GROWING FORWARD

FEDYNETS
FELT
SPINK
PLANNING + DESIGN

GLENDALE

ROSSCARROCK

WESTGATE

Ostap Fedynets
Taylor Felt
Edward Spink

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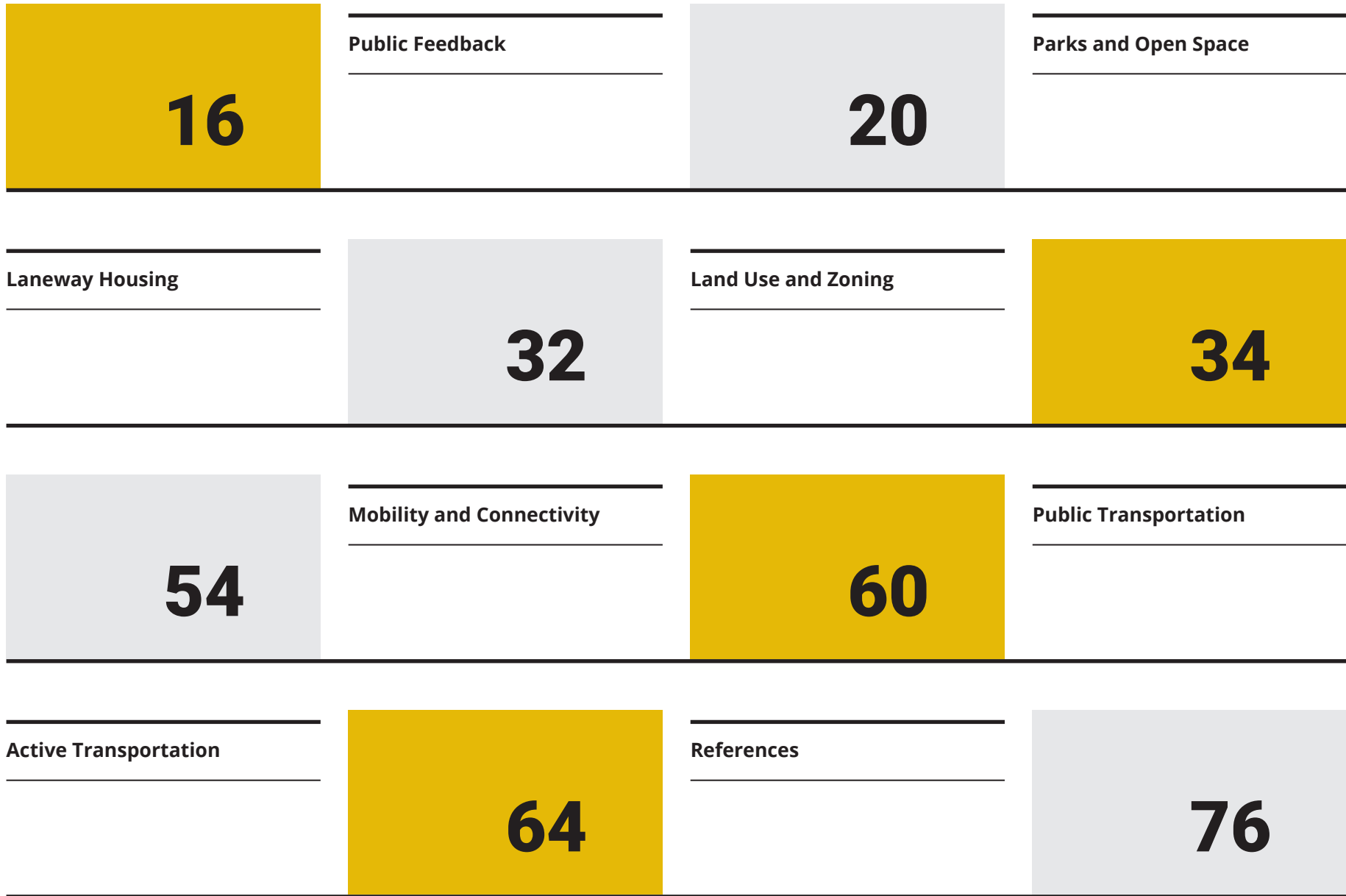
MEET OUR TEAM

01

A REGIONAL PERSPECTIVE FOR COMMUNITY GROWTH

Data and experience driven community design.

FFS Planning + Design is disrupting the planning and design space within Calgary by offering clients something unique: a form-based approach to community and regional planning.

With a strong foundation in greenfield and regional planning, our boutique firm has championed innovative design solutions for central Calgary's Pumphouse Park, the Spyhill Master Planned community in north Calgary, and advised the Calgary Metropolitan Regional Board in the development of a long range regional growth management plan. We're excited to leverage that experience towards a new community plan.

WATER FEATURE WALL & PARKADE ENTRY
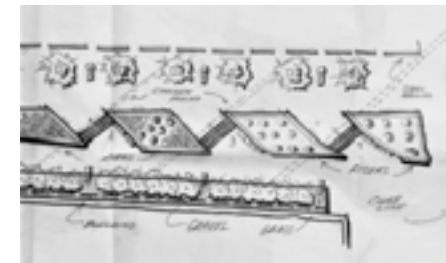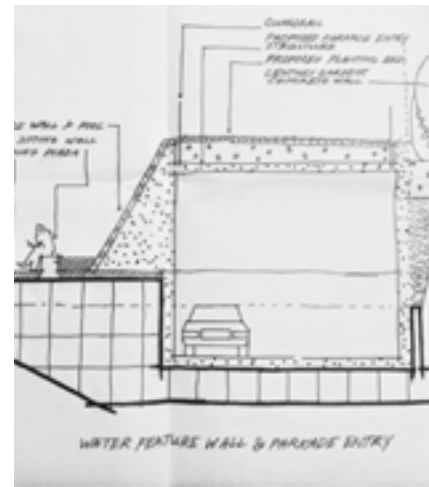
Ostap Fedynets, Planner

Ostap is a second year Master of Planning student at the University of Calgary. With a Bachelor in Arts in Philosophy and Human Geography, he has an interest in planning environmental interventions from a systems perspective. Ostap brings experience hand-drawn graphics and planning implementation. In his volunteer work with the Spruce Cliff and Bowness Community Associations, Ostap has experienced managing and commenting on new developments in established communities, as well as two forms of the Main Streets project.
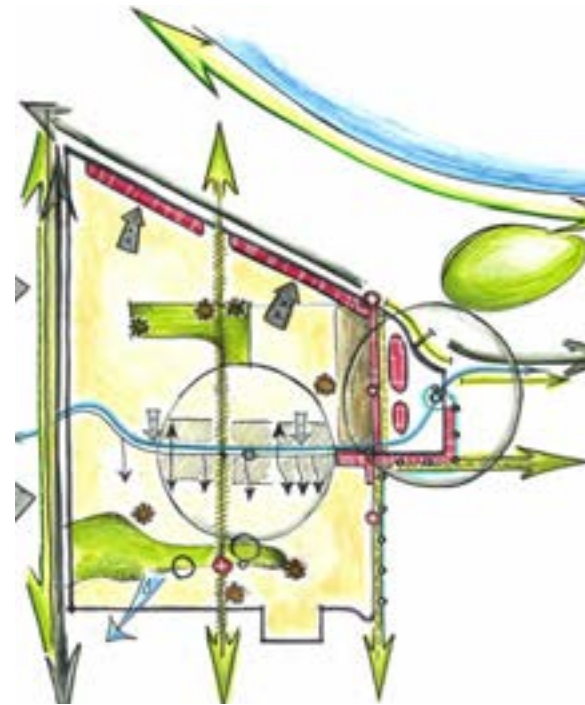

Taylor Felt, Planner

Taylor is a second year Master of Planning student at the University of Calgary. His Bachelor of Arts in Political Science and Business has created an interest in public engagement, policy and planning law. Taylor recently completed a 4-month internship with Sustainable Calgary, where he conducted a morphological analysis of how to enhance active transportation networks in low-income communities.

Edward Spink, Planner

Edward is a second year Master of Planning student at the University of Calgary. With an undergraduate degree in Biological Sciences and Sociology, he is interested in the intersection between public health, urban design, affordable housing, and mobility. As the Environmental Design Students' Association president, Edward has experience with project management and stakeholder engagement.
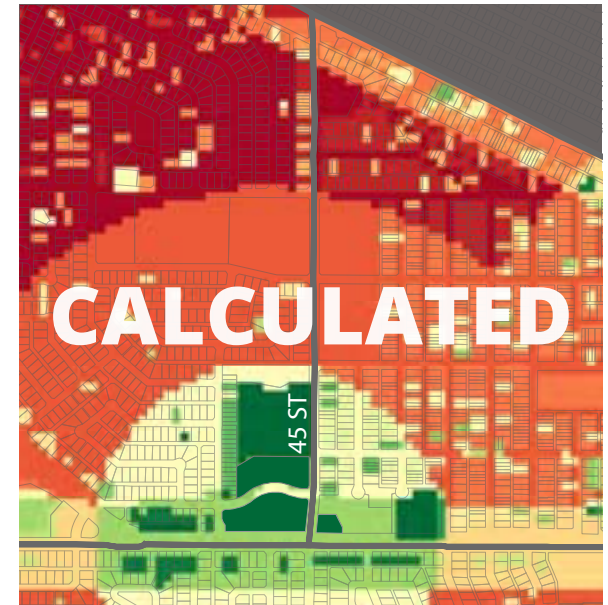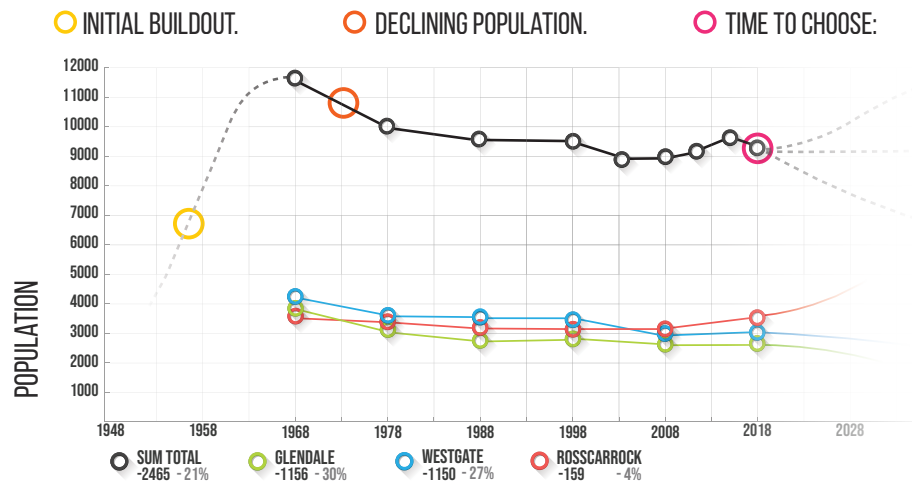
02

ABOUT THE PROCESS.

GLENDALE ROSSCARROCK WESTGATE

EXPERIENCE CALGARY AS IT SHOULD BE.

COMPLETE

CONNECTED

CALCULATED

POPULATION

12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000

1948   1958   1968   1978   1988   1998   2008   2018   2028

SUM TOTAL -2465 - 21%   GLENDALE -1156 - 30%   WESTGATE -1150 - 27%   ROSSCARROCK -159 - 4%

WHY DO COMMUNITIES CHANGE?

It's time for the neighbourhood to make a choice: stay the course or revitalize.

This is a model for the way communities rise, fall and revitalize which has been supported by both real world cases and the literature.

"As the initial stages of a new development near completion, the first buyers begin to move in. Typically, these first residents are young families or young couples planning to start a family. Over the first twelve years the houses and streets begin to take shape and the first children begin to grow up. The neighborhood will reach its peak population at the end of its second decade. Over the next sixteen years, the neighborhood kids start to trickle out.

With the kids gone, and no new homes available for young families to take their place, the numbers in the schools start to dwindle.

The businesses begin to struggle as their customer base shrinks. A choice has to be made.

Option 1: Stay the Course
The first sign of decline is when the school shuts down. With enrollment dropping, the neighborhood kids are diverted into a new school in one of the nearby communities.

Option 2: Revitalize
The first sign of change is when a couple of residents subdivide their lots. Developers buy a number of lots and convert them to row houses. The streets come alive, the schools fill back up, and businesses once again thrive" (City of Edmonton, Infill Roadmap 2018).

DRIVERS OF CHANGE

Time   **Lifecycle**   **Finance**

After a lengthy engagement the City has determined that 50% of future population growth should be housed in the existing Calgary footprint, with most this in already established areas. This is partially due to the constraints placed upon municipal finance by increasing low density development to the exterior. These modes of development simply do not generate enough tax revenue to pay for themselves and must currently be subsidized by the downtown core.

LRT   **Engagement**   **Demographics**

The massive investment of the LRT demands an increase in ridership and is very attractive to downtown workers, triggering redevelopment pressure. The diverse populations demands a variety of housing and transportation options.

THE COMMUNITY
DESIGN PROCESS.

The Stages and Steps of Established Area Planning

This section illustrates an abbreviated explanation of our Community Design process. Our firm sees these phases as vital components of any successful plan. It should be noted that this process is not necessarily linear - the design stage reveals information gaps which then demand further analysis.

A review of the legal framework will provide constraints for the design and ensure that the project aligns with the hierarchy of plans.

Next, we explore the natural and historical context of the three communities, tracking environmental data, growth rates and housing change.

We explore stakeholder opinions on growth and change in order to shape the initial design, and display a draft design for review and feedback.

Finally, we provide our completed community recommendations via presentation and report.

1

2

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4

Community Associations

As our project involves partnering with the Federation of Calgary Communities, the community associations of Glendale, Rrosscarrock and Westgate are the main client.

City of Calgary

The City has a vested interest in seeing a more financially and socially sustainable form of development, and more ridership for the two area LRT Stations.

Businesses

Businesses in the area would like to see a larger customer base, better access to their locations via active transportation and less restrictive City land regulations.

Current and Future Residents

Current residents are a diverse group, a range in median income, housing tenure, age, ethnicity and occupation. The plan will address current needs and respond to the future.

COMMUNITY CONTEXT.

03

1911

Rosscarrock - the Tregillus ranch house, located at 37th Ave. and Bow Trail.

1949

West Calgary " Country Resident" prior to annexation for future community development.

1964

The #8 Killarney trolley bus reached 45th St. SW and 17th. Ave.

1966

Westbrook Mall opens (1964), including a branch of the Calgary Public Library.

THE HISTORY
OF PEOPLE AND PLACE

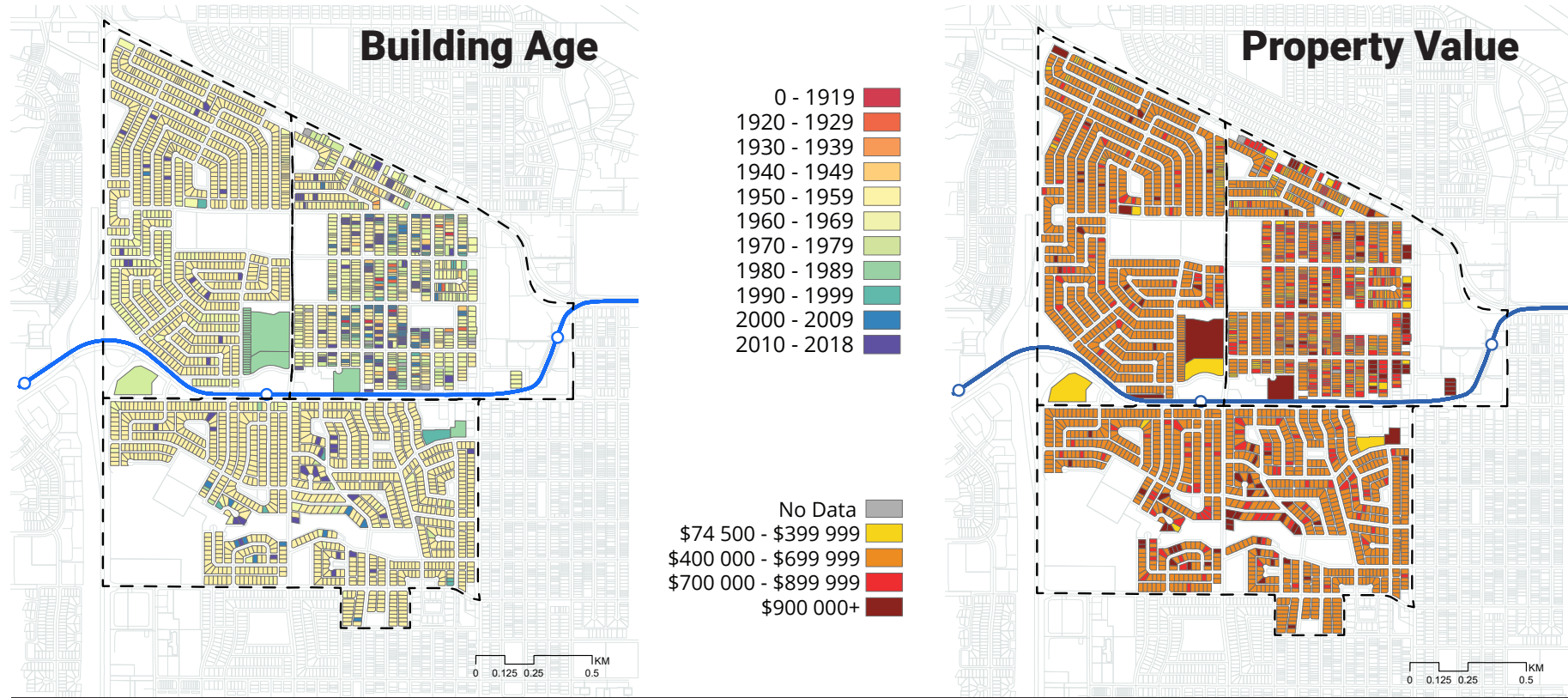"Calgarians . . . would fail ignominiously in their duty did they not look at least a hundred years ahead."

William John Tregillus in the Morning Albertan (1911)

1982

7th Ave. Drive-In transitions to Westgate Heritage Manor Housing Coop Ltd, development increases along 17th Ave.

2007

Ernest Manning School demolished and construction of Westbrook Station begins.

2012

Calgary's first underground LRT Station is complete.

2019

Area sees infrastructure improvements along 17th Ave, 37 St. and a new pedestrian overpass across Bow Trail.

DEMOGRAPHIC
ANALYSIS

Ageing homes on high value land.

The majority of Westgate and Glendale's housing stock is still from the 1950s while Rosscarrock has significantly renewed. The age of housing is closely related to the population fall. This map also highlights a few potentially historic homes in the area. Given this age gap between Rosscarrock and the rest, the difference in form is unsurprising. While Glendale and Westgate are mostly Bungalows, Rosscarrock has a variety of housing types and a large amount of 1.5 storey up-down duplexes. As expected, this redevelopment has not resulted in lowered property value.


Building Age

0 - 1919
1920 - 1929
1930 - 1939
1940 - 1949
1950 - 1959
1960 - 1969
1970 - 1979
1980 - 1989
1990 - 1999
2000 - 2009
2010 - 2018

No Data
$74 500 - $399 999
$400 000 - $699 999
$700 000 - $899 999
$900 000+

Property Value

3 COMMUNITIES.
3 DIFFERENT STORIES.

2016 MEDIAN DWELLING VALUE
- 598K GLENDALE
- 551K ROSSCARROCK
- 550K WESTGATE
- 450K CALGARY

2011-2016 DWELLING VALUE CHANGE
- +30% GLENDALE
- +29% ROSSCARROCK
- +28% WESTGATE
- +7% CALGARY

**Westgate and Glendale are largely homogeneous in form and population. Rosscarrock is younger, poorer and has less families.**

Unsurprisingly, the communities experiencing most of the population drop are the oldest. Also connected to age are median incomes. The younger crowd in Rosscarrock has a significantly lower income, even if we do account for the younger age. Calgary, which is on average only two years older - earns $35 000 more. All communities have experienced serious income growth in the last 8 years. This has not kept pace with housing cost rise.

HOUSEHOLD SIZE
- ROSSCARROCK 2 / 2.4
- GLENDALE 3 / 2.6
- WESTGATE 3 / 2.4
- YYC 2.6 / 2.6
- 2016 / 2011
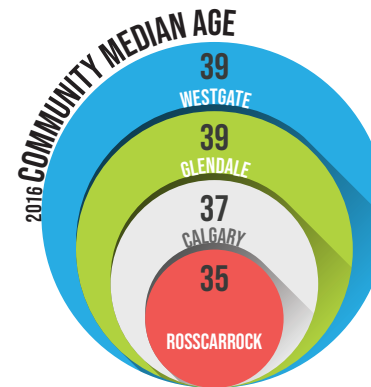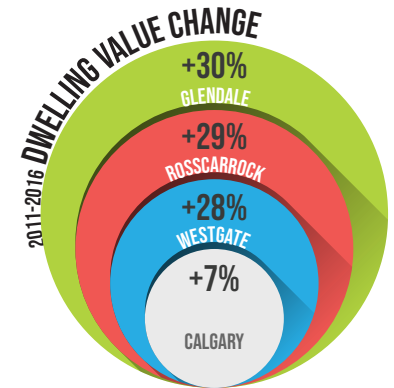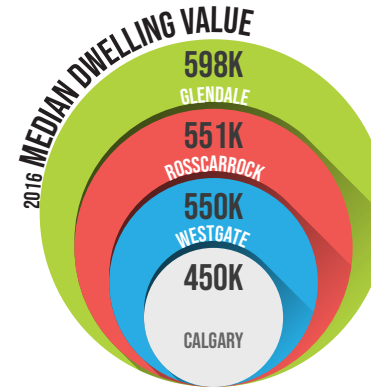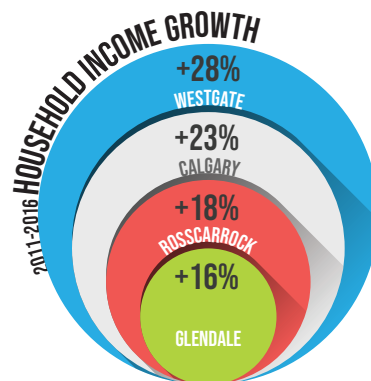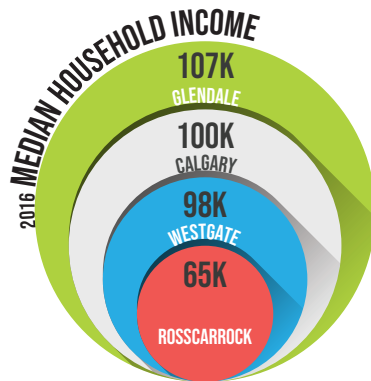
Age and Income

When looked at more closely, the lowest earners seem to be leaving the communities. It's likely that the second highest wage group is moving farther out where they can get more square footage for their money - while the top income owner population is growing.

On the age side we see a huge rise in millenials, which corresponds to the large increase in rental distribution. And the population of kids is only rising in Rosscarrock, again showing that it's attracting young executive couples.

2016 MEDIAN HOUSEHOLD INCOME
- 107K GLENDALE
- 100K CALGARY
- 98K WESTGATE
- 65K ROSSCARROCK

2011-2016 HOUSEHOLD INCOME GROWTH
- +28% WESTGATE
- +23% CALGARY
- +18% ROSSCARROCK
- +16% GLENDALE

2016 COMMUNITY MEDIAN AGE
- 39 WESTGATE
- 39 GLENDALE
- 37 CALGARY
- 35 ROSSCARROCK

COMMUNITY FEEDBACK.

04
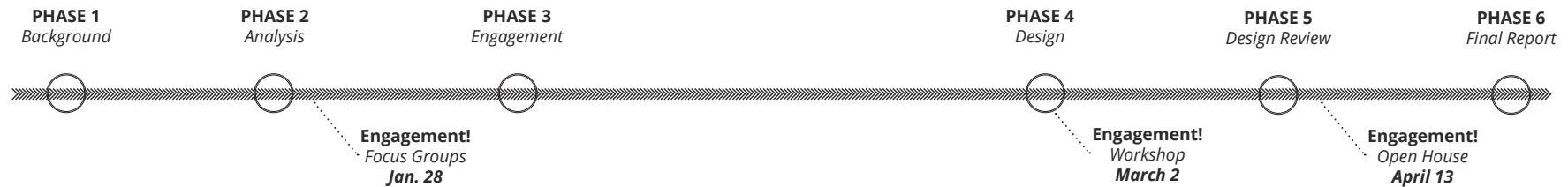
ENGAGEMENT PROCESS AND TIMELINE.

An inclusive and responsive planning process.

Public engagement is a vital portion of any community planning process. Residents, business owners and developers have unique knowledge of the areas strengths, weaknesses, threats and opportunities. This information provides our planners with additional considerations they have to take into account in order to create a successful plan.

At FFS Planning + Design, engagement is not a check-the-box activity. It is a meaningful way for residents to share their day to day experiences with the team.

It also isn't a commandment or proclamation. At FSS we allow our team to use their education and unique planning experiences to make evidence-based choices and designs. Community residents will be heard and their concerns will be noted. Should the plan need to move in a another direction, this change will be explained.

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6
Background	*Analysis*	*Engagement*	*Design*	*Design Review*	*Final Report*

Engagement!
Focus Groups
Jan. 28

Engagement!
Workshop
March 2

Engagement!
Open House
April 13

COMMUNITY IDENTIFIED

OPPORTUNITY

DENSER STREETS
AMENITIES
ACCESS
WESTBROOK MALL
SHARED USE PATH
PROXIMITY
MASS TRANSIT
PARKING
AMENITIES
CYCLING ROUTES

COMMUNITY IDENTIFIED

CONSTRAINT

AFFORDABILITY
PERCEPTION
HOUSING STOCK
REC CENTRES
INFRASTRUCTURE
PARK 'N RIDE
BARRIERS
SAFETY
SCHOOLS
TRAFFIC VOLUME

ENVIRONMENT

Douglas Fir Trail, Edworthy Park, Calgary

05

Outdoor Rink, Glendale Community Association, Calgary

ENVIRONMENT, PARKS & OPEN SPACE

Re-imagining connected parks and open spaces that are exciting destinations for everyone in the community.

Glendale, Rosscarrock, and Westgate, are situated at the center of a triangulation of parks and open space. This includes regional parks, Optimist Athletic Park, and neighborhood parks. As pressure for redevelopment increases in the communities, now is the time to enhance these green spaces, improved active transportation connections, and invest in diversifying and improving the urban forest for the current and futures residents who will call these communities their home.

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Open Space Plan

The Open Space Plan is a non-statutory policy document that outlines the general framework and broad policies regarding open space in the City of Calgary.
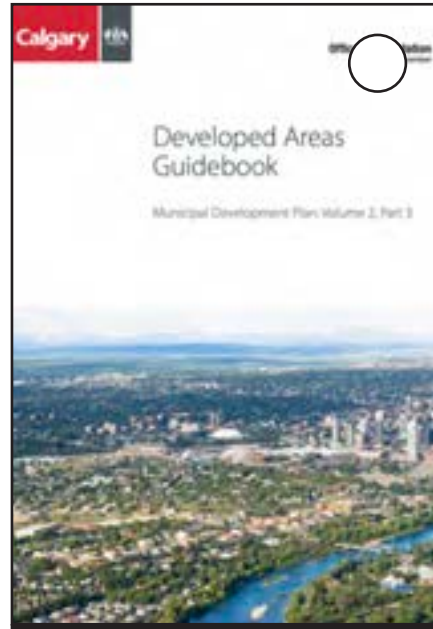
Developed Areas Guidebook

One of three guidebooks that are part of the Municipal Development Plan, the DAG sets a broad policies to be followed when creating high quality, connected, parks and open spaces in Local Area Plans.
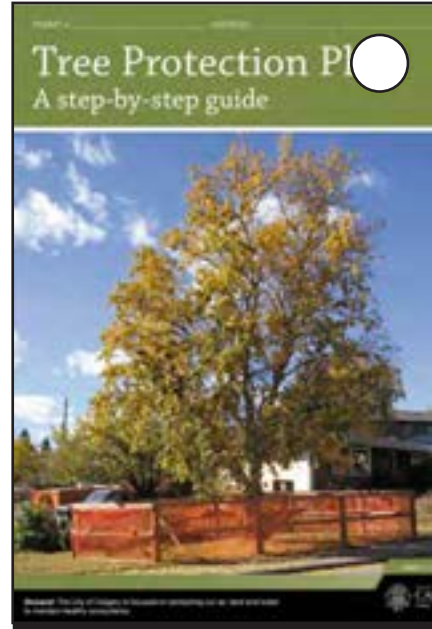
Tree Protection Plan

The purpose of the Tree Protection Plan is to prevent damage to public trees caused by development work on, near, or crossing City property.
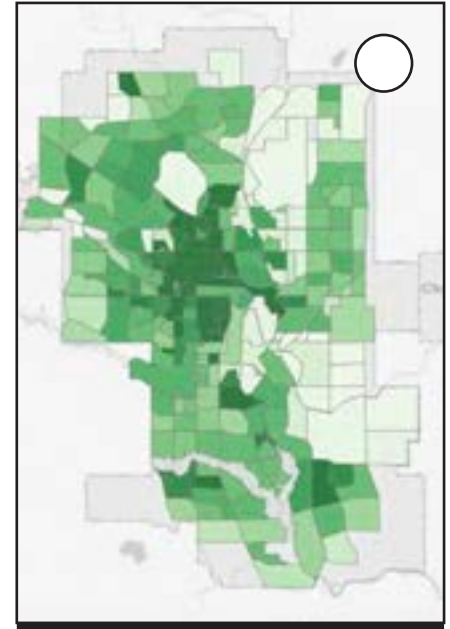
Urban Forest Managment

The City of Calgary provides a comprehensive database of geo-referenced public and private tree species that make up the city's urban forest: https://maps.calgary.ca/TreeSchedule/

CONNECTING PARKS AND GREEN SPACE.

Tying into an area well serviced by regional parks and open space.

The Mattamy Greenway is a multi-use pathway running parallel to Sarcee Trail on the west side of Glendale and Westgate. The Greenway provides a connection to Edworthy Park, a regional destination for families to recreate, the Bow River Pathway and the Lowery Gardens. The Bow River Pathway runs along the south bank of the Bow River and ultimately connects to downtown Calgary. Many members of the communities consider the pathway as a safe and efficient way to cycle to work. The Lowery Gardens are connected by the ecologically significant Douglas Fir Trail to Shaganappi Point Golf Course. Despite being a public golf course, owned and operated by the City of Calgary, Shaganappi Point is a popular destination for community members to enjoy free access to cross-country skiing in the winter.

The communities are serviced by many regional, community, neighborhood, special purpose (such as Optimist Athletic Park and Shaganappi Point Golf Course), and subneighbourhood parks (referred to as 'pocket parks' by the communities). Through our engagement session and observations within the community, we found that many of these parks are disconnected and often underutilized. The objective of FFS Planning and Design is twofold, to first create a connected parks and open space concept through a network of green corridors that encourages active transportation (walking and cycling) and secondly to program these spaces in a way that draws people back to these places, all year round. By addressing these two issues we can create active and vibrant parks for all Calgarians to enjoy.
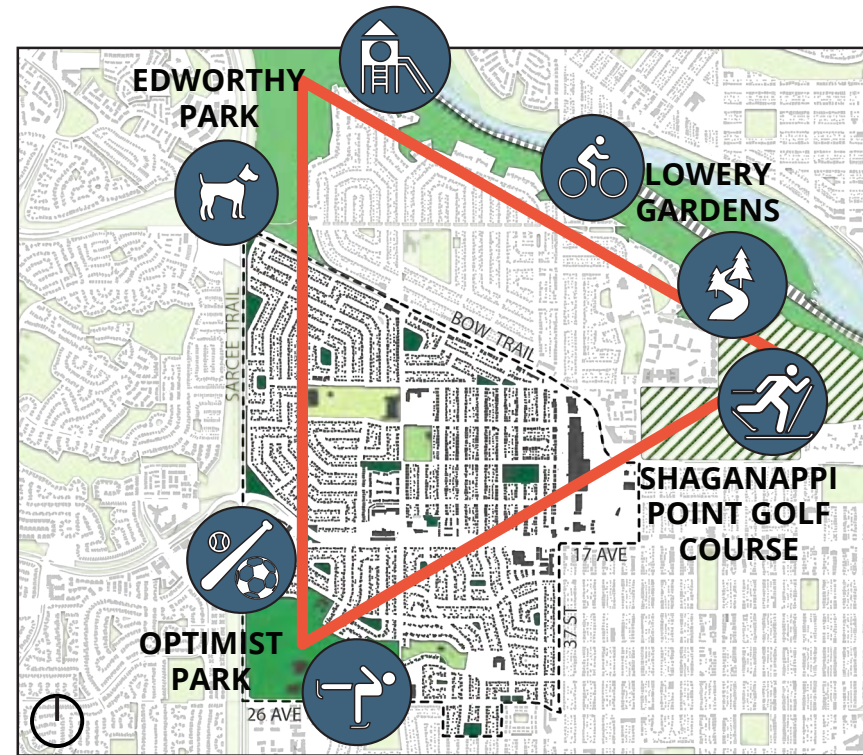
Q. What are the outside resources and amenities your community should connect to?

A. Edworthy Park and Shaganappi Golf Course!

22

WESTGATE
1404
trees

ROSSCARROCK
805
trees

GLENDALE
1906
trees

SARCEE TRAIL

45 ST

17 AVE

37 ST

26 AVE

Trees 6m
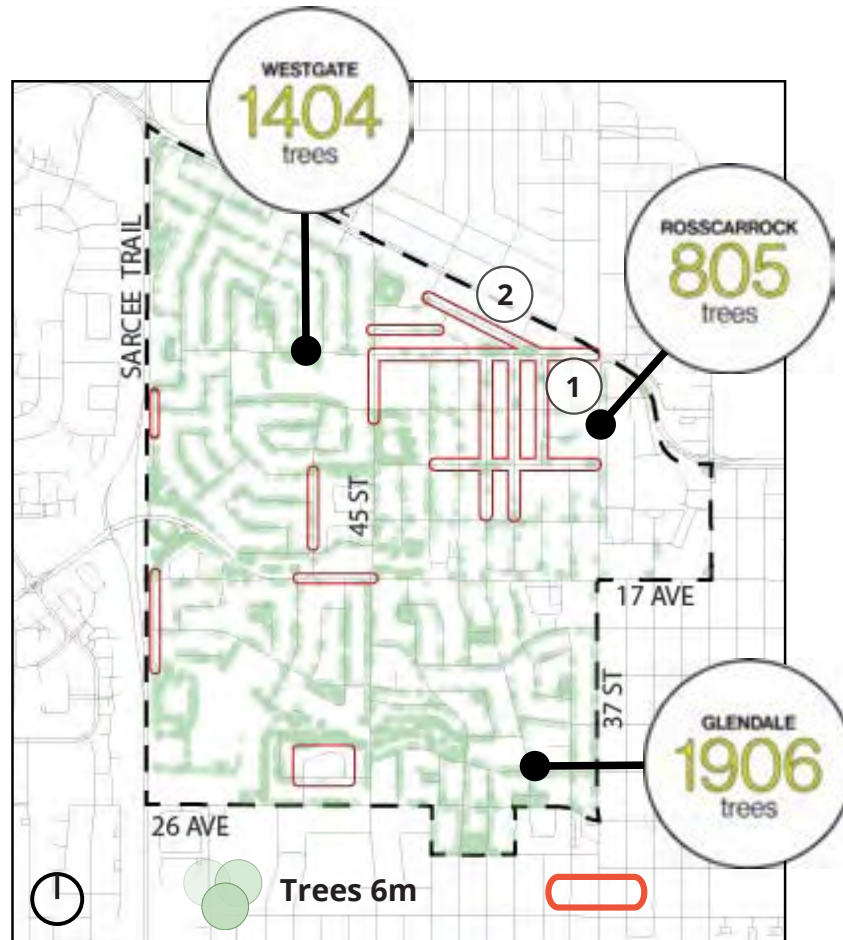
THE URBAN FORREST.
FILLING THE GAPS.

The urban forest does not just contribute aesthetic value to the urban landscape, but also provides other countless benefits and ecological services. Trees improve air quality, offer visual and auditory screening, retain storm water, provide shade, and create safer pedestrian and cycling environments within the community. Our strategy is to connect the parks and open spaces across the communities through a network of green corridors.

Our initial analysis examined the existing tree coverage across the three communities. In doing this, we found that Rosscarrock currently has less than half the number of trees as Glendale. Using GIS, a spatial analysis tool, we were able to generate a map determining where there are gaps (trees more than 6m apart) within the urban forest to direct tree planting initiatives. The City of Calgary recommends planting street trees no closer than 6M apart to ensure a tree's roots are not overcrowded and competing for resources. On the following page, (1) 40th Street SW., has a low number of public street trees, an overall comment on the density of trees in Rosscarrock. Our team has curated a list of species that are resilient to Calgary's short and dry growing conditions, that are not impacted by chinooks, and are tolerant to the hardy conditions of urban street life, such as salt and pollution.

Improve Air Quality

Increases Property Values

Provides Visual and Auditory Screening

Adds Aesthetic Value to Urban Landscape

Retains Storm Water

Creates Safer Pedestrian and Cycling Environment

Provides Shade

23

SHADE

Brandon Elm
Ulmus americana 'Brandon'

Dropmore Linden
Tilia x flavescens 'Dropmore'

Balsam Poplar
Populus balsamifera

Trembling Aspen
Populus Tremuloides

Birch
Betula papyrifera

FRUIT AND FLOWERING

Crabapple
Malus

Ussurian Pear
Pyrus ussuriensis

Mayday
Prunus pradus var commutata

Princess Kay Plum
Prunus nigra 'Princess Kay'

CONIFEROUS

Tamarack
Latrix laricina

Norway Spruce

Colorado Spruce

SHRUBS

Meye's Dwarf Lilac
Syringa meyerii "Palibin"

Prickly Rose
Rosa acicularis

Saskatoon
Amelanchier alnifolia

Potentilla
Potentilla

GRASSES

Moor Grass
Molina caerulea

Blue Fescue
Festuca ovina glauca

Rough Fescue
Festuca campestris

INVASIVE SPECIES

Creeping Bellflower
Syringa meyerii "Palibin"

Yellow Cematis
Clematis tangutica

Wild Caraway
Carum carvi
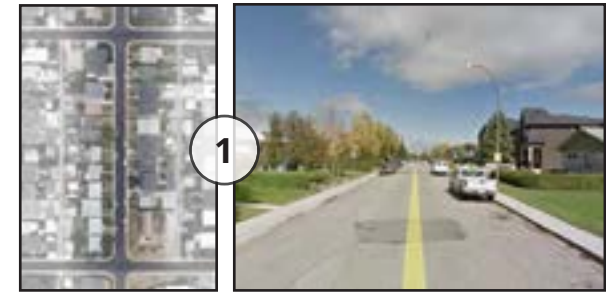
40th Street SW., Calgary,

7th Ave. SW., Rosscarrock, Calgary,

Green spaces need to be more diverse and higher quality - not just grass but also trees, food trees, shrubs, furniture and interesting landscaping.

**- member of the community
(March 4th, 2019, community workshop)**

https://www.calgaryplants.com/collections/trees

https://www.calgarytrees.ca

http://www.insideeducation.ca/wp-content/uploads/2014/10/TreeShrub.pdf

https://www1.calgary.ca/CSPS/Parks/Documents/Planning-and-Operations/Tree-Management/landscape-specs-trees.pdf

Legend:

🚲 **Bike Fa-**
— **Protected Bike Lane**
— **Painted Bike Lane**
— **Shared Bike Lane**
— **Mattamy Greenway**
↔ **Green Corridors**

45th **Street kissing canopy**

GREEN
CORRIDORS.

Connecting green spaces with active green corridors.
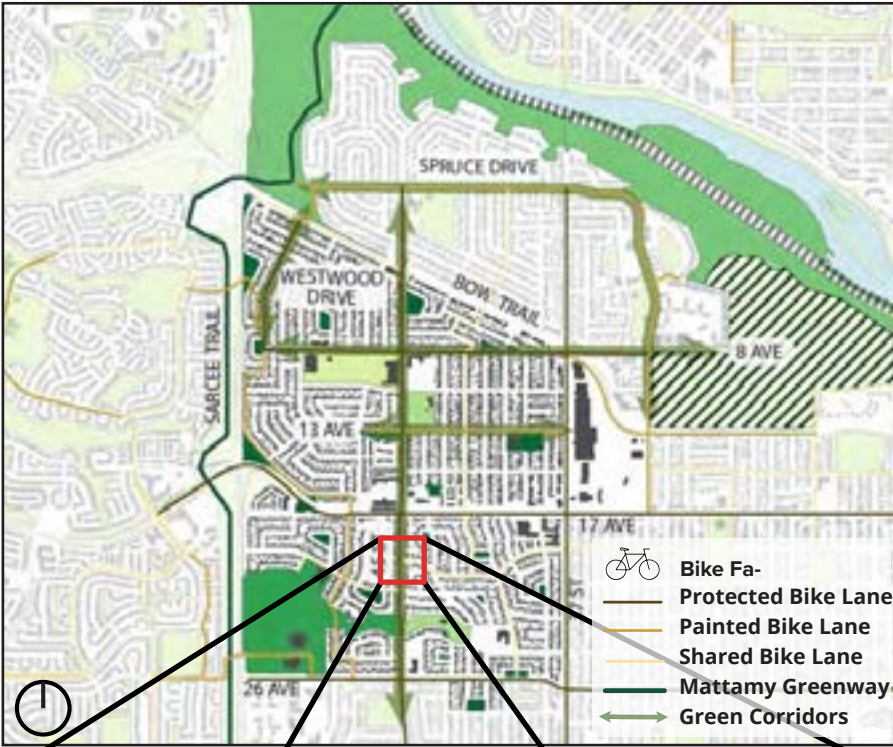
In conjunction with the recommended street tree replanting initiative, FFS is proposing greening the communities through a series of connected green corridors. These corridors would seek to layer high-quality active transportation infrastructure with a targeted street tree planting program along 45th street, 8th avenue, 13th avenue, Westwood Drive, and Spruce Drive (located outside the focus communities) to complete a connected parks and open space network. The selected corridors will be planted with species from the recommended tree palette, coupled with a designated bike lane. Spanning the entire length of the communities, connecting Optimist Athletic Park and the Glendale Community Centre, to the 45 Street Station LRT, the Rosscarrock Community Association, and three school sites, 45th Street will act as the main arterial for the green corridor network. With 13th Avenue, 8th Avenue, and Westwood drive, feeding into 45 Street, the network will provide greater and safer access to the communities' parks and open spaces.

Urban Tree Canopy - 8th Street NE. Calgary, AB.

ENHANCE THE PARKS AND OPEN SPACE THROUGH ACTIVE PROGRAMING.

Drawing the People Back to the Parks.

Our team created a palette (right) to aid the communities in implementing improvements to their parks and open spaces with the intention of drawing people back outside and building community. Each number on the adjacent map correlates with an improvement item on the palette. Overall, many of the pocket parks require basic urban furniture to provide visitors with a place to rest and dispose of their waste. Additionally, FFS prioritized programming and activating the parks connected to the proposed 45th Avenue green corridor. The following pages we will illustrate our firm's vision for the 3 selected parks outlines in red.

PARKS PROGRAMING
PALETTE.

Urban Furniture

1 LED Lighting - University of Calgary

2 Waste & Recycling Receptacles - Bryan Park, NY

3 Seating - Brooklyn Bridge Park,

4 Bike storage - Cleveland, OH

Vegetation

5 Community Gardens - Parkdale, Calgary, AB

6 Xeriscaping - Osgood Public Garden, ON

7 Urban Forest - 9the Ave. NE, Calgary, AB

Activities

8 Outdoor Fitness Pavillion - Rice University, Houston, TX

9 Accessible Play - Shouldice Park, Calgary, AB

10 Natural Playground - Mills Park, Calgary, AB

11 Spray Park - Shrewbury, UK

12 Outdoor Curling Rink - Beltline, Calgary, AB

Special

13 Community Oven Pavillion - Vermilion, AB

14 Pump Park - Edson, AB

15 Dog Park, Agility Course - East Village, Calgary, AB

16 Artisan Gallery - Bow Valley Ranche, Calgary, AB

17 Disc Golf - Brundage Mountain,

Community Oven

Apple Orchard

Bus Shelter

Community Gardens

North Productive Park

Bring the community together with food! This park was re-imagined with raised garden boxes, an apple orchard, and a community oven.

Agility Course
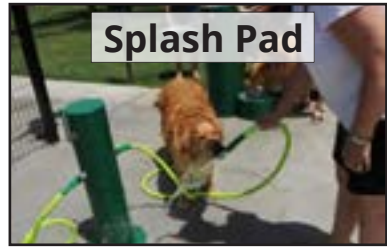
Splash Pad

Fenced Dog Run

Central Bark Park

Currently, the communities are not serviced by a dog park. The nearest designated dog parks are located at the Edworthy Off Leash Park and the Strathcona Park Off Leash Area. From our analysis, observations, and feedback gathered from the community, the desire for a space that owners can recreate with dogs was clear. Our proposal suggests incorporating an urban dog park in the space directly north of the West Heritage Manor Housing Coop. The park will feature an agility course, an off leash run, splash pad, and spaces for owners to rest and relax.

Seating Area

Rest Area

Movie in the Park 1

Seated Lookout 2

Disc Golf 3

Multi-use Pathway 4

Turtle Hill Improvements

To enhance connectivity, FFS recommends removing the chain-link fence on the west end of the park bordering Optimist Athletic Park and connecting the area with a multi-use pathway. Programming the space with low impact activities such as a disc golf course will draw more activity to the park.

Curling 5

Bioswale 6

7

Map legend:
residential lane
LRT

Labels on map: BOW, SARCEE, SARCEE TRAIL, BOW TRAIL, 800m, 17 AVE, 37 ST, 800m, 26 AVE, 17 AVE, 26 AVE

LANEWAY HOUSING.
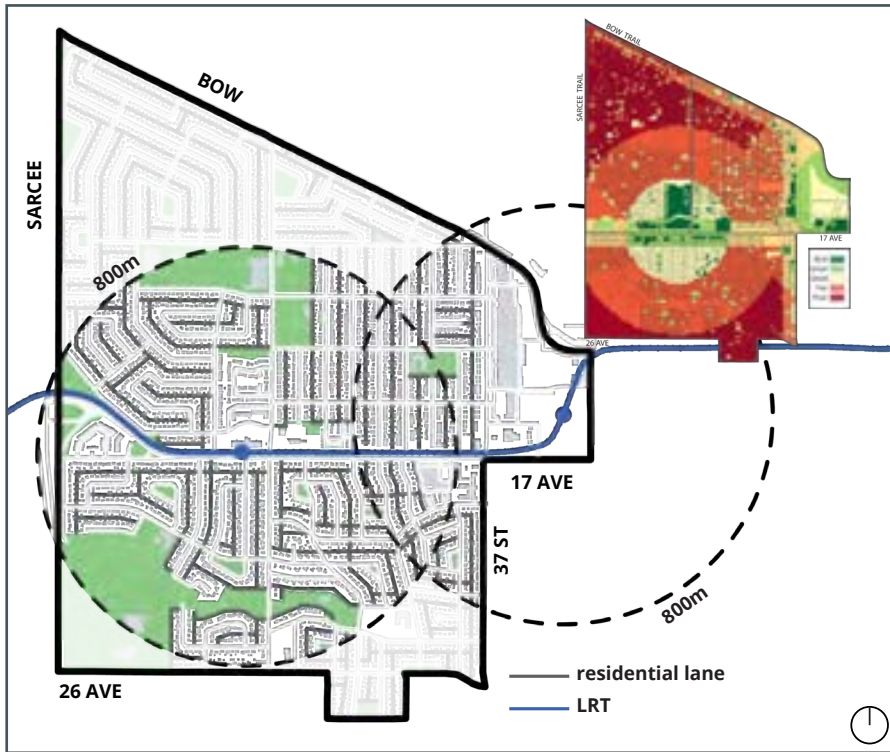
Our vision is to offer diverse and affordable housing choices in the communities through a backyard suite (BYS) strategy. Our vision is influence by the MCDA (pictured above) that indicated the most suitable land for redevelopment is within 800m of an LRT station. This also offers an opportunity to live a convenient and accessible lifestyle without a car. In supporting incremental change and gentle density throughout the communities, FFS recommends that BYS be a permitted use in RC-1, R-C2, R-C1s, and R-CG designations, within 800m of LRT stations. Outside the 800m radius of an LRT station, FFS recommends BYS be a discretionary use. Backyard suites within 800m of an LRT station will not be required to meet the parking minimum of 1 designated stall per BYS. Suites must have direct access to a back lane or back lane and side street. There must not be more than one suite located on a property. The following page outlines our recommendations for backyard suites guidelines.
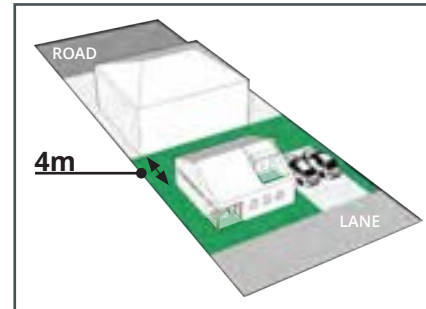
Amenity Space: the minimum allowable distance between the primary dwelling and the BYS must be no less than 4m. Upper level decks should orient towards the laneway and include a visual screen to protect neighbours privacy.
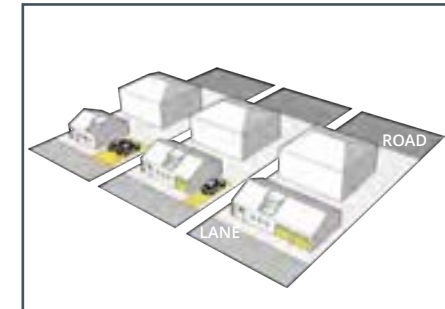
Parking: At a minimum, there must be 1 parking stall for the LWH and 1 parking stall for the main dwelling. We recommend directing parking to the rear of the property and do not encourage on street parking.
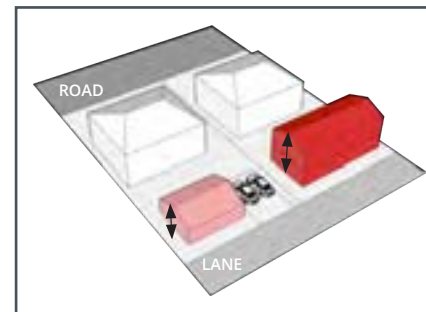
Height & Massing: the BYS must not be taller than the primary dwelling. Upper levels must not exceed 60% of the footprint of the BYS. Suites must include a main living space (living room and/or kitchen) on the ground floor.
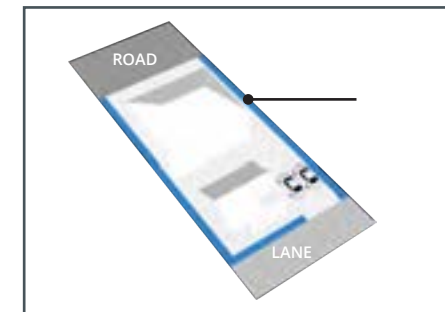
Access: the BYS must abide by the minimum setbacks assigned to the main dwelling: 1.2m from the side property lines, and 1.2m from the rear property line. This provides a pathway in the event of a fire.

32

1. Lighting

Sides of the suite facing the lane must include exterior lighting, such as a porch light. To prevent light pollution, lighting should be directed downward. Consider ground lighting and LED solar garden lights as a way to illuminate the lane and increase safety at night.

2. Vegetation

Owners should preserve existing trees on their lots when considering a BYS. At a minimum, 1 of the following must be included in the BYS landscaping: a shrub, tree, hanging baskets or garden boxes. Vegetation adds character and creates a vibrant laneway. Take this as an opportunity to transform the laneway into an attractive place.

3. Amenity Space

Suites should include outdoor amenity space in the backyard and/or an upper level deck. Upper level decks must face the rear lane and include a screen or blind to protect neighbours privacy.

4. Parking

1 parking space must be provided for the primary dwelling and 1 for the BYS, for a total of two parking spaces on the property. Suites that are located within 800m of an LRT station do not require a parking space for the backyard suite. Living in close proximity to primary transit offers an affordable alternative to owning and maintaining a car.

5. 'Lane'scaping

Including landscaping and additional lighting into your laneway home can transform the lane into an inviting and activated space. Consider permeable paving where possible.

5. Overlook

Main floors must include at least one window facing the lane. The bottom of additional windows located along the sides of the suite must be located 2 meters from the ground, this will allow sunlight in and protect neighbours privacy.

LAND USE

06

POPULATION

12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000

1948   1958   1968   1978   1988   1998   2008   2018   2028

○ SUM TOTAL -2465 - 21%   ○ GLENDALE -1156 - 30%   ○ WESTGATE -1150 - 27%   ○ ROSSCARROCK -159 - 4%
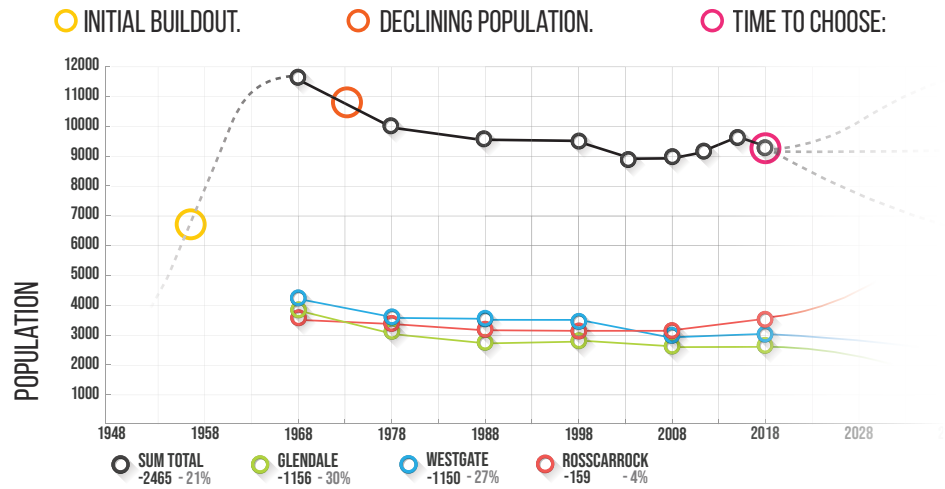
WHY CHANGE ANYTHING AT ALL?

Established communities are a dynamic landscape.

Glendale, Rosscarrock and Westgate began their initial build out in the mid to late 1950s. Since then their population has risen, and as young families turn to empty nesters, has declined. While the housing forms reflect the original residents, changing national and municipal demographics no longer accurately mirror the community.

These factors, coupled with the close proximity to downtown, has resulted in significant redevelopment pressure. Redevelopment is a complex process. Unlike greenfield development there are multiple existing stakeholders that need to be balanced and an existing policy landscape that needs to be analyzed and responded to.
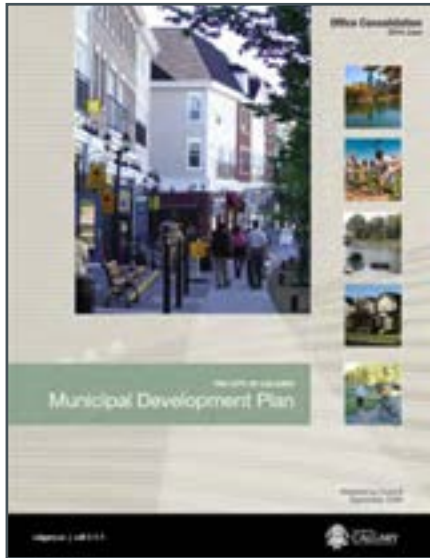
MUNICIPAL DEVELOPMENT PLAN
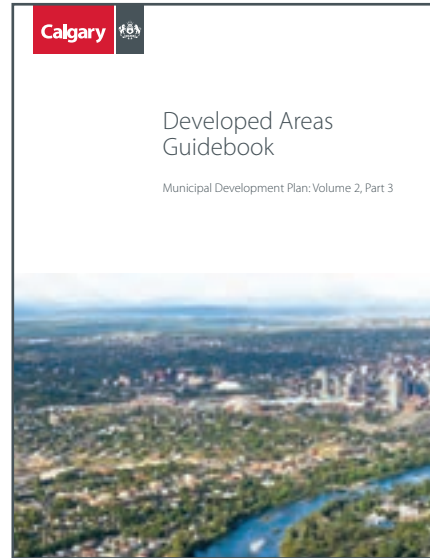
DEVELOPED AREAS GUIDEBOOK
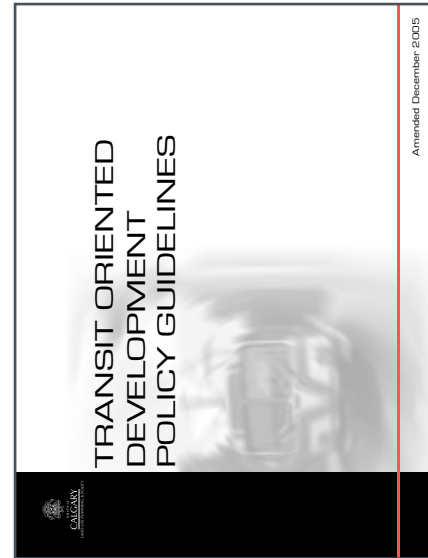
TRANSIT-ORIENTED DEVELOPMENT GUIDELINES
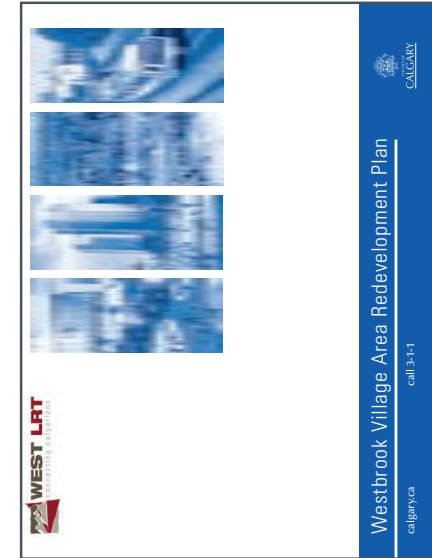
WESTBROOK VILLAGE REDEVELOPMENT PLAN

Policy Considerations for Glendale, Rosscarrock and Westgate:

The Municipal Development Plan is Calgary's long term vision for growth. It sets a 50/50 split between new and existing communities as a response to population growth. Some of this growth will be accommodated by urban corridor intensification.

This document outlines the goals for filling in Calgary's established communities. 17th Ave. and 37th St. fall into it the Corridor classification as designated Main Streets and are therefore required to intensify as part of the overall municipal strategy.

TOD is a regional solution addressing the financial, social and environmental problems of increasingly spread out urban development. These are guidelines for housing types and commercial uses around LRT stations.

Westbrook Station, as the only underground LRT station in Calgary in an established, high amenity area, represents the highest potential TOD site in Calgary. This ARP plans for a high rise urban form just south of the LRT with TOD conditions.

CURRENT ZONING

SARCEE TRAIL

BOW TRAIL

45 ST

17 AVE

26 AVE

N

0 0.125 0.25   0.5 KM
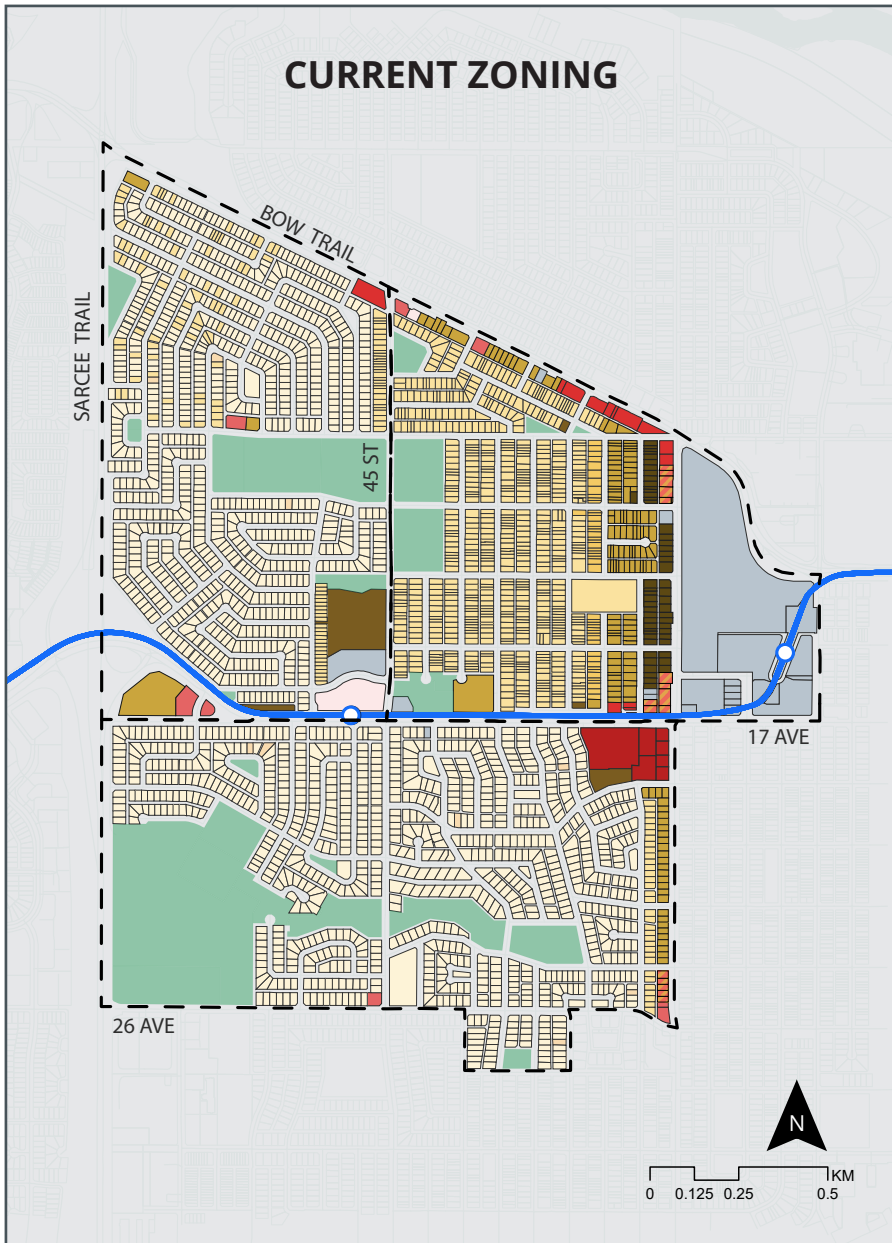
WHERE DO WE DIRECT REDEVELOPMENT PRESSURE?

Policy provides the direction while data directs outcomes.

After exploring the relevant policy documents, our team decided to undergo a more quantifiable community design process. While organic planning is strong in terms of flexibility, it was deccided that data driven design would allow for a clearer connection between site analysis and proposed solutions.

For this process, our team leveraged its spatial analysis experience in ArcMap software and conducted a Multi-Criteria Decision Analysis. This results in a map which combines the assigned considerations into one values map, generally showing a spatial hierarchy. We combined current community planning best practices and current municipal policy to create a

community redevelopment Suitbaility Map.

This map then goes on to shape our proposed residential and commercial zoning changes, our policy considerations in terms of parking relaxations and community amenity bonusing, as well as our laneway housing strategy.

C-COR1
C-COR2
C-N1
C-O
DC
R-C1
R-C1s

R-C2
R-CG
M-CG
M-C1
M-C2
MU-1
MU-2

DEVELOPMENT SUITABILITY

Legend:
- Best
- Great
- Good
- Fair
- Poor
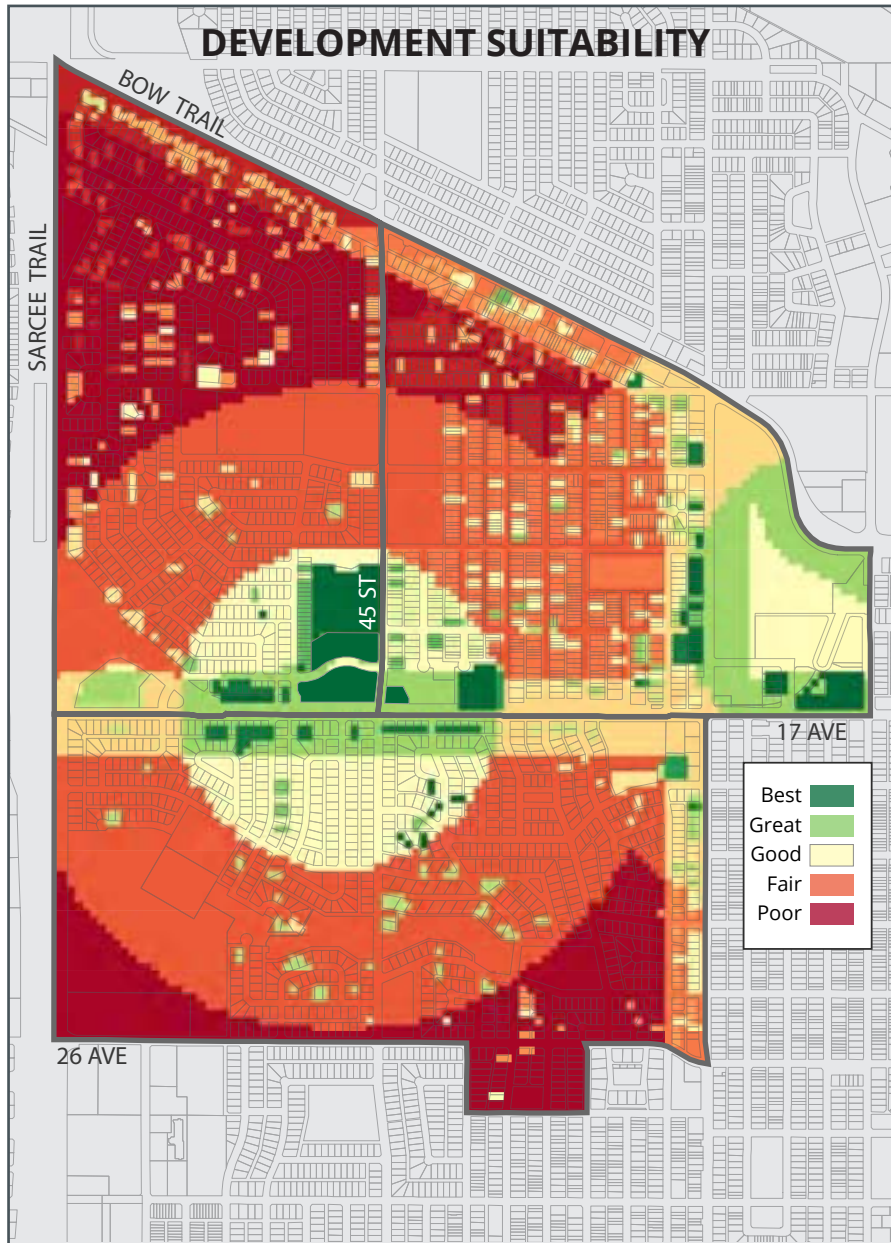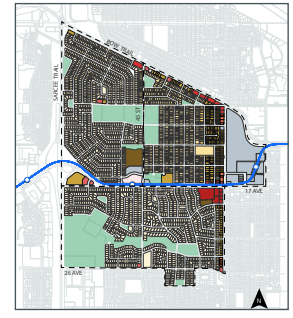
01 Current Zoning

02 LRT Proximity
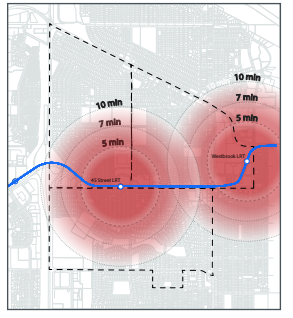
Current Zoning (5%) and LRT Proximity (45%)

Land use amendments are an expensive and sometimes contentious process. Zoning however is generally flexible so this category received the lowest weighting. LRT proximity received the highest as proximity to this resource is a major factor influencing use, form and density, and response to policy.
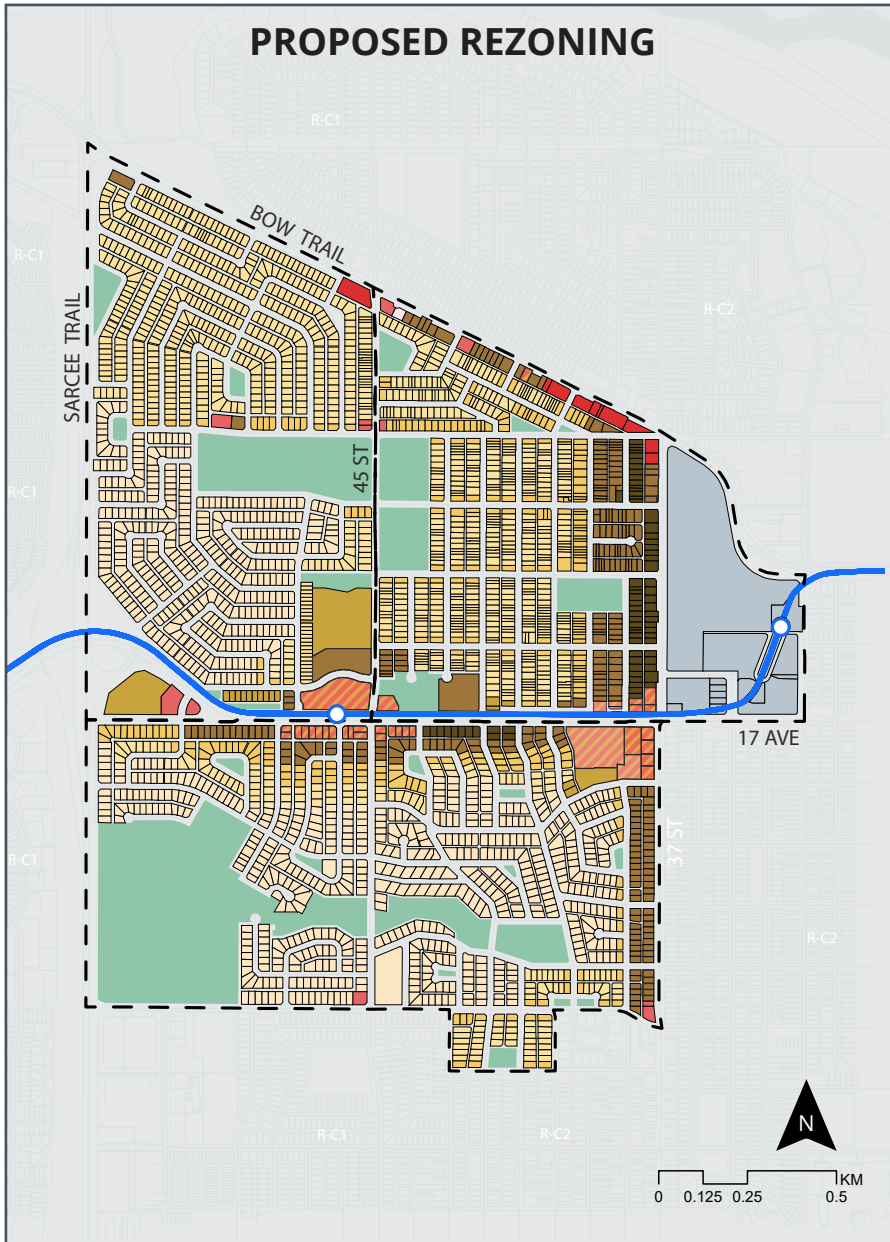
03 Property Value
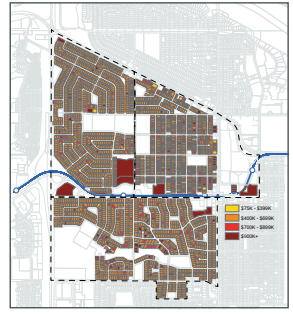
04 Corridor Proximity
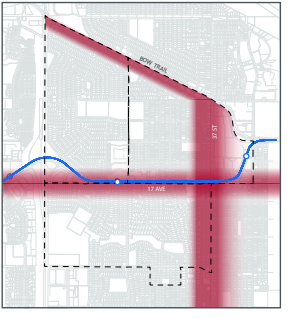
Property Value (35%) and Corridor Proximity (15%)

In accounting for property value, the MCDA accounts for the difficulty of land acquisition in development, and acts as a proxy for parcel size. Larger parcels are more attractive for redevelopment. As designated Main Streets 37th St. and 17th Ave SW are targetted by policy documents for increased density and public realm investment.

PROPOSED REZONING

Legend:

C-COR1 (red)
C-COR2 (dark red)
C-N1 (light red)
C-O (pale pink)
DC (grey-blue)
R-C1 (cream)
R-C1s (light tan)
R-C2 (pale yellow)
R-CG (yellow)
M-CG (gold)
M-C1 (brown)
M-C2 (dark brown)
MU-1 (hatched pink)
MU-2 (hatched red)

WHAT URBAN FORM DO WE WANT?

Growing up, not out.

As the MCDA identifies the greatest development potential within a 5 minute walk of the LRT Stations in the communities, as well as along 17th and 37th, these are the areas which will need to accept the majority of the density increases. This is also echoed throughout our public enagagement, where current resdients noted much more support for taller buildings on the outskirts of the communities.

Residents also maintained that heights of 3-5 stories were acceptable in these areas. From a complete community perspective, these responses delegate an urban form that provides a mix of uses, housing and transportation choice in close proximity to the LRT Stations.

For this purpose, zoning these sites MU-2, MU-1 and MC-2 largely achieves an urban form that responds to policy, public feedback, demographic analysis. This would result in mixed use buildings of 4-6 storeys directly beside the 45 Street LRT Station, and taller beside Westbrook.

1

2

3

4
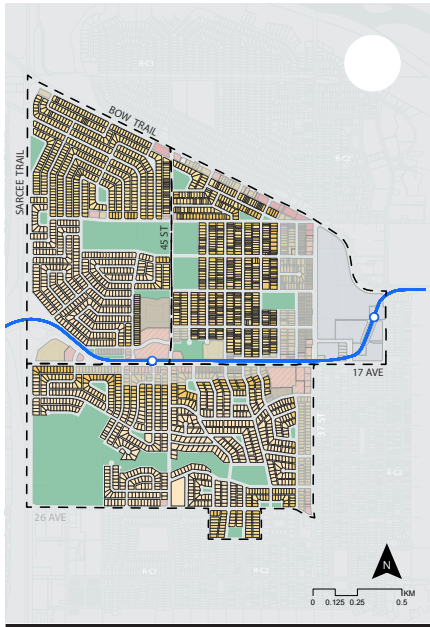
Low Density Residential

In order to keep the suburban character of these neighbourhoods alive, the majority of the new zoning maintains the existing RC-1 designation in the community interior.
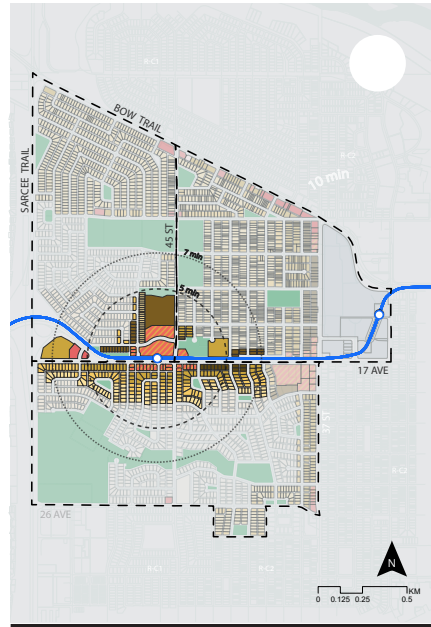
Neighbourhood Station Area

To create a vibrant, complete community and capitalize on the LRT, a smaller scale TOD has been zoned around 45th Street LRT Station. This precinct also extends along 17th Ave.
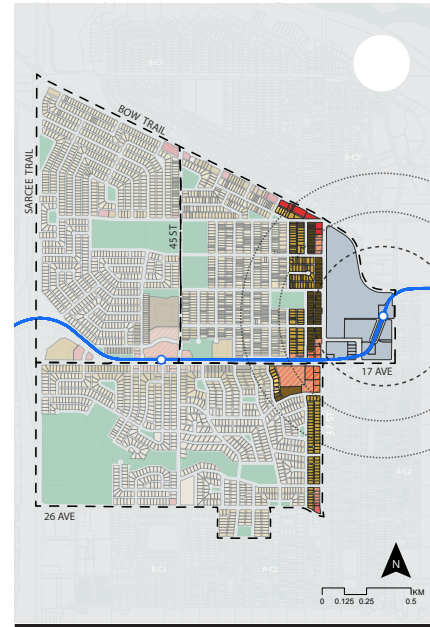
Town Center Station Area

We aim to create a more transit supporting community around Uptown at Westbrook. The goal is to add to its consumer base and contribute to LRT system ridership.

Laneway Housing Overlay

Increasing the population can also be done through encouraging more backyard suites. This allows existing owners to age in place and capitalize on value increases.

RC-1   RC-2   RC-G

Low Density Residential Housing Typology

Currently housing in the communities is largely 1960s era 1.5 storey Bungalows or new skinny infill homes. This low variety does not accurately respond to area demands or demographics. An increased supply of fourplexes and row houses will move new options from the $800k+ pricepoint to $450k+. This matches median incomes.
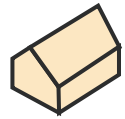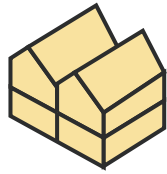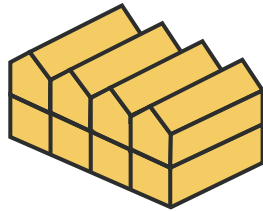

RC-1   RC-2

Neighbourhood Station Area Housing Typology

Moving from the automobile supported low density typologies, these medium density forms are currently poorly connected and scarce. Closely connected to transit by active transportation infrastructure, they'll include purpose built rental to mitigate gentrification and allow some residents to age in place.
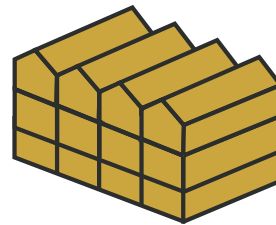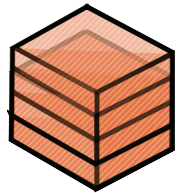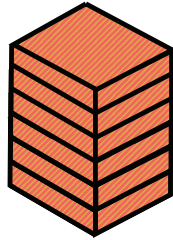

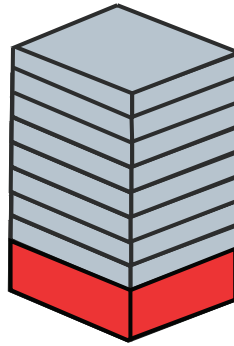MC-1   CCOR-2

MC-G   MC-1   MC-2
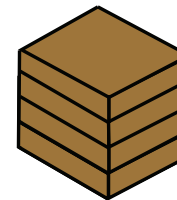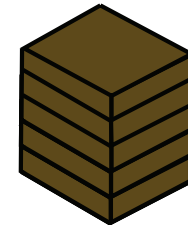
MU-1   MU-2   DC

Town Center Station Area Housing Typology

This area represents a novelty in Calgary. In accordance with the aggressive TOD conditions attached, the Uptown at Westbrook concept is focused on maximal transit use. Major parking minimum relxatations and confirmed active transportation investments along 37th will support a lively mixed use live, work, play precinct.

DC

MU-2

Laneway Housing

While our land use strategy does place most of the higher density redevelopment along Main Streets and in close proximity to the LRT, the interiors of the 3 communities will also need modest intensification strategies that will allow for expanded housing options. Lane-way housing, also known as garden and backyard suites accomplishes this purpose and mitigates the parking concerns that come with basement secondary suites. Our team has developed a comprehensive guideline which covers design, form and distribution.

LOW DENSITY RESIDENTIAL PRECINCT

Maintaining community character while providing more options.

While additional density has largely been moved to the exterior, community interiors require specific strategies in order to create a complete community.

This precinct allows for the maintenance of a low density housing pattern, but expands the housing options available. This will likely have positive affordability and community renewal benefits, and further improve the consumer base for businesses. While low school enrollment is a current challenge, these housing forms are attractive to families and are therefore a response to that challenge.

Currently, Westgate is

experiencing significant redevelopment pressure at its northern edge, with a large number of RC-1 to RC-2 re-designations.

The block structure of Rosscarrock allows for much easier redevelopment integration, and is where the most intense redevelopment is currently taking place.

C-COR1		R-C2	
C-COR2		R-CG	
C-N1		M-CG	
C-O		M-C1	
DC		M-C2	
R-C1		MU-1	
R-C1s		MU-2	
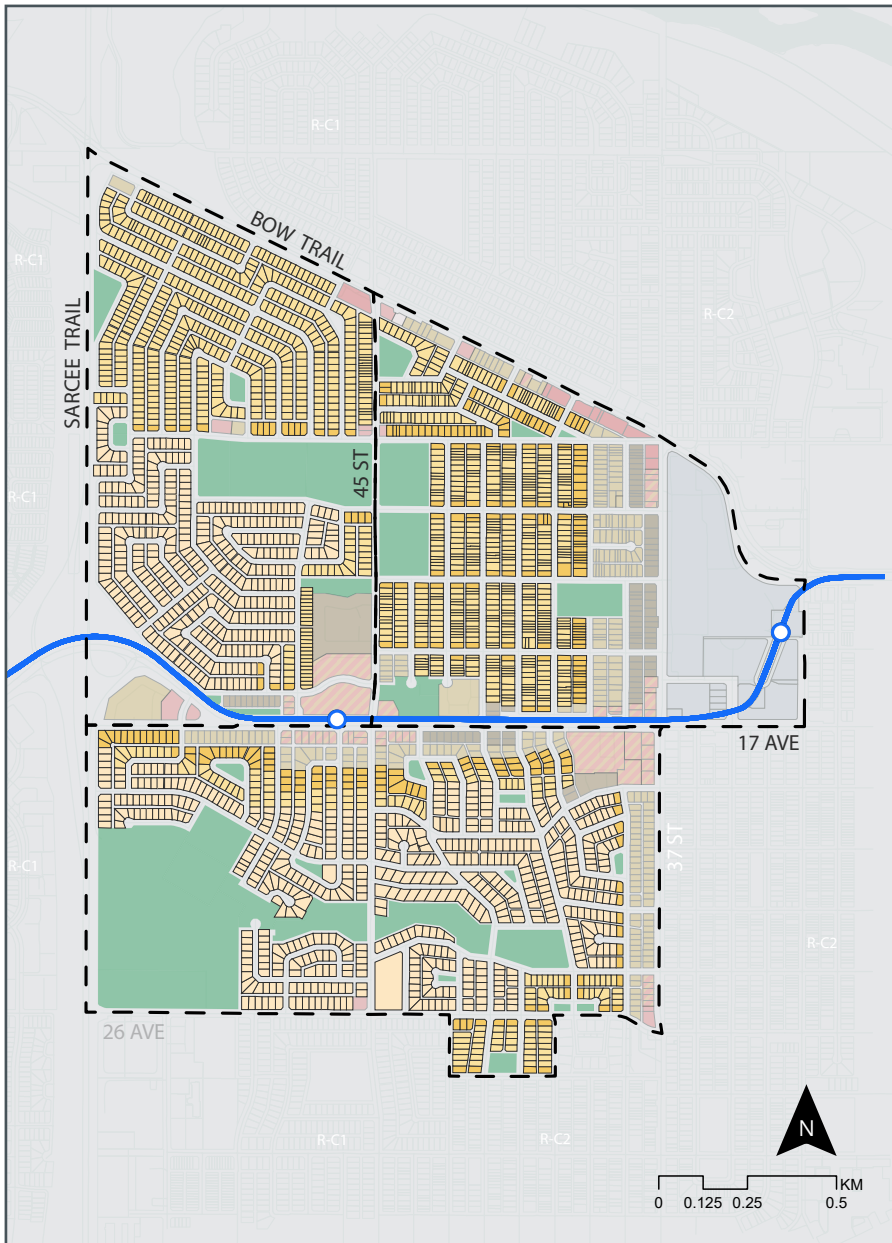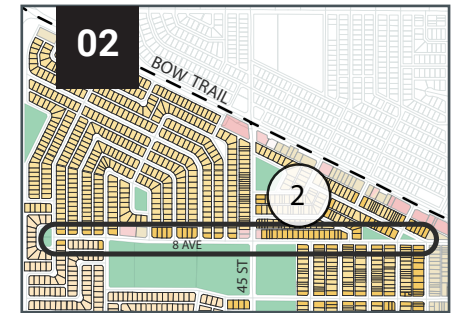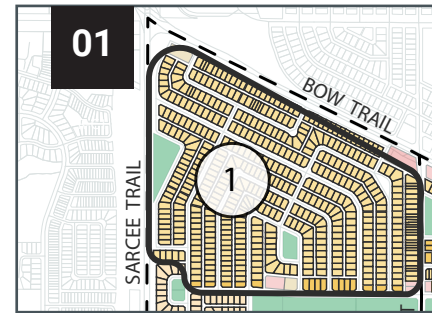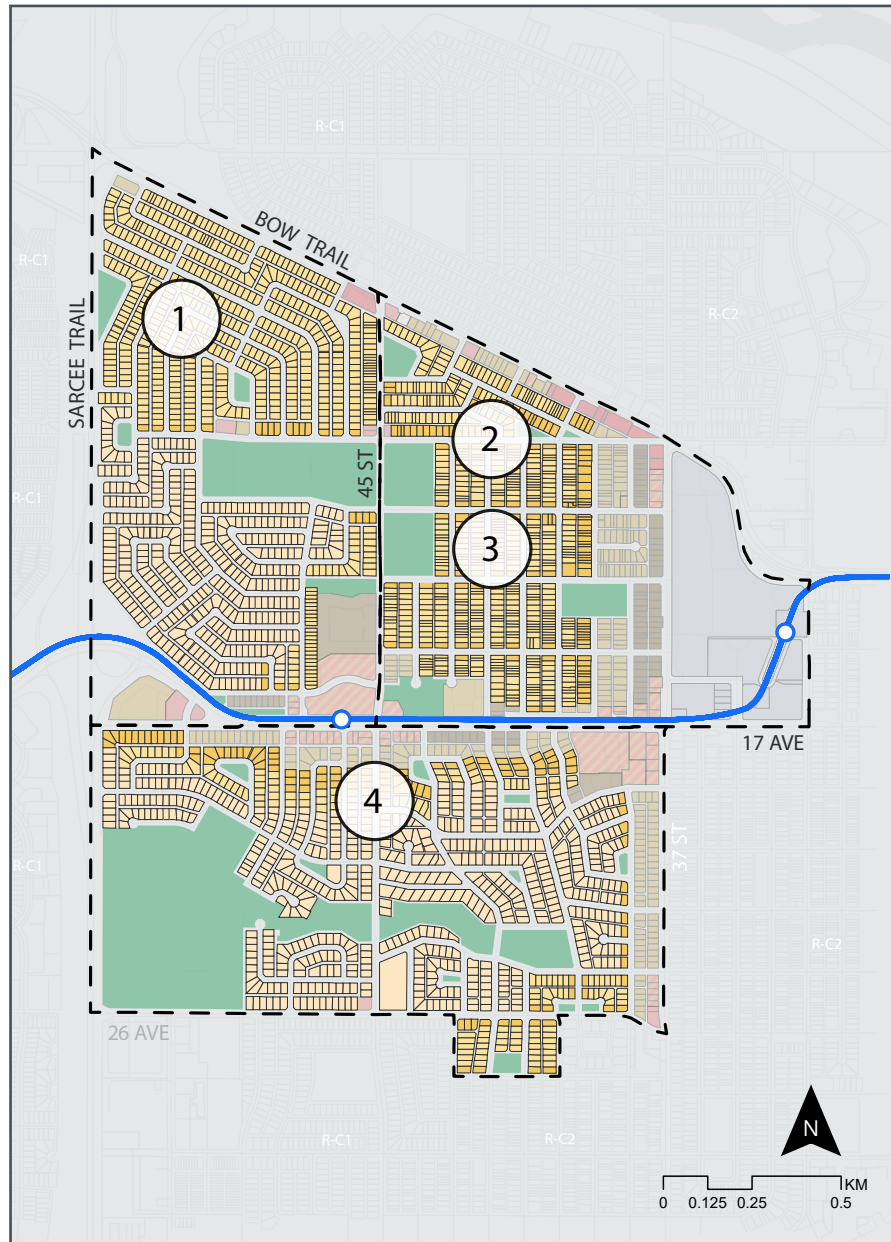
Double Trouble and Row House Row

Our plan recommends rezoning Westgate north of 8th Ave and west of 45th St to RC-2 as currently 40% of parcels have already been rezoned from RC-1. We envision a Row House lined corridor for 8th Ave given its proximity to schools, greenspace and use for cycling.
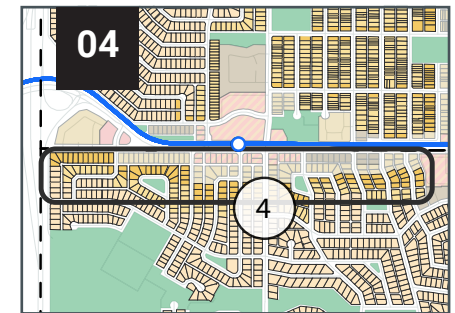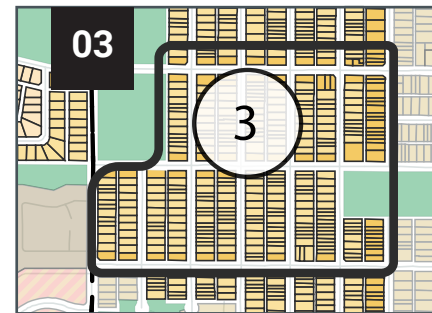
Around the Corner and Main Street Transition

The pedestrian scaled blocks in Rosscarrock should allow for more affordable density, and permit row houses on all corner parcels. To buffer the density of 17th Ave, 3 storey fourplexes and row houses would create a gradient from the 4 storey multifamily homes.

POLICY:

LOW DENSITY RESIDENTIAL

The aim of these policies is to provide more housing options, modestly increase density and preserve character.

1. Land use re-designations must be consistent with the zoning classifications identified on the Low Density Residential Precinct Map.

2. In no case where a parcel has lane-way access shall a front drive garage be permitted.

3. In no case shall a front drive garage extend beyond the front facade of the house. front

the front facade of the house.

4. In the Row House Row Area, front setbacks shall be limited to a maximum of 2 meters in order to create a closer street wall.

5. Where a building with an existing front driveway is being redeveloped, the driveway shall not be retained on lots with rear lane access.

6. Any parcel zoned RC-2 with two existing up-down units shall have Row Houses as a permitted use, provided the parcel has rear lane access.

7. Main Street Transition shall provide landscaped underground parking access through the lane.

Parking and Commercial Uses

8. Where highlighted within the Low Density Residential Precinct Map, commercial land uses shall have no parking minimum in order to encourage community pedestrian use.

9. Neighborhood scale commercial uses shall have a sales area not greater than 1800 square feet and shall provide an indoor or outdoor non-sales area of no less than 400 square feet.

10. If an RC-G parcel is within 400m (as the crow flys) of an LRT Station Entrance or 200m of a shared use or protected cycling path, the parcel shall be provided a 50% parking relaxation.

11. 10. If an RC-G parcel is within 800m (as the crow flys) of an LRT Station Entrance or 400m of a shared use or protected cycling path, the parcel shall be provided a 25% parking relaxation.

NEIGHBOURHOOD STATION AREA PRECINCT

A smaller scale Transit Oriented Development.

This area represents the largest change from the existing community condition, and arguably the greatest challenge for the area. The LRT functions as a considerably barrier.

The solution is a more permeable, active transportation serviced mixed use node with higher residential densities around the LRT. Given this areas current issue with traffic and shortcutting, these higher intensity uses must be offered non-private automobile options. The train accomplishes this, as does the shared use path along 17th Ave.

In order to create a smoother transition to the surrounding community the node is surrounded by MC-G and RC-G zoning, which will likely result in 3 storey buildings. As Rosscarrock is already building up to 2-3 storey single family dwellings, they do not require as long a transition.

Glendale's non-grid structure requires a smoother transition zone with interventions beyond just land use.

C-COR1		R-C2	
C-COR2		R-CG	
C-N1		M-CG	
C-O		M-C1	
DC		M-C2	
R-C1		MU-1	
R-C1s		MU-2	
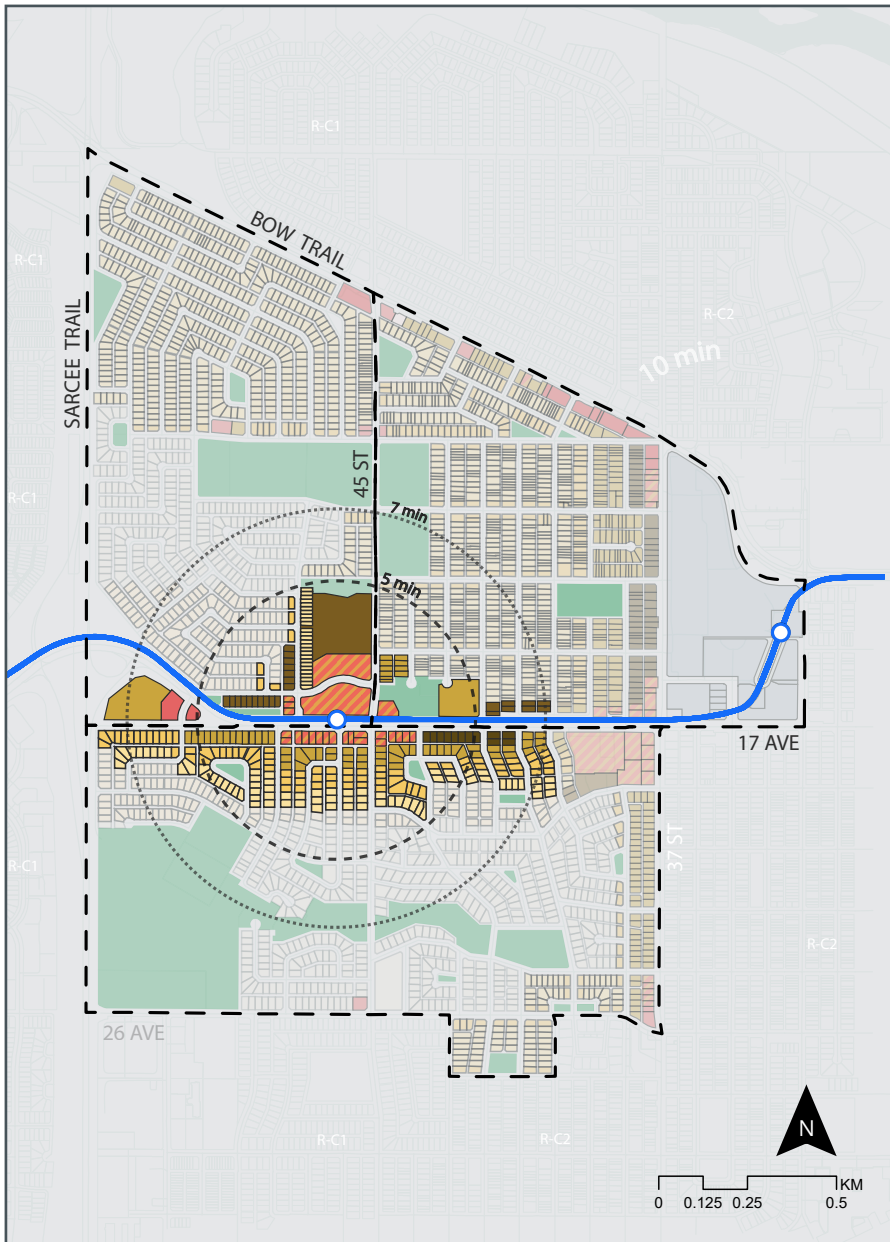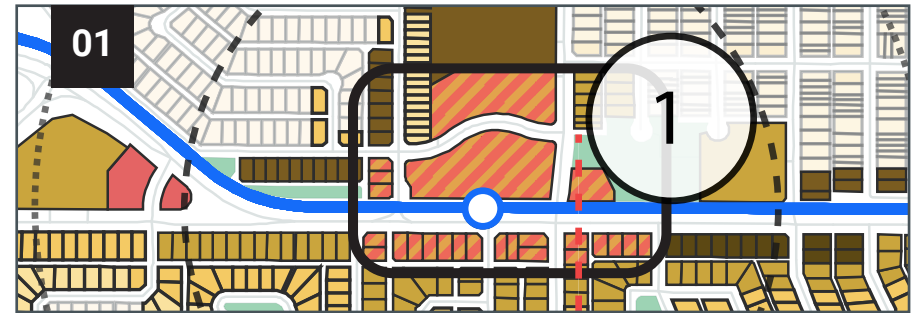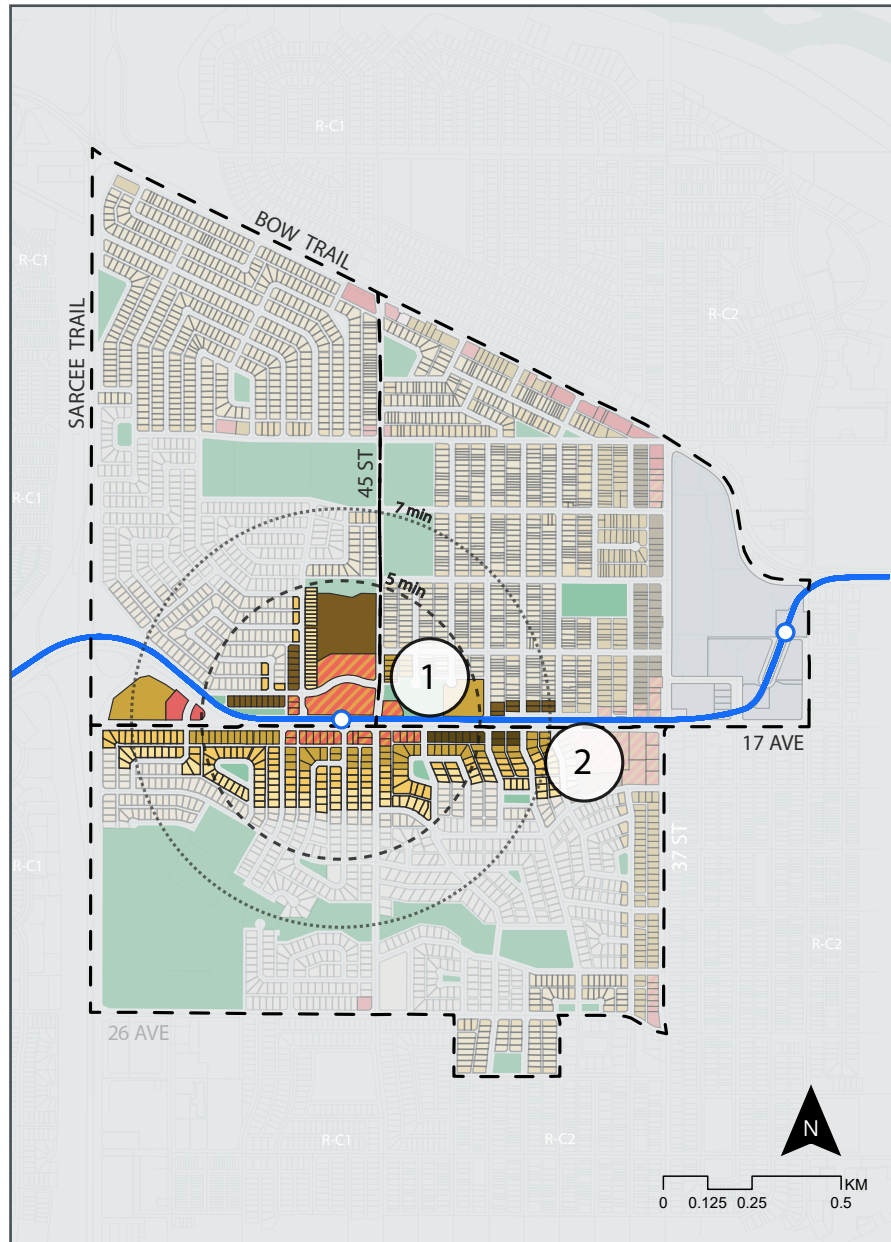
Mixed Use Station Area

This is the primary location for transit supporting commercial uses and residences. A 6-7 storey landmark building is envisioned for the current AMA site, surrounded by 4-5 storey mixed use. 3-4 storey multifamily residential connects to the surrounding communities.
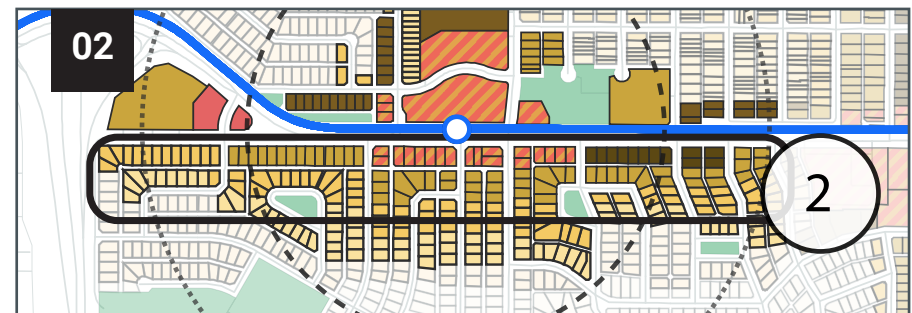
17th Ave SW Main Street Residential

Medium density residential surrounds the mixed use node at the 45 Street LRT Station. As these heights are north of Glendale and would face the street, negative shadowing and privacy is mitigated.

POLICY:
NEIGHBOURHOOD STATION AREA

The intent of this policy is to create a urban form which allows the equal opportunity use of various modes of transport.

1. In order to improve the public realm and active transportation potential of 17th Ave, new driveway curb cuts are prohibited.

2. Large automobile oriented sign-age is prohibited.

3. New buildings on 17th Ave, should be built to the front property line. Exceptions granted for patio space.

4. Parcels across the LRT Station must provide a mix of uses.

5. Front parking is prohibited in new developments on 17th Ave. Parking should be underground and accessible from the lane-way.

6. Buildings labeled MU-1 or MU-2 on the precinct map shall provide lane-way access to parking.

a) a 75% relaxation to the parking minimum specified by the LUB is permitted:

    i) if the parcel or parcels touch a 200m (as the crow flys) radius drawn from an LRT Station Entrance.
    i) and the parcel is zoned for MU-1 or MU-2.

Community Amenity Bonusing

Each participating community association is asked to submit a list of 5 desired and rank ordered amenities. These may include public art, park infrastructure, tree planting, street furniture, etc.

Development which falls within the 400m parking relaxation zone may elect to provide either in part of in whole, any of the listed amenities. If this proposal is ratified by the Community Association, the development is eligible for 1 additional FAR to a limit of 2 FAR.

Development which falls within the 800m parking relaxation zone may elect to provide either in part of in whole, any of the listed amenities. If this proposal is ratified by the Community Association, the development is eligible for 0.5 additional FAR to a limit of 1 FAR.

Selected Amenities should be in the Best, Great, Good areas of the MCDA Map.

PROPOSED SECTION

10M
RC-1

14M
MC-1

18M
MU-1

17 AVE

21M
MU-2

14M
MC-1

11M
RC-G

RC-1
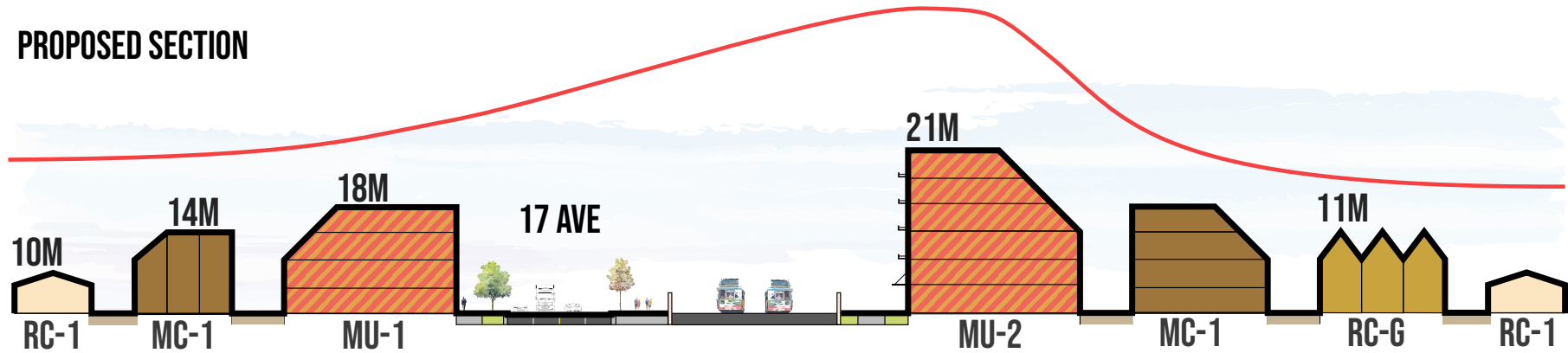
EXISTING SECTION

17 AVE

RC-1

LRT
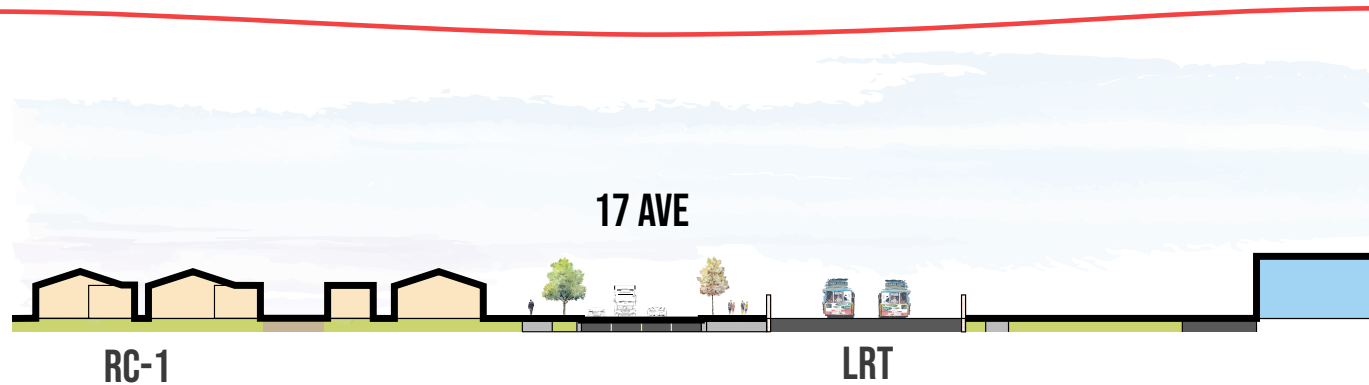
17th Avenue represents a considerable challenge. The Right of Way from the LRT represents a barrier to cross 17th Ave from the north and south. As a designated main street, single storey bungalows across from an LRT station represent an inappropriate use of high-value land.

TOWN CENTER STATION AREA
PRECINCT

Calgary's first large scale Transit Oriented Development.
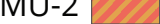
While some argue that the intensification of Rosscarrock and 37th Street may be prolonging the life of the aging Westbrook Mall, it is likely that a large increase in land value connected to surrounding redevelopment will entice the ownership to either renew or redevelop.

The Uptown at Westbrook porject by Matco Development envisions a 8-12 storey mixed use village with limited parking and ample private public space. While the time-line for this may be in the next 5 years, it is a critical development to respond to.

A mixed use node, where a current Shoppers Drug Mart and Tim Hortons is, would allow for more residential in closer proximity to Westbrook station. The block structure here allows for a strong MC-G transition to Glendale.

As the highest potential TOD site in Calgary, the Rosscarrock transition zone will require aggressive development friendly policy.

C-COR1	�(red)	R-C2	▢
C-COR2	▢	R-CG	▢
C-N1	▢	M-CG	▢
C-O	▢	M-C1	▢
DC	▢	M-C2	▢
R-C1	▢	MU-1	▢
R-C1s	▢	MU-2	▢
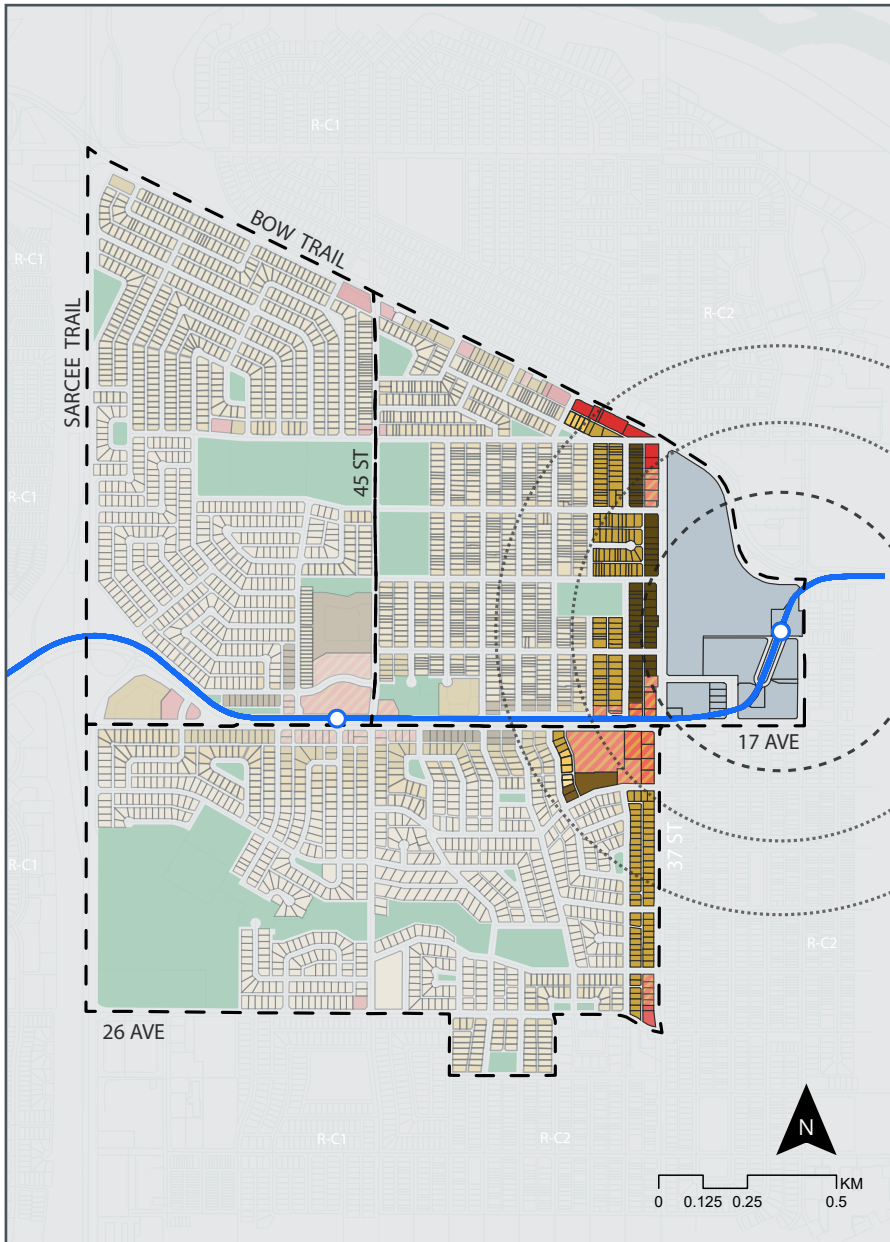
INTERVENTIONS
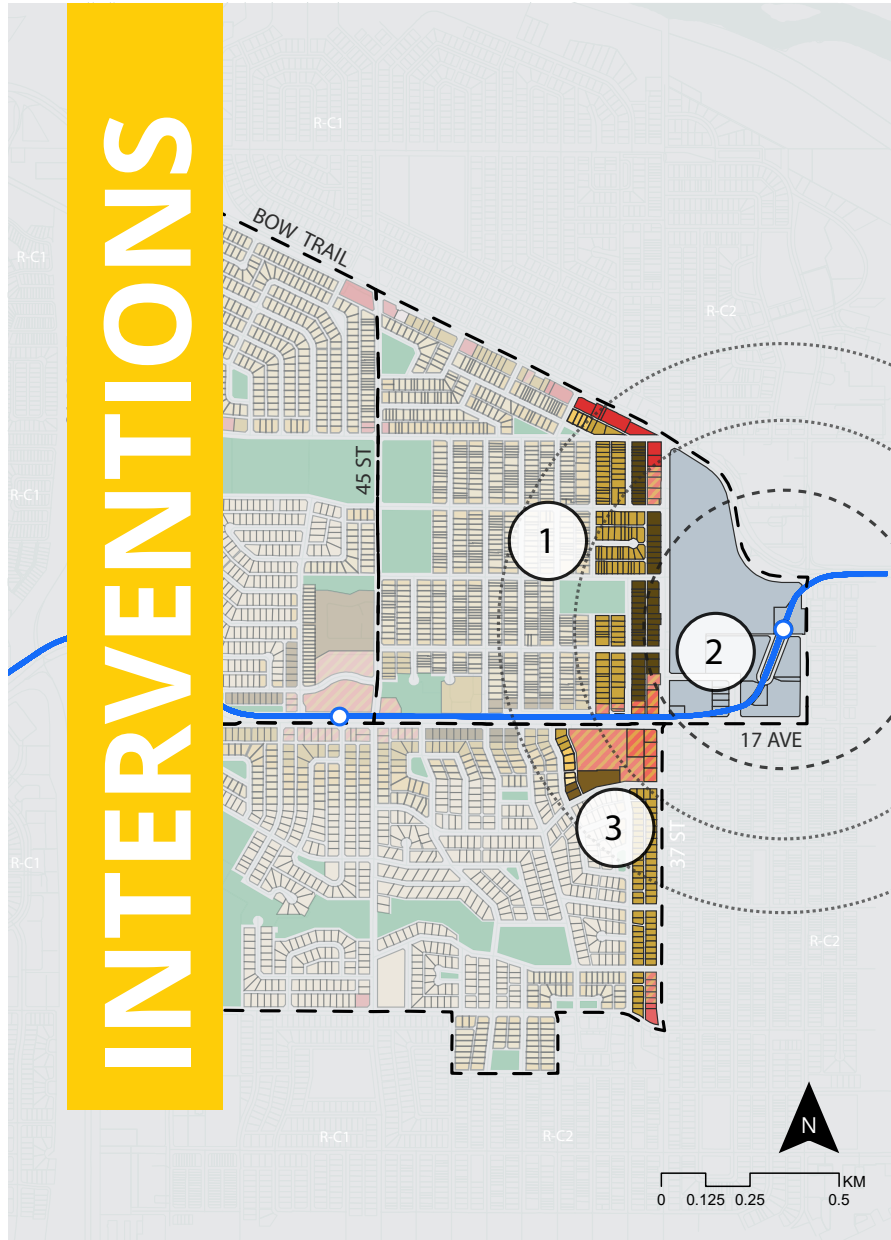
Town Center Transition

The block structure of Rosscarrock allows for a smoother density transition from the Mall redevelopment. This area will be largely 4-6 storey multifamily residences relying on a mix of transportation options.
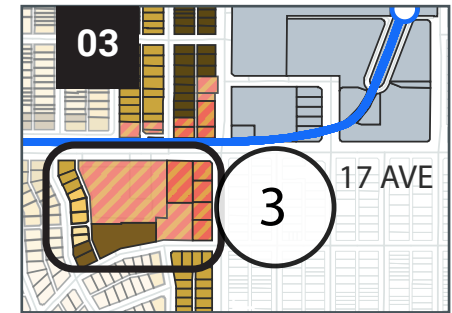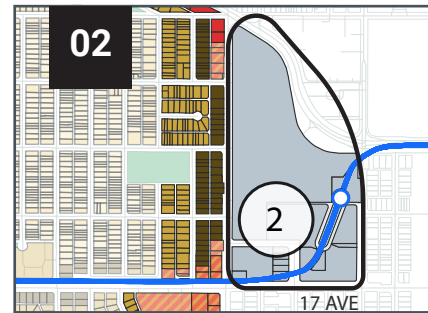
Uptown at Westbrook (2) and Mixed Use Node (3)

Matco Developments vision for Westbrook mall is a transit oriented 8-12 storey mixed use village. Our plan would extend this form, with lower heights, across the corner to the current strip mall site.

POLICY:
TOWN CENTER STATION AREA

In this area policy is intended to prioritize medium density non automobile-oriented residential and commercial uses.

1. Land use re-designations must be consistent with the zoning classifications identified on the Town Center Precinct Zoning Map, unless variance is permitted.

2. Land Use variance is permitted along 37 Street SW:
a) from MC-1 or MC-2 to MU-1
b) from MC-1 to MC-2 if:
    i) heights do not exceed 5 storeys, including bonusing.

3. New automobile service centers, drive-through businesses and service Stations are not allowed within the Town Center Precinct Area.

4. Stand-alone parking lots and parking structures are prohibited throughout the Town Center Precinct Area, unless required for an approved temporary use.

5. Temporary uses include any uses not requiring permanent structures. There is no parking minimum for temporary uses.

6. Office only development shall not be permitted within this area. All office shall include pedestrian-friendly ground floor retail.

Parking Minimums

7. New stand-alone retail and commercial developments are prohibited along 37th Street and the Mixed Use Node.

8. In the Precinct Area, Parking must be provided on-site, and calculated in accordance with the requirements of the Land Use By-law.

Permitted relaxations include:

a) a 75% relaxation to the parking minimum specified by the LUB if the parcel or parcels touch a 400m (as the crow flys) radius drawn from an LRT Station Entrance.

b) a 50% relaxation to the parking minimum specified by the LUB if the parcel or parcels touch an 800m (as the crow flys) radius drawn from an LRT Station Entrance.

EXISTING SECTION

39 ST.   38 ST.   37 ST.

RC-G   MC-1   MC-1   MC-2   MC-2   DC   DC
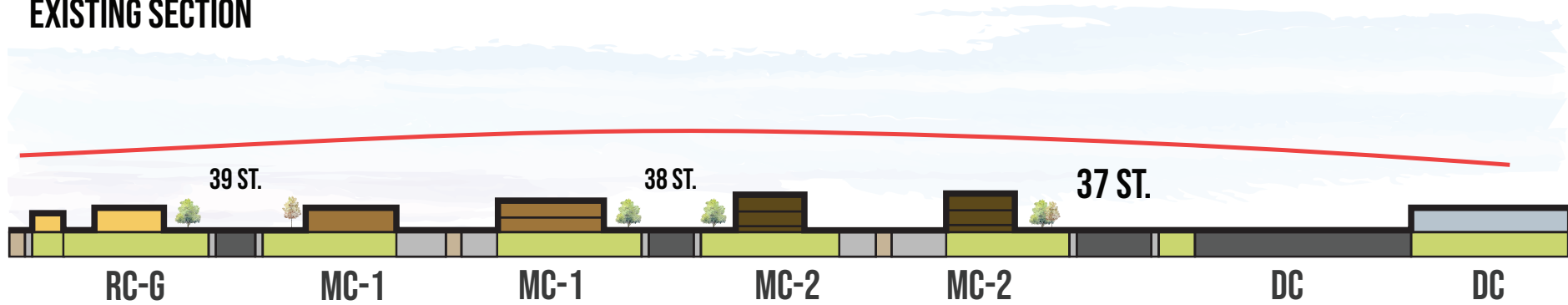
Currently 2.5 storey 6-plexes front onto 37th Street. They are rapidly aging, and with average rents lower than $1000 a month, present a low quality building to street interface. An increase in heights would achieve a more pedestrian friendly street wall and minimize the visual width of 37th Street.

PROPOSED SECTION

11M   39 ST.   14M   38 ST.   16M   18M   37 ST.   30M

RC-G   MC-1   MC-1   MC-2   MU-2   DC   DC
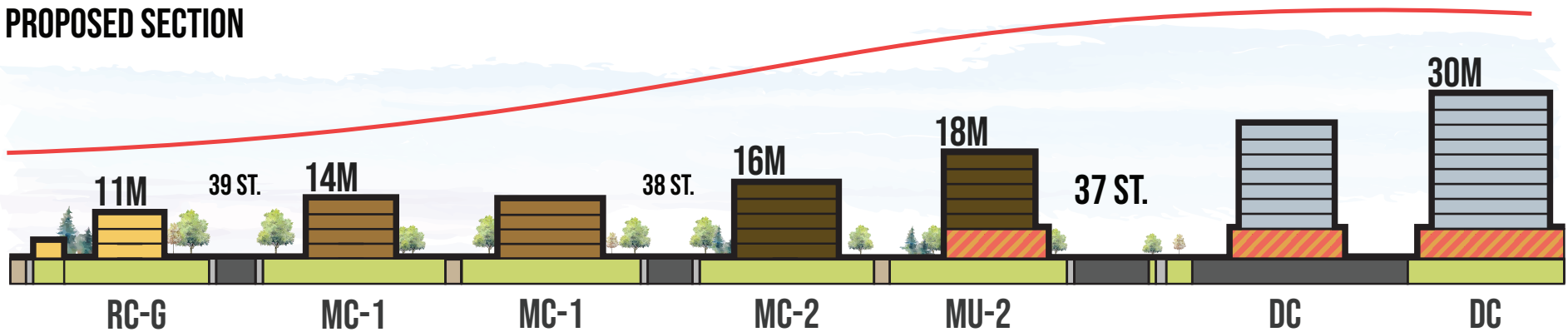
MOBILITY & CONNECTIVITY

07

HOW SHOULD THE COMMUNITY MOVE?

Examining road, transit, cycling and pedestrian connectivity and mobility.

This section will align with the Transportation Sustainability Triangle from the Calgary Municipal Development Plan, and propose solutions to increase multi-modal, non-automobile modes of transportation. The Main Streets project is underway for 37th Street and 17th Avenue. As the project is underway but not yet completed, consideration will be given to the design proposals.

Degree of Sustainability[1]

- Walking
- Cycling
- Public Transit
- Carpooling (HOV)
- Automobiles (SOV)
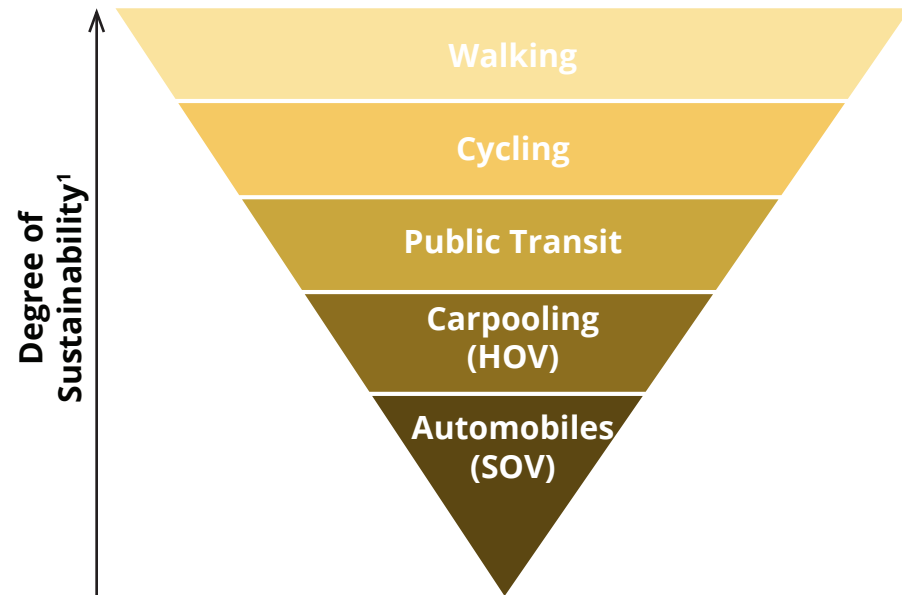
POLICY CONSIDERATIONS
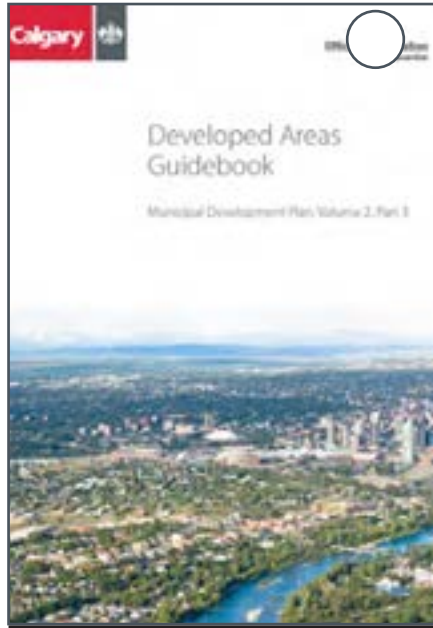
1

Developed Areas Guidebook

One of three guidebooks that are part of the Municipal Development Plan. Similar mobility policies found across local area plans concerning established communities are consolidated in here.[1]
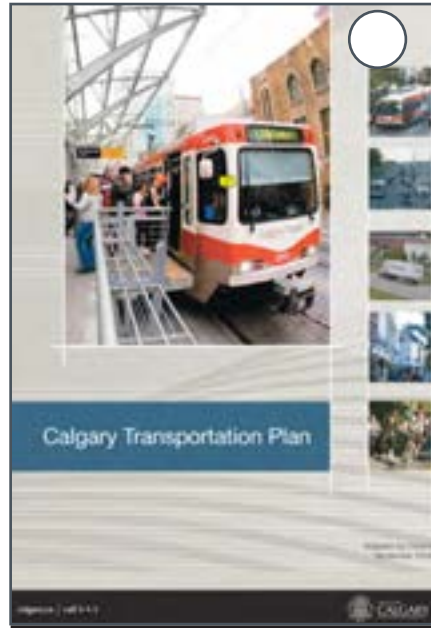
2

Calgary Transportation Plan

Works with the Municipal Development Plan to guide long-term planning for different methods of transportation, spanning from automobiles, transit, cycling, and walking.[2]

3

Complete Streets Policy

Provides design guidelines for multi-modal streets in Calgary to increase non-vehicle travel.[3]

4

Cycling Strategy

Sets out strategies for increasing active transit in the form of cycling in the City of Calgary.[4]

ROAD NETWORK
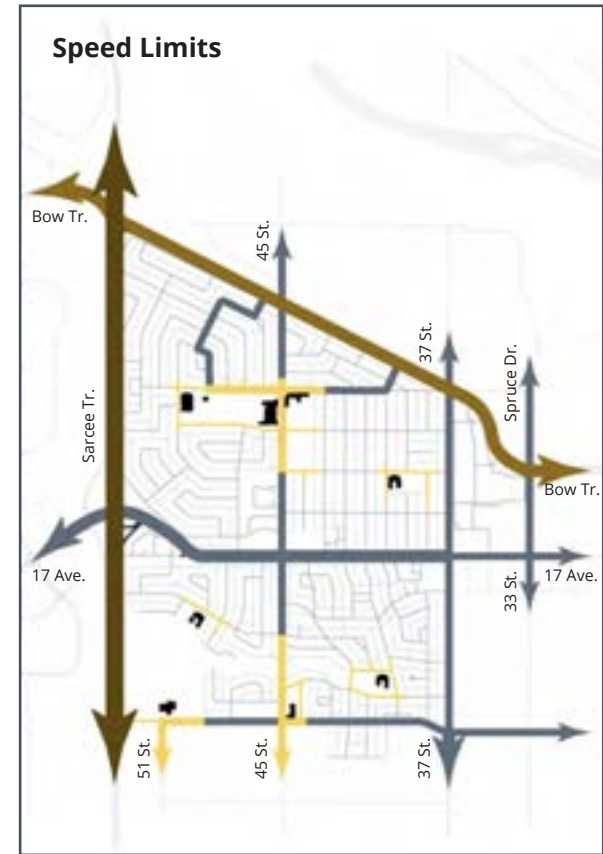
Road Hierarchy

Road Type	Design Capacity (vehicles/day)
Skeletal	35,000+
Arterial	20,000-35,000
Neighborhood Boulevard	12,500-22,500
Collector	2,000-8,000

Traffic Volume

Current Capacity (%)

	>100
	75-100
	50-75

Speed Limits

Speed Limits

	80 km/h
	60 km/h
	50 km/h
	30 km/h

Analysis

The road hierarchy features a Skeletal road in Sarcee Trail, which runs up the West side of the area. It effectively cuts off access to the West side of Westgate and Glendale. The higher orders roads are approaching, or are at design capacity. There is a high East-West volume along Bow Trail, likely due to commuters heading towards downtown. This volume will no doubt increase as the construction of the West Ring Road portion of Stoney Trail, and the widening of Bow Trail nears completion[56]. This could lead to future widening of Bow Trail between Sarcee Trail and 37th Street.

As traffic volume increases, residents of this area, or people with destinations in the area, will seek quicker entry into the communities, leading to shortcutting.

What We Heard

The community confirmed this potential for shortcutting, noting that most shortcutting produced speeding, and occurred during rush hours towards schools, as parents drop off and pick-up their kids. Schools are seen as traffic magnets, with concerns of safety around school areas, and speeding down roads leading to schools. Specific roads pointed out include Warwick Dr., Gateway Dr., and Georgia St.

Stoney Trail and Bow Trail

Future West Stoney Trail
Bow Trail Widening
Old Banff Coach Rd.
Sarcee Tr.

Shorcutting Entrances
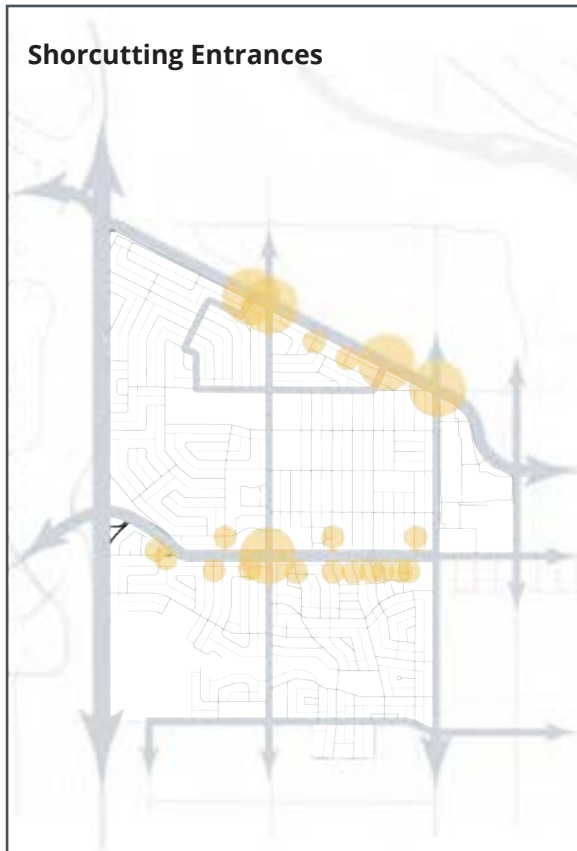
What We Heard

"I will not allow my kids to play in the front yard as cars zoom by."

57

TRAFFIC CALMING

Goals

Traffic calming goals include:

- Using traffic calming interventions to create a safe environment for pedestrians
- Prioritize intersections around schools, and shortcutting entrances leading to schools
- Improve existing traffic calming interventions

Strategy

Per the City of Calgary Traffic Calming Policy, the following strategies recommended in this area fall into these categories[7]:

- Horizontal deflection (roundabout)
- Narrow road right-of-way (curb extension, bike lanes)
- Vertical deflection (speed bumps, raised crosswalks)
- Signage (4-way stops)
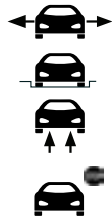
Policy

- Traffic calming methods shall be implemented according to the strategy and location as indicated on the "Intervention Areas" map.
- Traffic calming shall be implemented at locations indicated as "High Priority".
- Traffic calming should be implemented at locations indicated as "Medium Priority" and "Low Priority".

Intervention Areas

High Priority
Mid Priority
Low Priority

BOW TRAIL

SARCEE TRAIL

37 STREET

26 AVE
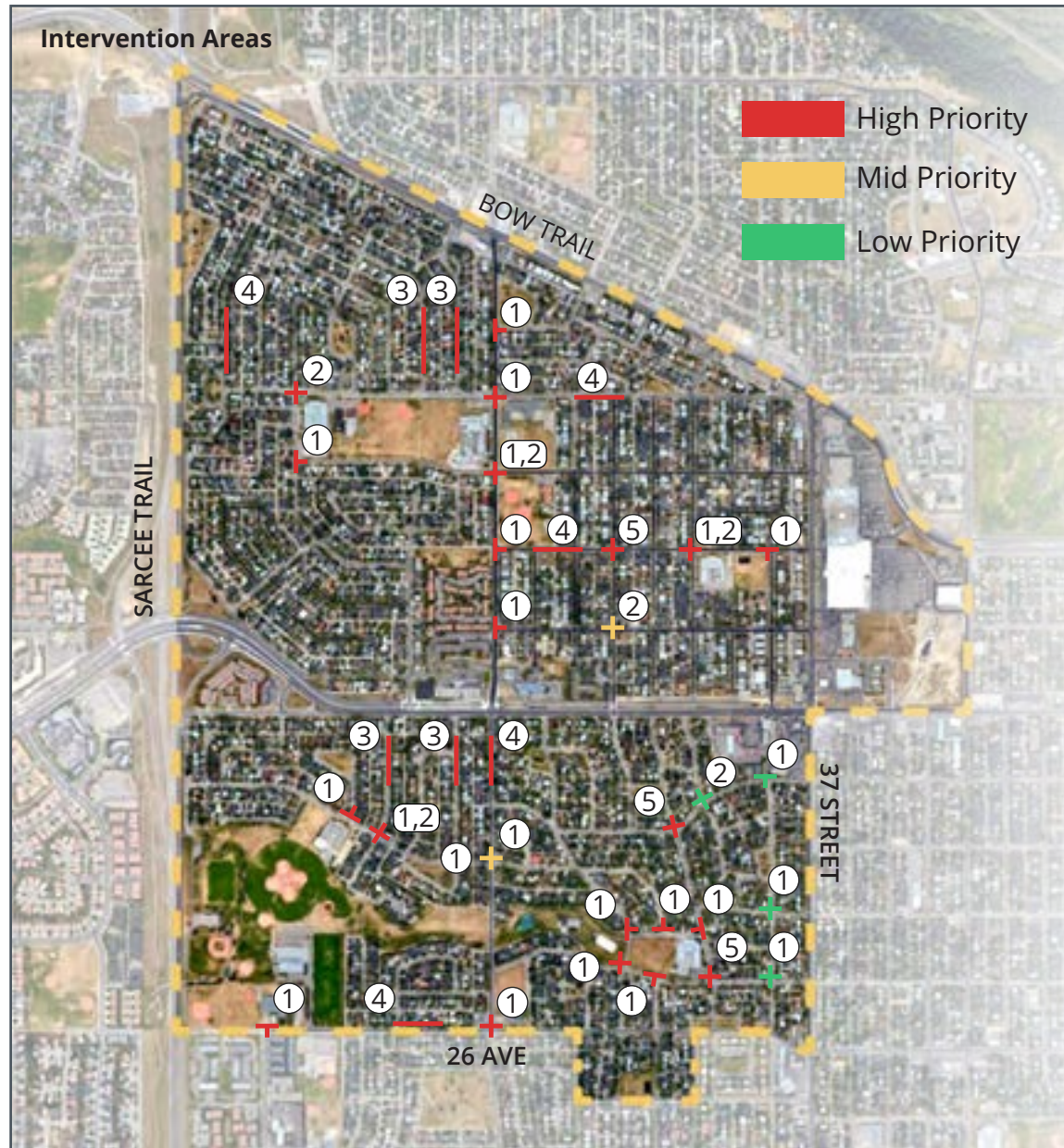
Curb Extension

Curb extensions narrow the road right-of-way by taking up part of a parking lane, slowing vehicles. They increase the visibility of pedestrians, and shortens the crossing distance.

Temporary curb extensions can be achieved through paint and flexi-posts, although permanent concrete curb extensions are recommended, and provide an opportunity for bio-swales.

4-Way Stop

4-Way Stops require drivers to come to a complete stop before proceeding.

Bike Lanes

Bike lanes narrow the right of way for travel lanes, slowing down vehicles.

Speed Bumps, Raised Crosswalks

Speed bumps and raised crosswalks slow vehicles down by providing an elevation in the road.

Round-about

Vehicles slow down when navigating around a round-about. The overall flow of vehicles is not impeded.

Temporary Curb Extension, Bridgeland, Calgary

Raised Crosswalk, Calgary

Roundabout, Rosscarrock

TRANSIT NETWORK

Transit Routes - Local Circulation

111
70
93
70
111
9
70
9
Westbrook Mall
6, 9, 93
94, 111, 306
2
93
6, 9,
94, 306
94
6
9
306

```
                          km
0         0.5          1
```

Transit Routes - Greater Circulation

University of Calgary
Foothills Medical Centre
SAIT
Downtown
Manchester Industrial
Chinook Centre
Mount Royal University
Rockyview General Hospital

```
        km
0   4   8
```
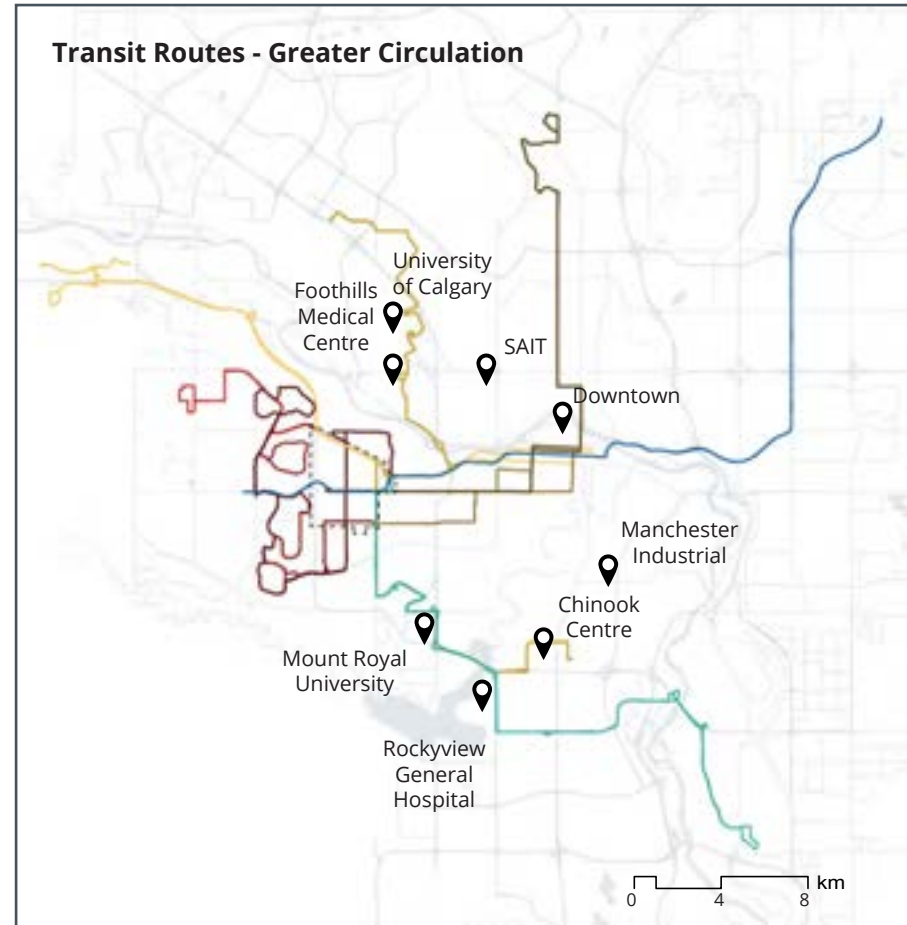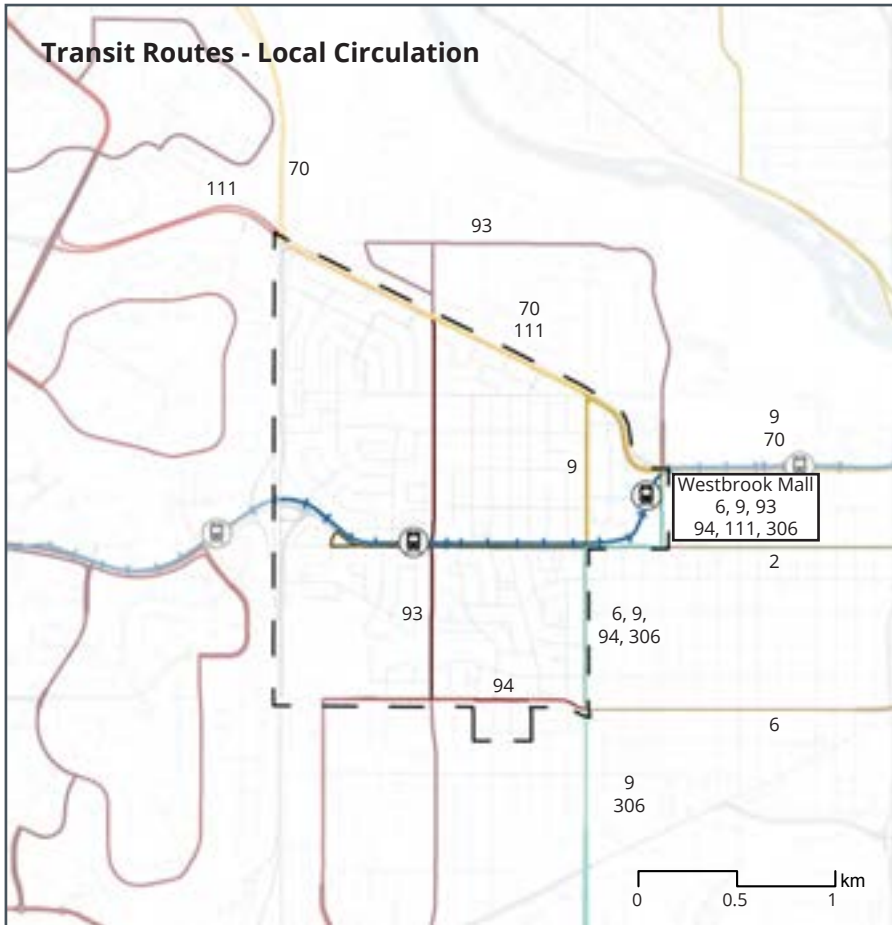
Bus Routes

▬▬▬	2: Mt. Pleasant/ Killarney 17 Ave.
▬▬▬	6: Killarney 26 Ave.
▬▬▬	9: Dalhousie-Chinook
▬▬▬	70: Valley Ridge Express
▬▬▬	93: Coach Hill/ Westbrook
▬▬▬	94: Stratchona/ Westbrook
▬▬▬	111: Old Banff Coach Road

Rapid Transit

▬▬▬	306: MAX Teal BRT
▬▬▬	Blue Line C-Train
🚆	C-Train Stop

Analysis

Local transit servicing features a transit hub at Westbrook Mall. The area is also serviced by two rapid transit network lines in the C-Train and BRT Max Teal. Looking at transit routes is one thing, but we also have to look at the effectiveness of these routes. The transit service area was generated using the transit schedules, both bus and train, on any given Monday at 8:15 am. The starting points are the geographic center of each community. This method factors in walking from a residence to a transit stop, and the ability to transfer transit routes.

We see that servicing extends to most major employment and post-secondary education destinations due to the rapid transit network lines. However, servicing to the north is impacted by the river and lack of crossing points.

Transit Service Area

Foothills Medical Centre
University of Calgary
SAIT
Downtown
Manchester Industrial
Mount Royal University
Chinook Centre
Rockyview General Hospital

km
0   4   8

Commute Time

- 5 Minutes
- 10 Minutes
- 15 Minutes

Bus Stop Walkshed

km
0   0.5   1

Walking Time

5 Minutes

Walkshed Coverage

Westgate	68%
Rosscarrock	85%
Glendale	87%
Total:	80%

C-Train Station Walkshed

km
0   0.5   1

Walking Time

Walkshed Coverage

	Westgate	Rosscarrock	Glendale
5 Minutes	9%	16%	13%
10 Minutes	38%	63%	49%
15 Minutes	60%	92%	88%

Transit accessibility on a local scale can be measured by walkshed coverage to transit stations. Rosscarrock and Glendale are well serviced by transit, while Westgate has the lowest coverage due to a recent removal of a transit route that serviced North Westgate.

What We Heard

Concerns around the decrease in accessibility to transit for residents in Westgate were raised. This has had the greatest impacted on people with reduced mobility as the current situation for seniors requires too much walking on their behalf.

BETTER BUS SERVICE

Goals

Our transit goals are to:
- Increase transit accessibility to residents.
- Decrease the commute time to local amenities, major employment centers and post-secondary education institutions, making transit a viable alternate to driving.

Strategy

- Introduce a new express route, or convert the 9 (Dalhousie-Chinook) into an express route to increase serviceability to the North.
- Introduce a local route to circulate the communities and Westbrook Mall, reintroducing bus service to Westgate.

Proposed Routes - North

University of Calgary

Foothills Medical Centre
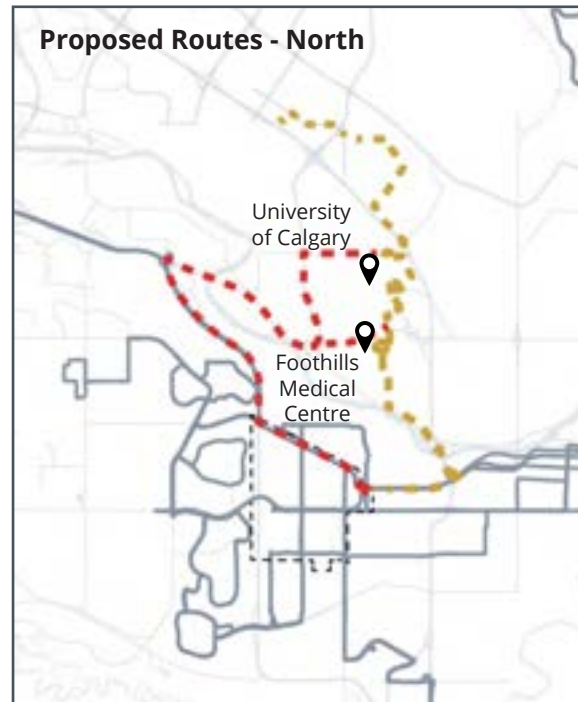
Existing Route

Proposed Express Route

9 (Dalhousie-Chinook)

Policy

- An express bus route should be implemented according to the "Proposed Routes – North" map, either creating a new route, or following the 9 (Dalhousie-Chinook) route from the stretch between Westbrook Mall and the University of Calgary.
- A local bus route shall be implemented according to the "Proposed Routes – Local" map.

Proposed Routes - Local

Existing Route

Proposed Local Route

Bus Stop Walkshed with Proposed Route

5 Minute Walking Time

TRANSIT STOP QUALITY

Transit accessibility and servicing is one part of the equation of increasing transit ridership - we need to consider the experience of taking transit, especially in a winter city.

Goal

- Provide bus stop amenities to improve transit experience during all seasons.

Strategy

- Locate bus shelters & benches along main transit corridors (37th St., 17th Ave., Bow Tr.), as more people will take transit at these locations.
- Locate bus shelters along secondary transit corridors (45th St.)

Policy

- Bus stop amenities shall be provided according to the amenity type and location as indicated on the "Intervention Areas" map.

Proposed Routes - Local
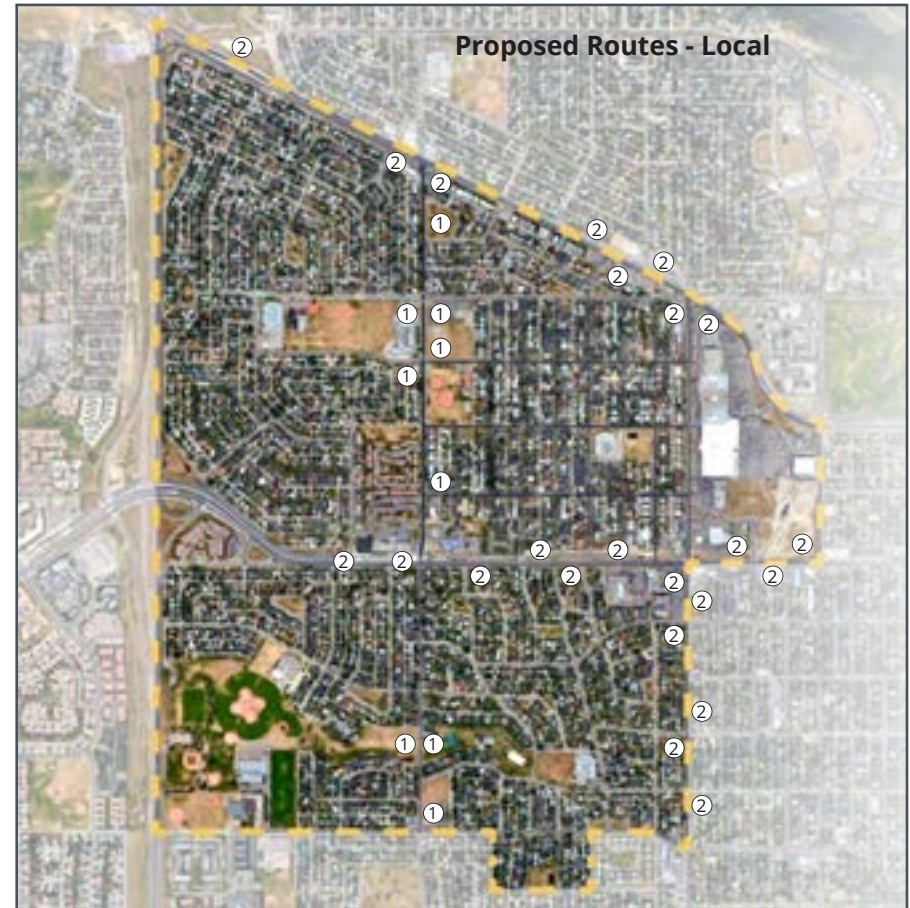
45th St. - No bench/shelter

45th St. - Bench

17th Ave - Shelter

37th St. - Shelter & Bench

CYCLING NETWORK

Analysis

According to the City of Calgary cycling maps, there are several cycling routes throughout the area. This falsely presents the idea that the area is well serviced by cycling infrastructure, while all cycling routes are unprotected bike lanes. Compared to the City of Calgary cycling spectrum, this infrastructure does not serve 98% of cyclists[4]. Therefore, there are currently gaps in safe cycling infrastructure that would serve all types of cyclists. This infrastructure would at minimum be painted bicycle lanes, with protected bicycle lanes being the ideal option.

	GLENDALE		WESTGATE		ROSSCARROCK		CALGARY
🚶	65	+44%	25	0%	100	- 26%	5%
🚲	50	+67%	55	+23%	15	- 50%	2%
🚊	340	+66%	390	+22%	980	+41%	17%
🚗	910	-2%	1310	+15%	1265	+6%	73%

Cycling Spectrum[4]

Fearless	Confident	Interested	Reluctant
Generally undeterred by motor vehicles	Slightly/moderately comfortable sharing the road with motor vehicles	Not comfortable sharing the road without a visible bike facility	Not comfortable sharing the road without a visible bike facility

| 2% | 20% | 51% | 28% |

City of Calgary Lane Classification[8]

🚈 C-Train Stop

▬▬ Mattamy Greenway

Cycle Track	Bicycle Lane	Neighbourhood Greenway	Shared Lane	On-Street Bikeway
• An enhanced bicycle lane that is separated by a physical barrier from moving and parked cars, and is distinct from the sidewalk.	• On-street bicycle lanes are designated for the exclusive use of people cycling.	• Found on residential streets with low volumes of traffic and speeds.	• A lane that is shared by people cycling and people driving.	• Identified by blue and white route signs and may have bicycle pavement markings.

Functional Classification

What we Heard

Community members expressed interest in bike lanes on 45th street to connect schools and Edworthy Park. Other suggested routes included 37th street, and 8th and 13th avenues to provide East-West routes and connections to Westbrook Mall. Finally, there was interested in a bike parking or storage facility located at both of the C-Train stations.

City Classification vs Functional Classification

Protected Bike Lane	Painted Bike Lane	Shared Lane		
Cycle Track	Bicycle Lane	Neighbourhood Greenway	Shared Lane	On-Street Bikeway

PROPOSED CYCLING NETWORK

Goals

- Provide infrastructure that meets the needs of all types of cyclists.
- Improve connectivity of safe cycling infrastructure to main corridors, amenities, LRT stations, schools, and parks and open space.

Strategy

- Protected bike lanes on 8th Ave., 17th Ave, 26th Ave, 37 St., and 45th St.
- Painted bike lanes on 13th Ave.
- Bike storage facilities at C-Train stations, to accommodate those who use cycling for first-mile/last-mile purposes.

Policy

- Bike lanes shall be implemented by type and location according to the proposed cycling network.
- Bike storage facilities as per the cycling palette should be implemented at the 45th Street and Westbrook C-Train stations.
- Bike lanes shall be painted green as per the cycling palette.
- Protected bike lanes shall feature a curb and planter as per the cycling palette.
- Painted bike lanes shall feature a buffer as per the cycling palette.

Proposed Cycling Network

| | Bike Storage Facility | Protected Lane | Shared Lane |
| Painted Lane | Mattamy Greenway |
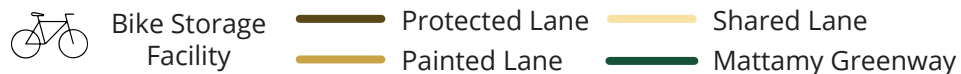
CYCLING PALETTE

Lane Directions

One-way, Toronto, ON

Two-way, Seattle, WA

Two-way lanes are recommended if protected as they make it easier for snow clearing in Winter.

Lane Paint

Green Lane, Boston, MA

Painting bike lanes a colour (green) increases visibility.

Bike Storage Facilities

Bike Racks, Calgary

Bike Locker Pilot, Calgary

Bike Storage Facility, UBC, BC

Storage facilities are recommended as they can accomdate a larger amount of bicycles.

Painted Bike Lanes

No buffer, Cleveland, OH

Buffer, New York City, NY

Buffers are recommended to provide a cushion between cyclists and automobiles.

Raised Cycle Track

Cambridge, MA

Raised tracks provide horizontal separation and increase cyclist visibility.

Protected Bike Lanes

Flexi-post,Toronto, ON

Curb, Melbourne, Australia

Planters, Vancouver, BC

While flexi-posts offer a cheaper version of protected bike lanes, planters mounted on a curb are recommended, as they feature a more durable barrier while offering opportunities for greening the city.

37th Street

37th Street

One-way, protected, raised lanes, East/West sides

Property Line	2	1.5	2.6	3.3	3.3	3.3	3.3	2.6	1.5	2	Property Line

← 25.4 m →
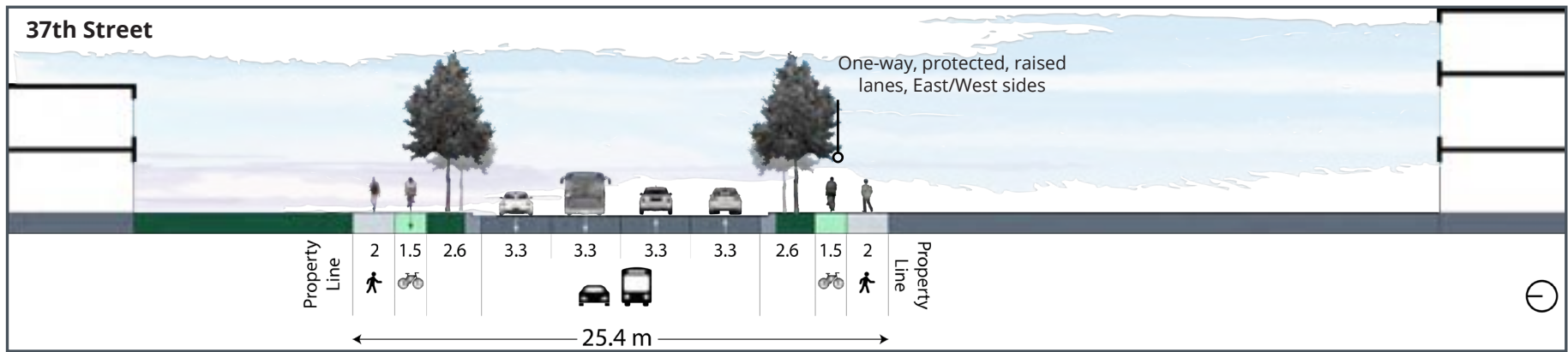
37th Street

37th Street will see a lane of parking removed to install raised, one-way bike lanes and trees on the East and West sides of the road. Wider sidewalks are also featured. This route will connect the communities to Spruce Cliff, Killarney, and Glenbrook.

8th Avenue

8th Avenue will feature two-way protected lanes with a curb and planters on the South side by restricting parking to the North side. A kissing canopy cannot be implemented due to power-lines. This route provides views of the Calgary Tower, and travels along "Row House Row" (see Land Use section). It connects Westgate to Westbrook Mall.
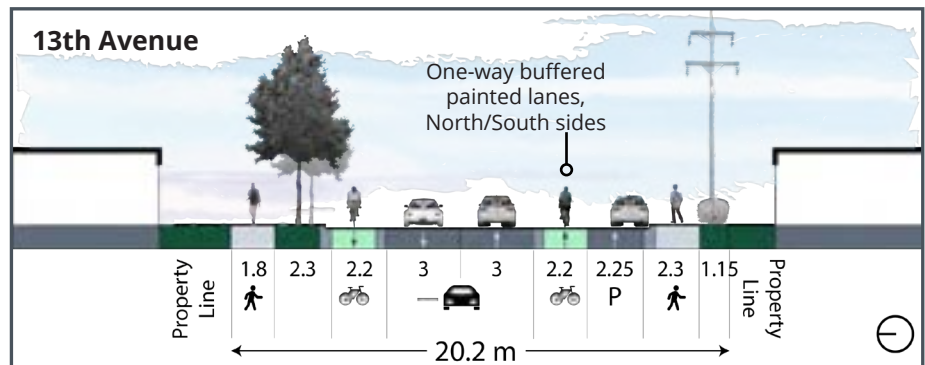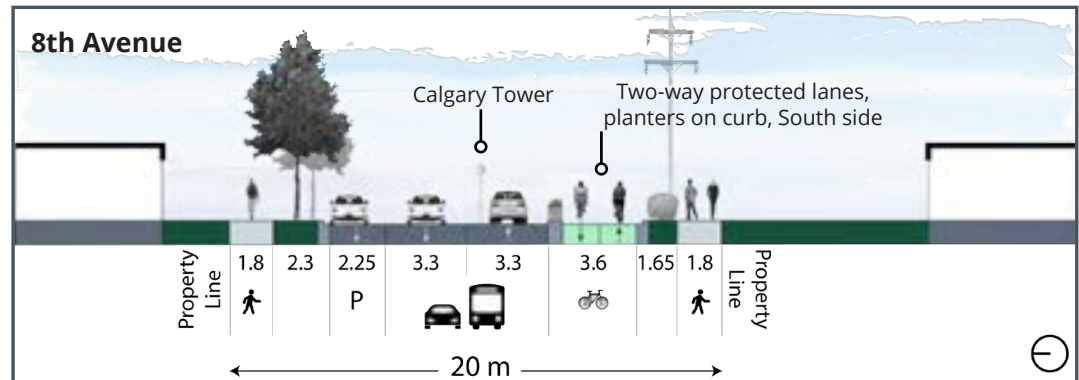
13th Avenue

13th Avenue will feature one-way buffered painted lanes on the North and South sides of the road. Parking will be restricted to the South side. A kissing canopy cannot by implemented due to power-lines. This route provides an East-West connection from 45th St. to 37th St. and Westbrook Mall.

8th Avenue

Calgary Tower

Two-way protected lanes, planters on curb, South side

Property Line	1.8	2.3	2.25 P	3.3	3.3	3.6	1.65	1.8	Property Line

← 20 m →

13th Avenue

One-way buffered painted lanes, North/South sides

Property Line	1.8	2.3	2.2	3	3	2.2	2.25 P	2.3	1.15	Property Line

← 20.2 m →

45th Street - Current

45th Street - Proposed

"Kissing Canopy"

Parking only on East side

Bi-directional cycling lanes

Wider sidewalks

Cycling lane buffer

45th Street

45th Street will feature two-way bicycle lanes on the West side, protected by planters on a curb. One lane of parking will be removed and parking will be restricted to the East side. This route connects to several schools. It also connects Edworthy Park to the North with Turtle Hill. A kissing canopy enhances this green corridor connection. Wider sidewalks will accommodate people with low mobility and parents with strollers.

45th Street

Two-way, protected lanes, planters on curb, West side

Property Line	2.5	2.8	3.6	3.3	3.3	2.25	2.8	2.5	Property Line
	🚶		🚲	🚗	🚌	P		🚶	

24.3 m
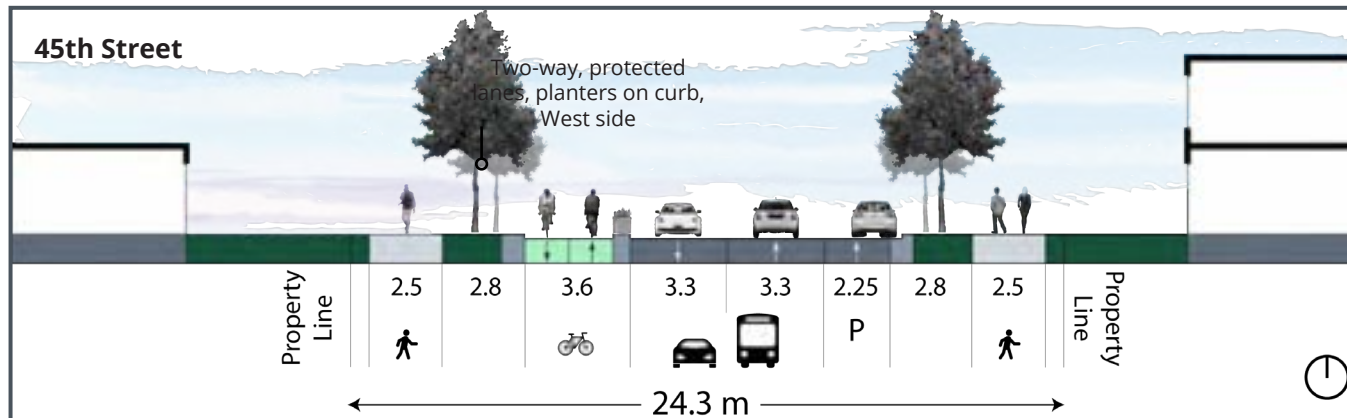
PEDESTRIAN
CONNECTIVITY

Analysis

Pedestrian connectivity is partly dictated by the form of the communities. Rosscarrock has a higher connectivity with its grid pattern blocks, while Westgate and Glendale have a warped grid pattern. The uniform block size and ability to travel in any direction at each intersection increases mobility in Rosscarrock compared to Westgate and Glendale.

This doesn't have a great impact on the school walkshed, as a warped grid still offers better connectivity than a curvilinear pattern found in the neighboring communities to the West. We see that all three communities have good 5 and 10 minute walkshed access to schools.

Walking accessibility only paints part of the picture, as the quality of the walk in terms of safety and infrastructure also needs to be examined. Posted speed limits, particularly School Zones are only truly effective when the design speed matches the posted speed. We also see that the majority of crosswalks inside the communities are unmarked. Recent incidents involving pedestrians are located mainly on 37th St..

Block Pattern

Warped Grid, Westgate

Grid, Rosscarrock

Warped Grid, Glendale

School Walkshed
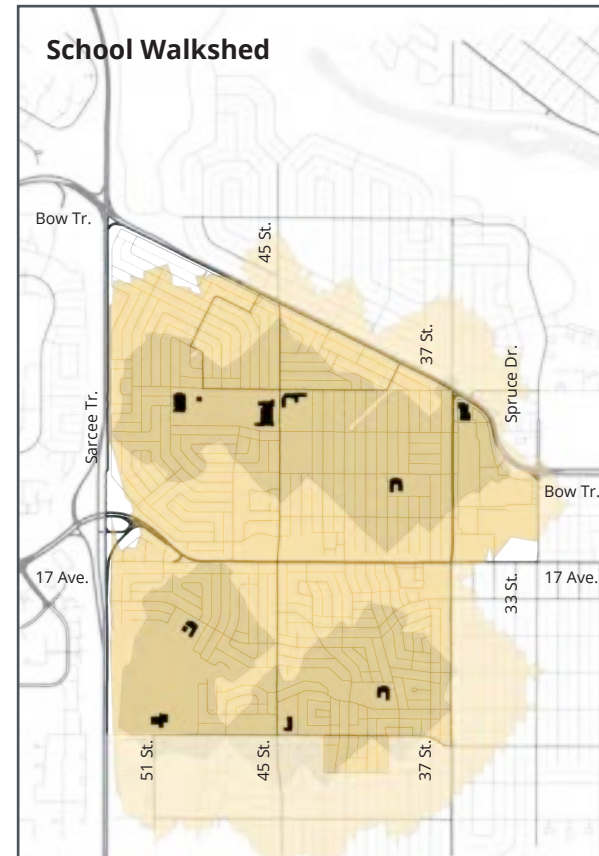
Walking Time

	5 Minutes
	10 Minutes

Speed Limits

Bow Tr. · 45 St. · 37 St. · Spruce Dr. · Sarcee Tr. · Bow Tr. · 17 Ave. · 33 St. · 17 Ave. · 51 St. · 45 St. · 37 St.
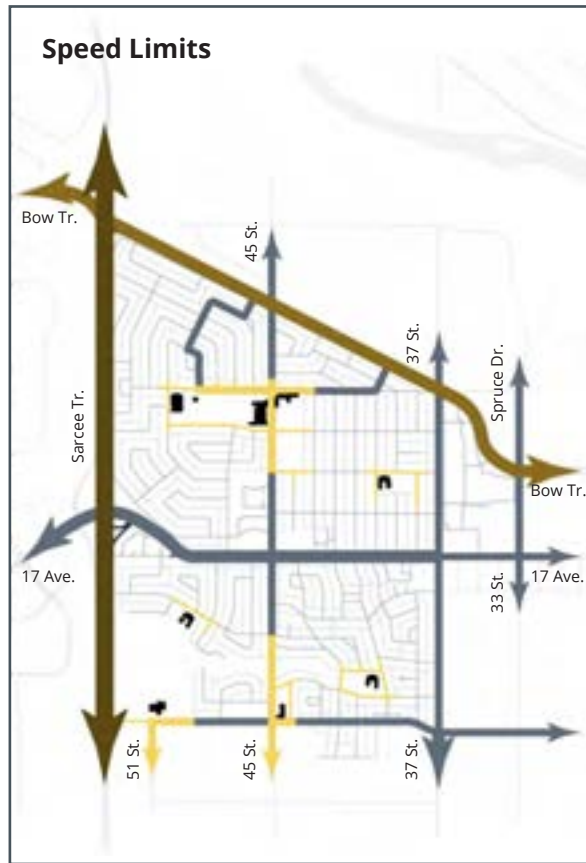
Speed Limits
- 80 km/h
- 60 km/h
- 50 km/h
- 30 km/h

Crosswalks

Bow Tr. · 45 St. · 37 St. · Spruce Dr. · Sarcee Tr. · Bow Tr. · 17 Ave. · 33 St. · 17 Ave. · 51 St. · 45 St. · 37 St.
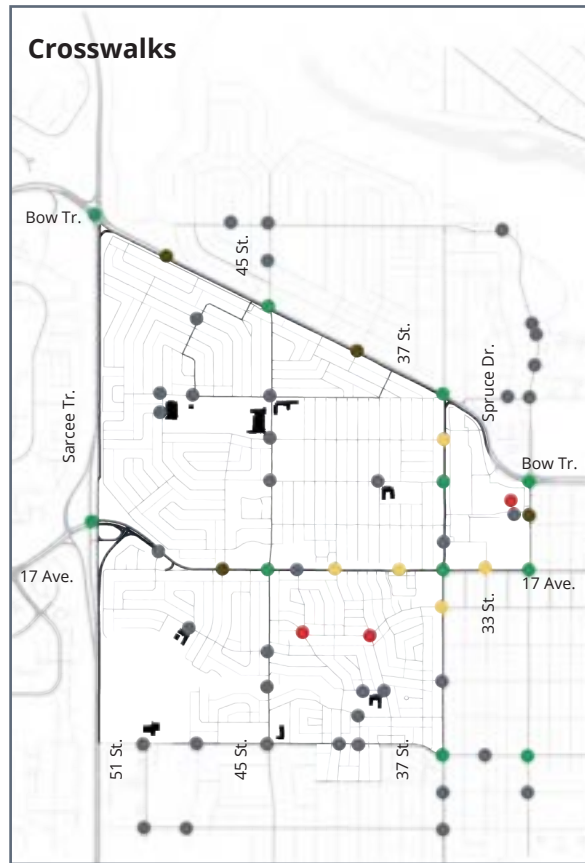
Crosswalk Type
- Marked
- 4-Way Stop
- Flashing
- Beg Button
- Traffic Signals

Traffic Incidents (2016-2018)
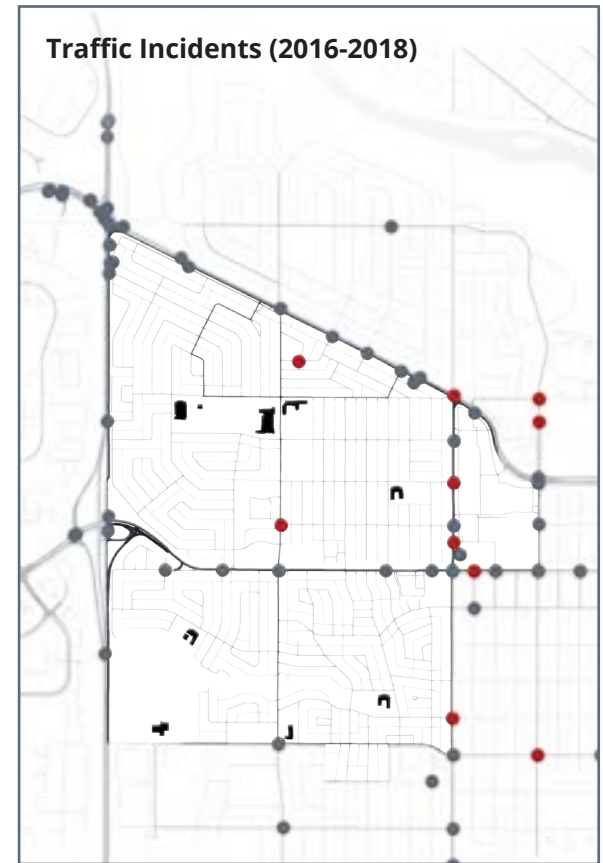
Incident Type
- Vehicle-Vehicle
- Vehicle-Pedestrian

The quality of the infrastructure in many areas is poor. Sidewalks are narrow, with no buffers, and need repair or are obstructed. Some locations don't feature sidewalks at all.

What We Heard

Community members expressed a desire for better crossings across main corridors, especially across 37th Street. They would also like to see an overpass across Sarcee to increase connectivity in Westgate outside of the community.

Goals

- Improve connections to areas outside of the community.
- Improve crossings around schools and across corridors.
- Improve sidewalk continuity and quality.

Strategy

Sidewalk Quality

Poor quality

Narrow sidewalks
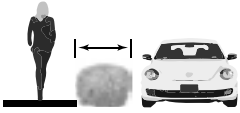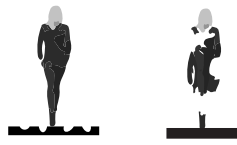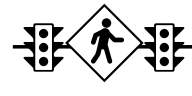
No buffers

No sidewalks

Widen sidewalks	*Buffer sidewalks*	*Natural enclosure*	*Sidewalk quality*
Allows for more room to accomodate more people and people with low-mobility.	Provides protection for pedestrians.	Enhances walking experience.	No obstructions for pedestrians.
Shorter crossing distance	*Pedestrian visibility*	*Crosswalk markings*	*Crosswalk lights*
Decreases time spent in vehicle right-of-way.	Gives drivers more time to react to pedestrians.	Increases visibility of crossing points.	Increases visibility of crossing points.

Intervention Areas

BOW TRAIL

SARCEE TRAIL

37 STREET

26 AVE
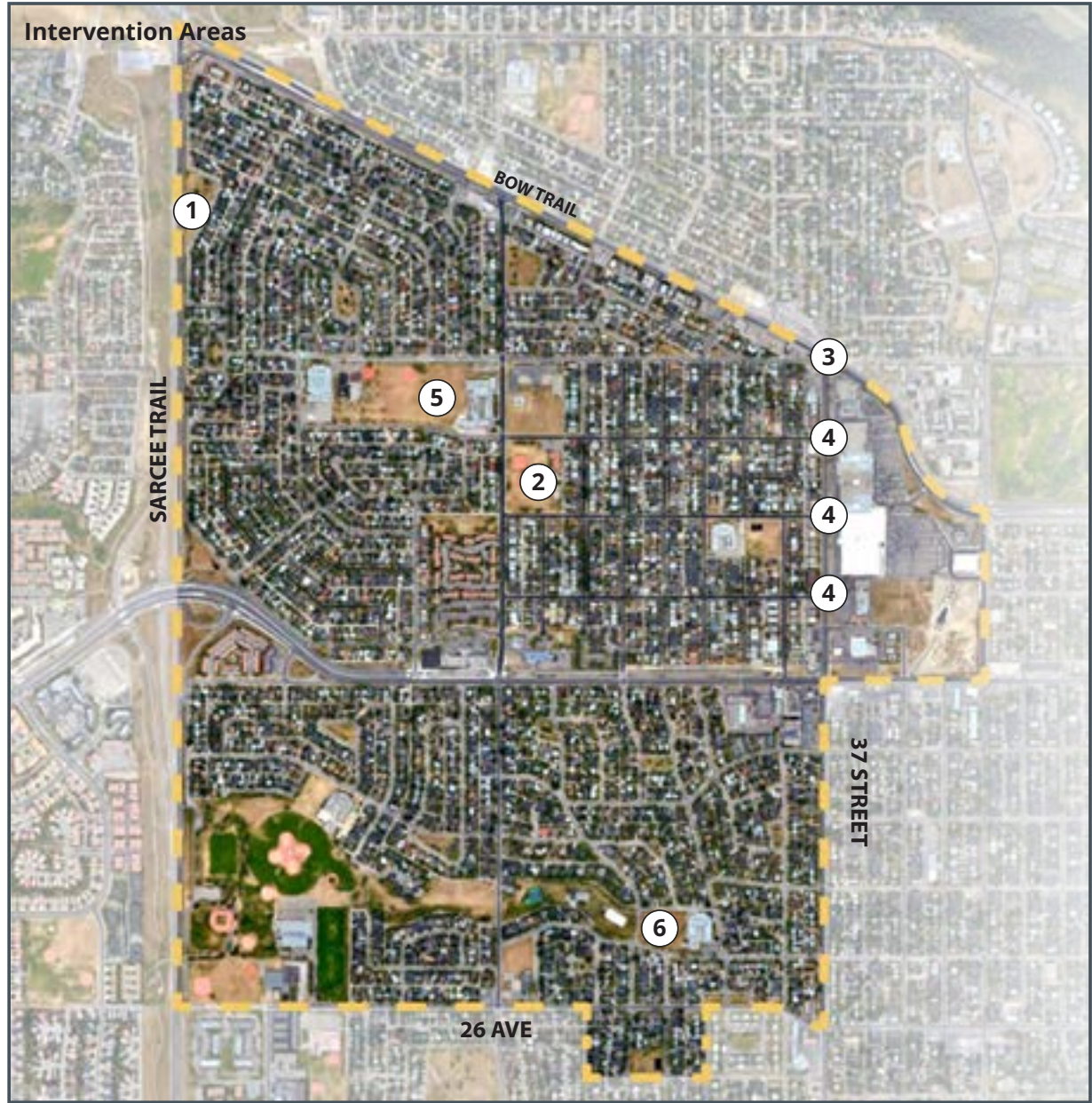
Policy

- Safe infrastructure shall be implemented according to location indicated on the "Intervention Areas" map.
- Infrastructure implemented shall be according to the interventions illustrated on the next two pages.

Westgate Overpass - Pedestrian/Cyclists

1

STRATHCONA PARK

WESTGATE

Overpass

SARCEE TRAIL

Rosscarrock Community Hall & 13th Ave.

2

45 ST

Curb extension

Shared-use path

Sidewalk

13 AVE

37th St. & Bow Trail

3

8 AVE

BOW TR.

37 ST

37th St. & 10th/13th/15th Ave.

4

10 AVE

37 ST

Bike access only

Change turn radius

8 AVE

37 ST

BOW TR.

Narrower lane

Westgate School

5

Curb extension

Bike lane

Curb extension

45 ST

8 AVE

Sidewalk

4-way stop, curb extension

Curb extension

Crosswalk lights

Crosswalk markings

10 AVE

37 ST

Glendale Community Hall & Glendale School

6

GATEFIELD AVE

Curb extension

Sidewalk

Crosswalk markings

Wider roundabout

Sidewalk

GLENMOUNT DR

25 AVE

REFERENCES

Parks & Open Space

References

Parks Programming Palette Image References:

1. LED Lighting. Ceco Poles and Structures Inc. University of Calgary, Calgary, AB. http://www.cecopoles.ca/

2. "Custom-Made Designer Trash Bins Pop Up in NYC Parks," Inhabitat. Bryant Park, New York. Sept., 3, 2013. https://inhabitat.com/nyc/custom-made-designer-trash-bins-pop-up-in-nyc-parks/

3. "Jeppe Hein creates 18 whimsical installations for Brookyln Bridge Park," Dezeen. Brooklyn, New York. May, 20, 2015. https://www.dezeen.com/2015/05/20/please-touch-the-art-jeppe-hein-installation-brooklyn-bridge-new-york/

4. Bike Racks. Cleveland, OH. Culture+Typography. May, 21, 2013. https://nikkivillagomez.wordpress.com/2013/05/21/bike-racks/

5. "Parkdale Community Garden and Gathering Space," Parkdale Community Association. Parkdale, Calgary, AB. https://parkdalecommunity.com/garden-2/

6. Osgoode Public Garden. Public Garden Landscape Design. November 2005. http://bestspace.club/public-garden-landscape-design/osgoode-public-garden-november-2005.html

7. 9th Avenue N.E., Calgary, AB: Google Earth

8. "Rice's new outdoor fitness park debuts during Week of Wellness," Rice University, Texas. October 16, 2018. http://news.rice.edu/2018/10/16/rices-new-outdoor-fitness-park-debuts-during-week-of-wellness/

9. "Wheelchair swig unveiled at Wexford County Park," UpNorth Live. September 18, 2018. https://upnorthlive.com/news/local/wheelchair-swing-unveiled-at-wexford-county-park

10. Mills Park Natural Playground – Inglewood. Calgary Playground Reivew. September 22, 2017. https://calgaryplaygroundreview.com/mills-park-natural-playground-inglewood/

11. Darwin's Island of Adventure. Waterplay. Shrewsbury, UK. 2016. https://www.waterplay.com/en/featured-projects/quarry-park/

12. "It's only rocks n' rings, but I like it: How Crokicurl came to Bowness Park." The City of Calgary Newsroom. Calgary, AB. March 4, 2019. https://newsroom.calgary.ca/its-only-rocksn-rings-but-i-like-it-how-crokicurl-came-to-bowness-park/

13. Vermilion Community Oven. July 14, 2018. Taylor Felt.

14. "Kids on Wheels – Pump Tracks and Mountain Bike Parks," Family Adventures in the Canadian Rockies. May 18, 2014. http://www.rockiesfamilyadventures.com/2014/05/kids-on-wheels-pump-tracks-and-mountain.html

15. "East Village opens new dog park for furry residents," The Calgary Herald. November 2, 2018. https://calgaryherald.com/life/homes/condos/east-village-opens-new-dog-park-for-furry-residents

16. Bow Valley Ranch. Corridor Canada. https://corridorcanada.ca/resource/bow-valley-ranche/?lang=en#group-2

North Production Park (PG. X) Image References:

1. Vermilion Community Oven. July 14, 2018. Taylor Felt.

2. Picnic Shelters. Park, Recreation and Community Services. City of Riverside. https://riversideca.gov/park_rec/facilities-parks/picnic-shelters

3. Malus Prairiefire. Blomidon Nurseries. https://blomidonnurseries.com/product/malus-prairiefire/

4. "10 Secrets for Growing Fruit Trees," Toronto Botanical Gardens. September 15, 2016. https://torontobotanicalgarden.ca/blog/botanical-buzz/10-secrets-growing-fruit-trees/

5. "GM Opens Community Urban Garden in Southwest Detroit."GM Corporate Newsroom. August 1, 2012. https://torontobotanicalgarden.ca/blog/botanical-buzz/10-secrets-growing-fruit-trees/

6. Crossroads. Calgary, AB. EV Experience. https://www.evexperience.com/area-crossroads#

7. City of Calgary Bus Rapid Transit Shelters. Boma Architectural Products. https://www.bomaprecision.com/yyc-bus-shelters

Central Bark Park (PG. X) Image References:

1. "East Village opens new dog park for furry residents," The Calgary Herald. November 2, 2018. https://calgaryherald.com/life/homes/condos/east-village-opens-new-dog-park-for-furry-residents

2. "Newcastle City Council unleashes plan for fenced dog parks," New Castle Herald. May 22, 2018. https://www.theherald.com.au/story/5423263/newcastle-council-unleashes-plan-for-fenced-dog-parks/

3. Dual Dog Wash Station. Dog-On-It-Parks. https://www.dog-on-it-parks.com/dual-dog-wash-station.html

4. "Pet-friendly splash pads allow dogs to beat the heat," Las Vegas Review-Journal. July 8, 2015. https://www.reviewjournal.com/life/pet-friendly-splash-pads-allow-dogs-to-beat-the-heat/

5. Dog off-leash areas (dog parks). Brisbane City Council. https://www.brisbane.qld.gov.au/things-to-do-brisbane/council-venues/parks/park-facilities/dog-leash-areas-dog-parks

6. "Calgary opens its first inner-city off-leash dog park," The Calgary Herald. June 2, 2016. https://calgaryherald.com/news/local-news/calgary-opens-its-first-inner-city-off-leash-dog-park

7. Glenwood Playground. NYC Parks. https://www.nycgovparks.org/parks/glenwood-playground/map

8. Gabion Seating. Furnitubes. https://www.furnitubes.com/uploads/assets/2016-brochures/pdfs/seating/furnitubes-gabion-seating.pdf

Turtle Hill Improvements (PG. X) Image References:

1. Christie Pits Film Festival, Toronto, ON. https://www.instagram.com/p/Bvw4a24giuk/

2. Harris County Flood Control District. Buffalo Bayou. https://www.hcfcd.org/projects-studies/buffalo-bayou/f-58-linear-detention-between-state-highway-6-and-sam-houston-tollway/

3. Dynamic Discs. There's No Place Like Kansas. https://www.travelks.com/listing/dynamic-discs/21276/

4. Pervious Pavement Rubber trail. Rubberway. https://www.rubberway.com/pervious-pavement

5. "It's only rocks n' rings, but I like it: How Crokicurl came to Bowness Park," The City of Calgary Newsroom. Calgary, AB. March 4, 2019. https://newsroom.calgary.ca/its-only-rocksn-rings-but-i-like-it-how-crokicurl-came-to-bowness-park/

6. "Rain Garden: Add Beauty & Function to Your Property," Woddies Garden Goods. March 27, 2019. https://gardengoodsdirect.com/a/info/blog/rain-garden-add-beauty-function-to-your-property/

7. Rain Gardens. Creating Sustainable Landscapes, LLC. https://www.creatingsustainablelandscapes.com/services/rain-gardens/

Land Use

Photos

1. https://www.toronto.ca/wp-content/uploads/2017/11/913d-Market-Street_DTAH-e1509983354837-1024x338.jpg
2. https://pbs.twimg.com/media/DgBhc8HWkAcmk7s.jpg
3. https://wxv73zw8wg-flywheel.netdna-ssl.com/wp-content/uploads/sites/3/2015/10/Calgary-Skyline-1040x472.png
4. http://i9.photobucket.com/albums/a76/srperry/2007-11-18%20Walk/2007-11-18R071.jpg
5. https://cdn.skyrisecities.com/sites/default/files/images/articles/2018/03/31707/31707-109060.png
6. https://pro2-bar-s3-cdn-cf.myportfolio.com/6dddb3b291a271e970fe8ff2b-cc51f04/85f6babf-10d6-4077-8919-6e5f6b07ba1b_rw_3840.jpg?h=bd-312dc9e429729fe74581520ef7723c
7. https://images.adsttc.com/media/images/58a6/69e2/e58e/cefe/5000/011d/slideshow/IMG_07.jpg?1487301078
8. https://beta.theglobeandmail.com/ece-images/95a/real-estate/article36795284.ece/BINARY/image.jpg
9. https://www.smallworks.ca/wp-content/uploads/1.jpg
10. https://static.wixstatic.com/media/d9261d_0efed27419fe423aa5877bd3b-c53937c~mv2_d_1600_1200_s_2.jpg

Laneway Housing

Photos

Documents:

1. "Laneway Housing How-to-Guide." City of Vancouver. Last modified November , 2016. https://vancouver.ca/files/cov/laneway-housing-guide-2018.pdf.

2. "Garden Suites How-to-Guide." City of Edmonton. n.d. https://www.edmonton.ca/residential_neighbourhoods/documents/GardenSuiteHowtoGuide.pdf.

3. "Backyard Suites How-to-Guide." The City of Calgary. Last modified January 15, 2019. file:///Users/taylorfelt/Downloads/Backyard%20Suites%20How-to%20guide%20(1).pdf.

Image References:

1. "Farm Style" Vancouver Laneway House, Vancouver, BC. Smallworks. https://www.smallworks.ca/gallery/farmstyle-vancouver-laneway-house/

2. Dunbar Laneway House, Vancouver, BC. Smallworks. https://www.smallworks.ca/gallery/dunbar2/

3. Vancouver Arts and Crafts Laneway House, Vancouver, BC. Smallworks. https://www.smallworks.ca/gallery/artscrafts9/

4. The Quintessential Laneway House, Vancouver, BC. Smallworks. https://www.smallworks.ca/gallery/quintessential-lanewayhouse/

5. "Forgotten 'country lane' experiment could be answer to Vancouver's desire for more green space," National Post. July 2, 2013. https://nationalpost.com/news/canada/forgotten-country-lane-experiment-could-be-answer-to-vancouvers-desire-for-more-green-space

6. Two Birds Laneway House, Vancouver, BC. Lanefab Design/Build. March 31, 2016. https://smallhousebliss.com/2016/03/31/lanefab-two-birds-laneway-house

Mobility & Connectivity (pg. x-x)

References

1. The City of Calgary. (December, 2018). Municipal Development Plan. http://www.calgary.ca/PDA/pd/Pages/Municipal-Development-Plan/Municipal-Development-Plan-MDP.aspx
2. The City of Calgary. (September, 2009). Calgary Transportation Plan. http://www.calgary.ca/Transportation/TP/Documents/CTP2009/calgary_transportation_plan.pdf)
3. The City of Calgary. (November, 2014). Complete Streets Policy. http://www.calgary.ca/Transportation/TP/Pages/Planning/Calgary-Transportation-Plan/Complete-Streets.aspx
4. The City of Calgary. (June, 2011). Cycling Strategy. http://www.calgary.ca/Transportation/TP/Pages/Cycling/Cycling-Strategy/Cycling-Strategy.aspx
5. Government of Alberta. West Calgary Ring Road. https://www.alberta.ca/west-calgary-ring-road.aspx
6. The City of Calgary. Bow Trail widening and intersection improvements. http://www.calgary.ca/Transportation/TI/Pages/Road-projects/Bow-Trail-Widening-and-Intersection-Improvements.aspx
7. The City of Calgary. (November, 2010). Traffic Calming Policy TP002 http://www.calgary.ca/CA/city-clerks/Documents/Council-policy-library/tp002-Traffic-Calming-Policy.pdf
8. The City of Calgary. (2017). Pathways and Bikeways Map. http://www.calgary.ca/CSPS/Parks/Documents/Pathways/path-bike-map.pdf

Photos:

Temporary Curb Extension, Bridgeland: https://globalnews.ca/news/4398058/calgary-polka-dot-pilot-project-traffic/

Raised Crosswalk: https://www.edmonton.ca/transportation/on_your_streets/neighbourhood-traffic-concerns.aspx

Roundabout, Rosscarrock: Google Earth

Transit Stops: Google Earth

City of Calgary Bike Lane Classification: http://www.calgary.ca/CSPS/Parks/Documents/Pathways/path-bike-map.pdf

One-way Bike Lane: https://www.toronto.ca/services-payments/streets-parking-transportation/cycling-in-toronto/cycle-track-projects/bloor-street-bike-lanes/

Two-way Bike Lane: https://www.seattlebikeblog.com/2013/06/27/the-linden-cycle-track-is-seattles-first-world-class-protected-bike-lane-video/

Lane Paint: https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/colored-bike-facilities/

Bike rack: https://curiocity.com/calgary/lifestyle/project-bike-rack-is-calgarys-newest-public-art/

Bike storage locker: https://jnyyz.wordpress.com/2015/08/07/a-brief-look-at-calgary-by-bike/

Bike facility: https://planning.ubc.ca/vancouver/news-events/newsletter/2013-07-29/high-tech-bike-storage-facility-opens-buchanan-tower

Painted lane, no buffer https://wwNow.bikecleveland.org/bike-cle/news/bike-lane-guidelines-for-cars-cyclists/2017/01/

Painted lane, buffered: https://nacto.org/publication/urban-bikeway-design-guide/bike-lanes/buffered-bike-lanes/

Raised cycle tracks: https://nacto.org/publication/urban-bikeway-design-guide/cycle-tracks/raised-cycle-tracks/

Flexi-post: https://www.thestar.com/news/gta/2017/10/04/fate-of-bloor-st-bike-lanes-hangs-in-balance-number-of-users-revealed-next-week.html

Lane with curb: https://www.bikeauckland.org.nz/economic-benefits-of-cycling/

Bike lane with planters: https://www.insidevancouver.ca/2016/03/28/commercial-drive-bike-lane-plan-attracts-mixed-reviews-in-vancouver/

45th Street: Google Earth

All plan view satellite photos: Google Earth