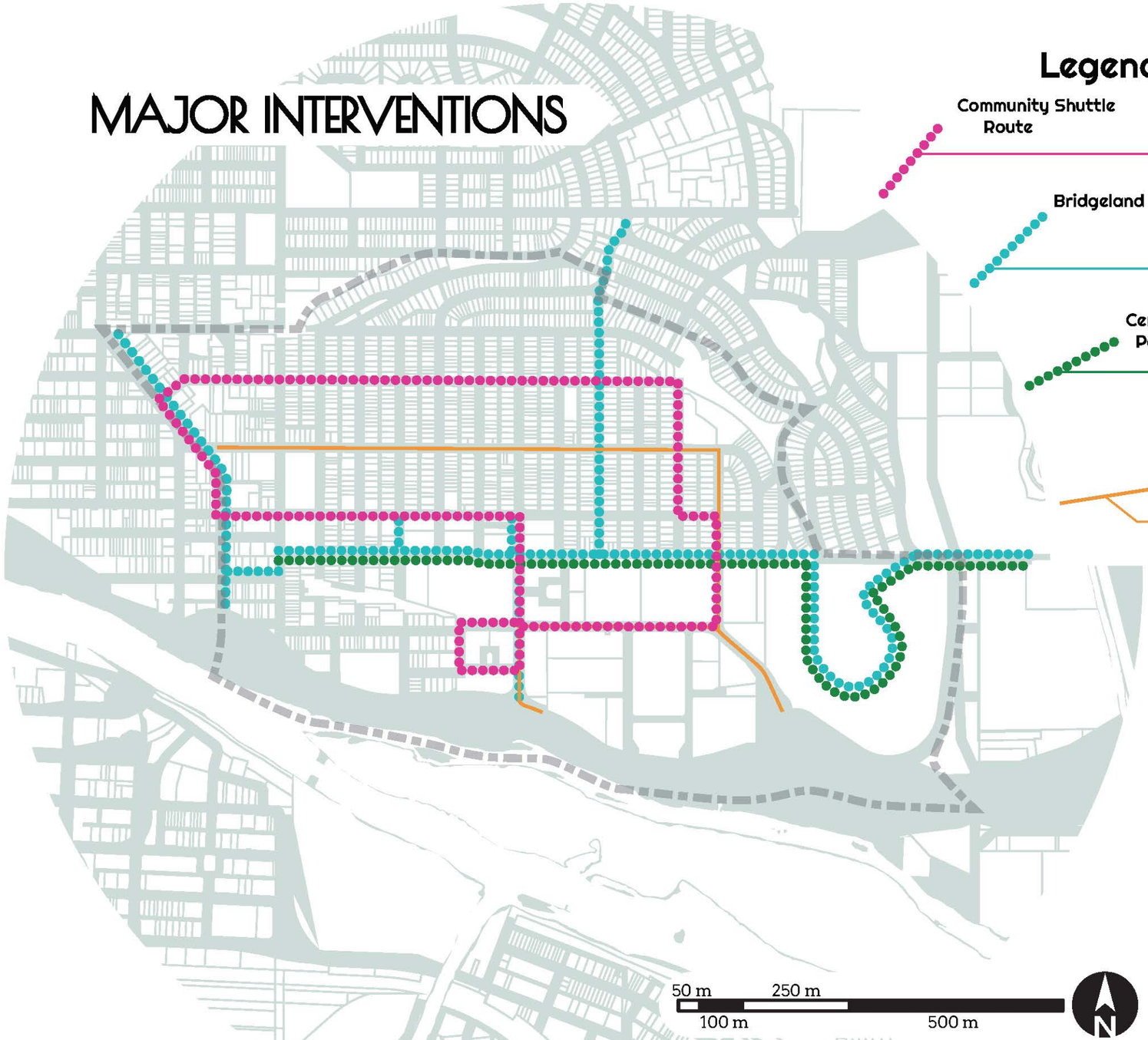


Goals

Further to our analysis, we established three primary goals for this document. All of our designs and guidelines are held to the standard of promoting at least one of these goals:

- **Enhanced Connectivity** both within and beyond the community, for all modes of transportation;
- **Responsible Growth** which reflects and contributes to both the community's character and ongoing development;
- **A Good Public Realm**, which is inclusive, healthy, welcoming, and fun for all residents and visitors to the community.

MAJOR INTERVENTIONS



Legend

- Community Shuttle Route
- Bridgeland Cycle Track
- Centre Ave NE Parkway
- Traffic Calming Treatments

SECTION OVERVIEW

CONNECTIONS

Centrally located within Calgary and adjacent to downtown, Bridgeland has the potential to be a well-integrated and connected part of Calgary's inner city. The neighbourhood as it stands today has several limitations, with many opportunities for improvement to maximize the safety, efficiency, and level of connectivity both within Bridgeland, and to the greater Calgary area.

APPROACH

Purpose of Design Guidelines

The Connections design guidelines provide direction to public realm design throughout Bridgeland. Site-specific examples are provided to highlight particular elements which are recommended for implementation when community resources permit.

In addition to community led initiatives, when new developments occur, application of the included guidelines should be incorporated into the design process in order to provide a strong sense of connectivity throughout the neighbourhood. For example, when a street is undergoing alterations or repair, application of sidewalk treatments, landscaping, and other relevant elements listed in the design guidelines should be included in the development plan.

These design guidelines also provide the community with a means of assessing and evaluating the impact that new developments and projects will have on the public realm and street character.

Connections Approach

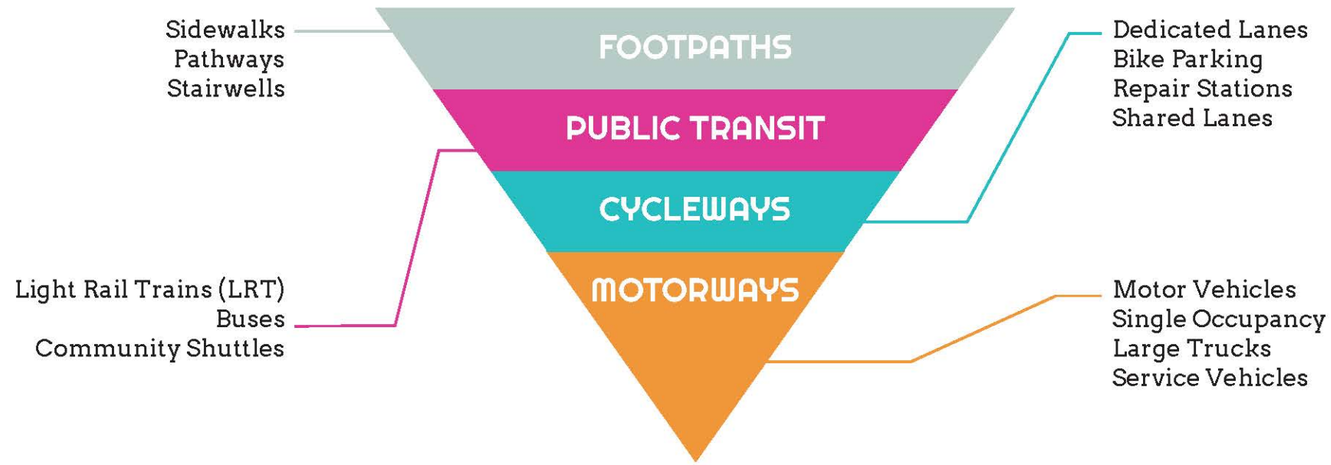
Connections design guidelines are developed using a hierarchy which prioritizes:

1. Footpaths: Ensuring positive pedestrian environments should be the highest priority when considering a new development.

2. Public Transit: Encouraging multi-modal transportation options throughout Bridgeland is strongly encouraged.

3. Cycleways: Incorporate safe, viable methods for cyclists to move throughout the community.

4. Motorways: Manage the existing road network in a controlled and safe way.



Footpaths

The pedestrian realm is placed at the top of the Bridgeland Connections hierarchy. Pedestrian mobility should be prioritized above all other modes of transportation within the community.

An active pedestrian realm should be fostered through a safe, comfortable, and clearly defined network. The connections both inside and outside Bridgeland should be developed to become a favourable method of transportation by incorporating:

- Wide sidewalks where possible
- Buffers from traffic
- Landscaping
- Street furniture for places of rest
- Coverage from wind and other environmental conditions
- Accessible crosswalk designs
- Short street crossings where possible
- Accessible connections to leisure trails

Public Transit

One of the greatest assets for Bridgeland is its direct connection to the Calgary LRT network. In addition to the C-Train, the community has excellent access to the Calgary Transit bus network as well.

These modes of transportation should be encouraged for commuters from within the community, as well as for visitors as a method of travel to Bridgeland.

This mode of transportation is prioritized over cyclists in order to reflect the demographics of the community. A high population of seniors and physically-challenged residents living within the community requires access to public transit be placed at a high level of importance.

Through enhancing the pedestrian realm surrounding transit stops and stations, providing clear, comfortable, and safe connections for users, and increasing the visual attractiveness of the stations themselves, public transit can be made a more viable option for commuters to, from, and within Bridgeland.

Cycleways

As alternative modes of transport are increasingly encouraged within the City of Calgary, Bridgeland must increase the accessibility to external cycling tracks, as well as encourage ridership within its own borders.

Safety of cyclists should be placed above all else when it comes to sharing right of ways with pedestrians and motor vehicles. In a study conducted by the University of British Columbia, out of 690 cyclist injury incidents, 72% were collisions (with motor vehicles, route features, people, or animals) and 28% were falls (BICE Study, 2012). Creating separate, dedicated paths for cyclists is one of the most effective ways to offset these injuries, and create a more inclusive environment for alternative modes of transportation.

Cycling infrastructure has the potential to be significantly increased throughout Bridgeland. The addition of dedicated lanes, repair stations, and increased bicycle parking within the community should see the added benefit of reduced vehicles on the streets, giving commuters a much more viable and safe option for travel.

(For more information on the Bicyclist Injuries and the Cycling Environment study, see "Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study," American Journal of Public Health, December 2012, Vol 102 No. 12).

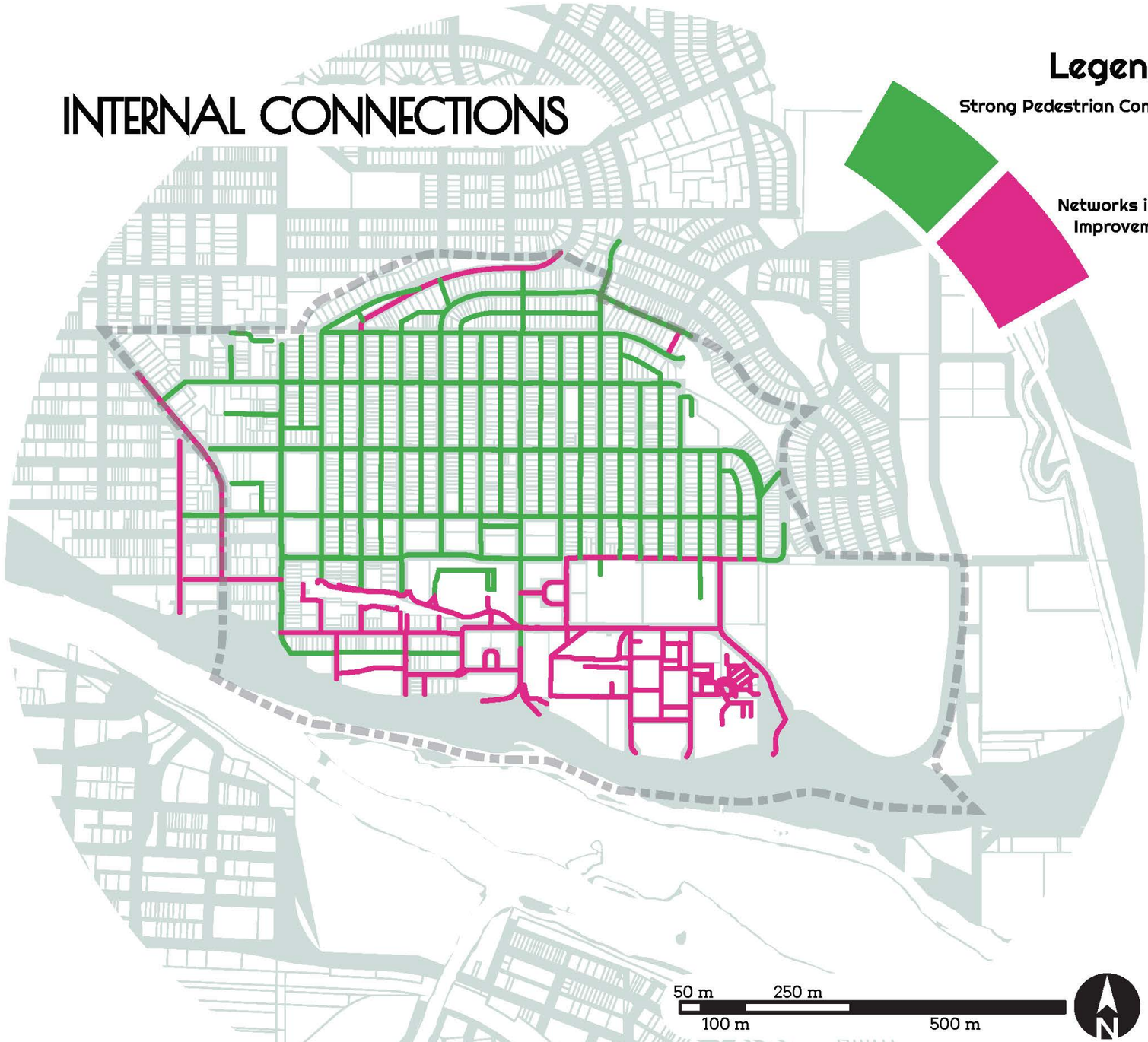
Motorways

While motor vehicle access remains an integral part of the City of Calgary connectivity network, the impact of, and reliance on, this method of transport should be reduced throughout Bridgeland. Increasing the availability and level of comfort of alternative transportation modes should be prioritized over supporting motor vehicles. Interventions for motor vehicles increase connectivity but not speeds, managing the road network in a more controlled, and safer way.

Calgary has many examples of "good streets," which effectively incorporate motor vehicles with other methods of transportation. In Bridgeland, these elements would allow for a more harmonious mix of all motor vehicles with other methods of transportation.

Due to the proximity of Bridgeland to Memorial Drive, there is a significant amount of cut-through traffic. This guide will illustrate methods of traffic calming initiatives, as well as alternative modes of transportation designed to alleviate these issues, while maintaining a positive connection for motor vehicles.

INTERNAL CONNECTIONS

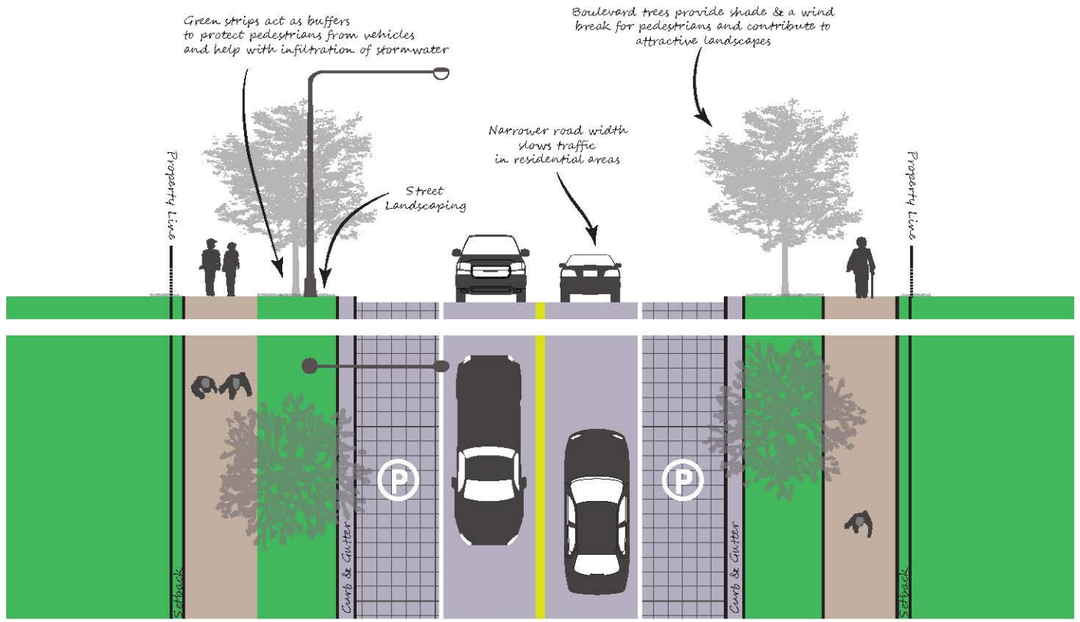


Internal Connections

Bridgeland has a well-established grid network north of Centre Avenue NE. This grid contains many positive pedestrian elements. Treed boulevards act as buffers to protect pedestrians from vehicles. Sidewalks are wide enough for two people and narrow road widths slow traffic in residential areas.

The areas south of Centre Avenue NE however have many difficult connections for pedestrians. Many of these rights-of-way contain no separation between pedestrians and motor vehicles, and have wide intersections which create difficult crossings. There is a lack of vegetation and tree coverage along many pathways.

Through the application of principles discussed in the footpath guidelines, streets in need of treatments can be better arranged to prioritize pedestrian travel above all other modes of transportation, while encouraging use amongst residents and visitors.



Pedestrian Safety & Accessibility

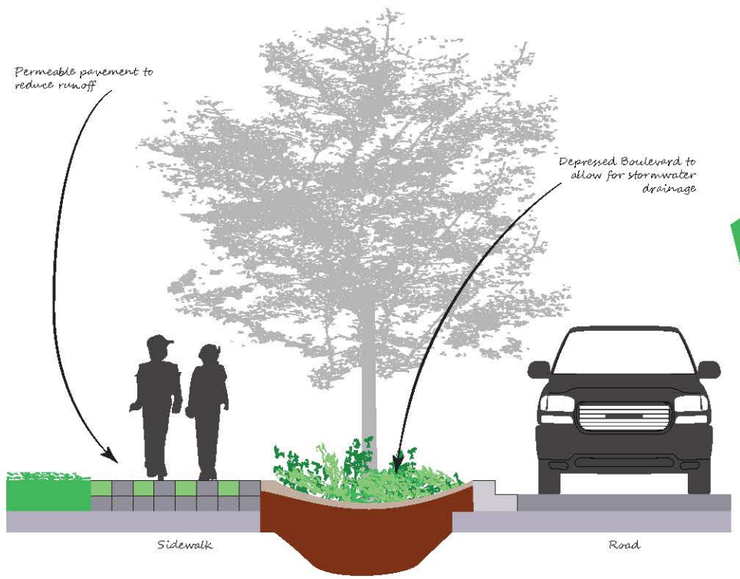
Streets throughout Bridgeland should incorporate designs for a continuous, connected, safe, and comfortable pedestrian network. Elements such as narrow street crossings, railings for safety, and minimal driveway interruptions should be incorporated into these designs. Boulevards also provide a natural barrier, serving to protect the pedestrian from adjacent road traffic and provide a sense of security and safety.

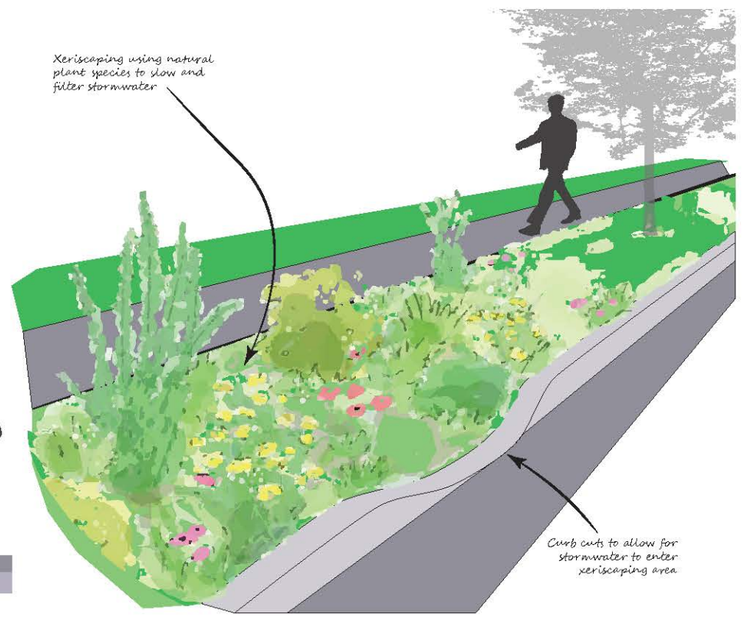
- Boulevards should be applied to streets wherever possible
- Widening of boulevards and planting of new trees is encouraged wherever possible
- Disruptions to the pedestrian network such as missing sidewalks along streets, driveway interruptions, and above ground utilities should be minimized throughout the neighbourhood
- Railings should be included along footpaths with steep slopes located adjacent to motor vehicle traffic (Edmonton Trail)
- Road crossings should be shortened (e.g. with bulb-outs, by eliminating lanes, etc.) to minimal distances in order to reduce the amount of time pedestrians spend in the motorway.

Lighting

Lighting along footpaths increases visibility, safety, and security, as well as creating drama and a sense of place.

- Lights should be shorter than standard street lights, and frequently spaced, to prioritize pedestrians
- Lighting should be increased around building entrances, edges of parks and plazas, public art, signage, retail displays, street furniture, restrooms, and interfaces with other modes of transportation
- Coloured lights and lighting built into other designs such as benches and bollards should be considered





Sustainable Infrastructure

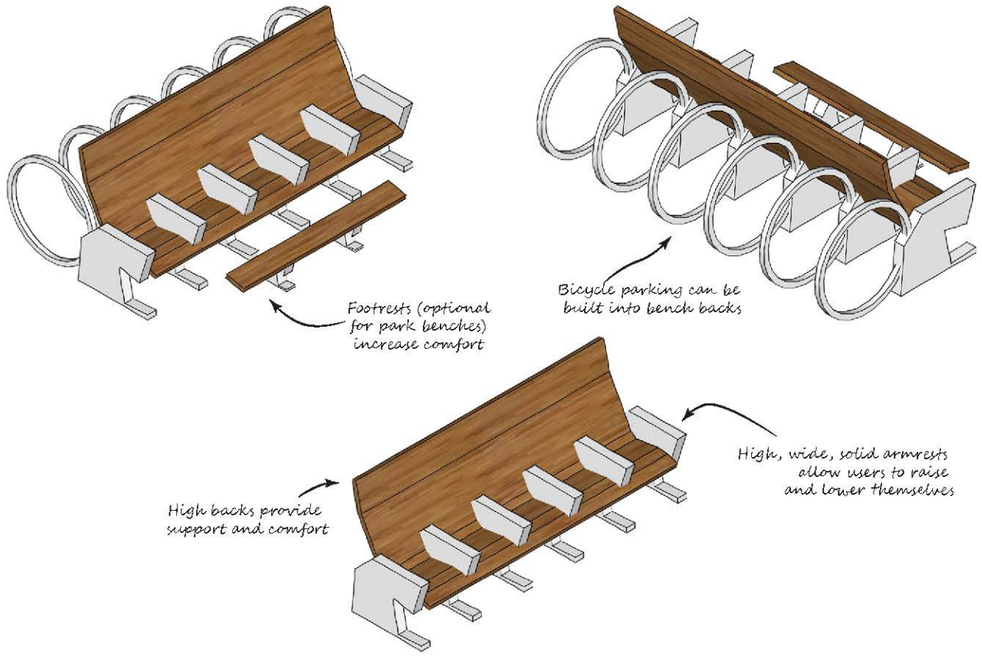
One of the simplest ways of building resiliency into an existing storm-water management system is to improve the permeability of surfaces. This allows increased infiltration of water into soil, reducing runoff. Swales and various kinds of permeable pavement will work well to increase infiltration in both public and private settings such as public gathering spaces and private driveways.

- Permeable surfaces such as spaced pavers or grass block paving are encouraged throughout The Bowl district
- Green storm-water infrastructure (xeriscaping) should be incorporated into the boulevards to aid in storm-water management wherever possible

Signage and Wayfinding

Signs should be used throughout the community to help navigate, locate amenities and provide a sense of place. Styling and placement should be consistent to aid in effective wayfinding. While neighbourhood input should be enlisted in creating specific designs, at least two categories of design should be present:

- Large signs with maps at community entrances, major intersections, and points of interest like parks and art;
- Text-only directional signs at minor intersections and resting points.



Street Furniture

Resting points should be readily available to all pedestrians traveling within Bridgeland. Frequent, high-quality benches along major footpath routes will increase neighbourhood accessibility for persons of reduced mobility, including senior citizens.

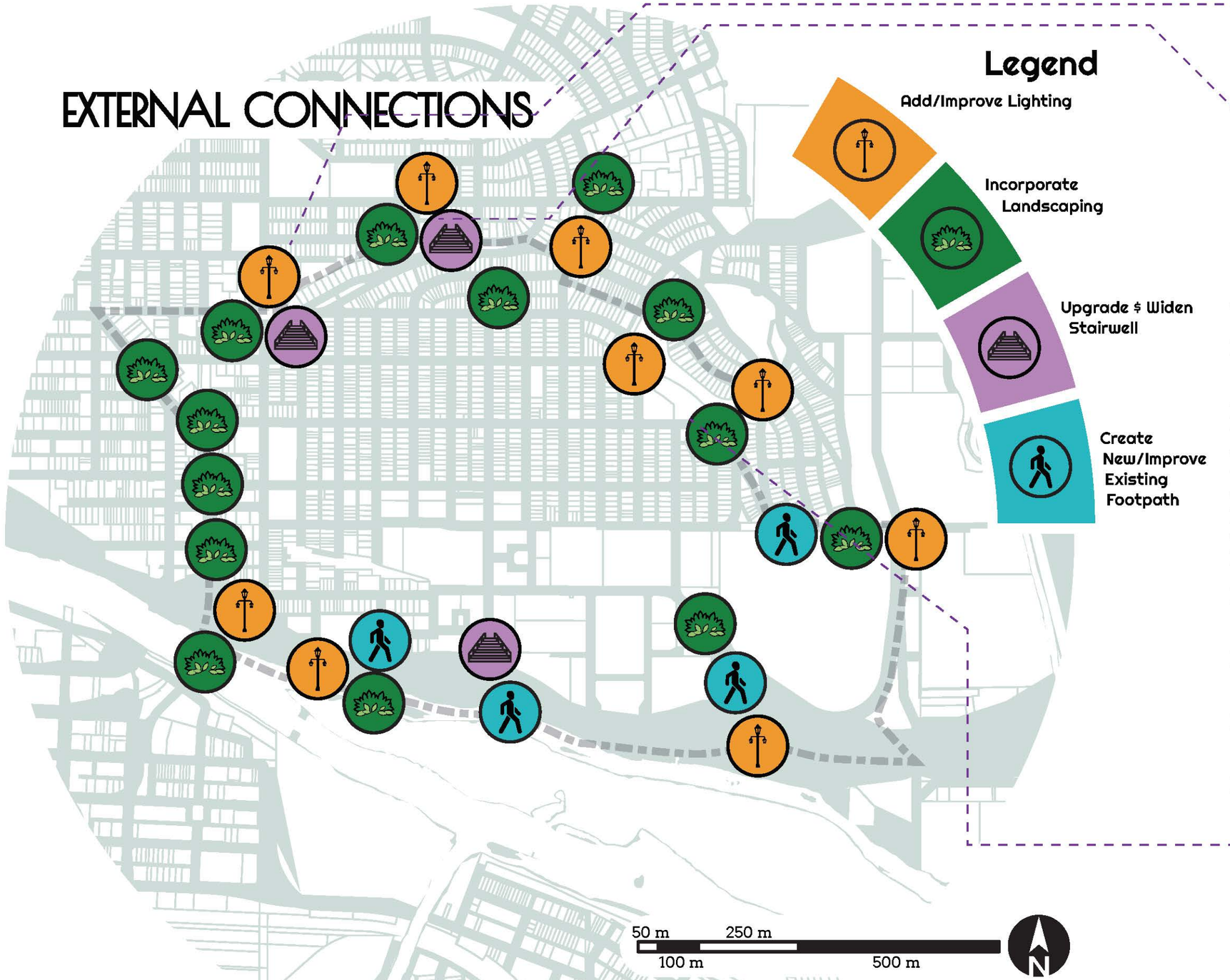
- Benches should be located at a minimum of every 40 meters along major pedestrian corridors (McDougall Rd, 1 Avenue NE, Edmonton Trail, Centre Avenue, 9 Street NE)
- Bench design should be ergonomic, with backs and sturdy arm rests at appropriate heights to allow users to sit down and stand up with ease
- Benches and resting points should be situated at the end points of all intersections along major pedestrian corridors (McDougall Rd, 1 Ave NE, Edmonton Trail, Centre Avenue, 9 Street NE)

Waste Receptacles

Waste receptacles should be available throughout Bridgeland in order to reduce the amount of litter within the community,and enhance street cleanliness.

- Waste receptacles should contain a minimum of one recycling option (bottles and cans), as well as landfill
- Wherever possible, additional receptacles for cardboard/paper, and biodegradable material (composting) should be installed along major pedestrian corridors (McDougall Rd, 9 St, Centre Ave, 1 Ave, Edmonton Trail)
- Waste receptacles should be located adjacent to benches as often as possible
- Waste receptacles should be placed at as many intersections as possible

EXTERNAL CONNECTIONS



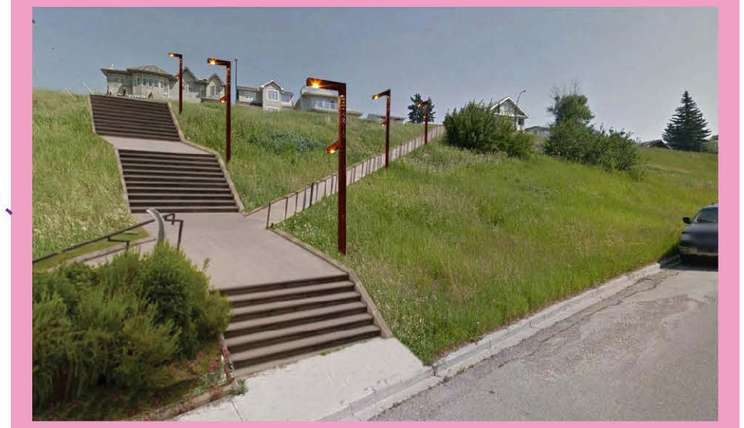
External Connections

Despite its central location and proximity to surrounding neighbourhoods and amenities, Bridgeland presents many challenges to pedestrian connections to these areas.

Limited access points, narrow and awkward pathways and stairwells, and poorly lit areas deter travelers seeking to access surrounding areas on foot. These design guidelines will enhance existing infrastructure through the addition of new wayfinding, upgraded access points, and visual elements to encourage access to surrounding areas from a pedestrian perspective.

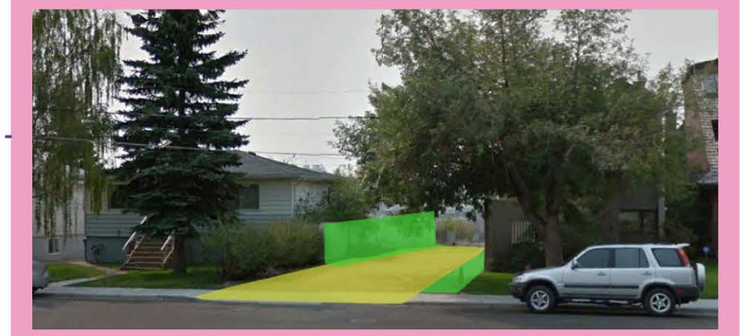
- Pedestrian entry/exit points to/from Bridgeland should be widened to allow for maximum visibility
- Stairwells should be made of resilient, sturdy, and consistent materials throughout Bridgeland
- Consistent landscaping elements should be added to all entry/exit points for better recognition and visual aesthetics
- Consistent signage should be included at all community entry/exit points

Bridge Cres (Widen Stairwell, Add Path & Lighting)



6 St (Improve Stairwell, Add Landscaping & Lighting)

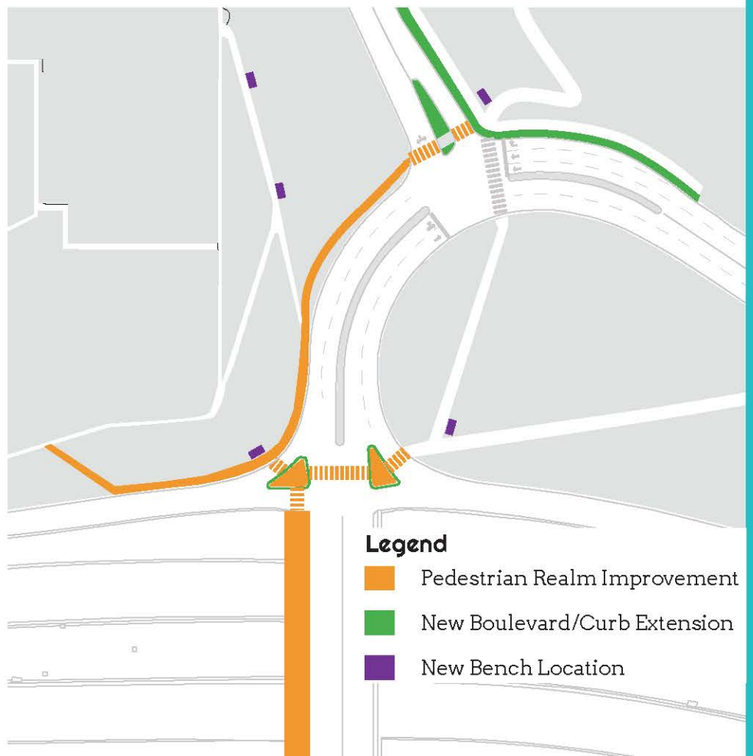
Colgrove Ave (Improve Pathway, Add Landscaping)



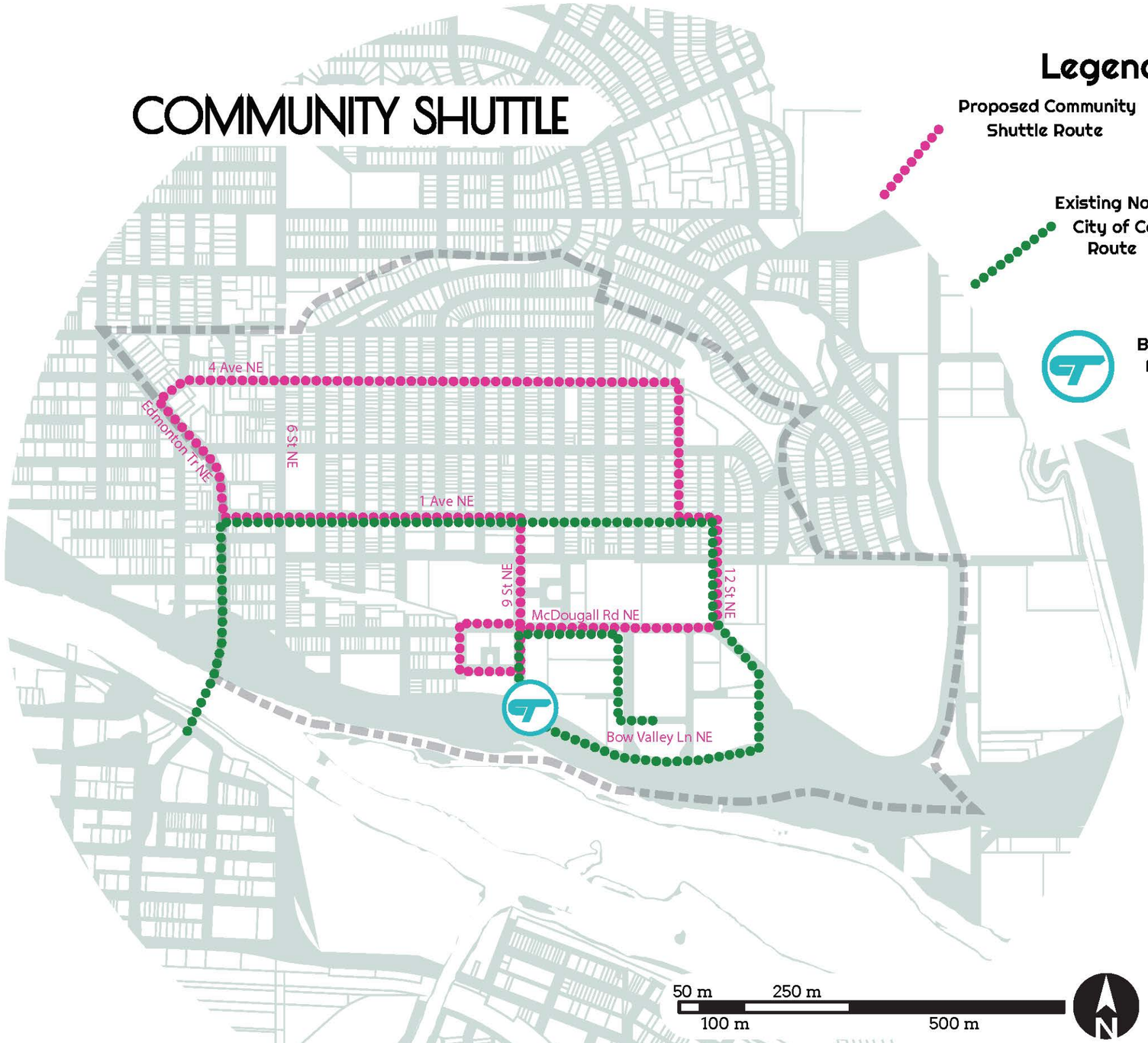
12 St Overpass Expansion

Improvements to the safety and experience of cyclists and pedestrians when crossing the 12 St overpass can be achieved through the following:

- Expansion of turning lane islands and shortening of crossing distances across motorways;
- Addition of a crossing at 12 St and St George's Drive, as well as a pathway with standard amenities from that intersection to the overpass along the North side of the street;
- Expansion of the West side of the overpass to provide room for separated cycle lanes and footpath, as well as seating, lighting, waste receptacles, and large plant potters.



COMMUNITY SHUTTLE



Legend

Proposed Community Shuttle Route

Existing No. 9 City of Calgary Bus Route

Bridgeland/ Memorial LRT Station

Community Shuttle

Circulating within the community, a shuttle route will allow residents of various demographics to more easily access all neighbourhood amenities, as well as acting as a feeder for both the 9 Bridgeland bus route and the CTrain. This proposed shuttle route is intended to work in tandem with the number 9 bus route in order to provide additional coverage to residents of Bridgeland.

Transit Stops

In order for public transit to be seen as an attractive, viable, and safe option, emphasis needs to be placed on upgrading the aesthetics, visibility, and comfort of all transit users.

- All stops and stations should incorporate covered shelters to protect waiting passengers from the elements
- Transit stops and stations should be well lit
- Adequate signage should exist at all bus stop locations for clear visibility and identification
- All bus shelters should include seating and waste receptacles

Light Rail Transit

The demographic study for Bridgeland revealed that several residents use motor vehicles as a primary method of transport for commuting to and from their places of work. A community located adjacent to an LRT station should not see motor vehicles as the dominant form of transport for daily commuters. Application of pedestrian guidelines (see Footpath Guidelines) to LRT station access points should increase its visibility, viability, and attractiveness as an preferred method of transit to and from the rest of Calgary.

CTRAIN STATION UPGRADE

Station and Bridge Redesign

Upgrades to accessibility and the user experience will make taking the CTrain more enticing, and may boost ridership.

Bridge Extension to St Patrick's Island

Provides a more direct multi-modal connection to the park. A further connection to the south bank of the Bow River near the confluence with the Elbow is suggested.

Bridge Enclosure

Plants and structural enclosure reduce exposure to wind, sun, precipitation, and Memorial Drive.

Station Entrances at Both Ends

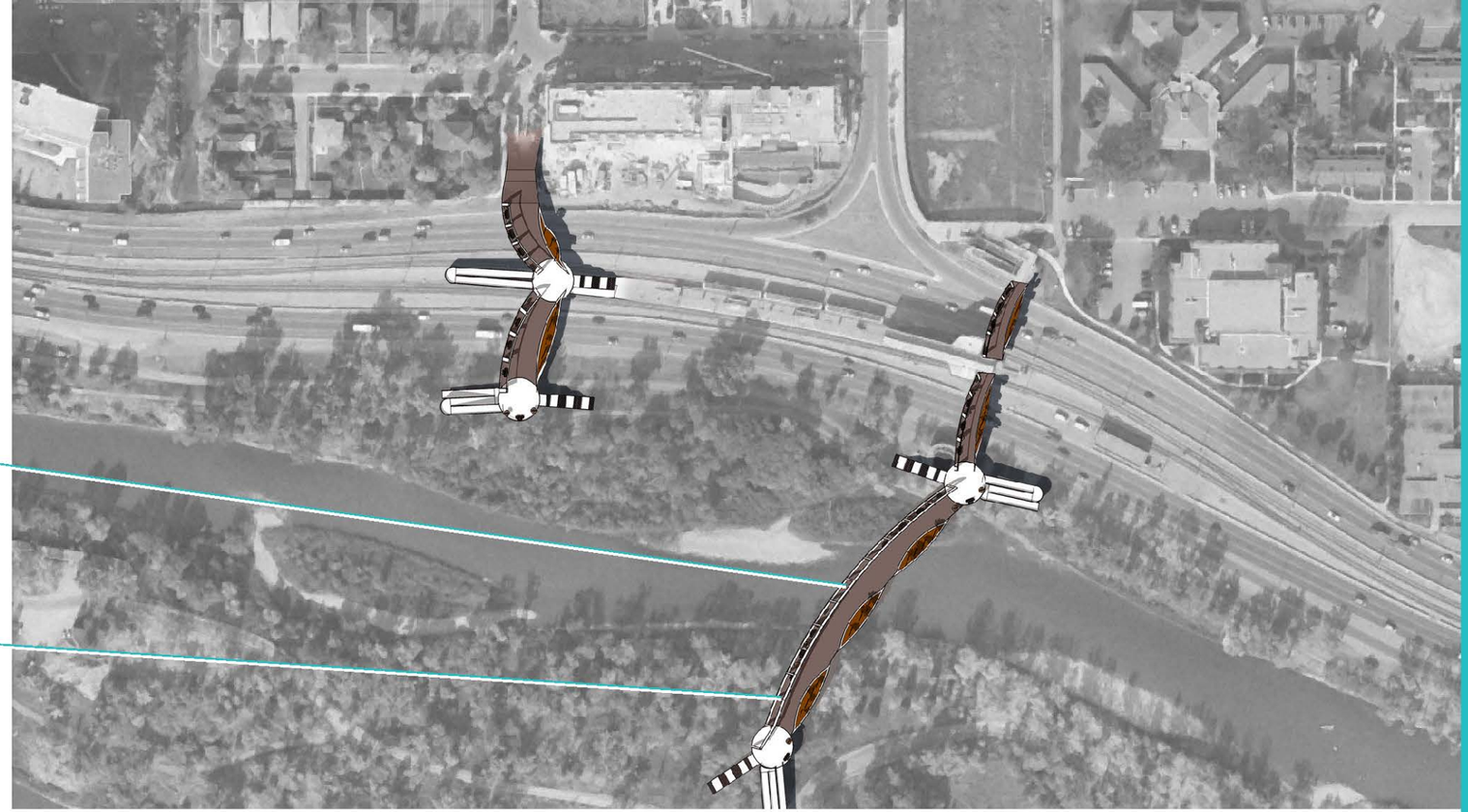
Increased station accessibility from both Bridgeland and the Bow River pathway system sets a better precedent for stations in the middle of expressways.

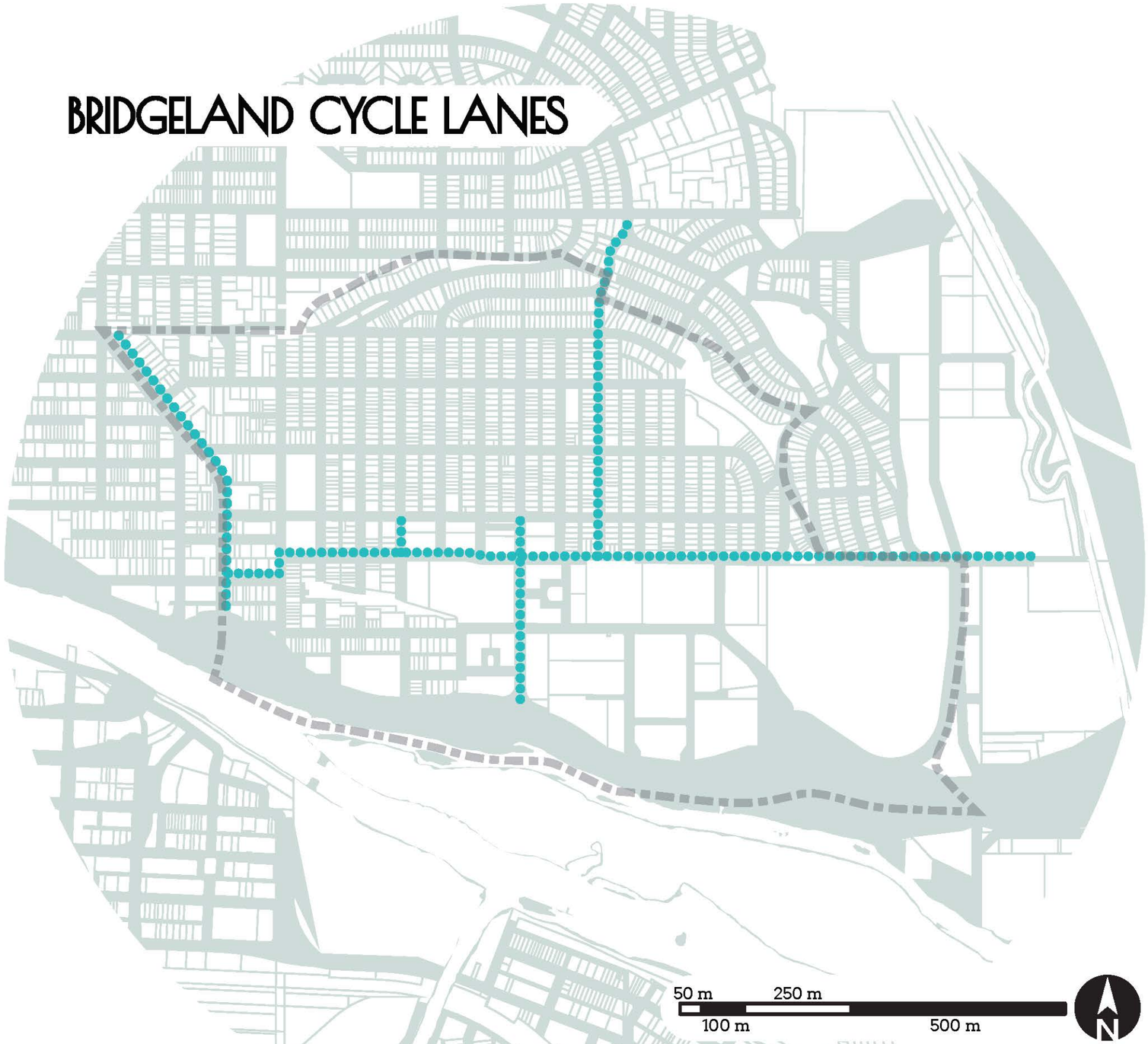
Added Bridge from 8 St NE

Connected through a park space to McPherson Rd, this would allow increased access to the CTrain station, the Bow River pathway system, and the George C. King Bridge to St Patrick's Island and Downtown.

LRT Accessibility

Pedestrian bridges are made into welcoming environments through the use of seating, lighting, shelter, greenery, and the sculptural form of the bridge itself. Safety is further enhanced by separating and marking pedestrian and bike lanes.





Bridgeland Cycle Route

Cycling as a method of transportation has many inherent advantages. Reduced carbon emissions from people choosing cycling over motor vehicles, increased health benefits, and the potential to join a cyclist community are just some of these benefits.

Winter city cycling in Calgary comes with increased constraints as it relates to ice and snow buildup along roadways. However, with the addition of a dedicated cycle track in Downtown Calgary, the City is expecting to see a significant increase in ridership during the winter months. These dedicated lanes are easier to clear, and provide a much higher level of safety for all riders being buffered from traffic on the snowy/icy roads.

The potential exists for Bridgeland to become a part of this greater network; to build a sense of community, promote increased health and wellness of residents, as well as play a part in reducing carbon emissions through alternative modes of transportation.

Cyclist Safety

Cycling routes should be designed and built to be free of hazards and to minimize conflicts with external factors such as pedestrian traffic, vehicular traffic and protruding architectural elements along designated routes. It is important to keep dedicated lanes comfortable, and clearly defined for all cyclists traveling through designated corridors.

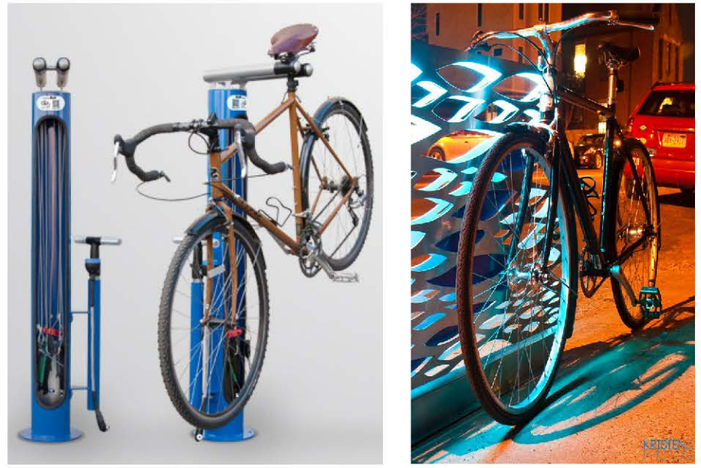
- Cycling lanes should be a minimum of 1.75m wide where possible
- Cycling lanes should be buffered from pedestrians and motorways where possible
- Lane design should include features such as turning boxes at major intersections
- Separate cycling crossing lights should be incorporated at established signalled intersections
- Pavement markings should be present on all lanes not only to indicate cycle route, but to clearly identify adjacent vehicle/pedestrian lanes (bike icon, car icon, and person icon, etc.)

Two-Way Cycle Tracks

It is recommended that the primary installation of cycle lanes within Bridgeland incorporate two-way cycle tracks. These tracks should be physically separated wherever possible by a minimum of 0.5m from the roadway. Two-way tracks allow bicycle movement in both directions on one side of the street. Advantages include (from NACTO):

- Dedicates and protects space for bicyclists by improving perceived comfort and safety. Eliminates risk and fear of collisions with over-taking vehicles.
- Reduces risk of 'dooring' compared to a bike lane, and eliminates the risk of a doored bicyclist being run over by a motor vehicle.
- On one-way streets, reduces out of direction travel by providing contra-flow movement.
- More attractive to a wide range of bicyclists at all levels and ages.

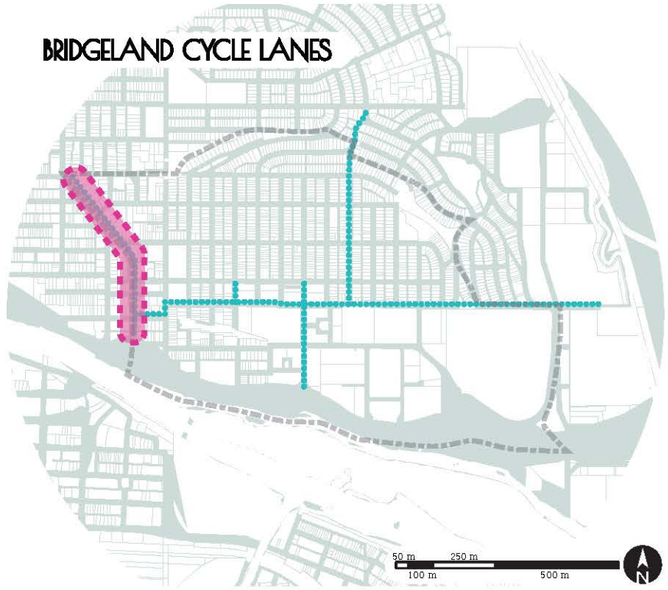
(for more information, see the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide at: nacto.org/publication/urban-bikeway-design-guide/cycle-tracks/two-way-cycle-tracks/)



Cycling Infrastructure

Quality cycling infrastructure is crucial in attracting riders to destinations throughout Bridgeland. The incorporation of lock-racks, parking, and repair stations should further increase the attractiveness of utilizing cycling as a method of transportation.

- Racks for locking up bicycles should be located at all major destinations and along end points of cycling routes
- Community input could be included for all cycling facility designs (signage, parking racks, etc.)
- Repair stations should be located at key intervals along the proposed cycleway
- Repair stations should include at minimum, a stand for tightening chains, as well as air pumps.



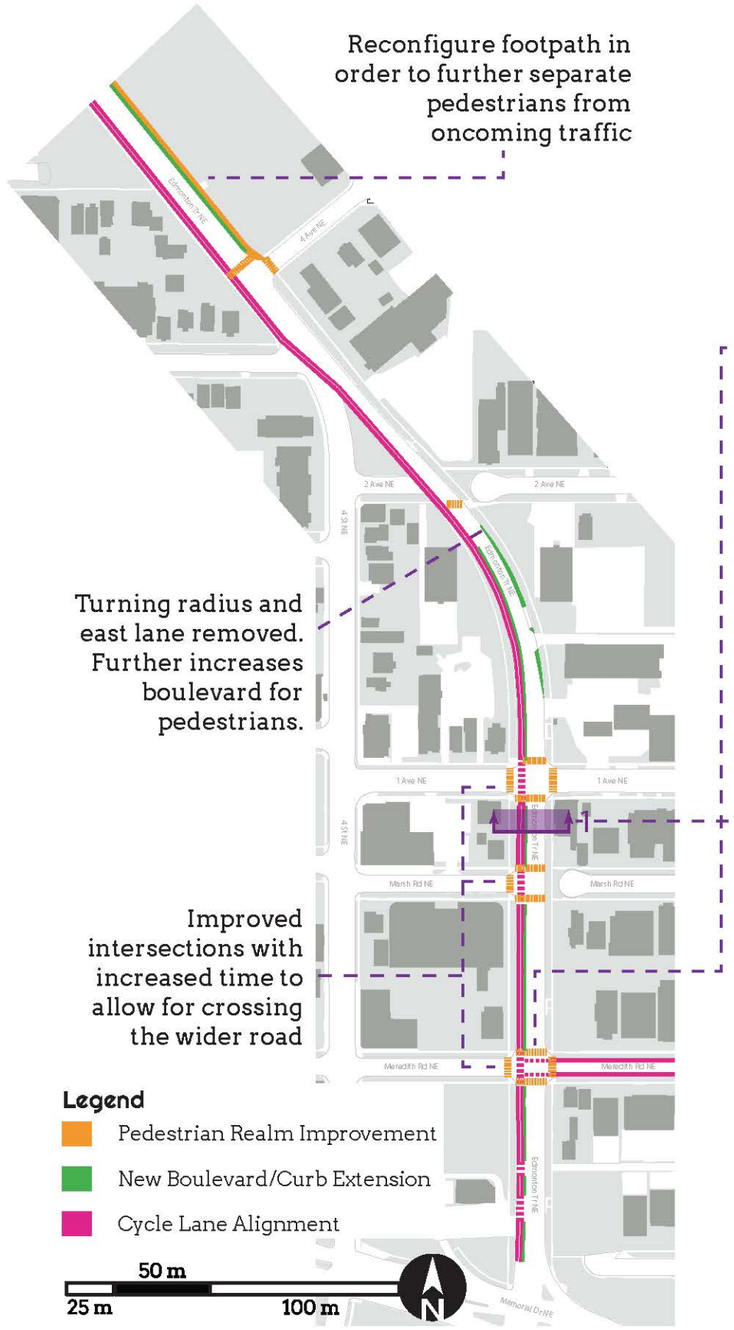
Edmonton Tr NE Cycle Track

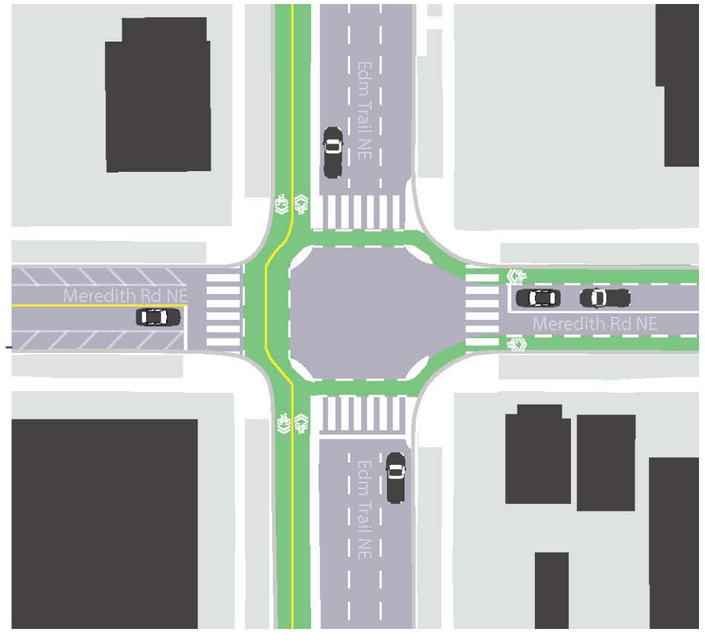
In an effort to better connect Bridgeland to the proposed Edmonton Tr NE cycle track, a connection will be made at the intersection of Meredeth Rd NE, and Edmonton Trail NE.

This connection will be a signaled intersection, providing higher safety for all pedestrians, vehicles, and cyclists crossing the corridor.

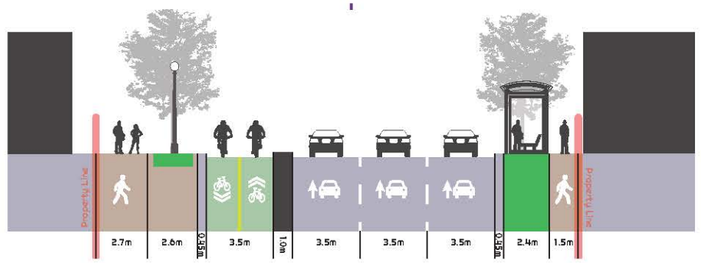
From the City of Calgary's Cycle Track Study involving Edmonton Tr NE:

- Nine collisions involving people who bicycle or walk on Edmonton Trail N.E. between 2009 and 2013
- The locations with the highest collision rates are:
  Edmonton Tr. N.E./Memorial Dr. N.E.
  Edmonton Tr. N.E./1 Ave. N.E.
- Approximately 10 parking stalls will be lost along 1 Ave NE (between 4 St and Edmonton Trail)
- Two way cycle track on the west side of Edmonton Tr NE offered the most benefit to all users

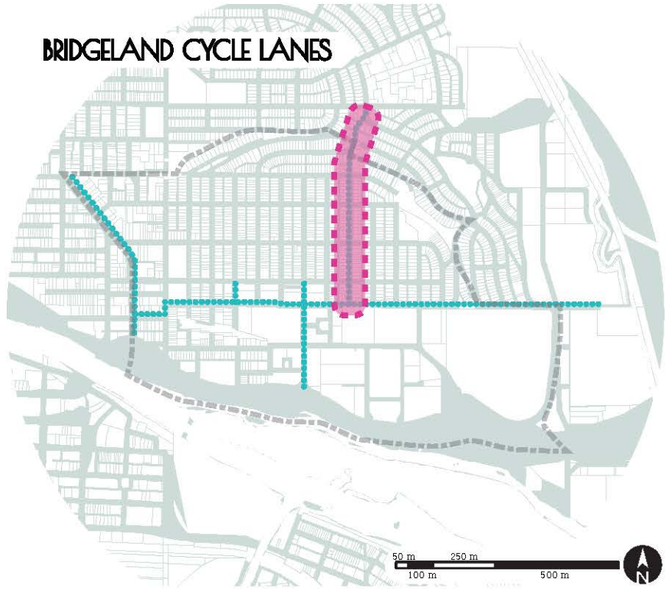




A complete, multi-modal intersection will be installed along Edmonton Tr NE and Meredeth Rd NE with clearly defined lanes and markings.

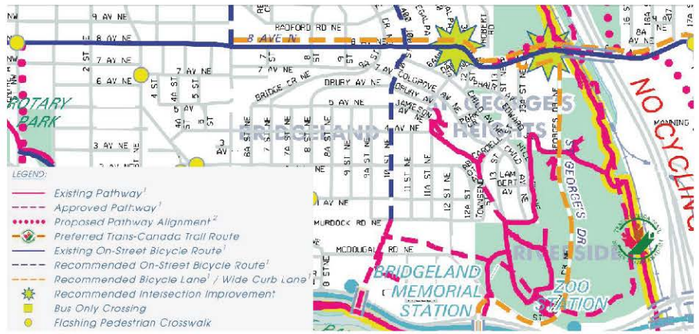


A one meter buffer will be placed separating cyclists from the oncoming traffic. The total lanes along Edmonton Tr NE will be reduced from four to three.

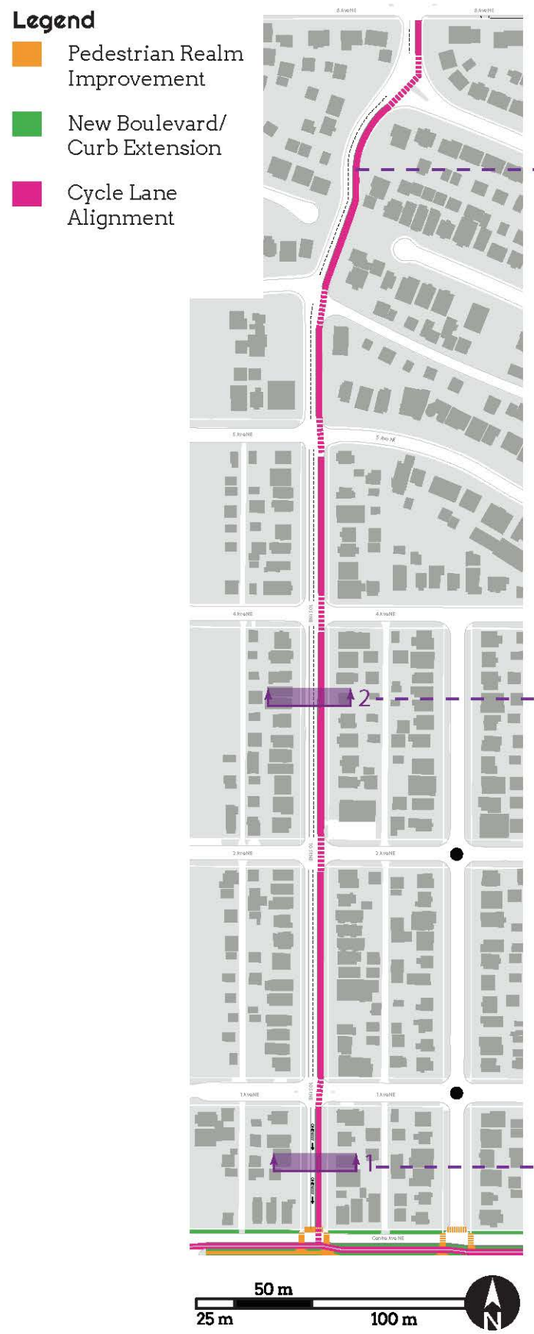


10 St NE Cycle Lane

10 St NE is designated as a location for a cycling lane in the City of Calgary Cycling Implementation Plan. This lane allows for a direct north-south connection between Bridgeland and the existing 8 Ave NE cycle track just north of the community.

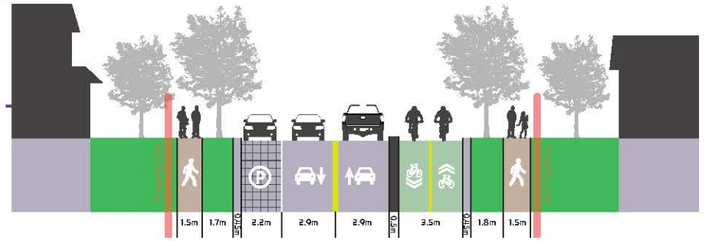


City of Calgary - Cycling Implementation Map



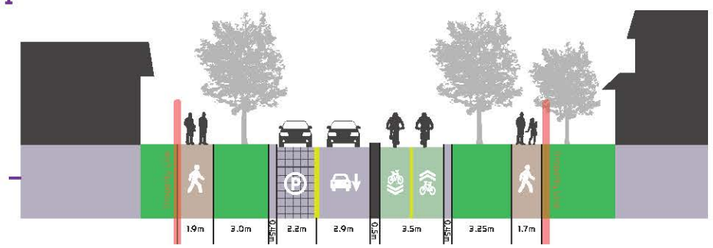
Because of the slope along 10 St NE, it can be a difficult ascent for riders. Considerations for this lane can include a separated, narrow lane to allow for riders to dismount and roll the bicycle uphill. In order to accommodate these cyclists walking their bikes up the hill, for safety reasons the entire uphill portion may be designated "dismount only."

2

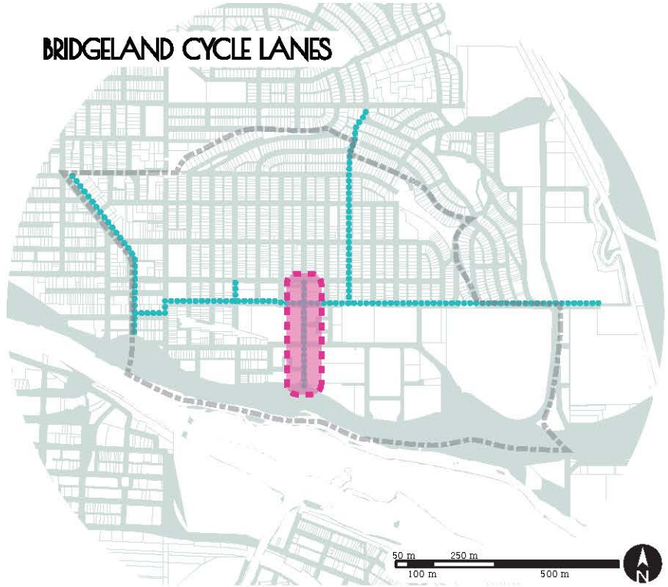


Alignment for the 10 St Cycle track will reduce the amount of parking to a single row.

1



Due to the narrow width of the existing right of way between Centre Ave NE and 1 Ave NE, motor vehicle traffic will need to become one-way only in this block.

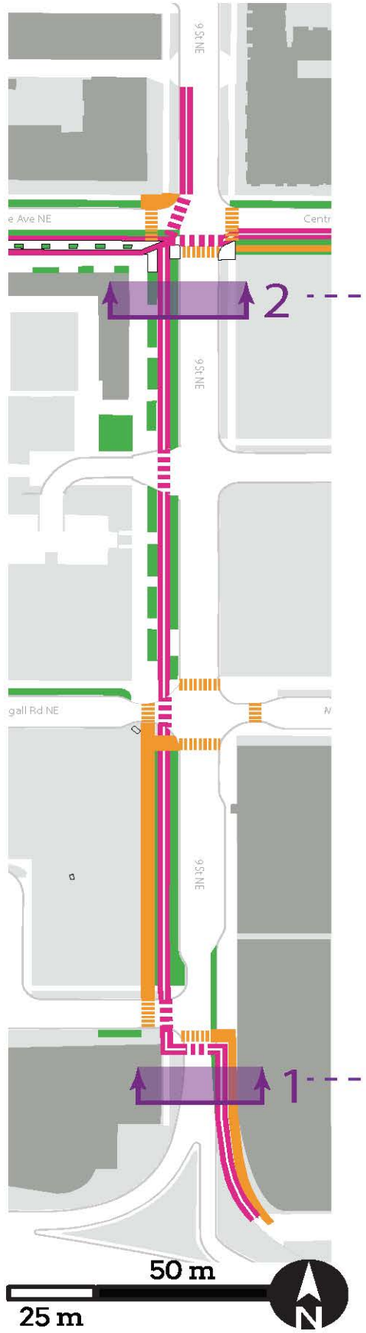


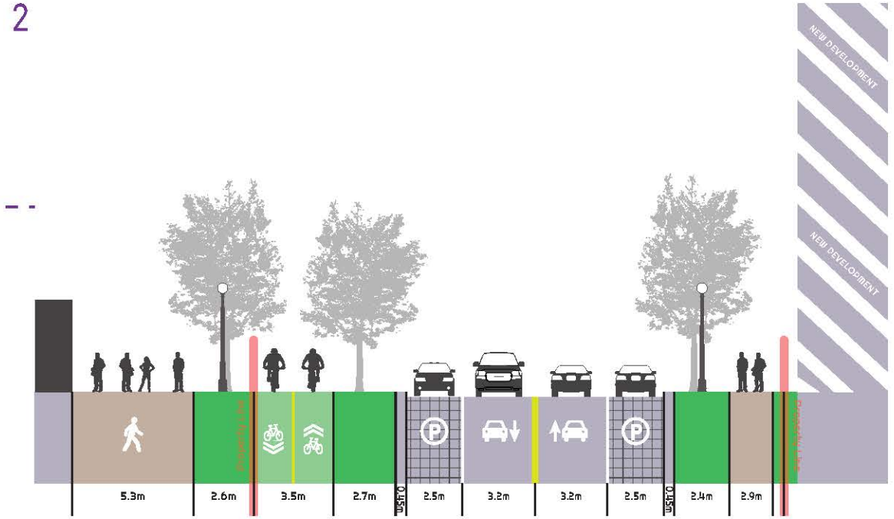
9 St NE Connector

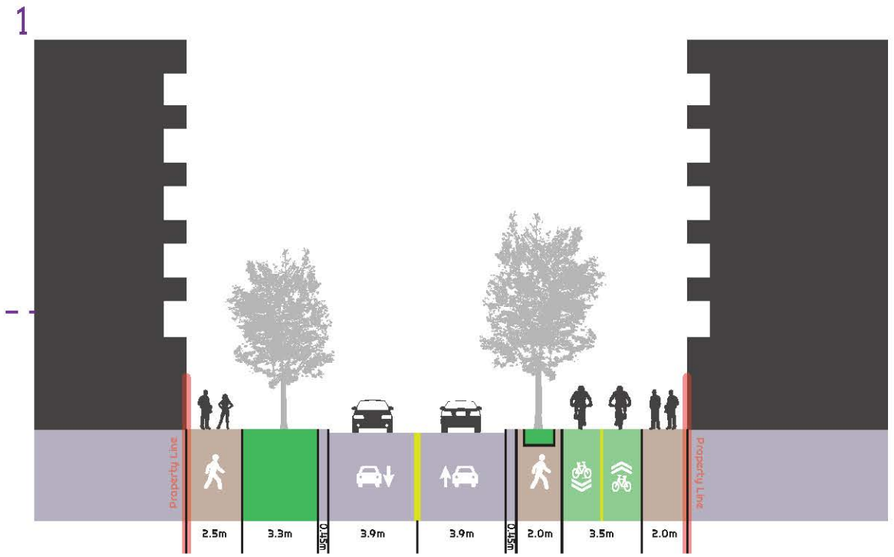
Transit Oriented Development (TOD) is one of the primary drivers for new projects within Calgary. As stated in the TOD Policy Guidelines, "An integrated public system is essential for TOD." Through the integration of a cycling route adjacent to the transit station, as well as upgraded pedestrian paths along 9 St NE, the goals of TOD start to materialize.

Cycling Infrastructure shall be located at the entrances and exits of the Bridgeland/Riverside LRT Station including repair stations and cyclist parking. This installation along with upgraded footpaths will accommodate all modes of non-motorized transport in one convenient location.

The potential also exists for a bike sharing/rental station to be situated at the end of the transit line. Riders can then choose to travel along the Bow River path system, or travel north along the proposed cycling lanes to connect with the 8 Ave NE cycle track located north of Bridgeland.



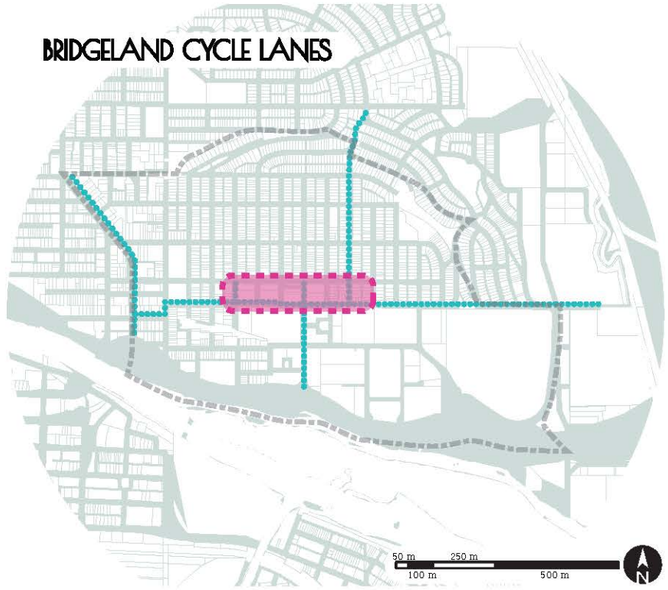




Legend

- Pedestrian Realm Improvement
- New Boulevard/Curb Extension
- Cycle Lane Alignment

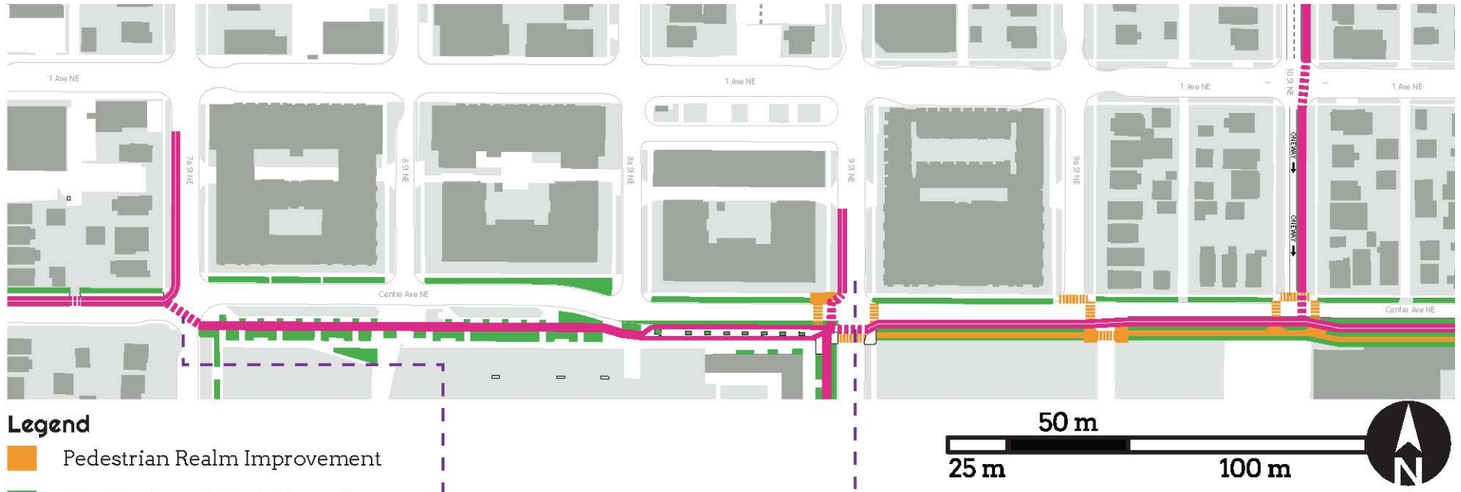
CYCLEWAY ALIGNMENT



1st Ave Cycle Access

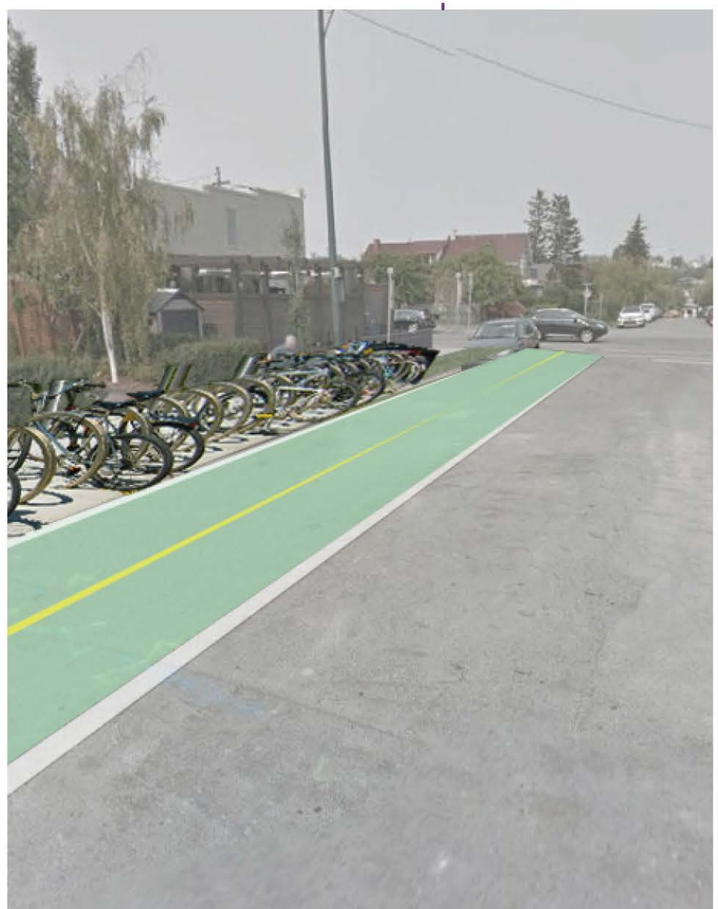
1 Ave NE contains several amenities that attract Calgarians from all over. Integrating the cycling network with 1 Ave NE is very important for the viability and attractiveness of the Bridgeland cycling network. Giving cyclists the opportunity to travel to 1 Ave via cycle along a fully dedicated corridor will increase the awareness and viability of the entire network.

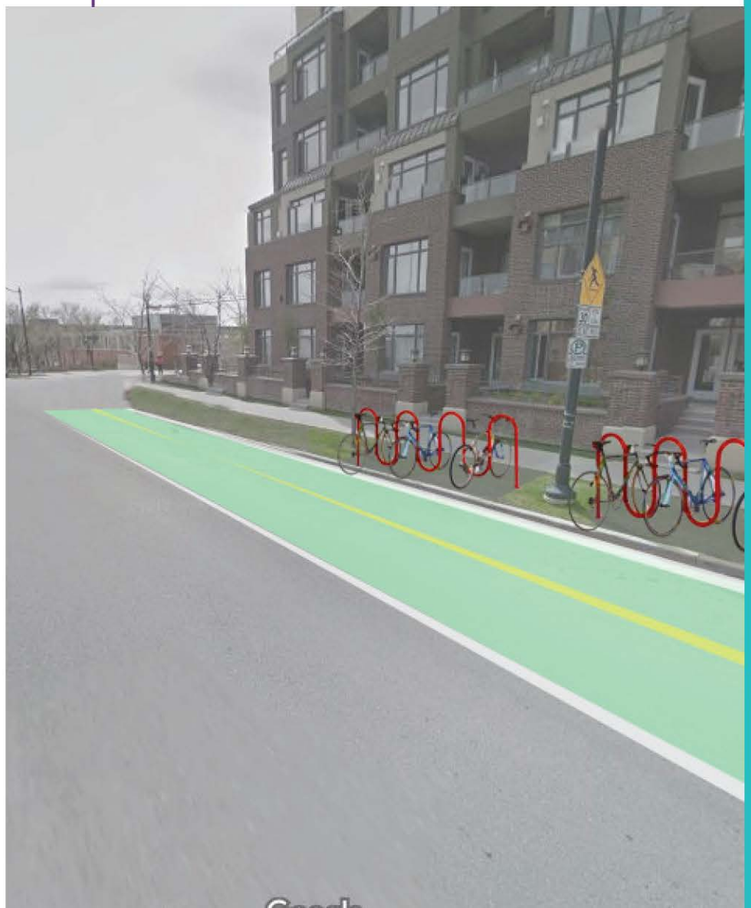
While many streets are too narrow and require a substantial amount of parking, there are opportunities along 7a St NE, 9 St NE, as well as a section of the 10 St NE cycle route to intersect with 1 Ave NE. At the ends of each section leading to the commercial corridor, cycling infrastructure such as lock stations and parking areas will be provided, allowing travelers to continue on foot through 1 Ave NE.

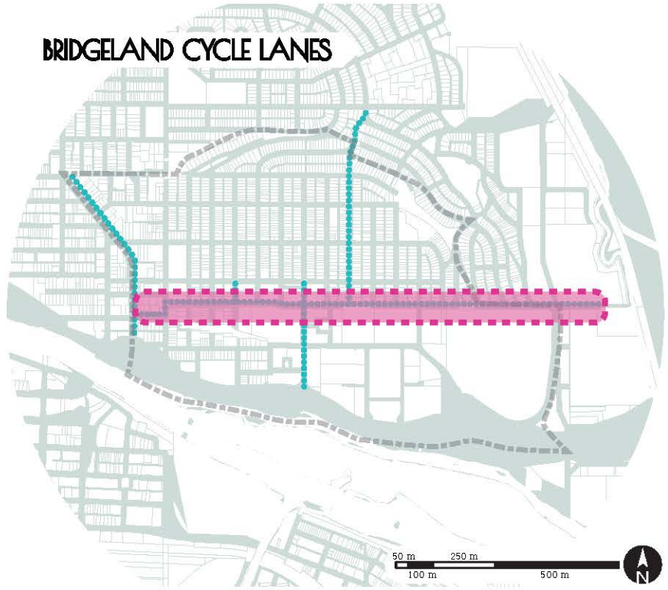


Legend

- Pedestrian Realm Improvement
- New Boulevard/Curb Extension
- Cycle Lane Alignment







Centre Ave Parkway

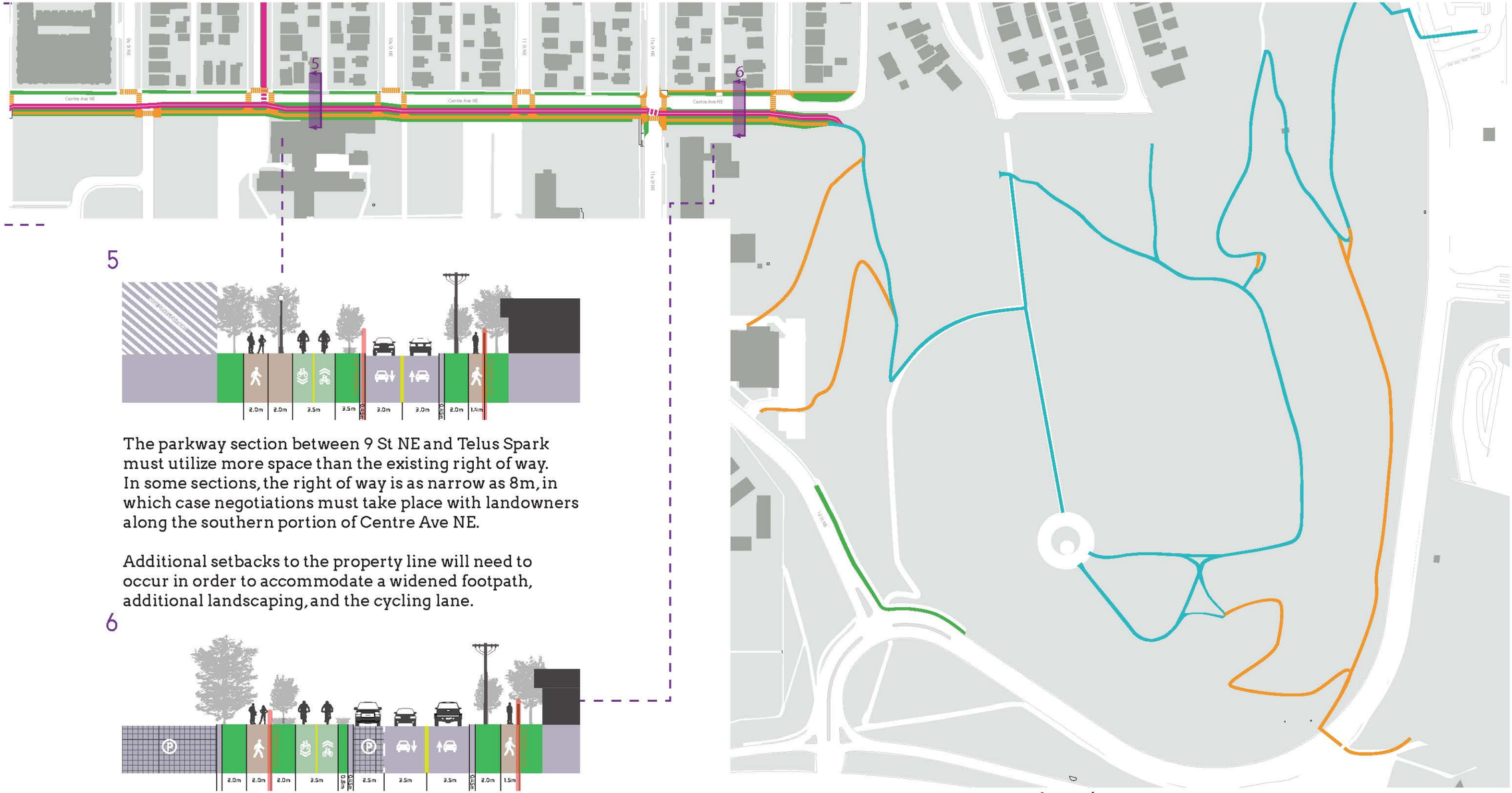
A tremendous opportunity exists within Bridgeland to create an east-west pedestrian/cyclist connector along Centre Ave NE. This parkway will provide access from Edmonton Trail to Telus Spark with a separated cycle track, protected footpaths, and upgraded landscaping.

Centre Ave NE is the ideal location for this east-west connector due to the existing built form and landscape elements. The Community Centre footpaths are already ideally situated to incorporate a dedicated cycling lane. Properties east of 9 St also contain either parking lots adjacent to the southern edge of Centre Ave NE, or are scheduled for redevelopment.

Lands scheduled for redevelopment can easily incorporate many of the recommended parkway elements, which will offer Bridgeland a unique and effective pedestrian/cycling environment.

Each section of the Centre Ave Parkway from Edmonton Tr NE to 9 St NE utilizes only existing paved areas, boulevards, and footpaths.

The intersection at 9 St NE and Centre Ave NE will include stop signs for all cyclists. Dedicated lanes will be painted with instructions on where to proceed and when to stop.



5

The parkway section between 9 St NE and Telus Spark must utilize more space than the existing right of way. In some sections, the right of way is as narrow as 8m, in which case negotiations must take place with landowners along the southern portion of Centre Ave NE.

Additional setbacks to the property line will need to occur in order to accommodate a widened footpath, additional landscaping, and the cycling lane.

6

Surface parking lots located adjacent to the parkway can easily be narrowed, with minimal losses to total number of stalls.

Legend

- Pedestrian Realm Improvement
- New Boulevard/Curb Extension
- Cycle Lane Alignment
- Shared Cycle/Foot Path

Traffic Calming Strategy

Traffic calming should be emphasized throughout the community. This can be achieved through incremental designs of specific roadways and the inclusion of select design treatments. All traffic calming measures aim to pro-actively change the behavior of motorists in a positive manner that results in slower traffic speeds.

The intent of traffic calming is not to reduce the access of vehicles to areas within Bridgeland, instead it is meant to control the flow of traffic in a safe and effective way throughout the community.

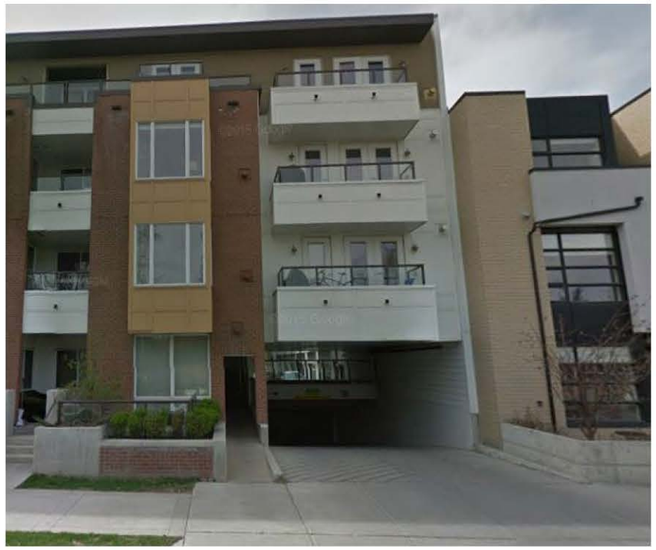
Utilize Traffic Calming Measures

- Individual driving lanes should be no wider than 3m except where necessary for emergency vehicle and large vehicle service access
- Chicanes should only be placed on roads which do not allow street parking (for example, steep hills, or straightaways adjacent to undeveloped lots)

Create Safer Intersections + Crosswalks

Intersections occur where multiple modes of transportation come together. Almost all intersections within Bridgeland contain the potential for conflict between these multiple modes of transportation. Complete street networks consist of multi-modal intersections designed to safely and efficiently bring together all modes of transportation at these junctions. Complete street elements which should be integrated into future intersections include:

- Reduced corner radius to create slower turns and shorten crossings
- Curb extensions to reduce mid-block vehicle speed and reduce crossing distance
- Visibility and safety - raised, painted, textured, or signaled pedestrian crossings
- Accessible crosswalk design - elevated crosswalks to maintain at-grade crossings or incorporate adequate curb cuts for comfortable elevation transitions crossings



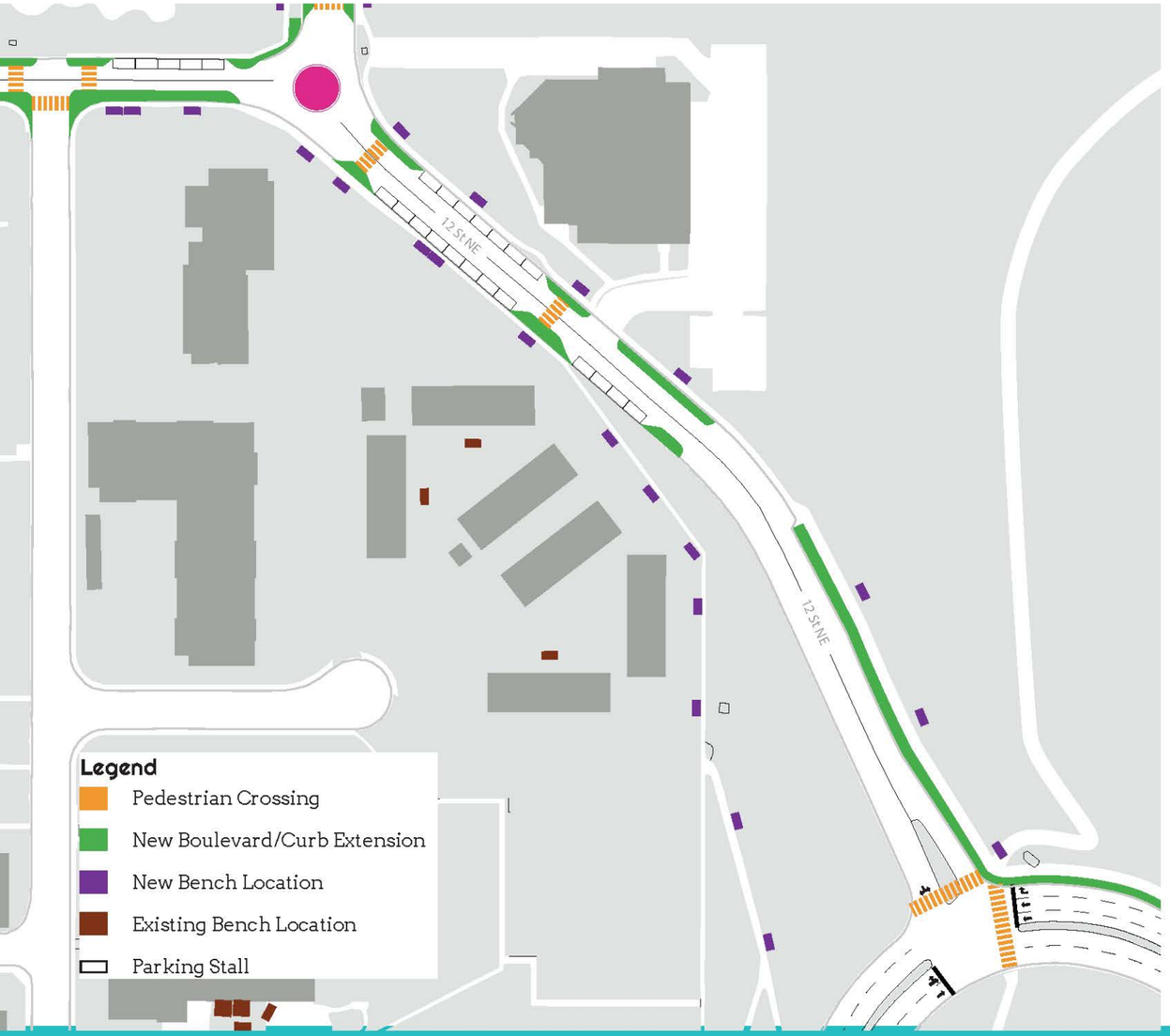
Minimize the Aesthetic Impact + Space Dedicated to Parking

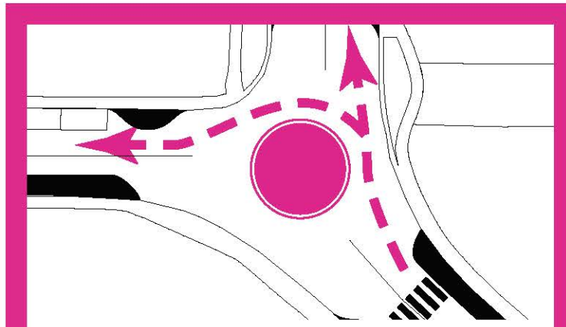
Businesses, residences, and destination amenities within Bridgeland require adequate parking spaces, which can be a challenge for inner city neighbourhoods. As Bridgeland continues to grow, parking spaces will become even more in demand. In order to maximize the available parking space, the following guidelines should be adhered to:

- Underground, off-street parking is encouraged within Bridgeland
- Where underground parking is not available or feasible, off-street parking should be located behind the development, screened, and landscaped, with access from the rear lane to reduce the impacts on the streetscape and adjacent sites.
- Surface parking lots should contain a perimeter tree buffer from pathways and traffic, permeable parking surfaces, and landscape elements within the lot (trees, vegetation, swales, etc.)
- Above-ground parking structures should incorporate green design, and be visually appealing from the street and open spaces
- Street parking is encouraged in all possible locations to provide access to shops, amenities, and residences, as well as provide an additional buffer for pedestrian traffic.
- Street parking is encouraged to incorporate reverse angle parking prioritized near high traffic amenities (such as churches, shops, restaurants, and parks)
- On-street parking should use different paving materials and textures from the carriageway, incorporating permeable pavement wherever possible

12th St NE/St. George's Dr NE
Add Entry & Reduce Speed of Cut-Through Traffic

The current design of 12 St NE allows for commuters traveling westbound along Memorial Dr NE to cut through Bridgeland and access Edmonton Trail. Specific traffic-calming designs can be applied to 12 St NE to reduce speeds, improve pedestrian access to Tom Campbell's Hill, and provide clearly defined on-street parking.



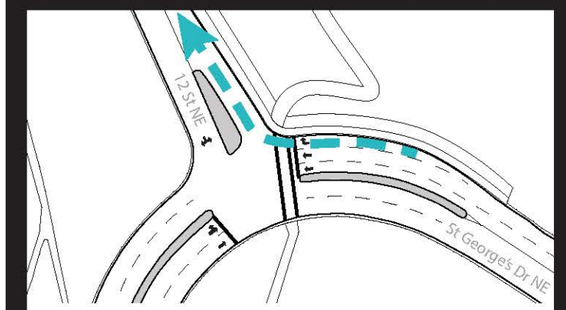


Traffic Circle at McDougall Rd and 12 St Intersection

To reduce speeds along 12th St NE and McDougall Rd NE, a traffic circle can be situated at the intersection which will force drivers to slow down when passing through it.

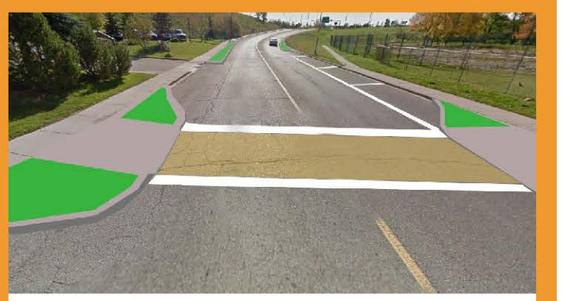
Curb Extensions & Boulevards

Added curb extensions and boulevards along the north side of 12 Street will protect pedestrians, narrow lanes, and clearly define parking areas.



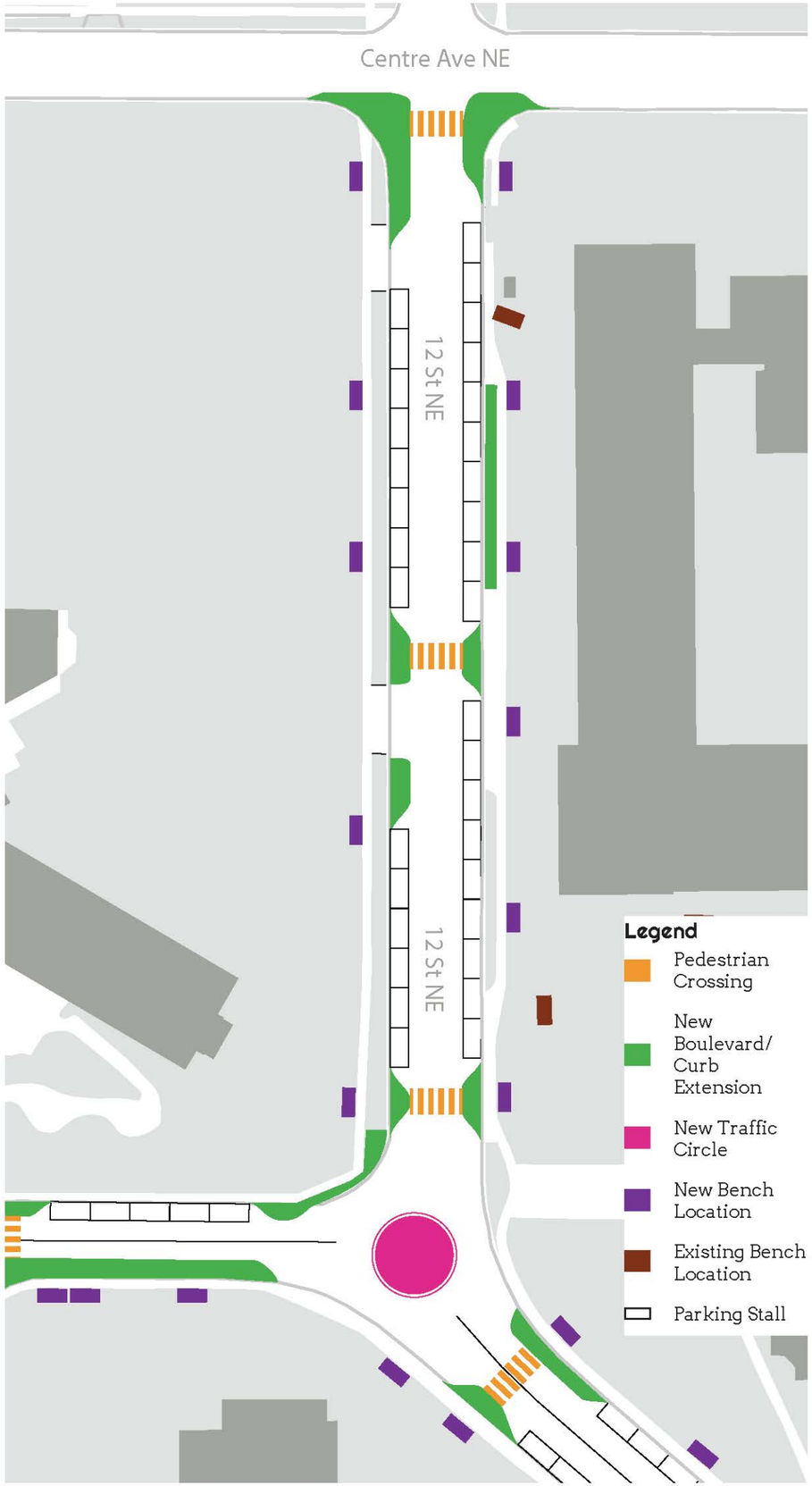
New Entry at St. George's Dr NE

A right-turn lane can be added to St. George's Dr. to increase access to Bridgeland from the east



Additional Crossings

Crossings with curb extensions will increase pedestrian access to Tom Campbell's Hill, while also narrowing lanes and reducing speed



The current design of 12 St NE allows for commuters traveling westbound along Memorial Dr NE to cut through Bridgeland and access Edmonton Trail. Specific traffic-calming designs can be applied to 12 St NE to reduce speeds, improve pedestrian access to Tom Campbell's Hill, and provide clearly defined on-street parking.

Curb Extensions & Bulb-Outs

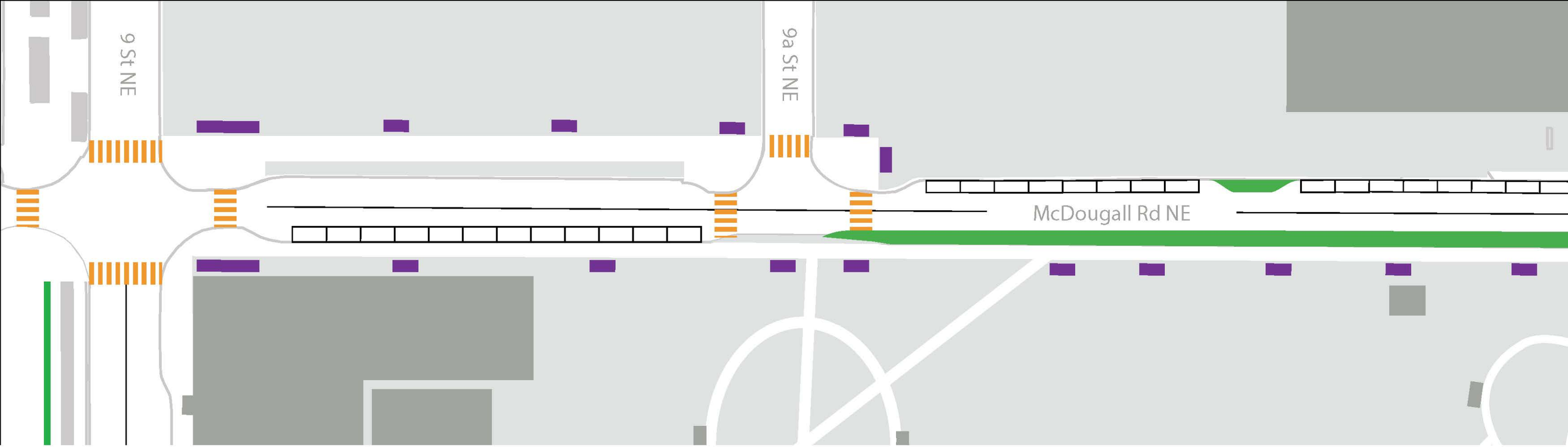
In order to minimize the amount of cut-through traffic traveling into residential areas within North Bridgeland, additional curb extensions and bulb-outs should be constructed along 12 St NE to narrow lanes and deter vehicles from advancing at unsafe speeds through 12 St NE.

Bulb-outs can be permanent concrete with vegetation, or temporarily installed in order to ascertain their level of effectiveness (see below).

Maintain On-Street Parking

On-street parking can be an asset to many businesses and amenities, and acts as an additional buffer for pedestrians. When designed correctly, on-street parking can be unobtrusive, and can be hidden amongst other street elements. Adding periodic breaks with curb extensions along 12 St NE will help produce this effect.

The above example shows how periodic breaks in the parking can offset some of the unsightliness and hectic nature of uninterrupted street parking zones (see below).



Legend

- Pedestrian Crossing
- New Boulevard/Curb Extension
- New Traffic Circle
- New Bench Location
- Improved Bus Stop
- Existing Bench Location
- Parking Stall

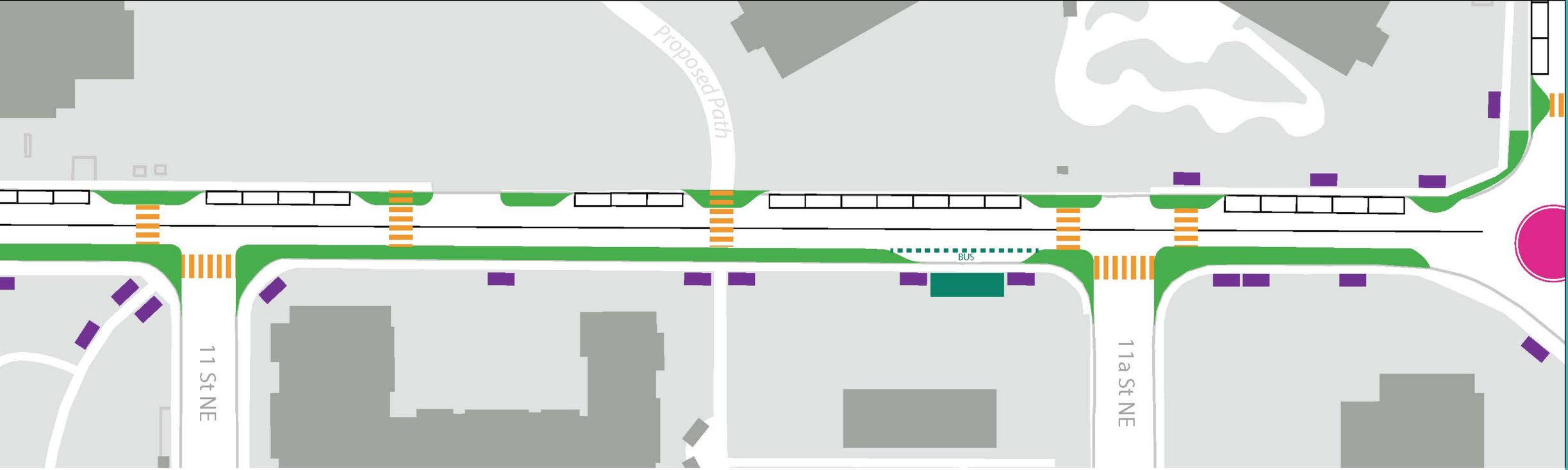
Narrow the lanes by adding boulevards & curb extensions, while clearly defining parking areas

The current design of McDougall Rd NE offers a clear, unimpeded lane for high traffic speeds. The corridor also serves as a primary through-lane for commuters wishing to bypass Memorial Drive and access Edmonton Tr NE through Bridgeland. By limiting the speed along McDougall Rd, the corridor will remain open for access to the community while reducing dangerous motorist speeds.

Pedestrian buffers must also be installed either by curb extensions, or a full boulevard installation along the southern edge (recommended). Additional benches must be situated along the corridor as well to provide rest locations for physically challenged pedestrians.

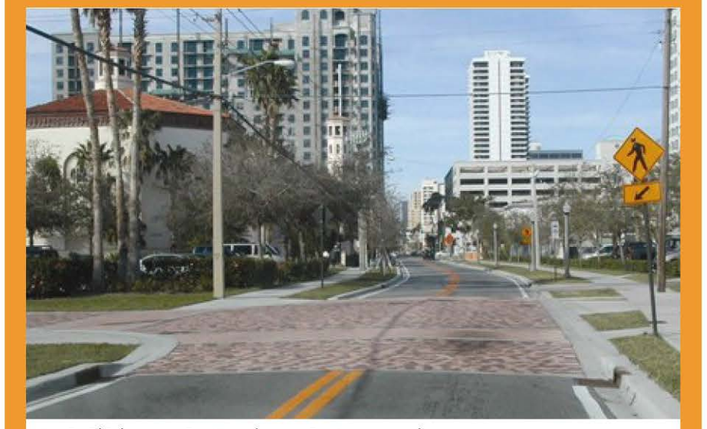
Resting Points

Increased frequency of bench locations along McDougall Rd NE. At minimum, benches should be situated at every crossing location adjacent to the footpaths.



Boulevard $ Curb Extensions

The addition of a boulevard along the southern portion of McDougall Rd NE, as well as curb extensions along the northern edge will reduce lane width, clearly define parking areas, and reduce crossing distances for pedestrians where available. Parking lanes should be painted as well in order to denote the proper width of the traveling lane. This will maintain narrow streets and slow speeds through the corridor



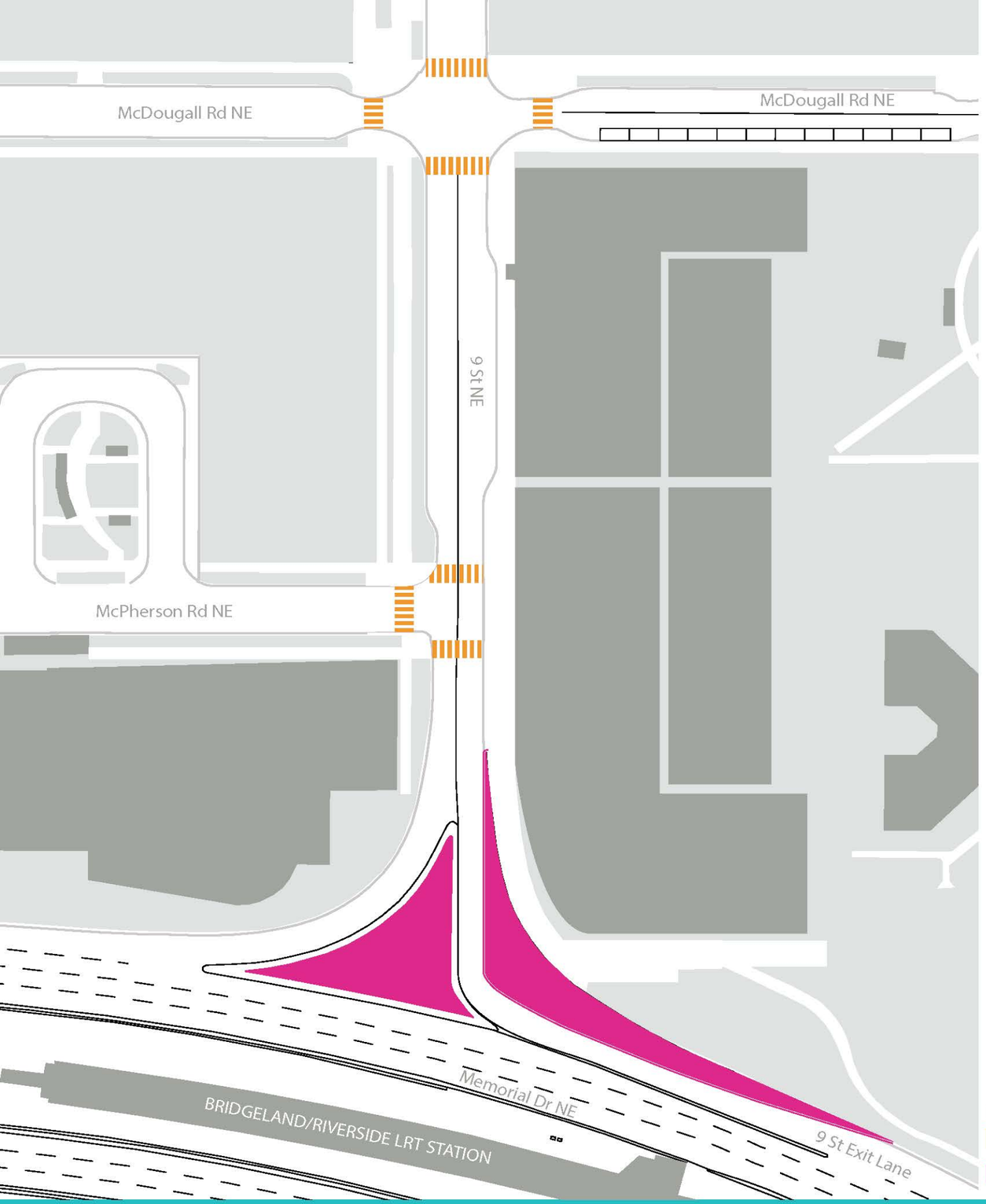
Additional, Raised Crossings

Additional street crossings should be added to McDougall Rd NE in order to increase the connectivity between north and south Bridgeland. These crossings should be raised whenever possible to both slow the speed of traffic and provide a level path for physically-challenged pedestrians to cross comfortably, and safely.

Improved Bus Shelter

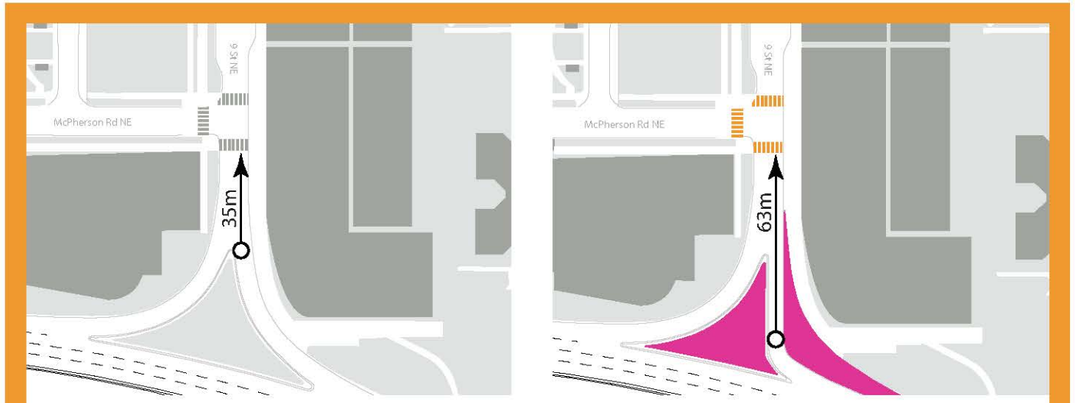
Transit stops along McDougall Rd NE should be improved in line with the goal of increasing the attractiveness, comfort, and accessibility of public transit throughout Bridgeland,

A fully enclosed structure with highly visible markings can be installed alongside a dedicated bus pick-up/drop-off zone adjacent to 11a St NE.



9 St NE
Improve the Safety & Reduce Speed from Memorial Dr NE

The current alignment of the 9 St NE Exit from Memorial Dr allows motor vehicles to enter the community at extremely high speeds. This design makes it difficult for pedestrians to cross safely, and is unfit for a residential zone along the south edge of Bridgeland.



Improved Crossing Safety through longer sight-lines

The new turning radius will drastically improve driver sight-lines upon entering Bridgeland from Memorial Dr NE. Drivers will enter the community through a sharper turn at lower speeds, with increased sight-lines to oncoming pedestrians.

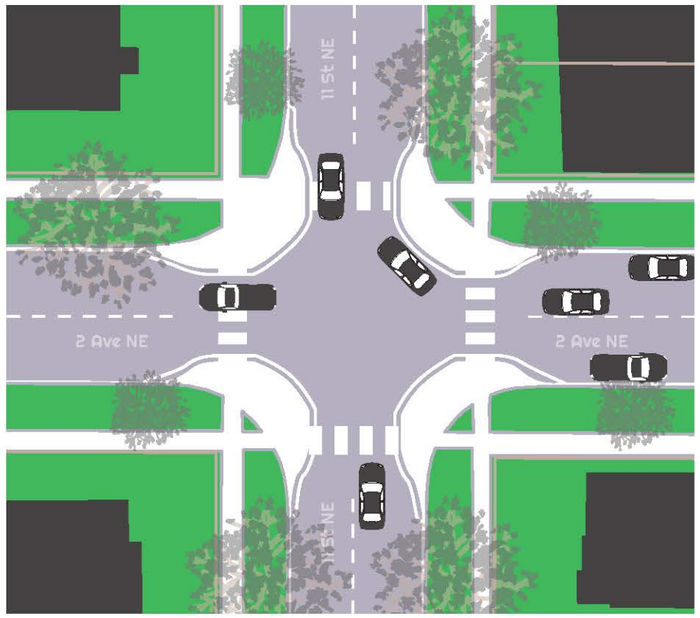
Straight-away viewing distance is increased from 36m (see left image) to 64m (see right image).

Legend

- Pedestrian Crossing
- Improved Entry to 9 St

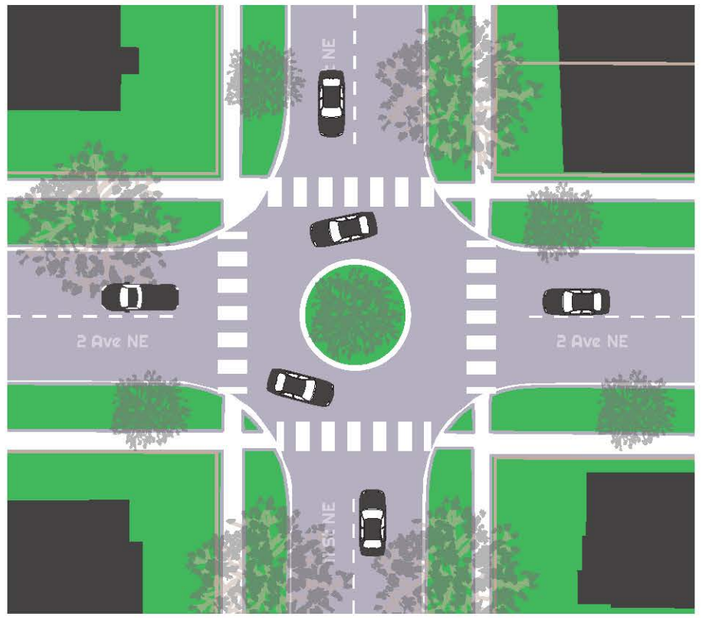
2 Ave NE
Deter Cut-Through Traffic from Memorial Dr NE to Edmonton Tr NE

Implementing traffic calming measures to reduce speed along McDougall Rd NE as well as 12 St NE may cause drivers to continue along 2 Ave NE in an effort to still reach Edmonton Tr NE by cutting through Bridgeland. In order to avoid a problem with cut-through traffic along 2 Ave NE in the future, preemptive measures can be taken to control speeds and establish a traffic-calmed stretch of road.



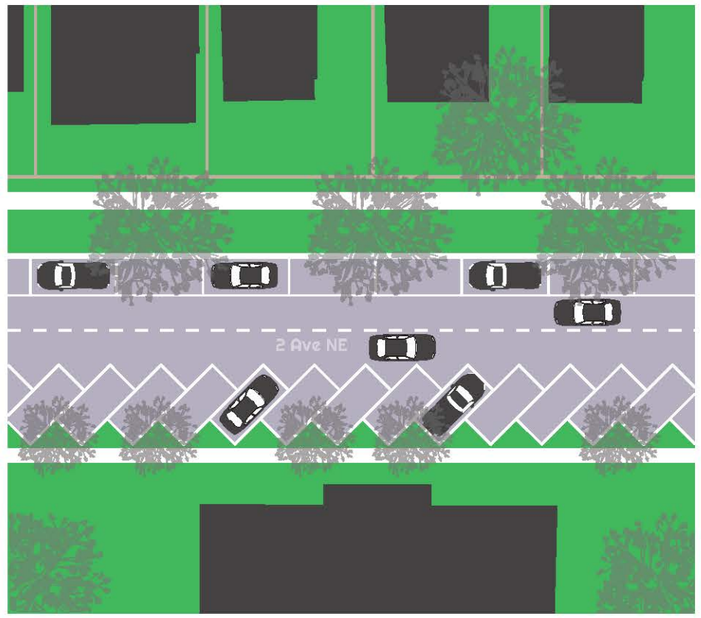
Bulb-Outs at Intersections

Bulb-outs narrow lanes, causing slower drive-through and turning speeds while shortening crossings for pedestrians.



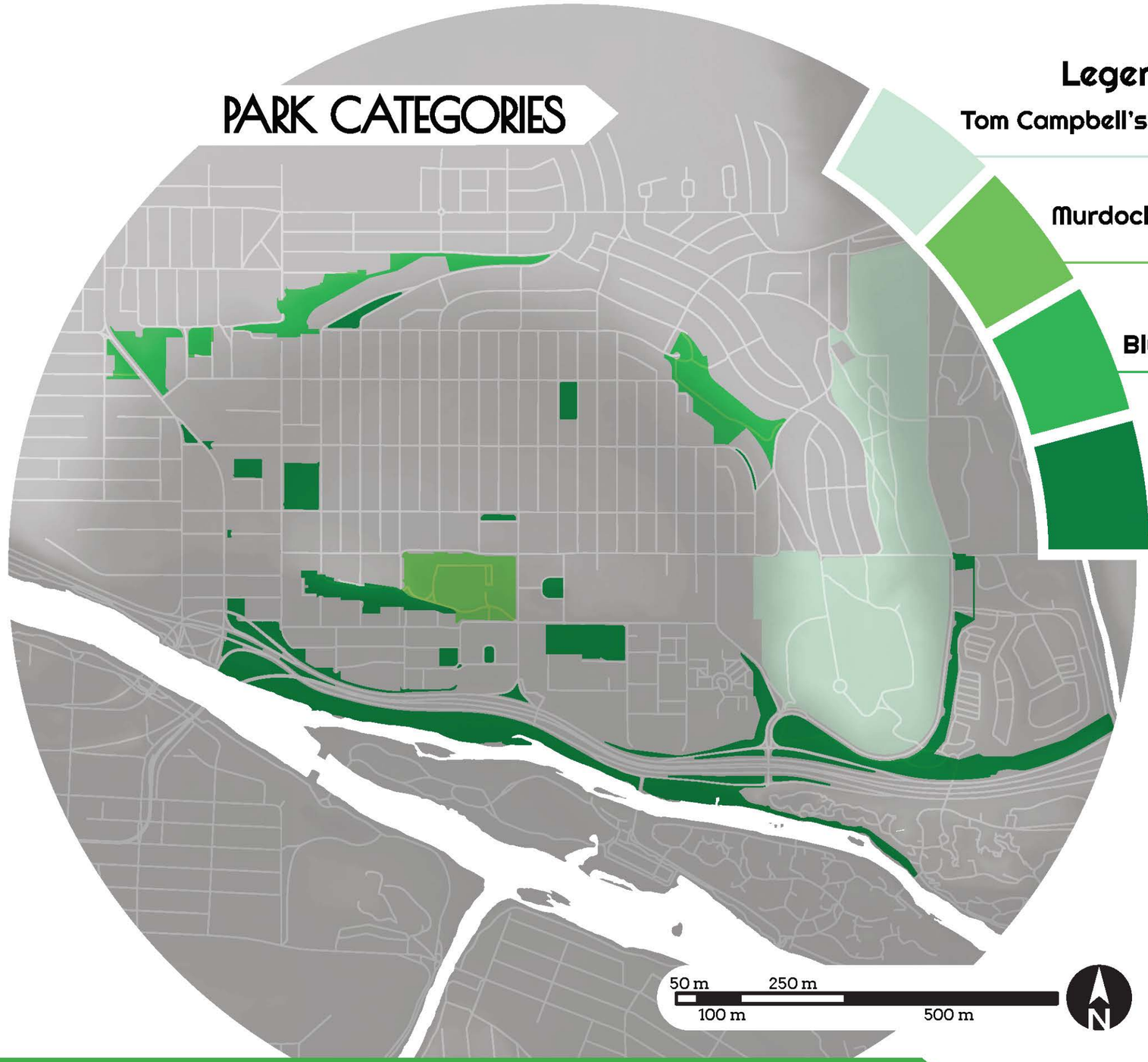
Neighbourhood Traffic Circles

Traffic circles are cheaper to implement than bulb-outs, and also have a calming effect on vehicular traffic, however they result in long and potentially confusing and unsafe crossings for pedestrians.



Reverse Angle Parking

Reverse angle parking is safer than pull-in angle parking because drivers have to back towards pedestrians and don't back into traffic. Angle parking of whatever kind results in increased parking stalls and narrower driving lanes, but at the cost of some boulevard space and potential street amenities.



SECTION OVERVIEW

PARKS + OPEN SPACE

Ready access to green space is part of a healthy lifestyle. Similarly, a healthy community should have inclusive, accessible parks with a range of fun and useful amenities. This section seeks to improve the accessibility and usefulness of Bridgeland's rich open spaces.

APPROACH

Purpose of Design Guidelines

The Parks + Open Space design guidelines provide direction to public realm design throughout Bridgeland. Site-specific examples are provided to highlight particular elements which are recommended for implementation when community resources permit.

In addition to community led initiatives, when new developments occur, application of the listed examples should be incorporated into the design process in order to provide a rich green network throughout the community. For example, when a park is scheduled within the City for upgrades or redevelopment, the community should refer to the appropriate design guidelines to ensure that certain elements are included in the new park design.

These design guidelines also provide the community with a means of assessing and evaluating the impact that new developments and projects will have on the parks, and public open space.

Parks & Open Space Approach

There are several small-to-large parks and open spaces within Bridgeland. In order to properly assess how each one is meant to function both in relation to the community, and with each other, the Infill and Redevelopment Guide assesses these locations at the following levels:

Tom Campbell's Hill: A destination location for many residents of Bridgeland and Calgarians in general, it represents one of the most unique characteristics of the Bridgeland community. This natural park attracts dog walkers, bird watchers, and nature enthusiasts to a rare, natural, inner city location. The park's natural status and tremendous views of downtown are key considerations in the design recommendations.

Murdoch Park: One of the central features of Bridgeland, Murdoch Park contains a soccer field, toboggan hill, playground, and market site as primary draws for residents and visitors to the neighbourhood. Located adjacent to the community association, Murdoch Park also features a monument to the historic Calgary General Hospital, as well as a rain garden in the south-east corner.

"The Bluffs": Bridgeland is a community with a great deal of varying terrain and steep slopes. These hills create a bowl shape, enclosing residents within the community along the northern edge. These steep sloped spaces are currently difficult to access, but offer great views of the southern Calgary area including Downtown.

Park System: A series of small parks and open spaces exist within Bridgeland. These parks contain playgrounds, baseball fields, pathway networks, and garden elements such as a rain or scented garden. Design guidelines for these spaces treat them as an integrated network, providing amenities and promoting movement throughout the community.

SOURCE: http://www.rviplanning.com/wp-content/uploads/2013/09/Ida-Gay-Gardens-4-Playground-1024x623.jpg

Multi-Generational Design

- Parks and public spaces should have an array of amenities that encourage fitness and fun for all ages and abilities.
- Multiple activities of varying intensity can encourage all members of community to use the space. Parks should not be designed for a single use or single user.

Examples of targeted actives may include:

Children: playgrounds, splash parks, minor landscaping and climbing features
Teenagers: climbing structures, skate parks, lounging areas, and exercise equipment
Adults: exercise equipment, dog parks, and sports facilities
Elderly: exercise equipment (wheelchair accessible), sensory experiences
All Ages: picnic facilities, group seating, skating rink, gardens, water features, water fountains, washrooms

SOURCE: http://media-cache-ec0.pinimg.com/originals/1e/6d/23/1e6d23eb8e055cc105744ded136a741d.jpg

Safe + Accessible Design

- Parks should be accessible and welcoming to all community members. Residents should not feel at risk using or accessing park facilities. Designs should provide adequate lighting, ramps, railings, and seating.

- Strategies for Crime Prevention Through Environmental Design (CPTED) should be considered, such as:
  - Natural surveillance, wherein the visibility of a space and its users are maximized;
  - Natural access control, which limits opportunity for crime by clearly differentiating between public space and private space.

(For more information about Crime Prevention Through Environmental Design, see the International CPTED Association website: http://www.cpted.net/)

SOURCE: http://a1.images.divisare.com/image/upload/c_fit,w_1440/f_auto,q_80/v1441138971/oo04zfv5mzfanx9kdtrt.jpg

SOURCE: Google Earth street view

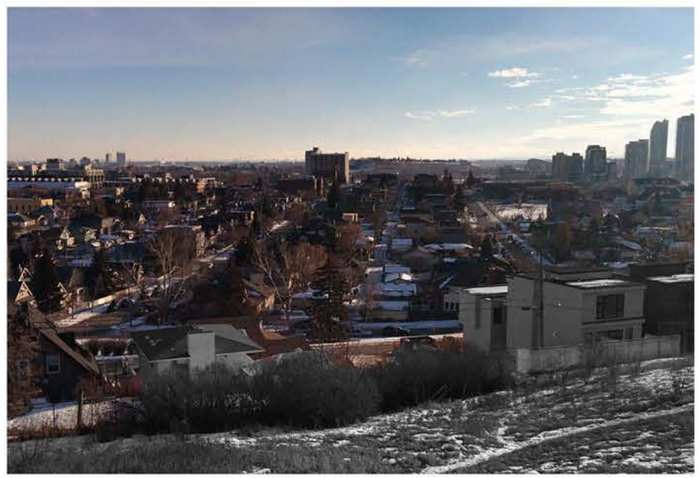
Integrate with Existing Environments

- Where possible, designs should integrate with and add to existing conditions. This may include building seating into the side of a hill, for example (as pictured), or adjusting an existing copse of trees rather than removing them and planting all new ones. Working with preexisting natural features and built environments can add value while preserving unique characteristics and a sense of place.

Maximize the Urban Forest

In addition to making a space more welcoming and giving a sense of character, trees provide privacy, enclosure, and protection from sun and wind.

- Trees along streets should be planted at a minimum interval of 5m, with special priority placed on corridors and parkways
- American Elms, Green Ashes, and Bur Oaks should be used along streets and spaced a minimum of every 10 meters.
- Parks should utilize historically significant plants and trees such as lilacs.
- Spruce and evergreen trees should be utilized to enclose space, block wind, and provide year-round greenery but must be placed to minimize shadow impact.
- Mountain Ash and other native vegetation and grasses should be used in naturalized areas.



Optimize Views

- Because of its location and topography, Bridgeland provides many unique views of Calgary's skyline, the Bow river valley, and surrounding communities. Where possible, seating, paths, and trees should be oriented to take advantage of these views, as they contribute greatly to Bridgeland's character and sense of place.

SOURCE: http://re-actor.net/uploads/posts/2011-10/1319194829_8c.jpg

Regular + Functional Seating

- Seating should be frequent and easily accessible in all parks and along pathways.
- Seating should be paired with other amenities like waste receptacles, trees, lighting, and bicycle facilities where possible.
- Seating should be situated with optimal view of open spaces and amenities like playgrounds in order to enhance community interaction and sense of place.

SOURCE: http://eaglebaypavers.com/site/wp-content/uploads/2013/11/FeatureDriveway_turfstone.jpg

Permeable Paths + Hardscape

- Conventional paving increases the heat island effect and places increased stress on the city's storm-water management infrastructure. Permeable alternatives allow for better drainage and integration with vegetation,, They should be used wherever possible.

SOURCE: https://sites.google.com/site/ikimonokenchiku/_/rsrc/1299310487996/cyclchr/cyclchr1.jpg

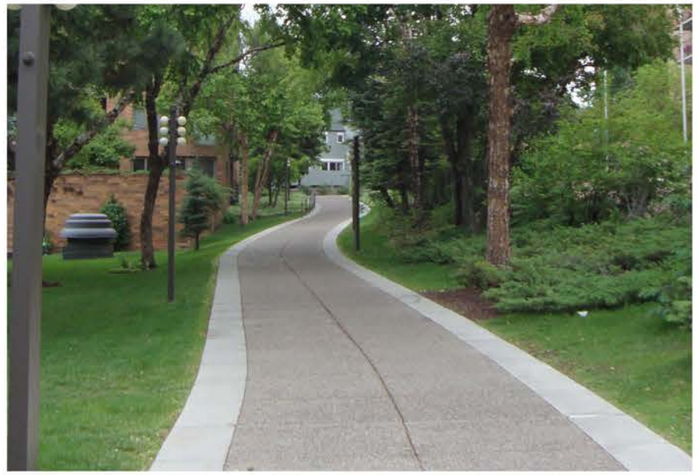
Cycling Infrastructure + Facilities

- Clear, safe bicycle access should be available to all park and open space amenities.
- Bike and pedestrian pathways should be separated wherever possible to increase safety and comfort for both groups.
- Parks should include amenities for cyclists such as bicycle parking and repair.

SOURCE: http://www1.toronto.ca/parks/img/466/1.jpg

All Season Design

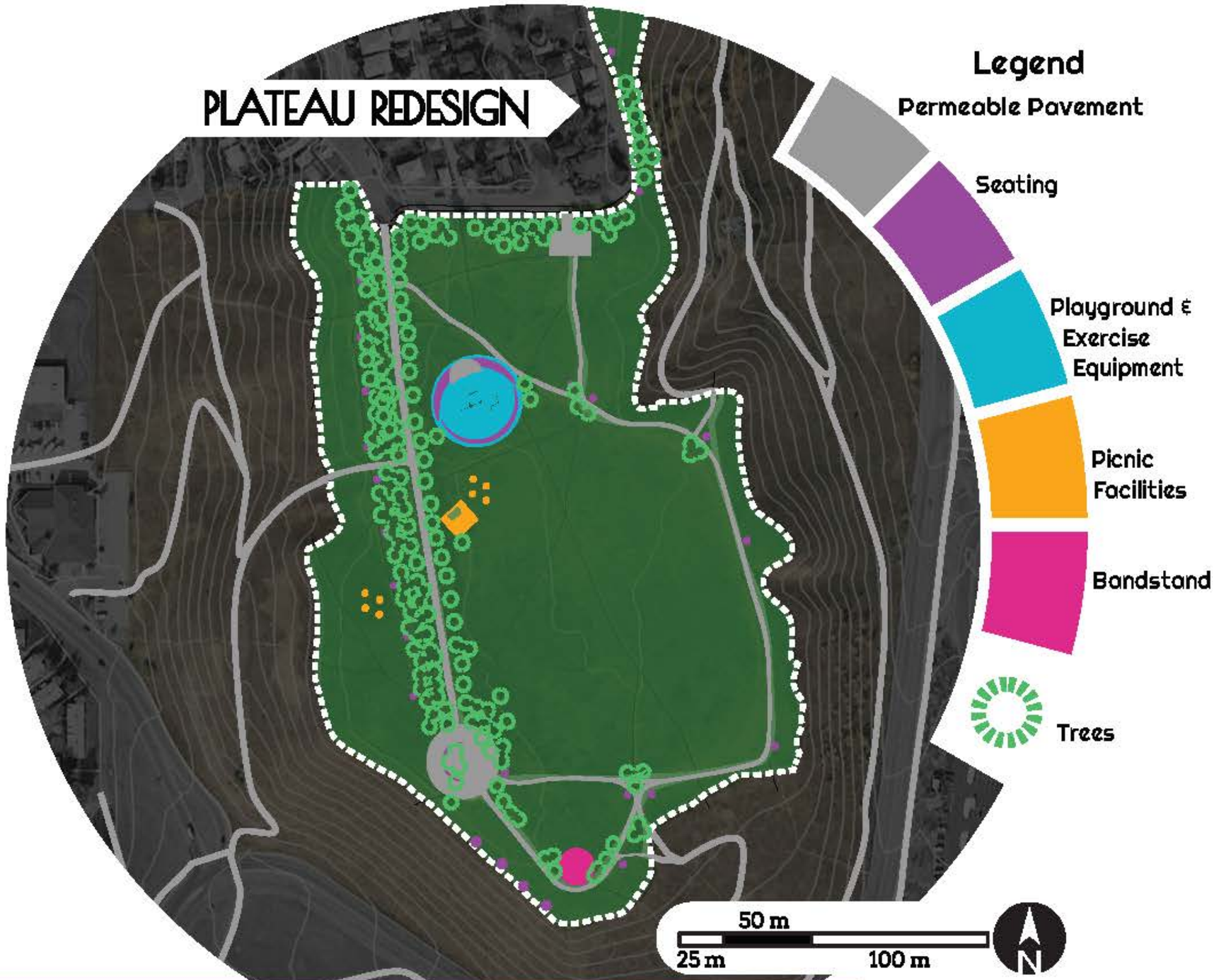
- Outdoor space and amenities should be usable by people of all ages and abilities at all times of the year.
- Buildings and evergreen trees should be used to block wind and maximize sunlight.
- Ramps, stairs, and pathways should be sunlit and snow removed.
- Lighting should be utilized to keep spaces active in the afternoon and evening.
- Festivals and winter activities such as tobogganing and skating, should be encouraged.



SOURCE: https://natesjobsearch.files.wordpress.com/2011/06/dsc03650.jpg&imgrefurl=https://natesjobsearch.wordpress.com/tag/town-center/&h=2672&w=4000&tbnid=bJUHMYkEzy4sjM&tbnh=183&tbnw=275&usg=__hSk2eSh2UGHAyMGtQ6qqt7x1gY0=&hl=en-CA&docid=UaCpI9zEVdNwlM

Connectivity

- Parks and open spaces should be connected by paths and green-ways where possible to provide connectivity of natural systems and allow community members to move freely and easily from park to park.



Added Features & Amenities

Tom Campbell's Hill can be made more inclusive and accessible without compromising current uses through the addition of features such as a playground, bandstand, picnic facilities, washrooms, and increased seating and pathways.

TOM CAMPBELL'S HILL

Sunken Seating with Enclosed Firepit/Barbeque

SOURCE: http://www.interiorsdigital.com/interiors/june_july_2014/data/imgpages/tn/0089_baappw.gif

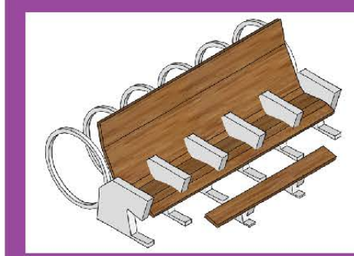
Concept Design

Bandstand/Performance Structure

Concept Design

SOURCE: https://s-media-cache-ak0.pinimg.com/originals/d7/e0/ef/d7e0ef44f91d6e04e053c2ab49d12a2b.jpg

Accessible Benches with Bike Parking



Concept Design

Picnic Tables & Shelter with Public Washrooms

Concept Design

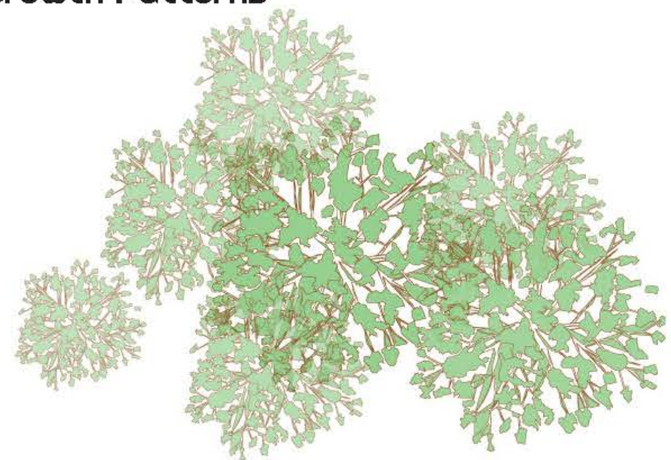
Multi-generational Playground

Concept Design

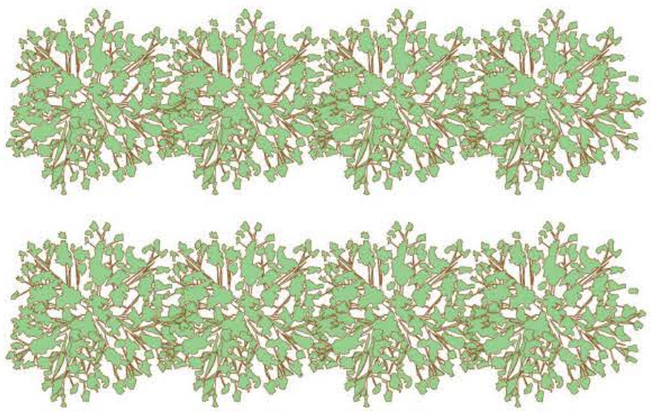
Tree Planting Design Guidelines

There are several factors to take into consideration when applying additional trees to Tom Campbell's Hill. Elements such as purpose of trees, type of canopy cover, as well as arrangement and distribution all impact the experience for park users. The following general design elements relating to tree planting, and arrangement need to be considered as they are applied to new tree planting within Tom Campbell's Hill:

Growth Patterns



Natural Growth Patterns (above) can be situated in an arrangement that mixes mature trees with newer trees in a more organic fashion. Geometric growth patterns (below) organize trees in a fashion that accommodates more directed channeling for pathways.



Canopy Coverage

The shape and canopy coverage of the tree dictates how it will function within a park setting. Deciduous trees (above left) with broader canopy coverage can act as enclosure for pathways, and add shading. Coniferous trees (above right) can act as wind buffers, horizontal sheltering, and remain green throughout all seasons which can add visual benefit to those looking onto the park.

SOURCE: http://www.calgary.ca/CSPS/Parks/Pages/Locations/NE-parks/Tom-Campbells-Hill.aspx

Existing trees along the pathway represent a geometric planting pattern which frame the pathway.

This alignment adds a buffer for park goers from the elements, as well as frames the pathway leading to the explanatory display along the southern edge of the park

Avoid View Obstructions

SOURCE: http://www.calgary.ca/CSPS/Parks/Pages/Locations/NE-parks/Tom-Campbells-Hill.aspx

» Tree locations should accent existing seating and not obstruct important views from the park. Locations must take into consideration which views are impacted, as well as how they are situated next to pathways, benches, and other structures/venues located within the park.

Drought Tolerant Trees

SOURCE: http://www.quakingacres.com/gallery.html

Isolated from natural sources of water such as streams or rivers, trees located within Tom Campbell's Hill must be able to thrive with a lack of rainwater when dry years occur.

» Drought tolerant species must be the only kind of trees included on the hill to reduce the necessity of manual maintenance, in order to preserve the function of the natural park.

Tom Campbell's Hill Planting Guidelines

The following general guidelines are to be applied to plant species located within Tom Campbell's Hill:

- Plant species within Tom Campbell's Hill must be able to withstand extreme temperature shifts, drought conditions, as well as withstand heavy wind and rain events.
- Drought and wind resistant fescues, dogwoods, and poplars are preferred plant types within Tom Campbell's Hill.
- Planting patterns should emulate natural growth patterns within naturalized parks such as Tom Campbell's Hill.
- Non-native poplars and fescues should be well suited to accommodate southern Alberta climate conditions.
- Any impacts or alterations to the slopes of Tom Campbell's Hill must comply with Guidelines for Erosion & Sediment Control (2011). Specific sections outlining important factors related to run-off and soil erosion can be found in section 1.4.1.

Shrubs

SOURCE: https://upload.wikimedia.org/wikipedia/commons/thumb/8/8f/Limonium_sinuatum9.JPG/1280px-Limonium_sinuatum9.JPG

- Shrubs within Tom Campbell's Hill should be able to tolerate drought conditions and attract productive pollinators. Specific shrubs such as Alpine Aster, False-sunflower, Iceland Poppy, Sea Lavender (shown left), and Yucca are encouraged.

Green Ash

SOURCE: http://s1.tree-time.ca/tt/images/ash_green_017_01_600.jpg

Green ash has a wide soil adaptation, tolerating wet, alkaline, and drought conditions. It should be planted in full sun, but can withstand some shade.

These leaves change colour as the seasons change, and have resilient bark able to withstand many adverse environmental conditions.

Hackberry

SOURCE: http://zpitomnik.ru/images/3_listvennie/karkas/1.jpg

Found on a wide range of soils east of the Rockies from southern Canada to Florida, Hackberry trees thrive in a broad span of temperatures and on sites that vary from 14 to 60" of annual rainfall. They can also withstand strong winds and tolerate air pollution.

Jack-Pine

SOURCE: http://treetime.ca/productsList.php?pcid=214&tagid=2

Jack Pine is a cold tolerant native species that can survive on dry, sandy or gravelly sites. Jack Pine is known for its yellow-green needles, spreading crown, and irregular form capable of withstanding extreme elements within urban environments.

Dakota Pinnacle Birch

SOURCE: http://www.progressiveplants.com/image?0=9434170658800017jpg&1=Betula+platphylla+Fargo+

Though not native originally to North America, Dakota Pinnacle Birch trees have become part of the extant ecology. They do best in full sun to partial shade.

Birches are very adaptable to both dry and moist climate conditions, and are not particular about soil types or pH levels. Highly tolerant of urban pollution, they have the ability to thrive in inner city environments.

Amur Maple

SOURCE:http://cdn2.pahlsmarket.netdna-cdn.com/wp-content/uploads/2015/03/Tree_Maple-Flame-Amur.jpg

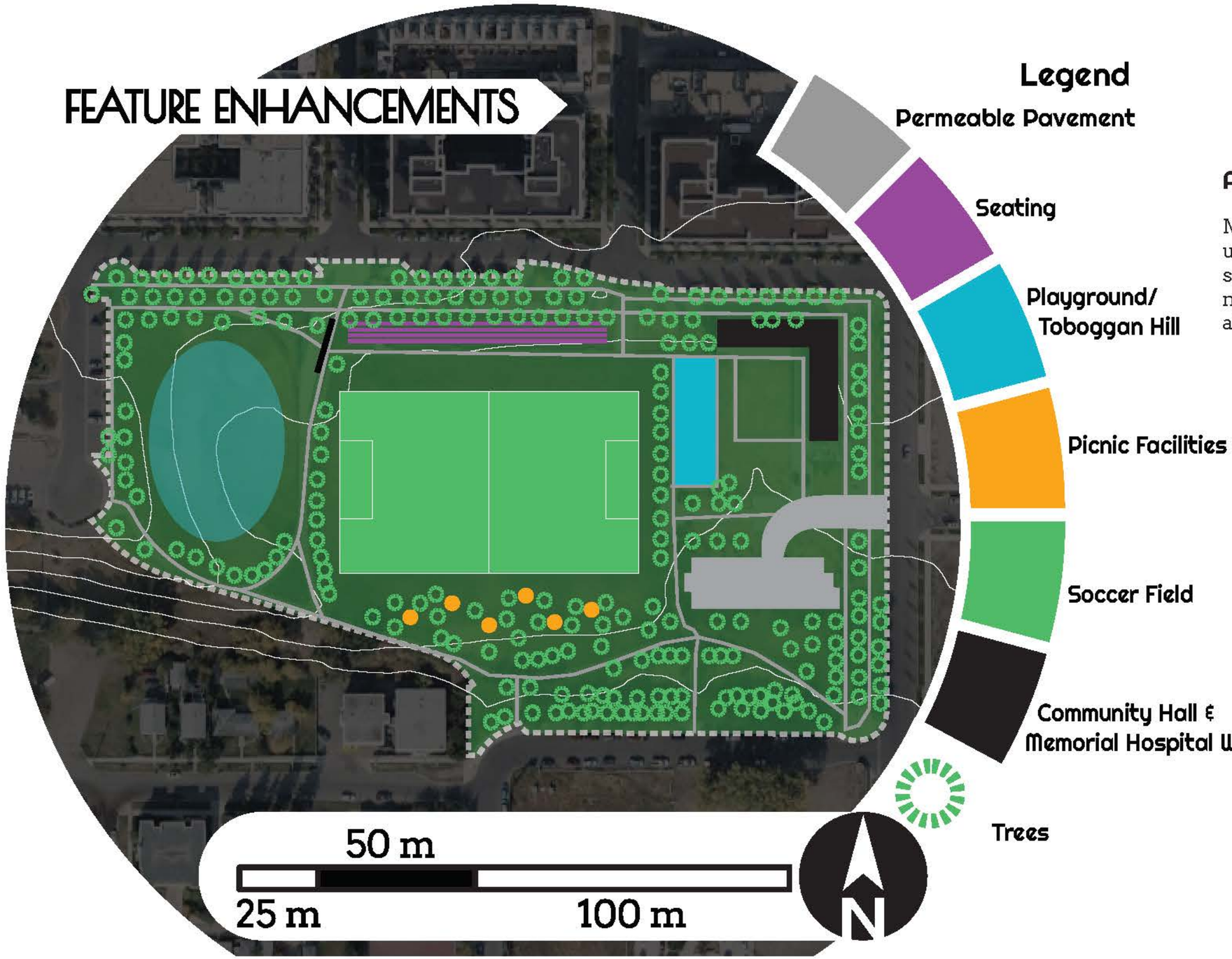
Amur Maples are very adaptable accent trees which can grow to be 18 ft. tall at full maturity. Capable of handling both dry and moist climate conditions, Amur Maples require minimal upkeep and add incredibly vibrant colour to any landscape.

Rough Fescue Grassland

SOURCE: http://cdn.playbuzz.com/cdn/523b0772-cf94-4711-9c7e-2d1e20ca975e/7d71fc69-3bd7-4c09-b7e1-4bbefc959963.jpg

Native grasslands and rough fescues should be maintained throughout Tom Campbell's Hill. This grassland is highly drought resistant and can withstand extreme temperature shifts.

FEATURE ENHANCEMENTS



Legend

- Permeable Pavement
- Seating
- Playground/ Toboggan Hill
- Picnic Facilities
- Soccer Field
- Community Hall & Memorial Hospital Wall
- Trees

Added Features & Amenities

Murdoch Park can become better utilized by upgrading basic amenities, such as seating and trees, while maintaining the existing programs already enjoyed by the community.

Highlight the Toboggan Hill

One of Calgary's best toboggan hills is situated within Bridgeland. This should be maintained and encouraged through future park improvements.

SOURCE: http://www.calgarysun.com/2012/12/06/vote-now-for-calgarys-best-tobogganing-hill

Permeable Pavement

Permeable pavement should be used wherever possible to integrate with the park's natural drainage systems.

SOURCE: https://listlessonlove.files.wordpress.com/2011/12/permeable-surface-1.jpg

Seating

Seating should be integrated into the north slope to provide congregating space, a tiered viewing area for the soccer field, and to make traversing the hill easier.

SOURCE: http://ai.images.divisare.com/image/upload/c_fit,w_1440/f_auto,q_80/v1441138971/oo04zfv5mzfanx9kdtrt.jpg

Picnic Facilities

Picnic tables should be located south of the soccer field to support family and group outings to the park.

SOURCE: http://www.freiraumgestalter.com/lightbox_de/images/freiraumbegleiter_alle/ausstattung/10.jpg

Increased Tree Coverage

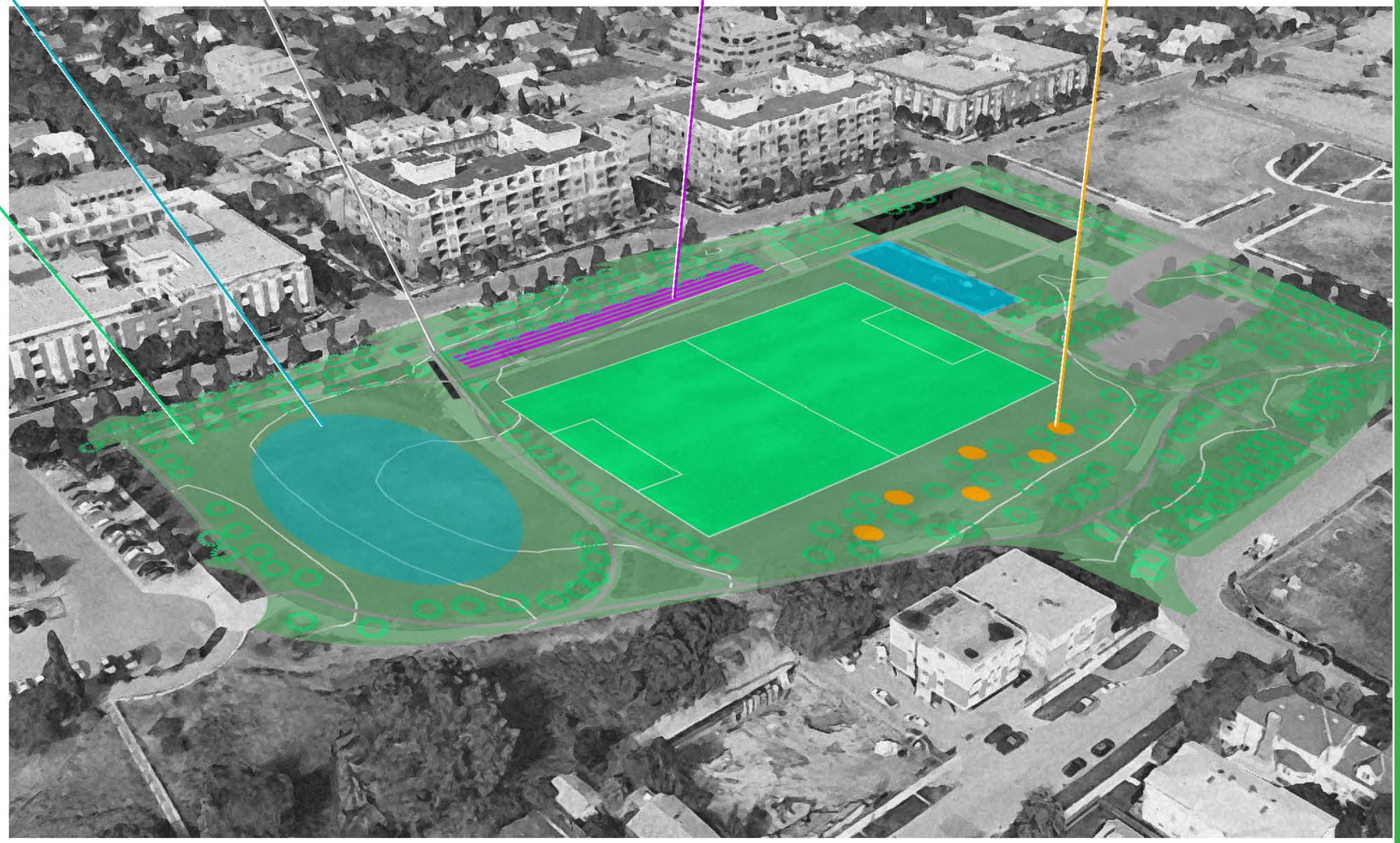
Additional trees should be planted in areas near the playground in order to provide additional shelter from the elements.

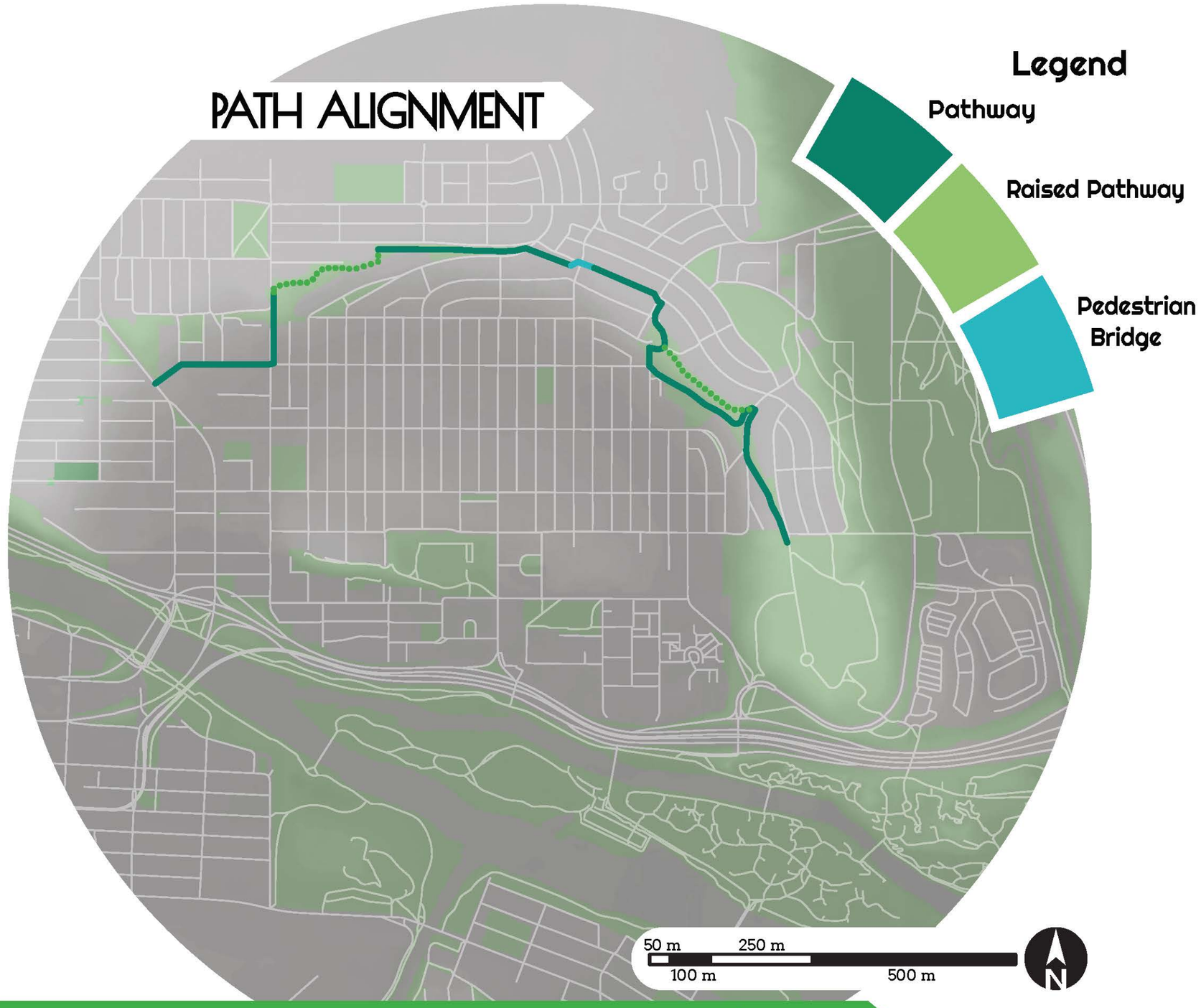
SOURCE: http://www.calgary.ca/CSPS/ABS/Pages/Bylaws-by-topic/Parks-pathways.aspx

Emphasize the Historic Elements

Additional wayfinding, or simple lighting can be added to highlight the heritage of Bridgeland with the existing General Hospital wall.

SOURCE: http://www.calgary.ca/CS/OLSH/Pages/The-Bridges/Parks-Open-Space.aspx





Added Features & Amenities

Bridgeland's bluff offers one of the most picturesque views of Calgary's skyline. Unfortunately, the current path network is fragmented and terrain is difficult to traverse in some sections. Well-demarcated paths and accessible solutions to topographic challenges will allow Bridgelanders and visitors to take advantage of the views.

THE BLUFF WALK

Permeable Pathways

Permeable pedestrian paths should be used to connect Edmonton Trail with Tom Campbell's Hill through the bluff landscape.

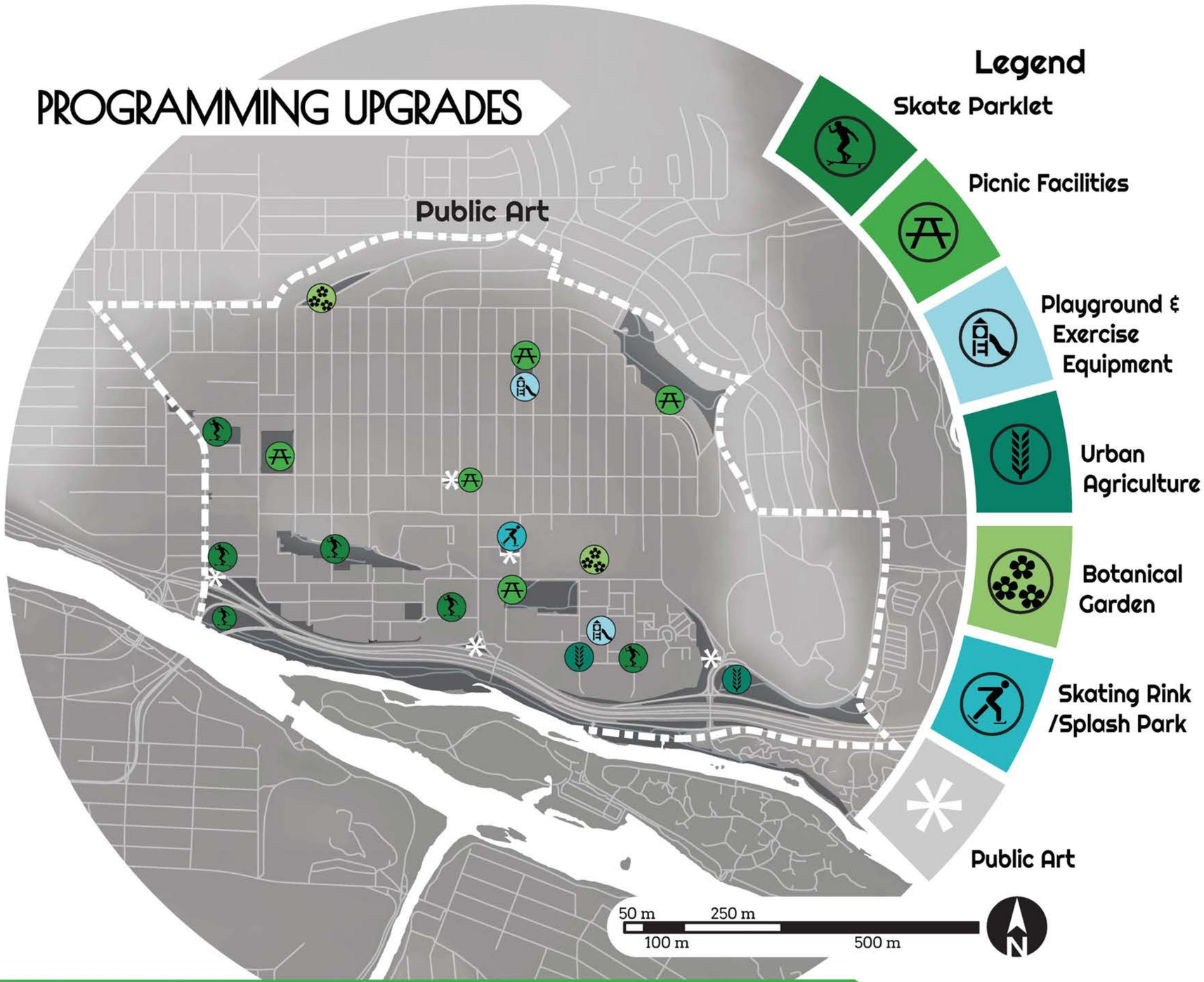
Raised Pathways

In areas where terrain is steep or there are abrupt escarpments, paths should be raised and include railings.

Pedestrian Bridges

A pedestrian bridge should link The Bluff Walk across 10 Street NE. An additional bridge and accompanying path spur may be considered across Edmonton Trail to connect to Crescent Heights for a longer, inter-community Bluff Walk.

PROGRAMMING UPGRADES



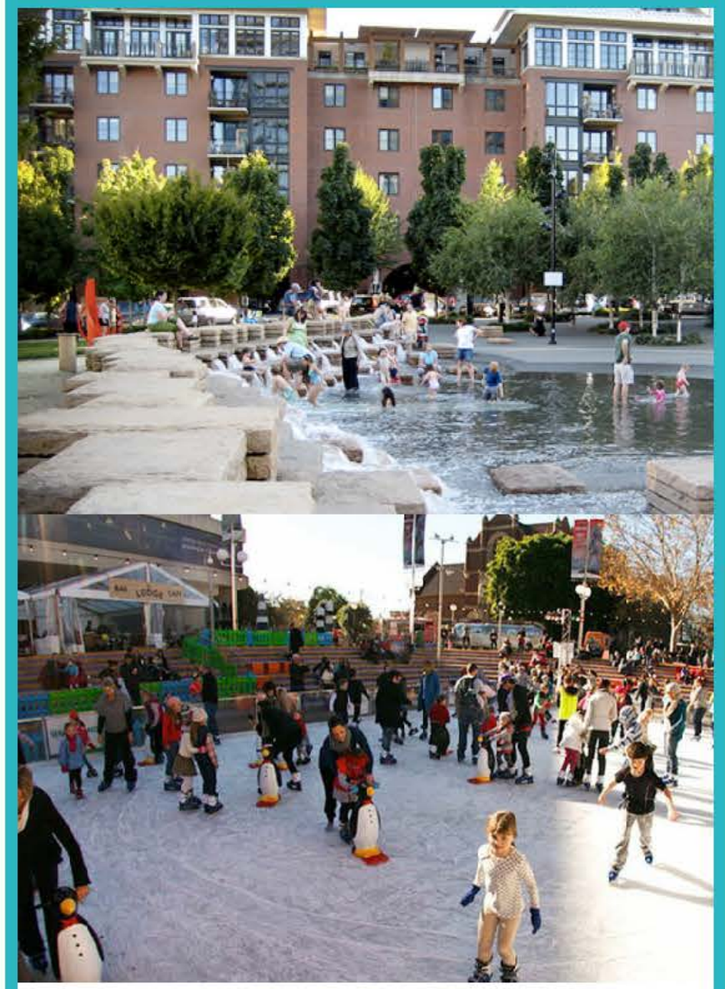
Legend

- Skate Parklet
- Picnic Facilities
- Playground & Exercise Equipment
- Urban Agriculture
- Botanical Garden
- Skating Rink /Splash Park
- Public Art

Added Features & Amenities

General parks and interstitial spaces throughout the community function as an inter-connected of amenity spaces. Residents cited a need for additional features to make these spaces more usable. Amenity upgrades have been dispersed through out the park network to provide variety, encourage mobility, and enable access for all community members.

Skating Rink + Splash Park



St. Matthew's Square is well-sized to provide a larger scale community amenity such as a summer splash park and/or winter skating rink. A flexible design would allow for seasonal functions year-round.

SOURCE :http://landscapevoice.com/wp-content/uploads/2012/08/w1649931l2.jpg

SOURCE :http://www.weekendnotes.com/winterland-ice-skating-perth/

Playgrounds + Exercise Equipment

Playgrounds should be places for everyone, with amenities that attract a range of users.

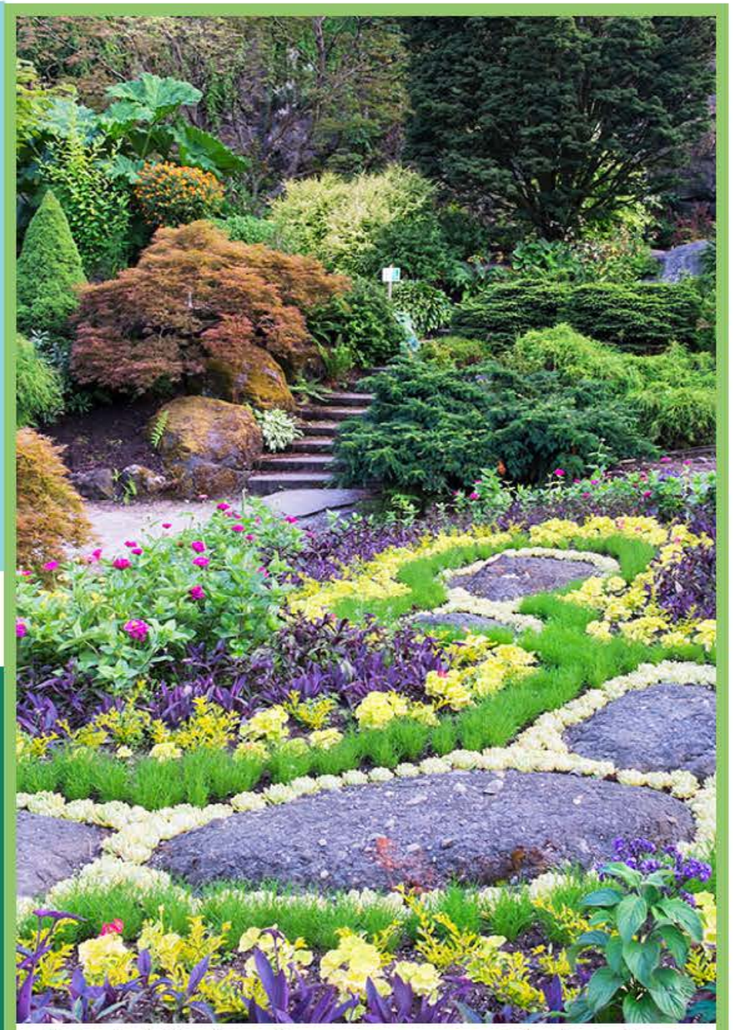
SOURCE : http://faktor.mk/wp-content/uploads/2016/03/Outdoor-Adult-Fitness-Parks-1024x525.jpg

Urban Agriculture

Transportation corridors, verges, and medians should be utilized for urban agriculture production as pilot projects for urban farming and organizations such as Grow Calgary gain traction.

SOURCE: http://www.cbc.ca/news/canada/calgary/grow-calgary-wants-to-be-the-world-s-largest-urban-garden-1.2743102

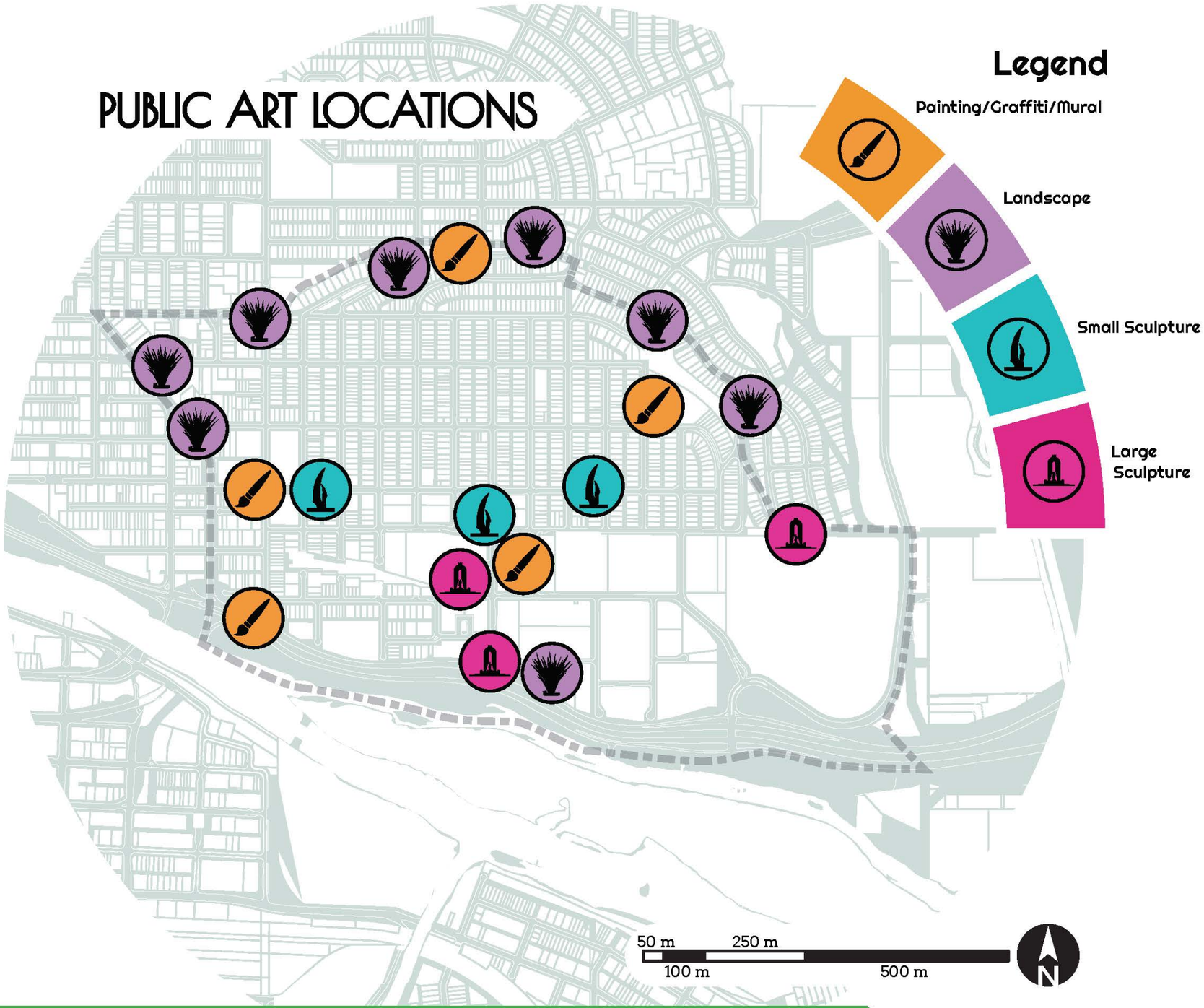
Botanical Gardens



Botanical Gardens showcase a range of plants and flowers. A large, terraced botanical garden is proposed in the East Riverside Outline Plan.

SOURCE: http://www.rwongphoto.com/blog/revisiting-queen-elizabeth-park/

PUBLIC ART LOCATIONS



Public Art

Public art plays a significant role in creating a sense of place, and is essential in creating great public spaces. Public art should feature local artists whenever possible. In some cases, developers may provide the community public art to receive additional density in their development.

Paintings, Graffiti, and Murals

Decorative surface treatments are inexpensive ways to add enormous colour and character to a space. Paintings and murals on civic infrastructure such as overpasses serve to humanize these structures, and both the design and application of murals can be community projects.

SOURCE : http://www.bankview.org/21-bankview-highlights-2015/

Landscaping Installations

Landscaping elements bring the community together not only in the selection of areas to treat with landscaping, but also to continue its upkeep and modify it over time.

These features can be installed at entry points to the community as well to help identify key locations to enter/exit Bridgeland, or become installations for various blocks and/or residents in selected areas.

SOURCE : Google Street View

Small Sculptures

Sites can be selected within Bridgeland to become key placeholders of small sculpture installations. These small sculptures can help bring character to specific corridors, places, or areas within the community. An example of this is Downtown Calgary's cow sculptures, located throughout the Plus 15 network.

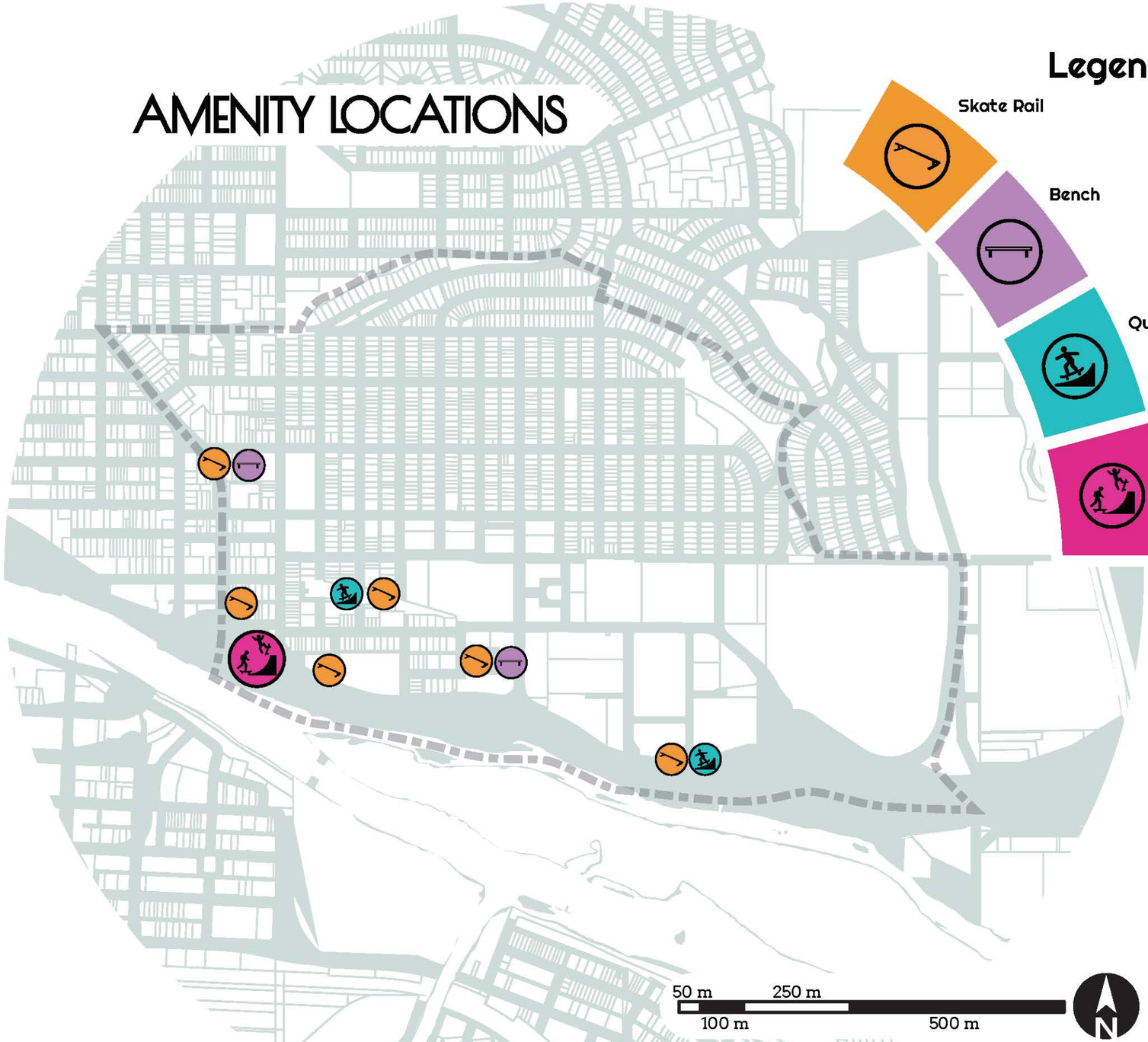
SOURCE : http://everydaytourist.ca/blog/2013/11/18/fun-ideas-of-downtown-calgary

Large Sculptures

Larger sculptures can bring character to an open space, define an entry point, or symbolize a particular characteristic of the neighbourhood. These sculptures have the potential to create a welcoming effect for visitors into Bridgeland, as well as provide a key point of interest for the community to identify with.

SOURCE : http://static1.squarespace.com/static/50e1b9c6e4b015296ce398f6/t/51f9cc6be4b0608e464558ee/1434153905321/Family+of+Man.JPG

SOURCE : http://www.dailymail.co.uk/news/article-2787213/600-000-interactive-steel-sculpture-dismantled-reflects-ray-sunlight-burns-HOLE-man-s-jacket.html



Skate Amenities

The incorporation of activities throughout Bridgeland should be inclusive of all ages and demographics. Through the addition of various skateboarding infrastructure elements within the neighbourhood, a new activity channel can be opened up to an under-served demographic in the community.

SKATE AMENITIES

Rails and Benches

Skate benches and rails allow skateboard users the opportunity to try out tricks as they make their way to other destinations by board. These offer the opportunity to grind alongside the rails, while continuing on their route to other skate parklets or the south-western skate park.

SOURCE: http://www.allwayswelding.com/image/view/70/_original

SOURCE: http://www.skateramparts.com/skate-spots.html

Quarter Pipes

Quarter pipes can be situated at ends of blocks near the bluffs in more secluded street areas. These can allow skateboarders to try out new tricks in a controlled, safe environment.

SOURCE: http://www.techramps.com/Skatepark-We-Lwowie-Ukraina-1,bghhb,a,gaa.jpg

Bridgeland Skate Park

The 4th Ave SE flyover allows for ample opportunity to situate a new skate park within Bridgeland. This skate park is a premium location for creating an urban skateboarding experience, and is protected and private from surrounding businesses and amenities.

The proximity to Memorial Dr NE will also provide visibility to passing traffic, and act as advertisement for all other potentially interested skateboarders to participate in the future.

SOURCE: Google Street View

SOURCE: http://www.hopkinsmn.com/overpass/img/overpass-facility02-lg.jpg

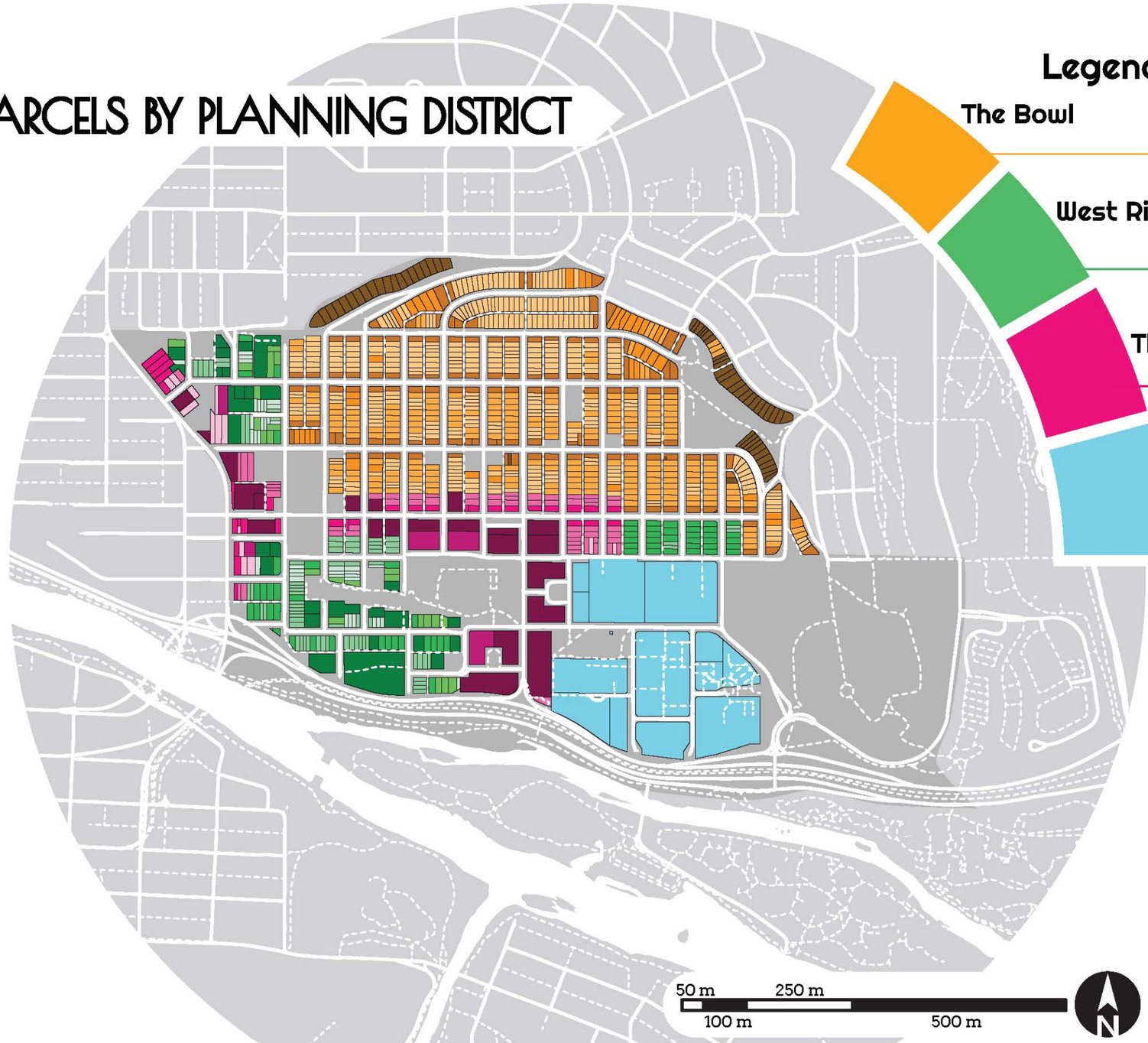
SOURCE: http://assets.inhabitat.com/wp-content/blogs.dir/1/files/2014/09/Cape-Town-Mill-St-Skatepark1-537x379.jpg

SOURCE: http://i2.wp.com/futurecapetown.com/wp-content/uploads/2014/06/Photo-2014-06-07-16-13-03.jpg

Existing underpass skate parks are located around the world. Some examples to consult for potential design include:

- Overpass Skate Park in Hopkins, Minnesota (left image)
- Gardens Skate Park in Cape Town, South Africa (above image)
- Underpass Skate Park in Toronto, Ontario
- Burnside Skate Park in Portland, Oregon
- A8ernA section in Zaanstadt, Netherlands

PARCELS BY PLANNING DISTRICT



Legend

The Bowl

West Riverside

The Core

East Riverside

SECTION OVERVIEW

INFILL + REDEVELOPMENT

According to City of Calgary projections, Bridgeland-Riverside's population is expected to double by the year 2040, and the community is already feeling the pressure. This section provides guidelines for the next wave of redevelopment, so that as parcels are purchased and projects come forward, growth can be accommodated in a way that is healthy and contributes positively to community character.

(SEE SECTION FIVE - CORRIDORS + HUBS FOR EAST RIVERSIDE OUTLINE PLAN)

APPROACH

Purpose of Design Guidelines

The Infill + Redevelopment design guidelines are intended as a toolkit to help evaluate new proposed building designs in Bridgeland based not only on general quality, but on their impact on the public realm.

In addition to general guidelines which are intended to apply to all new designs, a parcel typology has been done for the community. Parcels have been divided first into Planning Districts (see Site Context) and then into types, and design guidelines are provided for each specific type.

A Note about the Land-Use Bylaw: At the time of this writing, Calgary's Land-Use Bylaw is relatively outdated, resulting in widespread Direct Control zoning. In addition, it is uncertain when the Bylaw may be revised and what those revisions may contain. Because of this, while most guidelines in this document are permissible within the existing Bylaw or would require only minor relaxation (e.g. to lot coverage or parking requirements) or rezoning, guidelines have been developed based on form, design, and context, without undue consideration of Bylaw requirements.

Infill + Redevelopment Approach

In addition to general guidelines which are intended to apply to all new designs, a parcel typology has been done for the community. Parcels have been divided first into Planning Districts (see Site Context) and then into types, and design guidelines are provided for each specific type. For the purposes of this section, the Planning Districts are:

The Bowl: The low- density residential area of Bridgeland. It currently consists largely of single-family detached homes, but is infilling rapidly. Guidelines for this section are intended to permit some growth absorption while maintaining street character.

West Riverside: The medium-high density residential areas of Bridgeland. Guidelines for these areas permit more density on the same parcel size than The Bowl, and larger parcels here can support mid-rise buildings.

The Core: These are the areas around Bridgeland's mixed-use and commercial corridors. Guidelines in this section are intended to promote the development of these corridors and their amenities.

East Riverside: The large, institutionally-owned parcels in South-East Bridgeland. Because of the unique conditions of this area, specific redevelopment has been addressed in the form of an Outline Plan which can be found in Section Five - Corridors + Hubs.

Variety and Personalization

» Design elements should vary from unit to unit and facade to facade, even within the same parcel or development. This can mean anything from changing the style of windows or doors to completely altering the style of the facade. This helps to create variety along the street wall, humanizing it and providing a sense of scale, place, and character. Any opportunity for residents to further personalize units, for example through colours or decoration, will further contribute to the above while also enhancing the sense that these are "homes" and not just residences.

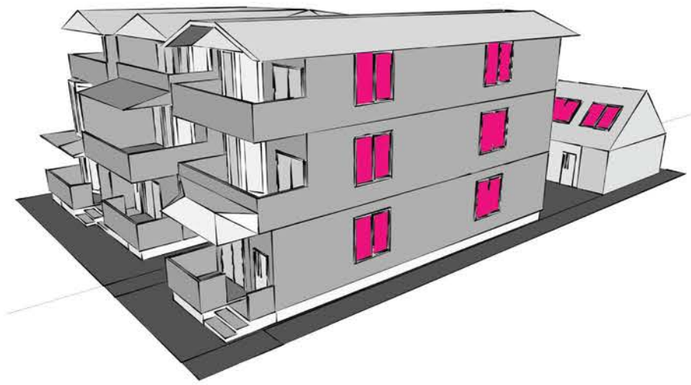
Articulation

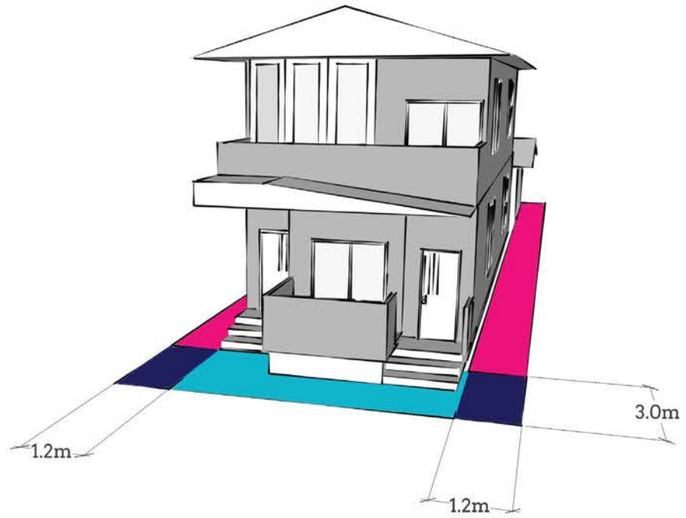
Long, blank walls are imposing and provide no sense of distance, place, or building use. Articulating elements act as cues to help people interpret buildings and spaces. These may include:

- Protrusions and setbacks;
- Balconies;
- Doors and windows;
- Material changes (e.g. brick to steel);
- Decorative elements on facades.

Visual Permeability

Windows, glass doors, porches, decks, and balconies all contribute to a sense of neighbourliness and community, as well as increasing the number of "eyes on the street", which may contribute to safety and reduce petty crime. People on both sides of the boundary between public and private spaces benefit from visibility and interaction across the boundary - so long as control over permeability rests on the private side, in the form of blinds, curtains, and doors!





Visual Privacy

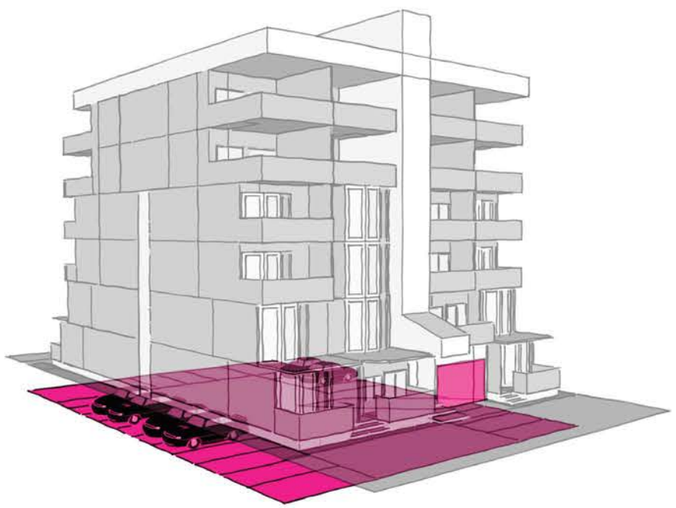
- Windows, balconies, and other viewing openings should in general be aligned to prevent direct viewing of other private spaces.
- Windows which do not face onto streets should be aligned so that they do not face into each other.
- Laneway house windows should be aligned to minimize overlook of neighbouring yards.

Setbacks

- Where front yards already exist, a front setback of 3.0m should be maintained. Larger yards than this are not recommended as they decrease street enclosure and reduce visual permeability.
- Side setbacks of 1.2 m are required for fire access.

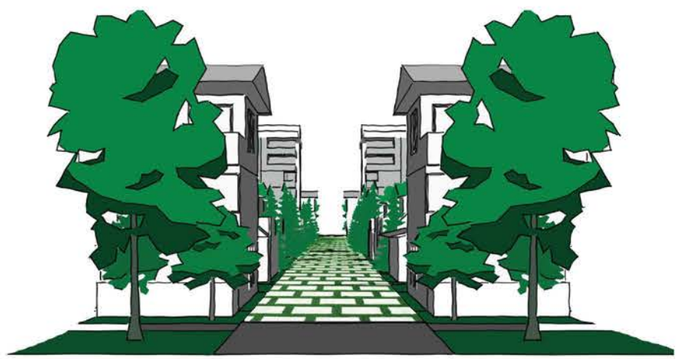
Porches and Awnings

- Porches are encouraged on grade-oriented residential units to promote interaction between residents, a sense of community, and positive street character. Porches should be roofed to help make them usable in a range of seasons and weather conditions, and can extend 1.5 m from the building face into the front setback (front yard).
- Awnings are encouraged on grade-oriented commercial units to provide shelter and improve street character, and can extend 1.5 m from the building face into the front setback and/or over the adjoining sidewalk.



Underground Parking

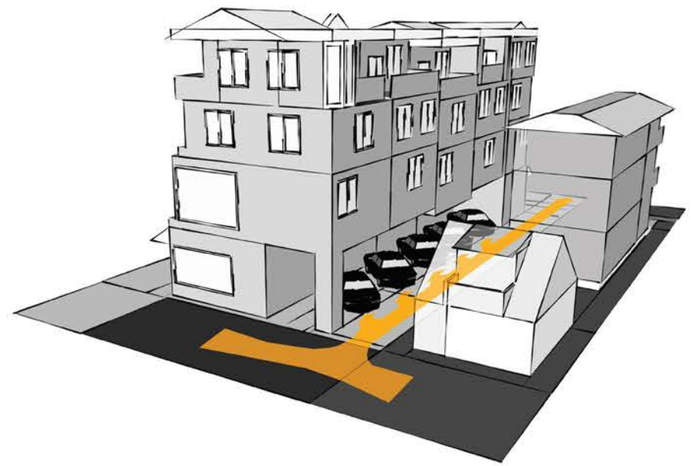
- All redevelopment on large parcel types should include underground parking. Stalls should be provided for all residential units on the parcel at minimum, though parking may also be provided for commercial uses.



Lane Treatments

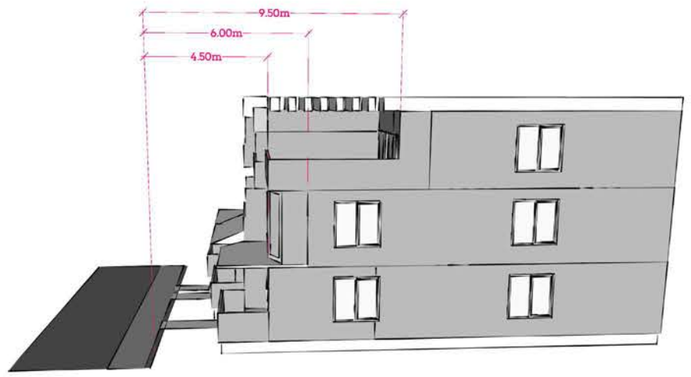
Lanes should be considered a part of the public realm with the same importance as streets, sidewalks, and pathways. In addition to developing laneway housing where possible in the form of backyard suites and lane-oriented units in larger buildings (see Grade-Oriented Units), lanes can be upgraded with the following considerations:

- Replacing gravel with permeable pavers for a better walking, riding, and driving experience
- Including a 0.5m setback from the lane when redeveloping parcels, to be used for shrubs and greenery except where crossed by a footpath or driveway
- Applying the same considerations to buildings and fencing along laneways as along streets, (see Variety & Personalization, Articulation, Visual Permeability, Porches & Awnings, and Step-backs)



Corner Parcel Parking

- Parcels which are on the corner of laned blocks and at least 13m wide should provide parking in the back for all residential units. This can consist of angled stalls accessed via a one-way corridor in narrow conditions.



Grade-Oriented Units

Grade-oriented units are units with facades and entrances at ground level, regardless of the type and size of the overall building (e.g. townhouses).

» Grade-oriented units are recommended along all building sides which face onto streets or lanes.

Step-backs

» In buildings more than two stories tall, stories above the second (and possibly including the second) should be stepped back from the street or lane to reduce shading on the street and the appearance of "looming". Step-backs can be at intervals of several stories, or at every storey. (Note that distances in illustration are examples only)

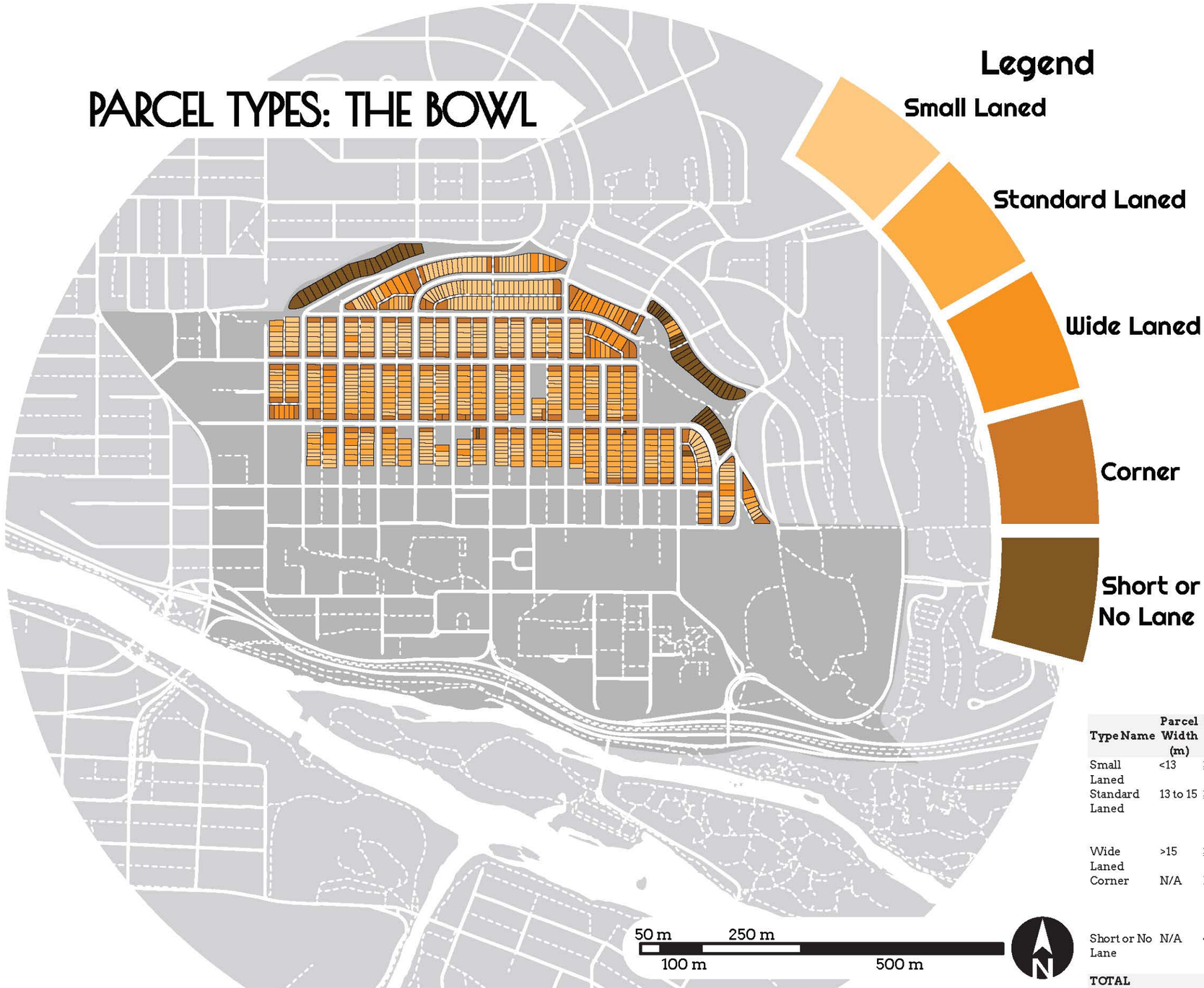
Corridor-Oriented Buildings

All parcels which are adjacent to a commercial corridor should provide grade-oriented commercial spaces for food-service or retail in the first 2 storeys, or grade-oriented commercial space in the first storey with one or more storeys of office commercial space above.

» Grade-oriented commercial spaces should have clear and inviting signage, large, transparent display windows, and be well-lit. Transom windows and awnings are encouraged. These spaces should face onto the adjacent commercial corridor.

» Setbacks and parking in front of corridor-oriented buildings are not recommended. Parking should be provided underground if possible or in back if necessary.

PARCEL TYPES: THE BOWL



Parcel Types and Design

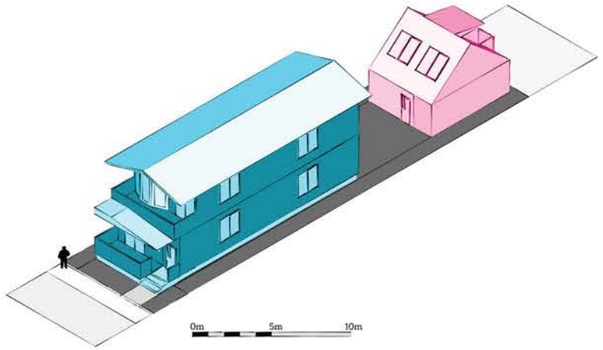
The Bowl is the lower-density of the two residential districts.

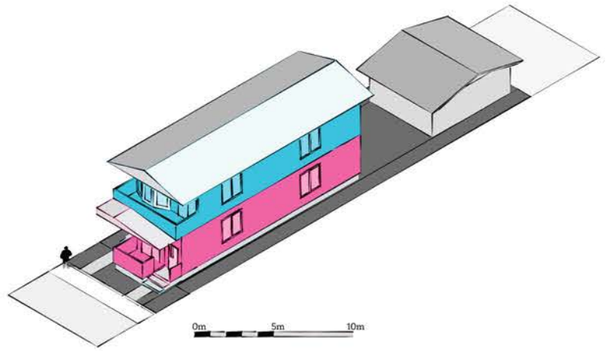
Parcels here have been divided into five types based on size and access to lanes or multiple streets (in the case of corner parcels).

Design guidelines are intended to provide for a modest increase in population density while maintaining the low-rise detached character of the community.

Type Name	Parcel Width (m)	Parcel Depth (m)	Other Characteristics	Number of Parcels	Percentage of Parcels	Area of Parcels (m2)	Percentage of Area
Small Laned	<13	≥30	N/A	347	45.1%	121583	38.0%
Standard Laned	13 to 15	≥30	N/A	199	25.8%	89922	28.1%
Wide Laned	>15	≥30	N/A	37	4.8%	22782	7.1%
Corner	N/A	N/A	Faces two or more streets or lanes which intersect	129	16.8%	56292	17.6%
Short or No Lane	N/A	<30	Either shorter than 30 meters, or only faces one street or lane	58	7.5%	29342	9.2%
TOTAL				**770**	**100%**	**319921**	**100%**

Small Laned Parcels

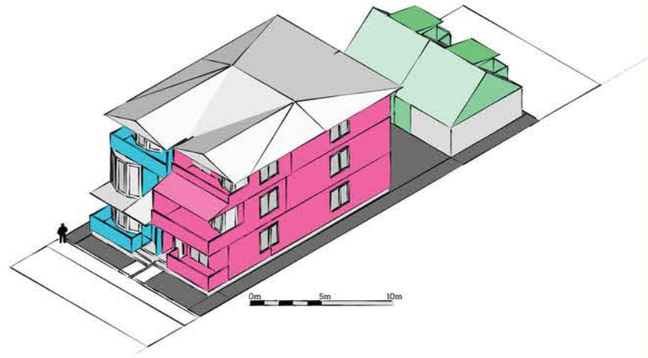




Under 13m wide, at least 30m deep, with a lane at the back

- Maximum of two living units, either in the form of a main house and a laneway house, or as two stacked units in the main building
- Some of these parcels are wide enough to support a double garage on the lane

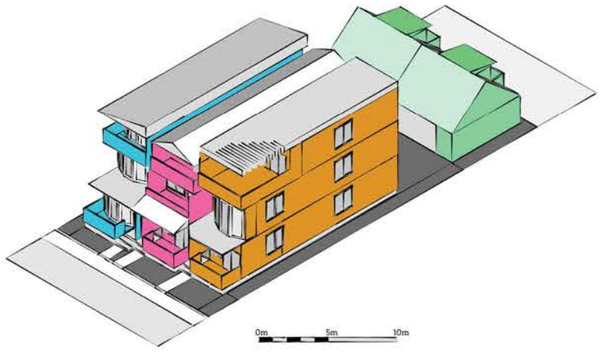
Standard Laned Parcels



Between 13m and 15m wide, at least 30m deep, with a lane at the back

- Maximum of three living units in the form of two units in the main building (side-by-side or stacked) and a laneway house containing at least two parking stalls.

Wide Laned Parcels



Over 15m wide, at least 30m deep, with a lane in back

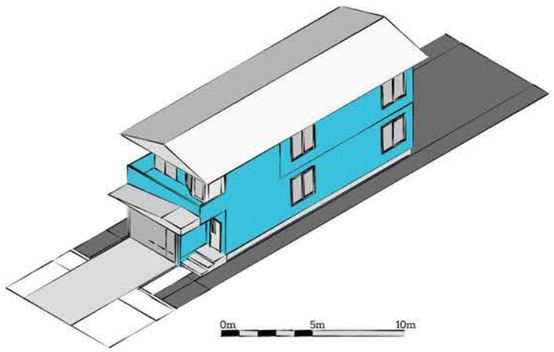
- Maximum of four living units in the form of three units in the main building (side-by-side or stacked) and a laneway house containing at least three parking stalls

Corner Parcels

On at least two streets or a street and a lane which intersect

- Multiple grade-oriented units (e.g. row-houses) along longest street-facing edge
- Maximum of one unit for every 4.2m of building face

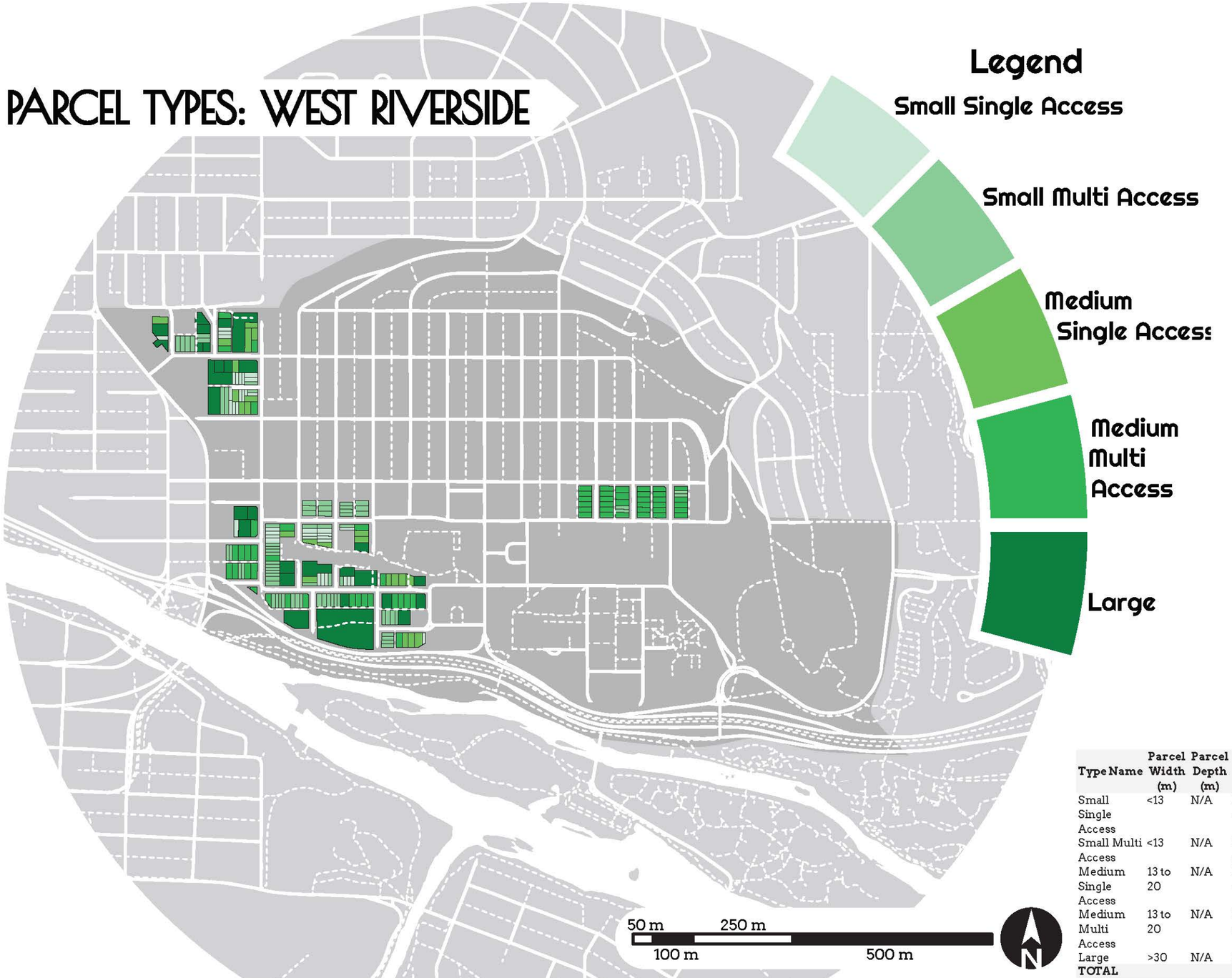
Short or Un-laned Parcels



Only on one street, or less than 30m deep

- Cannot support laneway housing, must have carport access from the front arranged to one side of the parcel (within setbacks)
- Living space over garages, porches where possible

PARCEL TYPES: WEST RIVERSIDE



Parcel Types and Design

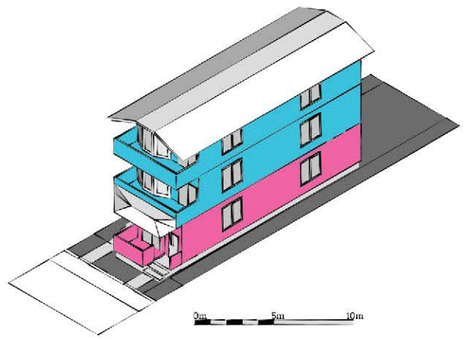
West Riverside is the higher-density of the two residential planning districts.

Parcels here have been divided into five types based on size and access to lanes or multiple streets.

Design guidelines are intended to provide for an increase in population density while maintaining high-quality streets and facades.

Type Name	Parcel Width (m)	Parcel Depth (m)	Other Characteristics	Number of Parcels	Percentage of Parcels	Area of Parcels (m2)	Percentage of Area
Small Single Access	<13	N/A	Faces only one street or lane	39	17.4%	10940	8.7%
Small Multi Access	<13	N/A	Faces two or more streets or lanes	70	31.3%	24408	19.3%
Medium Single Access	13 to 20	N/A	Faces only one street or lane	23	10.3%	12513	9.9%
Medium Multi Access	13 to 20	N/A	Faces two or more streets or lanes	63	28.1%	31045	24.6%
Large	>30	N/A	N/A	29	12.9%	47421	37.5%
TOTAL				**224**	**100%**	**126327**	**100%**

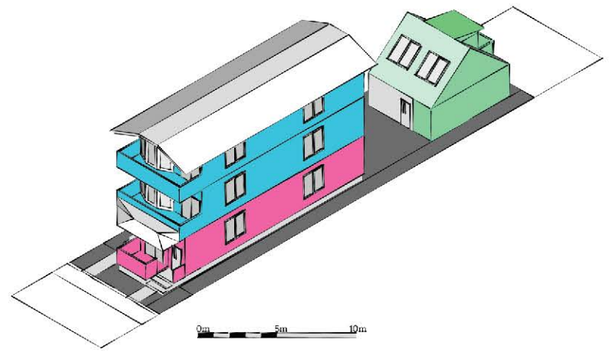
Small Single Access Parcels



Under 13m wide, on only one street or lane

- Maximum of two living units in the form of stacked units in the main building
- Transit-oriented parcels, no parking recommended

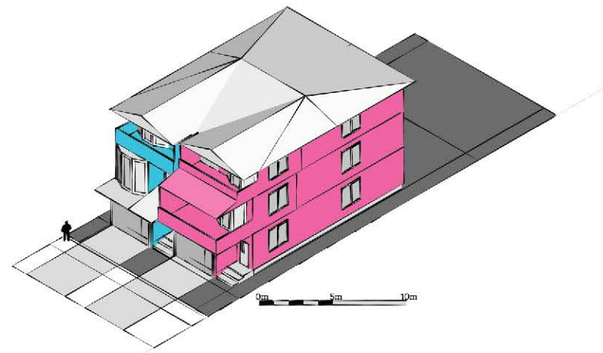
Small Multi Access Parcels



Under 13m wide, on at least two streets or a street and a lane

- Maximum of three living units in the form of two stacked units in the main building and a laneway house with as many car ports as width permits

Medium Single Access Parcels



Between 13m and 20m wide, on only one street or lane

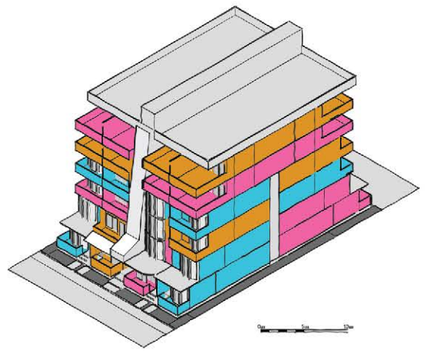
- Units must have carport access from the front arranged to one side of the unit
- Living space over garages, porches where possible

Medium Multi Access Parcels

Between 13m and 20m wide, on at least two streets or a street and a lane

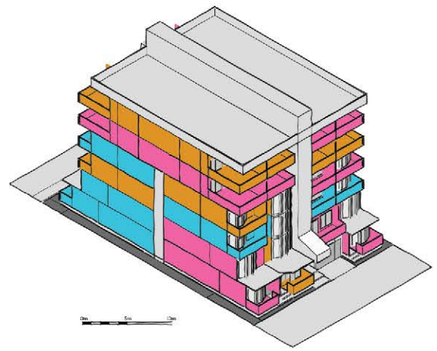
- Multiple grade-oriented units (e.g. row-houses) along longest street-facing edge
- Maximum of one unit for every 4.2m of building face

Large Parcels



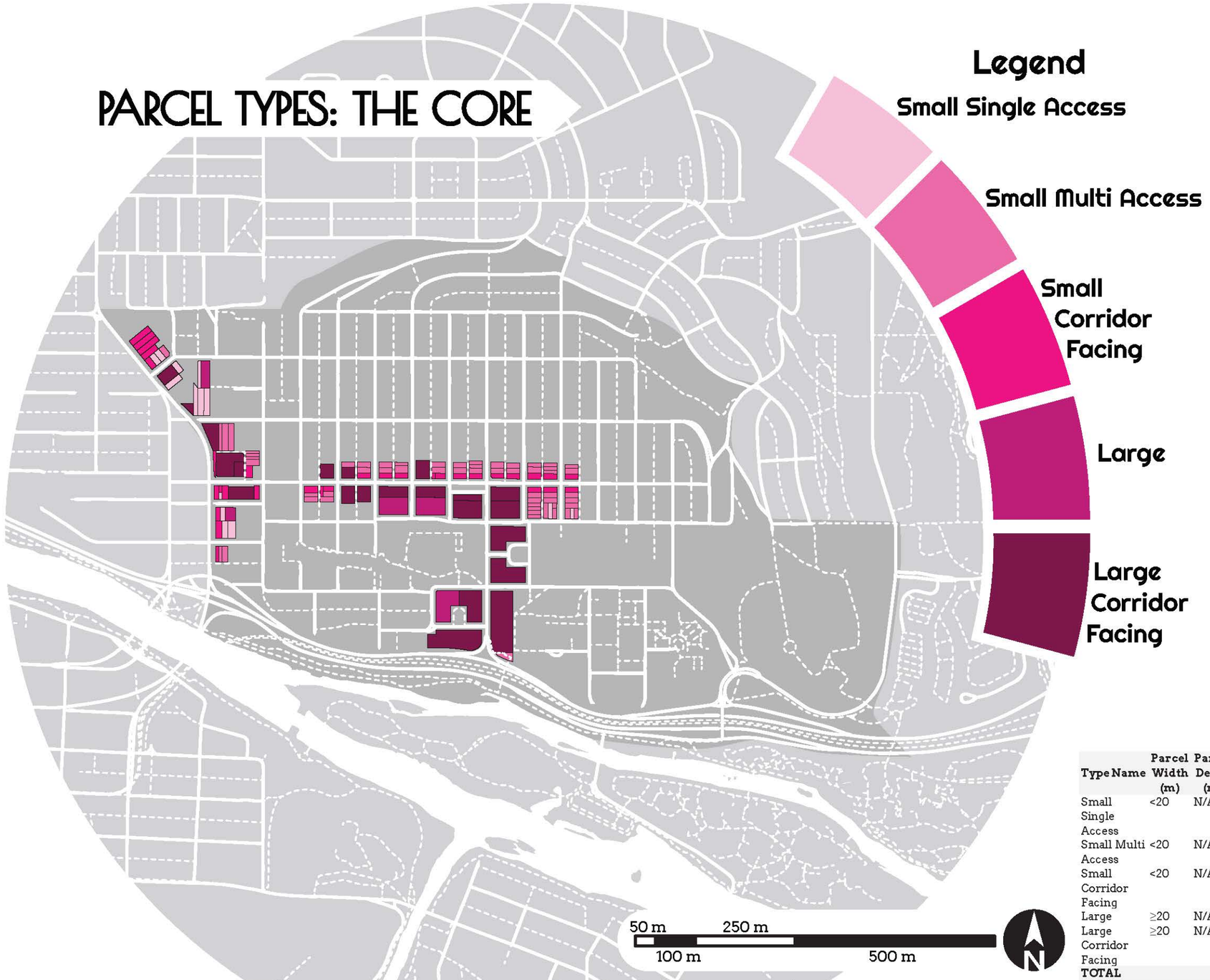
Over 20m wide

- Mid-rise buildings (5-10 stories) suggested
- Underground parking provided for at least 80% of units



- Grade-oriented units (townhouses) along minimum of first 2 stories of all street and lane faces except where building and parkade entrances required
- Minimum 4.5m of building face width per grade-oriented unit

PARCEL TYPES: THE CORE



Parcel Types and Design

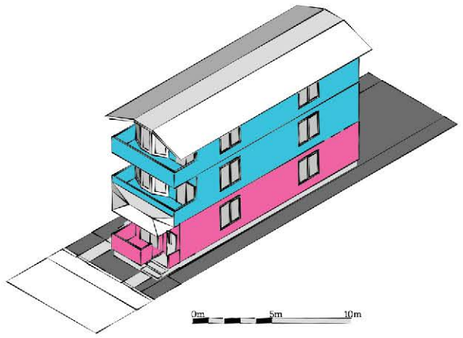
The Core comprises the main commercial corridors of Bridgeland-Riverside.

Parcels here have been divided into five types based on size,access to lanes or multiple streets, and access to corridors.

Design guidelines are intended to provide for an increase in population density and commerce while maintaining high-quality streets and facades.

Type Name	Parcel Width (m)	Parcel Depth (m)	Other Characteristics	Number of Parcels	Percentage of Parcels	Area of Parcels (m2)	Percentage of Area
Small Single Access	<20	N/A	Faces only one street or lane	14	10.9%	8169	7.0%
Small Multi Access	<20	N/A	Faces two or more streets or lanes	56	43.4%	23823	20.4%
Small Corridor Facing	<20	N/A	Faces a Corridor	32	24.8%	15158	13.0%
Large	≥20	N/A	N/A	5	3.9%	12629	10.8%
Large Corridor Facing	≥20	N/A	Faces a Corridor	22	17.1%	56791	48.7%
TOTAL				**129**	**100%**	**116570**	**100%**

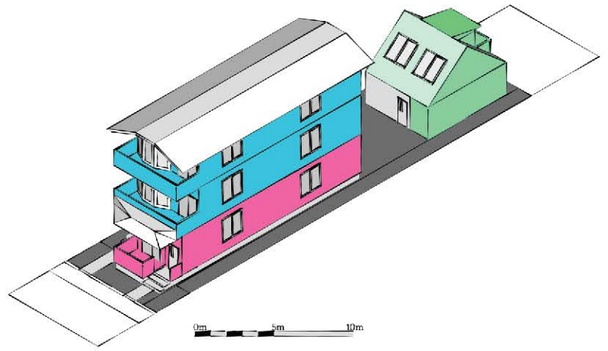
Small Single Access Parcels



Under 20m wide, on only one street or lane, not facing a corridor

- Maximum of two living units in the form of stacked units in the main building
- Transit-oriented parcels, no parking recommended

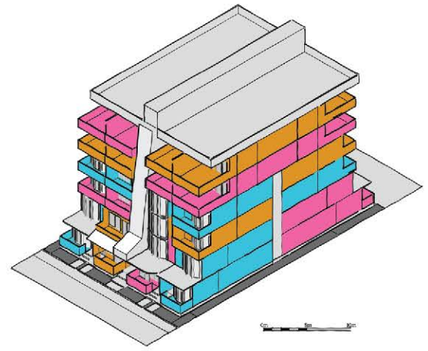
Small Multi Access Parcels



Under 20m wide, on at least two streets or a street and a lane, not facing a corridor

- Maximum of three living units in the form of two stacked units in the main building and a laneway house with as many car ports as width permits

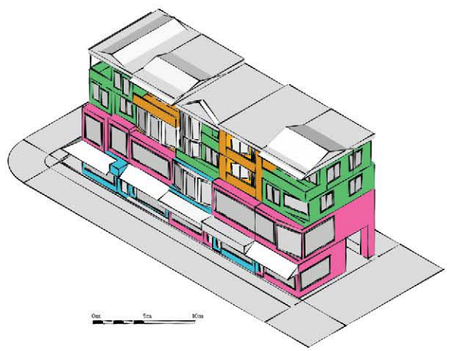
Large Parcels



Over 20m wide

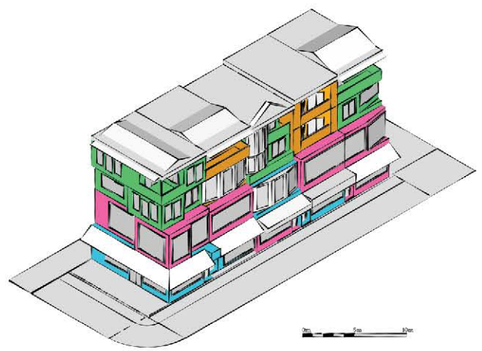
- Multiple grade-oriented units (e.g. row-houses) along street- and lane-facing edges
- Maximum of one unit for every 4.2m of building face

Small Corridor-Facing Parcels



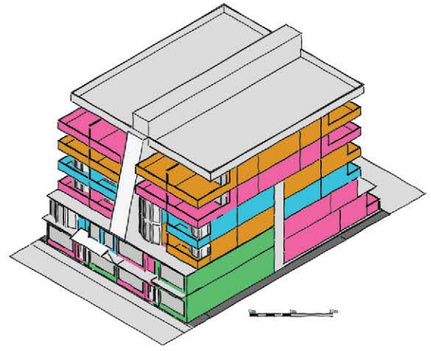
Under 20m wide, facing a corridor

- Low-rise (3-4 storeys) suggested
- Minimum 1 storey above grade should be commercial, oriented to corridor
- Mix of commercial and residential above 1st storey



- Car ports for residential units, but not commercial
- Low-rise (3-4 storeys) suggested

Large Corridor-Facing Parcels

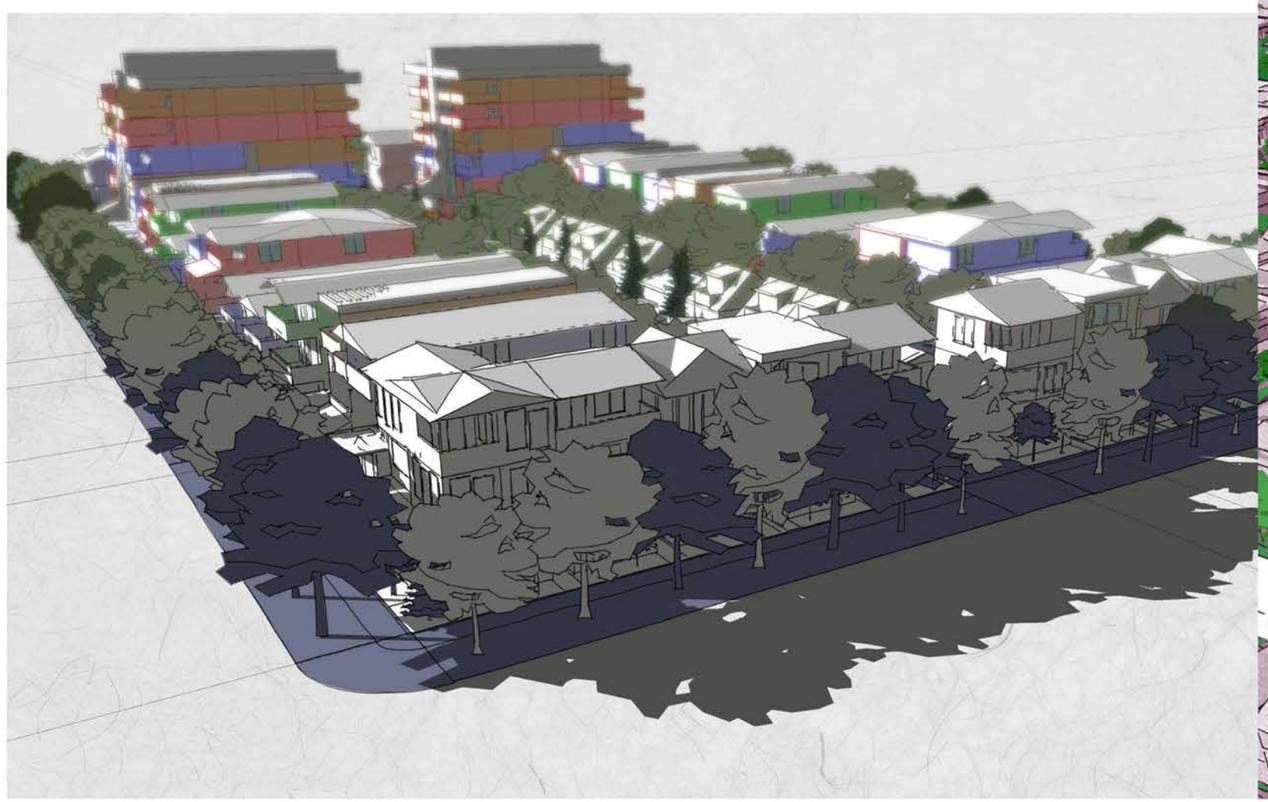


Over 20m wide

- Mid-rise (5-10 stories) suggested
- Underground parking provided for at least 80% of units

DENSITY PROJECTIONS

Concept image at full build-out of design guidelines

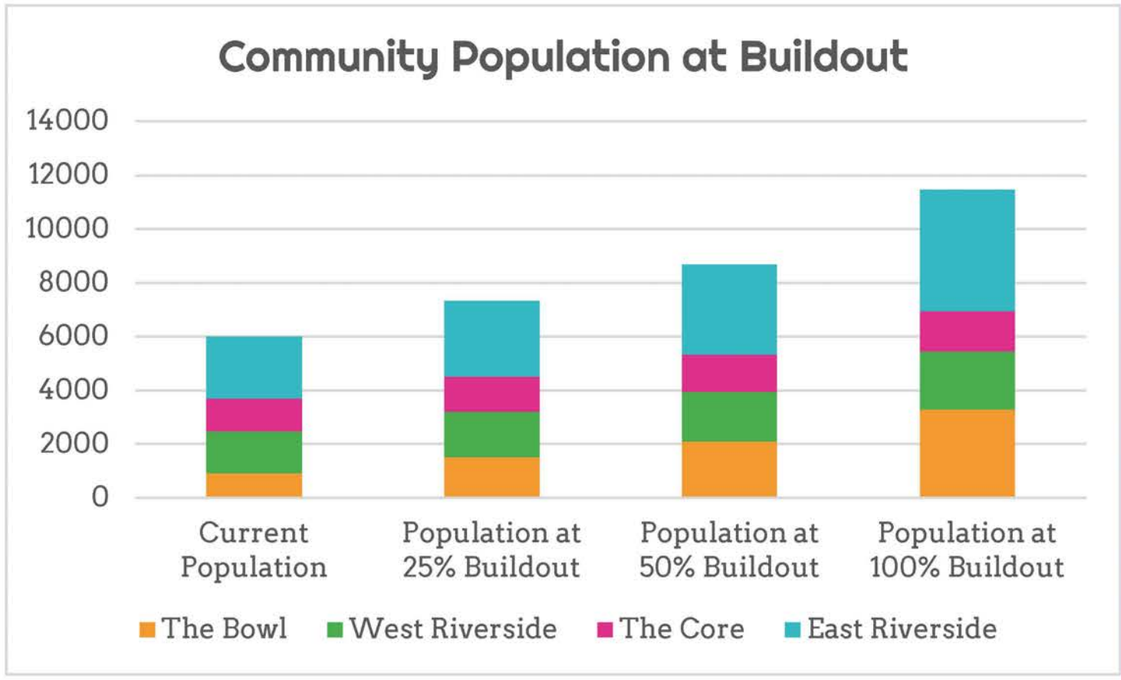


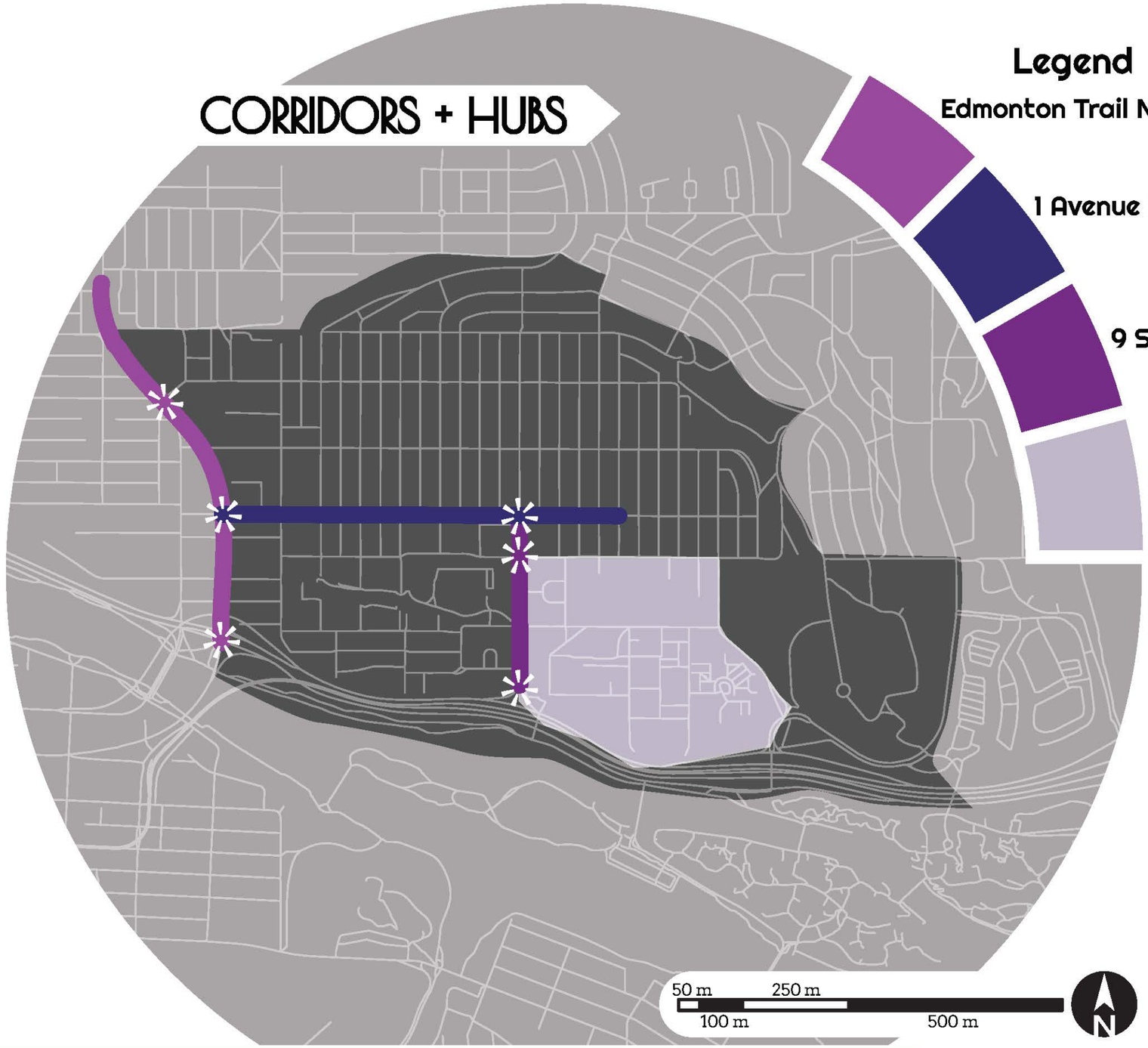
Projected Density

The images on these two pages show examples of what a block, a group of blocks, and the entire community might look like if it was built out according to the Infill and Redevelopment design guidelines.

The timeline for redevelopment of privately-owned parcels in the community is dependent on a number of unpredictable factors, such as the housing market, population migration, the job market, weather events, and changes in social norms. As such, it is impossible to know at what rate these changes may take place.

The chart on the right, however, shows our projections for the population of Bridgeland given various percentages of build-out of our design guidelines, and assuming similar patterns of habitation to what we find in Calgary today (see Appendix for more figures and calculations).





SECTION OVERVIEW

CORRIDORS + HUBS

Corridors and Hubs are the heart of a neighbourhood. Residents and visitors come to these places to eat, to shop, to play, and to work. They are ideal places for mixed use development and higher residential densities. It is important they boast a high-quality public realm, a range of amenities, and reflect the important characteristics of Bridgeland.

APPROACH

Purpose of Design Guidelines

The Corridors and Hubs design guidelines provide direction to built form and public realm elements throughout specific activity areas. Site specific examples and recommendations are listed to display particular elements that are recommended for implementation when community resources permit.

In addition to community led initiatives, when new developments occur, application of the listed examples should be incorporated into the design process in order to provide a strong sense of connectivity throughout the entire neighbourhood. For example, when parcels within specified corridors and hubs are undergoing redevelopment, application of relevant design guidelines should be applied in order to represent the intended character and function of a given area.

These design guidelines also provide the community with a means of assessing and evaluating the impact that new developments and projects will have on the public realm and street character within identified corridors and hubs.

Corridors & Hubs Approach

Bridgeland's corridors are the heart of the community's commercial and mixed-use activity:

Edmonton Tr NE: Acting as a transportation route connecting north Calgary to the downtown core, several shops and amenities are situated along this corridor. The design treatments along Edmonton Tr NE approaches it as a destination retail corridor, emphasizing stop and go vehicular traffic along the street. Ideal commercial includes retail elements such as sporting goods stores, and other destination type amenities.

1 Ave NE: The commercial heart of Bridgeland, 1 Ave NE is viewed as the community's "main street," where residents and visitors can spend a greater deal of time along the corridor from a pedestrian perspective. Ideal commercial along 1 Ave NE is intended to consist of congregating amenities such as coffee shops, restaurants, cafes, pubs, etc.

9 St NE: Incorporating elements of Transit Oriented Development (TOD) within Bridgeland, 9 St NE is a proposed addition to the existing corridors and hubs within Bridgeland. The addition of a corridor located adjacent to the Bridgeland-Memorial LRT station provides a direct connection to 1 Ave NE which creates a completed corridor of commercial activity all the way to Edmonton Tr NE. Ideal commercial amenities to be incorporated into 9 St include an urban format grocer, as well as upgrades to the Community Association such as a neighbourhood pub.

East Riverside: Large parcels within the southeastern district of Bridgeland will be undergoing a series of redevelopments in the near future. In order to better integrate this section of the community, a new outline plan will be discussed within the Guide. This plan will add amenities as well as improve the pedestrian experience in order to better integrate existing residents while also providing a new destination hub within Bridgeland.

SOURCE: https://c4.staticflickr.com/3/2440/3815499051_a5b60fd089.jpg

Wayfinding

Wayfinding refers to elements, such as signage and information points, which help people navigate through an urban environment. These can be artistic and informative focal points throughout active corridors.

- The community should consider including map stations identifying amenities along commercial corridors
- Additional sidewalk painting can help identify particular places of interest

SOURCE: http://wibiti.com/images/hpmain/140/291140.jpg

Frontages

Frontage guidelines help define the building storefront and its relationship to the street.

- Consistent sign band and large display banners are preferred across connecting storefronts
- Frontages should include proper displays, high visual permeability along the street, and seasonal decorations
- Where appropriate, awnings and other coverage elements should be incorporated to the design to provide a positive human-scale environment

SOURCE: http://casestudies.uli.org/wp-content/uploads/sites/98/2015/12/8-150203_jaa_skinker_street_lights_218.jpg

Lighting

Consistent street lighting should be incorporated in the activity corridors within Bridgeland to provide increased visibility for pedestrians, cyclists, and motorists.

- Lighting should be focused and directed to increase visibility and safety of the footpaths
- Signs and banners should be mounted on street lamps to indicate specific corridors (i.e. 1 Ave NE)
- Floor lighting to highlight storefronts should be present where possible

SOURCE: https://gardeninacity.files.wordpress.com/2013/01/dsc_0146.jpg

Canopy + Enclosure

Canopy and enclosure elements help frame the streetscape through either natural vegetation such as trees, or physical structures such as awnings.

- Tree planting should be incorporated along all corridor and hub streets where available
- Proper storefront canopies should be incorporated to better enclose the street environment (see ***Frontages***)

SOURCE: http://www.felgroup.co.nz/assets/entries/_entry/street-furniture.jpg

Street Furniture

Street furniture should be of a consistent style within corridors and hubs to contribute to a sense of place.

- Benches should be located at regular intervals along corridors (every 30m at minimum)
- Waste receptacles should be present at every street corner, and dispersed throughout all corridors and hubs where available
- When adjacent to cycling infrastructure, benches should incorporate cyclist parking where available (see ***Connections*** for a design example)

SOURCE: http://walkfirst.sfplanning.org/uploads/image001MiKing-South%20Orange%20NB9891.jpg

Pedestrian Crossings

Pedestrian crossings typically occur at block corners or at midpoints for longer length blocks.

- Curb extensions and bulb-outs should be incorporated at corridor street crossings where possible
- Crossings should be made visible through surface materials, marks, or paint
- Benches should be located at the endpoints of all street crossings (see Connections guidelines)

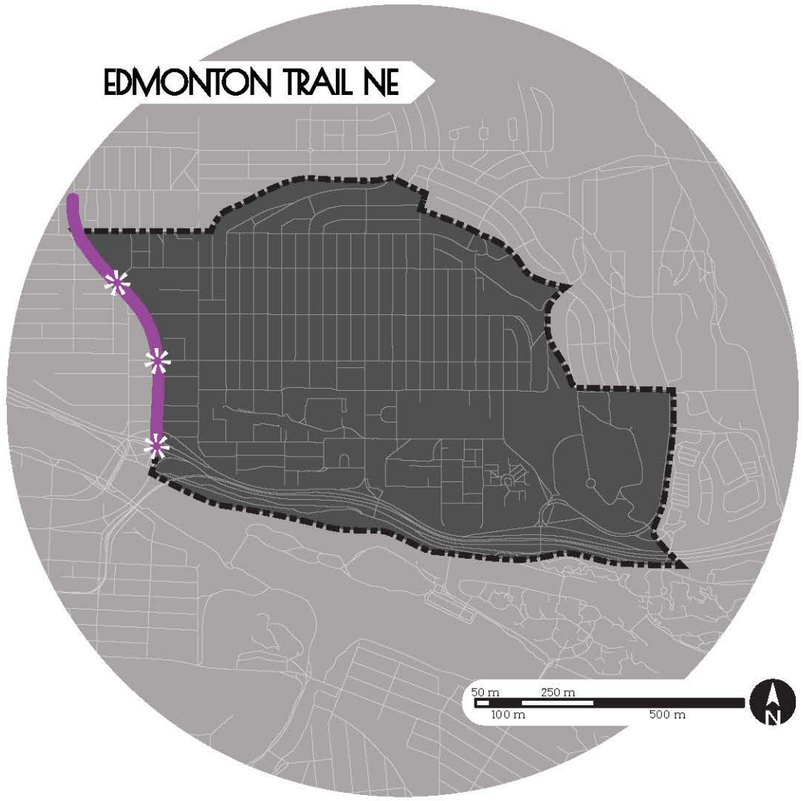
SOURCE: https://betterblocknewark.files.wordpress.com/2015/04/parklet3.jpg

Patios + Parklets

Patios are gathering areas located along the street which incorporate chairs, tables, or other elements for patrons/pedestrians to socialize, rest, consume food or drink, etc. Parklets refer to small public open spaces where pedestrians may congregate or rest in a more inviting setting.

- Patios and parklets should be made available in corridors and hubs wherever space and resources permit

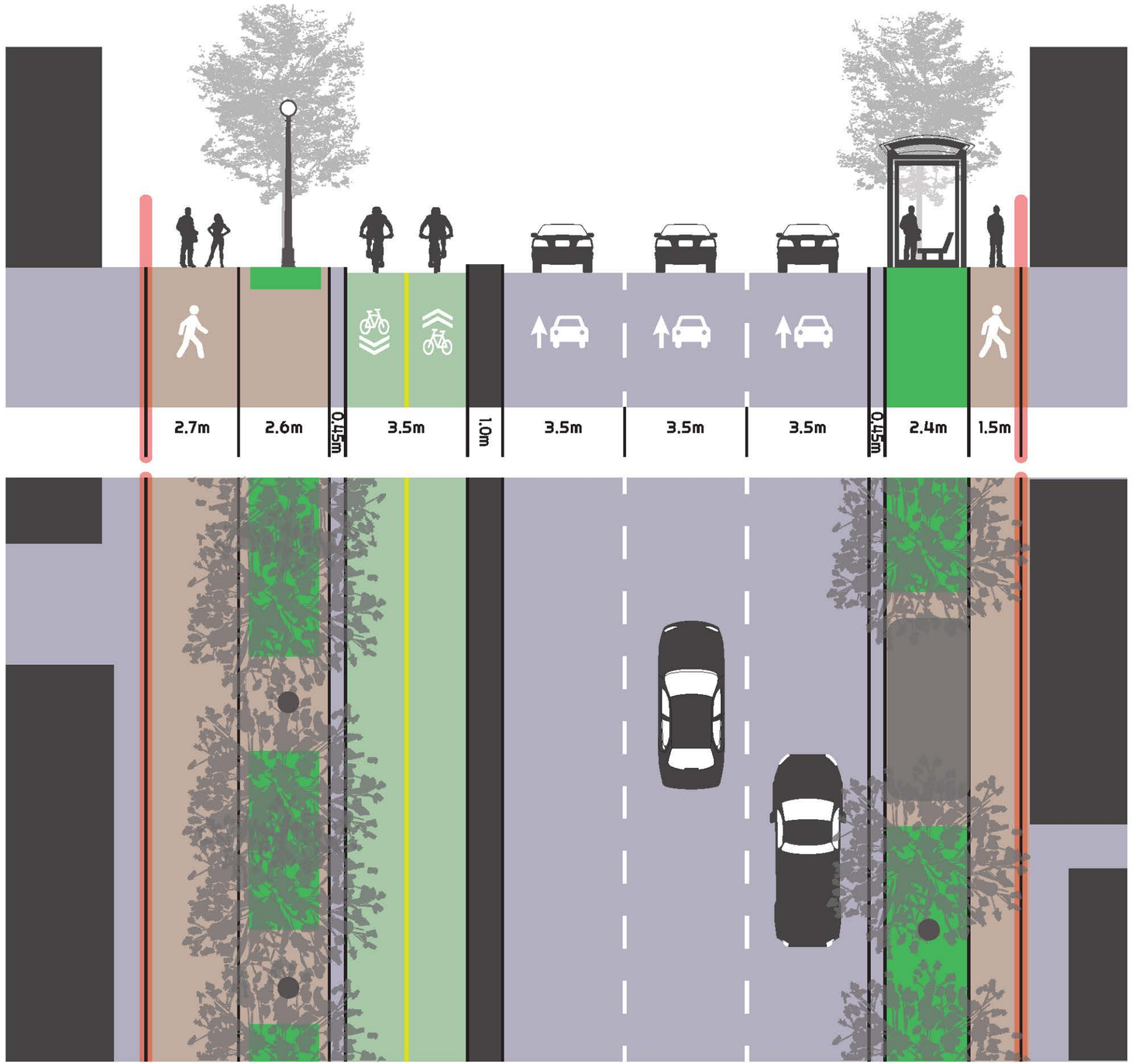
SOURCE: www.cityofboston.gov/transportation/parklets.asp

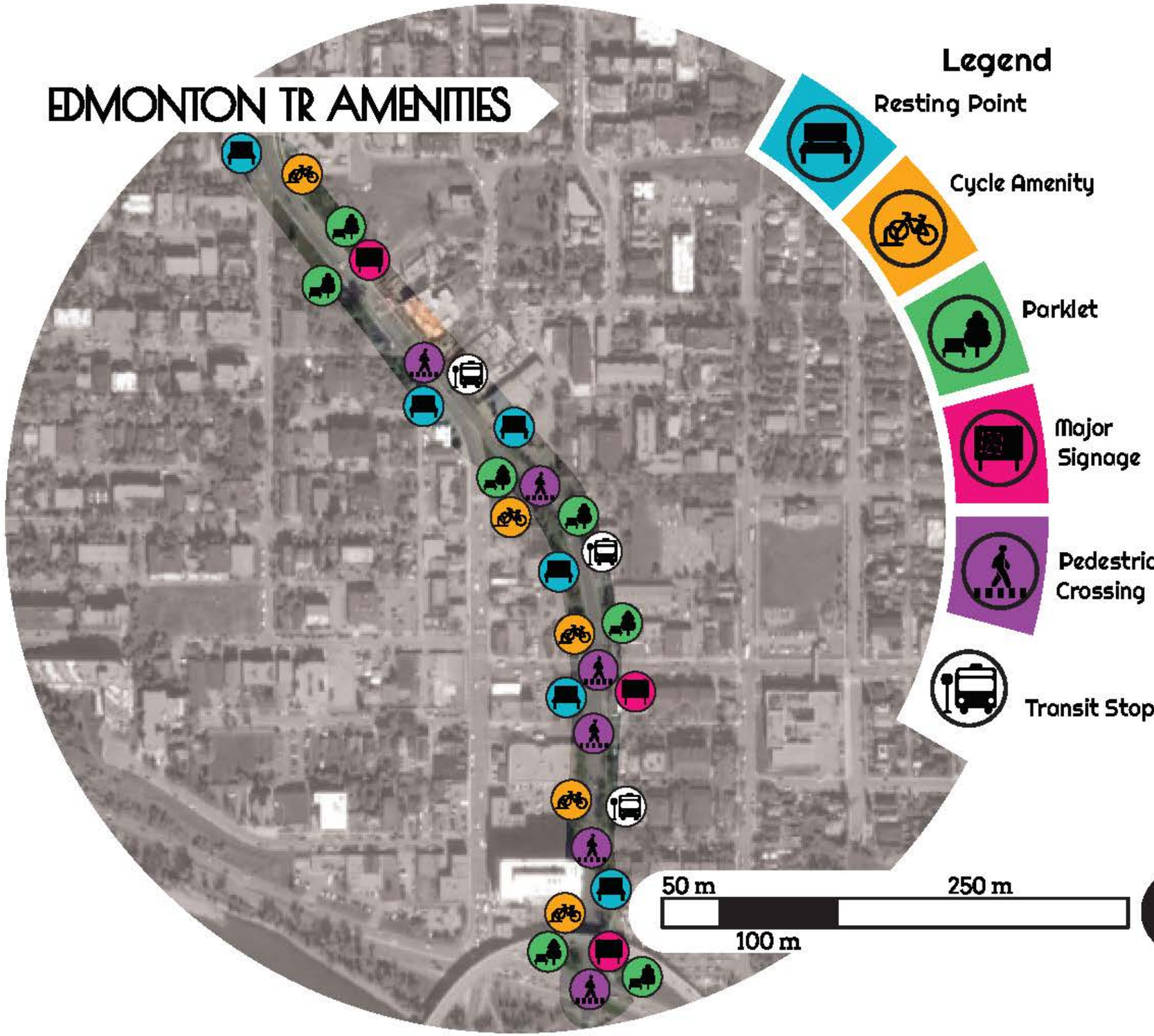


Edmonton Trail NE is a high traffic thoroughfare connecting Downtown, Bridgeland, and communities to the north. As it accommodates heavy traffic volume, it is important to have a marked gateway to 1 Avenue NE and Bridgeland.

Alterations to Edmonton Trail NE allow the road to continue function as an automobile route while improving the experience for other modes through:

- Well designed mixed use and higher density buildings, with improved frontages and street wall (see ***Design Guidelines***) and a decrease in auto-oriented commercial design;
- Bus shelter improvement at Northbound Edmonton Trail @ Meredith Road NE Bus Stop;
- Bicycle lane for multi-modal access to and from downtown.





Application of Design Guidelines

Each icon listed in alongside the map (left) represents a location where specific design guideline treatments should best be applied. Items of note include:

SOURCE: Google Earth

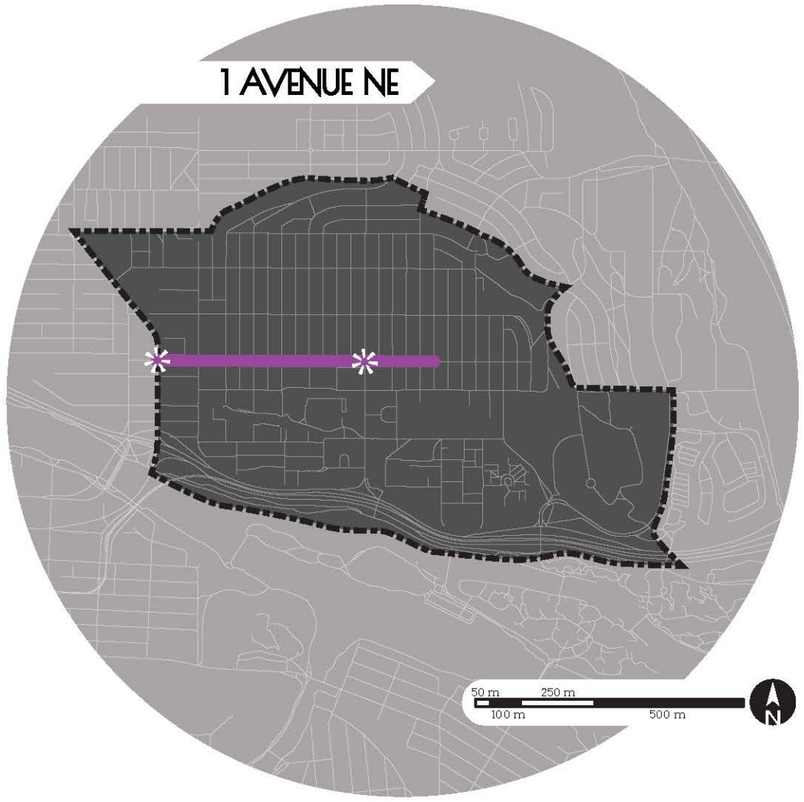
Gateway to 1 Ave NE

To properly brand 1 Ave NE as a main street corridor for the community of Bridgeland, a distinct sign should be located welcoming residents and visitors to the corridor. This should be done in consultation with members of the community.

SOURCE: http://www.autofocus.ca/news-events/blogs/hey-premier-walk-facing-traffic

Increased Crossing Times

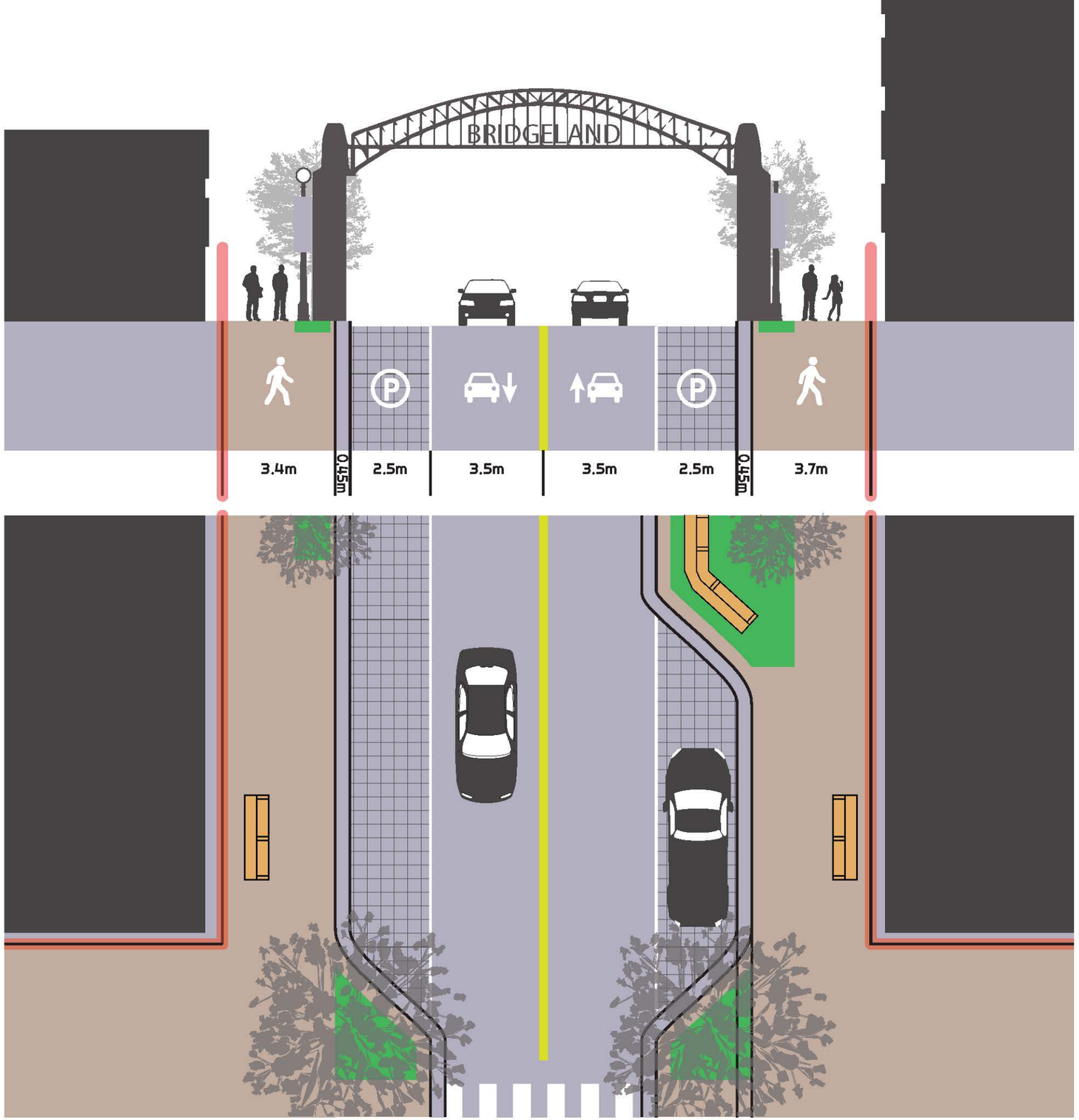
Crossing durations should be increased to accommodate physically challenged persons. These notifiers should include both audio and visual cues to assist those who need additional time to cross.

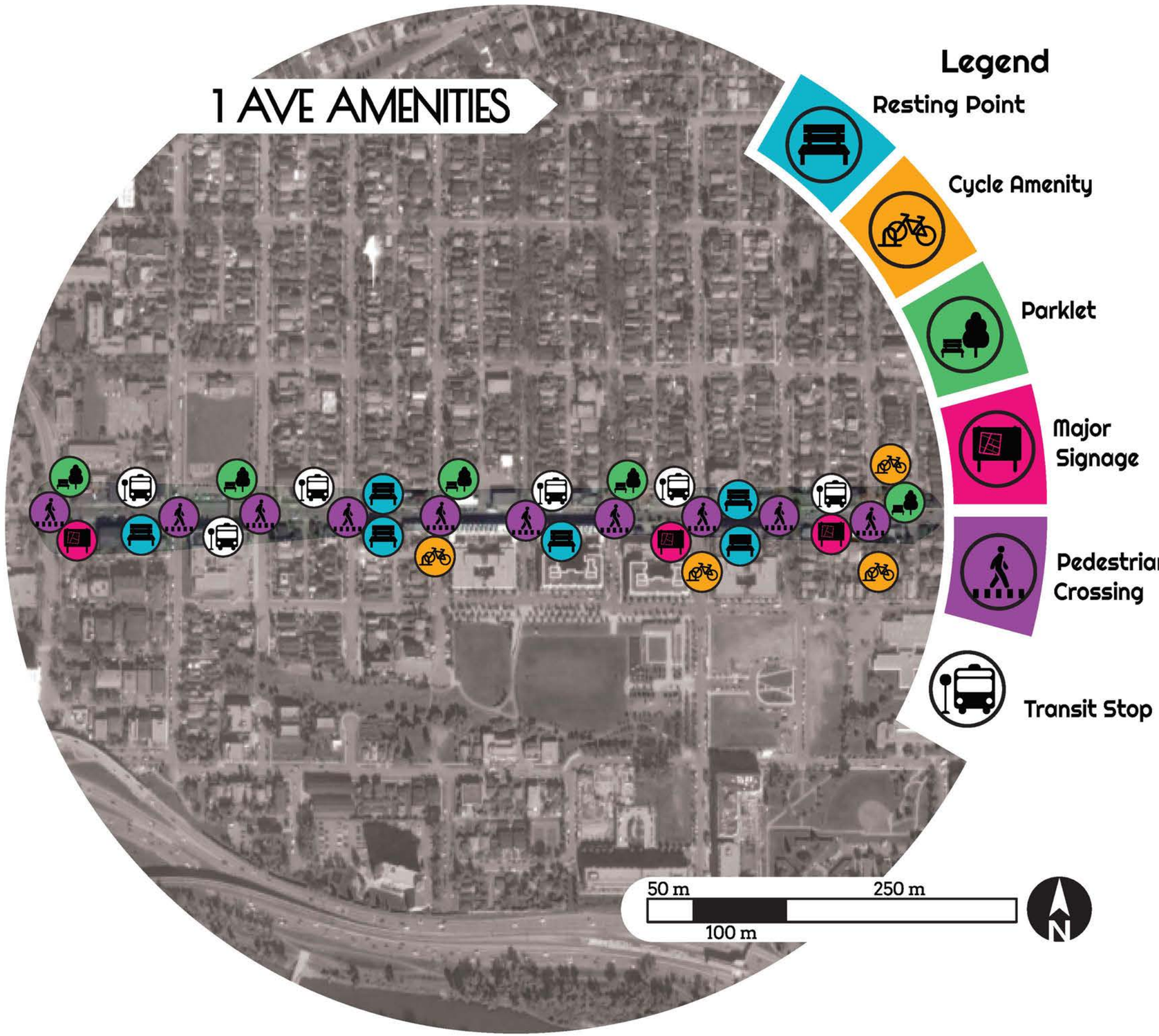


1 Avenue NE is Bridgeland's main street. It is a focal place for retailing and socializing. The City of Calgary's *Main Streets Program* is in the processes of determining a vision for future development of 1 Avenue NE.

Towards creating a memorable and enjoyable main street, the proposed 1 Avenue NE design contains:

- A range of amenities;
- Back-in angle parking;
- An aesthetically pleasing streetscape with trees, lighting, and distinct permeable paved parking lanes;
- Bulbed intersections and wide sidewalks for a safe pedestrian experience;
- Well designed mixed use and higher density buildings (see ***Design Guidelines***);
- Placemaking strategies; and,
- Parklets, patios, and street furniture encouraging vibrancy and sociability of the space.





Application of Design Guidelines

Each icon listed in alongside the map (left) represents a location where specific design guideline treatments should best be applied. Items of note include:

SOURCE: https://betterblocknewark.files.wordpress.com/2015/04/parklet3.jpg

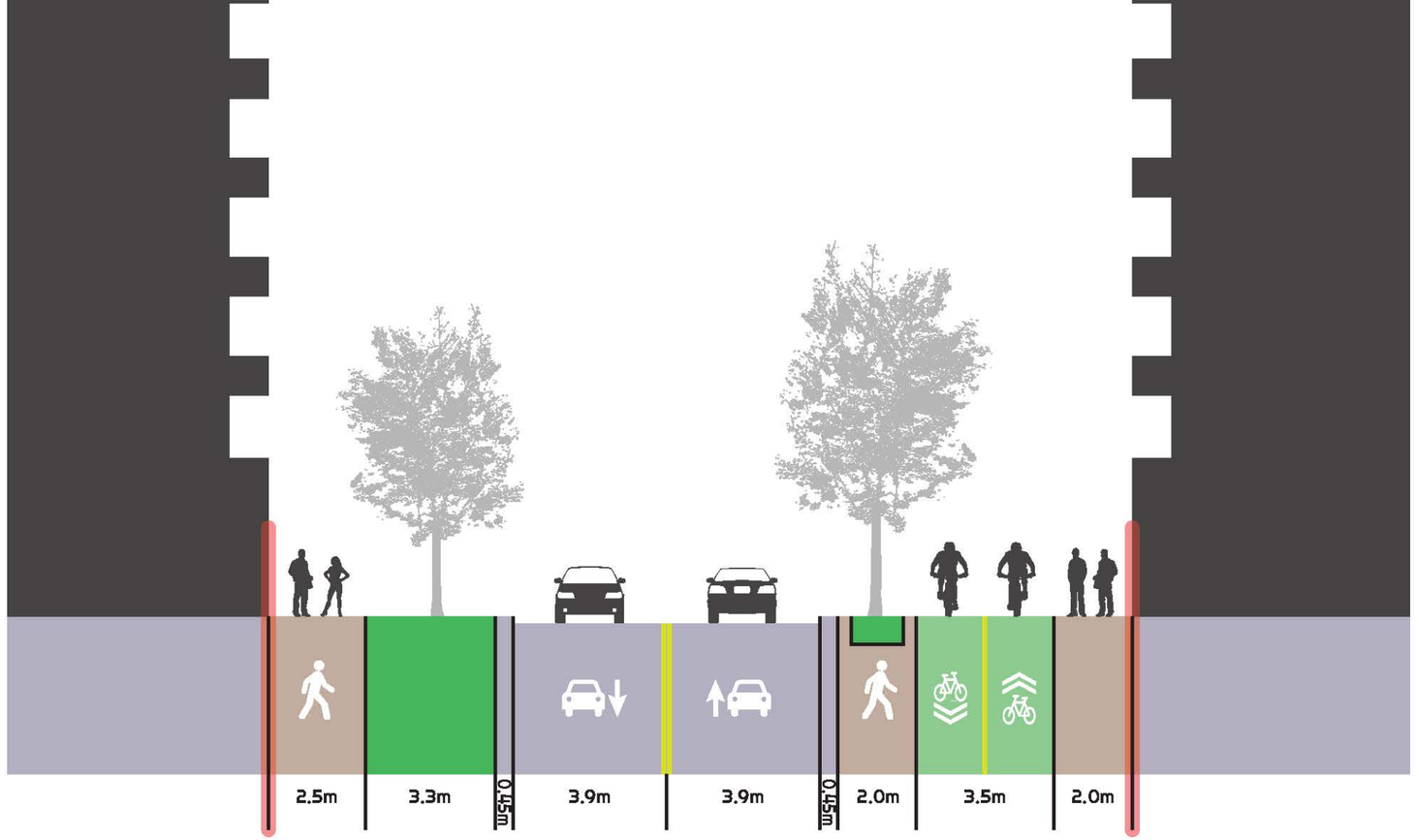
Inclusion of Parklets

For a minimal encroachment to parking availability along 1 Ave NE, small parklets can be added to further enhance the pedestrian environment along the commercial corridor.

SOURCE: http://www.mapc.org/sites/default/files/images/smartgrowth/transportation/866.JPG

Adjacent Cycling Parking

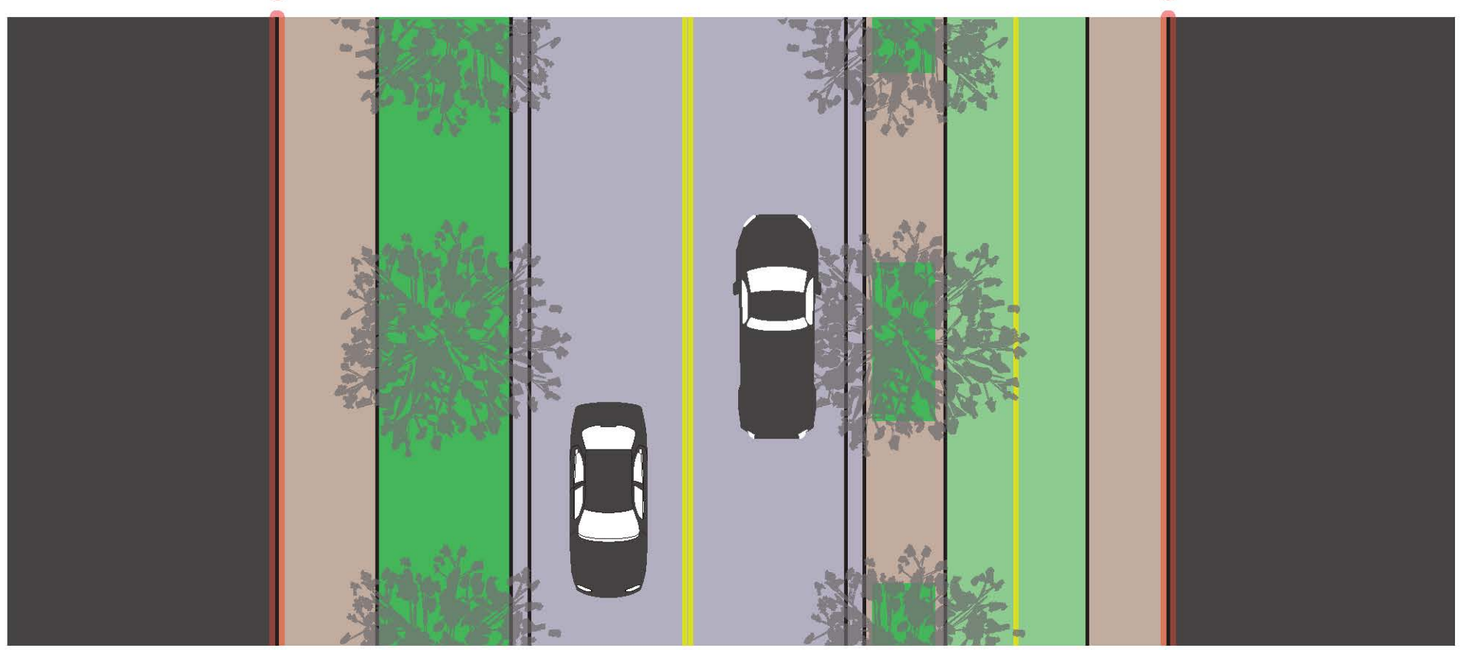
Providing nearby cyclist parking structures will increase the accessibility of the 1 Ave NE corridor for multiple modes of access. Facilities will be situated at the endpoints of cycling lanes which approach the commercial corridor.

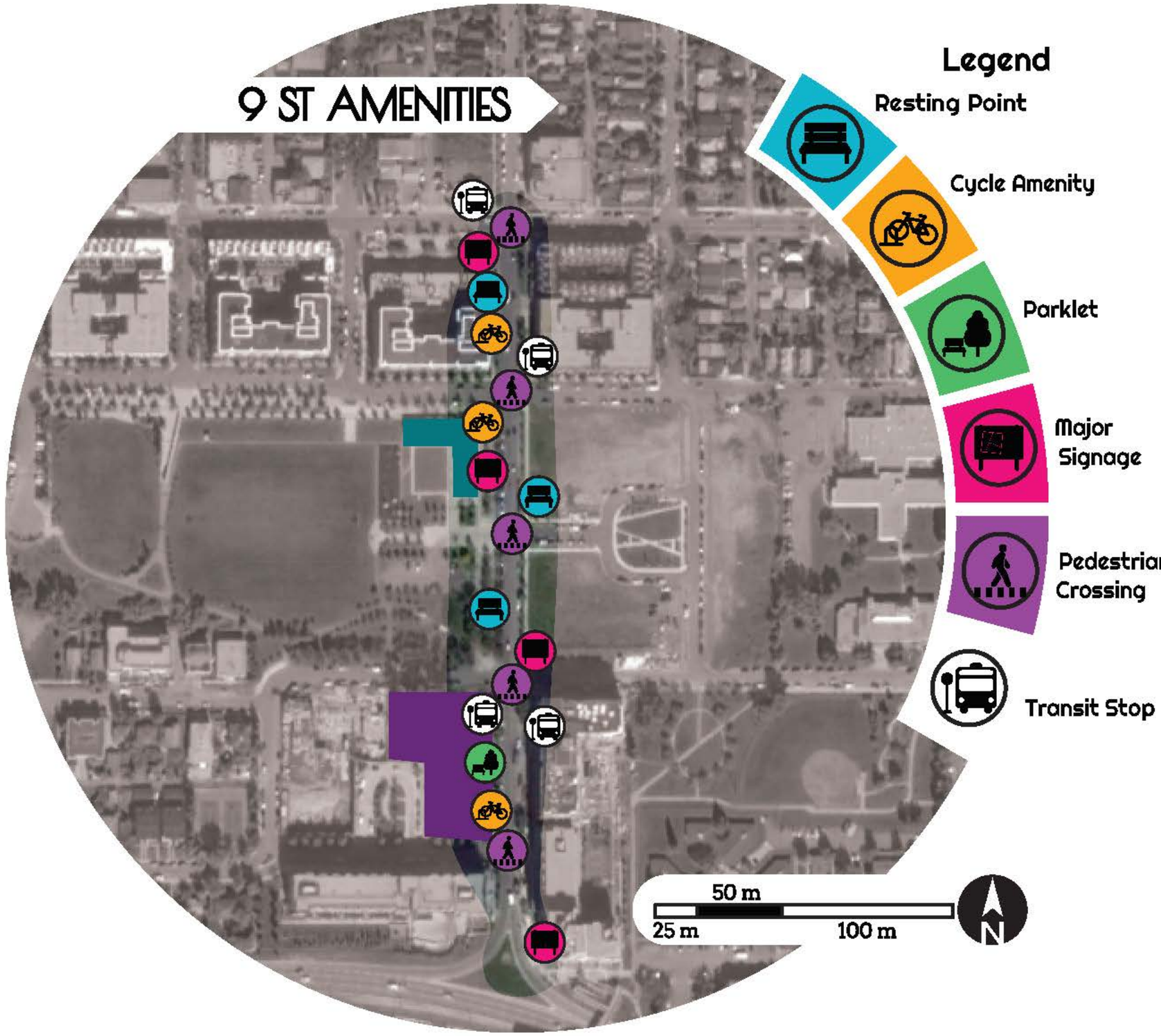


9 Street NE connects 1 Avenue NE's main street corridor with Bridgeland Station. By extending some amenities (such as a grocery store) along 9 Street NE and improving the public realm, visitors and residents to Bridgeland can have a positive experience traveling to and from the LRT.

9 Street NE already has a strong public realm but improvements can be made by:

- Amenity provision;
- Distinct permeable paved parking lanes
- Well designed mixed use and higher density buildings, with improved frontages and street wall (see ***Design Guidelines***); and,
- Raised bicycle lanes connecting the Centre Avenue parkway and Bridgeland Station.





Application of Design Guidelines

Each icon listed in alongside the map (left) represents a location where specific design guideline treatments would best be applied. Items of note include:

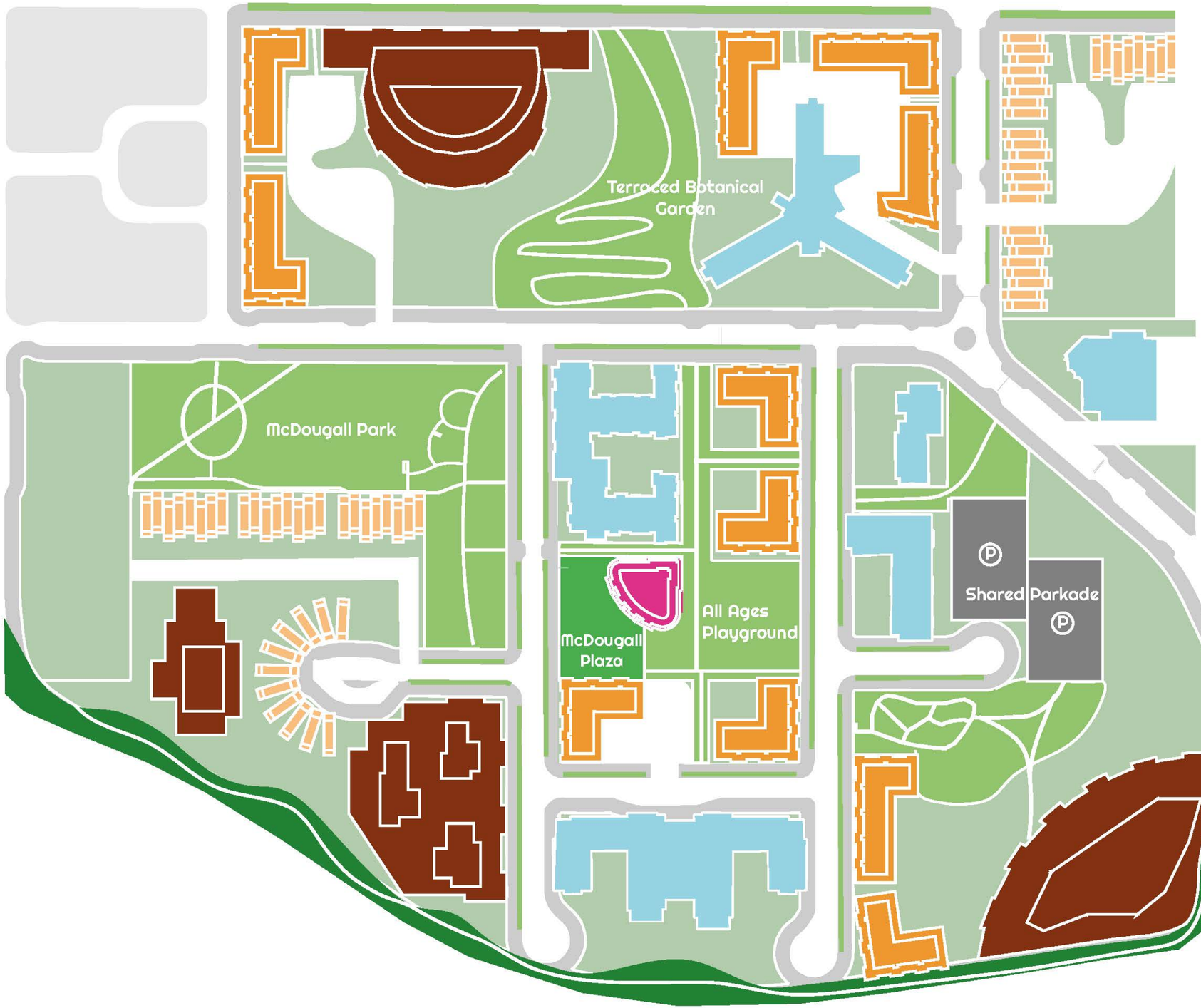
Bridgeland Community Hall

The potential exists to upgrade the community association hall to include a neighbourhood pub, or small restaurant. This would add more vitality and activity to the 9 St NE corridor, further strengthening the link between 1 Ave NE and the LRT Station.

SOURCE: http://urbanplacesandspaces.blogspot.ca/2012_07_01_archive.html

Urban Format Grocer

The undeveloped parcel near the Bridgeland-Riverside LRT station has the potential to incorporate an small, urban format grocer. Incorporating it adjacent to the LRT station will increase its coverage to residents outside Bridgeland, thus increasing its viability.



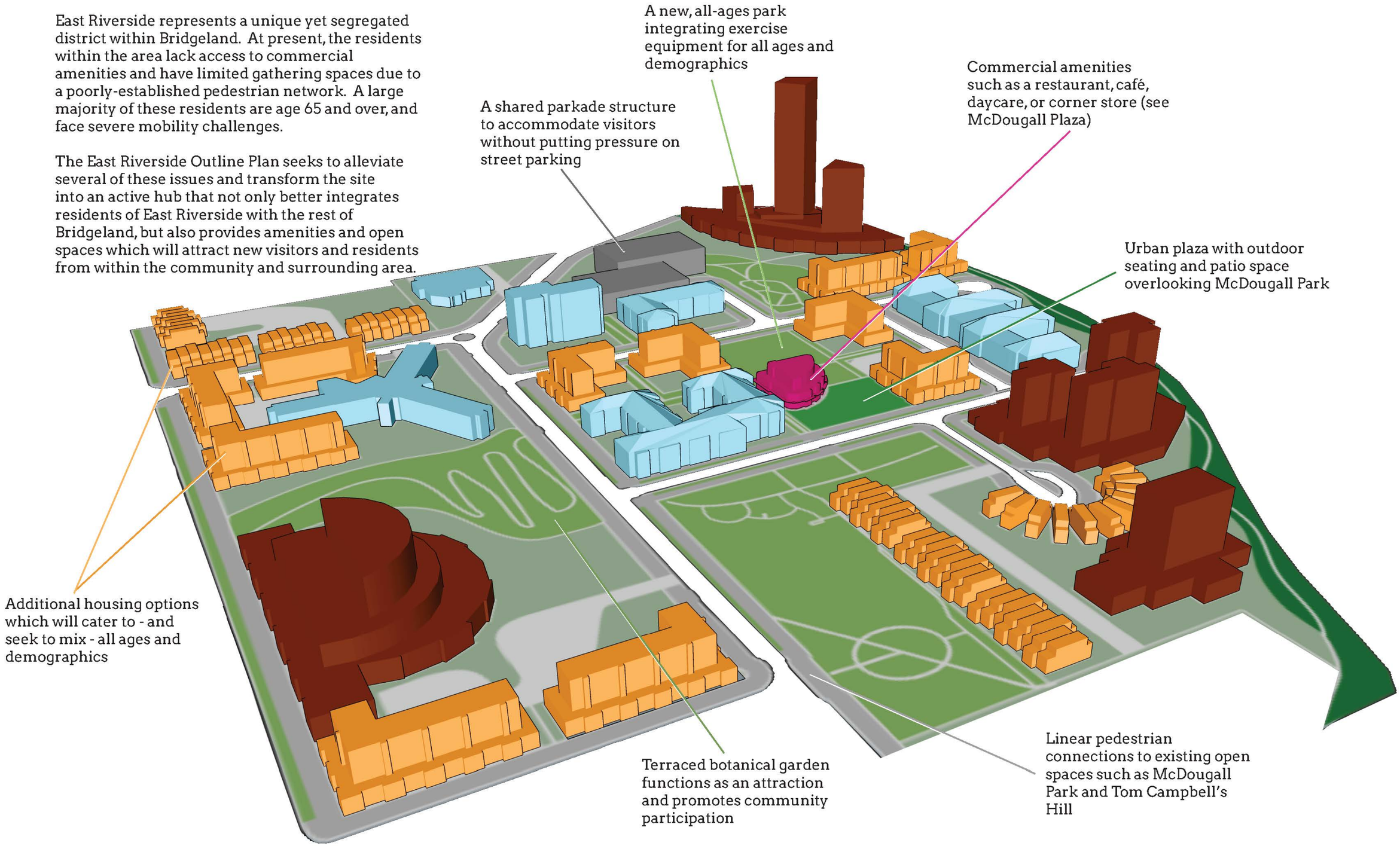
Legend

- Low Density Multi-Family (Row-house)
- Medium Density Multi-Family
- High Density Multi-Family/ Institutional
- Mixed-Use with Grade Oriented Retail
- Public Park
- Public Plaza
- Parkade
- Existing Building
- Memorial Drive Green Corridor Buffer

Plan Features

East Riverside represents a unique yet segregated district within Bridgeland. At present, the residents within the area lack access to commercial amenities and have limited gathering spaces due to a poorly-established pedestrian network. A large majority of these residents are age 65 and over, and face severe mobility challenges.

The East Riverside Outline Plan seeks to alleviate several of these issues and transform the site into an active hub that not only better integrates residents of East Riverside with the rest of Bridgeland, but also provides amenities and open spaces which will attract new visitors and residents from within the community and surrounding area.



MCDOUGALL PLAZA

SOURCE: https://www.andropogon.com/assets/Projects/Academic/Thomas-Jefferson-University-Plaza/Thomas-Jefferson-University03.jpg

Recommended Amenities

Cafe/Coffee Shop

A coffee shop/cafe location within McDougall Plaza will allow for stop and go traffic to congregate in the large open space located adjacent to the building. Ample outdoor seating will add to the functionality of the venue.

Book Store/Record Store

A community bookstore with a diverse selection offers residents and visitors of a wide range of interests and demographics an opportunity to convene, and share recommendations.

Corner Store

Increased accessibility to daily goods such as milk, cheese or bread will limit the need for residents to embark on longer trips to larger grocery stores. This will be of benefit to all residents, but especially those with mobility issues.

Salon

Salons not only provide a service for beautification purposes, but also a place to congregate and socialize.

Day Care

A community day care which includes senior citizens as volunteers and in activities provides a needed amenity to working parents within the community, while also helping to bridge generational gaps.

Vintage & Thrift Clothing Store

A vintage/thrift clothing store caters not only to those with lower financial incomes, but attracts a wide variety of fashion conscious clientele.

Gym

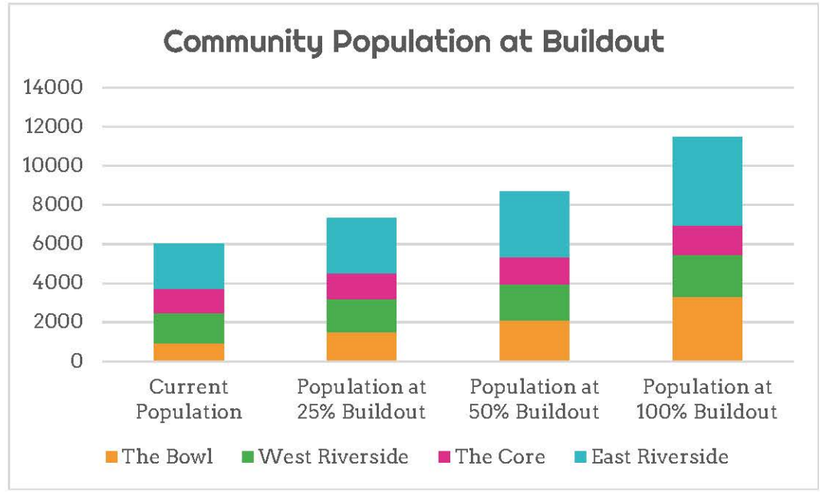
Access to a workout facility will be of great benefit to residents, as well as employees of the health service institutions located within East Riverside. This will promote healthy, active lifestyles, while catering to a diverse population.

Restaurant/Diner

A restaurant/diner not only provides needed food service within East Riverside, but also provides visitors of seniors a nearby venue for outings.

APPENDIX A: CALCULATIONS

District	Type	Type Name	Parcel Width (m)	Parcel Depth (m)	Other Characteristics	Number of Parcels	Percentage of Parcels	Area of Parcels (m2)	Percentage of Area	Current Population per Parcel	Buildout Population per Parcel	Current Population	Population at 25% Buildout	Population at 50% Buildout	Population at 100% Buildout
The Bowl	1	Small Laned	<13	≥30	N/A	347	45.1%	121583	38.0%	1	2	347	433.75	520.5	694
The Bowl	2	Standard Laned	13 to 15	≥30	N/A	199	25.8%	89922	28.1%	1.2	5	238.8	427.85	616.9	995
The Bowl	3	Wide Laned	>15	≥30	N/A	37	4.8%	22782	7.1%	2.2	7	81.4	125.8	170.2	259
The Bowl	4	Corner	N/A	N/A	Faces two or more streets or lanes which intersect	129	16.8%	56292	17.6%	1.5	10	193.5	467.625	741.75	1290
The Bowl	5	Short or No Lane	N/A	<30	Either shorter than 30 meters, or only faces one street or lane	58	7.5%	29342	9.2%	1	1	58	58	58	58
The Bowl		**TOTAL**				**770**	**100%**	**319921**	**100%**			**918.7**	**1513.025**	**2107.35**	**3296**
West Riverside	1	Small Single Access	<13	N/A	Faces only one street or lane	39	17.4%	10940	8.7%	1.5	2.2	58.5	65.325	72.15	85.8
West Riverside	2	Small Multi Access	<13	N/A	Faces two or more streets or lanes	70	31.3%	24408	19.3%	1.8	3.2	126	150.5	175	224
West Riverside	3	Medium Single Access	13 to 20	N/A	Faces only one street or lane	23	10.3%	12513	9.9%	6	4	138	126.5	115	92
West Riverside	4	Medium Multi Access	13 to 20	N/A	Faces two or more streets or lanes	63	28.1%	31045	24.6%	8	12	504	567	630	756
West Riverside	5	Large	>30	N/A	N/A	29	12.9%	47421	37.5%	25	34	725	790.25	855.5	986
West Riverside		**TOTAL**				**224**	**100%**	**126327**	**100%**			**1551.5**	**1699.575**	**1847.65**	**2143.8**
The Core	1	Small Single Access	<20	N/A	Faces only one street or lane	14	10.9%	8169	7.0%	1.5	2.2	21	23.45	25.9	30.8
The Core	2	Small Multi Access	<20	N/A	Faces two or more streets or lanes	56	43.4%	23823	20.4%	1.8	3.2	100.8	120.4	140	179.2
The Core	3	Small Corridor Facing	<20	N/A	Faces a Corridor	32	24.8%	15158	13.0%	1	7	32	80	128	224
The Core	4	Large	≥20	N/A	N/A	5	3.9%	12629	10.8%	40	40	200	200	200	200
The Core	5	Large Corridor Facing	≥20	N/A	Faces a Corridor	22	17.1%	56791	48.7%	40	40	880	880	880	880
The Core		**TOTAL**				**129**	**100%**	**116570**	**100%**			**1233.8**	**1303.85**	**1373.9**	**1514**
East Riverside		**TOTAL**				**14**						**2292**	**2804**	**3348**	**4523**
All Districts		**TOTAL**				**1123**						**5996**	**7320.45**	**8676.9**	**11476.8**



APPENDIX B: GLOSSARY

Accessibility: the usability of a facility or service by people of differing mobility and abilities.

Build-out: Development of land to its fullest capacity under proposed guidelines.

Built Environment, Built Form: Buildings, roads, parks, and other features constructed by people.

Community Character: the image of a community as defined by factors such as built form, environment, history, amenities, and activities.

Cycleway, Cycle Track, Cycle Lane: a right-of-way dedicated to bicycle transport. These may be at street grade, raised to sidewalk grade, or in green spaces.

Footpaths: any right-of-way intended primarily for pedestrians, including park paths, regional paths, and sidewalks.

Inlet: A place or means of entry. Inlets for cycling lanes referred to in the document constitute a means of entry to 1 Ave NE, without a direct cycling lane connection present within the corridor.

Interstitial: An interstitial space is an intermediate space located between regular-use areas, such as the space between a large road and the adjacent neighbourhood Interstitial spaces within Bridgeland refer to the green space between developments within the community and Memorial Dr NE.

Motorway: a right-of-way intended primarily for motorized vehicles such as cars, trucks, and buses.

Planning districts: distinct regions of Bridgeland-Riverside with different needs and conditions:

> **The Bowl:** the low-density residential district to the north;
> **West Riverside:** the higher-density residential district to the south and west;
> **The Core:** the community's commercial corridors;
> **East Riverside:** the institutional district in the south-east.

Open Space: All open space of public value, including not just parks, but also other natural areas, public plazas, and civic spaces (such as St. Matthew's Square).

Outline Plan: A preliminary plan which outlines the major features or principles of a particular area. Outline plans are less detailed, but larger than site plans. They are also smaller but slightly more detailed than master plans.

Right-of-way: a linear area of land reserved for transportation purposes, e.g. a street or path.

Sustainable Development: Infrastructure or developments which incorporate environmentally conscious attributes. Permeable pavement aids in stormwater management and controls water on site. This is an example of sustainable infrastructure.

TOD: Transit-Oriented Development, a style of mixed-use development designed to maximize access to public transit.

Urban Agriculture: Use of land for the growing of crops and production of food and fiber within a city environment.

APPENDIX C: LIST OF FIGURES

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