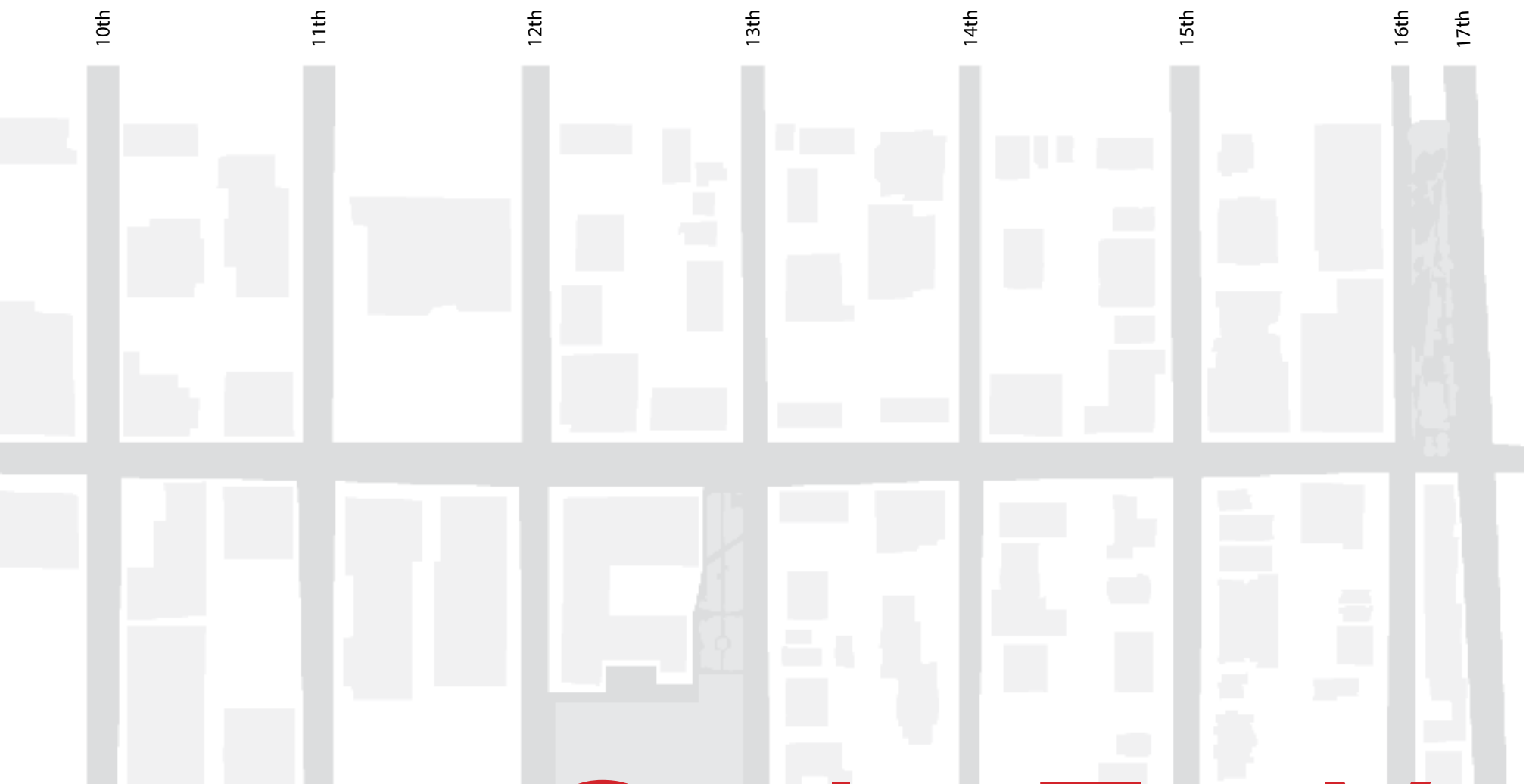




F R O M T H E **R I V E R**

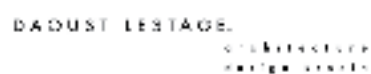
8TH STREET CORRIDOR Public Realm Master Plan

OCTOBER 2016



T O T H E C I T Y

In collaboration with:



SCATLIFF + MILLER + MURRAY



G.FERGUSON

8TH STREET CORRIDOR MASTER PLAN

TABLE OF CONTENTS

PART 0: EXECUTIVE SUMMARY

0.1	Executive Summary	2
-----	-------------------	---

PART 1: INTRODUCTION

1.1	8th Street Master Plan Process	6
1.2	A Vision for 8th Street	8
1.3	The Facts About 8th Street	10
1.4	Master Plan Approach & Guiding Principles	12
1.5	The 6 Key Physical Components	14

PART 2: UNDERSTANDING & DESIGNING 8TH STREET

2.1	Movement Systems	18
2.2	Street Organization	22
2.3	Public Realm Design Elements	28
2.4	Open Spaces	36
2.5	Buildings and Interfaces	38
2.6	Public Art	40
2.7	Coordination and Integration with City Standards	42

PART 3: 8TH STREET MASTER PLAN

3.1	Illustrative Master Plan	44
3.2	Phase 1: City Link Center Precinct	46
3.3	Phase 2: Beltline Village South Precinct	56
3.4	Phase 3: Tomkins Square South Anchor	60
3.5	Phase 4: Riverfront North Anchor	64
3.6	Phase 5: City Square North Precinct	68
3.7	Master Plan Elements	72

PART 4: PHASING AND BUDGET ESTIMATE

4.1	Phasing and Budget Estimate	80
-----	-----------------------------	----

PART 5: IMPLEMENTATION STRATEGY & APPENDICES

5.1	High Level Traffic Impact Assessment	82
5.2	Utility Conflict Assessment	84
5.3	Underpass Conceptual Analysis	88
5.4	Underpass Structural Assessment	92
5.5	Summary of Pertinent Policy & Guiding Documents	94
5.6	Engagement Summary	96
5.7	Public Art Integration	102

0.1

Master Plan Executive Summary

8th Street W, between 17 Avenue and the Bow River, is a corridor where today many people pass through, mostly in their vehicles and many on foot. The Centre City Plan envisioned 8th Street as a downtown linkage in the urban fabric that connects people and places. When it realizes this full potential, 8th Street will become a destination that attracts people and the investment that follows them.

The following pages capture details of the unique nature and redevelopment potential of the 8 Street Corridor. The content includes summaries of the planning work completed, conclusions reached and recommendations being made for implementing upgrades that were determined by a multi-discipline urban design project team. This document captures the vision and details necessary to guide the important steps of renewing this corridor as a key linkage in the Centre City network and a place for everyone.

The 8th Street Corridor Master Plan Study included a large number of stakeholders who were engaged over a three year period. The work was a true collaborative effort, involving citizens representing regular corridor users, area residents and businesses; and City staff representing most major departments. Group and one-on-one sessions were conducted with these stakeholders to understand the unique aspects of the corridor and to arrive at a collective vision and key principles to be followed in its redevelopment.

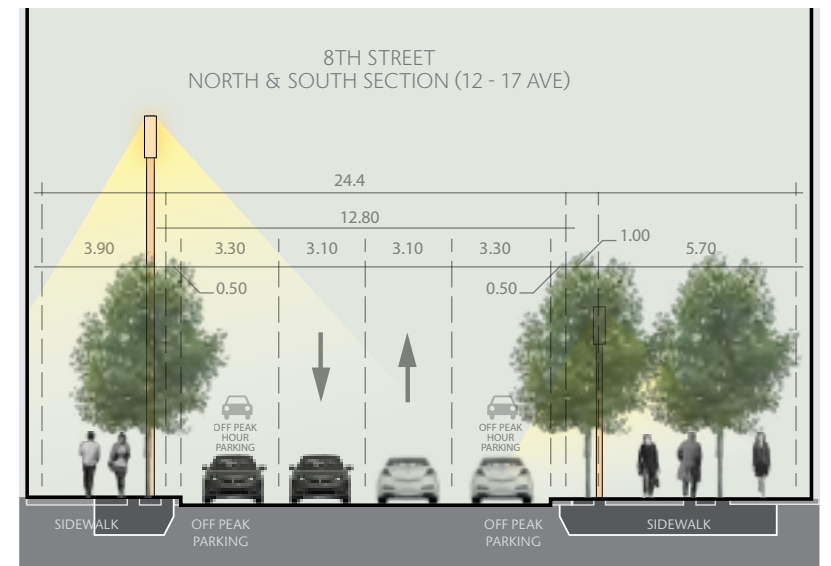
The design team used this critical input to identify signature elements, which are the building blocks or DNA of the street. Precedent features were considered and specific materials and layouts were identified to bring character to the corridor. And one critical feature was investigated extensively, that being allocation of space in the cross section to accommodate the various users. In the end additional public realm space was created and some sections of bike facilities were integrated by narrowing the carriageway.

In the end, the recommended Master Plan includes:

- A four (4) lane roadway (two in each direction) with narrowed lanes throughout most of the corridor. Bike lanes are included between 10 and 12 Avenue.
- A two (2) lane roadway with painted bike lanes through the underpass section between 8 and 10 Avenue.
- Asymmetrical lighting, sidewalks and trees patterns; with street lights (9m) on west side and pedestrian lights (6m) on east side; wider sidewalks on the east side; and a double row of trees where feasible on the east side and a single row of trees on the west side.

- Opportunities for integrated public art and animation interfaces were identified.

The corridor redevelopment has been divided into 5 areas/phases. This considers the current conditions and usage, complexity of the proposed changes including interface with surface and buried features, and appropriate sequencing for multi-modal movements. Implementation staging for the next phases of work are also set out to guide the redevelopment, along with Class C cost estimates. And the report ends with a section that captures much of the detailed information that was used and prepared during the course of the study.





TO THE PLATFORM AND LIGHT THE LITTLE STOVE IN THE STOVE

THE CARRIAGE, THEN THAT EACH STOP CPR

ATCO

MOUNTAIN TO MOUNTAIN

PART 1

INTRODUCTION

1.1	8th Street Master Plan Process	6
1.2	A Vision for 8th Street	8
1.3	The Facts About 8th Street	10
1.4	Master Plan Approach & Guiding Principles	12
1.5	The 6 Key Physical Components	14

1.1

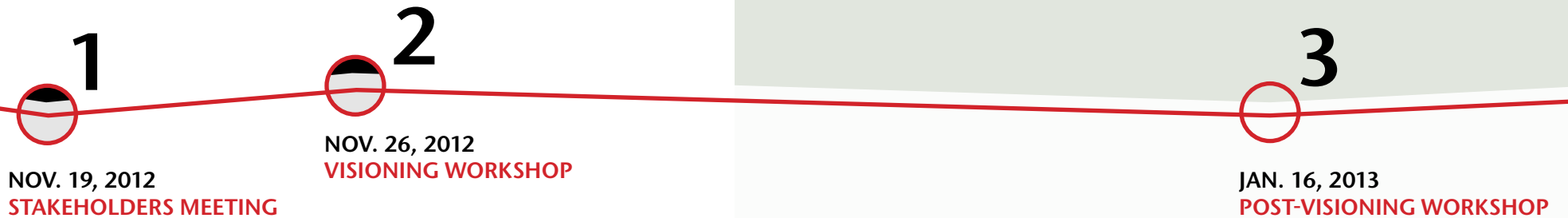
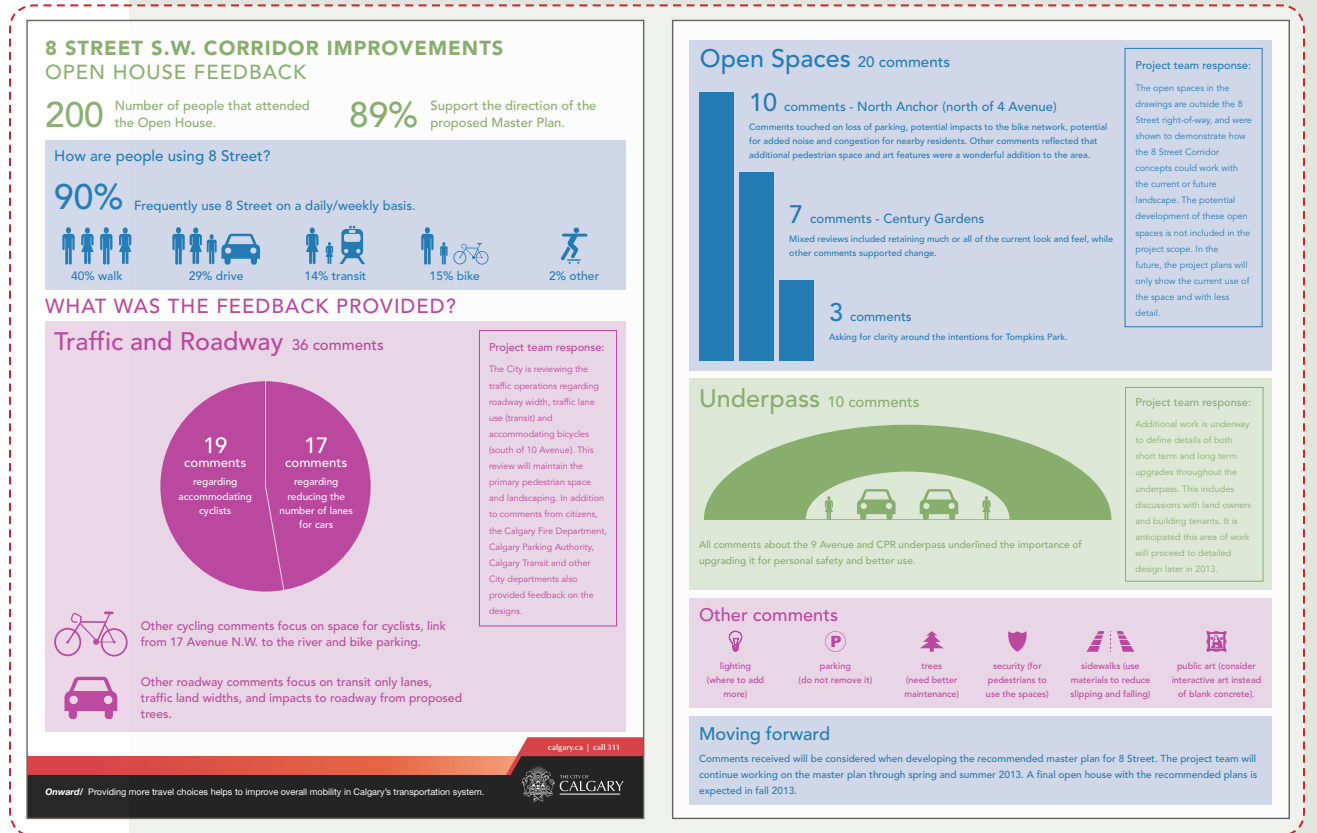
8th Street Master Plan Process

This document sets out the recommended Master Plan concepts and background information for the 8th Street Corridor Study in Calgary, AB. The document presented here is the result of a collaborative visioning process between the urban design team of Watt Consulting Group, Daoust Lestage Architecture, Marshall Tittmore Architects, Scatliff + Miller + Murray, gWhiz Consulting, Gordon Ferguson, and the City of Calgary, its advisors and a number of external stakeholders.

The document is a graphic account of the process of engagement the project team initially entered into with the City in the fall of 2012, with the intent of re-imagining the existing 8th Street Corridor condition; to see it as a highly energized and sustainable urban pedestrian realm with its own set of controlled signature components, tying together a diversity of uses and stakeholder interests. The Master Plan draws upon numerous policy initiatives and documents, both statutory and non-statutory, that have been developed and adopted by the City of Calgary, which serve to inform the Vision and Mission our project team has identified for the 8th Street Corridor Study. The project team's primary visioning source of reference is the Centre City Plan (2007).

The iterative public engagement process has given careful consideration to input provided by public, internal and external stakeholders.

Feedback is reflected in many aspects of this re-imagining of 8th Street as a vital Center City connector. The Master Plan is meant to serve as an active guide for both immediate and future improvements, with incremental physical interventions suggested as part of a phased implementation strategy.



TOP: PROJECT PROCESS AND MILESTONES.

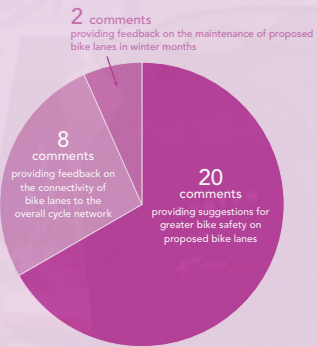
RIGHT: 8TH STREET PUBLIC OPEN HOUSE FEEDBACK.

**8 STREET S.W. CORRIDOR IMPROVEMENTS
OPEN HOUSE FEEDBACK**

85 Number of attendees **61** Number of feedback forms collected
 From the feedback collected at the Public Open House on January 30, 2014:
91% of respondents regularly use 8 Street S.W. (at least once a week)
93% of respondents felt the information presented was a good overview of the Recommended Plan
83% of respondents felt the information presented provided a good overview of the Phase 1 details currently underway

WHAT WAS THE FEEDBACK PROVIDED?

Cycling 30 comments



Roadway 15 comments



Congestion

Comments focused on how the proposed changes would affect congestion in the 8 Street S.W. and 8 Avenue S.W. intersection as well as the 9 Avenue S.W. underpass.

Design 10 comments



Lighting

Comments focused on providing adequate lighting options. Feedback included providing unique lighting options for the pedestrian walkway under 9 Avenue S.W.



Greenery

Comments were supportive for more green spaces and landscaping instead of paved open areas and parking lots.



Aesthetics

Comments were supportive of the look/feel proposed. Further suggestions included aesthetic choices appropriate for all seasons. Positive feedback was also received on plans to update nearby building facades.

Pedestrian 4 comments

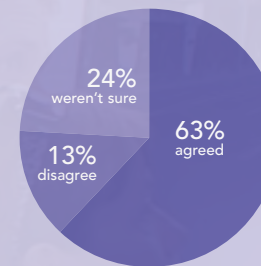


Space and crossings

Comments focused on making sidewalks wider at the underpass, providing missing crosswalks at some intersections, consideration for a pedestrian scramble, and extending the improvements of the sidewalk area south of 17 Avenue S.W.

Other comments

When asked whether the information presented showed that changes had been made to the Master Plan in response to feedback received, this is how respondents answered:



Moving Forward

8 Street S.W. improvements

Beginning summer 2014

In summer 2014, The City will begin improvements on 8 Street S.W., between 8 Avenue and 10 Avenue. Work will focus on making improvements to existing walls and sidewalks, roadway, railings and lighting to brighten the underpass. Design will also consider how to use Public Art and the adjacent properties to improve the area.

The City is pursuing a funding strategy to complete the 8 Street S.W. corridor. It's expected the next phase will focus on 8 Street S.W., south of 10 Avenue. Once funding is available, a timeline will be confirmed.

4

**MAR. 7, 2013
STAKEHOLDERS MEETING**

5

**MAR. 20, 2013
PUBLIC OPEN HOUSE**

6

**APR. 5, 2013
ONLINE SURVEY RESULTS**

7

**JAN. 2014
PUBLIC OPEN HOUSE**

Refinement and Recommended Plan

Final Report

1.2

A Vision for 8th Street

To create a contemporary, pedestrian focused urban destination area with a distinct identity that connects people, parks and neighborhoods supported by vibrant retail experiences and a variety of transportation modes.

Our vision for the 8th St. Corridor Master Plan was developed through a rigorous engagement process. The vision responds directly to identified challenges and opportunities presented by the current vehicle-focused configuration of 8th Street, with an intent to enhance the public pedestrian realm by maximizing the existing infrastructure and resources, and attracting the social capital and local economic activities associated with these localized, contextual improvements.

Defining 8th Street: Centre City Plan

The Centre City Plan (May, 2007) established a critical framework for the 8th Street Study in terms of identifying discrete Centre City Neighborhoods, and expressing as a key policy, the reinforcing of the value of complete and integrated, livable neighborhoods within the Centre City, and ensuring their connectedness to the Downtown, in support of the Downtown's vitality. 8th Street can be seen as a critical connecting spine for the following Centre City neighborhoods, identified as part of the New Urban Structure in the Centre City Plan (P.33):

- **West End** – bounded by 14th St. SW, the Bow River and the CPR Right of Way (R.O.W.)
- **Eau Claire** – bounded by the Bow River, 3rd Ave. and 2nd St. SW.
- **Connaught Centre** - bounded by the CPR R.O.W., 4th St. SW, and 17th Ave. SW.
- **West Connaught** - bounded by 17th Ave. SW, 14th St. SW., and the CPR R.O.W.

Each of these neighborhoods edge up against 8th Street and are served directly by the movement and access systems currently in place. Any proposed enhancements to 8th Street are intended to help facilitate the growth and long-term sustainability of these identified Centre City mixed-use neighborhoods by giving appropriate consideration to all forms of movement and access. As well, 8th Street forms the western transition edge of the Downtown business district, which presents a different set of opportunities and constraints for 8th Street, relative to its re-imagining as an iconic urban pedestrian-friendly realm.

All Seasons for All People

If 8th Street is to evolve into a series of destinations that people want to arrive at rather than simply move through, and be connected by a series of adaptable, contextual and unifying 4 season elements that offer some sense of inclusion, well-being and belonging, the improvements suggested must be a reflection of the collective needs and aspirations of those who live, work and play in the area of 8th Street.

The vision for 8th Street can begin with small-scale do-able improvements that can bring immediate benefit to the public realm and those who experience some aspect of it.

Improving the qualities of the existing infrastructure, while working within the carrying capacity of 8th Street, is a sustainable approach. The pursuit of sustainability is also a local undertaking because it involves individuals seeking specific place-based needs and requirements relative to 8th Street and the surrounding neighborhoods supported by the infrastructure. This approach capitalizes on a local community's assets and potential, ultimately creating a great public realm that promotes the collective well being.

A Culturally Sustainable 8th Street is:

- Visionary & Transformative
- Contextual
- Community-driven
- Adaptable & Ever changing
- Inclusive & Collaborative
- Destination - focused
- Sociable & Culturally Aware



1.3

The Facts About 8th Street

DEVELOPMENT HISTORY

8th Street SW is a downtown urban corridor rich with diversity, multiple uses and destinations. 8 Street SW was included in the Calgary town limits, established in 1884, which extended south to 17 Avenue. The street was laid out as a broad thoroughfare, destined to someday be a principle street. However, 8 Street from the Bow River to 17 Avenue, remained very sparsely developed until the boom of 1909-13 whereupon residential development along the street was finally initiated. 8th Street even once included street cars.

Primary elements of the Centre City Plan urban fabric are developed with linkages such as the 8 Street SW corridor. “They provide mobility functions for a variety of travel modes.....and establish components that are important to achieving the desired streetscape character that meets the needs of all movement modes, while enhancing the environment for the pedestrian.” This corridor was selected through a prioritization process with Transportation Planning based on usage, condition and value. This corridor was determined to be the top priority based on the infrastructure being in poor shape and having the highest north-south pedestrian traffic for all the corridors with underpasses (>10,000 pedestrians per day in 2008). The concept is to invest money where people are already, connecting people and places. In addition, citizens have indicated on numerous occasions that the underpasses are not as safe, and are dirty and poorly lit. This project aims to make these linkages places to go to, not just go through. They are to create a strong, high quality sense of place that will attract more people and investment.

OPPORTUNITIES

- 8th Street brings together a wide array of economic and social

activities, connecting 4 distinct urban neighborhoods in Centre City, and defining the western edge of the Downtown core.

- 8th Street serves as a network threshold at several points along its axis, threading itself to other east-west cross –connectors within Centre City.
- There are a number of existing and distinct open spaces along the length of 8th Street, both public and private.
- There are particular destination points along 8th Street.
- 8th Street currently experiences high usage by pedestrians and cyclists, and several new developments property.
- 8th Street is marked by its extension northwards to the Bow River and its extensive pathway system; and southwards, tying into Mount Royal community, and the 17th Avenue Retail and Entertainment District.
- Areas of high porosity, allowing for pedestrian-scaled activities.

CONSTRAINTS

- 8th Street is currently configured to facilitate the efficient movement of vehicles.

- 8th Street is characterized in part by stark unrelieved stretches of narrow sidewalks, devoid of any landscaping – resulting in a harsh pedestrian environment.
- Pedestrian spaces are largely undefined along the 8th Street corridor, with a consistent lack of public street furniture.
- Buildings, especially along that portion of 8th Street between 5th and 7th Avenues, which form the western edge of the Downtown business district, tend to create a “canyon effect”, and negatively impact their walkability.
- Opaqueness: There are a number of existing building facades, including elevated parkades and other commercial structures that are devoid of any street level detailing and animation.
- Transparency: There is a decided lack of street level engagement especially in the Downtown business district edge between 5th and 7th Avenues. There are no animated streetscapes and active street frontages along this section of 8th Street.



EXISTING 8TH STREET



01 PROXIMITY TO THE BOW RIVER



02 ADJACENCY TO DOWNTOWN RESIDENTIAL NEIGHBORHOODS.



03 PRESENCE OF PEDESTRIANS AND BIKE COMMUTERS.



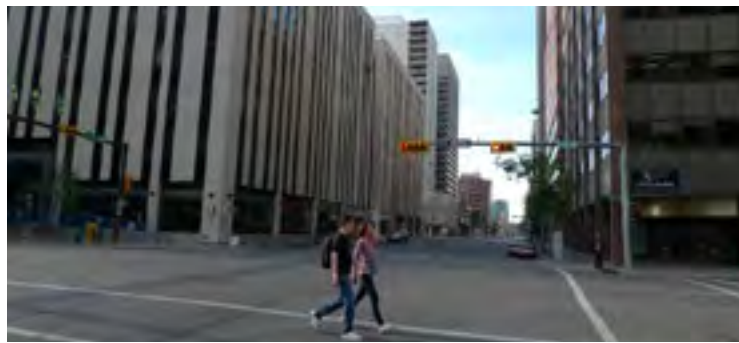
04 PROXIMITY TO DESTINATION POINTS, U OF C DOWNTOWN CAMPUS



05 OPEN SPACES ON 8TH STREET, CENTURY GARDENS



06 OPEN SPACES ON 8TH, TOMKINS PARK



01 THE CANYON EFFECT AND NARROW SIDEWALKS.



02 POOR COMMERCIAL FRONTAGE AND SOLID FACADES.



03 VEHICLE FRIENDLY STREET LAYOUT.



04 HARSH PEDESTRIAN UNDERPASS ENVIRONMENT.



05 UNDEFINED SPACE FOR PEDESTRIAN USE.



06 LACK OF STREET FRONTAGE.

1.4

Master Plan Approach and Guiding Principles

In order to help fulfill the overarching vision set out in the Centre City Plan, the 8th Street Corridor study proposes a Master Plan that seeks to better connect residents with their neighborhoods, re-imagining an inclusive public realm that can facilitate a more diverse range of public and private services and amenities; and to cultivate a highly livable urban environment.

The approach is clear: provide appropriate infrastructure that is socially, economically and environmentally sustainable in the long term for the people who currently make use of it, and for those who could become more attracted to its offerings.

By facilitating a transformation of 8th Street into a more contemporary pedestrian-focused destination area connecting people, places and activities, local neighborhoods that feed into 8th Street, including the western edge of the Downtown business district, and the Centre City, as a whole, derive some immediate and long term benefits.

Infrastructure is fundamental to community development, providing conditions essential for urban life. Improvements to area infrastructure include:

a) Bringing improvements to **accessibility and safety**, thereby facilitating the movement of people and goods more effectively, and attracting more people to the street.

b) Ultimately, stimulating **private business investment**.

c) **Lending support for local businesses by:**

- Facilitating the exchange of goods and services.
- Creating destination points and open space opportunities to allow businesses to interface better with the public.
- Maintaining street parking opportunities in some capacity.

d) **Contributing to the delivery of public services** to the community, including:

- health care
- education
- recreation

- public security
- culture
- communications

This public capital investment forms a part of the foundation of a community, supporting daily social and economic activities.

This integrated infrastructure consisting of the physical street, those places defined by their relationship to it, and the buildings and uses that form the important edges against it, can be re-designed and reconstructed with intentionality and thoughtful care.

The approach for 8th Street Master Plan gives consideration to a wide range of stakeholders, and their preferred way of travelling and experiencing 8th Street, from the 17th Avenue retail and entertainment district to the Bow River's edge.

The guiding principles identified by stakeholders are reflected in five focus areas.

SUSTAINABILITY

- implement public / private partnership and incentive programs for private development (new and existing upgrades)
- allocate maintenance budgets to support enhanced urban infrastructure
- implement green technologies (rainwater harvesting, recycled materials and etc.)
- enhance urban forest and green space
- engage the outdoor environment (bringing people back to the street and the city)
- ensure adequate budget to achieve high quality public realm
- create partnerships to program and manage events and activities

CONNECTIVITY

- encourage potential for 7th Street bike use
- introduce widened pedestrian walkways
- connect the riverfront to various districts to the south all the way to 17th Avenue
- capitalize on existing greens space / parks and enhance linkages
- develop anchors at 17th Avenue and river terminuses
- enhance underpass experience and north/south connections
- enhance east/west connections to 17 Avenue, 13 Avenue Heritage Greenway, Stephen Ave mall and river promenade
- ensure fire and EMS functionality

SIGNATURE + IDENTITY

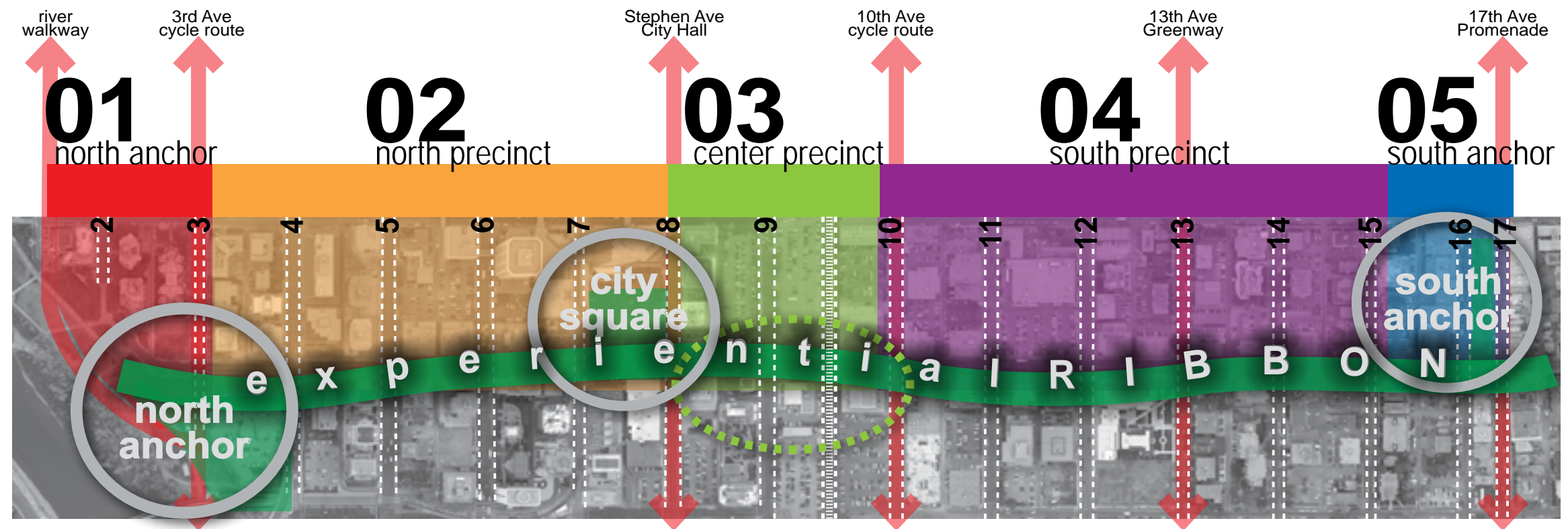
- unique, engaging and exciting urban expression
- four-season activities and interest
- integrated public art
- feature lighting
- distinct materials, paving and street furniture
- enhanced pedestrian environment through lower vehicle speed
- distinctive urban landscape

DESTINATION + VIBRANCY

- transform from a place “to go through” to one “to go to”
- create a place like no other in the city
- attract and engage people, encourage social interaction
- provide for outdoor cafes, street performers and seasonal events
- allow and encourage informal activities (pop ups, social networking, food trucks)
- provide significant gathering spaces (for 2,000+ to 25,000+ people)
- create an attractive and inviting environment for all ages and demographics

DIVERSITY + UNITY

- define and enhance 5 distinct character precincts while ensuring unified overall expression
- provide elegant spaces and places along the overall corridor (scale, materials and textures and elements)
- acknowledge and engage adjacent neighborhood character and zoning (ie residential, commercial and business character)
- develop cultural and consistent sophistication throughout including celebration of heritage components
- create unified street with unique, engaging, exciting destination nodes along the corridor



8 STREET MASTER PLAN CONCEPT DRAWING

1.5

The 6 Key Physical Components

The Centre City Plan envisions the creation of livable centre city neighborhoods with great streets that put pedestrians first.

CENTRE CITY PLAN

The 8th Street Master Plan builds upon the vision of the Centre City Plan by proposing demonstrable improvements to the quality of the physical infrastructure of the corridor. This will allow 8th Street to contribute to the livability of the Center City neighborhoods it serves by becoming a safe, pedestrian-enhanced, well-integrated multi-modal network.

The physical components forming the re-imagined infrastructure of the 8th Street corridor can be drawn from the existing street context and as-built conditions. The 6 key target components were identified as follows:

- Movement Systems
- Street Organization
- Public Realm Design Elements
- Open Spaces
- Buildings and Interfaces
- Public Art

The 8th Street Master Plan scope of improvement is framed within this key component framework.



MOVEMENT SYSTEMS

Movement systems describe how pedestrians, cyclists, public transit and vehicles navigate through the street. It addresses how it should be transformed in the 8th Street Master Plan to achieve the Center City Plan vision to “put pedestrians first”.



STREET ORGANIZATION

Street Organization describes how the current ROW is allocated to different uses and how the Master Plan transforms that to align with the vision and guiding principles from the Centre City Plan.



PUBLIC REALM DESIGN ELEMENTS

Public Realm includes design elements such as landscape, lighting, street furniture and materials that directly influence the pedestrian experience. The Master Plan envisions utilizing high quality elements to enhance the 8th Street public realm for pedestrians.



OPEN SPACES

The Center City Plan identifies important open spaces such as Century Gardens and the riverfront on 8th Street. The Master Plan considers a future improvement of these existing public spaces and identifies new potential locations for public open space.



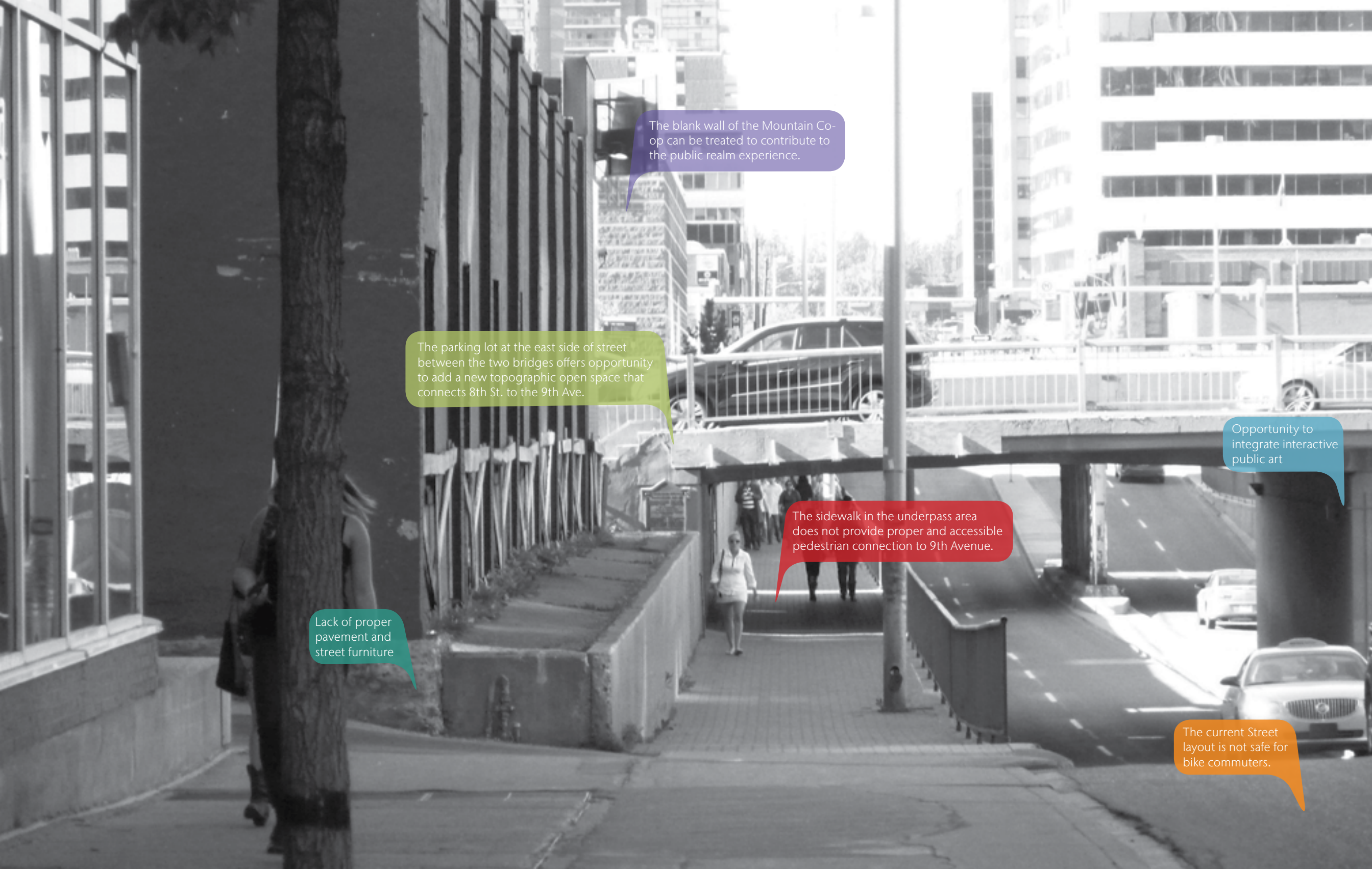
BUILDINGS AND INTERFACES

The Master Plan considers the existing interfaces along 8th Street; it promotes a creative architectural approach for building facades such as University of Calgary Downtown Campus. As well, it provides recommendations to alter the existing opaque building facades and poor commercial interfaces.



PUBLIC ART

The Centre City Plan identifies multiple locations along the 8th Street corridor for public art. The Master Plan proposes to integrate public art as a major design component to bring vitality to the street.



The blank wall of the Mountain Co-op can be treated to contribute to the public realm experience.

The parking lot at the east side of street between the two bridges offers opportunity to add a new topographic open space that connects 8th St. to the 9th Ave.

Opportunity to integrate interactive public art

The sidewalk in the underpass area does not provide proper and accessible pedestrian connection to 9th Avenue.

Lack of proper pavement and street furniture

The current Street layout is not safe for bike commuters.



THE 6 KEY MASTER PLAN PHYSICAL COMPONENTS

PART 2

UNDERSTANDING & DESIGNING 8TH STREET

2.1	Movement Systems	18
2.1.1	Pedestrian Movement Pattern	
2.1.2	Cycling Network	
2.1.3	Transit Network	
2.1.4	Road Network	
2.2	Street Organization	22
2.2.1	Existing Street Section	
2.2.2	Initial Proposal for ideal Street Section	
2.2.3	Hybrid Street Section	
2.3	Public Realm Design Elements	28
2.3.1	Landscape Signature	
2.3.2	Lighting Signature	
2.3.3	Materials & Finishing	
2.4	Open Spaces	36
2.4.1	River Square (Riverfront Park)	

2.4.2	Century Gardens	
2.4.3	Barb Scott / Beltline Park	
2.4.4	Tomkins Park	
2.5	Buildings & Interfaces	38
2.5.1	Buildings of Interest	
2.5.2	Commercial Frontages	
2.5.3	Solid Facades	
2.5.4	Parking Lot Interfaces	
2.6	Public Art	40
2.6.1	City Scale Public Art	
2.6.2	Facade Treatment	
2.6.3	Interactive Public Art	
2.6.4	Changeable Public Art	
2.7	Coordination & Integration with City Standards	42

2.1

Movement Systems



The 8th Street corridor, identified as a High Street in the Centre City Plan (page. 37) is intended to have high concentrations of pedestrian movement, representing “a model of the traditional main street with mixed use, medium to high density developments” and providing...“flexible transportation alternatives, including on-street parking, appropriate planting, and an animated, safe pedestrian environment.”

8th Street can be reorganized to better accommodate and integrate various users; pedestrians, cyclists, transit, and vehicles – with an overall objective of making 8th Street more walkable and safe, and hence, an inviting pedestrian public realm.

2.1.1 PEDESTRIAN MOVEMENT PATTERN

“The Centre City Plan embraces the principle of putting pedestrians first. Regardless of how someone travels to the Centre City, they will at one point be a pedestrian during their visit” (Centre City Plan, Page 20). To attract pedestrians, the streets should be walkable. 8th Street is strategically located in downtown and can be improved to better perform as a pedestrian corridor. The goal is:

To redesign 8th Street for all modes of travel with the pedestrian experience being the highest priority.

Opportunities

- Enhance pedestrian facilities to encourage already high pedestrian movement.
- Reinforce 8th Street's strategic location within downtown as a connector to and between different public spaces and destinations; thereby creating a more walkable Centre City.
- Capitalize on 8th Street passing through and connecting residential neighborhoods with downtown to support pedestrian commuters year round.

Challenges

- 8th Street currently serves vehicles first; so reallocating space to better accommodate pedestrians will be a huge functional shift that will impact drivers and will require cooperation of stakeholders to ensure support for changes.
- The infrequent but essential use of 8th Street by emergency vehicles requires ensuring functionality of the street for their purpose is not impacted.

Mechanism

- Widen sidewalks and improve the quality of the finishes.

- ← - - - - - → High Pedestrian Movement Streets
- ← - - - - - → Dedicated Pedestrian Path



PEDESTRIAN MOVEMENT PATTERN - CENTRE CITY PLAN

2.1.2 CYCLING NETWORK

The Centre City Plan confirms that cycling is an increasingly popular mode of travel for people either coming into the Centre City from the city's pathways and roads or getting around the Centre City. Therefore, it is important that safe and convenient cycling facilities both on-street and off-street be provided. The goal is:

To enable a cycling network to grow in conjunction with 8th Street redevelopment

Opportunities

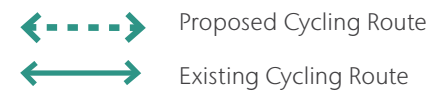
- Introduce changes to the roadway to make the environment safer for cyclists and all users.
- Expand and connect the network for cycling in Centre City and to adjacent communities. A Centre City Cycle Track Network Plan is currently being developed.
- Capitalize on 8th Street grade-separated crossing of the CPR tracks to enhance north-south connectivity.

Challenges

- 8th Street has a right-of-way that is restricted by existing buildings and bylawed setbacks; so reallocating space to accommodate high quality facilities for both pedestrian facilities and dedicated cycling facilities while maintaining vehicle functionality will be very difficult.
- Developing cycling facilities that integrate safely with transit and pedestrian movements with short block lengths must be developed in detailed design stage.
- Future cycle network under review.

Mechanisms

- Utilize edge 'friction' and narrow the lanes to slow vehicle operating speeds.
- Introduce cycling facilities if other functionality (pedestrian and vehicle) can be maintained at acceptable levels.



CYCLING MOVEMENT PATTERN



2.1.3 TRANSIT NETWORK

The Centre City Plan, in an effort to make transit the first choice for people accessing and moving around the Centre City in the longer term, supports and provides for policies and initiatives related to transit service expansion, the improvement of transit accessibility, the provision of transit supportive land uses, and the enhancement of the transit corridors and transit stops. (Centre City Plan, Page 97). 8th Street is currently a public transit corridor and in the proposed plan, the goal is:

To enhance transit services

Opportunities

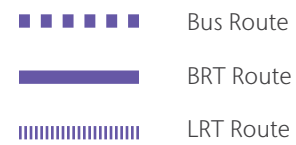
- Create a pedestrian oriented corridor that generates increased opportunities for utilization of Centre City transit routes.
- Revise existing transit stops to improve operations.
- Utilize additional pedestrian space for enhanced bus stop facilities.

Challenges

- Narrowing lanes and roadway space may increase delays for vehicles at bus stop locations.
- Maintaining transit service levels if vehicle functionality of the roadway decreases.

Mechanisms

- Capitalize on wider pedestrian space for partial bus lay-bys.
- Ensure adequate space for buses.



TRANSIT NETWORK - CENTRE CITY PLAN

2.1.4 ROAD NETWORK

The Centre City Plan establishes policies to identify, design and implement operational improvements for new and existing facilities to improve the efficiency of the transportation network while supporting and encouraging environmentally responsible initiatives such as walking, cycling, transit, carpooling, flexible work hours, telecommuting, etc (Centre City Plan, Page 98). In the 8th Street master plan, the goal is:

To enable satisfactory vehicle operations and emergency vehicle functionality

Opportunities

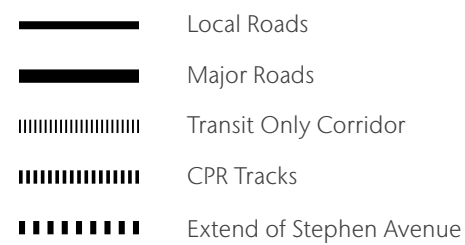
- Narrow existing vehicle lanes to create more pedestrian realm space.
- Reduce the number of lanes while accommodating existing traffic demand.
- Limit or restrict turning movements while maintaining basic connectivity with east-west street network.

Challenges

- Peak morning and evening commuter traffic utilized 8th Street corridor, while off-peak traffic is considerably lower.
- 8th Street corridor is an essential route for Fire/EMS and a designated Emergency Evacuation Route.

Mechanisms

- Enable vehicles to be facilitated in their primary movements while not accommodating other movements to completely meet demand.
- Utilize changes to signalization and permitted turn movements to optimize vehicle movement.



ROAD NETWORK - CENTRE CITY PLAN

2.2

Street Organization



The 8th Street Corridor project team has explored a number of street design iterations in an effort to bring effective balance to the different modes of travel accommodated by 8th Street, with an eye to improving the pedestrian public realm.

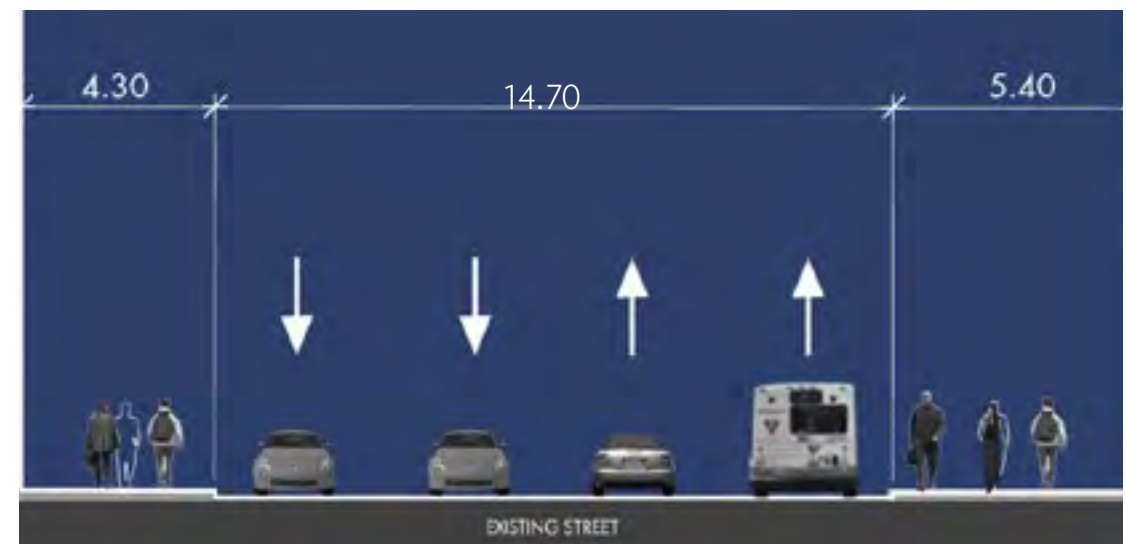
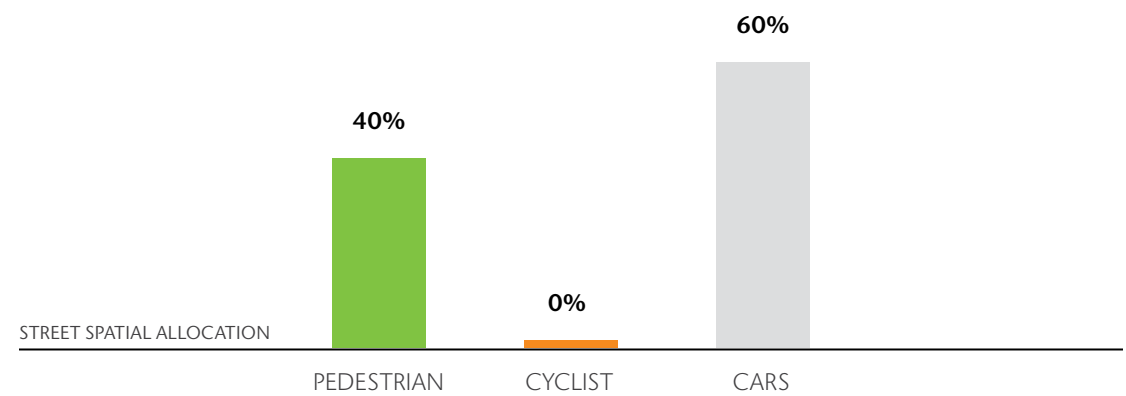
The street configurations proposed through the course of the project team’s progressive analysis and public engagement process can be measured against the existing roadway condition. A hybrid street solution seeks to allocate more cross-sectional space to the pedestrian realm, and to also consider and incorporate other modes of travel, including cycling.

2.2.1 EXISTING STREET SECTION

The existing street section is composed of 4 wide through lanes, and designated turning lanes. Cyclists share these lanes. The sidewalks for pedestrians are narrow considering the high volume of foot traffic that uses 8th Street. Overall, the allocation of space for the roadway represents 56-65% of total space relative to the ultimate width of ROW.

Challenges

- The current 8th Street roadway is configured for optimizing efficient vehicular movement.
- Narrow, inconsistent sidewalk width create pinch points for pedestrians.
- The pedestrian realm is marked by an absence of street furniture and landscaping.
- Extensive network of existing shallow utilities are installed in pedestrian realm space.
- Crossing distances for pedestrians are long.



EXISTING STREET SECTION
2.2.1 EXISTING STREET SECTION



2.2.2 RECOMMENDED STREET SECTIONS

The proposed hybrid solution considers maintaining the traffic flows north and south of the underpass and introduces specific requirements for each section of the street. It assumes a 12.6 metre width of roadway north and south of the underpass, maintaining the existing roadway width through the underpass, and bike lanes between of 10th Avenue and 12th Avenue. The goal is:

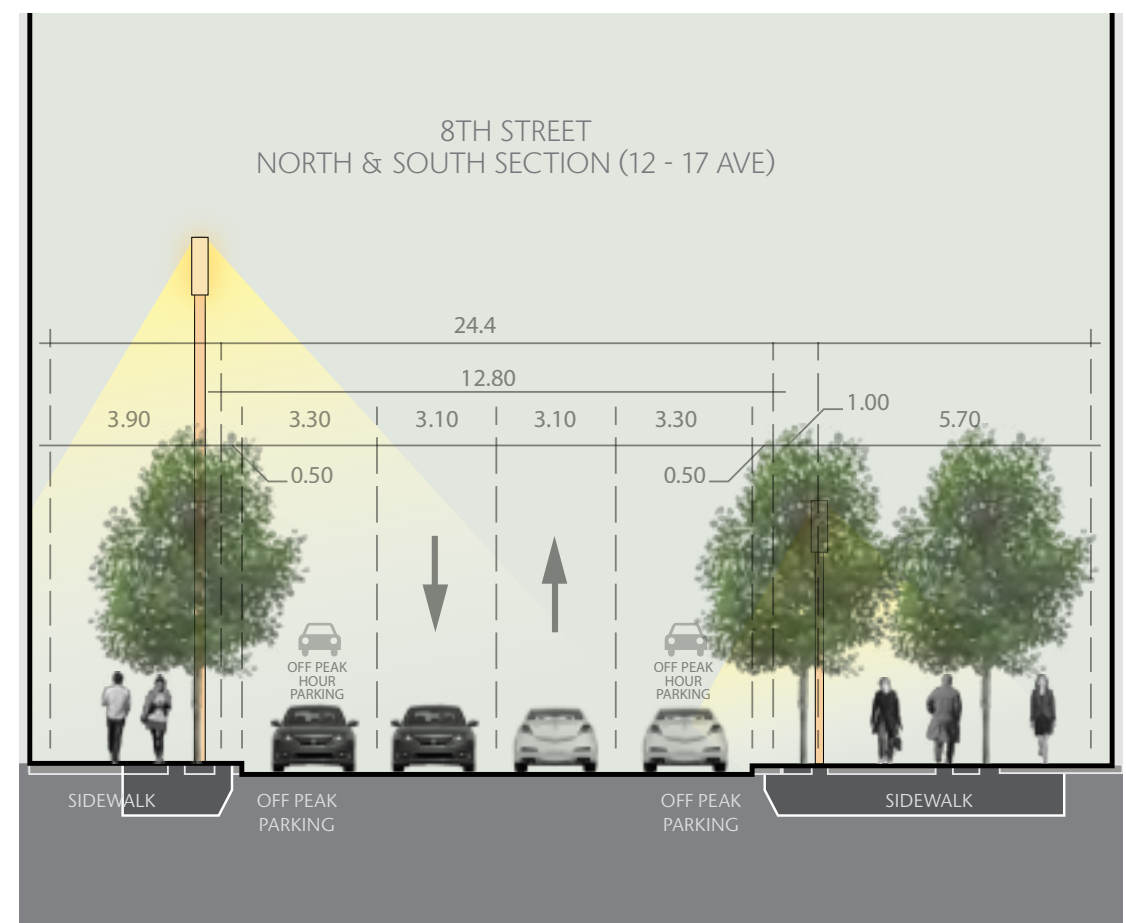
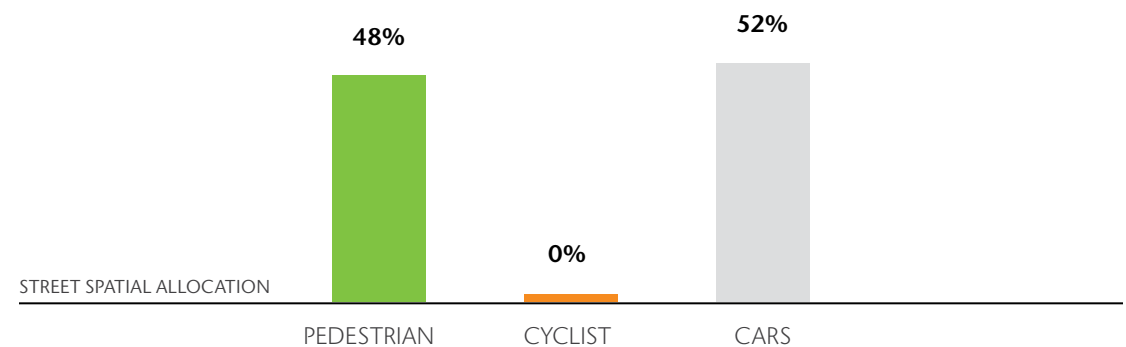
To maximize public realm, optimize driving lanes, and accommodate multi modal transportation

Opportunities

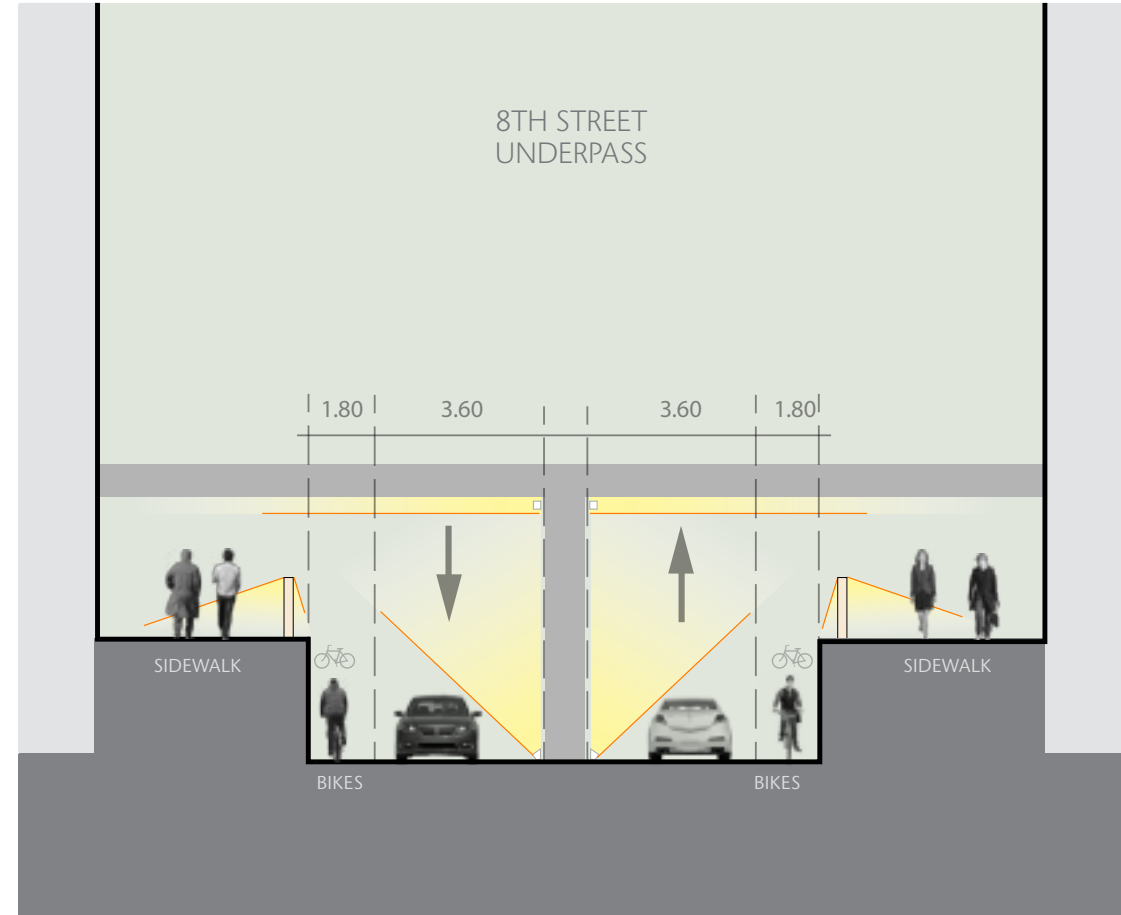
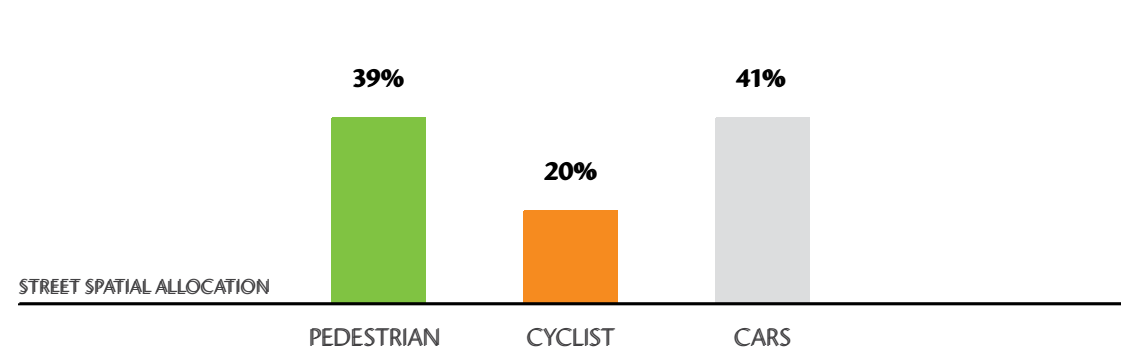
- Introduce lane reductions to widen pedestrian walkways
- Introduce dedicated bike lanes to connect to the existing bike network in downtown
- Ensure fire and EMS functionality remains unchanged
- Ensure the functionality of laneways in terms of smooth traffic flow; while encouraging lower traffic speed by reducing the number of lanes and their width.

Key Attributes

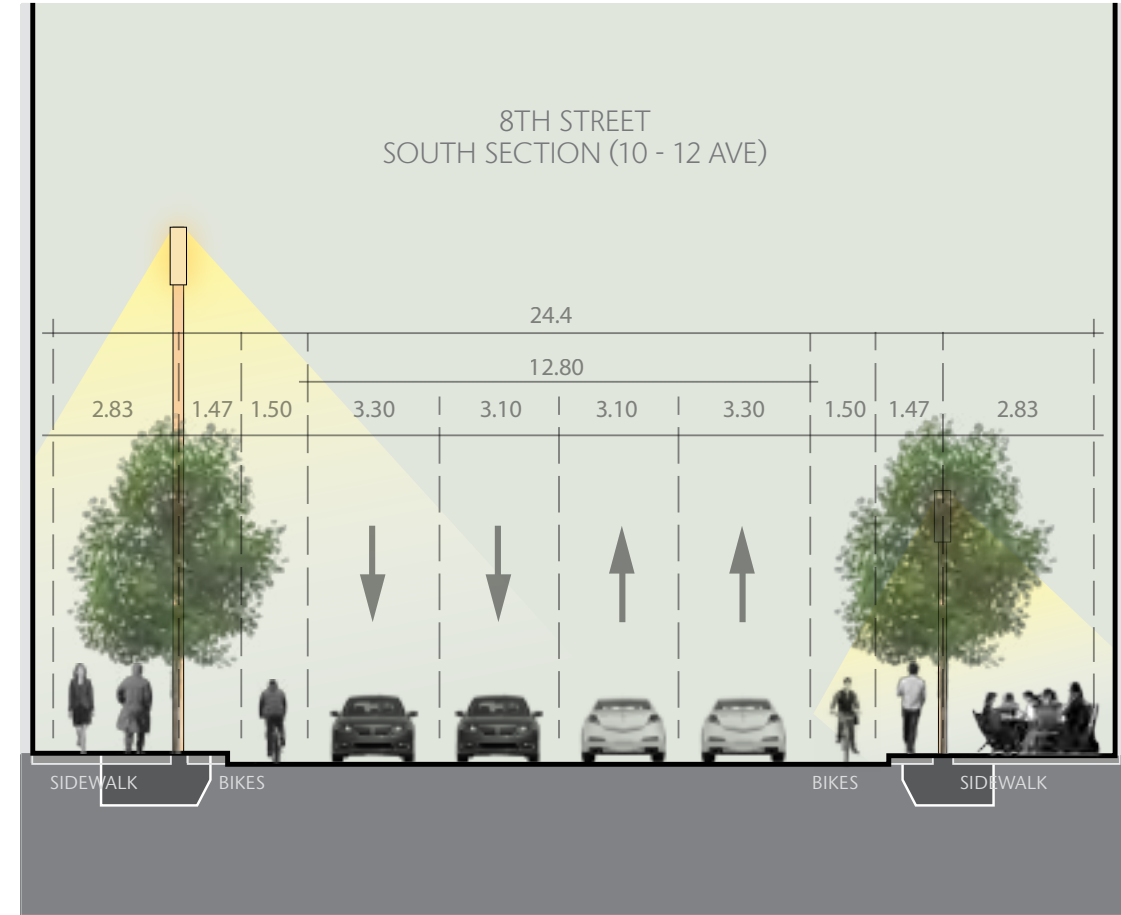
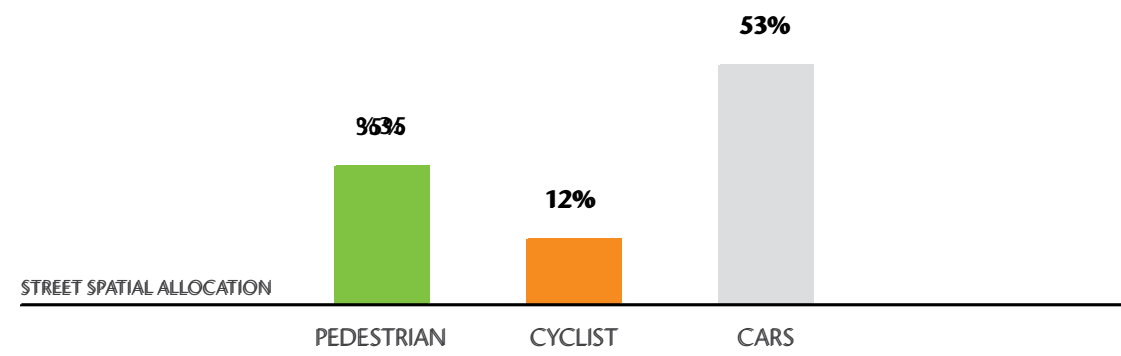
- Combines the positive features of the existing street section, original Center City street section, and Initial Proposed 3-lane street section.
- Considers maintaining the traffic flows and addresses specific requirements for each section of the street.
- Features an asymmetrical solution in terms of dedicated space to pedestrians; the east sidewalk is wider than the west one as it has more sun exposure and better provides for year-round use.
- Provides for appropriate response times which was initially a concern expressed by fire and emergency departments.
- Features four lanes at the North section, between 4th Avenue and 8th Avenue, and the South section between 12th avenue and 17th avenue, due to heavy traffic volumes and bus stops, and permits off-peak hour street parking in certain blocks that also support commercial uses.
- Features two wide traffic lanes at the Underpass section, between 8th Avenue and 10th Avenue, and dedicated bike lanes to provide a cycle connection.
- Features four lanes at the South section plus a bike lane in each direction, between 10th Avenue and 12th Avenue.



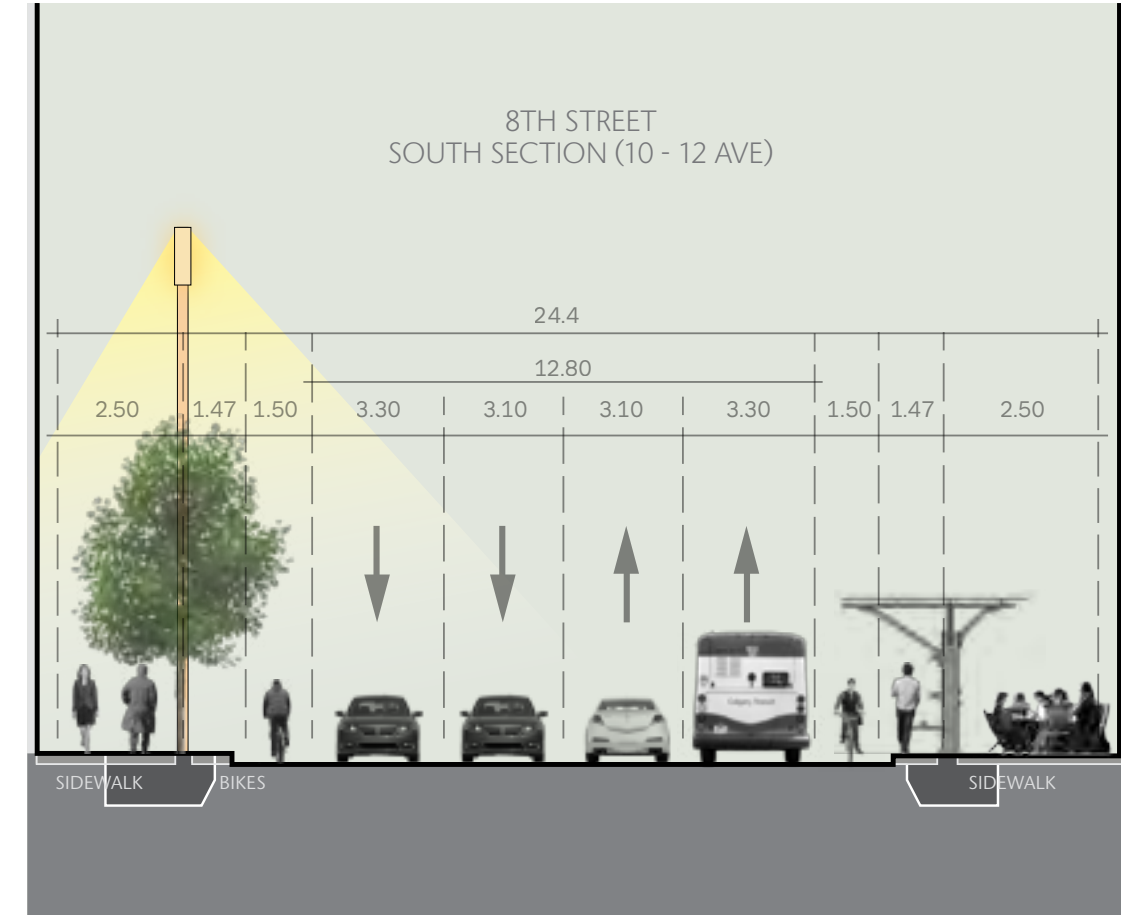
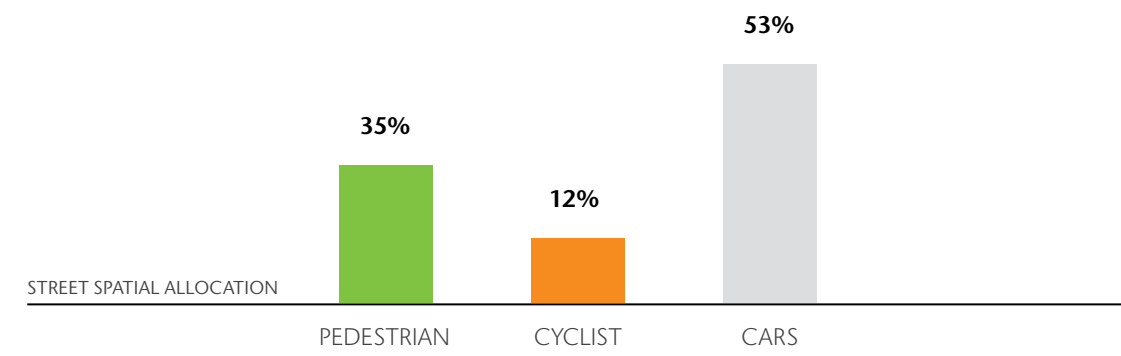
NORTH SECTION AND THE SOUTH SEGMENT FROM 12TH AVE TO 17TH AVE STREET SECTION
RECOMMENDED STREET SECTION



UNDERPASS STREET SECTION, FROM 8TH AVE TO 10TH AVE
RECOMMENDED STREET SECTION



SOUTH SEGMENT STREET SECTION, FROM 10TH AVE TO 12TH AVE
RECOMMENDED STREET SECTION



BUS STOP, STREET SECTION, FROM 10TH AVE TO 12TH AVE
RECOMMENDED STREET SECTION
At bus stop locations, trees next to the curb are omitted.

2.2.3
8TH STREET PUBLIC REALM MASTER PLAN RECOMMENDED LANING AND REDEVELOPMENT

2ND AVENUE SW

3RD AVENUE SW

4TH AVENUE SW

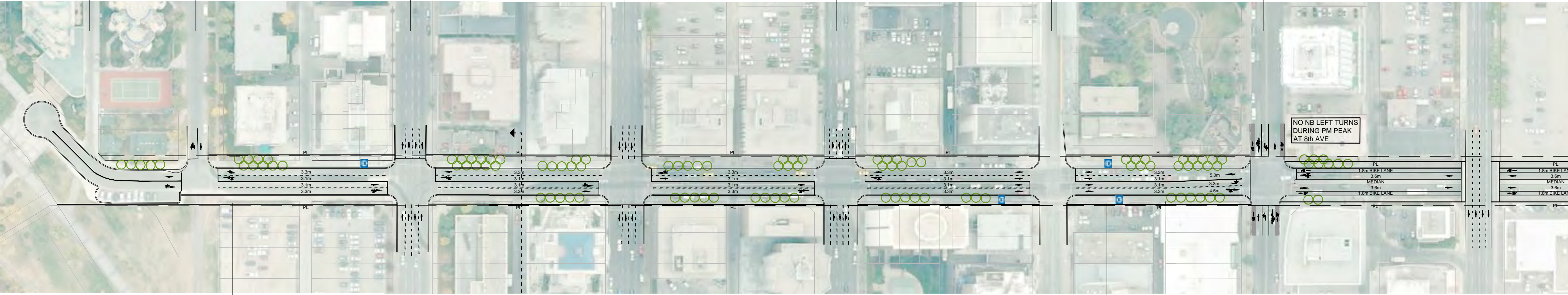
5TH AVENUE SW


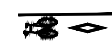


6TH AVENUE SW

7TH AVENUE SW
(TRANSIT ONLY)

8TH AVENUE SW

9TH AVENUE SW



-  PROPOSED TREES
-  ON - STREET BIKE LANE
-  TWO WAY CYCLE TRACK
-  BUS STOP
-  OFF PEAK PARKING ZONE
-  NO STOPPING FOR PEDESTRIANS ZONE

8TH STREET SW

8TH STREET SW

NORTH SECTION AND THE SOUTH
SEGMENT FROM 12TH AVE TO 17TH AVE
STREET SECTION

PHASE 4

NORTH ANCHOR
RIVER SQUARE
THE RIVER - 4TH AVE

PHASE 5

NORTH PRECINCT
CITY SQUARE
4TH AVE - 8TH AVE

PHASE 1

CENTER PRECINCT
UNDERPASS | CITY LINK
8TH AVE - 10TH AVE



CPR TRACKS

10TH AVENUE SW

11TH AVENUE SW

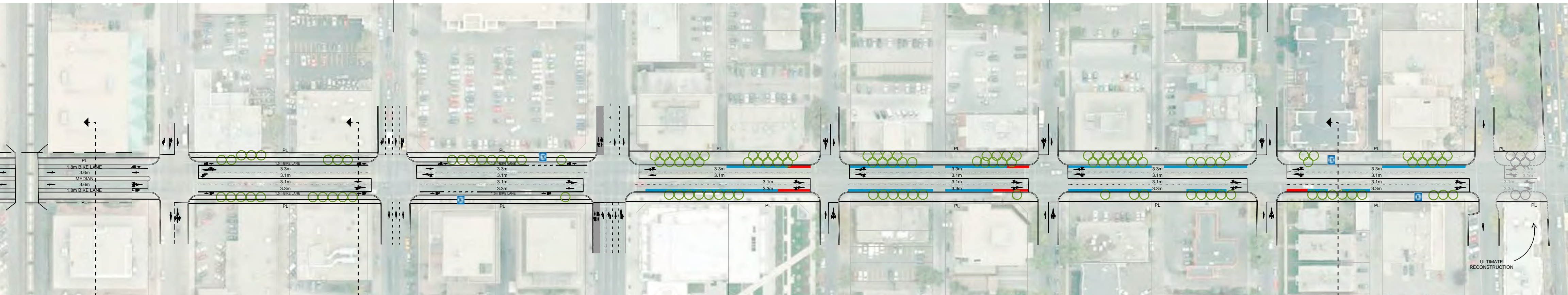
12TH AVENUE SW

13TH AVENUE SW

14TH AVENUE SW

15TH AVENUE SW

16TH AVENUE SW



UNDERPASS STREET SECTION, FROM 8TH AVE TO 10TH AVE

SOUTH SEGMENT STREET SECTION, FROM 10TH AVE TO 12TH AVE

UNDERPASS STREET SECTION, FROM 8TH AVE TO 10TH AVE

BUS STOP, STREET SECTION, FROM 10TH AVE TO 12TH AVE

ULTIMATE RECONSTRUCTION

8TH STREET SW

17TH AVENUE SW

PHASE 1

CENTER PRECINCT
UNDERPASS | CITY LINK
8TH AVE - 10TH AVE

PHASE 2

SOUTH PRECINCT
BELTLINE VILLAGE
10TH AVE - 15TH AVE

PHASE 3

SOUTH ANCHOR
TOMKINS PARK
15TH AVE - 17TH AVE

2.3

Public Realm Design Elements



Through intentional acts of design, 8th Street can become a great urban public realm, and a model for Centre City neighborhood development and integrated place-making. To that end, the project team is proposing the installation of some unifying signature elements along the extent of the 8th Street study area. These would include: a landscape signature, a lighting signature, and a materials concept, including street furniture, paving materials and patterns. Precedent examples are included in the following sections.

2.3.1 LANDSCAPE SIGNATURE

Building upon the visioning workshop, the master plan concept of “the River to the City” was conceptualized and is embodied in the landscape strategy. The idea is to utilize a soft landscape palette that brings the River to the City and the City to the River linking the existing green

spaces and resulting in the landscape signature.

Goal

The vision relies on an architectural application of street trees to create a unified character for the street.

Streetscape

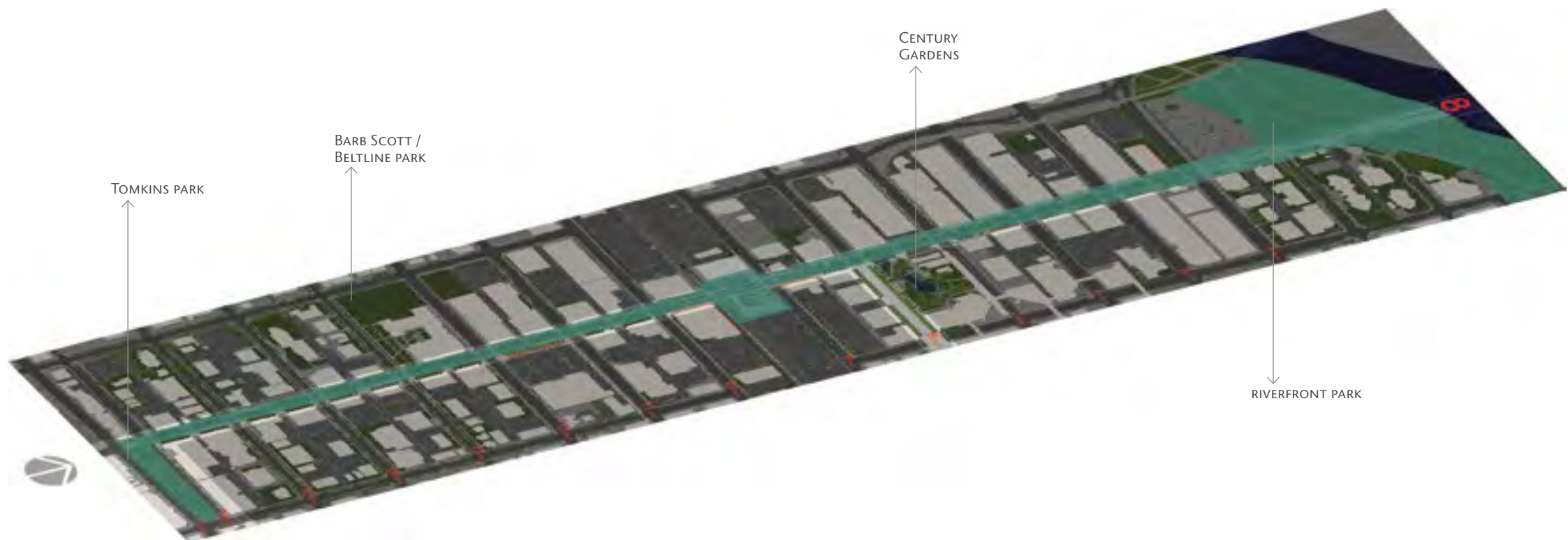
The 8th street corridor is promoting the use of integrated cell systems beneath the walkways as opposed to the standard City of Calgary tree trench in order to provide a holistic solution that allows for the potential of the urban tree system to aid in storm water management. The cell systems can potentially be designed in conjunction with future buildings and implement rainwater leaders for street tree irrigation thereby reducing the load on the overall storm system. The cells also allow for increased soil volume which allows for expanded root movement and healthier urban trees.

North and South Anchors

The North and South Anchors (Riverfront and Tomkins Park) have the opportunity for the implementation of rainwater harvesting for irrigation, bioswales and rain gardens that can collect water from the corridor and provide soft treatment prior to entering the storm system, resulting in improved water quality and less quantity and frequency of water entering the storm system.

Maintenance and Operation Budget

The strategy does not propose any high maintenance and annual planting strategies but does propose increased character elements beyond the typical which will require ongoing maintenance, particularly at the North and South anchors. The plaza areas of the project have been conceptualized with this in mind and therefore utilize mainly native and adaptive plant material that should survive under normal natural Calgary climatic conditions without excessive care and attention.



OPEN SPACES ALONG 8TH STREET

TREE SPECIES

Brandon Elm has been selected due to its tighter architectural canopy, consistency of form and urban survival capacity. As part of an ongoing maintenance strategy and enhanced budget the bark scale can be removed through a routine cleaning program.

Riverfront Park is a transition between the urban built context and the natural river bank. As a transitional space, the landscape expression will utilize plant material that best corresponds to the natural riverbank contained within geometric planting areas.

Recommended Trees: Brandon Elm, Trembling Aspen, Cottonwood, Balsam Poplar

Shrubs: Red Osier Dogwood, Willow varieties, Native Rose, Silverberry, prairie grasses, Snowberry



13TH AVENUE GREENWAY, CALGARY, SCATLIFF+MILLER+MURRAY

DOUBLE ROWS OF TREE

The landscape signature proposes an asymmetrical design solution for the 8th street corridor. The spatial allocation of the corridor allowed for a widened public realm on the east side of the street.

The solution which provides a double row of trees on the east maximizes solar exposure and aids in the potential for the survival of the trees. A single row of trees is proposed for the west side of the street and will also receive ample sunlight throughout the day. The strategy will ultimately increase the Urban Tree Canopy and thereby aid in the reduction of urban heat island effect. Additionally, park edges will be blended into the street to enhance visibility and there-by increase safety.



URBAN TREE CANOPY

URBAN TERRACES

The landscape signature also promotes the incorporation of terraces in the south precinct on east sidewalks. The proposed street layout that provides wider sidewalks on the east side allows for terraces to complement the local business and bring vitality and animation to the street.



URBAN TERRACES

2.3.1 LANDSCAPE SIGNATURE - CONTINUED

Creating A Green Corridor

The master plan envisions **planting over 250 trees** through proposing the “Urban Tree Canopy” concept; a double row of trees on the east maximizes solar exposure and aids in the potential for the survival of the trees.

Minimizing The Heat Island Effect

The proposed landscape solution provides a single row of trees for the west side of the street and will also receive ample sunlight throughout the day. The strategy will ultimately **increase the Urban Tree Canopy** and thereby aid in the reduction of urban heat island effect.

Promoting Recycling

Not only the proposed street furniture and finishes are to be made of sustainable materials, but also **the family of receptacles will provide for and promote recycling.**

Designing For Winter

The master plan **considers the winter nature of the city** and utilizes elements such as lighting and ephemeral art pieces to ensure all year use. Also, the proposed materials and finishes will be specified accordingly to best perform in winter climatic condition.

Accommodating Multi-modal Transportation

The master plan realigns the current ROW that is primarily designed for cars to serve pedestrians and cyclists as well. Also, by refurbishing the bus shelters, the master plan supports public transit use along this corridor.

Utilizing Green Landscape Infrastructure

The master plan proposes utilizing the green landscape infrastructure; these technical applications **aid in the survival and longevity of the plant material** but also provide **responsible and innovative solutions for managing storm water and reducing maintenance.**



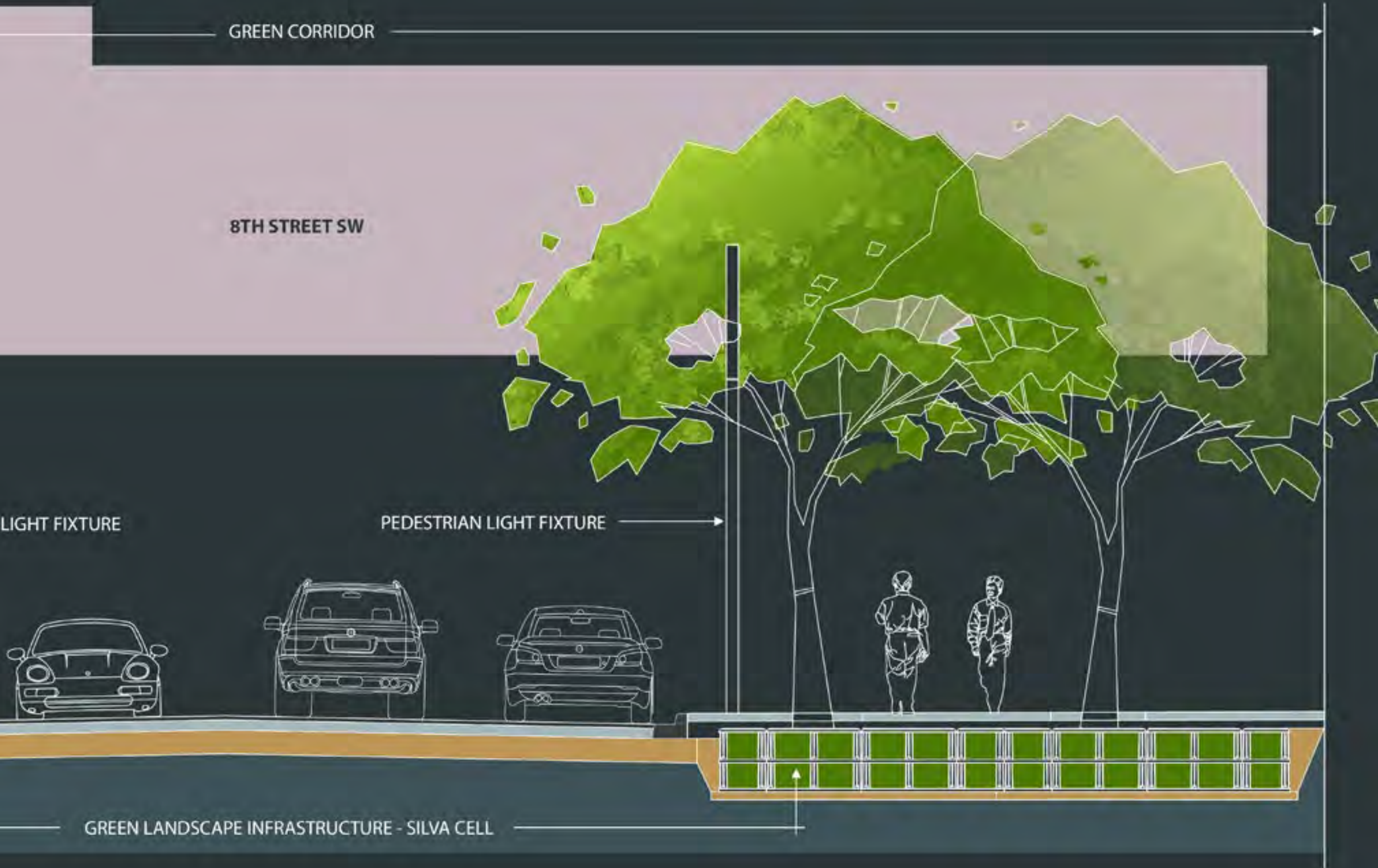
GREEN CORRIDOR

8TH STREET SW

LIGHT FIXTURE

PEDESTRIAN LIGHT FIXTURE

GREEN LANDSCAPE INFRASTRUCTURE - SILVA CELL





2.3.2 LIGHTING SIGNATURE

The Master Plan utilizes signature lighting as an important tool for creating visual interest and for achieving consistent levels of illumination along the extent of the 8th Street corridor for reasons of functionality, with respect to all users of the public realm. The use of effective pedestrian-scaled lighting, in addition to street-scale lighting, promotes walkability, safety and pedestrian orientation along the extent of the corridor.

The alternate use of iconographic and scenographic lighting can serve to animate the public realm, and provide the necessary accent to mark those urban spaces deemed to be special.

In consideration of universal winter city design guidelines, the Master Plan recommends use of programmable color lights to create a more attractive winter environment. The use of scenographic lighting, together with other visual devices such as fog and mist, serve to create year-round sensory experiences.

Opportunities

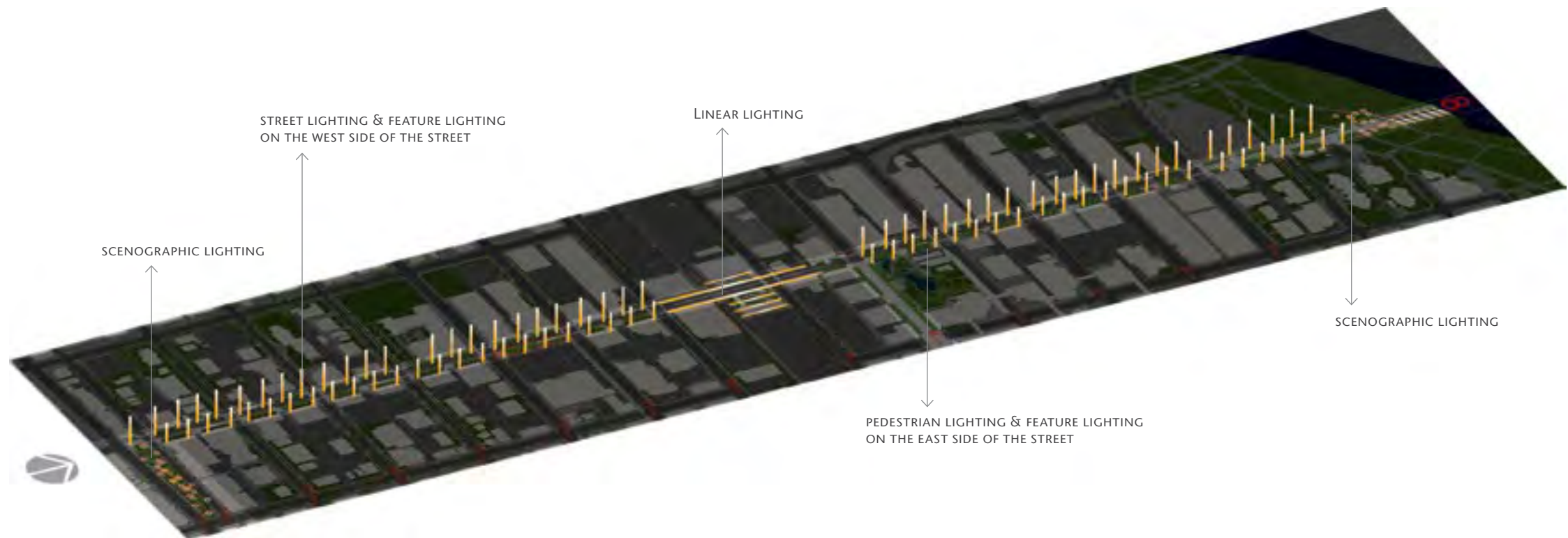
The 8th Street corridor is a relatively uninterrupted length of public realm infrastructure encompassing four neighborhoods and the western edge of the Downtown. The lighting signature can help thread together the disparate building elements and sites within the corridor, and help create a connecting language.

Challenges

Excessive lighting can add unwanted light pollution to the public realm, adversely affecting adjoining neighborhoods and businesses. Some infrastructure elements are not well served by artificial illumination. These would have to be identified. Illumination technologies must be evaluated in terms of their cost-effectiveness relative to their energy consumption in order to design sustainable lighting systems.

Goal

Develop a sustainable lighting signature for the 8th Street corridor, based on an integrated public realm infrastructure approach.



LIGHTING CONCEPT ALONG 8TH STREET

FUNCTIONAL LIGHTING

As illustrated in the street sections, functional street lighting operates on two levels; tall light standards on the west side of the street serve to direct light downward and illuminate the roadway, while shorter light standards are placed at regular intervals on the east side of the street to provide pedestrian scale illumination. The intent is to create a year-round well-illuminated multi-modal public realm environment.



8TH STREET UNDERPASS, CALGARY

FEATURE LIGHTING LIGHTING

Iconographic lighting is intended as a City Scale design element in conjunction with other public realm infrastructure elements of a similar scale. It involves the use of specialized accent illumination, uniquely applied to a particular precinct or site.



QUARTIER DES SPECTACLES, MONTREAL | DAOUST LESTAGE INC

LINEAR LIGHTING

Linear lighting is utilized in areas where there is a need for well-illuminated environments, such as the underpass section of the corridor – an unrelieved length of elevated walkway that requires a sense of safety and surveillance. This form of lighting also adds accent, reinforcing the horizontal movement through this precinct.



8TH STREET UNDERPASS, CALGARY

SCENOGRAPHIC LIGHTING

The use of scenographic lighting involves the practice of staging and controlling transformations of lighting within outdoor spaces. It typically involves a time dimension. Opportunities exist for the use of this form of lighting in proposed gathering places such as River Square, City Square and Tomkins Square.



QUARTIER DES SPECTACLES, MONTREAL | DAOUST LESTAGE INC



2.3.3 MATERIALS & FURNISHING

The 8th Street Corridor identity can be strengthened by a judicious and consistent use of signature materials on the ground. This encompasses surface treatments in the public realm such as paving materials, planting areas, and pedestrian-centred street furniture. A range of carefully considered material palettes, along with the landscape and lighting signatures, will help tie together disparate building interfaces and uses along the extent of the corridor.

Opportunity

There is an opportunity to use this project as a catalyst to rationalize City standard elements, to a smaller “kit of parts” for both standard/background and special/foreground corridor applications for the

key components identified including; street and pedestrian lighting, sidewalk and curb materials, pedestrian benches, bike racks and waste/recycling receptacles.

The information here relates to the 8 Street Corridor but also has applications that potentially go beyond this area and into other Centre City corridors or higher density urban area of the city.

Goal

The vision is to develop a consistent and sustainable framework for the creation of 8th Street materials that consider pedestrian safety and comfort, and are appropriate to the climate.

Material Palette Character

- Pedestrian friendly, high quality and sustainable materials.
- Using specified concrete paver patterns, shapes and colours to create interest and spatial definitions.
- Introducing galvanized steel or aluminum in the design and finishing of lighting standards, hand rails and bike racks while benches and waste and recycling containers would use these plus natural materials including balau, kayu or IPE wood.
- Identifying a unique furniture family ie. bike racks, garbage bins, newspaper dispensers and bus shelters that are unique but also compatible with the City of Calgary standards.
- Bus shelters are to be styled using existing City of Calgary designs with the potential to be enhanced using the same materials and finishes proposed for the railings, light standards or waste/recycling receptacles to further establish the unified vision for the corridor.
- Benches should be constructed of a combination of materials that could include cast in place concrete, wood and galvanized steel or aluminum structural elements.
- In terms of positioning, the concept is to arrange all the furniture on a 600mm-wide ribbon in line with the trees and light standards, which is uniquely marked on the pavement.
- The public furniture collection for 8th Street will be located to promote a pedestrian friendly environment and walkable street.
- Sustainability, durability, easy maintenance and costs are important factors in specifying the materials for 8th Street.
- Standard City materials and components will be used for other installations such as manholes, and catch basins.
- The consistency in the look of all of the components along the length of the corridor is key to the establishment of a strong sense of place and unified expression.



PUBLIC FURNITURE SCHEME, 8TH STREET CORRIDOR

STREET FURNITURE CONCEPT

The street furniture concept is a kit of parts comprised of elements and components that integrate into the fabric of the street. The intent is that the furniture will be a unified ribbon that acts as a continuum along the edges of the street creating a distinct character and acting as a linear plaza.

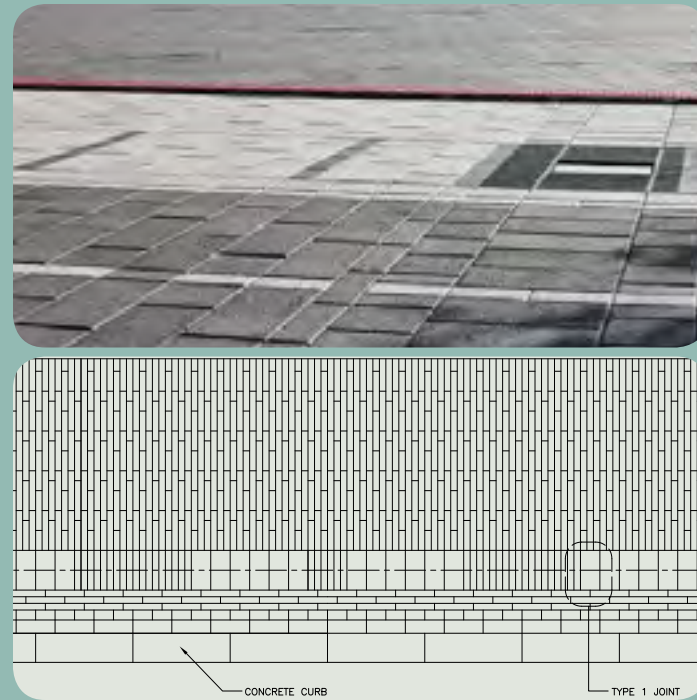
A designated ribbon of space will contain the benches, waste and recycling containers, newspaper boxes, bicycle racks and tree grates in a unified and consistent zone. Where space allows the ribbon will transform into small plazas that retain the 8th street furnishing language. It is important that the kit of parts be utilized throughout the corridor to ensure consistency of vision and a strong identity for 8th.



13TH AVENUE GREENWAY, CALGARY

PAVEMENT MATERIALS AND PATTERNS

One of the primary goals for the 8th street corridor is to create a distinct and unique character. The paving materials play an important role in defining the 8th street corridor becoming the primary unifying element that links the precincts from the River to the City. The paving materials will be precast concrete pavers which will provide a fine texture and relationship to the pedestrian. There will be three modules of pavers to allow for a distinct and consistent pattern. The paving modules will be 150x300, 100x450, 200x600 and 300x600mm with a thickness of 100mm. These modules will allow for universal accessibility by not creating a texture that is too fine allowing for different modes of pedestrian travel such as strollers, wheelchairs and scooters. The project will also feature distinct patterns and textures for corner letdowns and ramps.



CREATIVE MIX OF PAVEMENT MATERIALS AND PATTERNS

BENCHES

The benches for the 8th street corridor will be comprised of a kit of parts unique to the street. They are envisioned as benches in various modules that much like the pavers will provide a consistent and unified language along the corridor. The modules will allow for flexibility through a built up combination of components that can be tailored to the space available.

The materials proposed for the benches will be precast or cast in place concrete with a natural grey sandblasted finish combined with galvanized steel or aluminum and Balau, Kayu Batu or IPE wood for comfort, elegance and weathering characteristics. The wood will be designed with standardized modules for ease of replacement due to damage. Skateboarding deterrents will be built into the benches with stainless steel components, jointing and elegant arm rests.



STREET BENCHES | QUARTIER DES SPECTACLES, MONTREAL

2.4

Open Spaces



The conceptual approach to open spaces along the 8th Street corridor involves a strengthening of the interfaces between those existing public open spaces identified and the linear movement systems being proposed, as well as, possible design interventions to those areas currently underutilized in terms of their celebratory and public gathering potential.

This generous open space may facilitate large public gatherings and programmed activities, and to extend the reach of 8th Street to the river's edge while respecting current riparian activities and movement systems.

The other open spaces that could play a special role on 8th Street include Century Gardens, Beltline Park and Tompkins Park.

2.4.1 RIVER SQUARE (RIVERFRONT PARK)

A grand-scale public gathering area is possible for the area at the northern terminus of the 8th Street corridor study area, where 8th Street meets the existing Bow River pathway system and Peace Park.



OPEN SPACES ALONG 8TH STREET

2.4.2 CENTURY GARDENS

The existing Century Gardens, situated between Stephen Avenue and the 7th Avenue LRT corridor, is a seasonally well-used Urban Park. Municipally-sanctioned studies and a public engagement process have been recently undertaken for the possible redevelopment/refurbishment of the park. The 8th Street Master Plan recognizes the key importance of this block of public open space relative to its immediate proximity to the C-Train station, and its location with respect to the 8th Street underpass and the Downtown business district transitional edge. There are opportunities to effectively integrate any new Century Gardens design iteration with our project team's proposed urban edge intervention relative to this study area.



CENTURY GARDENS, 8TH STREET INTERFACE

2.4.3 BARB SCOTT PARK / BELTLINE PARK

A new public park for the former Central Collegiate Institute/ Dr. Carl Safran School playing field adjoins 8th Street through a cross connecting open space adjacent to the new Calgary Board of Education Administration Centre at 13th Avenue SW. Of interest to the 8th Street project team is the opportunity to transition the edge of this open space connector with some of our proposed Public Realm design elements, allowing for a more seamless transition to the new Barb Scott Park.



BELTLINE PARK, 8TH STREET INTERFACE

2.4.4 TOMKINS PARK

Tomkins Park is an anomalous linear open space situated at the southern terminus of the 8th Street corridor study area. It currently serves as a central sitting and gathering area for those who frequent the 17th Avenue retail and entertainment district. It offers opportunities for strengthening the transitional interface between 17th Avenue and the commercial mixed-uses of West Connaught and Connaught Centre along 8th Street. The west edge condition of Tomkins Park is critical to the expression of “gateway” and “threshold” relative to 8th Street, and any markers contemplated for that immediate area.



TOMKINS PARK, 8TH STREET INTERFACE

2.5

Buildings and Interfaces



The 8th Street corridor is characterized by a diverse range of mixed-use commercial, office, retail and residential uses, both private and public, and is punctuated by a series of solid forms and voids along its length. There are some areas of street frontage that are pedestrian friendly and scaled appropriately to the street. There are open parking lots and building edges that are devoid of any street-level articulation and pedestrian-scaled detail. Also, there are properties undergoing or with potential to undergo redevelopment.

Opportunities

To collaborate with existing and new building owners and developers to create stronger interfaces with the public realm.



BUILDINGS AND INTERFACES ALONG 8TH STREET

2.5.1 BUILDINGS OF INTEREST

There are a number of new purpose-built or re-purposed buildings along 8th Street that endeavour to address the conditions of the street, and as urban design responses, allow for a high degree of transparency and pedestrian scale interface, including the UC Downtown Campus, a former medical office use, the new CBE Administration Centre and Beltline Park interface, and Mark on 10th, the latest in a series of new residential condominium point towers springing up in the Beltline that speak to the changing nature of the corridor, and the strengthening pedestrian qualities of Centre City neighbourhoods



U OF C DOWNTOWN CAMPUS @ 8TH ST & 8TH AVE

2.5.2 COMMERCIAL FRONTAGES

There is a current inconsistency in the quality of street frontages, including retail storefronts, building entrances that lack any sense of threshold or overhead weather protection, such as canopies and awnings. There is a proliferation of poor identification signage for uses such as eating and drinking establishments. A number of commercial buildings along 8th Street do not have active edges at their bases, to attract pedestrian traffic. There is often no opportunity for providing outdoor seating areas adjacent to these commercial uses.



POOR COMMERCIAL FRONTAGE @ 8TH ST AND 5TH AVE

2.5.3 SOLID FACADES

Areas of the corridor study area, especially against the Downtown business district edge between 4th and 7th Avenues, present some challenging transitional building facades relative the street. These buildings do not address the public pedestrian realm in terms of scale, street frontage, visual cues, and transparency. They are simply uninviting to passers-by, and do not engage pedestrians.



ENMAX BUILDING @ 8TH ST & 4TH AVE

2.5.4 PARKING LOT INTERFACES

There are open areas of parking associated with private commercial uses identified along the extent of the 8th St corridor, as well as, a few dedicated public parking areas. It is important for any urban design interventions proposed for 8th Street to address the transitional interface between the street, sidewalks and open parking lots, in terms of their impact on the public pedestrian realm. Installing effective screening devices or developing other strategies for mitigating the appearance of unrelieved stretches of asphalt and vehicles, can form part of a recommended course of urban design action.



SAFeway PARKING LOT @ 8TH ST & 12 TH AVE

2.6

Public Art



Public art will continue to contribute to the overall design and vitality of the 8th Street corridor through physical integration or alternatively, through thoughtful contrast. It will cover a diverse range of art forms, from large City Scale pieces to changeable, transitory works. It may integrate directly with buildings through contextual façade treatments or manifest as freestanding pieces as part of an 8th Street public art programme.

Opportunities

- The north (river) and south (17th Avenue) anchors will benefit from large City Scale art pieces that mark the thresholds of the corridor.

- Open spaces within the corridor can serve as functional artwork, with interactive displays of art strategically located.
- Opaque or solid surfaces offer opportunities for graphic façade treatments.
- Large, vacant City-owned parcels offer opportunities for both a sustained grand gesture, and for more changeable pieces.

Challenges

- There is a need to partner with external stakeholders to facilitate the implementation of public art initiatives as they might relate to privately-owned buildings and sites.
- Although public art is to be procured as a separate, independent

process, the efforts of each participating artist must align with the contextual urban design approach taken for each precinct within the 8th Street corridor.

- Public art procurement needs to be a well managed, curated process.

Goal

The public art component of the 8th Street redevelopment will consist of the most creative and contemporary solutions that are intended to: engage the public, attract people to the area as a series of urban destinations, enhance the pedestrian experience, reflect and extend the culture of the City and the local neighborhood and contribute to the design unity of the entire corridor and adjoining neighborhoods.



PUBLIC ART PROPOSED LOCATIONS ALONG 8TH STREET

2.6.1 CITY SCALE PUBLIC ART

City scale public art pieces will be located on either end of the project boundary in the Riverfront and Tomkins park. These pieces intended for highly visible locations are site specific.

These may be contextual to site or provide stark contrast. They should be scaled appropriately to draw attention and invite discussion.



LARGE SCALE ART PIECES | LARGE HEAD BY DAVID CERNY; CHARLOTTE NC

2.6.2 FACADE TREATMENT

Facade treatment is proposed as a way to utilize the blank walls and contribute to public realm. As artwork, facade treatment is intended to be more transitory in nature.

The treatment can be as simple as a painted or applied wall graphic or it can be as sophisticated as an attached animated piece, affected by wind or temperature.



FACADE TREATMENT | UOFC PARKADE - DOWNTOWN CAMPUS BY NED KAHN; CALGARY AB

2.6.3 INTERACTIVE PUBLIC ART

Interactive public art is considered as a possible application for underpass area on 8th Street. It is intended to engage public directly through sensory exploration.

The kinetic medium involves physical interaction, which may in turn trigger sounds, light or other sensory combinations as well as visual projection.



INTERACTIVE PUBLIC ART | VECTORIAL ELEVATION BY RAFAEL LOZANO HEMMER ; MONTREAL QB

2.6.4 CHANGEABLE PUBLIC ART

Changeable public art armatures are considered to be positioned in open spaces and vacant lots. The structures as a new architectural typologies screen, and the artwork brings life and activity to those dead edges of street.

The changeable pieces are transitory in nature and lend themselves to temporary installations. They are adaptable to different contexts and location conditions, and also integrated into public realm infrastructure elements.



CHANGEABLE PUBLIC ART SUPPORT | PROMONADE DES ARTISTS, MONTREAL

2.7

Coordination and Integration with City Standards

The proposed cross sections and signature design elements developed within the Master Plan for the 8th Street Corridor will require detail design advancement of the recommended concepts. This advancement will need to be prepared considering the existing City of Calgary design standards and the enhanced design criteria identified for this corridor. The work must also be planned, coordinated and potentially integrated with current and future projects on adjacent lands or with facilities within the right of way including utility upgrades or new bike facilities.

In developing the Master Plan, the project team consulted with representatives from City Business Units and external stakeholders in order to develop concepts that are generally compatible with existing standards and practices while achieving the project mandate for exceptional design. By doing this, it will be feasible to advance design concepts proposed within the master plan with minor detail design refinements to the character elements of the corridor. As design development advances, reference must be made to City standards, particularly the technical rather than aesthetic considerations. The City of Calgary Urban Development Department distributes technical specifications and engineering design manuals, including the following partial list of documents that apply to this work.

- 2015 Standard Specifications for Roads Construction
- 2011 Stormwater Management & Design Manual
- 2016 Standard specifications for Water Services construction
- 2016 Design Guidelines for Street Lighting
- 2016 Street Lighting material catalogue
- 2006 Standard Specifications for Street Lighting Construction
- 2013 Development Guidelines and Standard Specifications: Landscape Construction
- 2014 Design Guidelines for Subdivision Servicing
- Temporary Traffic Control Manual
- Environmental Construction Operations (ECO) Plan Framework

Any significant variances to City of Calgary technical standards must be identified and the rationale or justification for modified standards should address an assessment of life-cycle, maintenance and asset management implications. Where standards may not exist for particular components of the design, such as linear handrail lighting, these standards will need to be developed in conjunction with appropriate City Business Units.

Another aspect requiring continued coordination and consultation relates to current studies and development, being undertaken by the City or private sector. These should be referenced and integrated with the appropriate development phases of the 8 Street Corridor. Some examples of concurrent work includes:

- Centre City Cycle Track Network
- Century Gardens Park Redevelopment

- Calgary Transit Centre City Circulation Review
- The Mark on 10th Condo Development
- Mount Royal Village Mixed Use Complex
- West Eau Claire Park & Public Realm Plan

Details of these projects that connect with the corridor elements require additional coordination as details are developed to ensure the Master Plan elements integrate with the proposed developments for a unified and consistent corridor.

In order to ensure a coordinated implementation strategy, planned capital projects and asset management/ life-cycle maintenance activities proposed by various City Business Units or private utility providers should be established on a regular basis to understand the implications on the phased 8th street development. Where possible these activities and budgets should be utilized to further enhance the appropriate development phases.

Key assumptions in the development of the Master Plan include:

- Right-of-way: The setbacks in the City Bylaws will ultimately be granted to achieve a 24.385m right-of-way
- Roadway: Design speed of 50km with lane widths ranging from 3.6 m at the underpass to 3.1 m for median or centre lanes. Narrower lanes will promote reduced operating speeds and shorten crossing distances for pedestrians, which will create a safer user environment.
- Tree spacing: achieve 6m clear separation between trees and >2m from property lines.
- Drainage catchment: No change to catchment areas within the project limits with the exception of any addition of setback areas. Only changes to surfacing materials are proposed and not the impervious nature of the surface with the exception of addition of trees. There may also be redirection of surface runoff into the tree bases or park areas to reduce peak runoff.
- By-lawed setbacks from property line will be exercised with redevelopment to maximize pedestrian realm space.
- Shallow Utility Accommodation: final configuration, dimensions and locations for the design element in the corridor will need to be confirmed in design stages

In the consultation conducted for this study, there is general agreement that further engagement of City specialists to work with the design team in the development of details for design elements will be required. This includes input for non-standard components such as the bike lane, ownership of elements such as the scenographic lighting, maintenance responsibilities including sidewalk snow clearing, and associated enhanced funding for life cycle management of special character components such as paving stones and light fixtures. This dialogue should be undertaken at the outset of each design phase and build upon what was successful from the previous phases.

PART 3

8TH STREET MASTER PLAN

3.1	Illustrative Master Plan	44
3.2	Phase 1: Center Precinct City Link	46
3.3	Phase 2: South Precinct Beltline Village	56
3.4	Phase 3: South Anchor Tomkins Square	60
3.5	Phase 4: North Anchor River Square	64
3.6	Phase 5: North Precinct City Square	68
3.7	Master Plan Elements	72

3.1

Illustrative Master Plan.

The 8th Street Corridor Public Realm Master Plan represents the project team’s collective urban design response to a number of existing site conditions along the length of the study area. The corridor is presented as a number of distinct urban precincts characterized by unique sets of challenges and opportunities.

Five precincts have been geographically identified “from the River to the City”, including:

- River Square (North Anchor)
- City Square (North Precinct)
- City Link (Centre Precinct)
- Beltline Village (South Precinct)
- Tomkins Square (South Anchor)

The precincts are organized according to a phasing sequence relative to perceived timelines for implementation and the likelihood of stakeholders to initiate action within each defined area.

We have identified some challenges and opportunities relative to each precinct and have set a goal for each precinct within the context of the Master Plan Vision of creating a distinctive, contemporary and pedestrian focused urban destination area.

Each precinct has also been characterized by key physical components, including:

- Movement Systems
- Street Organization
- Public Realm Design Elements
- Open Spaces
- Buildings and Interfaces
- Public Art Integration



8

River Square

City Square

Stephen Ave.
/ City Hall

City Link

3rd Ave Cycle Route

4 Ave

5 Ave

6 Ave

7 Ave

8 Ave

9 Ave

10 Ave



PHASE 4

NORTH ANCHOR
RIVER SQUARE
THE RIVER - 4TH AVE

PHASE 5

NORTH PRECINCT
CITY SQUARE
4TH AVE - 8TH AVE

PHASE 1

CENTER PRECINCT
UNDERPASS | CITY LINK
8TH AVE - 10TH AVE



11 Ave

12 Ave

13 Ave

14 Ave

15 Ave

16 Ave

13th Avenue Greenway

17th Avenue Promenade

Beltline Village

Tomkins Square

- Green Space
- Paved Street Surface
- Street Surface
- Pedestrian Pathway
- Tree Symbol
- Public Art Feature Opportunities

PHASE 2

PHASE 3

SOUTH PRECINCT
BELTLINE VILLAGE
10TH AVE - 15TH AVE

SOUTH ANCHOR
TOMKINS PARK
15TH AVE - 17TH AVE

3.2

Phase 1: City Link | Center Precinct

City Link represents the underpass area along 8th Street between 8th and 10th Avenues SW that encompasses both a CPR Right of Way and the 9th Avenue viaduct connecting east-west vehicular traffic into the Downtown business district. Of all the precincts identified, City Link offers immediate, realizable opportunities for improvement to the pedestrian realm.

Challenges

- The current two city block length underpass is characterized by narrow, visually unrelieved, retained, elevated walkways on either side of the road right of way.
- The existing retaining walls and sidewalks along the length of the underpass are in a state of deterioration, as is the area under and adjacent to the CPR Right of Way.
- Safety concerns have been expressed as there are few “escape routes” for pedestrians along either side of the underpass.
- There is a vertical stair connection to 9th Avenue above on both underpass walkways but they are narrow and partially obstructed by overhead utility lines. As well, there are no pedestrian crossings at the point of where these stairs spill out on to 9th Avenue.
- The west side of the underpass roadway is characterized by an existing landscape intervention (sandstone boulders) at the south end of 8th Street that acts as a buffer or barrier to the public sidewalk. The west walkway pinches down in width at the north end of the underpass towards 8th Avenue, creating challenges for pedestrian movement.
- Utilities and commercial signage clutter the look of the existing bridges

Opportunities

- Develop an essential pedestrian-friendly link to the City by physically connecting 8th Street to 9th Avenue.
- Celebrate a public connection between the Downtown and the Beltline.
- Create “safe passage” through the 8th Street underpass with multiple access points, and optimizing the ability for natural

surveillance.

- Enhance the pedestrian experience with feature and accent lighting, and integrated public art.
- Replace two sub-standard vehicle lanes with space-appropriate vehicle and bike lane in each direction.
- Take advantage of the existing CPR bridge and 9th Avenue viaduct conditions to facilitate the installation of public art and way-finding devices, to help animate the underpass.
- Facilitate better physical connections between the public walkways and adjoining commercial uses/ outdoor spaces.
- Work towards a consistent minimum walkway width along the extent of the underpass to better facilitate two-way pedestrian traffic.

Goal

The Master Plan proposes a transformation of the existing 8th Street underpass area into City Link – a well-illuminated, public pedestrian realm that directly links 8th Street to the downtown business district with future “stramp” elements, and is complemented by the installation of a public art piece.



Movement Systems

- Enhanced underpass to address all users.
- Connectivity between 8th Street and 9th Avenue.
- Accommodation for cyclists
- Vehicular lane rearrangement



Street Organization

- Two way vehicular traffic with centre median
- Street revised to wider single lane in each direction.
- Cycling lane provision in each direction
- Provision for EMS/ Fire vehicles



Public Realm Design Elements

- Functional and feature lighting applicable.
- Scenographic lighting applicable in terraced landscapes
- Linear lighting applicable for elevated walkway railings.
- Resurfacing of walkways



Open Spaces

- Retain concept for a feature “stramp” element to mitigate existing underpass retaining wall conditions & to open up corridor areas to 9th Avenue.
- Better integration of public sidewalks with privately owned plaza spaces



Interfaces and Buildings







- Adjacent buildings, on the approaches to the space between the bridges, offer opportunities to enhance connectivity and openness.
- Concrete retaining wall interfaces dominate between bridges, with renovation treatments and finishings intended to brighten the space.



Public Art Integration

- Mountain Equipment Co-op could accommodate the application of graphic wall art.
- CPR bridge and 9th Avenue viaduct could house the addition of way finding/ graphic art, in lieu of advertising billboards.



-  Public Art Feature Opportunities
-  Tree Symbol
-  Pedestrian Pathway
-  Street Surface
-  Paved Street Surface
-  Green Space

PHASE 1



BEFORE





AFTER - PHASE 1 DESIGN



BEFORE





AFTER, ULTIMATE - CONCEPT ONLY, SUBJECT TO DETAILED DESIGN



for the sake of visual clarity and visibility of the concept, the public art piece has not been illustrated in this image

BEFORE





AFTER, INTERIM - PHASE 1 DESIGN



BEFORE





AFTER, ULTIMATE - CONCEPT ONLY, SUBJECT TO DETAILED DESIGN



for the sake of visual clarity and visibility of the concept, the public art piece has not been illustrated in this image

3.3

Phase 2: Beltline Village | South Precinct

Beltline Village represents the area along 8th Street between 10th to 15th Avenues SW and is the single largest precinct within the Master Plan study. It encompasses a diverse range of mixed-use commercial, office, retail and high-rise residential uses. Beltline Village offers a series of opportunities for enhancement of the public realm to encourage continued private investment and to strengthen the support infrastructure of the adjoining neighborhoods of Connaught Centre and West Connaught.

Challenges

- There is no consistent street profile within the Beltline Village precinct, relative to the public realm.
- There are varying sidewalk widths, depending on the particular building interfaces with the street, which may limit or negate the possibility of optimally incorporating signature infrastructure elements such as landscaping, pedestrian lighting and street furniture.
- Some existing buildings are not set back adequately from 8th Street to facilitate the addition of public realm pedestrian infrastructure elements.
- Open parking lots and lanes that front on to 8th Street disrupt pedestrian flows
- Large open asphalt parking lots that create a visual eyesore and/or urban heat island effect.
- The current 8th Street road configuration does not support street parking.

Opportunities

- Foster a sense of community through a variety of urban living experiences.
- Reinforce the distinctive residential character of the Connaught Center and West Connaught neighborhoods with an enhanced public realm infrastructure.
- Enhance the vibrant mix of retail, office, hospitality, and residential uses by incorporating signature urban design elements, such as landscaped promenades with furniture,

enhanced functional and accent lighting, and street parking during off-peak hours.

- Create dedicated cycling lanes and reduce vehicular lanes within this precinct in response to lower vehicular volumes, thereby increasing pedestrian safety and facilitating multi-modal access along this length of 8th Street.
- Create open, small-scaled gathering places and terraces in support of local businesses.
- Integrate and enhance edges of the 8th Street public realm with existing open spaces such as the CBE open space that transitions into Barb Scott Park adjacent to the CBE building.
- Integrate new building construction along 8th Street with public realm improvements, in alignment with the master plan.

Goal

The Master Plan proposes a transformation of this mixed-use commercial office/ retail and higher density residential precinct of 8th Street into Beltline Village – a lively public pedestrian realm that enables 8th Street to support those activities.



Movement Systems

- Pedestrian focused with wider sidewalks
- Accommodation for cyclists
- Vehicular lane reduction



Street Organization

- Two way vehicular traffic
- Street revised to two lanes in each direction
- Cycling lane provision in each direction between 10 and 12 avenue
- Provision for EMS/ Fire vehicles



Public Realm Design Elements

- Landscape signature
- Functional and feature lighting
- Scenographic lighting
- Signature walkway surface treatment
- Signature street furniture integration



Open Spaces

- CBE Admin Centre open space connecting to Barb Scott Park adjacent to Carl Safran School to be addressed relative to 8th St. public realm interface
- Existing Safeway store open parking lot between 11th and 12th Avenues requires public realm intervention at sidewalk interface



Interfaces and Buildings

- Building-street interface conditions vary between 10th and 15th Avenues with different building setback conditions, different levels of transparency at street level
- This precinct generally characterized by built-up edge condition









Public Art Integration

- Changeable art installation along length of Safeway Parking lot could incorporate a more permanent functional screen wall or framework that can house a scenographic lighting component

MASTER PLAN | SOUTH PRECINCT | FROM 10TH AVE - 15TH AVE



-  Public Art Feature Opportunities
-  Tree Symbol
-  Pedestrian Pathway
-  Street Surface
-  Paved Street Surface
-  Green Space

PHASE 2

SOUTH PRECINCT
BELTLINE VILLAGE
10TH AVE - 15TH AVE



BEFORE





AFTER - CONCEPT ONLY, SUBJECT TO DETAILED DESIGN



3.4

Phase 3: Tomkins Square | South Anchor

Tomkins Square represents the area along 8th Street between 15th to 17th Avenues SW and forms the south anchor of the corridor. It is currently in a state of transition with respect to proposed new developments/ renovations which may add to the current diversity of mixed-use commercial, office, retail and residential uses and activities in the area. Tomkins Square offers the opportunity for enhancement of the public realm by acting as a gateway or entrance marker relative to 8th Street. It is intended to serve as a transitional connector or “knuckle” between the 17th Avenue retail and entertainment district which runs east-west and the intersecting 8th Street corridor.

Challenges

- Existing buildings, such as the heritage Devenish Centre, create a tight edge against 8th Street, limiting an urban design response with respect to public realm infrastructure such as enhanced landscaping.
- The anomalous street grid between 15th and 17th Avenues has resulted in some irregular land parcels and traffic challenges relative to 17th Avenue and 8th Street.

Opportunities

- Create a southern gateway or marker for the 8th Street public realm by enhancing the interface between the street edge and the western edge of Tomkins Park, and incorporating a public art beacon similar in language to the one proposed for River Square at the very north end of the 8th Street axis.
- Enhance the 8th Street pedestrian crossing at 17th Avenue with the introduction of textured/ patterned road surfacing, integrated with Tomkins Park.
- Take creative advantage of the anomalous street grid between 15th and 17th Avenues, which has resulted in the creation of interesting residual land parcels, including Tomkins Park, and has facilitated a double row of street parking on 16th Avenue SW.
- Integrate new building construction along 8th Street with proposed public realm improvements.

- Pursue public / private partnering opportunities relative to planned enhancements of the 17th Avenue retail and entertainment district at 8th Street, in support of local businesses.

Goal

The Master Plan proposes a transformation of this relatively small area of 8th Street at the south end of 8th Street into Tomkins Square – an important public pedestrian realm that serves as a gateway onto the 8th Street corridor and helps to tie into and feed off of the existing energy of the 17th Avenue retail and entertainment district. Ultimately, Tomkins Square is intended to reinforce and support the long term growth of the adjoining Centre City neighborhoods of Connaught Centre and West Connaught.



Movement Systems

- Pedestrian focused with wider sidewalks
- Vehicular lane reduction



Street Organization

- Two way vehicular traffic
- Street revised to two lanes in each direction
- Provision for EMS/ Fire vehicles



Public Realm Design Elements

- Limited landscape signature
- Functional and feature lighting
- Scenographic lighting
- Signature walkway surface treatment
- Signature street furniture integration
- Off-peak parking opportunity



Open Spaces

- Tomkins Park represents an open space opportunity for reinforcing the notion of gateway or crossroads, through a surface treatment intervention
- Integration of 8th Street public realm edges with new development/ redevelopment proposed for either side of 16th Avenue can enhance open space opportunities (i.e. more open plaza area added)



Interfaces and Buildings

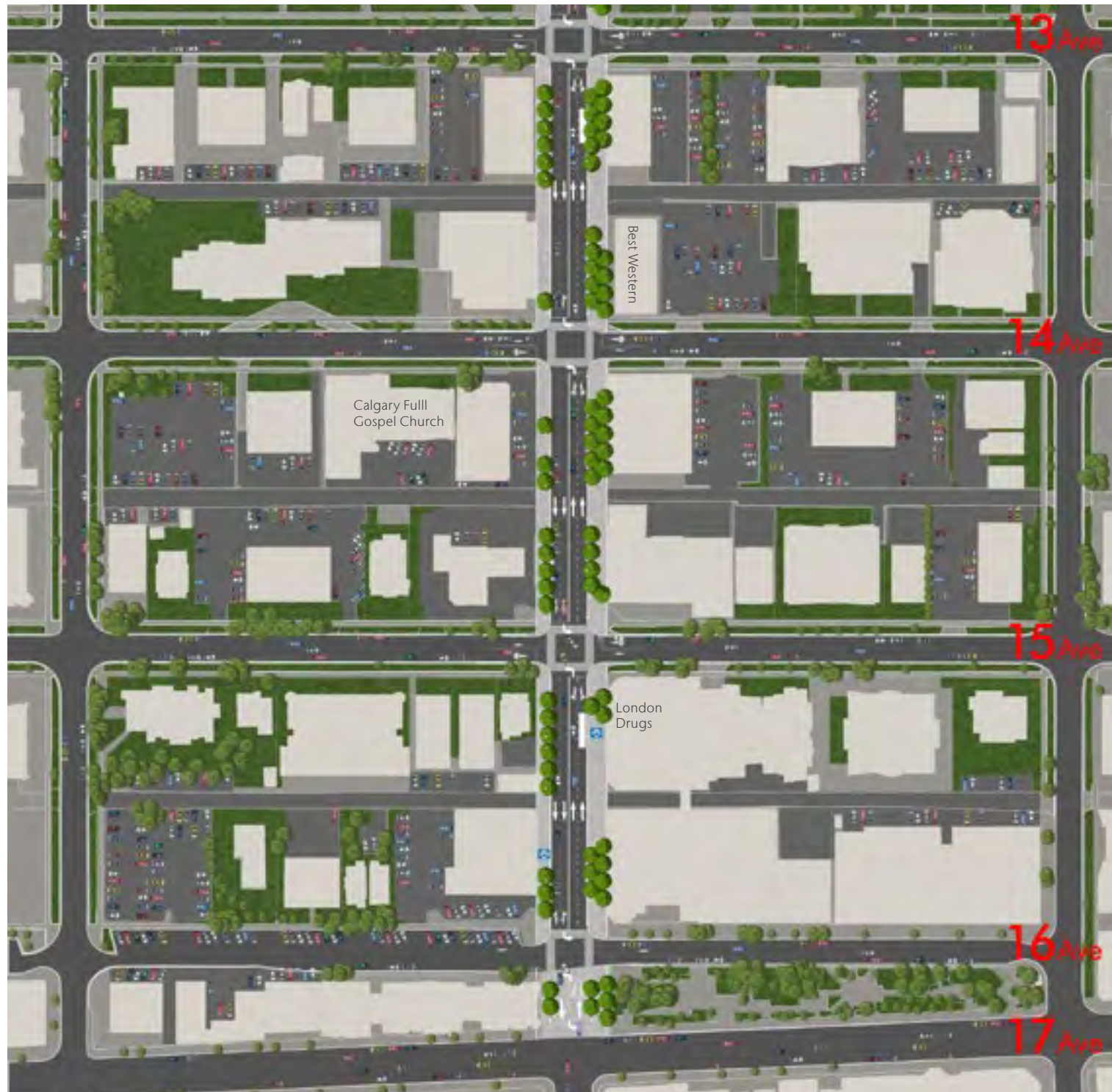
- Building-street interface conditions contingent upon redevelopment of Mount Royal Village and new mixed-use project on west side of 8th Street
- Opportunity to add outdoor terraces along east side of 8th Street









Public Art Integration

- Public “beacon”/ “marker” proposed for Tomkins Square to signify this area as a southern gateway into the 8th Street corridor

MASTER PLAN | SOUTH ANCHOR | FROM 15TH AVE - 17TH AVE



-  Public Art Feature Opportunities
-  Tree Symbol
-  Pedestrian Pathway
-  Street Surface
-  Paved Street Surface
-  Green Space

PHASE 3

SOUTH ANCHOR
TOMKINS SQUARE
15TH AVE - 17TH AVE



BEFORE





AFTER - CONCEPT ONLY, SUBJECT TO DETAILED DESIGN



3.5

Phase 4: Riverfront | North Anchor

River Square represents the area along 8th Street between the Bow River and 4th Avenue SW and forms the north anchor of the corridor. It is currently characterized by a large tract of vacant land on the west side of 8th Street between 2nd and 4th Avenues, which forms part of a West End consolidation, and the Centre City neighborhood of Eau Claire to the east. This precinct interfaces with the river's edge to the north, serving as an important crossroads for the Bow River pathway system and its riparian activities.

Challenges

- There are existing land uses to the east in Eau Claire, including a church and some multi-family residences that may be concerned with potential impacts relative to large public gatherings (i.e. street parking, noise, safety and security, public gatherings or civic facilities.)
- There will be changes to the existing patterns of use relative to the river pathway system if it is assumed that the 8th St corridor is stretching its signature reach to the river.
- Fire/EMS require access to a boat launch on the Bow River.

Opportunities

- Celebrate the scale of the City with a grand public gesture.
- Create an urban “room” – a celebratory plaza that can facilitate large gatherings of people (i.e. upwards of 25,000 +)
- Create a public art “beacon” relative to the 8th Street public realm.
- Provide a “gateway” to the City’s Downtown business district and other adjoining Center City neighborhoods to the south.
- Integrate signature urban design elements along the length of 8th Street between 2nd and 4th Avenues to facilitate pedestrian oriented movement and activities, such as a community-based open market concept with provisions for temporary kiosks and

interactive public art installations.

- Facilitate the immediate reclamation of vacant and underutilized spaces within this precinct by promoting temporary, active public uses, such as Pop-Ups.
- Pursue innovative ways of supporting long term public realm sustainability, involving a partnership between the community association, local businesses, local property owners, and other interest groups.

Goal

The Master Plan proposes a transformation of this highly visible yet vacant area at the north end of the 8th Street corridor into River Square – a vital public pedestrian realm that serves as a gateway to the City from the river, and helps to integrate a number of diverse uses and interests relative to the Bow River system and the neighborhood of Eau Claire. In the long term, the creation of River Square is intended to encourage future development and strengthen the residential neighborhood qualities of Center City.



Movement Systems

- Pedestrian focused with wider sidewalks
- No accommodation for cyclists (reliance on 7th St. cycle track)
- Vehicular lane reduction



Street Organization

- Two way vehicular traffic
- Street revised to two lanes in each direction
- On-street parking opportunity
- Provision for EMS/ Fire vehicles



Public Realm Design Elements

- Enhanced landscape signature
- Functional and feature lighting
- Scenographic lighting
- Iconographic lighting
- Signature walkway surface treatment
- Signature street furniture integration



Open Spaces

- River Square represents an open space opportunity for reinforcing the notion of gateway and crossroads through a careful integration of riverfront riparian activities, river pathway recreational uses and community-driven, public assemblies
- Vacant City land currently earmarked for west end consolidation has potential for creation of large ceremonial gathering place



Buildings and Interfaces

- Mixture of new and historical buildings adjacent to a City-owned open spaces with strong development potential, highlight opportunity for creating an effective interface as the terminus of the corridor.



Public Art Integration

- Large public “beacon”/ “marker” proposed for River Square to signify this area as a northern gateway to the City, Downtown and Centre City neighborhoods

MASTER PLAN | NORTH ANCHOR | FROM THE RIVER - 4TH AVE



- Public Art Feature Opportunities
- Tree Symbol
- Pedestrian Pathway
- Street Surface
- Paved Street Surface
- Green Space

PHASE 4

NORTH ANCHOR
RIVER SQUARE
THE RIVER - 4TH AVE



BEFORE





AFTER - CONCEPT ONLY, SUBJECT TO DETAILED DESIGN



3.6

Phase 5 : City Square | North Precinct

City Square represents the area along 8th Street between 4th and 8th Avenues SW, and provides a transitional role within the corridor, serving as the western edge of the Downtown business district, integrating an array of commercial office, multi-storey residential and limited retail uses. The north precinct is characterized by an urban canyon effect between 4th and 7th Avenues, with relatively non-discrete, unarticulated buildings facades that in terms of City Centre Plan, Public Realm Policies, do not achieve a quality pedestrian-scaled experience. In stark contrast to this is the area of the north precinct between 7th and 8th Avenues. An LRT platform immediately off of 8th Street, an existing urban park, Century Gardens, and a newly re-adapted Downtown Campus for the University of Calgary all bring appropriate texture and pedestrian scale to 8th Street.

Challenges

- Existing buildings are generally not well articulated at street level and create an urban canyon effect, relative to wind speed, microclimate and air quality.
- There are a number of unrelieved, solid building masses, including open air parking structures that are currently lacking in street presence and offering only minimal gestures and visual cues to pedestrian users.
- The use of transparent glazing, entrance canopies, trellises and colonnades is minimal along the edge of transition between 4th and 7th Avenues.
- The use of color and wall-applied graphics are minimal along the extent of the transition strip.

Opportunities

- Soften the western edge of the Downtown business district with signature public realm interventions, incorporating the use of color and light, creating a stronger transition to the Centre City’s West End neighborhood.
- Create an area of “passage”; a transition between the river’s edge/ River Square and City Square, and formalize this visual and functional connection.
- Enhance the pedestrian realm through the coordinated use of accent lighting, integrated public art, and signature landscaping.
- Promote street integration relative to renewal plans for Century Gardens and the new UofC Downtown Campus area, through the use of textured road surfacing and modified street edge conditions – demarcating City Square.
- Work with external stakeholders to integrate new developments with the proposed public realm interventions and local context.

Goal

The Master Plan proposes a transformation of this transitional area at the north end of 8th Street into City Square – a public pedestrian realm that can help support the continuation of Stephen Avenue, terminating at City Square, and help soften the edge between the Downtown business district and the West End residential neighborhood. Ultimately, City Square can gain recognition as a celebratory urban gathering space that serves to reinforce and enhance existing area public open spaces and services.



Movement Systems

- Pedestrian focused with wider sidewalks
- No accommodation for cyclists through this precinct. (Cyclists are served by 7th Street provisions, north of 8th Avenue.)
- Vehicular lanes maintained
- LRT platform off of 8th Street ties directly into public pedestrian realm



Street Organization

- Two way vehicular traffic
- 8th Street maintains two lanes in each direction
- Off-peak parking opportunity
- Provision for EMS/ Fire vehicles



Public Realm Design Elements

- Enhanced landscape signature applicable, as it pertains to Century Gardens
- Functional and feature lighting
- Scenographic lighting
- Signature walkway surface treatment
- Signature street furniture integration



Open Spaces

- City Square represents an opportunity for reinforcing existing open space potential offered by Century Gardens (currently under detailed re-design,) and actually opening this up as a pedestrian crossroad



Interfaces and Buildings

- Building-street interface conditions contingent upon new mixed-use project on east side of 8th Street between 7th and 8th Avenues
- Opportunity to integrate outdoor terraces along east side of 8th Street adjacent to Century Garden redevelopment
- New UofC Downtown Campus allows for more integrated street edge design response relative to Century gardens









Public Art Integration

- Potential animated building façade treatment.
- Possible integration of changeable or interactive art pieces relative to Century Garden redesign

MASTER PLAN | NORTH ANCHOR | FROM 4TH AVE TO 8TH AVE



-  Public Art Feature Opportunities
-  Tree Symbol
-  Pedestrian Pathway
-  Street Surface
-  Paved Street Surface
-  Green Space

PHASE 5



BEFORE





AFTER - CONCEPT ONLY, SUBJECT TO DETAILED DESIGN



3.7

Master Plan Elements

While the Master Plan is a visionary document, there is a need to provide more specific information that will guide design development in ways that complement the overall vision. The information here relates to the 8 Street Corridor but also has applications that potentially go beyond this area and into other Centre City corridors or higher density urban area of the city. The following paragraphs provide supplemental detail information related to specific aspects of the Master Plan.

The unique experience of the corridor is a result of the quality and character of the elements that have been proposed. It is critical that these elements be developed and implemented as shown to realize the change the City desires to alter the current perception and function of the corridor. This will not be accomplished using only existing and traditional City standards.

As the project team studied the elements to be introduced in the corridor as documented in Part 2, it was determined that some of the elements were not part of the City's current standards. As well, from subsequent consultation with City business units it is understood that the City desires to reduce the number of potential variations of equipment standards utilized on City projects from lighting standards to site furnishings. The project team believes there is an opportunity to use this project as a catalyst to rationalize City standard elements, to a smaller "kit of parts" for both standard/background and special/foreground corridor applications for the key components identified including; street and pedestrian lighting, sidewalk and curb materials, pedestrian benches, bike racks and waste/recycling receptacles. It is hoped that the 8th Street Corridor will establish new standards based on the goals and objectives of the various City Business units that will achieve the long term goals of reducing the amount of variety by establishing an acceptable and adaptable kit of parts.

3.7.1 MATERIALS

The character and associated aesthetic of the corridor is largely dependant on the finishing materials proposed for the project. For a feature or special corridor such as 8 Street SW, we recommend introducing:

Pavers

Concrete pavers of varied but specified colour and dimension for the sidewalks and any bike path. Textured accent strips to separate the pedestrian and bike spaces, and to potentially delineate the furnishing zone. (Avenue Pavers manufactured by Bulduc Concrete)

Galvanized steel or aluminum would be used in the design and finishing of lighting standards, hand rails, bus shelters and bike racks while benches and waste and recycling containers would use these plus natural materials including balau, kayu or IPE wood.

Trees

Tree species would be Brandon Elm to achieve the desired cathedral canopy affect and based on proven performance in urban conditions. Silva Cell or similar product will be used to provide the necessary sub surface soil volume to promote root growth and aid in long term performance and viability of the trees.

Catch Basins and Manhole Covers

Standard City materials and components will be used for other installations such as manholes, and catch basins.

Bus Shelter

Current City Standard

Drainage

The Master Plan concept is based on upgrading the road and sidewalk facilities within the established existing right-of-way. Currently, the surface area within this space has been developed with concrete and asphalt finishes throughout. Since no alteration of the basic horizontal or vertical alignment of the 8 Street roadway and connecting roadways is planned, there is no anticipated change to the patterns of stormwater runoff, collection or transport.

As noted previously, with the advancement of each phase of the corridor redevelopment there will be detailed design work completed that will include information related to changes to finishing materials (such as pavers on the sidewalks), introduction of trees, location of curbs, and the associated revised grading of the sidewalks and roadway crossfall. This work will also include details of the catchment areas and flow pattern of the runoff. It is expected that the future designs will utilize the existing storm water sewers to convey runoff and will redirect some of this runoff both from within and outside the right-of-way to tree wells, thereby potentially reducing the peak flow in the closed drainage system.

Maintenance

With the features presented for the 8 Street SW Corridor, there will need to be confirmation for any unique or performance-critical maintenance requirements. The costs and frequency for this work must be determined as part of the detailed design process. As well, department responsibility and annual costs for maintenance must be confirmed prior to the completion of the construction stage.



CONCRETE PAVERS



BRANDON ELM TREES



CATCH BASINS AND MANHOLE COVERS



BUS SHELTER

Lighting

The lighting proposed for the corridor reinforces the asymmetrical look of the corridor with combined roadway / pedestrian light fixtures on the west side of the corridor and pedestrian only lighting on the east side of the corridor. The proposed poles and fixtures must meet the specific 13 lux City standard for roadway illumination and 3.0 Eavg/Emin for uniformity as well as meeting the minimum requirement standards for illuminating pedestrian corridors.

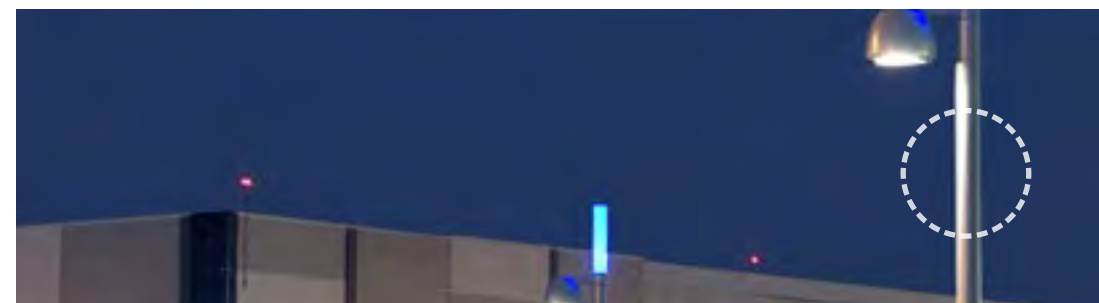
The design of the light poles and luminaires will utilize the standard City of Calgary precast concrete base and bolt circle conforming to existing City standards. It is recommended that the light pole includes the ability to combine multiple street components such as directional roadway and wayfinding signage, street name signage and signals to reduce street clutter and provide an efficient and enhanced use of the poles. The poles would need to be designed to ensure the proper static and wind loads are accommodated in the pole design to allow for the extra loading.

Roadway and pedestrian luminaires, linear lighting and scenographic lighting elements should utilize standard catalogue fixtures suitable for Calgary conditions that enable convenience and ease of maintenance while allowing for the future kit of parts usage for other initiatives within the City.

In all cases, the warranty on components installed must ensure suitable operations and maintenance timelines (minimum 5 years).

The specified elements for 8 Street lighting includes:

- Cooper Lighting, Gleon, Galleon LED, Area and Site Luminaire
- Lumca Elliptical LED Marker, MK-W 4000K
- Philips Lumec pedestrian light luminaires OV1-6LEDW-120-16-VPA-CUSTOM RAL #9006 (White Aluminum)



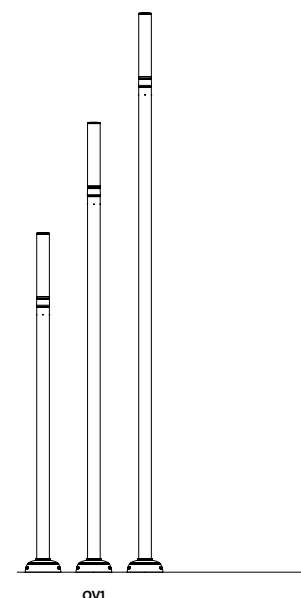
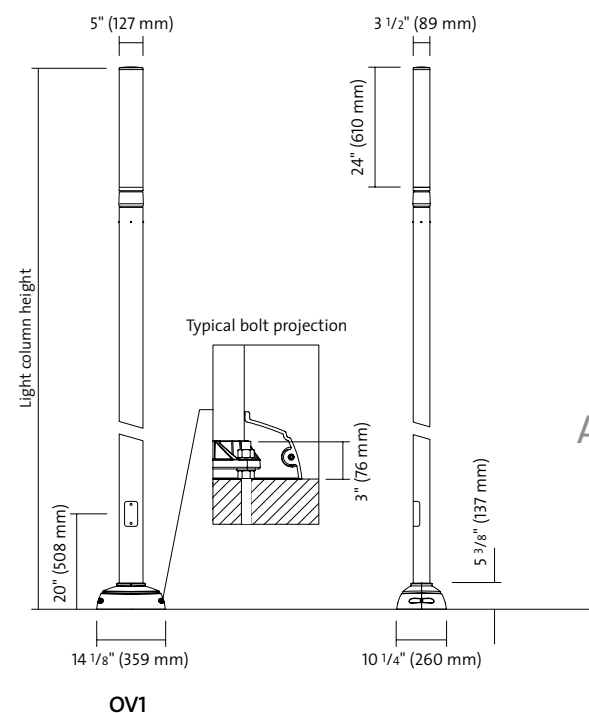
LIGHT COLUMN/OV1

OVAL SERIES

LUMINAIRES

Conform to the UL 1598 and CSA C22.2 No. 250.0-08 standards

OVAL SERIES



ASSEMBLY EXAMPLES

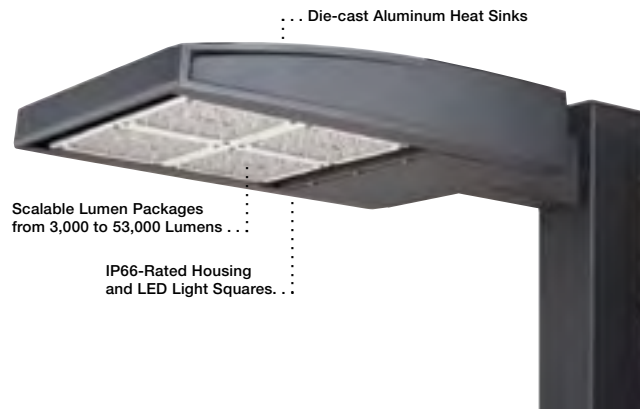
**PHILIPS
LUMEC**



**GLEON
GALLEON LED**

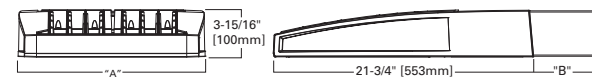
1-10 Light Squares
Solid State LED

AREA/SITE LUMINAIRE

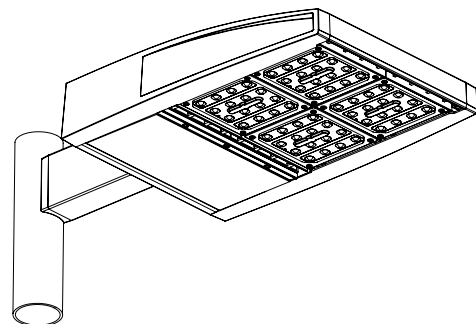
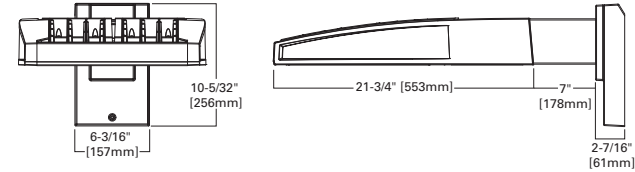


Dimensions

Pole Mount



Wall Mount

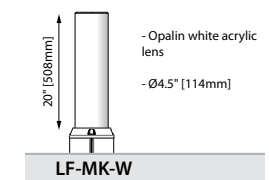
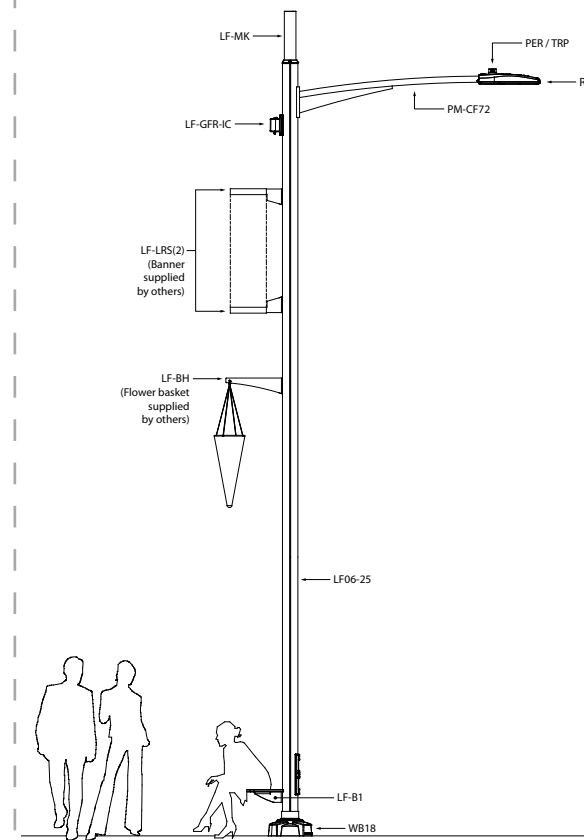


Cooper Lighting
by **EATON**

COOPER LIGHTING, GLEON, GALLEON LED, AREA AND SITE LUMINAIRE



**Lumca
LUMFIX**



LUMCA ELLIPTICAL LED MARKER

Site Furnishings

Site furnishings should also be developed as a kit of parts that permit interchangeable replacement parts. Benches should be constructed of a combination of materials that could include cast in place concrete, wood and galvanized steel or aluminum structural elements. Components such as the wood slats should be standard sizes that such that the entire bench does not need to be replaced by a proprietary company but rather individual pieces could be replaced simply and economically when required due to life cycle performance or vandalism.

Bus shelters could be styled using existing designs but enhanced and finished with the same materials and finishes proposed for the railings, light standards or waste/recycling receptacles to further establish the unified vision for the corridor.

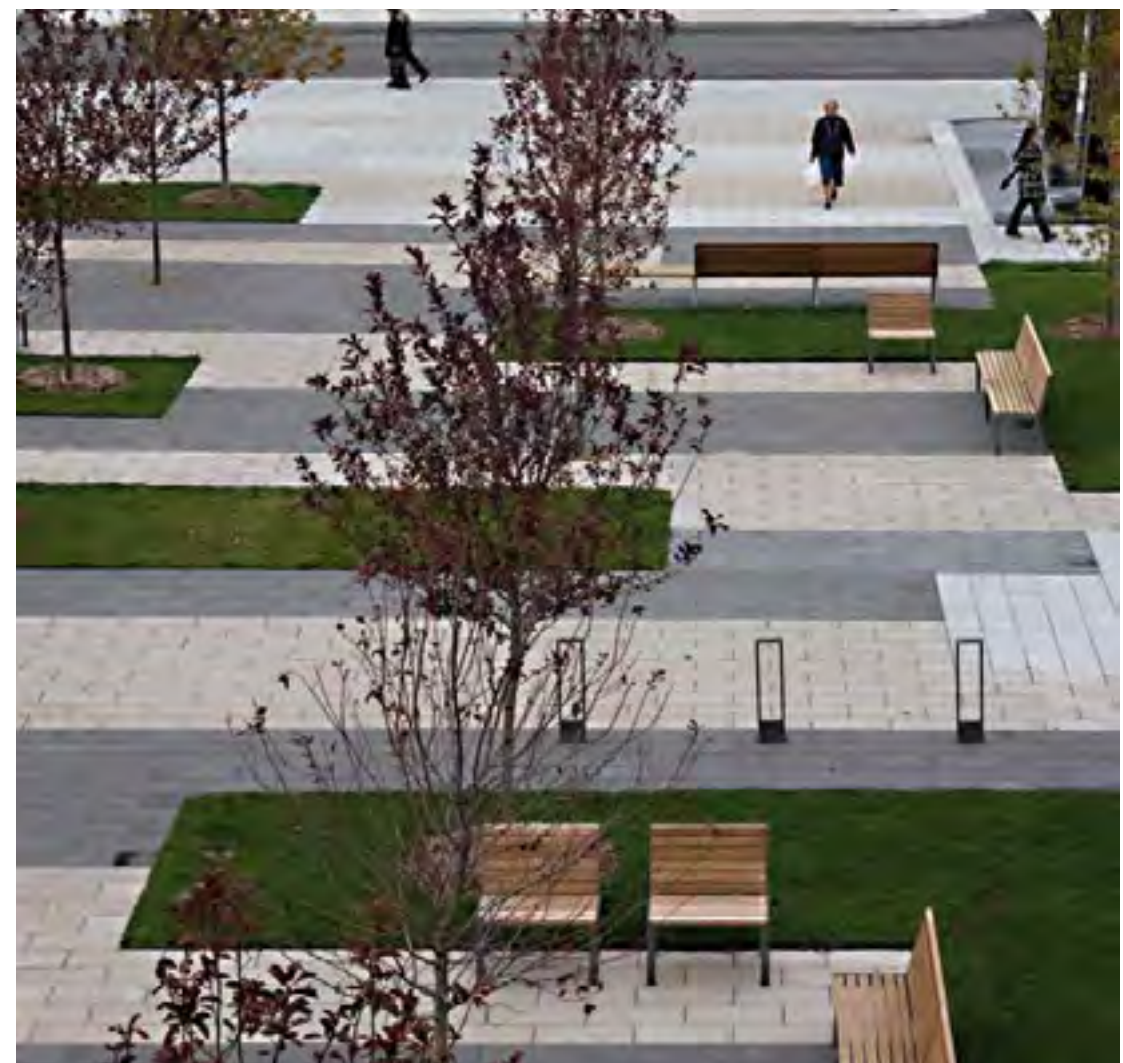
Bike racks, waste and recycling receptacles and newspaper containers should also be constructed using the common materials proposed for the corridor. The consistency in the look of all of the components along the length of the corridor, is key to the establishment of a strong sense of place and unified expression.

In addition to these elements, some operational details have also been considered.

The specified elements for 8 Street furniture includes: (Equiparc Esplanade Collection)

- Benches (1990 and 1991 IPE) with and without backrest
- Waste receptacles (3990 IPE) all aluminum
- Bike racks (5990 IPE)
- Waste receptacles and Newspaper dispensers

Equiparc Collection Esplanade



PLACE BOURGET, JOLIETTE QC - DESIGN AND PRODUCTION: DAOUST LESTAGE INC. URBAN DESIGN ARCHITECTURE



SPECIFICATIONS

Supports : Steel angles and steel flats
 Finish : Hot dipped galvanized and polyester powder coated
 Slats : 2" X 3"
 Fasteners : Anti-theft stainless steel

COVERING

JAT Jatoba
 IPE Ipe

OPTIONS

A (2) hot-dipped galvanized and painted steel armrests
 R Top-of-wall mount

Height : 34" Depth : 23" Length : 59" Weight : 150 lb

We highly recommend that our product should be properly anchored to the ground. Our warranty applies when our product is properly assembled and anchored.

CONCRETE SLABS AND ANCHORS

7006 1 slab 42" X 72" X 6"
 7028 2 slabs 12" X 28" X 6"
 QS 4 stainless steel kwik bolts
 QAV 4 drop-in anchors with stainless steel theftproof bolts

CONCRETE PAVERS

SPECIFICATIONS

Frame : Aluminum components
 Finish : Polyester powder coated
 Slats : 1" X 2 1/2"
 Steel liner : 15 Imp gal / 18.5 US gal
 Fasteners : Stainless steel

COVERINGS

JAT Jatoba
 IPE Ipe
 ME Painted Aluminum

OPTIONS

RU Recycling unit with descriptive panels.
 ASH Satin coated steel ashtray primed and painted

Height : 40" Width : 12" Length : 21 1/2" Weight : 200 lb

We highly recommend that our product should be properly anchored to the ground. Our warranty applies when our product is properly assembled and anchored.

CONCRETE SLABS AND ANCHORS

7005 1 slab 24" X 24" X 6"
 QS 4 stainless steel kwik bolts
 QAV 4 drop-in anchors with stainless steel theftproof bolts

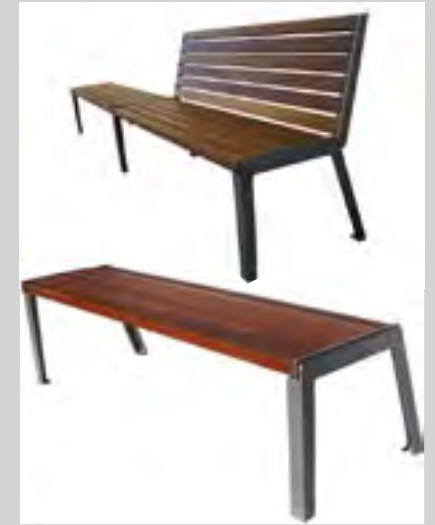
CATCH BASINS AND MANHOLE COVERS

EP 1990
Bench with backrest



Collection Esplanade

EP 1991
Bench without backrest



SPECIFICATIONS

Supports : Steel angles and steel flats
 Finish : Hot dipped galvanized and polyester powder coated
 Slats : 2" X 3"
 Fasteners : Anti-theft stainless steel

COVERING

JAT Jatoba
 IPE Ipe

OPTION

R Top-of-wall mount

Height : 17 3/4" Depth : 22" Length : 59" Weight : 130 lb

We highly recommend that our product should be properly anchored to the ground. Our warranty applies when our product is properly assembled and anchored.

CONCRETE SLABS AND ANCHORS

7006 1 slab 42" X 72" X 6"
 7028 2 slabs 12" X 28" X 6"
 QS 4 stainless steel kwik bolts
 QAV 4 drop-in anchors with stainless steel theftproof bolts

BRANDON ELM TREES

EP 5990
Bike rack



SPECIFICATIONS

Frame : Aluminum components
 Finish : Polyester powder coated
 Foot support (UG) : Hot-dipped galvanized steel flat

AVAILABLE

5990-AG Surface mount
 5990-UG Inground mount

Height: 32 1/2" Width: 2" Length: 8" Weight: 45 lb

This bike rack must be anchored. Our warranty applies when our product is properly assembled and anchored.

CONCRETE SLABS AND ANCHORS

7005 1 slab 24" X 24" X 6"
 7016 1 slabs 24" dia. X 8" haut.
 QS 4 stainless steel kwik bolts
 QAV 4 drop-in anchors with stainless steel theftproof bolts

BUS SHELTER

PART 4

PHASING AND BUDGET ESTIMATE

4.1

Phasing and Budget Estimate

The success of the 8th Street Corridor Public Realm Master Plan will depend on a strategic implementation process. The following key points are critical elements in ensuring the success of the project.

4.1 DEDICATED ORGANIZATION

- A dedicated corporate team should lead the implementation of the master plan.
- The organization would be responsible specifically for the management and implementation of the phases of the 8th Street Master Plan.
- The 8th Street vision requires a highly experienced multi-disciplinary team to ensure the delivery of a consistently high quality design with respect to the signature public realm improvements.

4.2 SCHEDULE

- To build on the support for the vision, the phased work of the 8th Street Master Plan should be realized in an expeditious manner.
- Project momentum is critical with full build out of the master plan being targeted for completion over a five year to seven year time frame.

4.3 PROPER BUDGET ALLOCATION

- Proper budgets (class C are presented) must be secured and allocated to ensure the quality of the public realm is achieved.
- Allocation of additional ongoing operation and maintenance budgets must also be established to ensure that the quality and integrity of the design is retained. This will be critical to the long term success of the project.
- An important element of funding the improvements is partnering with the private sector to support the value proposition of the project, making it a will for them, a will for citizens and a will for the City.

4.4 CONSISTENCY OF TEAM AND QUALITY CONTROL

In Calgary it is typical for private developers to be responsible for the public realm that adjoins their properties. It is highly recommended, for the 8th street corridor that the implementation should be undertaken by the City and be done primarily and in concert with developments.

The City oversees the construction of the entire corridor (following defined phases), ensuring quality control and providing continuity from the global vision to the finer detailed aspects of the project.

4.5 PHASING

- A clear phasing strategy should be followed to ensure project build out in a five to seven year time-frame. The proposed phasing for the project based on current budgets is as follows:

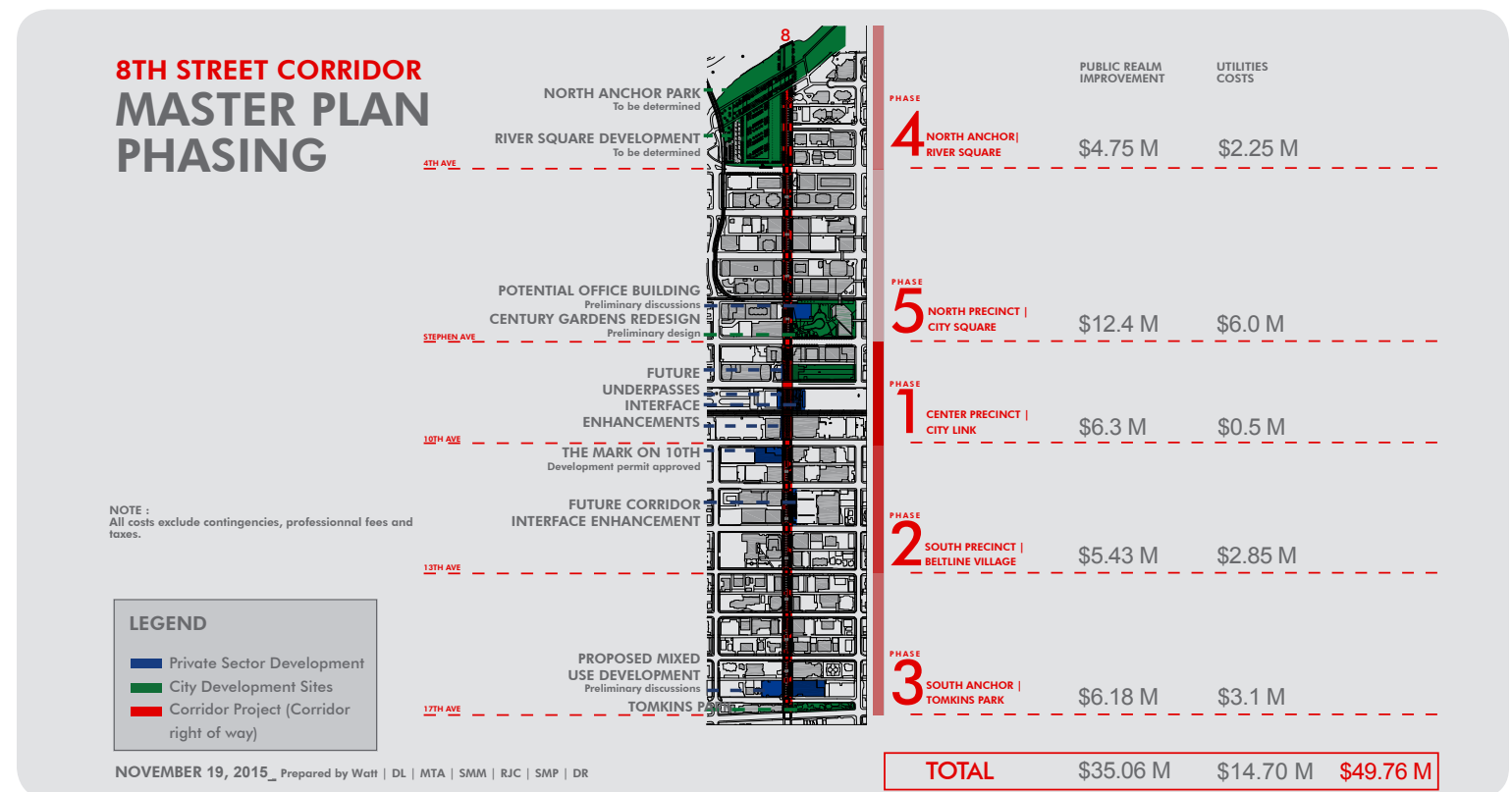
- Phase 1: Centre Precinct | city link
- Phase 2: south precinct
- Phase 3: south anchor
- Phase 4: north anchor | river square
- Phase 5: north precinct

4.6 FUNDING

There are many ways to fund urban projects and innovative strategies must be put in place to ensure the realization of a high quality public realm. Many precedents exist and have been successful in leveraging funds to achieve urban projects of this magnitude.

Strategies may include but are not limited to the following:

- Creation of an arm's length entity with members that can lobby various levels of Government and private sponsors for funding allocation.
- Creation of an 8th Street BRZ that collects fees from the businesses along 8th Street for improvements.
- A local improvement levy
- Alignment of City public realm improvement funds
- Assignment of some portion of local parking revenue to the project.



MASTER PLAN PHASING AND BUDGET

PART 5

APPENDICES

5.1	High Level Traffic Impact Assessment	82		
5.2	Utility Conflict Assessment	84		
5.2.1	Deep Utilities			
5.2.2	Shallow Utilities			
5.2.3	Surface Utilities			
5.3	Underpass Conceptual Assessment	88		
5.3.1	Existing Condition			
5.3.2	Analysis and Concept			
5.4	Underpass Structural Assessment	92		
5.5	Summary of Pertinent Policy & Guiding Documents	94		
5.5.1	Centre City Plan			
5.5.2	Centre City Mobility Plan			
5.5.3	Downtown Underpass Design Guidelines			
5.5.4	Centre City Illumination Guidelines			
5.5.5	Pedestrian Policy			
5.5.6	Bicycle Policy			
5.5.7	Public Art Policy			
5.5.8	Complete Street Guide			
65.5.9	City of Calgary Standards Documents			
5.6	Engagement Summary	96		
5.6.1	Visioning Workshop			
5.6.2	Post-visioning Workshop			
5.6.3	Public Open House I			
5.6.4	Public Open House II			
5.7	Public Art Integration	102		
5.7.1	Signature + Identity			
5.7.2	Diversity + Unity			
5.7.3	Sustainability			
5.7.4	Destination + Vibrancy			
5.7.5	Connection			

5.1

High Level Traffic Impact Assessment

BACKGROUND:

The 8 Street SW corridor between 17 Avenue and the Bow River is a popular north-south street and sidewalk for many users. It links numerous neighbourhoods and intersects several major east-west cross streets that also carry large volumes of users, especially at peak times of the day. Of significance is the fact that 8 Street SW, linking the Beltline and Downtown Core, is one of a few north-south streets that cross the CPR tracks and continues southward into the Mount Royal area. 8 Street SW corridor also is the location of two major Fire Stations in the downtown and is a designated evacuation route in emergency events.

In the Centre City Plan, 8 Street SW is alternately envisioned as:

- A commercial street
- High pedestrian movement street
- Pedestrian/retail space with vehicles
- An opportunity to bring the river to urban context
- A pedestrian corridor
- A key on-street bike route
- A major bus route

The challenge in this project was to consider the diversity of user modes and expectations, integrate this with the inherent conditions and constraints, and then to determine an appropriate plan to meet the intended goals and objectives of creating a great street focused on pedestrians first.

FINDINGS:

The existing roadway includes four basic vehicle lanes (two northbound and two southbound), with designated median turn lanes south of 11 Avenue. There are sidewalks on both sides of the street. The width of the street varies from 13.7m (at the area of the underpass) to 15.8m for segments south of the underpass. Sidewalk widths also vary along corridor, ranging from as narrow as 1.4-1.7m to widths in excess of 3m in a few locations. The majority of intersections are controlled by traffic signals or pedestrian actuated signals, and there are alleys with uncontrolled access intersecting the corridor at the mid-block locations. Driveway access is provided to a limited number of developments in the corridor.

The current road right-of-way ranges from approximately 20.1m to 24.4 m. In some blocks, developed buildings are located at the property line, which is not always in the ultimate setback location. Bylawed setbacks require an ultimate right-of-way to be 24.385m for the full length of the 8 Street SW corridor.

Existing traffic volumes and movements (vehicle, pedestrian, bikes) are captured in the data provided by the City of Calgary. Selected referenced data is included in the following sections and in the analysis attached to this appendix

Peak vehicle volumes based on recent counts are summarized in the following table.

Peak Hour Volumes	8 Street – N. of 8 Ave		8 Street – Underpass		8 Street – S. of 10 Ave	
	AM	PM	AM	PM	AM	PM
NB Mean	546	547	628	458	623	407
NB Max	797	585	628	458	807	488
SB Mean	217	242	326	551	258	635
SB Max	305	389	326	551	383	754

Pedestrian volumes recorded as recently as 2012 indicated 6-hour intersection volumes along 8 Street that range 2000-10,000 people moving through the intersections in all directions. With data recorded specifically north of 10 Avenue in 2012, the one day pedestrian count was approximately 3000 people.

In the same 2012 count north of 10 Avenue, daily bike volumes through the underpass area were recorded as 318 cyclists.

Transit operations on 8 Street SW include bus routes 2,4,6,7,13,31,145 and 419 that travel on the street for at least part of the corridor. There are also 26 routes that cross the corridor at least once in the project area. Additionally, the LRT tracks cross the corridor at 7 Avenue.

9 transit stops are located on 8 Street and the peak daily bus flows are northbound 192 per day with 24 per hour in the AM peak, and 141 buses per day southbound with 15 buses at PM peak hour.

On-street parking is permitted only in selected zones north of 6 Avenue. There are currently 30 standard parking spaces and 6 loading zone spaces located in this area.

RESEARCH & ANALYSIS:

Our analysis was a staged approach that considered macro issues and investigated their impact. Once overall concepts were considered viable, detailed analysis was performed to assess site-specific issues.

Our initial traffic analysis considered reducing the vehicle lanes to a minimum in order to allocate maximum space to the public realm. In assessing this, it was determined that the saturation capacity for a single vehicle lane that is signalized is generally around 1000 vehicles per hour. Considering the current operations re-peak hour movements being less than about 800, there was projected to be capacity to handle the current traffic on 8 Street SW with one lane in each direction.

Part of the initial analysis included a review to look at converting 8 Street to one-way northbound north of 8 Avenue to work as a couplet with 7 and 9 Street, and to convert 8 Street to one-way southbound south of 10 Avenue with 7 and 9 Street converted to one-way northbound as part of another couplet.

Traffic volumes, turning movements and the road geometry were compiled to assess these options, and these were developed only as far as sketch-level pending the review of other alternatives. Our team also conducted some cursory analysis for a roundabout at 4 Avenue and 8 Street to improve operations but determined that this was not a feasible long-term solution given the high volume of traffic on 4 Avenue.

At the same time as this initial work, the City of Calgary's Transportation Planning Forecasting group prepared analysis for Volume Difference with only a single lane in each direction with projected traffic volumes. The results indicated a significant redistribution of vehicles from 8 Street, especially south of 10 Avenue, to alternate streets.

Based on this initial investigation, a 3 lane concept with transit-only lanes was identified as a potential cross section to support vehicle and transit operation. The allocation of space considered narrowed lanes and that bicycle traffic would utilize parallel routes for north-south movement south of 10 Avenue. This 3 lane scenario maximized the pedestrian realm space while accommodating vehicle traffic.

Following meetings with City Transportation and Fire/EMS staff to review this scenario, further analysis was requested for projected operation of selected intersections and links in the corridor. We were also tasked to assess Fire/EMS accommodation with a narrowed cross section, to assess impacts on parking areas, and implications of increased delay from introduction of 4-car trains on the LRT line. From these discussions there was also an indication that slightly narrower lane widths than Complete Street standards may be acceptable.

As the result of further analysis and subsequent meetings with key stakeholders, alternate allocation of the right-of-way and roadway spaces were identified and assessed. This included:

- creating more roadway space to accommodate Fire/EMS operations,
- reconsidering transit-only lanes due to questions regarding the frequency of utilization and challenges with enforcement,
- adding a fourth vehicle lane that would enhance peak hour operations and permit off-peak parking opportunities, and
- introducing on-street bike lanes to compliment the Cycle Track facility on 7 Street north of 8 Avenue.

The Operational Review for the outcome of this work concludes that the operation of the corridor will be excellent for pedestrians and cyclists, and transit operations and general vehicle movement will be acceptable during peak hours. The City's Forecasting group also prepared Volume Plots for three and four lane alternatives:

From the outset, potential changes considered for transportation in the 8 Street SW corridor included:

- Narrowing of existing lanes
- Reduction of number of lanes
- Counterflow, couplets and utilization of parallel streets

- Designation of lanes by vehicle type (transit-only, shared bus/bike, etc.)

Minimum design criteria used in the analysis is consistent with the guidelines established in the City of Calgary's Complete Street Guide. These include:

- Minimum sidewalk width of 2.0m
- Vehicle lanes widths of 3.3-3.5m for transit/curb lanes and 3.1-3.3m for other typical lanes
- Bike lanes 1.5m desirable width

Pedestrian facilities were the priority consideration, recognizing that minimum effective space of 3m on sidewalks would support and encourage large pedestrian volumes in an environment that is projected to be developed in the future with mixed use commercial and residential development.

Some other considerations were the effect a narrowed roadway would tend to have to slow the flow of vehicle traffic and shorten crossing distances, thereby improving the safety and comfort for pedestrians using 8 Street. Dedicated transit lanes would enable operations that would be less affected by delays during peak hours of operation. The opportunity with slower traffic and transit lanes was that bicycle operation would also become safer and more convenient. And finally, Fire/EMS response times were also priority considerations since there needed to be no potential reductions.

In summary, our consideration for changes to the roadway on 8 Street SW evolved as follows:

- Utilize the basic 4-lane cross section from the Centre City Plan (3.5m curb lanes and 3.3m median lanes).
- Maximize pedestrian realm with a tight 3-lane section and that included dedicated transit-only lanes.
- Integrate additional uses with a hybrid 4-lane/3-lane scenario that permits acceptable space for Fire/EMS response, introduces on-street bike lanes south of 8 Avenue, and permits retaining off-peak parking.
- Establish a consistent 4-lane cross section north and south of the underpass and provide a network linkage for cycle track facilities.

5.2 Utility Conflict Assessment

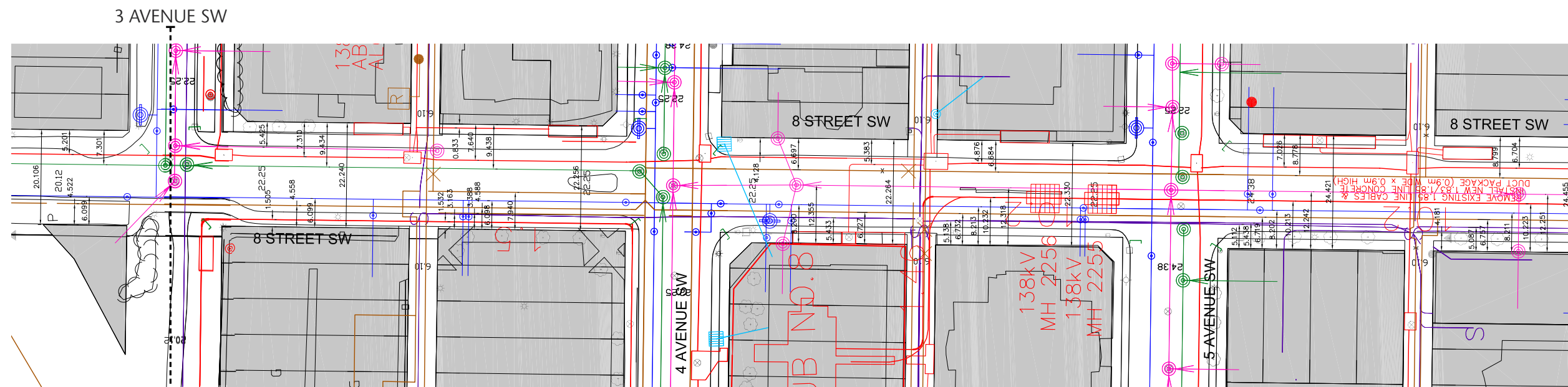
The 8th Street SW Corridor contains deep, shallow and surface utilities. This information was provided by the City of Calgary and is referenced on the base plans utilized for the project. Figures illustrating these installations are attached for reference.

What follows is a summary of the basic utilities within the 8 Street SW corridor.

- Blue = Potable Water
- Pink = Sanitary Sewer
- Green = Storm Water
- Orange = Gas
- Red = Electric
- Purple = Telephone
- Light Blue = Cable

5.2.1 DEEP UTILITIES

- Storm sewer lines are located in the length of 8 Street north of 4 Avenue (750mm concrete), in one short segment in the underpass (375mm concrete) and between 10 and 11 Avenue (size unknown), and south of 12 Avenue (300-1050mm concrete). There are storm lines that cross 8 Street on several of the avenues.
- Sanitary sewer lines are located in the length of 8 Street for a short section north of 4 Avenue (200mm concrete), between 4 and 6 Avenue (250mm concrete), between 7 and 8 Avenue (250mm concrete), for a short section between 10 and 11 Avenue (150mm vct), between 13 and 14 Avenue (200 vct), and between 16 and 17 Avenue (300 concrete). There are sanitary lines that cross 8 Street on several of the avenues.
- Water lines (250-400mm CI) run the length of 8 Street with the exception of the segment between 9 and 10 Avenue where the line is located west of the right-of-way. Water lines cross 8 Street on every avenue.
- Service connections for these utilities are present at various locations along the corridor.
- Manhole structures are typically located within the roadway portion of the corridor.

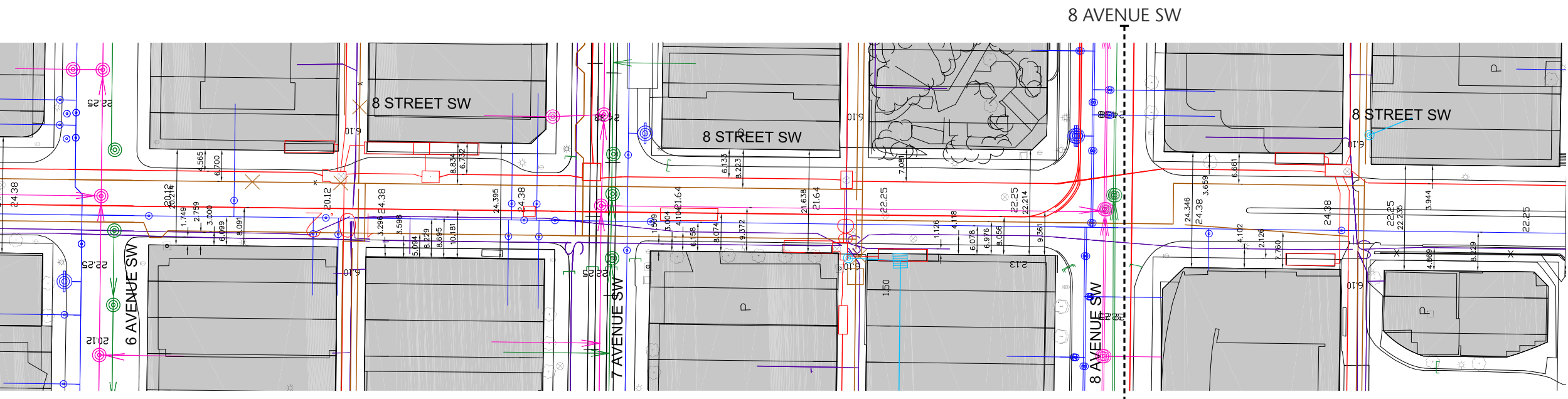


8TH STREET EXISTING UTILITY PLAN, BETWEEN 3 AVENUE AND 8 AVENUE

5.2.2 SHALLOW UTILITIES

- ATCO Gas lines are located within the 8 Street SW right-of-way in an area north of 3 Avenue, from just north of 4 Avenue to the south of 7 Avenue, and on a short segment between 10 and 11 Avenue.
- There are a few gas lines that cross 8 Street SW in either the avenues or the back lanes.
- Some of the lines shown on City plans have been abandoned. The best source of information for current lines is directly from ATCO.
- ENMAX Power has duct banks and vaults within the 8 Street SW right-of-way. These are located on the east side from the north limit of the project to 8 Avenue, under the sidewalk on the east side of the underpass segment, starting again from 10 Avenue the duct banks transition to the west side and carry on to approximate 13 Avenue, and then again on the east side from 13 Avenue to 16 Avenue. There are also a few vaults located on opposite sides of the road to the duct banks in certain locations.
- Duct banks typically contain conduits for 12-15 lines.

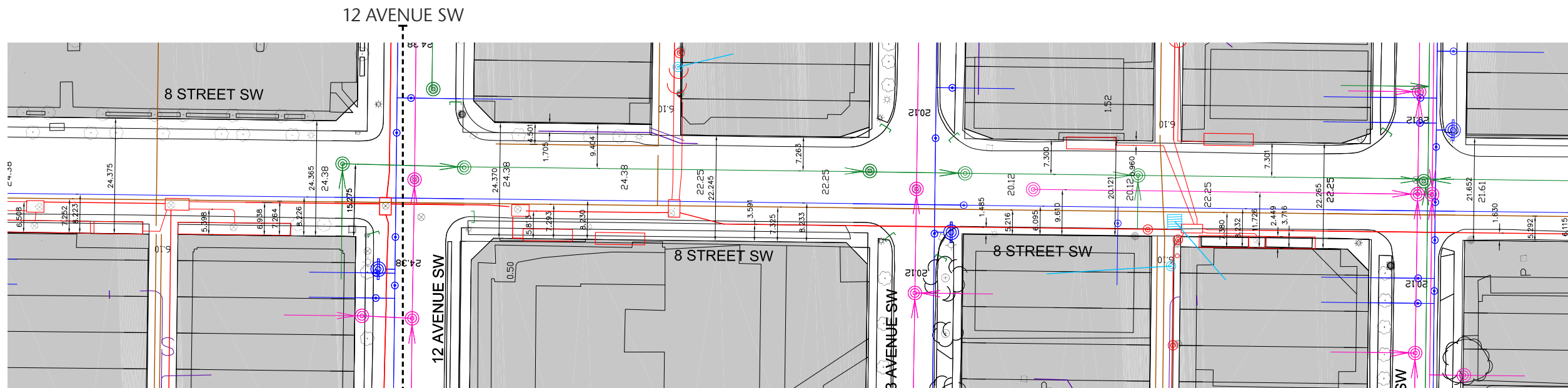
- Vaults, installed in the sidewalks, require overhead clearance for maintenance access and cannot have any facilities located on top of them.
- Relocation costs for both duct banks and vaults are high.
- ENMAX also has some high voltage installations down the middle of the roadway.
- ENMAX must be consulted to confirm utility installations at the design stage.
- Telus and Shaw have several line segments and service vaults located within the right-of-way, which must be verified at the time of the detailed design.
- Service connections for these utilities are present at various locations along the corridor and must be maintained even if this requires relocation.
- Most of the shallow utilities are located under the current or projected area of the public realm.



Many of the shallow utility installations are likely to be in conflict with changes and additions made to the public realm area. This will result in modifications to both the layout of the new design elements and the relocation of certain of the shallow utilities. There are also a few overhead lines and poles that cross in the section south of 10 Avenue. These must be considered at the detailed design stage and be accounted for in project costs.

5.2.3 SURFACE UTILITIES

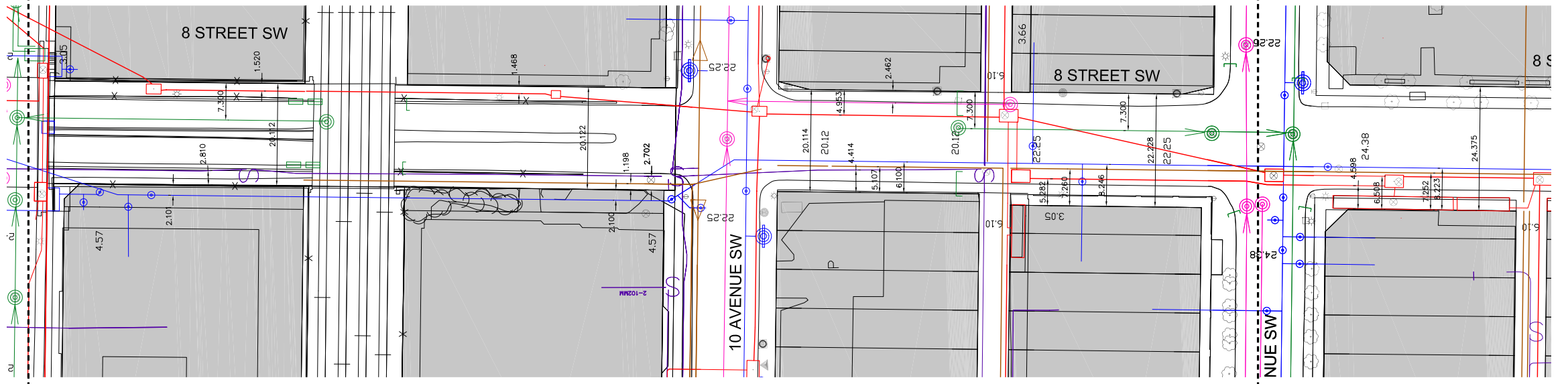
- Street light standards are in various locations along the corridor.
- Traffic signal structures and controllers are installed at several intersections.
- Pedestrian crossing signals are located on 13, 14 and 15 Avenues.



8TH STREET EXISTING UTILITY PLAN, BETWEEN 12 AVENUE AND 17 AVENUE

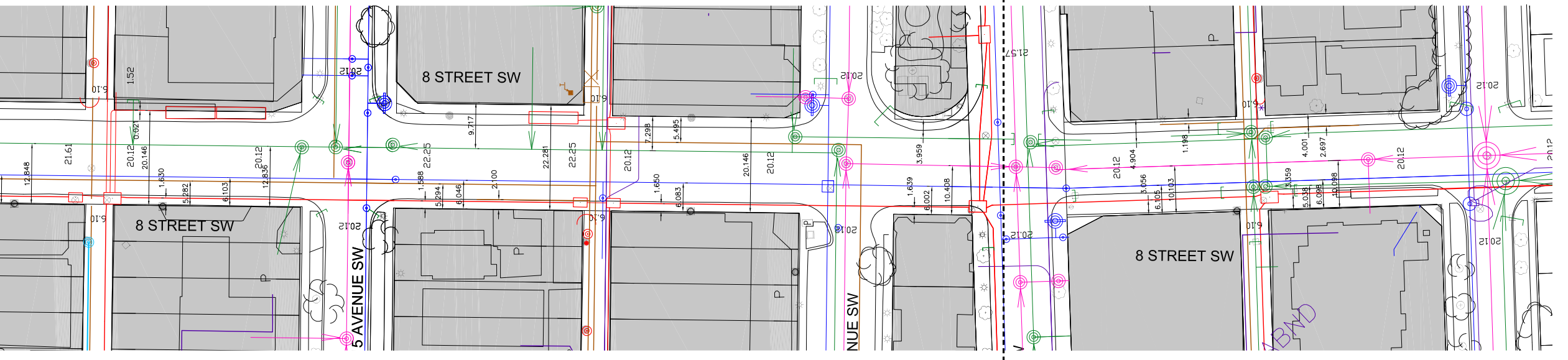
9 AVENUE SW

11 AVENUE SW



8TH STREET EXISTING UTILITY PLAN, BETWEEN 9 AVENUE AND 11 AVENUE

17 AVENUE SW



5.3

Underpass Conceptual Analysis

5.3.1 EXISTING CONDITION

8 Street SW is an instance of the roadway going underneath two bridges. This condition elongates the negative feelings associated with going through an underpass especially for pedestrians. Dark and tight sidewalks as well as poor visibility and lack of sight lines create an unpleasant and unsafe environment.

In case of 8th street, these conditions are coupled with issues such as deteriorating structures, blank facades and absence of adjacent supporting programs and functions. Despite all the limiting factors, the underpass offers some great opportunities for redevelopment, creating a place for people, and connecting to the city rather than acting as a disconnect. Some of these opportunities are:

- Adjacent parking lot on the east side and the property on the west between the two bridges offer opportunities for spatial expansion and linking to the 9th Avenue which is nonexistent right now.
- The riveted structure of the CPR bridge is surely a heritage piece that can be celebrated by proper lighting strategy.
- The floating pedestrian level can be emphasized by linear lighting integrated in the railings.
- The protected roofed wall surfaces offer ideal spot for integrating interactive and media public art addressing the pedestrian scale.



01 CPR BRIDGE - 8TH STREET & 10TH AVENUE



02 CPR BRIDGE - 8TH STREET



06 9TH AVENUE BRIDGE - 8TH STREET



07 9TH AVENUE BRIDGE STRUCTURE - 8TH STREET



03 CPR BRIDGE STRUCTURE - 8TH STREET



04 CPR BRIDGE STRUCTURE - 8TH STREET



05 9TH AVENUE BRIDGE - 8TH STREET



08 9TH AVENUE BRIDGE STRUCTURE - 8TH STREET



09 9TH AVENUE BRIDGE STRUCTURE - 8TH STREET



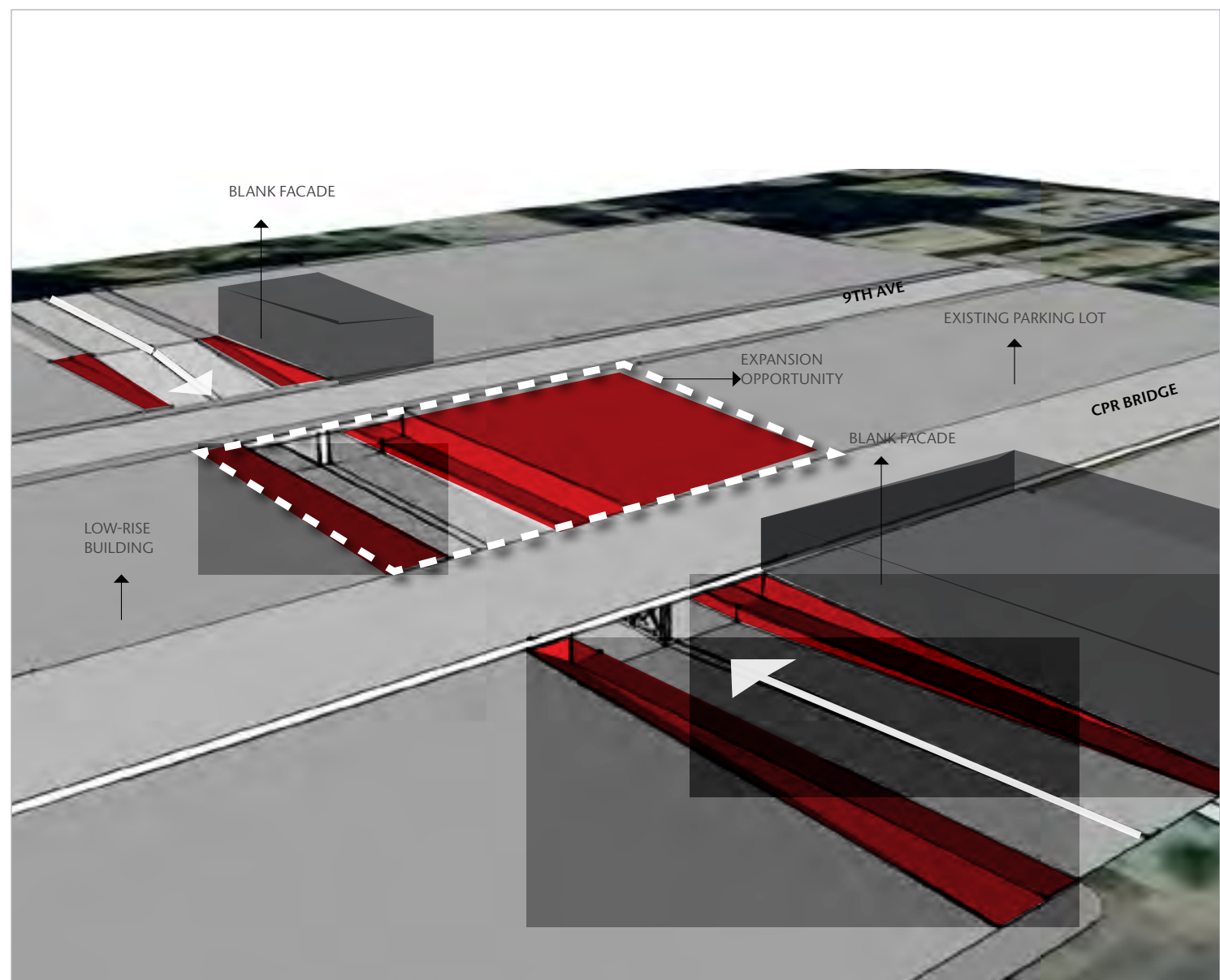
10 8TH STREET APPROACHING 8TH AVENUE

5.3.2 ANALYSIS AND CONCEPT

The analysis of the underpass revealed several constraints and opportunities; the suggested response to these conditions includes interventions both at “physical and experiential” levels.

The initial concept design for the underpass suggests the following interventions that are less structural and affect more the “experience” of going through the underpass:

- Incorporating illuminated railings for the entire two and half blocks as the sole source of illumination on this area except underneath the bridges
- Using bright reflective paint to refurbish all the surfaces
- Introducing public art on the two blank facades on the east and vertical surfaces underneath the two bridges in the west side
- Incorporating interactive / programmable lighting strategy for the two bridges to enhance the experience of pedestrians as well as vehicles going through the underpass
- The initial concept design for the underpass suggests the following “physical” interventions:
- Cleaning up the existing structures
- Reworking the green buffer between the sidewalk and buildings in the west side to create a more contemporary and functional landscaped areas
- Introducing retail space at the pedestrian level on the west side between the two bridges
- Linking to the 9th avenue on the east side by cutting through the adjacent parking lot
- Introducing lookout balconies over the bridge on 9th avenue that also provides pedestrian gathering pockets



UNDERPASS PHYSICAL ANALYSIS



UNDERPASS DESIGN CONCEPT



5.4 Underpass Structural Assessment.

Read Jones Christoffersen Consulting Engineers (RJC) was retained to evaluate and assess the condition of the 9 Avenue and CPR overpasses and associates retaining wall structures on 8 Street SW. This included the review of available documents provided by the City. The results of their work includes comments on the existing conditions and constraints, and the potential for improvements as the corridor is developed. RJC also provided initial construction cost estimates for structural aspects of the underpass area.

The summary of their work, evaluated by impetus for upgrading, is included in the table and documents that are attached. Key findings are noted below.

- Lowering the sidewalks is feasible but limited by the design of the retaining wall and bridge abutment structures.
- Widening of the subway is prohibitive due to costs of modifying or replacing bridge structures.
- Bridge pier protection required in the subway.
- Reconstruction of sidewalk base, surfacing and drainage will enhance safety, aesthetics and maintenance.
- New guards or rails are required including cleaning, chipping and patching of cracks, delaminations, scaling and spalls.
- steel repairs are required including cleaning to remove rust, plus recoating of steel.
- Stairs should be rebuilt to improve accessibility and to provide increased clear width and better visibility.
- Existing concrete surfaces should be refinished after repairs, and the steel surfaces recoated with high performance paint system after cleaning.
- Install bird wire deterrents on the underside of bridge(s).
- Consider screening of exposed utilities if they cannot be relocated and concealed otherwise.

Supplemental work will be required in the design stage to determine details and specifications of improvements and upgrades.

Potential Improvement	Type of Upgrade				Feasibility, Constraints and Comments
	Function	Safety	Aesthetic	Maintenance	
1. Increase pedestrian headroom below 9 Avenue & CPR Bridges. Present clearances: Under 9 Avenue Bridge: 2.15m Under CPR Bridge: 2.30m Desirable clearance is 2.50m minimum (2.40m in Underpass Design Guidelines).	•		•		<ul style="list-style-type: none"> - Assumed bicycle traffic on street per Underpass Design Guidelines. - Lowering of existing pedestrian subway will be limited to approximately ???? to avoid prohibitively expensive retaining wall reconstruction and/or CPR Bridge modification. - Also addresses rehabilitation of extensive deterioration of lower pedestrian subway retaining wall. - Limit pedestrian subway grades to 5% maximum.
2. Increase vertical clearance above 8 Street roadway to bridge soffits. Present posted clearances: Under 9 Avenue Bridge: 4.1m Under CPR Bridge: 4.2m Desirable clearance 4.5m.	•			•	<ul style="list-style-type: none"> - Lowering of 8 Street roadway will be limited to approximately ???? to accommodate existing bridge substructures. - Limit roadway grades to ???? maximum. - Lowering of roadway desirable to reduce high load hits and subsequent maintenance costs.
3. Increase pedestrian subway width. Present widths as follows: W side N of 9 Avenue Br: 1.46m reducing to 1.30m at end barrier at laneway. E side at Light Standards: 2.14m clear. Under CPR Bridge: W side: 2.35m, E side: 2.40m Elsewhere generally 2.95m clear. Desirable widths as follows: Pedestrians Only: 3.0m Pedestrians & Bicycles: 3.0m (Peds) plus 1.5m to 2.0m (Bikes)	•	•	•		<ul style="list-style-type: none"> - Requires relocation and reconstruction of existing upper pedestrian subway retaining wall. May require property acquisition adjacent to APS Building at 902 - 9 Avenue SW and/or shoring of existing building foundations. - Can be addressed by relocating light standards to the roadway median. - Limited by existing bridge clearance. CPR has no plans to replace bridge. - Would require extensive strengthening of bridge to gain 0.60m pedestrian subway width. - Limited by existing ROW clearance to upper subway retaining walls and by existing bridge lengths. - 9 Avenue Bridge remaining life is approximately 16 years nominally. - Assumed bicycle traffic on street. See 1. above.
4. Provide enhanced roadway section and/or barrier protection at structures. Present roadway section as follows: Lane widths: ???? Median width: ???? Desirable lane widths as follows: Vehicles Only: ???? Vehicles & Bikes Shared Lane: 4.0m to 4.5m Separate Bike Lane: 1.5m to 2.0m	•	•		•	<ul style="list-style-type: none"> - Any increase in overall roadway section would require further extensive rehabilitation of bridge and retaining wall structures over and above those measures in 3. above. - Potential reduction to one traffic lane each way with shared or separate bike lane and enhanced median. - Potential for median to accommodate landscaping, public art, mast lighting and barrier protection for structures. - Traffic barrier protection should be provided at CPR Bridge centre pier. Enhance barrier protection at 9 Avenue Bridge centre pier and at retaining walls. - Bridge piers in roadway and lower retaining walls must withstand the vehicle collision load specified in the bridge code.
5. Reconstruct pedestrian subway base, paving, drainage and damaged lower retaining wall. Enhance aesthetics of pedestrian subway walking surface.		•	•	•	<ul style="list-style-type: none"> - Combine with lowering of pedestrian subway as in 1. above. - New subway slab could tie upper and lower retaining walls and effectively replace the top portion of the lower wall. - Reconstruction should provide a non-slip surface free of tripping hazards and ponding areas, with enhanced drainage. - Surfacing options include asphalt, concrete and decorative pavers. - Consider coloured and textured finishes. Concrete surface finish options include stamping, sandblasting, exposed aggregate, special inclusions and traffic coatings.
6. Improve the appearance of bridge balustrades.	•		•		<ul style="list-style-type: none"> - Integral with underpass gateway theme. - Opportunity to replace existing combined concrete barrier/steel railing to widen sidewalk on S side of 9 Avenue Bridge. - Screen existing exposed jacketed line on S fascia of 9 Avenue Bridge if it is not possible to re-route this line. See 13. below. - Remove fascia advertising on CPR Bridge.
7. Replace pedestrian subway railing on lower retaining wall.	•	•	•	•	<ul style="list-style-type: none"> - Condition of existing railing dictates total replacement. - Assumed bike traffic on street. See 1. above. - Railing dimensions and mounting details should maximize clear pedestrian subway width. Consider inclusion of a grab rail. - New railing to be aesthetically pleasing with durable finish. Consider painted finish on galvanized product. Possible to incorporate low level lighting in railing.
8. Upgrade guards for vehicles and pedestrians on top of upper retaining walls.		•	•		<ul style="list-style-type: none"> - Present railings do not provide an adequate guard for vehicle impact. Also inadequate for pedestrian protection. - New guards to be aesthetically pleasing with durable finish. Consider painted steel finish on galvanized product.

Potential Improvement	Type of Upgrade				Feasibility, Constraints and Comments
	Function	Safety	Aesthetic	Maintenance	
<p>9. Miscellaneous concrete and steel condition repairs to existing bridges and walls as follows:</p> <p>9 Avenue Bridge Concrete: Underside of deck and sidewalk Subway curbs at lower retaining walls. Abutment breastwalls. Adjacent upper retaining walls. Centre pier shaft. Stairs from 9 Avenue to 8 Street.</p> <p>CPR Bridge Concrete: Subway curbs at lower retaining walls. Abutment breastwalls. Adjacent upper retaining walls. Centre pier column pedestals.</p> <p>Steel: Girders Pier columns Pier gusset, lacing and splice plates. Pier horizontal struts.</p>			•	•	<ul style="list-style-type: none"> - Required remedial work identified in City inspection report dated April 20, 2012. City Site ID 382.105 - Concrete repairs include cleaning, chipping and patching of cracks, delaminations, scaling and spalls, including associated topside repairs. Also restoration of NE stair landing and steps. - Required remedial work identified in City inspection report dated April 20, 2012. City Site ID 384.103 - Concrete repairs include cleaning, chipping and patching of cracks, delaminations, scaling and spalls. - Steel repairs include steel cleaning to remove rust, plus recoating of steel. Also remedial work to pier horizontal strut damaged by vehicle impact.
<p>10. Upgrade pedestrian connections between 9 Avenue and the 8 Street pedestrian subway.</p> <p>Presently no barrier free passage across the 9 Avenue bridge on the north side.</p> <p>Investigate feasibility of direct ramp connections between 9 Avenue and 8 Street pedestrian bridge.</p> <p>Present minimum clear stair width connecting 9 Avenue to the 8 Street subway is approximately 1.10m. Desirable width is approximately 1.80m.</p>	•		•		<ul style="list-style-type: none"> - Convert existing stairs to ramps for pedestrians to access the 9 Avenue bridge on the north sidewalk. - Barrier free access may need to be via adjacent streets. - Rebuild stairs to provide increased clear width for better visibility and comfort with less concealment. - Consider flaring stairs at connections top and bottom. - Provide bike channels on stairs.
<p>11. Improve the appearance of steel and concrete surfaces.</p> <p>Prevent pigeons roosting in structures.</p> <p>Consider cladding or screening unattractive structures and appurtenances. See also 6. above.</p>		•	•	•	<ul style="list-style-type: none"> - Refinish existing concrete surfaces after repairs. Investigate special finishes for new concrete surfaces. - Recoat steel surfaces with a high performance paint system after cleaning. - Implement measures to minimize leakage through structures. - Upgrade the appearance of pump station entrances under 9 Avenue Bridge. - Install bird wire deterrents. - In particular the CPR bridge piers in the pedestrian subway. Eliminate hiding spots between the pier columns. - Consider screening of exposed utilities if they cannot be relocated and concealed. See 13. below.
<p>12. Enhance subway lighting for:</p> <p>General comfort Facial recognition Pavement luminance Special feature lighting</p>		•	•		<ul style="list-style-type: none"> - Relocate existing light standards on east side to the median to provide better clearance for pedestrians (see 3. above) and supplement if necessary for enhanced area lighting. - Enhance lighting under bridge structures to increase light levels for improved comfort, facial recognition, lighting of traffic surfaces, and illumination of structures. - Consider more attractive lighting options such as architectural light standards, low level railing lighting, special wall lighting, foliage lighting, seasonal lighting, etc.
<p>13. Hide existing unattractive exposed utilities, in particular:</p> <p>Jacketed line (gas?) on S fascia of 9 Avenue bridge. Rusted mesh screened line at 9 Avenue bridge east abutment. Gas line risers north of 9 Avenue bridge on east side. Electrical conduits under both bridges.</p> <p>Extend bridge deck drain drops.</p>			•		<ul style="list-style-type: none"> - Wherever possible relocate these lines to conceal them. - Alternatively these lines should be screened to make them less visible. - Utilities and fixtures must remain accessible for maintenance. - Utilities and fixtures must be vandal proof. - Deck drain drops should be extended down to connect to storm drainage and to prevent unsightly splashing of runoff on structure and subway surfaces.
<p>14. Active edge treatment?</p>	•		•		<ul style="list-style-type: none"> - Room for significant improvement N of 9 Avenue Bridge on both sides. - Some enhancement N of 10 Avenue also possible.
<p>15. Hardscaping and soft landscaping?</p>			•		<ul style="list-style-type: none"> - In median. See 4. above. - Softer edges. - Green walls?
<p>16. Public art?</p>			•		<ul style="list-style-type: none"> - In median. See 4. above. - Surface mounted on walls. - Create alcoves/recesses in walls?
<p>17. Signage?</p>	•	•	•		<ul style="list-style-type: none"> - Locate clear of throughways. - Wayfinding, adjacent businesses, clearance, branding, artwork. - Create alcoves/recesses in walls?

8TH ST. POTENTIAL IMPROVEMENTS AND STRUCTURAL IMPACTS

5.5

Summary of Pertinent Policy & Guiding Documents.

5.5.1 CENTRE CITY PLAN

The Centre City Plan is a comprehensive and strategic long term vision for the future of Calgary’s Centre City. The Centre City will be a livable, thriving and caring place. It was developed through extensive consultation with Calgarians. The Plan addresses the following main topic areas: Overall Urban Structure, Neighbourhood Planning, Special Area Policies, Open Spaces, Movement and Access Systems, Urban Design, Architecture and the Public Realm, Vitality, and Community Building. The Plan also contains long-term visions and opportunities as well as specific, short and medium-term actions. The Plan will be used in the following ways:

- A guide for making long-range planning decisions.
- An input into the development of Corporate Work Programs and Budgets.
- A source of ideas and inspiration for community action and collaboration.

5.5.2 CENTRE CITY MOBILITY PLAN

The Centre City is Calgary’s most important economic generator and convergent point for Calgarians who use a variety of modes to travel to and within this destination. However, Centre City is constrained by very high density, relatively new development and a well established road network. The limitations provide challenges in how to deal with the mobility of Calgarians in the downtown area.

The objective of this plan is to provide a balanced and coordinated long-term plan that provides for pedestrians, cyclists, transit customers, goods movement, and vehicles in the Centre City. The Centre City Mobility Plan updates the street classifications for the Centre City within the area boundaries. The Centre City Plan identified linkage types, i.e., streetscape character, for each street in the Centre City. This plan also identifies the Pedestrian Network, the Bicycle Network, and the Transit Network for the Centre City, all of which are consistent with the Centre City Plan and/or the Calgary Transportation Plan, and provides principles for appropriately accommodating all travel modes in the Centre City. This report will also provide immediate guidance for development applications and transportation corridor development in the Centre City.

5.5.3 DOWNTOWN UNDERPASS DESIGN GUIDELINES

The Downtown Underpass Urban Design Guidelines is a non-statutory document providing comprehensive urban design guidance for the development of new underpasses and any improvements to existing underpasses within the Centre City area. The Guideline includes urban design principles and design solutions which address common issues associated with Calgary’s downtown underpasses related to the following categories: Safety, Connectivity, Accessibility, Context, Vitality, Greenery and Beauty.

The intent of the Guideline is to create best-practice solutions in underpass design and improvements that would guide the public and private sectors. It is intended to achieve a high-quality public realm, pedestrian and cyclist linkages, as directed by the Centre City Plan. The underpasses are gateways to the Centre City’s destinations for work, arts and culture, administration and retail. These gateways have to be designed as highly functional and inviting for the various needs of pedestrians, cyclists, public transit and motorists. The current physical state of the downtown underpasses is in obvious contradiction to their mobility and gateway functions within the Centre City.

5.5.4 CENTRE CITY ILLUMINATION GUIDELINES

The Centre City Illumination Guideline (the “Guideline”) is a non-statutory document providing comprehensive urban design based lighting guidance for the Centre City in the form of principles, guidelines and solution-based case studies. The Guideline aligns with the Vision and Goals of the Centre City Plan and provides the City of Calgary leadership and design community with guidance for incorporating innovative, interesting, and inviting illumination solutions for the Centre City. Implementation of the recommendations in this Guideline is purely voluntary.

The Guideline focuses on experiential lighting which is designed primarily to enhance the environment.. This can include lighting the following Categories: District, Edge, Historic and Cultural Resource, Landmark, Node, Path, and Entry. Security and streetlighting are not addressed in this document.

The intent of this Guideline is to express the ideals of the Centre City Plan Section 8. Vitality and it’s policies for light effect features.

This illumination strategy will improve visibility of City landmarks and pedestrian corridors, will bring animation and movement to entertainment districts, and help to extend the active hours in the Centre City. The Guideline aims to:

- Enhance the image of the Centre City
- Animate the public realm
- Improve community pride
- Augment investment opportunities
- Assist way-finding initiatives
- Draw positive interest to the Downtown and the Centre City.

5.5.5 PEDESTRIAN POLICY

The City of Calgary is committed to design and operate a city in which walking is a meaningful transportation choice for social and economic interaction. This can be achieved by providing well-designed and operated, direct, convenient, safe and comfortable pedestrian routes and facilities.

The Pedestrian Policy and Needs Report consolidates and aligns with previous Council-approved policies and direction such as imagineCALGARY, the eleven Sustainability Principles and The Transportation Hierarchy and reflects The City of Calgary’s commitment to provide sustainable, non-motorized modes of transportation.

The Pedestrian Policy and Needs Report identifies the basic transportation needs of pedestrians and is based on best practices from North America and Europe. The intent of this policy is to:

- Re-affirm the importance of walking as a meaningful, non-motorized choice of transportation
- Establish broad, city-wide policies that provide direction and guidance on how to plan, design, build, operate and maintain a city where walking is a meaningful form of transportation for social and economic activities According to this policy, pedestrians’ basic transportation needs are:

- Connectivity and convenience
- Space to travel

- Routes free of obstructions
- Character and a feeling of safety and security.

5.5.6 BICYCLE POLICY

The City of Calgary is committed to design and operate a city in which cycling is a meaningful transportation choice for social and economic interaction. This can be achieved by providing well-designed and operated, direct, convenient, safe and comfortable bicycle routes and facilities.

The Bicycle Policy and Needs Report consolidates and aligns with previous Council-approved policies and direction such as imagineCalgary, the eleven Sustainability Principles and The Transportation Hierarchy and reflects The City of Calgary's commitment to provide sustainable, non-motorized modes of transportation.

The Bicycle Policy and Needs Report identifies the basic transportation needs of cyclists and is based on best practices from North America and Europe. The intent of this policy is to:

a) Re-affirm the importance of cycling as a meaningful, non-motorized choice of transportation

b) Establish broad, city-wide policies that provide direction and guidance on how to plan, design, build, operate and maintain a city where cycling is a meaningful form of transportation for social and economic activities. According to this policy, cyclists' basic transportation needs are:

- Space to ride
- A smooth surface, clear of obstacles
- A connected cycling system
- Ability to maintain speed
- Bicycle parking and amenities at destinations
- Character and to be safe and feel secure
- Education and enforcement

5.5.7 PUBLIC ART POLICY

The Public Art Policy provides cultural leadership and guides the evolution of a distinct and vibrant artistic character for the city's public

places. Through this policy, The City of Calgary contributes to:

- a visually rich environment;
- attracting creative businesses and workers;
- art opportunities that are freely accessible to all;
- our diverse cultural character and celebrating our living heritage;
- the growth of a culturally informed public.

The Public Art Policy provides a foundation for the effective development, management and stewardship of public art throughout Calgary by:

- articulating a clear definition of public art for the City of Calgary;
- providing leadership and guiding principles that ensure consistent implementation of the policy across the corporation;
- clarifying funding strategies and mechanisms;
- outlining a management framework that identifies consistent processes, roles and responsibilities;
- ensuring sound stewardship of all public art assets held in trust for the citizens of Calgary.

POLICY

- The Public Art Policy serves as a basis for the acquisition, installation, maintenance, management and programming of public art for the City of Calgary. This policy and supporting management framework will apply to all visual art under the stewardship of the City of Calgary including public artworks generated through a 'percent for public art' funding strategy, the Civic Art Collection, as well as historic art objects, and other unassigned visual art objects.
- The City of Calgary is committed to building the necessary internal capacity and providing appropriate financial resources to facilitate the successful implementation of the Public Art Policy.

5.5.8 COMPLETE STREET GUIDE

A Complete Streets Guide is being created to foster an understanding of the application of the Calgary Transportation Plan and Municipal Development Plan. Its purpose is to supplement the policies contained

in the plans and facilitate the implementation of their concepts. It will provide guidance to City Administration and the Development Industry on how to incorporate Complete Streets concepts into the planning, design, and construction of streets, including reconstruction of existing streets.

The 2011 Interim Complete Streets Guide is currently available while work on Final Guide is completed for the end of 2013. The 2011 Interim Guide provides detailed design standards for the higher classification (Arterial) and lower classification (Local) streets, and conceptual designs for the new (Liveable) street classifications – Urban Boulevard, Neighbourhood Boulevard, and Parkway. These detailed design standards differ from the current standards contained in the 2012 Design Guide for Subdivision Servicing to better accommodate pedestrians, cyclists, transit, street trees, and low impact development (storm water control practices) while maintaining the existing right-of-way requirements.

The Complete Streets Guide will be finalized and published in 2013. This Final Guide builds upon and improves the 2011 Interim Complete Streets Guide. Here are the significant additions/improvements:

- Street reconstruction (retrofit) design guidance.
- Content around the retrofit design process.
- Calgary specific before/after case studies.
- Plan views to supplement conceptual cross-sections.
- Relocation of the detailed design standards into an updated 2013 Design Guide for Subdivision Servicing.

5.5.9 CITY OF CALGARY STANDARDS

The City's Business Units, as well as shallow utility providers, also utilize Design Guidelines and Standard Specifications for the design details and construction of most of the critical elements that are to be developed as shown in the Master Plan. As work advances from concept to design, these guiding documents must be utilized and referenced (in conjunction with staff consultation) and the design details prepared to reflect current design direction and practices.

5.6

Engagement Summary.

The 8th Street Public Realm Master Plan has been informed by a lengthy process of direct engagement with key stakeholders, both internal and external, involving a critical discourse relating to design issues, including:

Urban Design

- Creating high quality connections between places and buildings.
- Providing ease, safety and choice of access for all users.
- Creating legibility to help people understand how places work and to find their way around.
- Stimulating activity and a sense of vitality in public places.
- Supporting the intended uses of spaces while also allowing for their adaptability and integration with complementary activities.
- Recognizing and enhancing the qualities that give places a valued identity, while allowing for diversity.
- Designing safe spaces that minimize risks of personal harm and support safe behavior.
- Creating spaces that engage the senses.
- Creating inclusive places where all people are free to interact with each other as equals.

Multi-Modal Transportation

In so far as the 8th Street Public Realm Master Plan process is predicated on consensus building and a democratic participation in decision-making, the project team's goals of bringing substantive improvement to the current 8th Street corridor can be deemed as socially sustainable.

Moreover, by promoting urban design practices that are environmentally responsible and innovative, we are fostering a more sustainable community growth in Centre City, which is compatible with the aims of the Centre City Plan. The City of Calgary, as well, has procurement policies in place that strongly encourage environmentally and socially sustainable practices and measures.

Process

The public engagement process was designed to engage both internal and external stakeholders about specific key elements related to the design process – all modes of transportation, including transit, vehicular and pedestrian; parking; urban design principles and guidelines, and ultimately to create an overall vision for 8 Street. Using a series of face to face meetings and an online survey, the priorities identified by participants have been used to assist the Project Team in defining the future look and use of the corridor.

The process was divided into five stages and in each stage, face to face meetings were held with stakeholders. Efforts were made prior to each engagement event, to connect with adjacent property owners and encourage their attendance, however, the participation level from this group is a disappointment, as very few attended any of the stakeholder events. On the other hand, there was good representation

from the internal stakeholders, community associations, and identified special interest groups at all of the events. (Some follow up discussions are ongoing with individual property owners, but are outside the public engagement plan.) Up to the point of the Public Open House in March 2013, there was very little representation of the users of 8 Street (outside of the special interest groups). Many daily users attended the open house and provided a wide range of valuable comments which have been reviewed and considered by the design team in the refinements of the concepts.

From the first connection with stakeholders, it was easy to see that there was a strong interest in being involved in the design process. Several priority areas surfaced early in the process and remained consistent throughout:

- 8 Street as a vehicular corridor: dealing with congestion, enhancing the safety of pedestrians crossings; narrow conditions at the underpass; width of lanes along the corridor
- Cycling: accommodating cyclists in the road design
- Parking: from the lack of parking to the elimination of on street parking
- Design elements: enhancing the pedestrian experience through improved design; making the corridor safer for users; improving the overall usage

Participants brought their enthusiasm and ideas to the Visioning Workshop, as is clearly reflected in the amount of input collected at that event. Internal and external stakeholders worked together to discuss the challenges and opportunities and learned from the insight and experiences of the different perspectives. Each group's presentation on their vision for 8 Street and their biggest and best ideas, gave the Project Team a large amount of information to work with in developing the finalized vision statement, and proceeding with the design concepts.

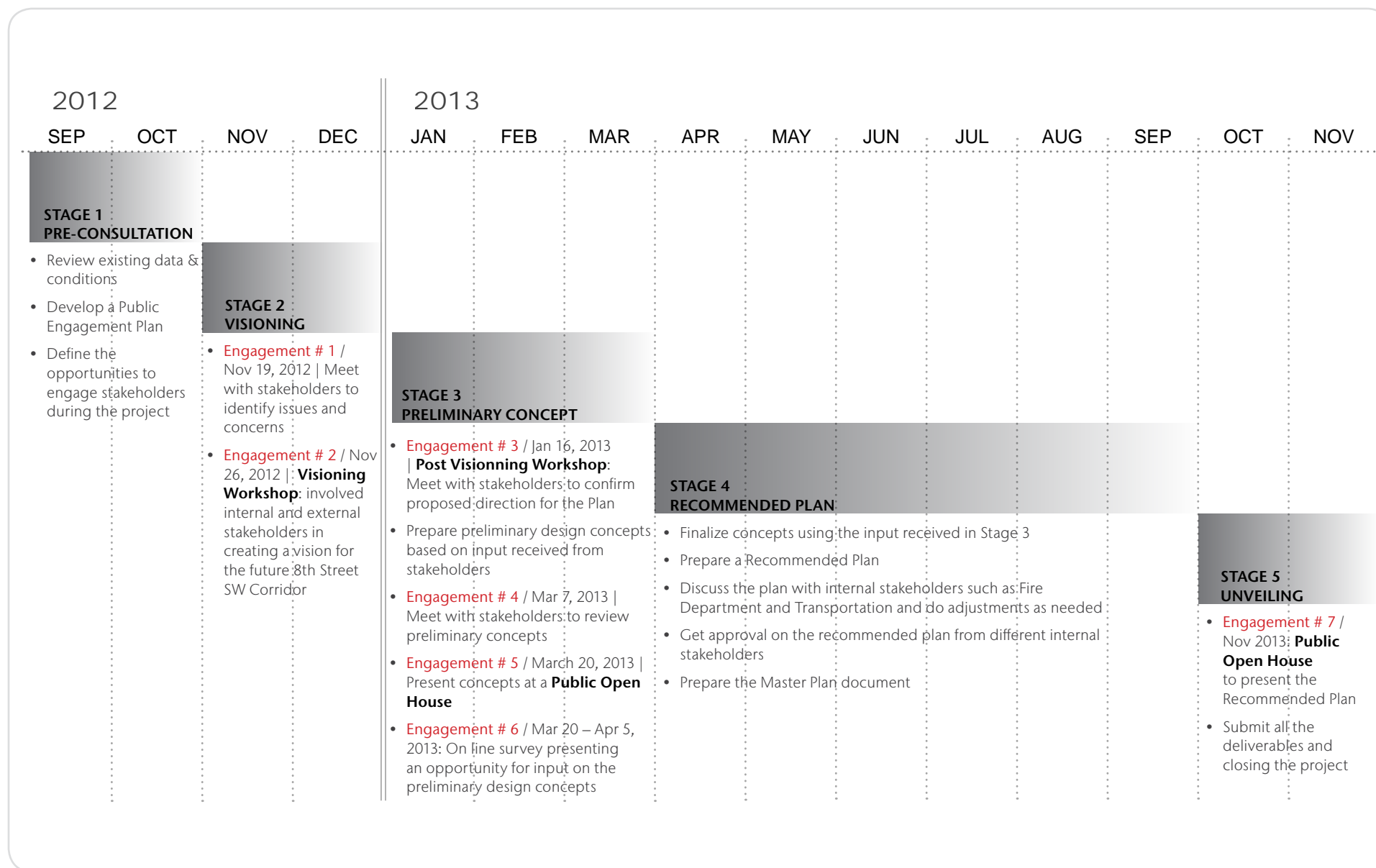
A total of six engagement touch points were carried out from November 2012 to March 2013. A second Public Open House to present the final master plan will be held after the municipal elections early in 2014.

The public engagement process was aligned with the City's Engage Policy. The overall level of engagement was conducted at the LISTEN & LEARN level, with opportunities also provided at the CONSULT level.

Face-to-face meetings were the primary technique used to collect information. All input received, was reviewed and is reflected, to the greatest extent possible, in the design concepts. A total of five meetings were held through the process.

- A Visioning Workshop was the primary engagement opportunity in Phase 2. Internal and external stakeholders worked together to imagine the future of 8 Street.
- One Public Open House was held in March 2013 to display the preliminary design concepts. A second and final Open House is planned for early 2014, where participants can view the master plan.

ENGAGEMENT PROCESS AND MILESTONES



5.6.1 VISIONING WORKSHOP

The purpose of this meeting was to develop vision statements and key principles that will guide the development of concepts for the Public Realm Master Plan for the 8 Street SW Corridor through engaging internal and external stakeholders - a total of approximately 100 contact names. The following points synthesize the big ideas that each of the six small group came up with.

What we heard:

- Enhance underpass condition
- Incorporate walkways, feature lighting, pop-up cafes, public art, restaurants & shops
- Encourage interaction between people, board game areas, sitting areas, amenities
- Invest in underutilized spaces (nodes) as areas of focused pedestrian activity
- Create a place like no other in the City
- Promote landscaping and tree lined streets & sidewalks cafes
- Reconfigure the street sections - reducing number of lanes and incorporating bike lanes
- Reface building facades to animate public realm
- Develop incentive programs to help redevelop existing properties



8TH STREET PRE-VISIONING WORKSHOP, NOVEMBER 2012

- Provide public space at north end/integrations with Bow River

What we did:

The corridor was divided into its constituent areas; 5 precincts were identified that were characteristically different and required customized response to their various conditions.

- It was envisioned to maintain coherency throughout the corridor, despite the different precincts, utilizing landscaping, lighting and public art signature - promote a unified experience.
- It was decided to study and transform the ROW in term of space allocation to satisfy our mandate to accommodate pedestrians first - lane reduction
- The public spaces were identified and considered for place making, programing and accommodating social events.

The team considered strategies to deal with blank facades , parking and empty lot interfaces and provide more animation on street level.

Vision

To create a contemporary, pedestrian focused urban destination area with a distinct identity that connects people, parks and neighborhoods supported by vibrant retail experiences and a variety of transportation modes.

Guiding Principles

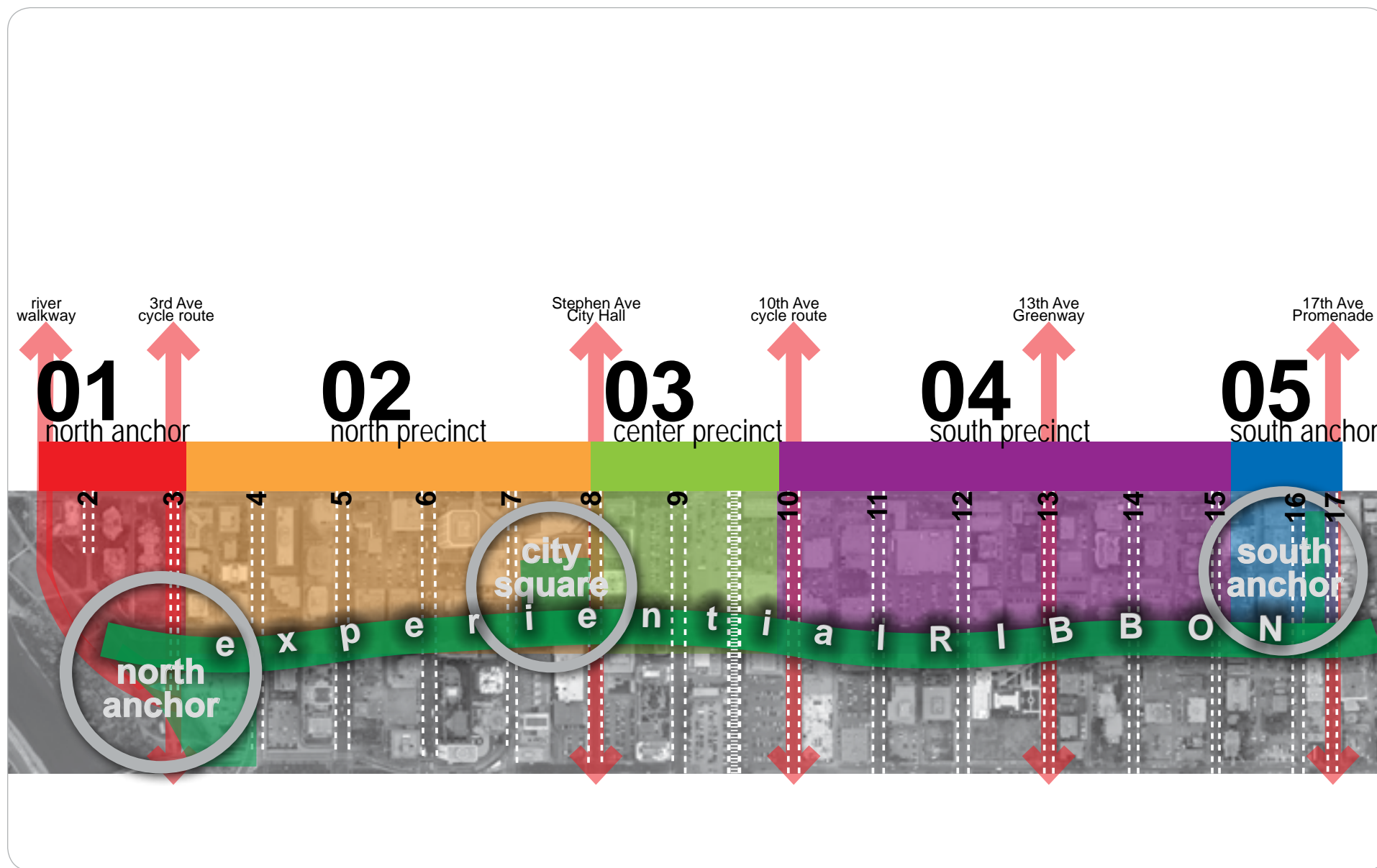
- Sustainability
- Connection
- Signature + Identity
- Destination + Vibrancy
- Diversity + Unity

5.6.2 POST-VISIONING WORKSHOP

The purpose of the meeting was to bring the participants from the VISIONING WORKSHOP back together to confirm the project team distilled the information in an appropriate and accurate way to proceed with the conceptual development. A summary was provided of the input collected at the Visioning Workshop, along with a vision statement developed from the information provided by participants

The proposed Guiding Principles were reviewed, highlighting that 8 Street should be a place to go to, not to drive through. And finally, a brief presentation was given covering the five Key Precincts (North Anchor, North Precinct, Centre Precinct, South Precinct and South Anchor), each with its own unique current and future attributes. The project team used the vision statement and principles discussed today, including comments made, to prepare concepts for the Master Plan.

8TH STREET MASTER PLAN CONCEPT DRAWING



5.6.3 PUBLIC OPEN HOUSE I

The developed plans informed by the visioning session and the proposed design guiding principles were presented at Public Open House on March 20th, 2013. Overall, the comments from the Open House participants are favorable and supportive of the project with 71 respondents choosing strongly agree and agree in their level of support. Most individuals provided detailed comments, covering a range of topics, outlining their concerns with particular items and in many cases suggesting possible solutions.

What we heard:

- In terms of traffic and roadway, some concerns were expressed about the lane reduction proposal and the potential traffic congestion
- Shared road scenario was not supported by the cyclist community
- Participants expected more clarity around the adjacent open spaces and how they interface 8th. Concerns were raised regarding the proposed river square up north from the residents living by.
- All the comments about the underpass underlined the importance of upgrading it for personal safety and enhanced use.
- Enhanced lighting, landscaping and public art integration were clearly emphasized in the public feed back.

What we did:

- A comprehensive traffic analysis was undertaken to ensure the legitimacy of the proposed street layout plan.
- Lane configuration was revisited to accommodate dedicated bike lanes in the south segment.
- A parking strategy was recommended to respond to some of the concerns around parking on street.
- The extent of the project only allows the team to ensure that the 8 Street Corridor concepts would complement any adjacent space. It is beyond the scope of this project to determine how adjacent space will develop.
- Additional work is underway to define details of both short term and long term upgrades throughout the underpass. It is anticipated this area of work will proceed to detailed design later in 2013.



8TH STREET PUBLIC OPEN HOUSE I, MARCH 2013

5.6.4 PUBLIC OPEN HOUSE II

Following extensive engagement with internal stakeholders resulting in adjustments to several plan elements, on January 30, 2014 the recommended Master Plan was presented for viewing at an open house. The event was well attended with approximately 85 visitors and 72% providing written comments. This group represented regular 8 Street users (92% at least weekly) in a variety of modes; as pedestrians (93%), drivers (73%), cyclists (62%) and transit riders (32%). The demographics of attendees was 31% aged 30 and under, and 52% between the ages of 31 and 50. The detailed comments provided in writing focused on cycling, aspects of the design details, and changes to the roadway.

What we heard:

- Designated cycling lanes through the underpass provide a safe connection for cyclists.
- Bike lanes should be added north of 8 Avenue.
- Maintenance of bike lanes, especially in winter, is important.
- Pedestrian, bike, bus, vehicle conflicts at intersections and bus stops need to be addressed.
- More lighting and brightening the underpass area is very desirable.
- Exciting idea to open up the east wall of the underpass and connect to 9 Avenue.
- Many wondering where the traffic will go with fewer lanes, or whether there will just be greater delays.

Next Steps:

- Complete final edits to the Master Plan Report and circulate for approval by City Business Units.
- Advance the Phase 1 project to more detailed design and initiation of construction.
- Work with adjacent landowners to develop complimentary interfaces with the corridor.



8TH STREET PUBLIC OPEN HOUSE II, JANUARY 2013

5.7

Public Art Integration.

Public art is an integral element in the 8th street corridor. The public art strategy for 8th street directly corresponds and complements the stated vision and guiding principles. The public art components of 8th street redevelopment will:

- consist of the most creative and contemporary solutions to public engagement.
- attract people to the area and enhance the experience of pedestrians.
- reflect and extend the culture of the city.
- contribute to the design unity of the entire corridor and adjoining neighborhoods.

5.7.1 SIGNATURE + IDENTITY

Signature and identity is about the association of an urban area with the expectation of a particular experience. The public art will serve to create focal points within the greater context of the overall street design and the nature of existing neighborhoods. With the siting of significant artistic creations, the corridor and its adjoining neighborhoods will become identified with the artworks in the public mind. Some ways that public art can contribute to Signature and Identity of an urban area:

- artworks linked to history of the site.
- artworks that respond to or reflect local topography
- artworks that are dramatic and unique

- artworks designed to function within a preexisting infrastructure

Image 01

Sky Mirror by Anish Kapoor is a 35 foot diameter concave mirror causes the public to reconsider the common streetscape in new and surprising ways.

5.7.2 DIVERSITY + UNITY

Diversity and unity corresponds to various distinct precincts linked by common threads. The public art will contribute to the overall design of the corridor by physical integration or alternatively through thoughtful contrast. The artwork(s) could quote from the nature of the existing

context through historical, cultural, physical and social links to the site. Some ways public art can contribute to diversity and unity are:

- art can cause the public to consider new ideas and relationships.
- art can address difference through contrasting elements.
- art can present examples of cultural diversity.
- art can be designed to link other elements in the area.
- art can be a catalyst in the reconsideration of the commonplace.

Image 02

Rewriting 2004 by Olafur Eliasson is an artwork that draws upon the architectural infrastructure surrounding it.



01 SKY MIRROR BY ANISH KAPOOR



02 REWRITING 2004 BY OLAFUR ELIASSON

5.7.3 SUSTAINABILITY

Sustainable art is interpreted as indoor / outdoor synergies, green technologies.

Public art projects in the area will need to engage the public and it may be desirable to employ kinetics, electronics, digital and/or GPS technology, projected images or video, etc. to achieve results that are both interactive and attractive.

Artworks such as these could be based on green technologies and could be designed to function in a sustainable manner. Also, Public artworks could employ natural components such as water, wind, gravity, natural light, heat from adjacent buildings, reflection, etc. Some ways that the artworks can be sustainable are:

- making use of natural forces.
- electronic pieces could run on solar power.
- art could be designed to reuse heat or air from buildings.
- art could involve live plant life.

Image 03

Articulated Intersect by Rafael Lozano-Hemmer is an interactive piece using spotlights controlled by viewers.

When 2 beams intersect, they momentarily lock in place and pulse for a few seconds. Visible for 15 km public participation is amplified to an urban scale.

Image 04 and Image 05

Neukom Vivarium by Mark Dion brings a naturally decaying cedar tree from the forest to the city. All the natural systems are duplicated and the tree will go through the process of decomposition in public view.

The work is meant to be both a celebration and a melancholic experience. Linkages to site are built upon the proximity of cedar forests and the logging industry to the city of Seattle.



03 ARTICULATED INTERSECT BY RAFAEL LOZANO-HEMMER



04 NEUKOM VIVARIUM BY MARK DION



05 NEUKOM VIVARIUM BY MARK DION

5.7.4 DESTINATION + VIBRANCY

Vibrancy creates and retains social interaction and gathering spaces. Public art will contribute to the area as a destination and an identifiable and memorable zone within the city.

Public art in the corridor will be an example of a significant artistic achievement such that people would make a point to visit the area to encounter the artwork(s). Some of the qualities that cause art to become a destination are:

- art that is intellectually rigorous, and sometimes contentious.
- art that is an example of great design.
- art that captures the imagination through spectacle and/or interactivity.
- art that challenges preconceptions and values.
- art that functions successfully within the context of the site.
- art that is produced by a renowned artist.

Image 06

Cloud Gate by Anish Kapoor is an intellectually rigorous public artwork that is a must-see for anyone visiting Chicago.



06 CLOUD GATE BY ANISH KAPOOR

5.7.5 CONNECTION

The idea of connection for 8th Street will create linkages between neighborhoods, parks and the north and south anchors.

The public art will be integrated into the overall design of the corridor, not imposed upon it. Integration can be achieved through thoughtful contrast, conceptual or social relationships, and/or through physical or topographical characteristics.

The art may introduce new relationships between site and city, or site and public. Alternatively the artworks could quote from existing infrastructure, the physical nature of the site and the greater city context, or the cultural / historical nature of the place. Some qualities that would cause an artwork to be connective are:

- modular formats where components are distributed throughout an expansive area.
- artworks that make virtual real-time connections using digital media; video or sound.
- artworks that physically link one thing to another; through a beam of light for example.
- Artwork using an apertures or telescopes to bring elements together visually.

Image 07 and 08

Telectroscope by Paul St George is a live video artwork linking Brooklyn NY to London England.

People gather and look into a circular video screen in both cities creating an illusion of a tunnel running beneath the Atlantic ocean.



07 TELECTROSCOPE BY PAUL ST GEORGE IN NEW YORK



08 TELECTROSCOPE BY PAUL ST GEORGE IN LONDON