4TH STREET SW UNDERPASS ENHANCEMENT

SCHEMATIC DESIGN REPORT

Date of Issue: November 23 2015

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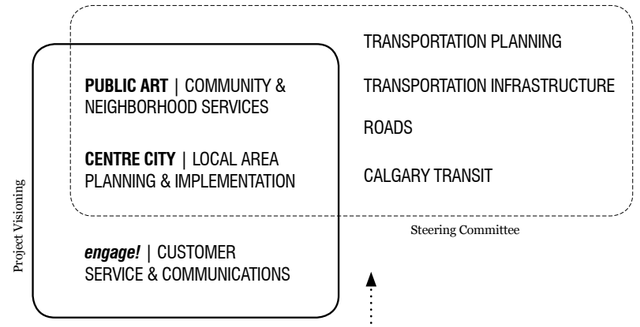
PRIME CONSULTANT

Krzysztof Wodiczko
PUBLIC ARTIST

COLLABORATION

A significant element of 4UE continues to be the comprehensive engagement of internal and external stakeholders. Extensive collaboration between several City of Calgary departments has established an exciting archetypal model for the Centre City: a public realm pilot project which embodies the complete integration public art and infrastructure, from initial vision to final product.



ACKNOWLEDGMENTS

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SMP Engineering

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BTY Group

CITY OF CALGARY
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Centre City Project Manager

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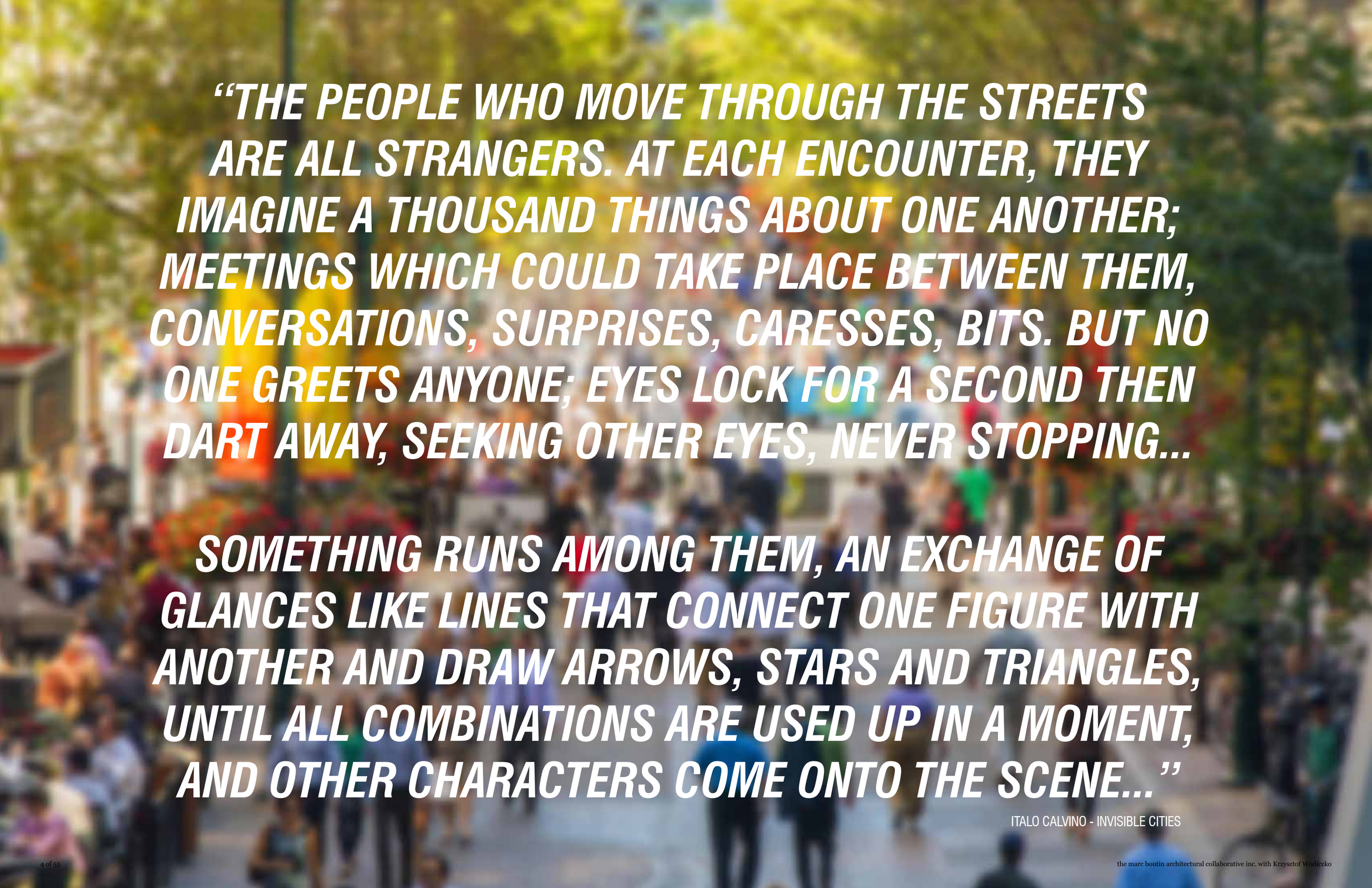
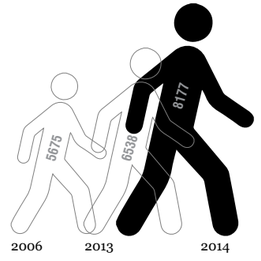


“THE PEOPLE WHO MOVE THROUGH THE STREETS ARE ALL STRANGERS. AT EACH ENCOUNTER, THEY IMAGINE A THOUSAND THINGS ABOUT ONE ANOTHER; MEETINGS WHICH COULD TAKE PLACE BETWEEN THEM, CONVERSATIONS, SURPRISES, CARESSES, BITS. BUT NO ONE GREETS ANYONE; EYES LOCK FOR A SECOND THEN DART AWAY, SEEKING OTHER EYES, NEVER STOPPING...

SOMETHING RUNS AMONG THEM, AN EXCHANGE OF GLANCES LIKE LINES THAT CONNECT ONE FIGURE WITH ANOTHER AND DRAW ARROWS, STARS AND TRIANGLES, UNTIL ALL COMBINATIONS ARE USED UP IN A MOMENT, AND OTHER CHARACTERS COME ONTO THE SCENE...”

ITALO CALVINO - INVISIBLE CITIES



8177 people currently walk the 4th Street SW underpass daily, accounting for nearly 20% of all north-south pedestrian travel in the core. These numbers are on the rise.

EXECUTIVE SUMMARY

Calgary's growth has historically been linked to the Canadian Pacific Railway. Since 1883, the CPR corridor has been the heart of the City – symbolically, physically and economically. Situated between 8th Avenue and 10th Avenue SW, the 4th Street SW Underpass (including the CP Bridge and 9th Avenue crossing) remains a main gateway and key corridor for pedestrian and vehicle movement between the Beltline and Downtown communities.

The physical state of deterioration of the 4th Street SW underpass is in contradiction to this critical mobility and gateway function: inactive edges, limited accessibility, poor lighting levels, and an overall deterioration of materials require immediate attention. In 2010, the site was identified by The City of Calgary as a priority project for improvement. With the support of community and business groups from Calgary's Centre City, The City of Calgary officially launched planning, design and public art services for the project in January of 2015.

The framework for the 4th Street SW Underpass Enhancement Project is a result of hundreds of hours of dedicated public engagement, as described within several landmark City of Calgary documents. True to this course, a significant element of the Schematic Design phase has been the continued engagement of internal and external stakeholders. Working closely with the Design Team, interested individuals were offered four critical opportunities to participate in the creative process: identifying issues, finding collective solutions and influencing the project as a process and a product.

The result is a design focused on enabling and encouraging pedestrian movement through the provision of a safe, comfortable and attractive public space. The redesign considers conditions of safety, cleanliness, lighting, egress, accessibility, and materials to enhance the overall experience traveling through the underpass.

Founded on the idea of reclaiming city infrastructure as a 'space for conversation', an integrated public art and urban design strategy repositions the site as a better connected street, ready to be explored. The introduction of animated light and colour, responding to the flow of people through the space, ensures the redesign remains evocative, varied and timeless.

8TH AVENUE SW

9TH AVENUE SW

CP TRACKS

10TH AVENUE SW

4TH STREET SW

OPENING OF THE 4TH STREET SW UNDERPASS: PHOTOGRAPHER UNKNOWN, CITY OF CALGARY GLENBOW ARCHIVES

THE DESIGN STORY

SITE INTERPRETATION

The Canadian Pacific Railway is the original gateway to the West, credited with establishing a vital rail line and constructing rail stations even before the incorporation of the Town of Calgary. Formed to physically unite Canada and Canadians from coast to coast, the CP Railway catalyzed not only the establishment of an underlying physical order for The City, but also a deeply embedded a social and economic pattern still visible today: a cyclical lifestyle for citizens structured around ‘work’ existing north of the line and ‘home’ being south.

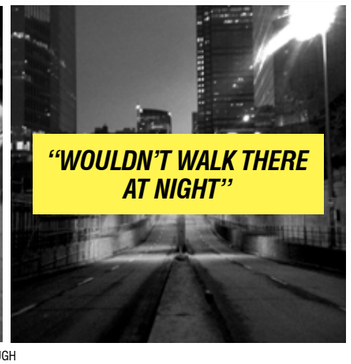
The underpasses, first introduced in 1908, were conceived of as a mechanism for safe movement between the downtown and Beltline; a bridging mechanism to improve connectivity within The City for its daily commuters.

Ironically, it is these underpasses which have come to embody the most uncomfortable and removed of Calgary’s public spaces: a barrier to our city’s thriving public realm.

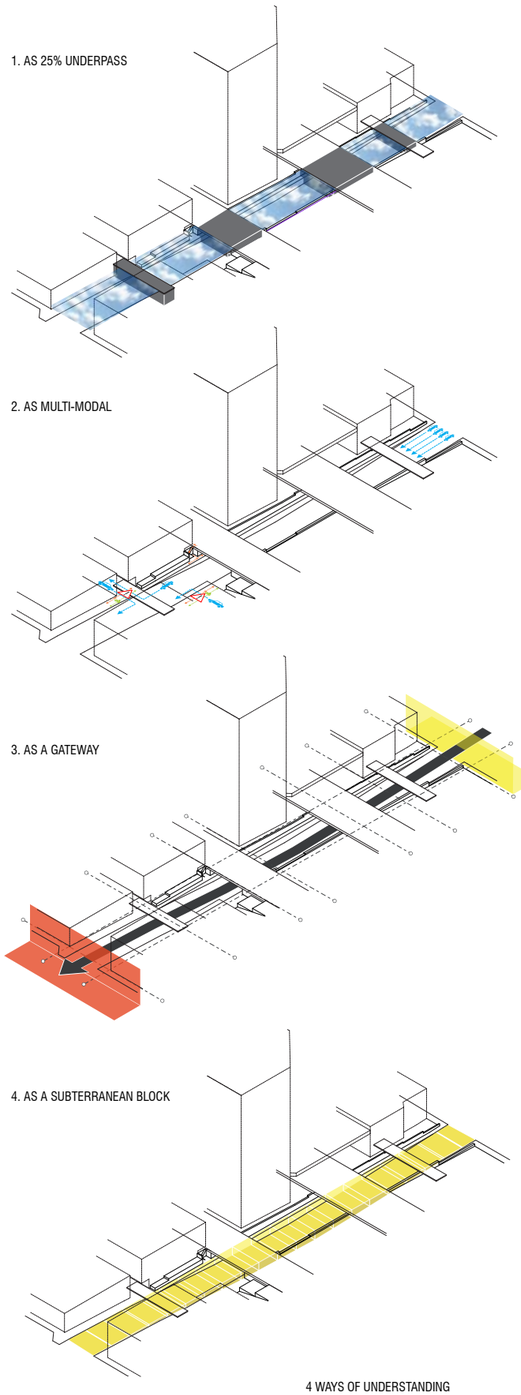
THE ISSUE

AN INFRASTRUCTURE DESIGNED TO ENHANCE CONNECTION HAS CREATED A SPACE OF REMOVAL.

VIEW FROM 9TH AVENUE SW, LOOKING SOUTH



STAKEHOLDER OBSERVATIONS FOLLOWING THE SITE WALK-THROUGH



4 WAYS OF UNDERSTANDING

A SPACE OF REMOVAL

Unlike other City of Calgary downtown underpasses, the 4th Street SW underpass is not a legible entity beset by a series of performance issues (water ingress, poor lighting, etc.); rather, the site can be understood as a series of weakly connected, materially-deteriorated elements that together do not amount to a singularly legible whole.

At the outset of the design process, engagement with the Project's key internal and external stakeholders generated a comprehensive and collaborative understanding of these existing site conditions. Movement through the space was observed as highly mechanical, singular in focus, isolated in feeling and driven by a desire to exit: a collective recognition of the 4th Street SW underpass as both a physical and perceptual space of removal.

THE STRATEGY

RECLAIM THIS SPACE OF REMOVAL AS A SPACE OF CONVERSATION.

1. CLARIFY → 2. FRAME → 3. PROJECT

THE DESIGN: 3 STEPS TO SET THE STAGE FOR CONVERSATION

LUMIERE LONDONDERRY, 2013, KRZYSZTOF WODICZKO

"I want to analyze the relationship between the human body, the body of someone who lives here, and the social body and the body of the architectural and spatial forms around that body."
- Krzysztof Wodiczko, Public Address, 1992

A SPACE OF CONVERSATION

The 4th Street SW Underpass Enhancement project is founded on the notion of reclaiming this 'space of removal' as a 'space for conversation'. A comprehensive series of integrated public art and infrastructure strategies reposition the site as a singular, better connected, and healthier street.

Three key gestures drive these strategies:

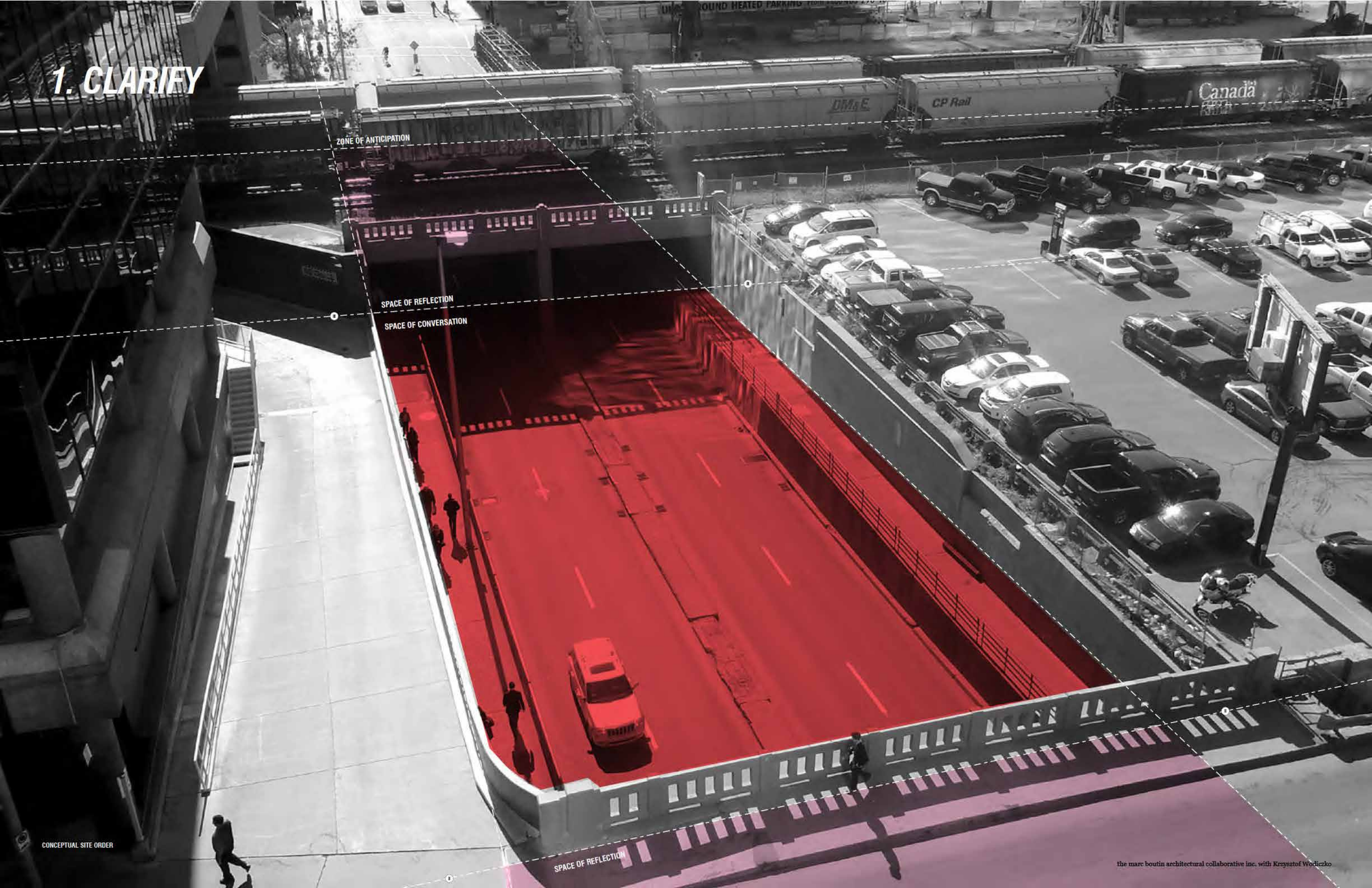
1. *Clarify* - Reveal the space of conversation by curating a canvas for expression.
2. *Frame* - Create a physical and perceptual frame that converts the passive voice (movement) into the potential for the active voice (expression); and
3. *Project* - Create the augmented voice through light and animation.

PUBLIC ART AS AN EXPERIENCE

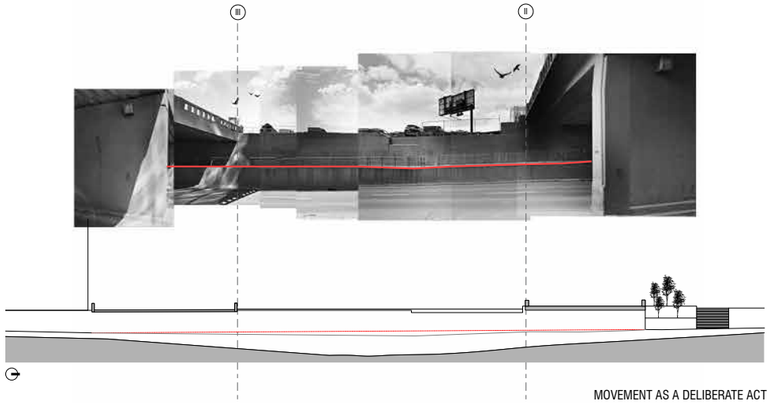
This project's approach to public art moves away from a more conventional creation of a physical artifact towards an augmentation of experiences latent in the mechanized routine of the everyday. The focus: the diversity and density of potential exchanges between people as an opportunity to acknowledge one's place within the social body of the city.

In that vein, the public art narrative explores public space not as a physical territory but rather as an social domain that operates within the urban fabric.

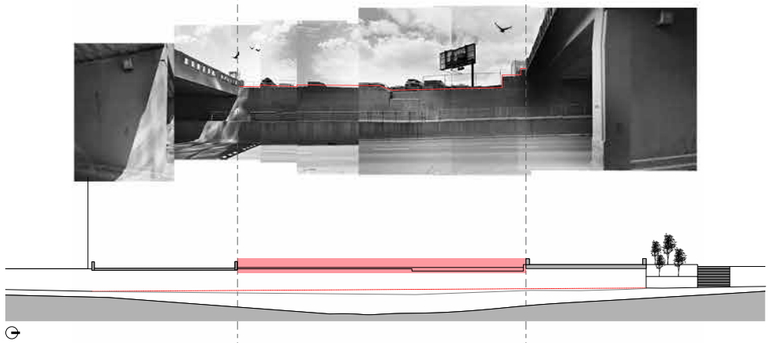
1. CLARIFY



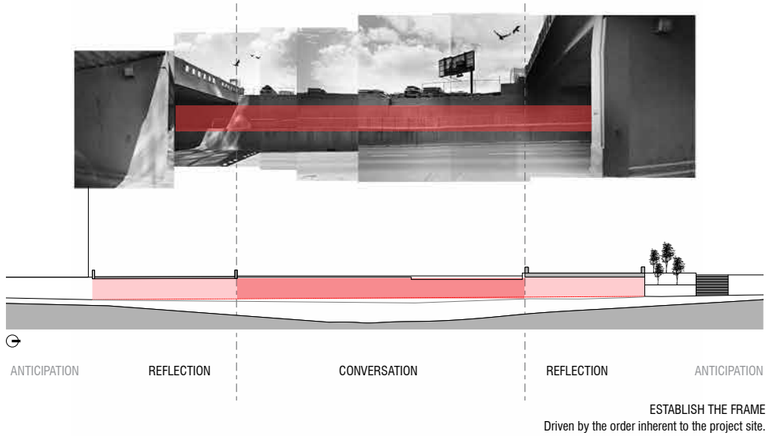
CONCEPTUAL SITE ORDER



MOVEMENT AS A DELIBERATE ACT
Introduce fully accessible, grated walkway to mitigate uneven and cracked existing concrete sidewalk.



REMOVAL OF EXCESS VISUAL NOISE
Introduce semi-transparent veil to contend with the elements which fall outside of the project scope.



ESTABLISH THE FRAME
Driven by the order inherent to the project site.

STEP ONE: CLARIFY
Reveal the space of conversation.

The first step is one of consolidating, amplifying or otherwise defining aspects of the site's existing and potential character in order to give it presence as a coherent urban space.

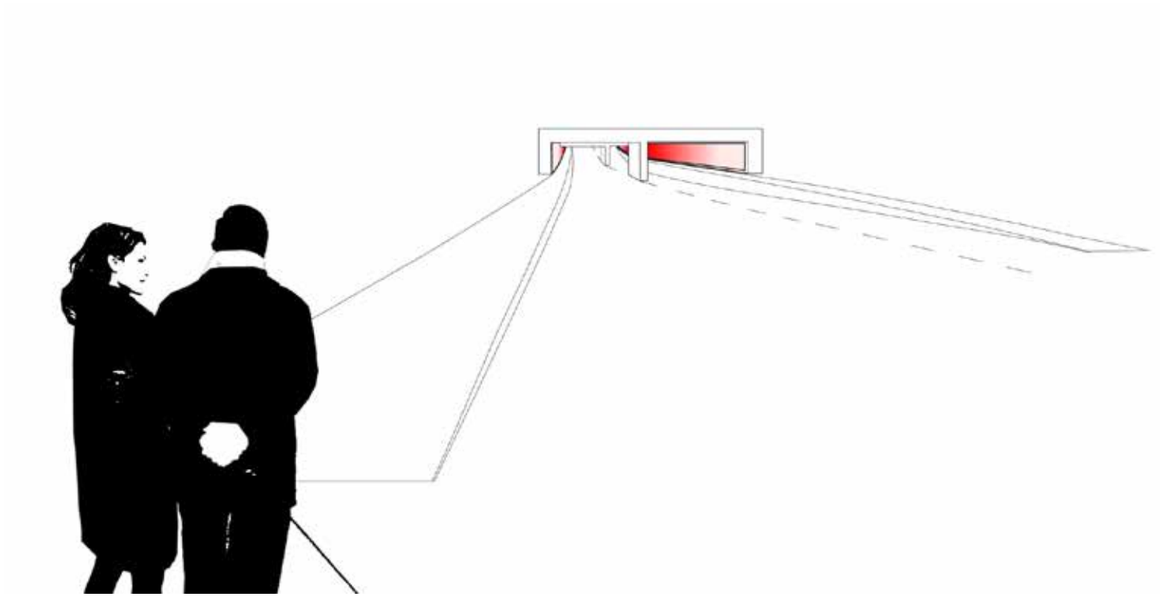
The existing concrete sidewalk is uneven and deteriorated. Opting out of a strategy for removal and replacement, the introduction of a grated walking surface elevated above the existing sidewalk sets a new, level datum while mitigating potential coordination challenges with underground services. The material change, from concrete to metal, reinforces the notion of threshold and signifies to visitors their entry into a realm distinct from the surrounding context.

Uneven retaining walls, deteriorated fencing and adjacent surface parking distracts from the overall legibility of the site. Acknowledging that many of these surrounding elements fall outside of the project scope, the addition of a veil neutralizes the immediate context, provides valuable clarity to the underpass space, and acts as a lightscape element as an extension of the public art strategy.

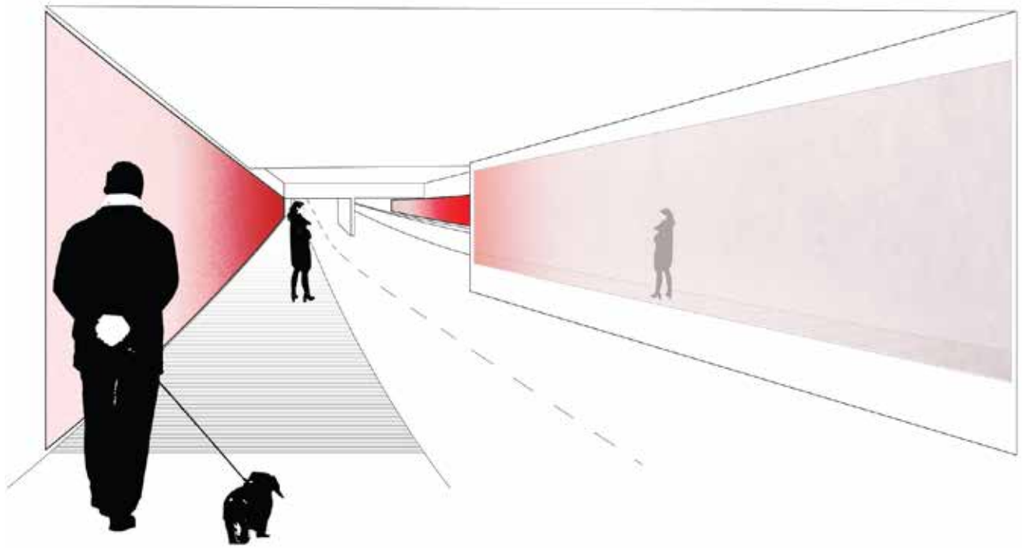
The existing site infrastructure inherently conditions the experience. As a threshold, descent below the bridge deck signifies an entrance into a new space. As solid structure, the bridge abutments isolate the experience of the visitor to his/her own individual space. Moving into the centre of the site, the notion of compression is reversed: tall vertical retaining walls open to the sky, bringing an acute awareness to one's elevational position within the city.

Driven by this inherent order to the project site, the addition of the frame facilitates several readings of space.

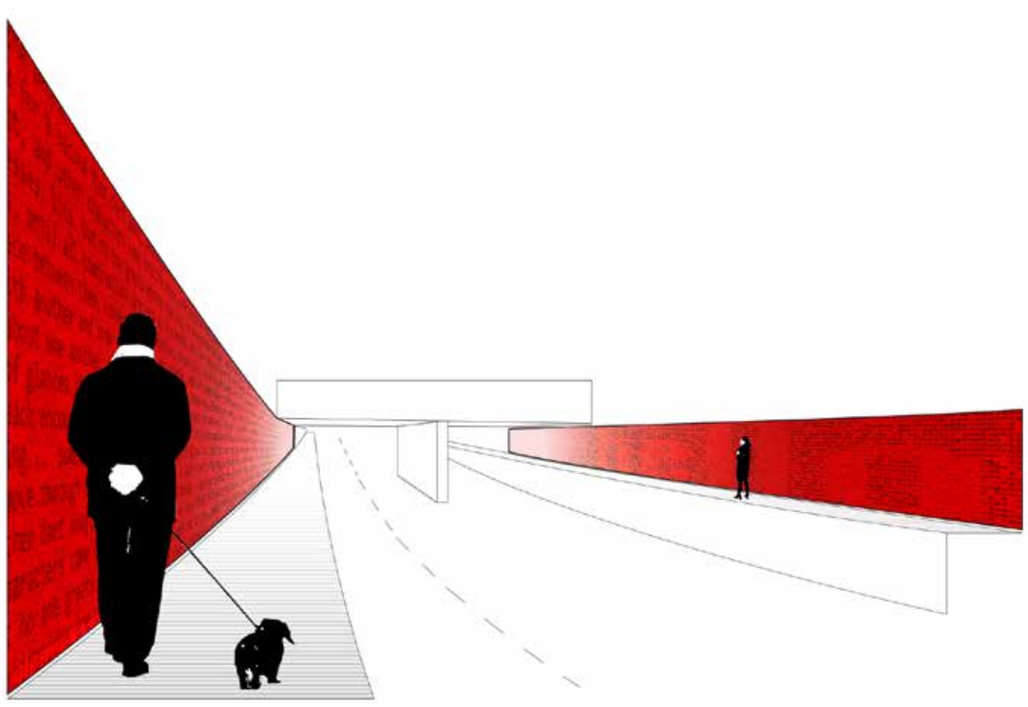
2. FRAME



SPACE OF ANTICIPATION



SPACE OF REFLECTION



SPACE OF CONVERSATION

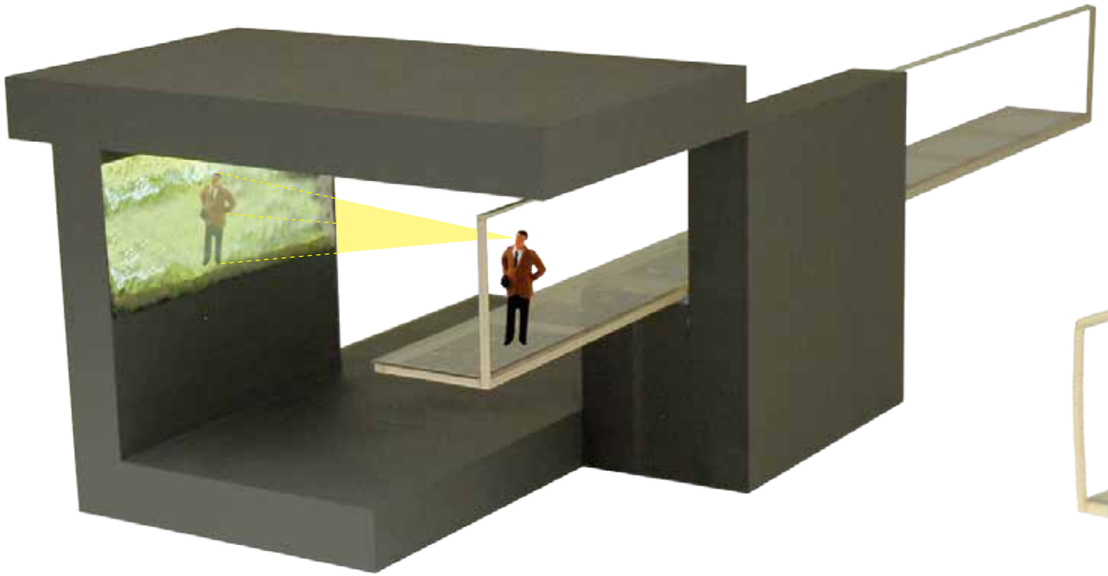
STEP TWO: FRAME I

Create a frame that converts the passive voice into the potential for the active voice.

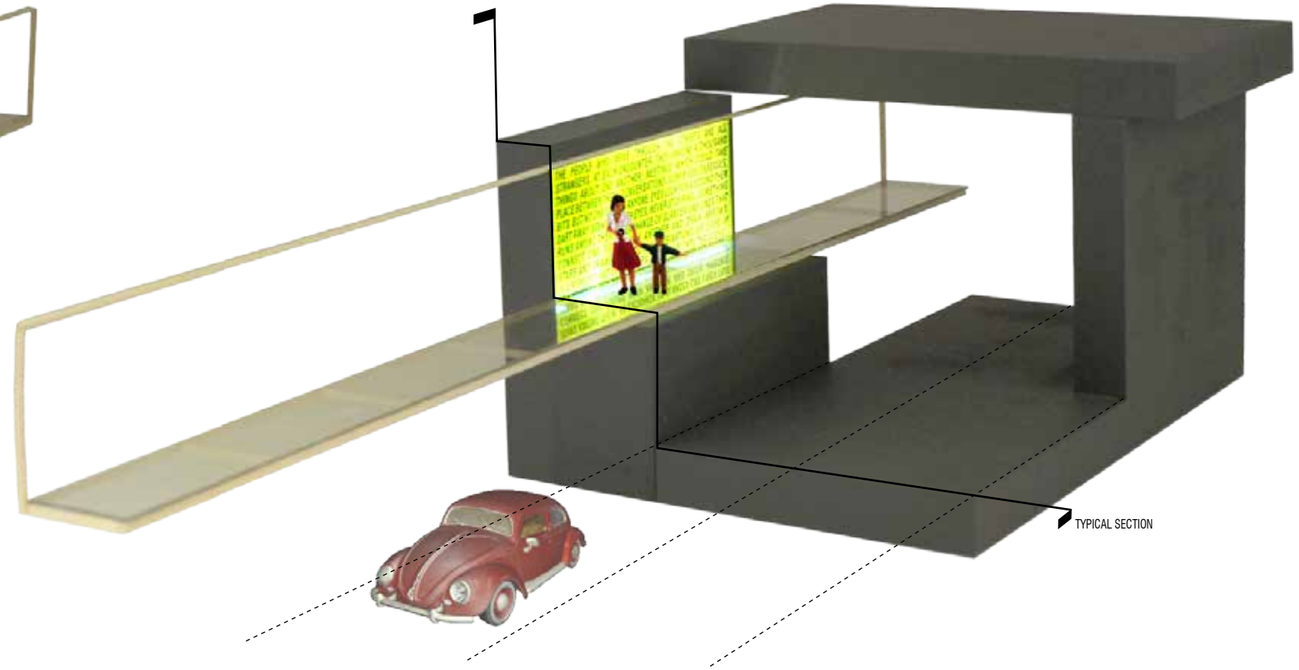
The addition of a continuous vertical surface provides a backdrop to frame visitors' experiences within and across the underpass. At a distance the frame serves as a beacon, composed of light and colour, creating a space of anticipation as visitors approach the first underpass structure.

Descending beneath the first bridge, a material shift from concrete to metal underscores the transition into an 'other' space. The existing bridge abutment is transformed from obstruction to active surface; polished metal cladding draws a visitor's gaze from ahead to across, and abstractly reflects one's own body within the context of the frame.

Emerging into the centre of the space, the view across is an unobstructed view to others. The frame visually supports bodies in space while offering a contiguous material palette which figuratively bridges between the east and west sides. These identical frames democratize the experience in the space; positioned within the frame, there is a familiarity between the visitor and others inciting a visual dialogue that did not exist previously.



TECTONIC MODEL - SPACE OF REFLECTION - Beneath the Bridges
A semi-reflective surface, located on the bridge structure, situates the body within the frame and accustoms users to connections across.

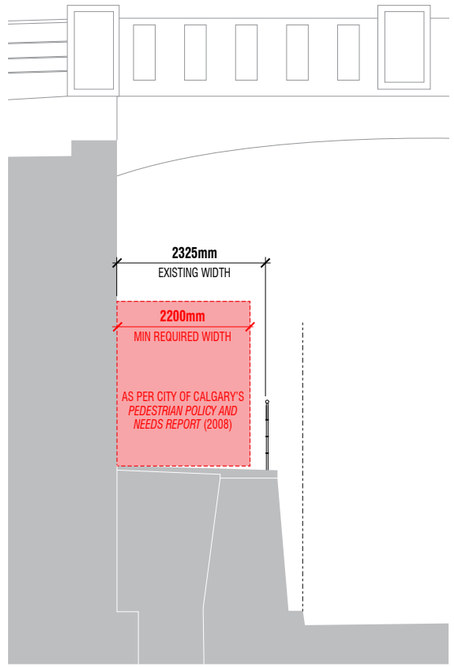


TECTONIC MODEL - SPACE OF CONVERSATION - Between the Bridges
Moving into the centre of the site, the frame shifts from static to dynamic; through interaction and animation, light projects conversation at the scale of the underpass.

1. GRATED WALKWAY, PANELIZED FOR ACCESS
2. SOLID WALKWAY
3. WATER-JET CUT QUOTE IN SOLID PLATE
4. GUARD RAIL
5. REFLECTIVE METAL BRISE-SOLEIL SCREEN
6. ACRYLIC DIFFUSER
7. LED PIXELS ON SOLID BACKER
8. VEIL
9. CONTINUOUS LED LIGHTING FOR VEIL
10. WATER PATH OF TRAVEL

PLEASE NOTE: ALL PROPOSED AND EXISTING DIMENSIONS ARE BASED ON OWNER-SUPPLIED INFORMATION AVAILABLE AT THE TIME OF SCHEMATIC DESIGN. DIMENSIONS TO BE VERIFIED THROUGH DESIGN DEVELOPMENT.

PROPOSED CONDITION



EXISTING CONDITION

STEP TWO: FRAME II

Create a frame that converts the passive voice into the potential for the active voice.

As a significant gesture, the frame simultaneously operates within multiple roles:

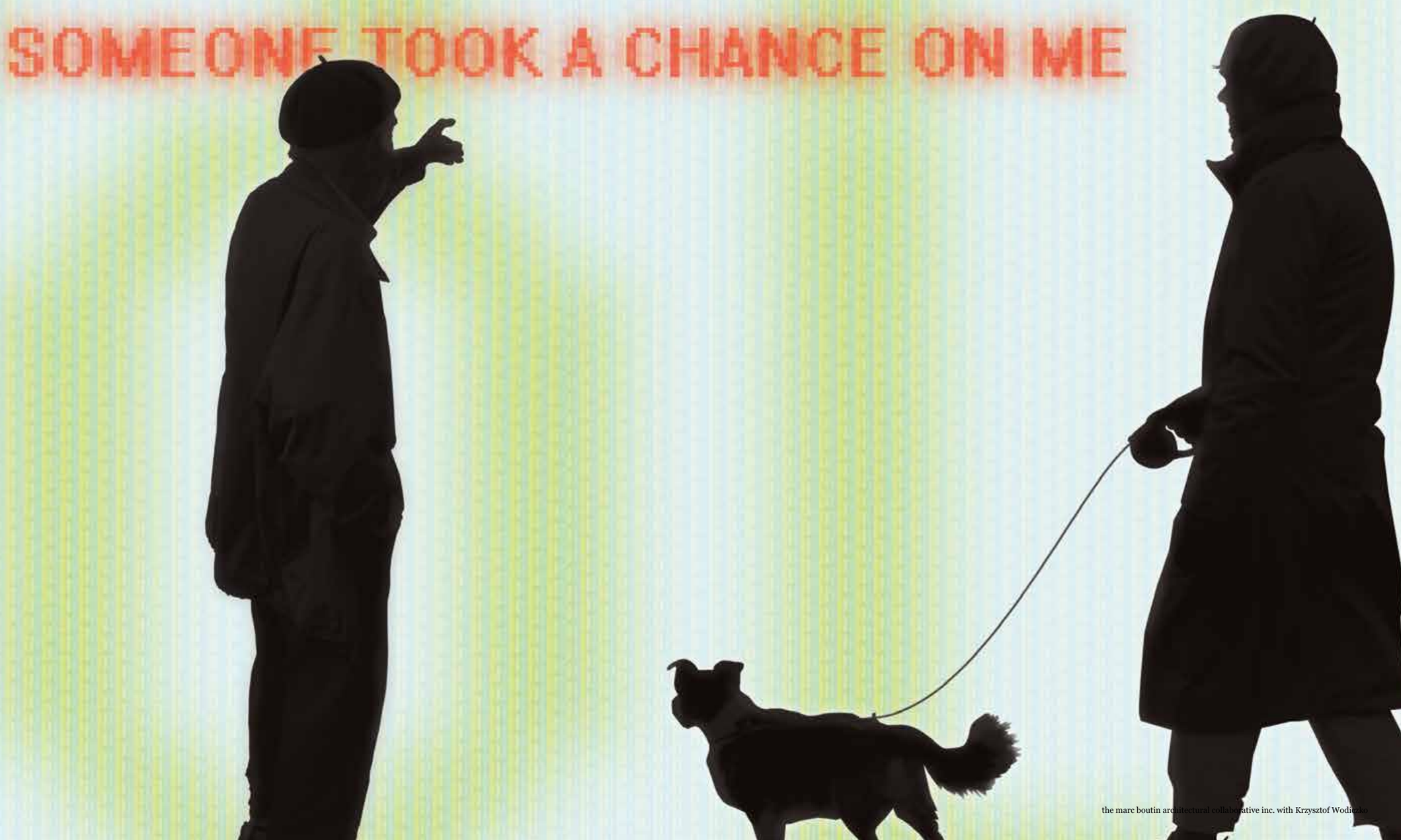
- As a safe grade separation;
- As an accessible walkway;
- As a water mitigation strategy;
- As an urban-scale gesture (reinforcing legibility of the space);
- As a conditioner of sunlight;
- As a source of artificial lighting;
- As a medium for interaction.

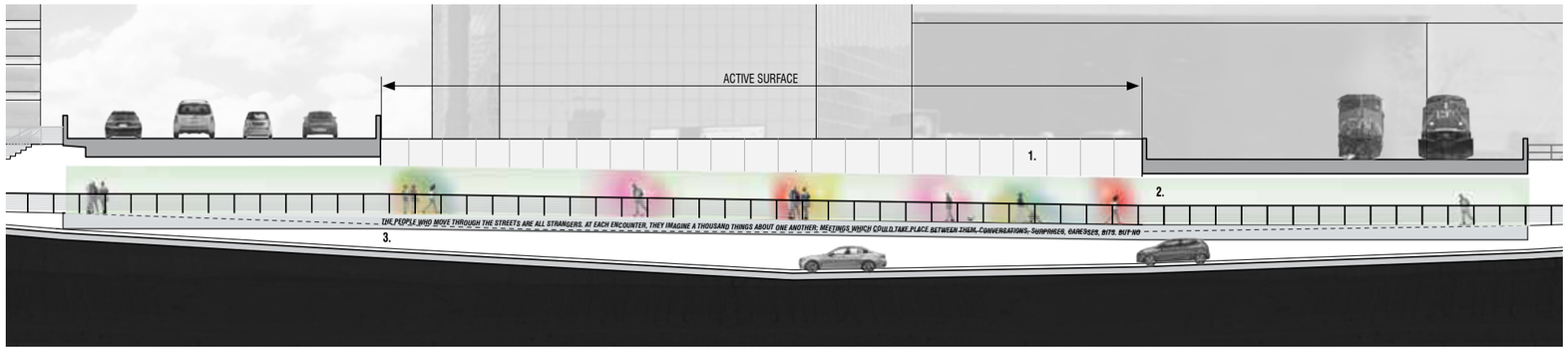
A quote cut out of metal plate wraps both sides of the underpass and situates the act of conversation as the key driver of the city as a place. The quote constitutes part of the frame that visually supports the body when visitors look across from the other side, setting the stage for the actors of the city to initiate their own conversation within the space of the underpass. The metal plate wraps up and onto the walking surface, offering a solid alternative to the metal grate for pedestrians and canines alike.

The location of the existing guardrail, positioned within the sidewalk surface, impedes upon an already narrow pedestrian realm. The proposed guard, flush with the roadway face of the retaining wall, increases both the perceived and effective width of the sidewalk. As an urban armature, the extents of the new guardrail help define the space of anticipation stretching towards 8th and 10th avenues. Once users enter the space of reflection, the guardrail profile is slightly modified, offering a visual cue to shift the gaze across.

Just as there is spatial depth to the frame, there is a media depth. An interactive, animated light scape, activated by the presence of visitors in the space, augments the underpass' capacity to serve as a space of verbal and visual conversation.

3. PROJECT





1. VEIL
2. FRAME
3. QUOTE

SITE SECTION - REALM OF PUBLIC ART

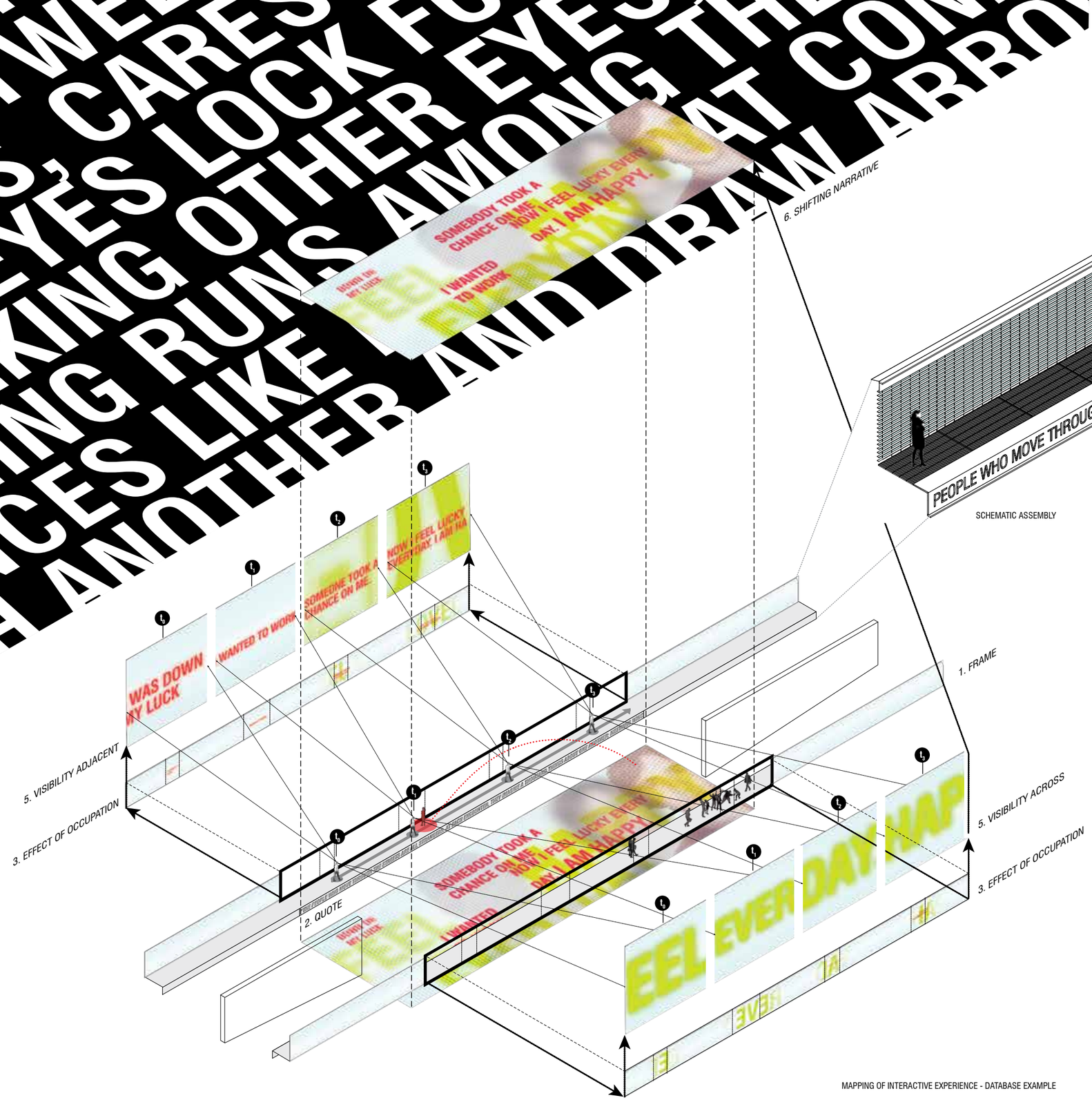
RESOLUTION TEST: PHYSICAL 1:1 MOCK-UP OF LED PIXELS

STEP THREE: PROJECT I

Create the augmented voice through the animation of surface.

Integrated into the frame, the animated surface introduces a capacity for multiple readings and emergent experiences which amplify the city as a space for interaction. Activation of the wall surface is triggered by the presence of the body; in live time, animated light escorts visitors they move through the underpass. The capacity of sensors to detect movement and proximity enables visitors to deliberately augment the response of the light as they move through the space.

Throughout the schematic design process, several different media options - exploring a wide range of abstraction, curation, and resolution - were developed by the Design Team. The final direction, a hybrid of text and colour-based responses, draws from the elements which most resonated with the project's stakeholders. A comprehensive synthesis of these observations has been included within the appendix of this report.



MAPPING OF INTERACTIVE EXPERIENCE - DATABASE EXAMPLE

6 A SHIFTING NARRATIVE
By stitching together multiple scales of information, users are able to assemble their own interpretation of both the archetypal statements and the people behind them. Taken together, occupation & data offer an infinite capacity for conversation. As an urban armature, the animated surface provides a new mechanism for discourse in the public realm; through movement, the multiple lives of the underpass are projected.

5 CHOREOGRAPHED VISIBILITY
Legibility of the animated graphic is dependent on both proximity to the screen and scale of the graphic. A user's presence in the space activates both the surface adjacent and the surface across.

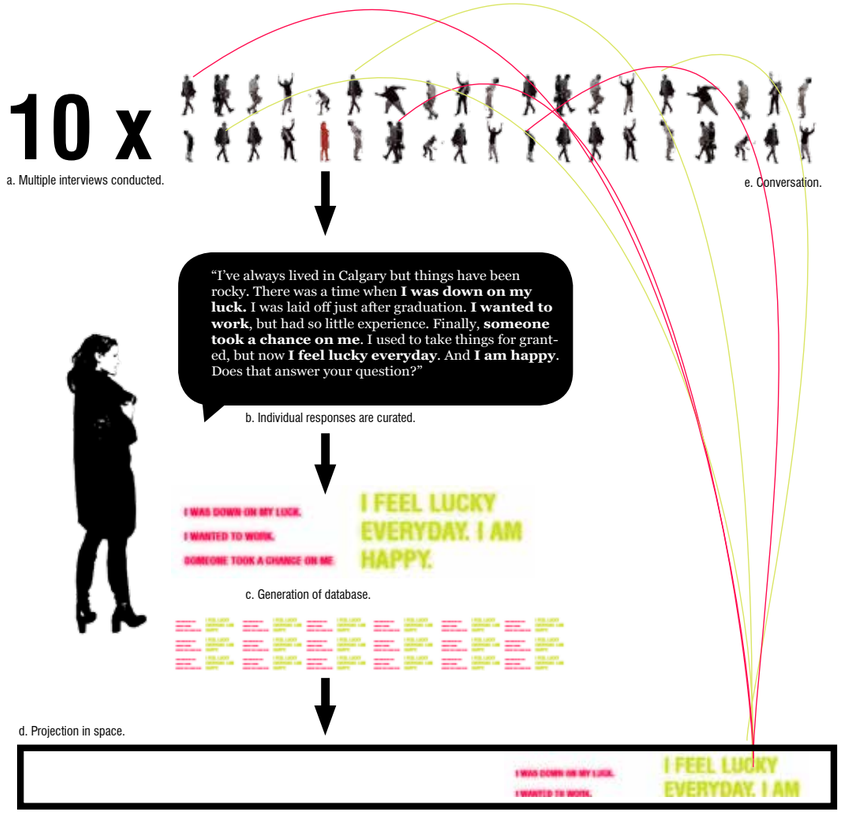
As a user transitions through the underpass, a large scale archetypal statement is slowly but sequentially revealed on the screen across. Concurrently, at a much smaller scale and directly adjacent to the user, additional excerpts from the interview come in and out of focus providing additional context around the statements.

4 DYNAMIC MESSAGING
The content of the animated media is drawn from an extensive database; a compilation of hundreds of archetypal statements are curated through interviews conducted with users of the space. The curated statements are constantly regenerating; each passage though the space is an opportunity to discover a new voice. The interpretation of these quotes, and an association of meaning with their content, is contingent on one's own preconceptions; not only are the messages constantly shifting, but so to the state-of-mind of users as they move into and out of the downtown core.

3 EFFECT OF OCCUPATION
Integrated into the frame, an animated surface introduces a capacity for multiple readings and emergent experiences which amplify the city as a space for interaction. Activation of the wall surface is triggered by the presence of the body in space; in live time, animated light escorts users they move through the underpass.

2 QUOTE
To situate the act of conversation or interaction as the key driver of the city as a place, a quote cut out of aluminum wraps both sides of the underpass. The quote constitutes part of the frame that visually "supports" the body when visitors look across from the other side, setting the stage for the actors of the city to initiate their own conversation within the space of the underpass.

1 FRAME
Serves as a neutral backdrop to frame visitors' experiences within and across the underpass. This surface visually supports the body as users glance across the space, bridging between the east and west sidewalks. The frame also reinforces the legibility of threshold at the extents of the project, as it is aligned with the bridge faces.



GENERATION OF DATABASE FOR PUBLIC ART

STEP THREE: PROJECT II

Create the augmented voice through the animation of surface.

Legibility of the animated surface is dependent on both proximity to the screen and scale of the graphic; to capitalize on this duality of reading, a visitor's presence in the space will differentially activate both the surface adjacent and the surface across. Up close, the activation of the surface is read as shifting colour and light intensity, reflected and refracted through the surface of the brise-soliel. From a distance, however, both the legibility of the medium and message is clear and offers a fundamentally different experience. One manifestation of this concept, based on text, is explored in the diagram on the adjacent page.

The content of the animated media, be it colour or text, will be drawn from an extensive database curated by the Design Team. A compilation of information will be developed through interviews conducted with users of the space; thus, each passage though the space is an opportunity to discover a new voice. The interpretation of these elements, and an association of meaning with their content, is contingent on one's own preconceptions; not only are the messages constantly shifting, but so to the state-of-mind of users as they move into and out of the downtown core.

By stitching together multiple scales of information, users are able to assemble their own interpretation of both the messages and the people behind them. Taken together, occupation & data offer an infinite capacity for conversation. As an urban armature, the animated surface provides a new mechanism for discourse in the public realm.

CURATION & MAINTENANCE STRATEGY

With the overall direction of public art narrative in place, the next phase of development will focus on increasing the design resolution of the technology and content of the media wall. World-class animated public art case studies will be analyzed and successful strategies re-calibrated in order to develop a long-term care regiment in conjunction with Roads and the Public Art Board.

Design and community safety, screen operations, and content curation are understood as the primary metrics for evaluation of the life cycle requirements. At a cursory level, an intuitive panelization strategy, simple and proven cold-climate LED technologies, user-friendly management interfaces and a well-integrated commissioning plan are key elements to a robust operational and maintenance plan.

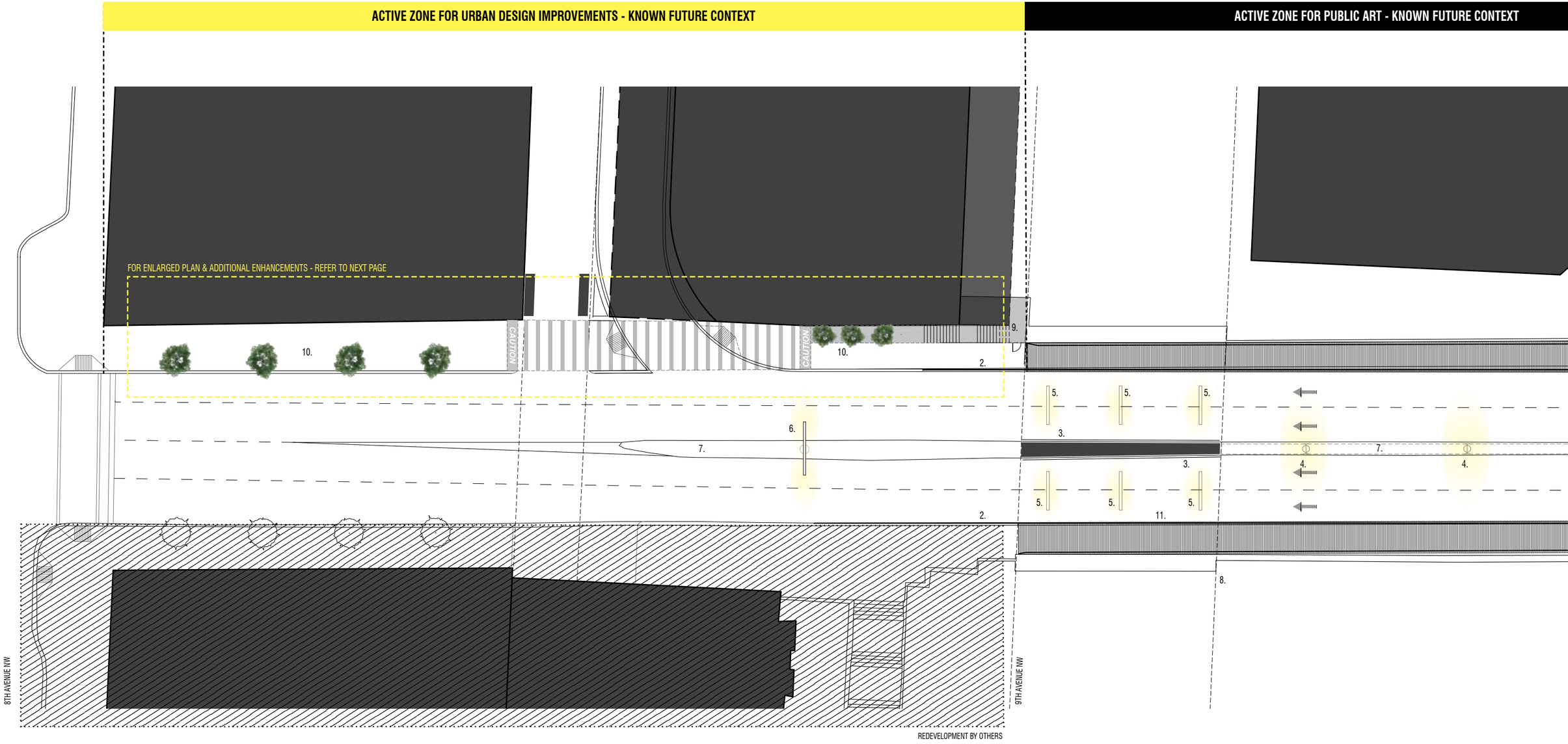
VIEW LOOKING NORTH FROM 9TH AVE BRIDGE

STAKEHOLDER OBSERVATIONS FOLLOWING THE SITE WALK-THROUGH

BEYOND THE BRIDGES

With a focus on enabling and encouraging pedestrian movement, a key objective of the 4th Street SW Underpass Enhancement Project is the provision of a safe, comfortable and attractive public space. This requires the execution of both pragmatic and poetic urban design improvements that encompass the full extent of the pedestrian realm, stretching from 8th to 10th Avenue SW.

Two significant redevelopments have already increased the permeability along the NW and SW corners of the project site. The remaining north and south edges offer several opportunities for focused enhancements to the public realm.


ACTIVE ZONE FOR URBAN DESIGN IMPROVEMENTS - KNOWN FUTURE CONTEXT
ACTIVE ZONE FOR PUBLIC ART - KNOWN FUTURE CONTEXT
FOR ENLARGED PLAN & ADDITIONAL ENHANCEMENTS - REFER TO NEXT PAGE
CAUTION
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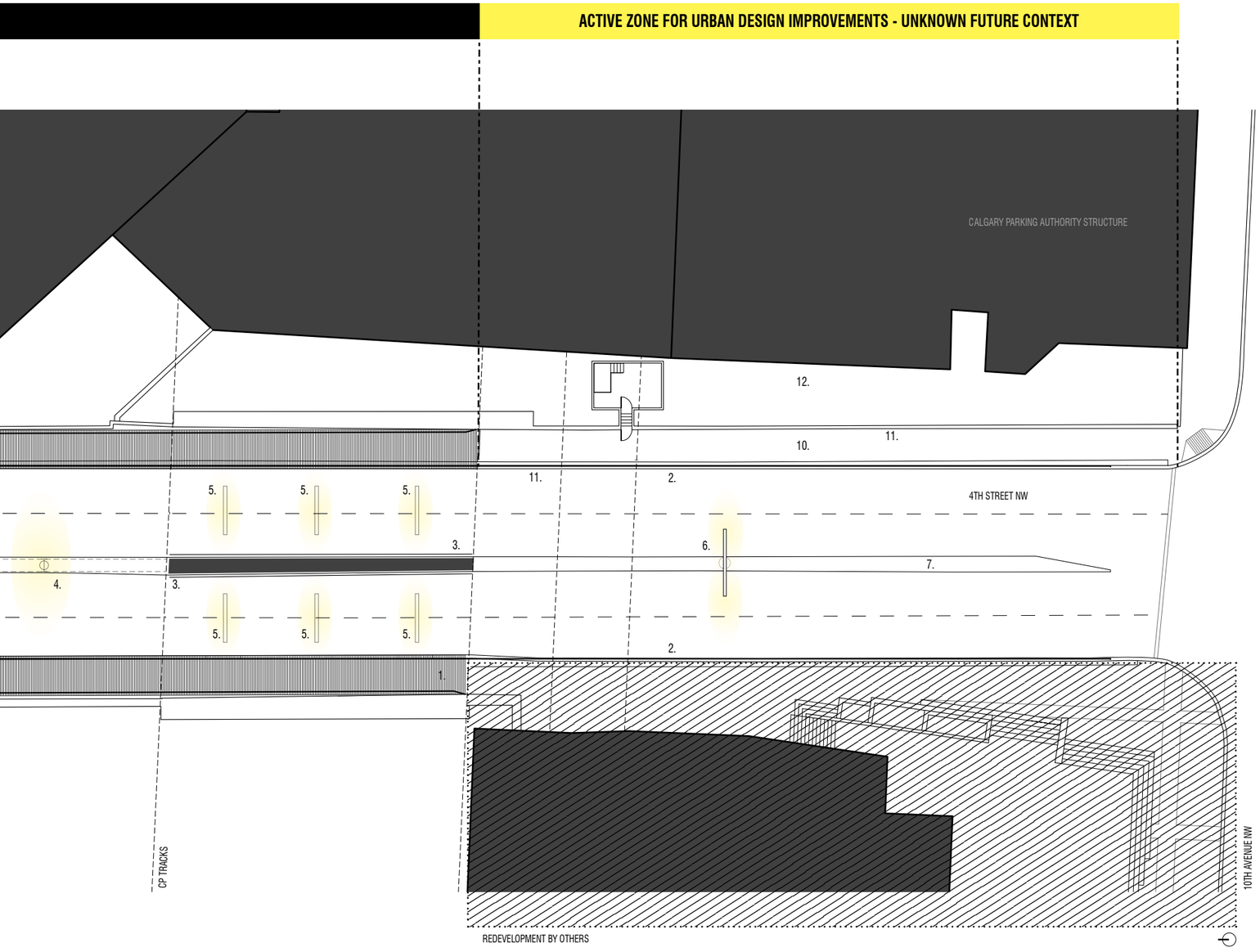
9TH AVENUE NW
REDEVELOPMENT BY OTHERS



PROPOSED SITE PLAN

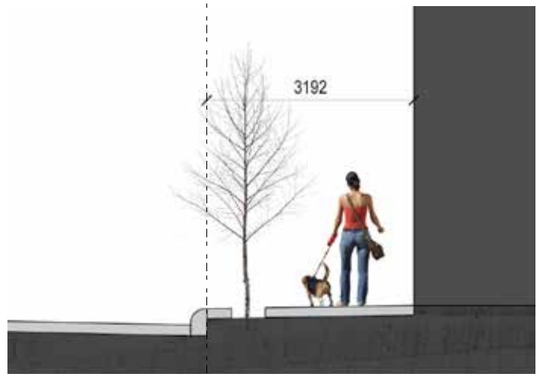
A series of enhancements to the public realm are annotated in the adjacent site plan and subsequent site sections. These enhancements include but are not limited to: new LED street lighting, modifications to the 3rd Street SW connector, a reconsideration of the northeast stairwell, remediation of the NW stairwell, overall increase in the sidewalk width and material improvements throughout.

UNKNOWN CONTEXT

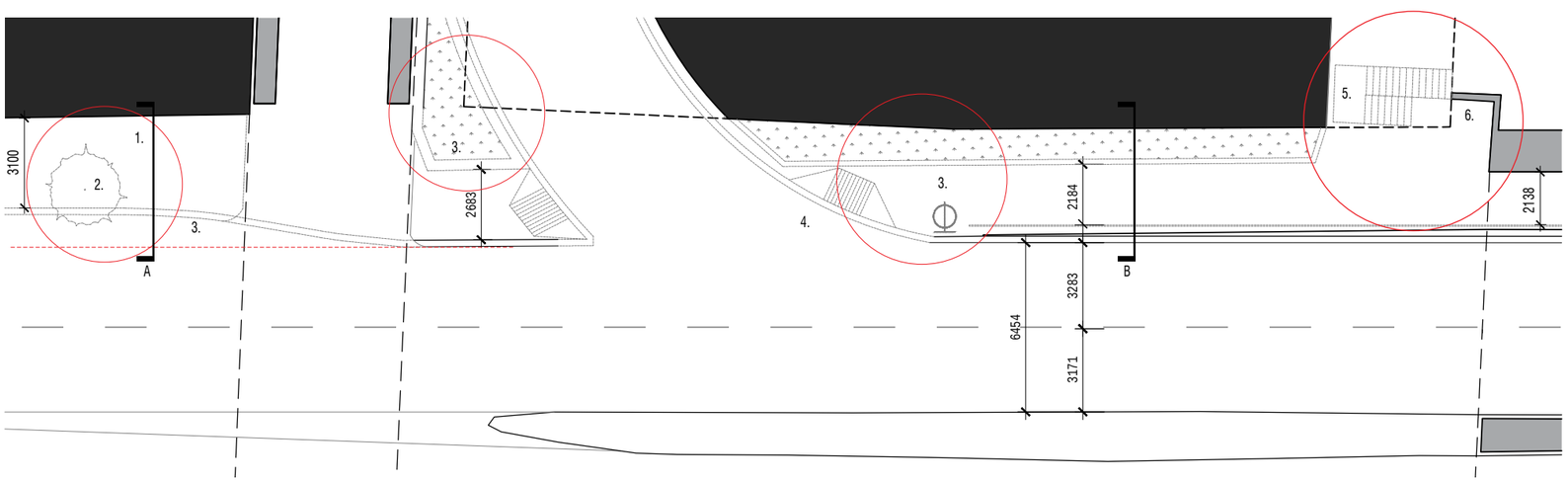
The future of the Calgary Parking Authority structure on the SE corner of the project site is unknown at this time. Significant redevelopment of the property is likely include a reconfiguration of the interface between building and the public realm; as such, any proposed improvements to this area as part of the 4UE will be low in investment, temporary in nature but high-impact in effect. Additional resolution of the SE scheme will be developed in collaboration with the Calgary Parking Authority and CP throughout Design Development.

1. COMPOSITE FRAME ASSEMBLY, INCLD. GRATED WALKWAY
2. PROPOSED GUARDRAIL
   Increased effective sidewalk width; urban armature bridging N-S & E-W; critical component of public art narrative.
3. REFLECTIVE SURFACE
4. STREET LIGHTING - OVERHEAD LED LUMINAIRES
   Increased effective sidewalk width; improved lighting technology; applies fixture heads consistent with other downtown underpasses; vandal resistant location; location of fixtures does not compromise legibility of public art.
5. STREET LIGHTING - SURFACE MOUNTED LINEAR LED LUMINAIRES
   Improved lighting technology; vandal resistant location; location of fixtures does not compromise legibility of public art.
6. STREET LIGHTING - POLE-MOUNTED LED LUMINAIRES (ON MEDIAN)
   Increased effective sidewalk width; improved lighting technology; consistent with other redesigned downtown underpasses & guidelines.
7. REMEDIATED MEDIAN
   Repair to deteriorated concrete, incorporates bases for streetlights.
8. REMEDIATED NE STAIRWELL
   Improved safety & accessibility.
9. PROPOSED NW CIVIC STAIR
   Improved safety & visibility; improved accessibility; way finding.
10. REMOVAL AND REPLACEMENT OF CONCRETE SIDEWALK
    Improved accessibility & material conditions; reconfigured to increase effective sidewalk width.
11. PATCH & PAINT RETAINING WALL
12. POTENTIAL IMPROVEMENTS TO SE CORNER: NEW GUARDRAIL, INTRODUCTION OF LANDSCAPING, LIGHTING.
    Low cost, temporary, high-impact improvements; improved safety;

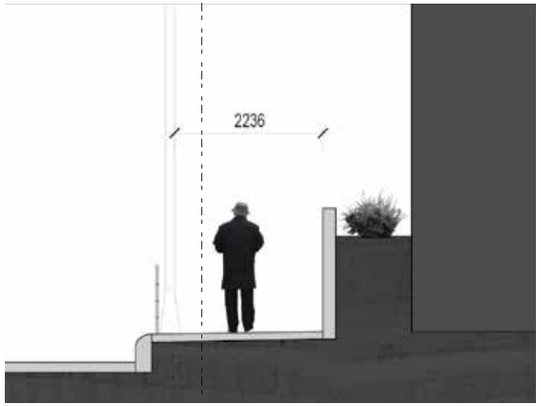
EXISTING ENLARGED ELEVATION - NE CORNER OF SITE



EXISTING SITE SECTION - NE CORNER



EXISTING ENLARGED SITE PLAN - NE CORNER OF SITE

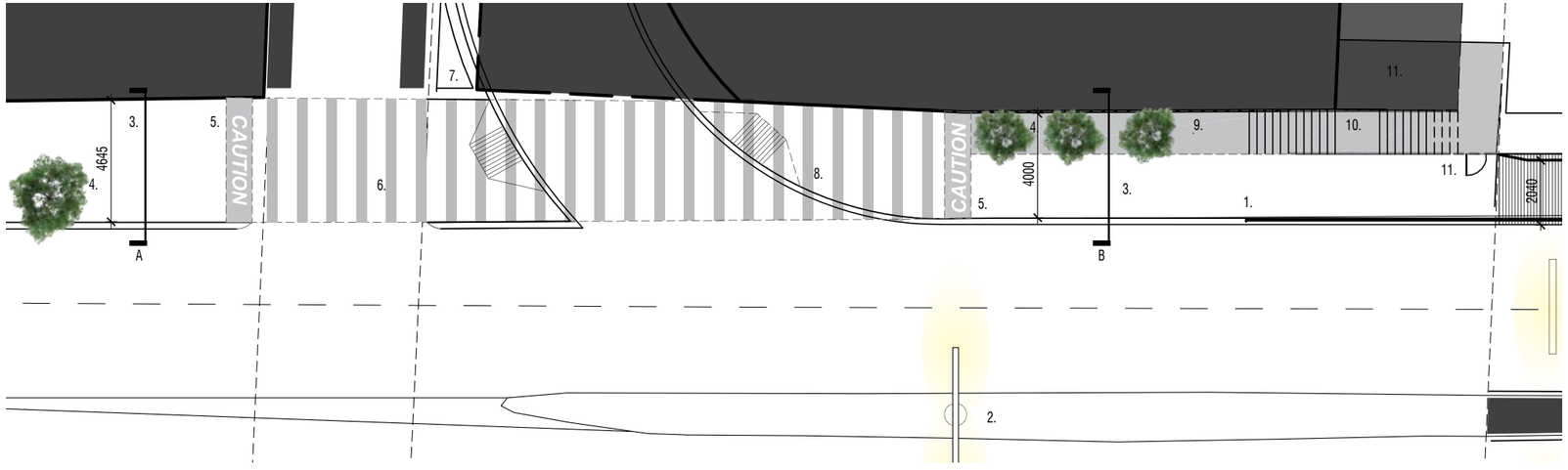


EXISTING SITE SECTION - ADJACENT TO PARKADE

1. DETERIORATED SIDEWALK
2. SMALL STREET TREES
3. PINCHED SIDEWALK
4. AMBIGUOUS TRAFFIC/PEDESTRIAN INTERFACE
5. DETERIORATED STAIRS
6. HIDDEN CORNER

PROPOSED ENLARGED ELEVATION - NE CORNER OF SITE

PROPOSED SITE SECTION - NE CORNER



1. PROPOSED GUARDRAIL
   Increased effective sidewalk width; urban armature bridging N-S & E-W; critical component of public art narrative.

2. STREET LIGHTING - POLE-MOUNTED LED LUMINAIRES (RELOCATED TO MEDIAN)
   Increased effective sidewalk width; improved lighting technology; consistent with other redesigned downtown underpasses & guidelines.

3. PROPOSED SIDEWALK
   Improved accessibility & material conditions; reconfigured to increase effective sidewalk width.

4. PROPOSED STREET TREES C/W TREE TRENCH
   Improved conditions to support healthier tree growth; mirrors adjacent redevelopment; outside dimensions of grate consistent with City of Calgary standards.

5. PRECAST SIGNAGE FOR CROSSING
   Improved safety for all users through creating a clearly defined interface.

6. PAINTED SURFACE FOR CROSSING
   Improved safety for all users through clearly articulating the interface zone.

7. REVISED PLANTER
   Increased effective sidewalk width; consistent with remainder of sidewalk.

8. REDUCED TURNING RADIUS
   Slows traffic turning speed; increased visibility.

9. PRECAST PAVING
   Increased effective sidewalk width; opportunity for additional trees.

10. PROPOSED CIVIC STAIR
    Improved safety & visibility; improved accessibility; opportunity for way finding.

11. PUBLIC ART LIGHTING CONTROL ROOM
    Dedicated space for public art electrical components & controls; avoids equipment conflict in lift station; replaces 'blind' corner with programmed space.

PROPOSED ENLARGED SITE PLAN - NE CORNER OF SITE

PROPOSED SITE SECTION - ADJACENT TO PARKADE

Please note: all proposed and existing dimensions are based on Owner-supplied information.

COMPLETED TO DATE

2015

J F M A M J J A S O

2016

N D J F M A M J J A S O N

PROJECT START

SCHEMATIC DESIGN

Biweekly Project Team Meetings

Meeting with Information Services

Meeting with CP I

Meeting with Urban Forestry

Meeting with Transportation & Roads

Meeting with CP II

Meeting with Network Planning & Roads

Meeting with Brookfield

Meeting with Public Art Board

DESIGN DEVELOPMENT

CONTRACT DOCUMENTS

PROCURMENT

CONSTRUCTION ADMINISTRATION

(REFER TO A-2)
Meetings

(REFER TO A-3.2 TO A-3.5)
Engagement Events

March 5 — **LESSONS LEARNED**

March 20 — **STAKEHOLDER IMAGINATION SESSION**

May 8 — **DESIGN CHARRETTE I**

May 12 — **PUBLIC EVENT:** STEPHEN AVENUE

May 31 — **PUBLIC EVENT:** LILAC FESTIVAL

September 18 — **DESIGN CHARRETTE II**

January — **PUBLIC OPEN HOUSE**

(REFER TO A-3.6)
Deliverables

CORP. STAKE. HANDOUT

LESSONS LEARNED MATRIX

STKHLDR INFO PACKAGE

WHAT WE'VE HEARD FROM YOU

DCI ENGAGE. FEEDBACK

PUBLIC ENGAGE. FEEDBACK

ONLINE SURVEY FEEDBACK

ONLINE SURVEY FAQs

WHAT WE'VE HEARD FROM YOU, PART II

DESIGN UPDATE

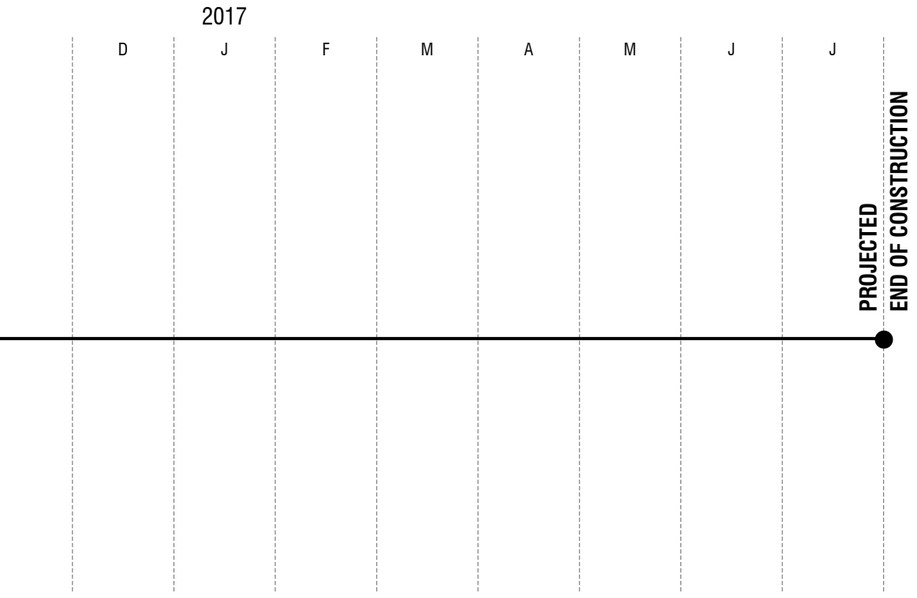
SCHEMATIC DESIGN REPORT

IN SITU MOCK-UP

DESIGN DEVELOP. REPORT

ISSUED FOR TENDER DOCS

ISSUED FOR CONSTRUCT. DOCS.



PROJECT SCHEDULE

The completion of this report marks the end of the Schematic Design phase of the project. Throughout the past several months, an extensive stakeholder and public engagement process was undertaken by the project team. A series of milestone deliverables prepared throughout this process both summarize the feedback collected and communicate the Design Team's synthesis of that feedback into the final design.

For a detailed record of critical meetings, stakeholder engagement events, and milestone deliverables please refer to Appendix A-2 & A-3.

“THE PEOPLE WHO MOVE THROUGH THE ENCOUNTER, THEY IMAGINE A THOUSAND WHICH COULD TAKE PLACE BETWEEN THEM, BITS. BUT NO ONE GREETS ANYONE; EYES SEEKING OTHER EYES, NEVER STOPPING EXCHANGE OF GLANCES LIKE LINES THAT DRAW ARROWS, STARS AND TRIANGLES, A MOMENT, AND OTHER CHARACTERS

STREETS ARE ALL STRANGERS. AT EACH THINGS ABOUT ONE ANOTHER; MEETINGS CONVERSATIONS, SURPRISES, CARESSES, LOCK FOR A SECOND THEN DART AWAY, ...SOMETHING RUNS AMONG THEM, AN CONNECT ONE FIGURE WITH ANOTHER AND UNTIL ALL COMBINATIONS ARE USED UP IN COME ONTO THE SCENE...”

- ITALO CALVINO, INVISIBLE CITIES

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APPENDICES

A-1. BACKGROUND REVIEW & SITE ANALYSIS

.1 Policy Areas of Focus
.2 Transportation Policy Review
.3 Lessons Learned
.4 Photographic Survey

A-2 ADDITIONAL MEETINGS MATRIX

A-3 ENGAGEMENT PROCESS

.1 Project Road Map
.2 Stakeholder Imagination Session (March 20 2015)
.3 Design Charrette I (May 8 2015)
.4 Public Engagement Events (May 12 - June 2 2015)
.5 Design Charrette II (September 18 2015)

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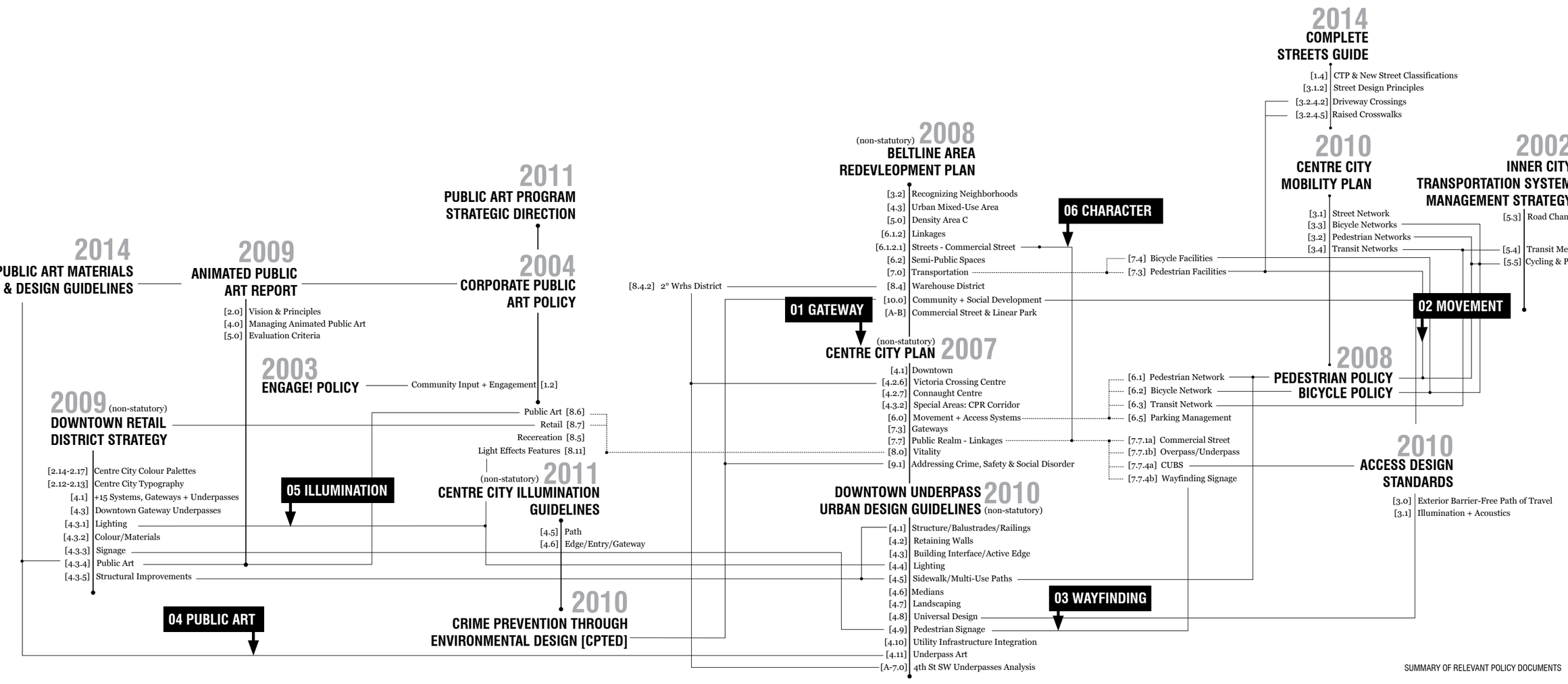


SUMMARY OF RELEVANT POLICY DOCUMENTS

A-1.1 POLICY AREAS OF FOCUS

The design team initiated the project process by gathering, analyzing, and compiling existing information on the site. This includes but was not limited to: the collection of information regarding existing utilities and structures, meeting with internal City of Calgary business units common to both the 1st Street SW Underpass Enhancement Project and 4UE, and finally a thorough review of relevant policy documents produced by the City of Calgary.

A mapping the sections within the reviewed policy documents (see image above) has facilitated the identification of 6 critical themes, or 'areas of focus', relevant to the 4th St SW Underpasses Enhancement Project.

01 GATEWAY/EDGE

- As a recognizable change between districts in architecture, building mass and land use, the 'Downtown Transition Edge', along the CP rail line is identified within the Centre City Plan as a primary edge in the City of Calgary. The 4th St SW underpasses crosses this edge; thus is also identified as a critical gateway between the downtown and Beltline districts. [CCP]

- Gateways offer architectural and perceptual opportunities to celebrate entry into the Centre City and to announce a transition between environments [CCP].

- The transformation of the CP underpasses into Downtown's gateways [for both vehicles and pedestrians], occurs through strategies such as lighting design, colour, material selection, branding signage, public art, and minor structural renovations [DUUDG]

- Design interventions should aim to transform these underpasses into Downtown's gateways for both vehicles and pedestrians by using strategies such as lighting design, colour and material selection, branding signage, public art, and minor structural renovations. Instead of an awkward space, these gateways should announce entry into Downtown [Retail District Strategy].

02 MOVEMENT NETWORKS/UNIVERSAL DESIGN

- As a high volume pedestrian gateway and key pedestrian corridor, the 4st St SW underpasses are a critical linkage which must serve as 'a continuous and comprehensive system that connects people, places and buildings within the Centre City' [CCP].

- The underpass linkage is a fundamental ordering device of city building, and must accommodate new development, provide flexible transportation alternatives, be legible, interesting and provide a comfortable, green, animated and safe pedestrian environment [CCP]

- As a major pedestrian and bicycle link between the Bow River and the Elbow River pathway systems, the pedestrian and cycling environment should be given a high priority through improving the pedestrian and cycling connections + experience in the underpass [CCP]

- Accessibility for pedestrians and cyclists should be improved, including accommodation for persons with visual or physical disabilities. As such, a greater priority must be given to the design and operation of intersections, traffic signals, cross walks and transit stops for both pedestrian and cyclist [Mobility Plan].

- As a linkage, the enhancement project must provide space for different modes of movement [pedestrians, cyclists, public transit and motorists], accommodate complex activities in the community, and create an environment where everybody feels comfortable and safe [CCP].

- As public realm elements have a strong influence on the character of the new Centre City, City-identified components [plantings, street furniture, etc.], unique to various Centre City precincts, will be an integrated piece when issuing guidance to developers and in Centre City corridor improvement projects [CCP].

03 WAYFINDING/SIGNAGE

- Underpasses should become spots where visitors, workers, and residents find information and interpretive features used to explore and discover the city. Where possible, consider using interpretive signage to celebrate local heritage [DUUDG].

- Good signage can play an important role in supporting the public realm and contributing to a distinctive local identity [DUUDG].

- A bold pedestrian signage strategy should be part of an overall graphic system for the underpass and its surrounding area, establishing visual continuity of the pedestrian realm [Downtown Retail District Strategy].

- The scale, orientation and level of detail must be distinctive from traffic signs in order to improve legibility and avoid confusion and distraction for drivers. Signage must respect the scale and material of the adjacent structures, as well as the streetscape character of the area. It must not protrude onto the sidewalk or obstruct the pedestrian flow. Signage should maximize the pedestrian feel along the underpass streets [DUUDG]

- The legibility and simplicity of way finding and signage systems should be reinforced. Various signage types that can be integrated together to create less visual clutter are preferred. Digital technologies/interfaces for various way-finding/signage systems should also be explored [CCP].

- Lighting and colours that enhance the Downtown brand should be used [Downtown Retail District Strategy].

- The use of custom-designed signage as public art to enrich pedestrian experience should be encouraged. High-quality graphic design for all way finding/signage systems should be used [DUUDG]

04 PUBLIC ART

- Public art is becoming increasingly recognized as an inclusive, innovative and culturally vibrant way to impact the aesthetic, social, economic, and cultural quality of life in Calgary [Public Art Policy]

- Great public art impacts Calgary's urban landscape and transforms the way Calgarians see, think and experience the city around them [Public Art Policy]

- A vibrant Public Art collection contributes to a visually rich environment, attracts creative businesses and workers, provides art opportunities that are freely accessible to all, showcases Calgary's diverse cultural character, celebrates our living heritage and fosters the growth of a culturally informed public [Public Art Policy].

- Custom-designed signage should be encouraged as an opportunity for public art, enriching the pedestrian experience and notably dependent on the local character of the area [DUUDG]

- The intent of underpass art installations is to: give pedestrians a direct or subconscious feeling of comfort and safety; commemorate specific events and historic figures; give character to the gateway function into downtown and to establish ownership of the underpass realm; and finally make living, working and visiting Calgary an interesting, thought-provoking and creative experience [DUUDG].

- Wall space should be utilized for murals or other public art installations, and below-grade stories of buildings abutting underpasses should serve as public art displays [DUUDG].

- Strategic locations for the installation of underpass art includes retaining walls, corner situations, bridge balustrades, building walls and setback areas [DUUDG].

- Art objects should not encroach into the sidewalk zone, nor should animated art interfere with traffic regulations [DUUDG].

- Installations in underpasses could be temporary or become a permanent public feature. In both cases the outdoor exhibits require ongoing maintenance due to exposure to the elements, vandalism and pollution. Other underpass art installations can include the display of artistic features within the underpass [murals, mosaics, and photo installations] [DUUDG].

- Use of screens that supports the idea of public space for the creation and exchange of culture, strengthening of local economy and the enhancement of the public sphere: actively marking a distinct experience [APAR].

- Guiding Principles: minimizing distractions, obstructions and other hazards that may result from the display of Animated Public Art; minimize possible adverse effects of Animated Public Art on adjacent public and private property; encourage screen content and design that are integrated with and are harmonious to the surrounding environment and the building and sites they occupy [Animated Public Art Report].

- Design and Community Safety: must be on par with outdoor display conditions; do not obstruct building features; should enhance the aesthetic quality of the streetscapes in which they are located [Animated Public Art Report].

- Location Criteria/Orientation: Encouraged in areas that are pedestrian oriented; does not conflict with adjacent uses; no portion of the screen must be visible from a residential district, major park or as per 111(3) bylaw; screens should shielded to prevent beams or rays of light being directed at any portion of any roadway or beams of light that cause glare or impair vision of the operations of motor vehicles; should be wall mounted and not exceed the height of the wall to which they are attached [Animated Public Art Report].

- Structural Considerations: Must be capable of supporting environmental loads; Surfaces should be concealed or covered in a manner that prevents the exposure of all mechanics, electronic, internal screen elements and minimize corrosion [Animated Public Art Report].

- Pedestrian Movement: Minimize potential for conflict between pedestrian movements and screen viewing [Animated Public Art Report].

- Maintenance: Design & constructed to minimize maintenance requirements [Animated Public Art Report].

- Traffic & Safety: Screens should be intended for pedestrians and not automobile oriented traffic; limit distractions to drivers especially in locations where the task of driving is demanding; do not obstruct /interfere with traffic signal/sign/regulating device or the safe movement of traffic; do not resemble an official traffic signal, traffic sign or other traffic regulating device [Animated Public Art Report].

- Screen Operations: Constructed with automatic dimmer control to adjust brightness based on ambient outdoor illumination, so they do not become the dominant visual element at night; illuminated with internal illumination devices with the light source located within the screen; minimum luminous contrast between the unlighted and lighted elements of the screen; should not change at intervals less than 10 to 12 seconds; pitch/screen size dependent on viewing distance; screen should allow for high resolution images; transitions should be discrete to reduce negative effects or distraction on traffic, should not produce blinking and or flashing and no longer than 2 seconds; background should not blink, flash, rotate, scroll or change in illumination intensity except when the video message or display is changed to another message or display; must be equipped to stop the messaging or freeze in one position when a malfunction in the video programming occurs [Animated Public Art Report].

- Content Considerations: no third party advertising; links to website or on screen web links may be allowed so long as t6hey are there to provide additional information or to describe the project; special consideration must be made to the scheduling and duration of programming, as content presented will be encountered casually by the public (mobile with limited time); slower paced video art pieces are more effective than frenetic works [Animated Public Art Report].

05 ILLUMINATION

- Lighting can assist to create an animated environment and contribute to the real or perceived safety of urban space [CCP].

- As gateways, illumination strategies should encourage movement to the entertainment districts, and help improve the visibility of City landmarks and pedestrian corridors, and extend the active hours in the Centre City [CCP].

- The illumination of underpass structures is a key element in achieving the desired design impact as a gateway to downtown, and in making these structures attractive and safe during daytime and especially after dark. Lighting should be installed beneath bridges and against the walls of underpasses to enhance safety and signify a gateway [Retail District Strategy].

- Illumination can vastly improve effectiveness of artwork installations. The use of coloured lights or light displays should also be considered [DUUDG].

- Consistency in the levels of illumination is a primary concern for people with vision loss, since their ability to adjust from one level to another is often slow. Care must be taken to mitigate intense contrast in light conditions. Accordingly, an appropriate illumination design must include proper placement of light sources, and should sensitively navigate appropriate day and night light conditions [Access Design Standards].

- Good lighting is one of the most effective crime deterrents; if used properly, light discourages criminal activity, enhances natural surveillance opportunities, and reduces fear. A constant level of light providing reasonably good visibility should be maintained at night [CPTED].
- From an aesthetic and a safety standpoint, lighting can play a role in creating a feeling of territoriality, influencing an individual's feelings about his or her environment [CPTED].

06 PROPOSED STREETSCAPE CHARACTER

- Designated a 'Commercial Street', 4th St SW is a major traffic connector in Downtown and Centre City neighborhoods. It represents an eclectic street that provides for flexible transportation alternatives, medium to high public transit traffic, vehicular traffic and off-peak on-street parking. [CCP].

- 'Commercial' character should integrate a range of land uses – from high-density commercial office, hotel, convention centres and residential uses to hospitality, entertainment and retail uses at-grade level. Commercial streets should provide a comfortable, green or otherwise animated and safe pedestrian realm. [CCP].

- Two +15 span the project site. Interventions aim to improve both the aesthetics of the bridge and the pedestrian environment under the bridge. Colour and lighting are explored to create a more visually eye-catching structure, while pedestrian-oriented amenities and programs are encouraged under the bridge, where retail is reluctant to locate. [Retail District Strategy].

- 4th Street SW bounds two Beltline neighborhoods: Connaught Centre to the West and Victoria Crossing Centre to the East. The urban condition southeast of the underpasses, within the Victoria Park neighborhood, falls under the character area designation of the 'Secondary Warehouse District' [Beltline ARP].

- An important element within the Secondary Warehouse District is that of public views; specifically, views which can be observed from public places. The view looking east along 11th Avenue from 4th St SW still provides an excellent representation of how the area would have looked and felt when the area was being used as a warehouse and wholesale district. Any development should enhance the streetscapes and protect vistas along all three avenues, including 10th Ave [Beltline ARP].

- Land designation for 4th St SW south of the underpasses is 'Urban Mixed-Use'. Project should allow for a wide range and mix of uses in many possible configurations, both within buildings and within the local context resulting in vibrant, pedestrian streets [Beltline ARP].

ITEM	SOURCE	CRITERIA	DIMENSIONS/PARAMETERS
DESIGNATION/ CHARACTER	Complete Streets Policy	LIVABLE/URBAN BOULEVARD: Requires high standards of accommodation for walking, cycling and transit; variable standards for goods/autos; Centre City: ACTIVITY CENTRE	
	Centre City Mobility Plan	Linkage Type (urban design character): COMMERCIAL Street Classifications: URBAN BOULEVARD • Pedestrian Corridor;	
	Downtown Underpass Urban Design Guidelines	• Underpasses with a high pedestrian volume (see Section 2.3) should explore the use of coloured asphalt, coloured and stamped concrete, and other decorative materials (tile, stone and brick); • Medians: If planting within the median is not possible or feasible, the median should incorporate rock garden design or rock formations. Medians should accommodate street lighting posts; • Mast lighting should be integrated into the median. With mast location on the median, the lighting design could visually contribute to the underpass overall design and theme.	Narrow median (<2.0 metres).
	Beltline ARP	Land Use: URBAN MIXED USE Linkage: STREET - BRIDGES/UNDERPASSES Road Hierarchy: MAJOR ROAD • Refer to Appendix C; • Refer to Appendix B.	
	Centre City Plan	Street Network: MAJOR STREET Streetscape Character: COMMERCIAL STREET • Encourage high-quality and consistent design treatments on all streets, but with particular emphasis along major pedestrian corridors as identified in the Public Realm Policies; • Support tree planting projects on major pedestrian corridors and encourage innovative tree planting techniques to ensure long-term tree health. Coordinate tree planting and utilities through the Centre City Integrated Action Committee.	
TRANSIT	Centre City Mobility Plan	Transit Network: TRANSIT CORRIDOR • Some transit priority measures may be appropriate to deal with specific locations where buses are delayed (HOV lanes) or give bus movements a higher degree of priority in general (Intermittent Bus Lanes) - exclusive bus lanes are not thought to be appropriate in the Centre City, given the impact to all roadway users.	
	Centre City Plan	Transit Network: MAJOR BUS ROUTE • Major bus entry into Centre City.	
	Beltline ARP	• Key roadway for maintaining transit service effectiveness; • Various transit priority measures to be considered.	
	Inner City TSMS	• Lane reversal with bus-only lane in curb lane AM peak; • Existing curb lane to be Bus Only Lane AM Peak period.	
TRAFFIC SPEED	Complete Streets Policy	• Consider slower speeds; • Street design should promote slower automobile speeds; • Slower design speed can facilitate narrower sections.	
	Centre City Mobility Plan	• As an Urban Boulevard: Lower operating speeds.	
LANE WIDTHS	Complete Streets Policy & Centre City Mobility Plan	• As an Urban Boulevard: Consider narrow travel lanes; • Current operating speed: 50km/hr.	Ideal Design Operating Speed: 30-50km/hr (function of 3.3m width & desired speed & bike requirements)
	Downtown Underpass Urban Design Guidelines	• Current Road Design: 4 one-way traffic lanes; 2.0 metre; < 2.0 metre sidewalk.	
TURNING RADII	Complete Streets Policy	• Refer to 3.7.2; • Design with turn lanes only when appropriate; • Exclusive right turn lanes – higher speeds, greater crossing distances.	Activity Centre: SU-9 (single unit truck, 9m front to rear axle spacing)

ITEM	SOURCE	CRITERIA	DIMENSIONS/PARAMETERS
CYCLING	Downtown Underpass Urban Design Guidelines	• Provide on-street shared travel lane along east side of the street; • All stairs should be provided with a bike channel.	Width of an on-street shared travel lane should be 4.0 – 4.5m Width of an on-street bike lane should be 1.5 – 2m
	Centre City Mobility Plan	Bicycle Network: BICYCLE ROUTE • Defines a connected bicycle network; • Facilitate the implementation of bike-friendly designs, which may include wide curb lanes, bicycle lanes, signage, etc.	
	Beltline ARP	• Upgrade underpasses to accommodate cyclists, when the opportunity arises;	
	City of Calgary Bicycle Policy & Design Report	On Sidewalk: • More width is required where higher volumes of cyclists are expected (Technical Handbook of Bikeway Design, Vélo Québec, 2003). On Street: • Higher speed, higher volume roads that require more space to accommodate cyclists.	On Sidewalk: Essential operating width: 1.0 m Width including comfortable lateral clearance: 1.5 m. Standard length: 1.8 m. On Street: Wide curb lane: A shared travel lane: 4.0 to 4.5 m wide (motorist and a cyclist) Bicycle lane: A designated lane for cyclists, with a standard width: 1.5 to 2.0 m (delineated by line marking) Separated bicycle lane: A designated lane for cyclists: 1.5 to 2.0 m wide (separated from traffic by a physical barrier)
PEDESTRIANS	Beltline ARP	• Reduce the number of vehicle conflicts with major pedestrian corridors and sidewalks; • Potential pedestrian enhancements & proposed pedestrian corridor.	
	Centre City Mobility Plan	Pedestrian Network: PEDESTRIAN CORRIDOR	
	Centre City Plan	Pedestrian Network: PEDESTRIAN CORRIDOR • High pedestrian movement street	
SIDEWALK WIDTHS	Complete Streets Policy	• Horizontal Clearance/Clear Zone requirement	Min = 0.5m from face of curb to fixed object
	City of Calgary Pedestrian Policy & Needs Report	• Person walking occupies 0.9m of width (includes a "no touch zone") • Person in a wheelchair requires 1.2m clear operating space; • Two people passing each other need 1.8m to 2.4m to pass each other (Geometric Design Guide for Canadian Roads. Transportation Association of Canada, 1999); • Light pole reduces usable pedestrian width by 0.8-1.1m (Highway Capacity Manual, Transportation Research Board, 2000); • Curb, short wall or fence by 0.4m (Geometric Design Guide).	Overhanging elements: vertical clearance of at least 2.4m. Sidewalk width: 1.5m may be appropriate in some areas >2.2m is desirable so that two people using mobility devices or wheelchairs can pass
ACCESSIBILITY & WAY FINDNIG	Complete Streets Policy	• Confine apron to furniture & curb zones; • Ladder-style markings; • Additional signals; • Raised Crosswalks: pave with smooth material, special pavements on bevel only; • Refer to Living Streets Manual.	
	Downtown Underpass Urban Design Guidelines	• All Designs refer to Alberta Building Code 2006 and City of Calgary Access Design Standards—Draft 2009Colored and special reinforced step edges on stairs to provide guidance and slip resistance; • Animated way finding or signage are at the discretion of the Approving Authority, based on the local context of the underpass and the evaluation criteria defined in Land Use Bylaw 1P2007 (sign regulations such as approval procedure, location, type, size, lettering, colour, illumination).	
	Centre City Plan	• Designs shall consider elements such as curb extensions, wider sidewalks, wheelchair ramps, transit stops, Urban Braille system, decorative paving surfaces and traffic calming treatments; • Incorporate principles for Calgary Urban Braille System (CUPS) and way-finding.	
	Beltline ARP	• Reduce the number of vehicle conflicts with sidewalks.	
SAFETY ISSUES	Centre City Plan	• Reduce conflicts between different movement modes that contribute to linkage system • Consider operational improvements to pedestrian priority streets and intersections.	

A-1.2 TRANSPORTATION POLICY REVIEW

The adjacent matrix outlines critical parameters, dimensions and other relevant guidelines specific to transportation policies. This background information forms the basis for ongoing consultations with Transportation, Roads and Network Planning as outlined in Appendix A-2.0.

TYPE	SUBJECT		ITEM
LOGISTICS: Reflecting on the Process	1.1	Account for an extensive Array of Stakeholders	Require proactive plan (at outset) for engagement to build consensus around project goals & foster sense of ownership; • Must anticipate what information is required, when needed, and how best to present to receive constructive feedback (right tools for right audience); • Streamline the process to engage right folks at the right time - early engagement with O&M; coordinate design process/engagement with large-scale public events, such as Lilac Festival.
	1.2	Consider alternate project delivery methods.	Discussion of stipulated sum versus construction management arose too late in 1UE - identify benefits /risks @ outset.
	1.3	Ensure accuracy in cost estimates.	Underpasses are non-traditional project typologies which poses challenges in accurately costing project. • New means of determining costs may be required; • Ensure cost information/assumptions current; • Reworking of budget too late in process has serious time/energy expense; • Cost consultant may be better suited to accurately cost 4UE.
	1.4	Requirement for Electrical Permit.	Likely yes – Electrical Department to inspect project for compliance to code. • Permitting process to be determined ahead of time – Design Team to check with Electrical Consultant.
	1.5	Requirement for Permits prior to digging.	If excavation to occur as part of site exploration, permits are required. Ensure proper protocol is followed prior to digging any holes.
	1.6	Coordinate construction schedule /closures.	Laydown space/Road closure restrictions/pedestrian closures all important considerations • With winter construction comes rise in costs (heating/hoarding) – consider pushing to Spring construction season; • Piggy back with closures related to other work, if possible; • Sidewalk closures create a higher concentration of pedestrians on sidewalk ('fatal funnel effect') – ensure CPS is notified ahead of closures/start of construction.
	1.7	Management of Power.	Contractor generators cannot be hooked up to main lighting grid – downtown system is already overloaded.
	1.8	Inspect the site prior to start of work.	Prior to start of construction, City to complete inspection of project site to note any issues (i.e. burnt out light fixtures) that can be remedied ahead of Contractor taking control/ responsibility for site.
	1.9	Coordinate 311/management of information.	Internal communication to be improved – provide project contact information to all business units prior to start of construction. • Flag the projects at 311; • Ensure clear communication plan developed at outset of construction.
	1.10	Early consideration of O&M Program.	Typically art/assets maintenance regiment is separate from typical roads/public realm program (i.e. different contractors may be required for maintenance of specialty lights). In instances where Developer Agreement is required, this is determined ahead of time. Team to consider similar proactive model.
	1.11	Operate as united Project Team.	Commitment/communication between Design Team and Owner group essential. More united team = willingness to go extra mile. • Success shared among all members; • Turnaround/response time very good throughout 1UE due to investment by Project Manager.

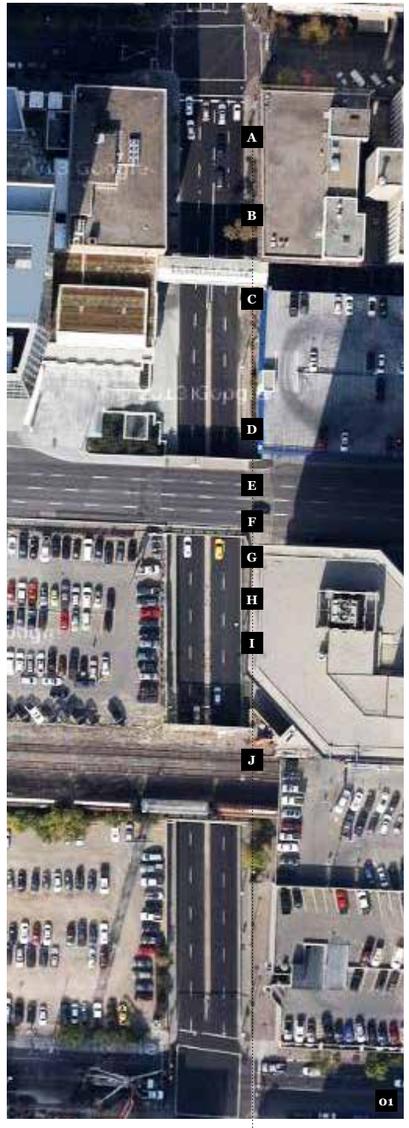
TYPE	SUBJECT		ITEM
TECHNICAL: Reflecting on the Product	2.1	Paper versus Practice.	Challenging physical environment to map - must establish clear information on project's physical context early on (aggressive investigations required at the outset): • Actual property lines versus understood/implied; • Unintuitive strata lots; • Operations and Maintenance - ownership of the retaining wall versus maintenance consequences; • Buried utilities, even on paper, are unknowns (sample testing/point excavation completed during DD).
	2.2	Hazardous materials await.	1955, $ implications, important to determine consequence of hazardous materials/ procedure at outset.
	2.3	Evaluate integrity of bridge structures as early as possible.	N/A
	2.4	Use pre-approved materials.	Team to refer to pre-approved lists of lighting fixtures, street furniture & paving prior to exploring unique elements – desire to create uniform urban armature (operational issues/ life cycle costs/longevity/ease of replacement if damaged): • Solicit information on products already specified in current/upcoming projects; • Ensure consistency and limitation of number of fixture/element types; • Consider the application of conventional fixtures, focus on augmenting light behavior/ effect; • Unique materials can be considered; however, team to be highly selective when unconventional products are proposed; • Coordinated Street Furniture program, which outlines standards for Centre City, is under development.
	2.5	Ensure integration of CPTED principles.	improve the perception of safety. Consider sight lines, materiality, access points, etc. • Beyond improved lighting conditions, City may consider additional surveillance/ security such as call boxes/cameras; • Any requirement for security infrastructure (cameras/fibre optics) to be explored early in design process.
	2.6	Value Design Excellence.	Critical to take a visionary position combined with strategic initiatives aimed at the project scale - speculation without preclusion to trigger future opportunities.
ADJACENT PROJECTS: Known Existing and Future Impacts to 4UE Project Site	3.1	10th Avenue Development Climate.	Experiencing a slowdown of proposed projects along 10th Avenue due to upcoming changes in regulations (required setbacks from CP tracks increasing to 50 metres, possible blast wall requirement). • Time line for resolution is unknown at this time • Regulations stemming from all levels of government
	3.2	Place 10 development.	Design work complete for SW corner of project site, includes addition of new +15 and improved lighting. Place 10 developers have been invited to participate in 4UE process. Critical to coordinate interfaces between public/private investments in public realm
	3.3	Calgary Streetlighting Upgrades.	All City streetlights to be replaced with LED luminaires by end of 2015. Colour temperature – 4000 to 5000 K.
	3.4	Capacity to influence adjacent development.	4UE a critical moment in City building, MH/NTH/GTH not only tied to metrics of cost, but also ideas of efficient sequencing (no 'undoing') and long-term ambitions of broader City initiatives

A-1.3 LESSONS LEARNED

Prior to the design kick-off, the 4th Street Project Team was keen to take full advantage of the expertise gained over the course of the current 1st Street SW Underpass Enhancement. To that, an informal discussion structured as a Lessons Learned session was recently held with key City of Calgary internal stakeholders common to both projects.

This session was not a critique of the 1UE but instead an acknowledgment that underpass enhancement projects have unique complexities, and there should be conscious transfer of that knowledge base from one project to the next. As a casual event, all parties were invited to share their perspectives of the 1st Street Underpass Enhancement Project with the goal establishing a framework for this Project's success. In the latter half of the session, focus was shifted to existing and future projects adjacent to 4UE.

A matrix outlining the key discussion points from the Lessons Learned session can be found on the adjacent page.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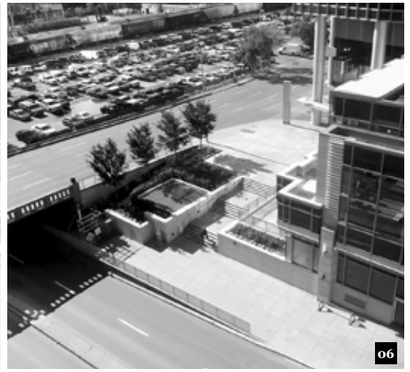
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A-1.4 PHOTOGRAPHIC SURVEY

01 - Site Aerial
02 - East Pedestrian Sidewalk, Southbound, CP Bridge
03 - East Pedestrian Sidewalk, Southbound, North of 9th Avenue SW
04 - Southeast Corner, looking North
05 - Place 10 Project Site (under development)
06 - 8th Avenue Place access to 4th Street
07 - Pedestrian Access to 4th Street SW from 9th Avenue
08 - View south from 8th Avenue SW
09 - East Street wall, North of 9th Avenue SW
10 - View North from 9th Ave NW
11 - Stairwell from 9th Ave to 4th Street
12 - Turnoff to 3rd Street Connector
13 - East Streetwall, North of 9th Ave Bridge
14 - Glenbow Archives - NA-5600-6712c
15 - Glenbow Archives - NA-5600-6712a
16 - Glenbow Archives - NA-5600-6712b
A-J - Pedestrian Experience - East Sidewalk, Walking South

DATE	MEETING/ATTENDANCE	INTENT	CRITICAL INFORMATION	ACTION ITEMS
15.03.05	LESSON LEARNED MEETING David Down, Urban Design & Heritage Canace Bain, Streetlighting Vivin Thomas, Transportation Infrastructure Greg Stewart, Local Area Planning & Implementation Marc Boutin, MBAC Jodi James, MBAC	Stakeholders Common to 1UE & 4UE shared their perspectives of the 1st Street Underpass Enhancement Project with the goal establishing a framework for 4UE success. Relevant existing and future projects adjacent to 4UE were also addressed. 1. Summary of 1UE project schedule and engagement process; 2. Discussion of logistical lessons learned (focused on process); 3. Discussion of technical lessons learned (focused on product); 4. Discussion of existing and future projects adjacent to 4UE; 5. Summary of 4UE project schedule and engagement process.	Refer to Appendix A-1.3.	Design team to flag potential areas for application of specific lessons to improve 4UE process and product. Meetings for the solicitation of information and critical reviews to be noted and scheduled, as required.
15.03.31	MEETING WITH CP I Josh Pender, CP Greg Stewart, Local Area Planning & Implementation Marc Boutin, MBAC Jodi James, MBAC	Provide an overview of the March 20 Stakeholder Imagination Session, followed by a high-level discussion of expectations related to communication, approvals and other logistics.	CP in support of the project. Doug Younger is no longer the engineering contact. New contact should meet with Design Team on site to review existing conditions.	MBAC to forward list of critical questions surrounding the CP bridge required during the initial stages of design. CP to forward contact information for new engineering/maintenance representative. MBAC/CP to meet on site to review existing site conditions.
15.08.06	MEETING WITH URBAN FORESTRY/PARKS Tammy Robinson, Don Hay, Parks Nikki Anguish, Urban Forestry Nico Bernard, Parks Maricela Pricop Greg Stewart, Local Area Planning & Implementation Jodi James, MBAC	Provide an update on the current design, with a particular focus on the scope pertaining to the NE street trees. 1. Update on design concept. 2. Identify conditions on the NW sidewalk. 3. Identify condition on the NE sidewalk (species, current health). 4. Establish best practices moving forward.	Urban Forestry/Parks in support of installing trenches and replacing trees & in NE sidewalk. Incorporate new tree trench detail 454.1002.004 reviewed during meeting. Trees subject to high degree of vandalism (branch damage) - larger trees with higher branches fare better than smaller. Maintenance protocol - 5 years until established, then into Parks system. Consider site as a prototype for other urban corridors. Ensure tree grate is walkable (ADA compliant), and applied standard outside dimensions to allow for quick replacement should proposed grates become damaged. Avoid oak species.	Urban Forestry to provide recommended list of tree species and specifications (appropriate size) for location. MBAC to develop tree grate in accordance with recommendations provided by The City. Grate development to be submitted for review in DD.
15.08.19	MEETING WITH TRANSPORTATION Ben Barrington, Local Area Planning & Implementation David Down, Urban Design & Heritage Dan Jones, Roads Muhammad Asim, Transit Abdul Samad,Complete Streets Greg Stewart, Local Area Planning & Implementation Marc Boutin, MBAC Jodi James, MBAC	Provide stakeholders from with an update on the current design, with a particular focus on scope pertaining to Roads, Transportation, Transit and Urban Design ahead of the upcoming Design Charrette in September. Primary areas of focus included: 1. Update on design concept; 2. Establish vehicle lane usage (cycling, design speed, anticipated transit changes); 3. Potential for NW sidewalk widening (effects to extended east lane); 4. Turn-off to 3rd Street (identify applicable guidelines); 5. Identify critical property line and ROW (identify current maintenance practices); 6. Identify protocol for future reviews, approvals; 7. Identify necessary permitting.	General support for the project. Important to confirm consensus on policy standards and minimum effective widths to be applied to the project. Requires sign off by all applicable parties. Further clarity on current and projected traffic patterns & planning is required. Cameron Matwie (Network Planning) to be consulted in separate meeting. Defer to cycle track plan for long-term cycling information. Consider interface at NE corner with proposed cycle track integration. Separate meeting with NE parkade property owner (Brookfield Development) is required to review redevelopment of stair & planter with affected owner. Confirm implications of planter removal on DP. Current stair maintenance (snow cleaning) is provided by The City.	MBAC to prepare summary graphic outlining critical policies and parameters in order to establish an agreed upon standard moving into Design Development. Document to be circulated to meeting attendees for review and comment. Project Team to schedule dedicated meeting with Network Planning required to further discuss the NW lane widening, specific turning radii & planning requirements for lane way connector. Project Team to schedule dedicated meeting with Brookfield Development to further investigate and confirm the proposed NE improvements. Project Team to confirm implications on DP.

DATE	MEETING/ATTENDANCE	INTENT	CRITICAL INFORMATION	ACTION ITEMS
	MEETING WITH TRANSPORTATION CONT'D.		If proposed guardrail or walkway assembly projects into roadway, ensure no potential conflicts with projections above the curb (i.e. bus mirrors). Compare with 8UE guardrail. Concerns raised around the metal grate: slippery when wet, ADA compliant, cold-weather tested, maintenance. Investigate alternative to metal grate. Confirm existing loading on structural retaining walls to ensure suitability for supporting assembly. Confirm conditions of lower retaining walls.	MBAC to confirm clearances above curb and indicate dimensions within DD drawings for review. MBAC to provide additional information surrounding gate specifications and performance during DD. MBAC to confirm structural retaining wall with Roads, CP and structural consultant.
15.08.20	MEETING WITH CP II Josh Pender, CP Greg Stewart, Local Area Planning & Implementation Marc Boutin, MBAC Jodi James, MBAC	Provide an overview of Design Charrette I and an update on the current design.	CP in support of the design direction.	CP to provide information in response to the design questions issued following the 15.03.31 meeting. CP to forward contact information for new engineering/maintenance representative. CP to provide letter of support for SD phase of project.
15.09.01	MEETING WITH NETWORK PLANNING & ROADS Stephen Kay, Network Planning, Transportation Planning Dan Jones, Roads Greg Stewart, Local Area Planning & Implementation Marc Boutin, MBAC Jodi James, MBAC	Dedicated meeting to discuss the specific design criteria to coincide with schematic design proposals. 1. Discuss the feasibility of the NW lane widening; 2. Identify the specific turning radii for the 3rd Street connector; 3. Discuss planning requirements for lane way connector.	Network Planning in support of the widening of NE sidewalk, and subsequent narrowing of East traffic lane. Additional information regarding the traffic lanes north of the intersection is required. Lane way connector is required for traffic management and will have to remain. Given street designation, turning radii can likely be reduced. Ensure connector is clearly marked as an intersection - do not mask as sidewalk.	MBAC to confirm the lane widths directly north of 8th Avenue, and include within design drawings. MBAC to include turning radii information on design drawings. To be circulated to Network Planning during Design Development for additional comment.
15.09.18	MEETING WITH BROOKFIELD DEVELOPMENT Steve Weston, Brookfield Development Shona Waddell, Brookfield Development Greg Stewart, Local Area Planning & Implementation Jodi James, MBAC	Provide an overview of project process and product, including an update on the current design. Particular focus on the urban design improvements proposed for the NE quadrant of the project site, directly adjacent to the Brookfield property. 1. Introduce project process; 2. Update on design concept; 3. Identify current maintenance practices for NE stairwell and planter; 4. Summary of 4UE project schedule and engagement process.	Brookfield in support of the project and schematic design direction. Maintenance (snow clearing) on stairs is currently provided by City of Calgary Roads. Existing planters present security & safety issue (objects are buried). Current planting & maintenance of flowers provided by Brookfield.	Additional design resolution of the NE stair to be provided to Brookfield, once it becomes available.
15.09.21	MEETING WITH PUBLIC ART BOARD Public Art Board Members Greg Stewart, Local Area Planning & Implementation Krzysztof Wodiczko, Public Artist Marc Boutin, MBAC Jodi James, MBAC	Present Schematic Design concept #4, immediately following the Design Charrette II.	Public Art Board in support of the design.	Additional meeting requested to discuss development of curation and maintenance strategy for the asset.

A-2.0 ADDITIONAL MEETING MATRIX

Throughout the Schematic Design phase, several supplementary meetings with specific stakeholders were held to guide the Design Team's work. The matrix on the adjacent page provides a comprehensive record of these key meetings in terms of attendance, objectives, and action items.

Design Process

Comprehensive Review of Background Research

Identified Site Issues

Identified Design Sensibilities

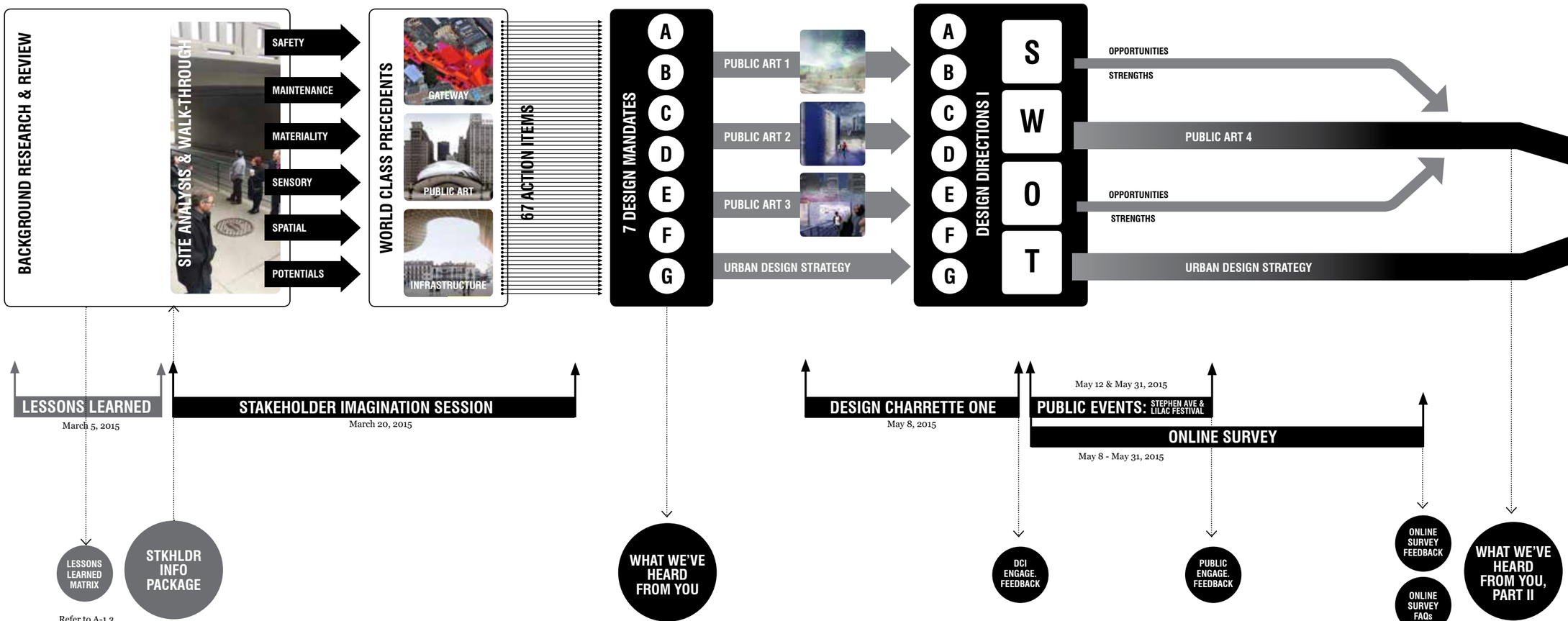
Identified 7 Design Mandates as Metrics to Inform Designs

Developed 3 Conceptual Designs

Evaluated Concepts based on Design Mandates

From 3 to 1: Applied Strengths & Opportunities to Mitigate Weaknesses & Threats

Continued Development of Schematic Design



Engagement Events

LESSONS LEARNED
March 5, 2015

STAKEHOLDER IMAGINATION SESSION
March 20, 2015

DESIGN CHARRETTE ONE
May 8, 2015

May 12 & May 31, 2015
PUBLIC EVENTS: STEPHEN AVE & LILAC FESTIVAL

ONLINE SURVEY
May 8 - May 31, 2015

Documents

LESSONS LEARNED MATRIX

Refer to A-1.3

STKHLDR INFO PACKAGE

WHAT WE'VE HEARD FROM YOU

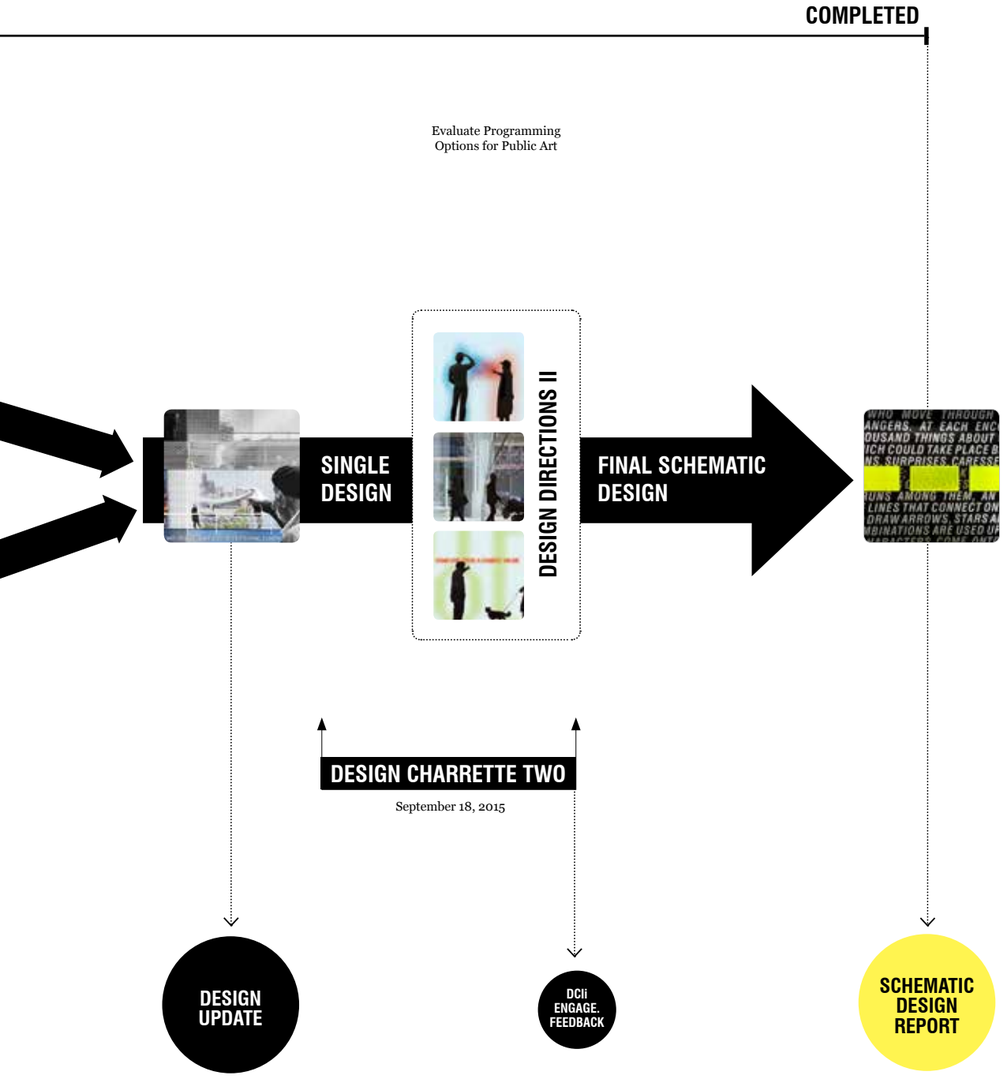
DCI ENGAGE. FEEDBACK

PUBLIC ENGAGE. FEEDBACK

ONLINE SURVEY FEEDBACK

ONLINE SURVEY FAQs

WHAT WE'VE HEARD FROM YOU, PART II



A-3.1 PROJECT ROAD MAP

The 4th Street SW Underpass Enhancement Project was predicated on hundreds of hours of dedicated public engagement, as set forth within several landmark City of Calgary documents. True to this course, a significant element of 4UE has been the continued engagement of internal and external stakeholders to influence the Project as both a process and a product: identifying issues, finding collective solutions and influencing design opportunities.

Framed by the City of Calgary's *engage!* policy, over the course of four critical engagement opportunities both internal and external high-impact stakeholders were challenged to project themselves into the design context of the underpass. A series of strategic visualization tools and participatory exercises facilitated a collective understanding of the many challenges and opportunities the project represented, while ensuring many different perspectives were layered into the design. A large-scale interactive site model, smaller scale tectonic and conceptual physical models, precedent case studies, interactive drawings outlining key criteria, 3D renderings, animations, themed discussions, FAQs, and design charrettes were used to strategically and responsibly refine the project throughout schematic design.

The Stakeholder Imagination Session & Design Charrettes efficiently established a context for decision-making, defining a road map for both the community and the City. Public feedback was also captured during two dedicated public engagement events and through an online forum on the project's *engage!* portal.

Transparency and communication were critical themes throughout the process. Following each engagement session, the Design Team released a verbatim summary of comments collected. Interim design updates, entitled 'What We Heard From You', were issued to synthesize the raw feedback into a comprehensive design direction moving forward. The *engage!* portal continues to publicly hosts all of these documents, ensuring the process remains traceable and accountable.

PART 1: SITE ISSUES IDENTIFIED BY STAKEHOLDERS FOLLOWING SITE WALK-THROUGH

IMAGES TAKEN DURING THE STAKEHOLDER IMAGINATION SESSION

PART 2: SENSIBILITIES AS IDENTIFIED BY STAKEHOLDERS THROUGH PRECEDENT ANALYSIS

INFRASTRUCTURE	Scale; grandness; iconic; movement; rail line; context counterpoint; strata (air space); flexibility; perception/illusion; embedded public art; armature for program; non-utilitarian palette; materials-as-wayfinding; anti-graffiti; durability; sustainability; maintenance; safety; comfort
PUBLIC ART	Space of discovery; landmark; unique character; dialogue between viewer & place; engage in genesis of place; socially inspired/challenging material; figure & ground; movement/time; infrastructure-as-art; surface-as-canvas; animation; light as medium; curation
GATEWAY	Contrast between installation & environment to enhance reading; surprise; destination; multi-modal; an authentic history.

PHYSICAL SITE MODEL ANNOTATED WITH STAKEHOLDER ACTION ITEMS.

A CREATE A SPACE OF DISCOVERY

Exploit the site's multiple lives throughout a 24hr period; consider readings at both the micro and macro scale.

B ESTABLISH A UNIQUE IDENTITY

Distinguish from other downtown underpasses.

C APPROACH THE PEDESTRIAN EXPERIENCE FROM MULTIPLE SCALES

Address aesthetic through to accessibility considerations.

D RESPOND TO THE EXISTING PHYSICAL FORM OF THE SITE

Explore art-as-infrastructure & infrastructure-as-art.

E DESIGN FOR A WINTER CITY

Create visual interest with light. design for winter safety & comfort.

F EMPLOY DURABLE MATERIALS & STRATEGIES

Establish both short and long term maintenance programs for art & infrastructure.

G IMPROVE CONNECTIONS

Consider pedestrian, cyclist, transit & motorist traffic between Beltline and Downtown.

SYNTHESIS - FROM VERBATIM FEEDBACK TO DESIGN MANDATES

A-3.2 STAKEHOLDER IMAGINATION SESSION

SESSION STRUCTURE

The Stakeholder Imagination Session, held on March 20, marked the first of four opportunities for special interest groups, internal City departments and external stakeholder groups to actively participate the in design process.

A site walk through conducted at the outset of the session was an opportunity for participants to identify personal preconceptions and new impressions of the site. Working within teams, participants were asked to discuss and document these observations. The result was a comprehensive and collaborative understanding of the existing site conditions, which distilled into 6 broad categories of issues: safety, maintenance, materiality, sensory, spatial/functional, and new potential.

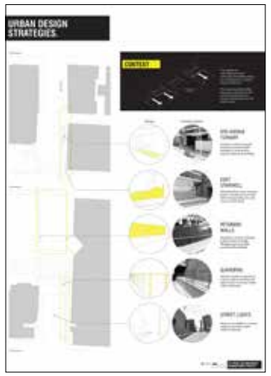
Discussing world-class precedent projects, stakeholders were challenged in Part II of the session to define the underpass project's complex circumstances quickly and comprehensively. Critical conversations about public art, infrastructure and gateway supported the development of several design sensibilities. This insight provided a context of design excellence in which the next exercise, the GAP analysis, was completed.

Armed with both a robust understanding of the site and a familiarity with world-class design interventions, participants worked to develop a series of Action Items particularized to the project site. These Action Items bridged the existing performance of 4UE with the potential for excellence inspired in Part II.

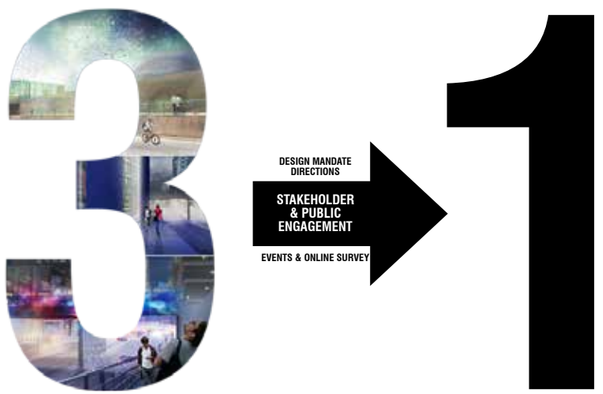
SYNTHESIS OF FEEDBACK

Following the Imagination Session, the Design Team synthesized these sixty-seven Action Items (diverse in scale, detail and complexity) into seven conceptual Design Mandates: qualitative metrics by which the performance of the forthcoming conceptual designs would be evaluated.

In other words, the establishment of Design Mandates ensured that the evolution of the 4th Street SW Underpass Enhancement Project was consistently driven with the direct input provided by the project's stakeholders.



URBAN DESIGN STRATEGY & THREE PUBLIC ART CONCEPTS



OBJECTIVE: RECONCILIATION INTO ONE CONCEPT

IMAGES TAKEN DURING DESIGN CHARRETTE I

STEP ONE: CONSOLIDATION - FROM COMMENT MATRIX TO SWOT ANALYSES

A CREATE A SPACE OF DISCOVERY

Continue to explore methods for shifting experiences within public art. Celebrate the connection to the sky. Take advantage of the spaces beyond the oculus (particularly beneath the bridges) to reinforce the experience. Ensure legibility/activation in both low and high ambient lighting conditions. Consider the scale and experience of the single individual. Ensure lighting does not create a distraction for other users.

B ESTABLISH A UNIQUE IDENTITY

Consider how programming in conjunction with form can prevent user fatigue/boredom. Explore variable external inputs. Explore the passive experience (where there are no users within the space). Avoid intense soundscapes - space should feel open, comfortable. Develop a higher level of technical resolution.

C APPROACH THE PEDESTRIAN EXPERIENCE FROM MULTIPLE SCALES

Illumination levels and experience must be considered along entire length of project. Consider multiple scales and vantage points. Explore the experience for vehicles/cyclists - ensure lighting does not create a distraction for other users. Materials selected for walkway must improve upon existing accessibility. Ensure legibility/activation in both low and high ambient light conditions. Explore the passive experience (where there are no users within the space).

D RESPOND TO THE EXISTING PHYSICAL FORM OF THE SITE

Take advantage of the spaces beyond the oculus (particularly beneath the bridges) to reinforce the experience. Illumination levels and experience must be considered along entire length of project. Provide maintenance strategy for the curation of the art. Avoid intense artificial soundscapes. Ensure experience of public art is conducive to movement through the space. Ensure surrounding context reflects as-is conditions.

E DESIGN FOR A WINTER CITY

Develop a higher level of material resolution, including maintenance and seasonal considerations. Ensure legibility/activation in both low and high ambient lighting conditions. Ensure experience of public art is conducive to movement through the space. Ensure final illumination levels meet safety and comfort standards throughout entire length of project.

F EMPLOY DURABLE MATERIALS & STRATEGIES

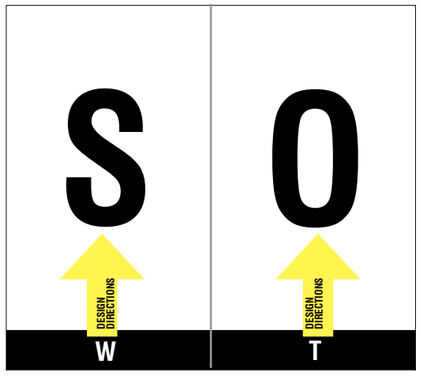
Develop a higher level of material resolution. Ensure materials are simple and resilient. Provide maintenance strategy (forecasting future performance/requirements) for the curation of the art. Walkway is subject to high degree of wear and tear - ensure strategy for walkway reflects this degree of abuse. Ensure light sources are tamper proof. Ensure lighting does not create a distraction for other users, including occupants of adjacent buildings.

G IMPROVE CONNECTIONS

Design focus favors the pedestrian - explore the experience for vehicles/cyclists. Ensure lighting does not create a distraction for other users. Consider activation of space beneath bridges. Ensure legibility/activation in both low and high ambient light conditions.

STEP TWO: SYNTHESIS - SWOT ANALYSES TO DESIGN MANDATE DIRECTIONS

Design Directions maximized strength and opportunities, while mitigating weaknesses and threats, towards the production of a fourth, hybrid design concept.



SWOT ANALYSIS Design Directions maximized strength and opportunities, while mitigating weaknesses and threats, towards the production of a fourth, hybrid design concept.

A-3.3 DESIGN CHARRETTE I

SESSION STRUCTURE

The Design Charrette I (DCI), held on May 8, marked the second of four opportunities for interested stakeholders to actively participate the in design process.

The Design Team developed a two-fold approach to the Project, which was presented to stakeholders at the outset of the session:

1. A *high-level urban design strategy*, composed of five critical gestures, to address concerns such as the 9th Avenue turnoff, east stairwell, and constrained sidewalk width along the length of the site; and
2. *Three conceptual options for the public art strategy*, offering unique ways to think about, and ultimately celebrate, this space.

Working within teams, participants were asked to discuss the three proposed public art concepts within the context of the Project's seven Design Mandates. Enticing design elements alongside missed opportunities specific to each concept were identified and captured within in the adjacent comment matrix.

SYNTHESIS OF FEEDBACK

To achieve all seven of the Design Mandates at a world-class level, a reconciliation of the three public art concepts had to occur. The Design Team completed seven mandate-specific Strength/Weakness/Opportunity/Threat (SWOT) analyses, using the direct comments provided by the stakeholders, to identify internal and external attributes which either contributed to or took away from the achievement of each Design Mandate. From this evaluation, 7 Design Directions emerged that described a 'fourth' hybrid public art strategy.

IMAGES TAKEN DURING LILAC FESTIVAL EVENT

ON

MAY 12 On the corner of Stephen Avenue & 4th Street SW, from 11am to 1:30pm & 3:30pm to 6:00pm;

MAY 31 at the 4th Street Lilac Festival; and from

MAY 12 to **JUNE 2** through an Online Survey,

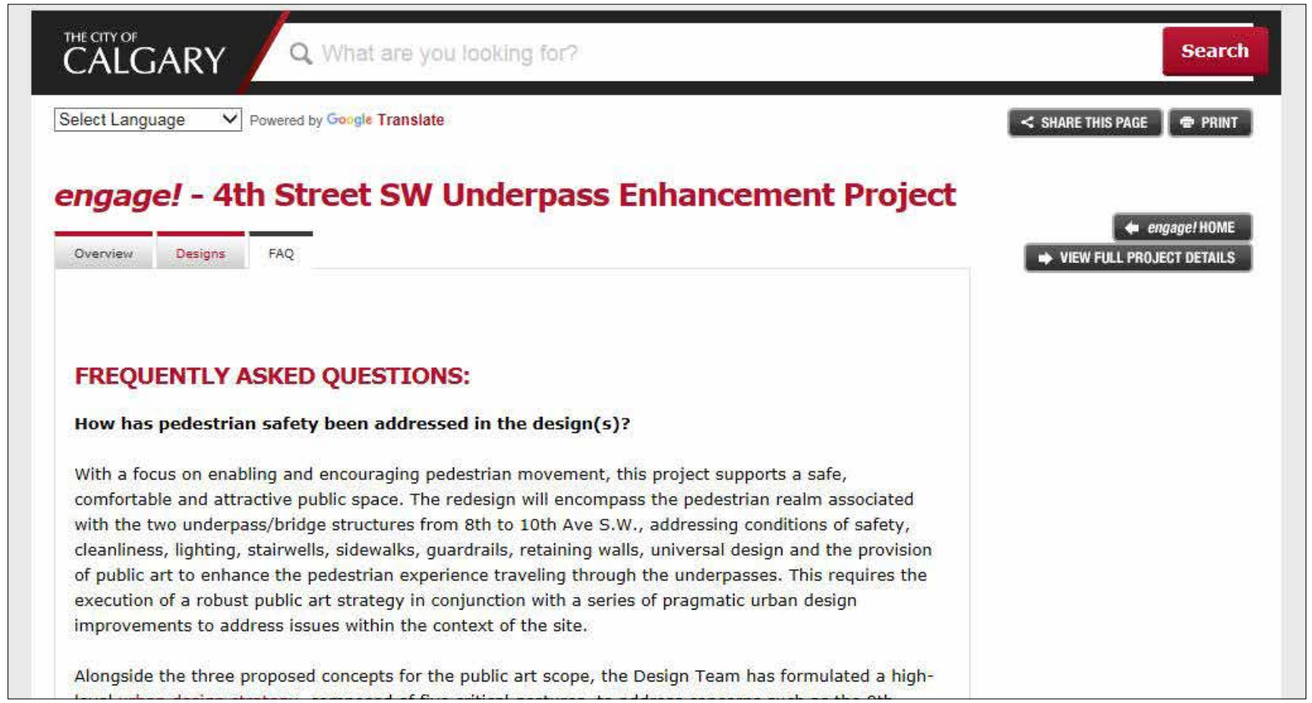
WE ASKED CALGARIANS

WHAT EXCITES YOU ABOUT THESE DESIGNS - & WHY?

WHAT COULD MAKE THESE DESIGNS BETTER - & WHY?

***OVER* 190**

ADDITIONAL COMMENTS ON THE DESIGN STRATEGIES WERE COLLECTED & SYNTHESIZED.



SCREEN CAPTURE FROM *engage!* FORUM

FREQUENTLY ASKED QUESTIONS

HOW HAS PEDESTRIAN SAFETY BEEN ADDRESSED IN THE DESIGN(S)?
With a focus on enabling and encouraging pedestrian movement, this project supports a safe, comfortable and attractive public space. The redesign will encompass the pedestrian realm associated with the two underpass/bridge structures from 8th to 10th Ave S.W., addressing conditions of safety, cleanliness, lighting, stairwells, sidewalks, guardrails, retaining walls, universal design and the provision of public art to enhance the pedestrian experience traveling through the underpasses. This requires the execution of a robust public art strategy in conjunction with a series of pragmatic urban design improvements to address issues within the context of the site.

Alongside the three proposed concepts for the public art scope, the Design Team has formulated a high-level urban design strategy, composed of five critical gestures, to address concerns such as the 9th Avenue turnoff, east stairwell, and constrained sidewalk width along the length of the site. Within the final schematic design, this urban design strategy will be implemented in conjunction with the selected public art concept.

HOW MUCH WILL THIS COST?
A capital budget and maintenance costs summary will also be addressed during the Public Open House in September.

WHAT ARE THE MATERIALS AND TECHNOLOGIES BEING PROPOSED TO CREATE THE EFFECTS?
As of today, the design team has generated and presented three high-level public art concepts: in other words, three different ways of thinking about the space. As such, the focus of recent public engagement has been to listen and learn, understanding how Calgarians' would like to think about, and ultimately celebrate, this space.

The manifestation of these ideas, in terms of materiality, technology, assembly, will be developed and represented throughout the next phase of the project. A Public Open House, scheduled for the start of September, will feature a single, comprehensive schematic design that addresses technical aspirations of the project.

WON'T THE DESIGN(S) CREATE A DANGEROUS DISTRACTION FOR MOTORISTS, CYCLISTS AND PEDESTRIANS?
Safety and comfort for all users - vehicular, cyclist and pedestrian alike - is a primary objective of the project. As described above, the next phase of development moves from three high-level concepts to a single design. Once established, the selection and calibration of materials, technologies, and positioning within the space will be addressed. The preferred public art strategy will also be subject to numerous external reviews and rigorous prototyping prior to implementation. A key metric in this evaluation will be the risk of distraction for users.

WHAT IS THE MAINTENANCE STRATEGY – BOTH IN THE SHORT AND LONG-TERM - FOR THE DESIGN(S)?
Once a preferred public art concept is established and the technical parameters refined, both short and long-term maintenance strategies will be developed. As a project within the City's public realm, an established curation protocol, maintenance procedure and operating budget will ensure the 4th Street S.W. Underpass Enhancement is equally effective today, tomorrow, and well into the future.

Information related to the operations and maintenance scope will be made available during September's Public Open House.

WILL OTHER DOWNTOWN UNDERPASSES ALSO BE IMPROVED?
This enhancement project is part of the broader Centre City Underpass Enhancement Program, which aims to improve the pedestrian environment and connections between the Beltline and downtown communities. With the support of community and business groups from Calgary's Centre City, The City of Calgary identified the 4th St. S.W. underpass as a priority for enhancements to increase the connectivity and permeability between the Beltline and Downtown communities. The underpass had been identified in the 2010 Council approved 'Downtown Underpass Urban Design Guidelines' as a high priority for overall physical improvements on various underpass elements.

A-3.4 PUBLIC ENGAGEMENT EVENTS

Following Design Charrette I, the Design Team actively solicited Calgarians' input on the three designs. Over 192 additional comments on the design strategies were collected during several public engagement opportunities.

STEPHEN AVENUE MALL
On May 12 2015, from 11am to 1:30pm and 3:30pm to 6:00pm, the Design Team approached members of the public in and around the underpass asking for their input on the urban design and three public art concepts. The discussion was framed around two specific questions:

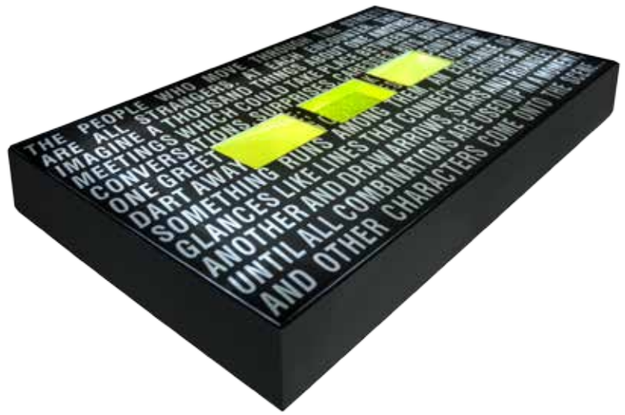
1. What excites you about these designs, and why? and
2. What could make these designs better, and why?

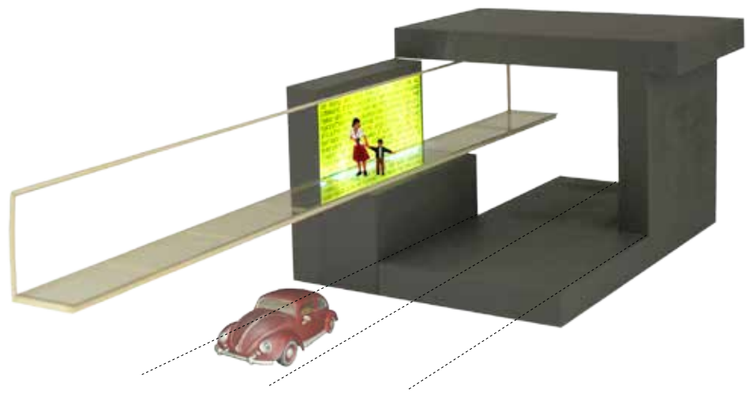
Responses were solicited in person, as well as collected through the project's *engage!* portal.

LILAC FESTIVAL
On May 31 2015, from 10am to 6pm, the Design Team once again solicited the input from Calgarians' on the three designs, this time through a dedicated booth at the 4th Street Lilac Festival.

ONLINE SURVEY (OPEN FROM MAY 12 - JUNE 2).
An online survey, hosted through the project's *engage!* portal, was run from May 12 through to June 2. Public feedback and online discussion regarding the three conceptual designs was collected during this time.

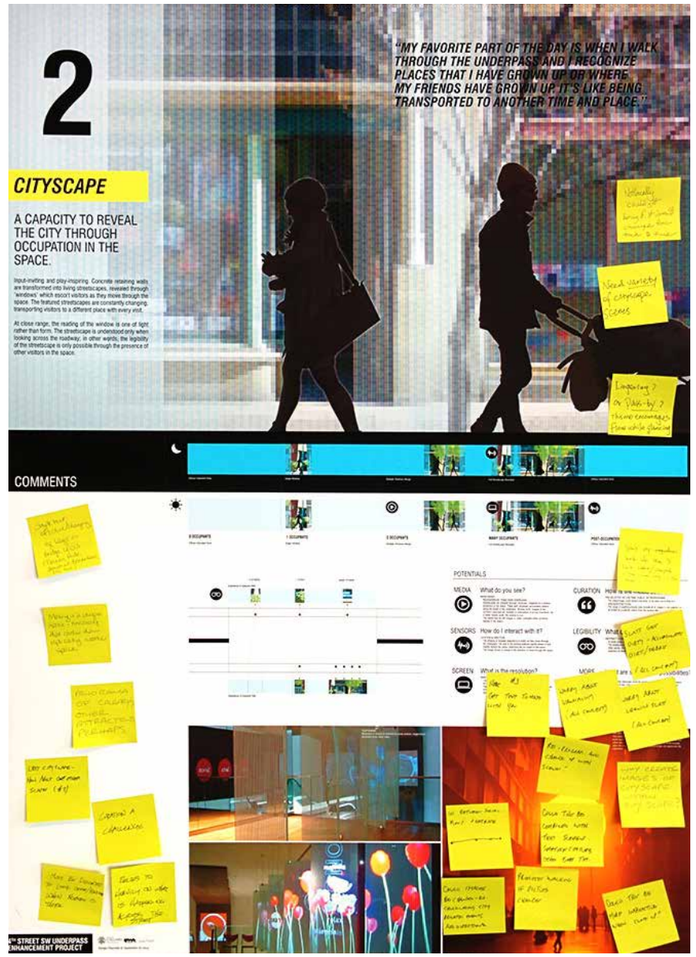
SYNTHESIS OF FEEDBACK
Verbatim records of all feedback collected during the public engagement events was reviewed by the Design Team. Several common themes of were distilled from the various comments; a series of 'Frequently Asked Questions' were issued in response through the *engage!* portal. In conjunction with the DCI Design Directions, the feedback collected through the public engagement events propelled the Design Team towards the production of a fourth, and final, public art trajectory.



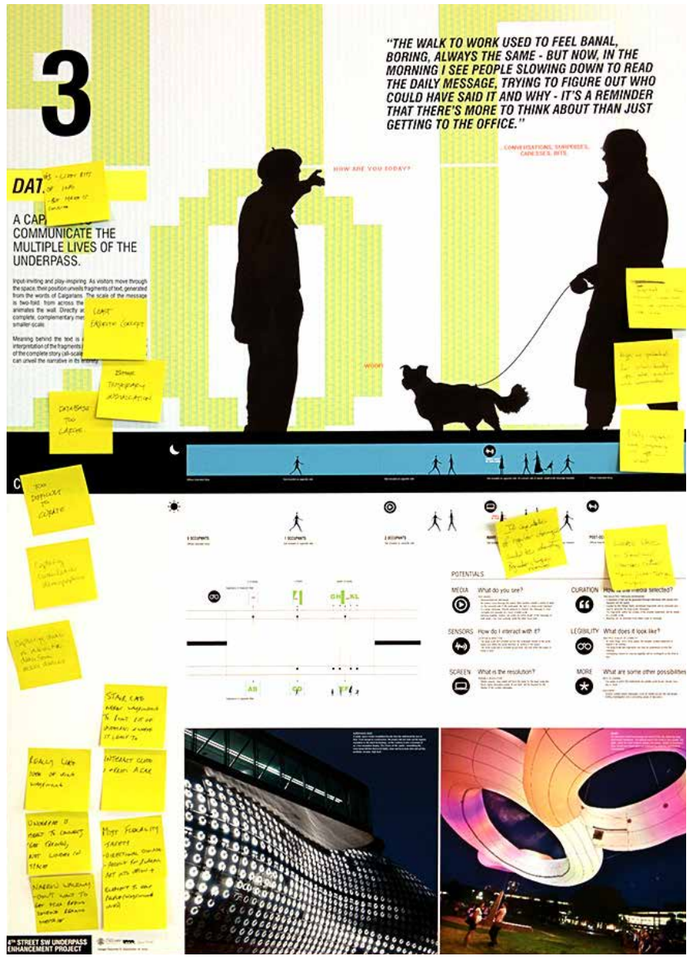


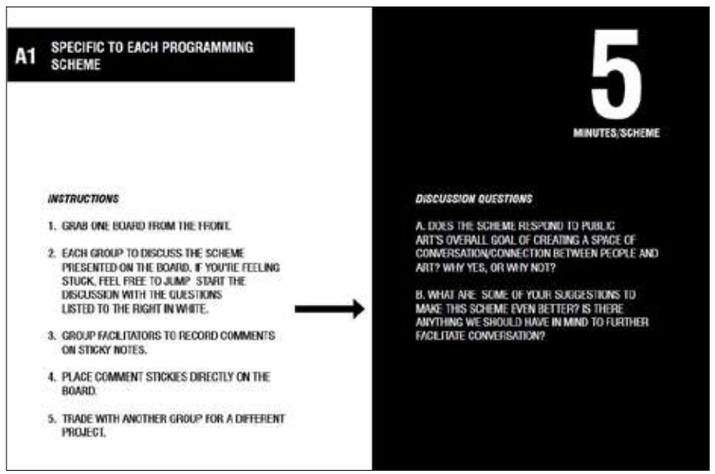
PHYSICAL MODELS CONSTRUCTED FOR DESIGN CHARRETTE II

IMAGES TAKEN DURING DESIGN CHARRETTE II



MEDIA PROGRAMMING OPTIONS & STAKEHOLDER COMMENTS





DIRECTIONS FOR GROUP DISCUSSION

A-3.5 DESIGN CHARRETTE II

SESSION STRUCTURE

Design Charrette II, held on September 18, marked the fourth and final opportunity for special interest groups, internal City departments and external stakeholder groups to participate the in the refinement of the schematic design. Stakeholders were asked to discuss several different media options - exploring a wide range of abstraction, curation, and resolution - developed by the Design Team following the previous engagement events.

At the outset of the DCII session, the Design Team provided participants with a brief review of the overall project process, followed by an introduction to the evolved public art narrative (stemming from the Design Directions) and urban design elements. Following the presentation, an open-room question-and-answer period enabled the Design Team to address shared comments amongst the groups.

Working in teams, participants then discussed each of the media programming options within the narrative of 'conversation'. Group facilitators assigned to each table coordinated the provision of comments on behalf of the Design Team.

Two scales of feedback were solicited:

1. On the overall design development, through the lenses Public Art, urban armature and urban design; and
2. On the specific direction on the media options for the interactive media wall.

SYNTHESIS OF FEEDBACK

Through an evaluation of the comments provided during DCII, the Design Team identified four areas of focus: interest, safety, inputs, and curation/technology. From these areas, a hybrid text and colour-based programming strategy is being developed, driven by the attributes which most resonated with the project's stakeholders.