November 2009

Urban Strategies Inc.

# Brentwood Station Area Redevelopment Plan

THE CITY OF CALGARY

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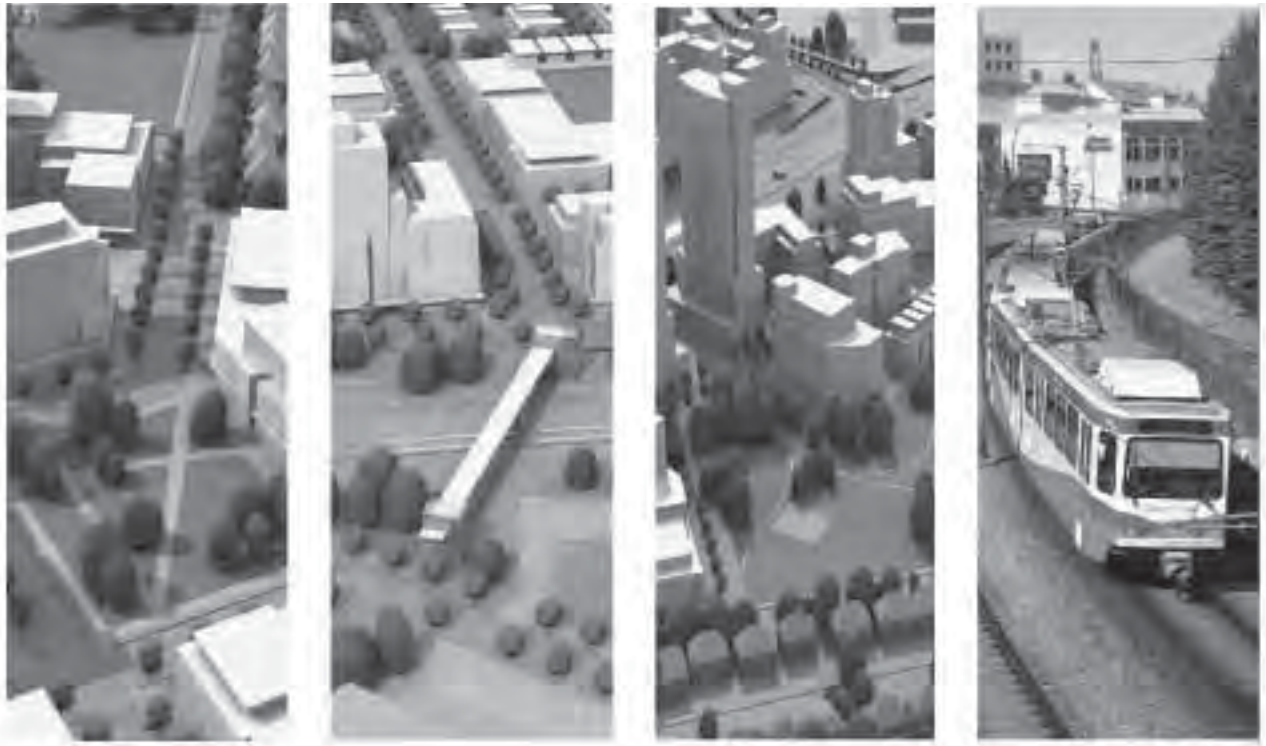

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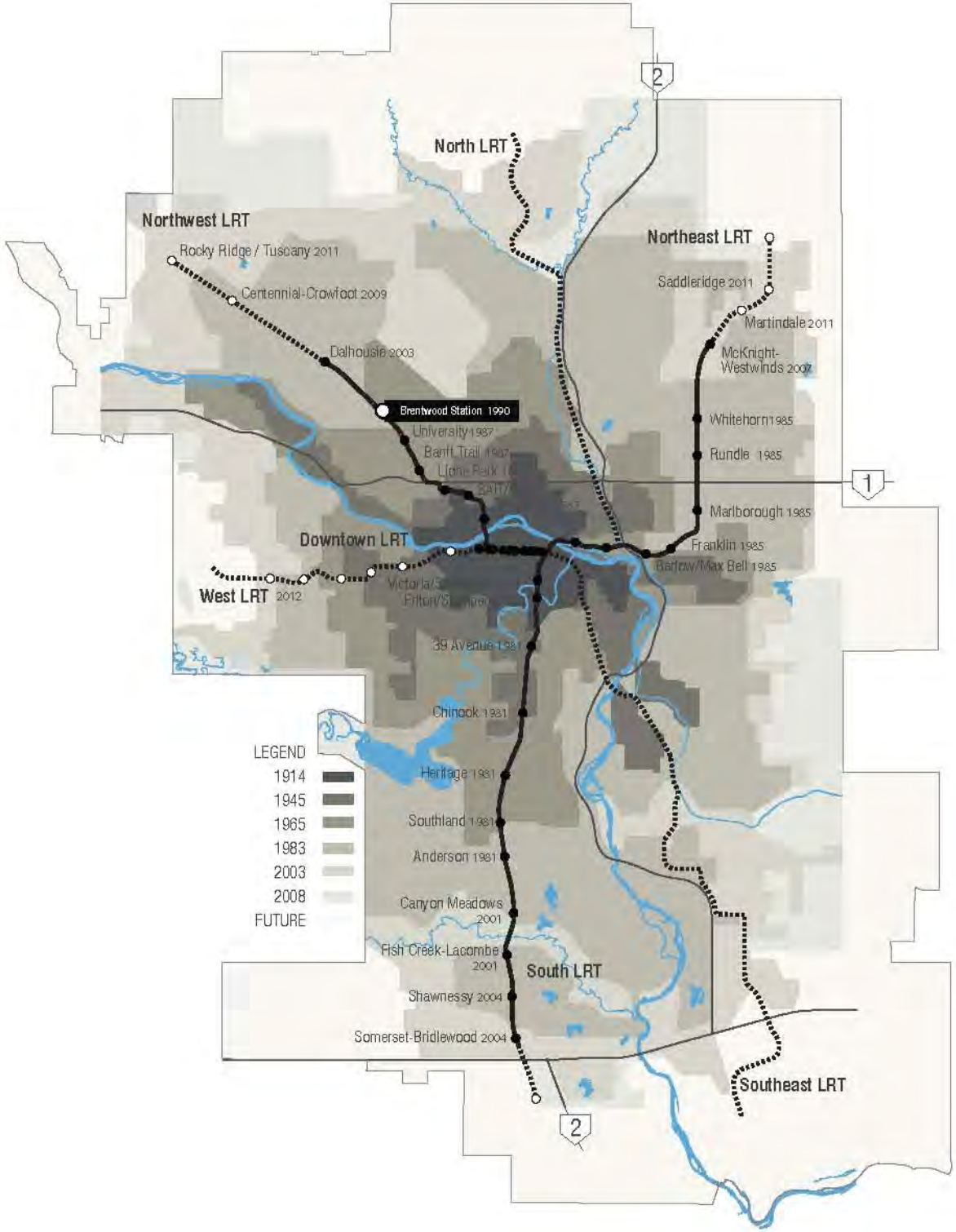
**FIGURE 1. CALGARY'S GROWTH PATTERN**
Calgary's growth has been based on a traditional concentric model, gradually expanding outward.

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# 1.0 Context

Historically, Calgary's growth has been based on a traditional concentric model, gradually expanding outward. This outward growth pertains mostly to the spread of residential communities, as much of employment has remained concentrated in the city's downtown core. Therefore, many people are moving into the core during the day for work and moving outward toward home in the evening rush. Relatively few commuters are moving against this flow, meaning that while roads and LRT trains are full when moving in one direction, they are relatively empty moving the other way.

In addition to mobility challenges and high levels of growth, Calgary is facing critical decisions concerning changing demographics, housing choices and affordability, infrastructure investment, new forms of urban development, quality of life, the impacts of high fuel prices and environmental impacts.

Although substantial growth in downtown Calgary has led to a strong and successful city, not all future growth can be accommodated in the core. As Calgary grows, secondary hubs will need to be created in preferred locations where key infrastructure exists. When looking for places to grow within Calgary, underutilized areas immediately surrounding LRT stations present some of the best opportunities to create liveable communities, employment nodes and institutional hubs attached to transportation infrastructure. Tying land use to existing infrastructure, particularly transit, is a key strategy when aiming to grow in a more sustainable way. Clustering development around LRT stations also implies a move toward a more polycentric pattern throughout the city.

Most residents access the LRT network via feeder buses or by parking then riding. Such patterns are ingrained in Calgary, and large parking lots surround most suburban LRT stations. Relatively few people live within walking distance to the LRT stations.

## 1.1 Introduction

The following benefits, among the many others that come from clustering development around transit, help align growth within Calgary toward meeting Council's strategic objectives:

1. **People living in communities near transit** will have convenient access, and will therefore be much more likely to use it. This will mean fewer people having to travel by car, less congestion on the streets and a reduced impact on the environment.

2. **More diverse, higher density forms of development surrounding LRT stations** provides opportunities to increase housing choices to meet the demands of a changing population and the need for more affordable housing in Calgary.

3. **Intense development around transit** will facilitate a critical mass of uses that will allow for more complete communities. Larger living and working populations will be able to sustain an array of retail and commercial uses, community services and facilities, and create truly vibrant neighbourhoods.

4. **Institutional and employment hubs** will allow people to live closer to where they work and instigate more reverse-flow commuting. With employment located near transit, commuters will have the opportunity to move in both directions, taking better advantage of the existing transit infrastructure.

5. **Accommodating significant growth within the city's existing built-out areas** could reduce the rate in which the city grows outward. Thus, fewer roads, sewers, fire and police stations, schools, and other infrastructure will need to be built to service outlying areas.

## 1.2 Project Context

Calgary's northwest LRT corridor, with its existing and increasing transit capacity, presents an unique opportunity for intensification within the city. Beginning as far south as Sunnyside, and extending out to Rocky Ridge, the corridor makes its way up through SAIT/ACAD, Lions Park, Banff Trail, and Brentwood, includes the University of Calgary, the Innovation Park and Foothills Medical Centre.

Not all areas along the northwest corridor are appropriate or desirable for change. The northwest LRT corridor features two very different characters: one, a string of major institutions, commercial nodes and a large amount of underutilized land and the other, a number of stable residential communities. These communities will evolve over time, but not experience a significant amount of change.

Bounded by these stable single family neighbourhoods, the northwest LRT corridor is an 'amalgamated' body of land that is joined together by similar characteristics including key commercial, community and institutional destinations close to LRT stations. Lands within this area, in particular those adjacent to LRT stations, are greatly underutilized and identified as areas of change. They therefore create favourable opportunities to reurbanize, and in the process, build complete communities. Institutional and employment growth will have significant impacts on related factors such as increased demand for housing, more reliance on transit and other supporting uses. This creates great potential for a range of uses and focused development within the corridor's area of change. The illustrations on the following pages delineate this area of change and stability, which have been refined through community consultation.

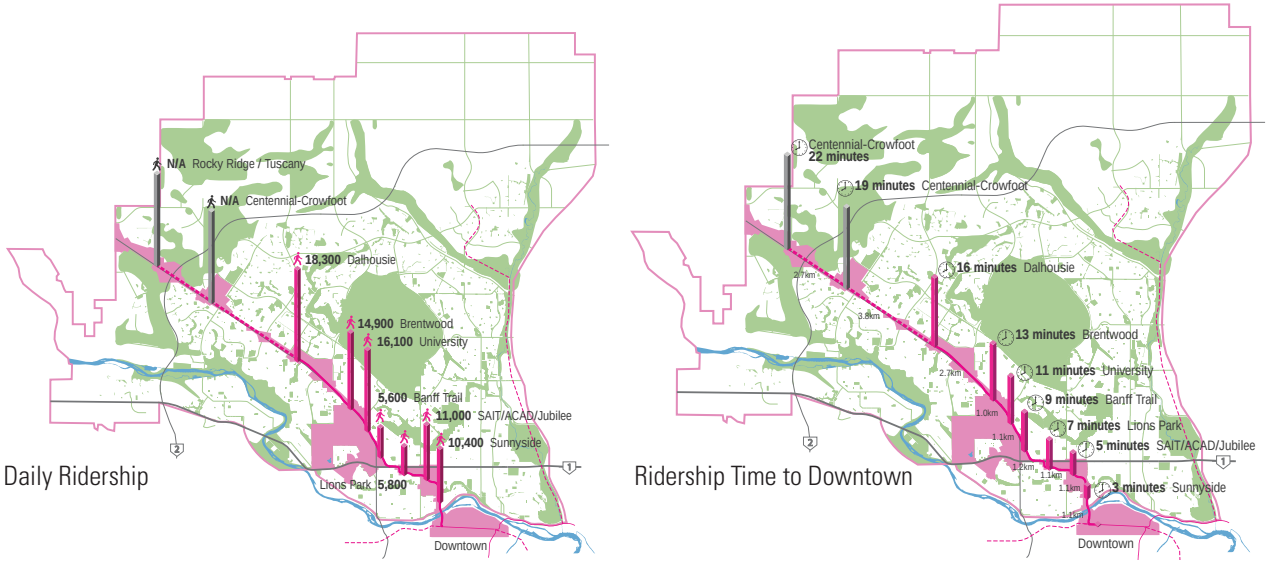



**FIGURE 2. NORTHWEST LRT CORRIDOR**
The Northwest LRT line provides daily ridership access throughout the corridor and to downtown for over 82,100 customers a weekday.

**FIGURE 3. AREAS OF CHANGE WITHIN THE NORTHWEST LRT CORRIDOR:** Key areas with the potential for reinvestment and to accommodate growth

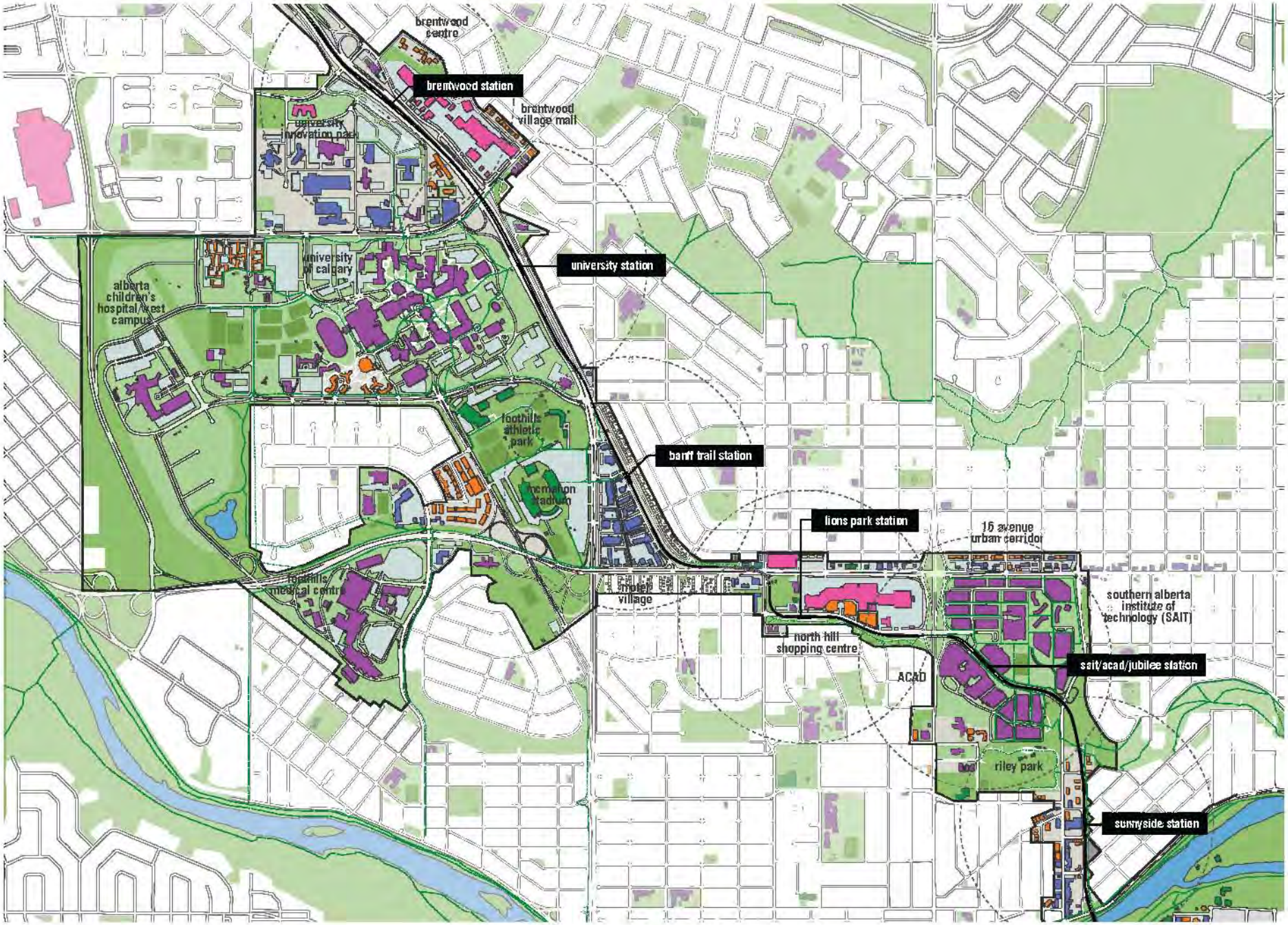


**FIGURE 4. AREAS OF STABILITY WITHIN THE NORTHWEST LRT CORRIDOR:** Stable neighbourhoods will evolve over time but should not experience a great amount of change

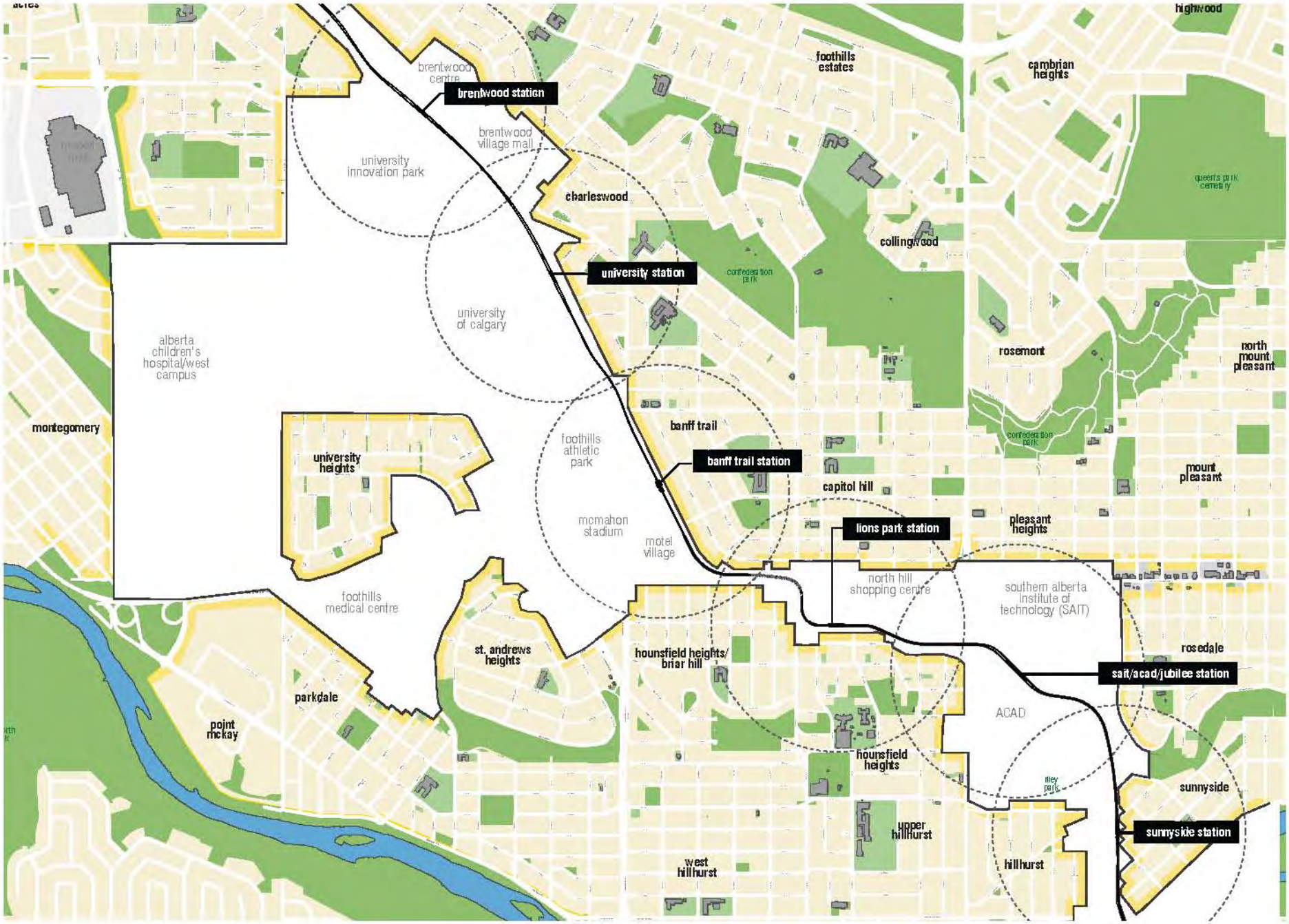
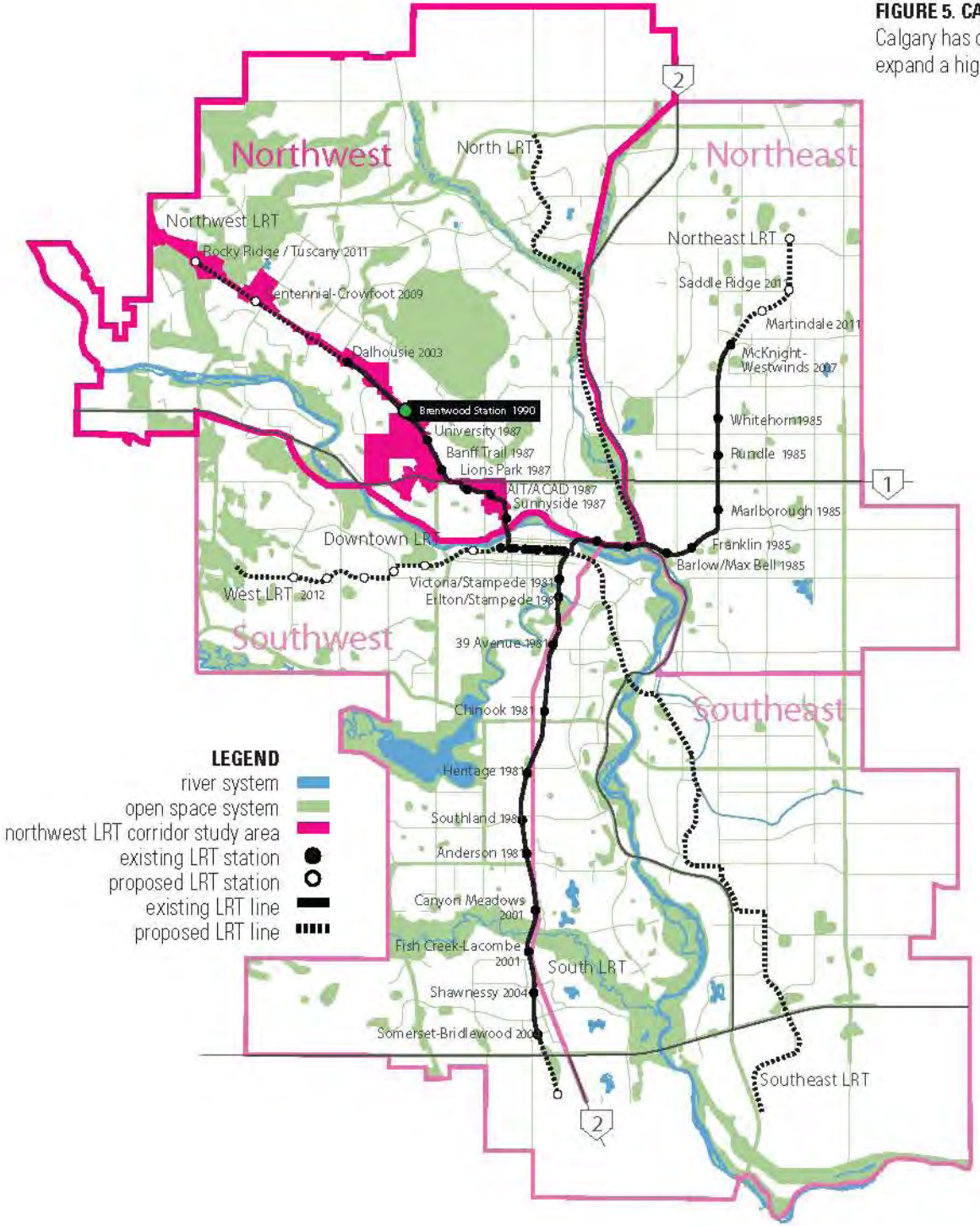


**FIGURE 5. CALGARY'S LRT NETWORK**
Calgary has developed and continues to expand a highly successful LRT system

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### 1.2.1 Brentwood in the Northwest LRT Corridor

Located near the University of Calgary, the Foothills Medical Centre and immediately adjacent to the University Innovation Park, Brentwood is already a significant employment node. Acting as a major transit centre and in addition to the LRT station, Brentwood is a hub for bus routes, with many passing through, terminating or originating there. It also has one of the city's largest park and ride lots. Brentwood Village Shopping Centre and the other commercial uses also serve as a regional commercial destination in northwest Calgary. Despite all these characteristics, Brentwood's redevelopment potential remains high due to vast quantities of underutilized lands, particularly large areas of surface parking lots and low scale commercial uses. Considering these factors, the Station Area Redevelopment Plan for Brentwood will help guide growth toward achieving the area's tremendous potential.

VIEW OF BRENTWOOD STATION AREA TODAY

## 1.2.2 Brentwood Today

Brentwood today has two distinct characters. First, The shopping core on the north side of Crowchild Trail supports the stable residential areas surrounding it. Secondly, the south side, with the park and ride lands as well as the University Innovation Park. Today, these two sides of Crowchild are functional, but are generally unattractive, auto-oriented and separate places. There is tremendous potential to transform and tie together Brentwood station area into a unified community, with transit service at its heart.

The station area acts as both a major employment node and a shopping destination. Along with the University of Calgary, the Innovation Park is one of the few major employment clusters outside the downtown core. Growth at the University and Innovation Park will have a significant impact on the role of the Brentwood station area into the future.

The Calgary Co-op and Brentwood Village Shopping Centre provide the majority of retail and personal service facilities in the area. As such, the station area is viewed by residents as the community hub for surrounding residential neighbourhoods. The park and ride facility and multitude of bus routes terminating at Brentwood make the station an important commuter centre in the context of northwest Calgary.

LARGE PARKING LOTS AND LOW DENSITY AUTO-ORIENTED BUILDINGS DOMINATE THE LANDSCAPE ON BOTH SIDES OF CROWCHILD TRAIL

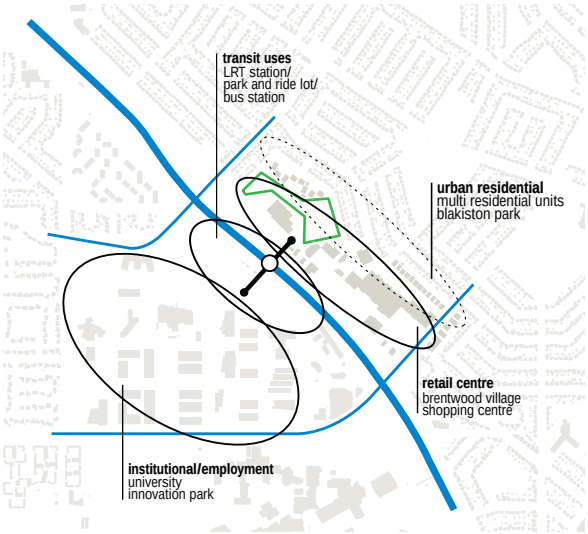


**FIGURE 6. THE EXISTING STATION AREA HAS TWO DISTINCT CHARACTERS**

### 1.2.3 Community History

Brentwood was established as a new community in 1960. Now considered relatively inner city, Brentwood is typical of Calgary's inner ring of suburbs developed in the 1950s and 60s. The neighbourhood is primarily comprised of bungalows on wide lots, and includes a number of schools, parks and other community facilities. The neighbourhoods in this area grew quickly in the 1960s as major institutions nearby, such as the University of Calgary and Foothills Hospital, were opened during this decade. Recently, Brentwood has gone through population decline due to the community's lifecycle. Consequently, Brentwood has fewer children and more seniors than Calgary overall.

### 1.2.4 Brentwood LRT Station

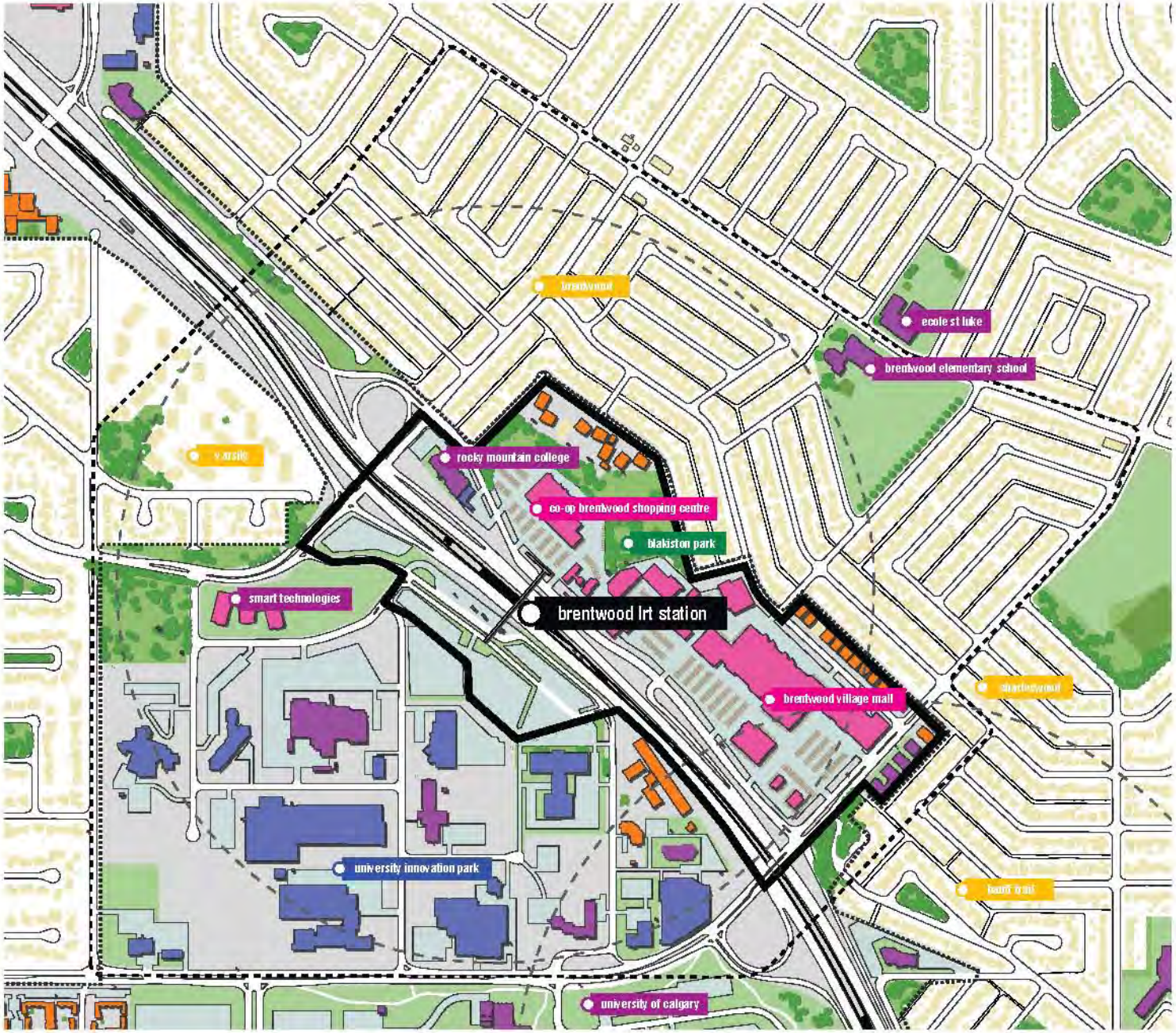
Brentwood LRT Station is located approximately 6.2 km northwest of Downtown. The northwest line opened in 1987, terminating at University Station, and was extended to Brentwood in 1990. Brentwood served as the end of the northwest line until 2003, when Dalhousie LRT Station opened. In 2009, a new station will open at Crowfoot-Centennial, and another will be introduced in 2011 at Rocky Ridge/Tuscany near the periphery of the municipal boundary. Brentwood has the largest park and ride facility in the city, containing 1381 surface parking stalls located immediately south of Crowchild Trail. Over 14,900 transit riders pass through Brentwood each weekday. The station has a centre-loading platform in the median of Crowchild Trail and is accessed by pedestrian bridges from the north and south sides. No significant improvements have been made to the station since its opening. Calgary Transit's initiative to move from 3 to 4 or 5 car trains will necessitate platform extension, and should be an impetus for other improvements to the station's function as a key unifying element for the community.

BRIGHTON DRIVE - 1960

BRENTWOOD LRT STATION TODAY

**FIGURE 7.**
**EXISTING CONDITIONS & STATION AREA BOUNDARIES**

LEGEND
- LRT station
- local influences
- Brentwood Station Area Redevelopment Plan
- northwest LRT corridor
- area of change
- open space
- commercial/employment/mixed use
- major retail centre
- institutional
- neighbourhood/community
- 600m 10minute walking radius

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EXISTING RESIDENTIAL COMMUNITY

THE UNIVERSITY OF CALGARY

### 1.2.5 Areas of Change and Stability

As illustrated on the scale of the northwest LRT corridor, not all areas are appropriate or desirable for change. At Brentwood, Areas of Change are the locations where redevelopment is welcomed and where significant opportunities exist to achieve the vision of a major regional node and liveable community. Underutilized parcels of land, including the many large surface parking lots and low density commercial uses, are areas where significant change can occur. These areas include: the Brentwood Co-op lands, Rocky Mountain College, Brentwood Shopping Centre, the park and ride lands, and portions of the University Research Park. Throughout this document, this Area of Change is often referred to as "Brentwood Village" or "the station area".

Areas of Stability include established residential communities surrounding Brentwood LRT. The character of these places will remain the same, but due to their proximity to the station, require consideration for potential improvements in key open spaces as well as important pedestrian and bicycle connections.

### 1.2.6 Rationale for Station Area Boundaries

Boundaries for transit oriented development (TOD) Station Area Redevelopment Plans generally follow the principle that captures an area within 5-10 minutes walking distance from the LRT station. This principle usually translates into a radius that surrounds the station between 400 and 600 metres. It is believed that the presence of transit generally has the most influence on travel behaviour in places within this proximity. However, this walking distance radius is simply a starting point.

The Plan attempts to encompass areas of local influence near the station including important community open spaces, key connecting streets, major institutions, commercial uses and areas with developable parcels.

The Area of Change within the Station Area Boundary, or "Brentwood Station Area Redevelopment Plan" area is the focus of this Plan. This area is looked at in the greatest detail as it will be where most change will occur.

The defined Station Area Boundary encompasses the area of plan that has policy direction and requires implementation action by both the City of Calgary and private interests. All Development Permit, Land Use Redesignations and Subdivision applications within the Station Area Boundary must comply with the policy within this Area Redevelopment Plan.

The boundary and area of the Brentwood Station Area Redevelopment Plan (Station Area Boundary) is shown in Figure 7. The plan area includes land closest to the LRT station, allowing easy pedestrian access from the surrounding community and bus connections. This land base also has the best potential to redevelop since the current land use is low intensity and inefficient given its proximity to the station platform.

The area south of Crowchild Trail is currently being used for surface parking lots for LRT users and by the University Innovation Park. It is anticipated that the existing Park'n'Ride surface parking lots, bus loop and supporting transit facilities will remain for a number of years.

University Innovation Park is regulated by a separate approval process for development since the parcels are owned by the Province of Alberta and have a specific land use purpose of scientific research and development. The Province of Alberta, University of Calgary and the City of Calgary have a partnership agreement to regulate this area and a Draft Master Plan is being prepared for the research park area.

The development of Draft Master Plan will be subject to a separate exercise and this will be determined in consultation with the Province of Alberta, City of Calgary, the University of Calgary, Innovation Park and the surrounding communities.

The land north of Crowchild Trail presents a significant opportunity to redevelop since the land is occupied by mostly commercial properties that are approaching the effective life of the buildings. These commercial sites are developed with low height, low intensity uses, with the majority of the land being used for surface parking lots.

## 1.3 Policy Context

This Station Area Redevelopment Plan seeks to implement numerous City policies aimed at creating a more sustainable approach to urban planning and land use. These include the Calgary Plan (1998), Council's Sustainability Principles (2006), the Transit-Oriented Development Policy Guidelines (2005) and the Corporate Affordable Housing Strategy (2002). All of these policies are aimed at ensuring that development in Calgary will contribute to the achievement of a healthy Triple Bottom Line (TBL). That is, where environmental, economic and social objectives are in balance with one another and mutually supportive.

For example, this plan will help to achieve the following objectives:

- Greater mobility choice through improved walking, transit and cycling options;
- Increased housing, employment, and service choices within existing communities;
- Promoting a better jobs/housing balance;
- Health benefits of walkable communities;
- TOD as a catalyst for economic development;
- Reduced greenhouse gas emissions through reduced vehicle trips;
- Improved air quality through the provision of transportation alternatives;
- Reduced energy consumption resulting from efficient land use and transportation choices;
- Maximum use of transit infrastructure;
- Reduced traffic congestion-related costs; and
- Redevelopment of vacant or underutilized industrial and commercial sites.

# 2.0 Vision

Planning for the new Brentwood station area is a classic exercise in reurbanization. Upon conception, the area had been built up in a low density, auto-oriented way. Reurbanization defines the process of reintroducing a critical mass of people and urban activity into a community or district. This process occurs in places where there is a gap or interruption in the urban fabric of the city and is in need of repair. Reurbanization in proximity of transit stations also needs to ensure a primary focus on pedestrian-friendly environments and transit-supportive levels of development.

Today, the Brentwood station area exhibits many of the characteristics of an area that is in need of reurbanization. While hosting a healthy array of retail and employment offerings, both the north and south sides of Crowchild Trail are large 'islands' of land with acres of asphalt parking lots and no normal urban streets or blocks. Street and sidewalk networks are fragmented and open spaces are poorly designed, and hostile places for pedestrians. Low density, inward-looking buildings are placed in the midst of the large surface parking lots, which does not contribute to a positive sense of place. This physical environment is particularly evident in close proximity to the Brentwood LRT Station, thereby impeding the pedestrian experience of those traveling from neighbouring communities to the LRT.

Development of the Brentwood station area is anticipated to occur over the next 20 - 30 years and is not simply a matter of adding density or buildings. In order to achieve the vision of Brentwood becoming a vibrant, mixed use and sustainable urban village it must follow the building blocks toward reurbanization. This Plan calls for an examination and reurbanization of the urban form already in place. Appendix A presents the process of reurbanization of The Bridges development, which provides important lessons and has many parallels to the potential reurbanization of Brentwood.

Following consultation with residents and other stakeholders, a framework for Brentwood Station Area Redevelopment Plan began to emerge. The consultation process and some key outcomes are outlined in Appendix E. The ideas for the vision of Brentwood Station Area Redevelopment Plan were refined in a vision statement to encapsulate the aspirations of the community:

Brentwood station area will become an "Urban Village"; a major hub in northwest Calgary where people can live, shop, dine, work, be entertained and meet their daily needs. It will be a people place with quality connections and a well integrated transit system. Attractive public spaces and a wide variety of uses will contribute to a vibrant and safe community. Existing residential community character will be preserved while places with an opportunity to change will greatly enhance the community. The Brentwood station area will be a place that will make the community proud.

## 2.1 The Building Blocks of Reurbanization

There are four basic building blocks to reurbanization, including:

### Streets and blocks

All urban places should have a well defined fine grain of streets and blocks. They are the fundamental ordering principle of cities. They create well defined places for the different functions of a city, accommodate safe and well defined pedestrian movement systems supported by placement of buildings fronting onto these streets, as well as the efficient movement of bicycles and automobiles.

### Parks and open spaces

Open spaces are fundamental to the quality of life in a community. Parks and plazas create opportunities for recreation, connection to nature, and interaction with other community residents. Any complete community requires a strong and attractive open space network that provide a range of public places for people to gather. Streetscapes are also a component of the open space network. Well designed streets and sidewalks create legible routes between key destination points and create a comfortable and safe environment for pedestrians and cyclists. Open spaces also provides opportunity to develop green infrastructure; functional environmental systems such as storm water treatment.

### Development parcels

When streets, blocks and location for open spaces have been defined, developable parcels of land for building development becomes apparent. These are the locations where various uses of a complete community such as residential buildings, offices, retail spaces, institutional uses and community facilities are accommodated. Well structured development parcels allow for a variety of building types to easily be inserted and evolve into the community.

### Building types

Buildings are the final building block toward reurbanization. Urban buildings help contribute to a quality public realm, frame streets and open spaces and accommodate the many uses of a vibrant urban village. A wide variety of building types can be introduced to a community including low, mid and high rise buildings. Urban buildings are designed to be flexible and adapt to different uses over time. They also have strong relationships to the streets and public spaces to support a pedestrian-friendly environment.

## 2.1.1 Brentwood Station Area Reurbanization

Brentwood's station area presents the classic case of the need for reurbanization. This document states the case for why it should happen and how it will be achieved. The Plan Concept and Policies section applies this reurbanization model under four main lenses: Mobility Network, The Public Realm, Land Use and Built Form. The policies do not prescribe exactly what will be built, but illustrates the principles of reurbanization applied to Brentwood Station Area. It will guide development for the long term, inform what key principles should be followed and what initiatives are needed to realize the potential of this important place.

## 2.2 Guiding Principles

### 1. Introducing an integrated street network

Creating an integrated street network will set the stage for the reurbanization of Brentwood. The existing large blocks of asphalt and auto-oriented building will be broken down into a fine-grained urban block structure. This will allow for ease of movement for all modes of transportation and create blocks for both development and open spaces.

### 2. Prioritizing modes of transportation

Planning for mobility at Brentwood recognizes the need to accommodate all modes of transportation including pedestrians, cyclists, transit and private automobiles. The mobility network places the priority on the pedestrian while recognizing the need to accommodate the other modes of transportation within the station area in a balanced manner.

### 3. Creating vibrant pedestrian-friendly streets

To create vibrant pedestrian-friendly streets, a variety of character-based street types are established. Commercial main streets will be a focal point for activity in the Brentwood Station Area Redevelopment Plan, with retail frontages and spaces for patios, cafés and other activity. A variety of mixed use streets will have different frontages, but all provide a comfortable and attractive place for people. Well designed streetscapes including street furniture, trees, landscaping, lighting and paving will all help ensure the Brentwood station area is pedestrian-friendly.

### 4. Creating great open spaces

Improvements to existing parks and the creation of new open spaces will create important amenities for the Brentwood station area as it grows. Primary open spaces such as an improved Blakiston Park, new urban plazas, and transit plazas will be key gathering places. Secondary open spaces including parkettes, school yards, and publicly accessible private spaces will contribute to a more liveable community.

### 5. Ensuring accessibility in the public realm

Special design consideration is required to accommodate the needs of everyone in the station area including the elderly, physically or visually impaired. This also includes all individuals who will be living, working, enjoying, or shopping in the station area.

### 6. Incorporating public art and programming

Incorporating public art into the public realm is increasingly seen as a vital aesthetic, social, economic and cultural advantage for communities. Public art is a major component of place making and should be integrated at every opportunity possible. Public art should encompass working and individual property owners, private developers, and public projects.

## 7. Establishing land use precincts

Although the Brentwood station area is envisioned as a unified community, various precincts will take on distinct characteristics. Five precincts are identified in this Plan including the stable residential communities, urban residential, retail village, mixed use precinct and transit hub. Each has their own focus, uses, and characteristics, but together, will add up to more than the sum of their parts.

## 8. Facilitating a broad mix of transit supportive uses

Complete communities entail a variety of uses. People working, living, shopping, dining and meeting their daily needs within the neighbourhood keeps the community active and vital at all times of the day. Near transit, it is particularly important to ensure uses that are transit supportive, while limiting automobile dominated uses. Brentwood will continue to emerge as a major employment and commercial hub and will establish a greater choice in housing and community services. This mix will be accommodated in a variety of ways including facilitating multiple uses within buildings as well as across the station area.

## 9. Ensuring appropriate ground level uses and design

To ensure a quality public realm and reinforce important places within the community, certain ground floor frontages should be active. Eyes onto the commercial main streets and important public spaces such as Blakiston Park will help ensure their safety and create lively places for people. It is also important to ensure service and loading frontages are not obtrusive in the community.

## 10. Managing parking

Due to the proximity to the LRT, the management of parking in the station area will promote reduced parking requirements for development. Parking will also be accommodated in a way that supports pedestrian-oriented and attractive public realm. Surface parking will be minimized, and other parking will be hidden from view behind buildings, in structured parking wrapped with active uses, or underground. On-street parking is strongly encouraged to help support retail activity.

## 11. Ensuring transit supportive density

As a major hub within Calgary, located on an existing LRT line, Brentwood is a desirable place to achieve a significant amount of density. A critical mass of people, business and activity will make Brentwood thrive as a liveable and viable community. Minimum densities are established, while maximum densities are aligned with the desired height limits and built form delineated across the station area.

## 12. Including a variety of building types

The development of a variety of building heights and densities will also mean a variety of building types ranging from low rise townhouses to high rise towers in the Brentwood station area. In addition to residential units, the way large scale retail developments accommodate pedestrian-friendly and transit supportive environments will also be considered.

## 13. Integrating with surrounding communities

Development will be most intense and highest in height closest to the LRT station, and scaled down towards existing low density residential communities. Height zones institute a transition that will ensure compatible building forms with the existing community while facilitating higher densities and height where it is most appropriate.

## 14. Ensuring quality building design

The quality of building design will be a major factor in the success of Brentwood station area as a liveable and attractive community. Buildings will exemplify the best in contemporary urban design. The interface with the street will be well articulated, permeable, have a human scale and provide weather protection for pedestrians. Building middles and tops will be designed in a way that helps reduce potentially negative impacts on the public realm of taller buildings. Environmentally sustainable features are also strongly encouraged.

## 15. Integrating green infrastructure and green buildings

As a major redevelopment location, the Brentwood station area should provide green infrastructure as the area is reconstructed. Green infrastructure can include storm water retention or collection areas, alternate energy sources and distribution systems such as a district energy network. Green site design should provide native vegetation to provide habitat and biodiversity, low water vegetation and increase surface porosity. Green building design could include green roofs, rainwater collection, gray water reuse and alternate energy sources.

## 16. Creating a diverse and inclusive community with a wide range of services

Providing a variety of housing forms and opportunities to built affordable housing units will assist in creating a more diverse community. Affordable housing units should be dispersed through the Brentwood station area within a variety of different housing types. New recreational, cultural, arts, social services and similar institutional spaces and programs will be required as the population of the Brentwood station area increases. City amenities and programs should seek to ensure equitable access regardless of age, income, culture or physical ability and foster participation by persons from diverse populations and respond to the changing social and demographic structure of society.

## 17. Making it happen

Creating a plan is only a start in the creation of a community. Transforming this plan into a reality is the real challenge. The implementation strategy, which includes a variety of tools to help finance growth and improvements, guide development applications and sustain the Plan over time will be utilized to help make the vision of Brentwood Station Area Redevelopment Plan a reality.

# 3.0 Plan Concept and Policies

## 3.1 Mobility Network

This section sets out the conceptual mobility network in Brentwood Station Area Redevelopment Plan. It introduces a plan for a comprehensive street and block network that will be one of the primary organizing elements of the community. The street network is a key component in creating an integrated community that connects key destination points throughout the area in a logical way. A concept for a street network begins with the understanding that urban streets have many different functions and accommodate every mode of transportation including walking, cycling, transit and driving.

During a public engagement workshop and visioning session, residents and stakeholders expressed concerns about the ability to move throughout the station area. The existing condition includes many barriers to movement caused by: an extremely limited street network, Crowchild Trail bisecting the area, and a limited pedestrian environment caused by the lack of sidewalks, clear routes or pedestrian-friendly buildings. These conditions need to be resolved in the creation of a new mobility network within the Brentwood station area.

### 3.1.1 Mobility Assessment & Plan (MAP)

The City of Calgary Transportation Department completed a Mobility Assessment and Plan (MAP), a supporting transportation study to assess the transportation impacts of the Brentwood SARP. Transportation was asked to complete the MAP to develop a multi-modal Plan to improve station area mobility.

The MAP had multiple objectives:

- Assess the existing conditions of the transportation network in the area (including traffic concerns raised by residents) and make recommendations on how to improve these conditions;
- Identify the demands of the densities from policy section 3.3.5 on the transportation network (emphasis on pedestrians and cyclists) within the plan area; and
- Develop an Improvement Plan for short, medium and long-term improvements to the transportation network to accommodate the demand for all modes of travel.

It should be noted that the MAP is a "living document" that will be revised over time. Estimates made about the future development were based on land use zoning and employment and population forecasts. As redevelopment occurs, data will be collected and used to revise the MAP. In this way, the MAP will remain up-to-date. Transportation is committed to collecting and analyzing data in partnership with local developers.

The redevelopment of the Brentwood station area will happen over an extended period of time and The City has the ability to continually monitor the development and approve or reject development on a phase-by-phase and project-by-project basis. The need is there though to be patient enough to understand that the initial increase in traffic that is likely to occur will be temporary if the project develops out as anticipated.

**Policies**

1 The Brentwood MAP shall be updated as development progresses, based on actual land use, intensity, and trip rates.

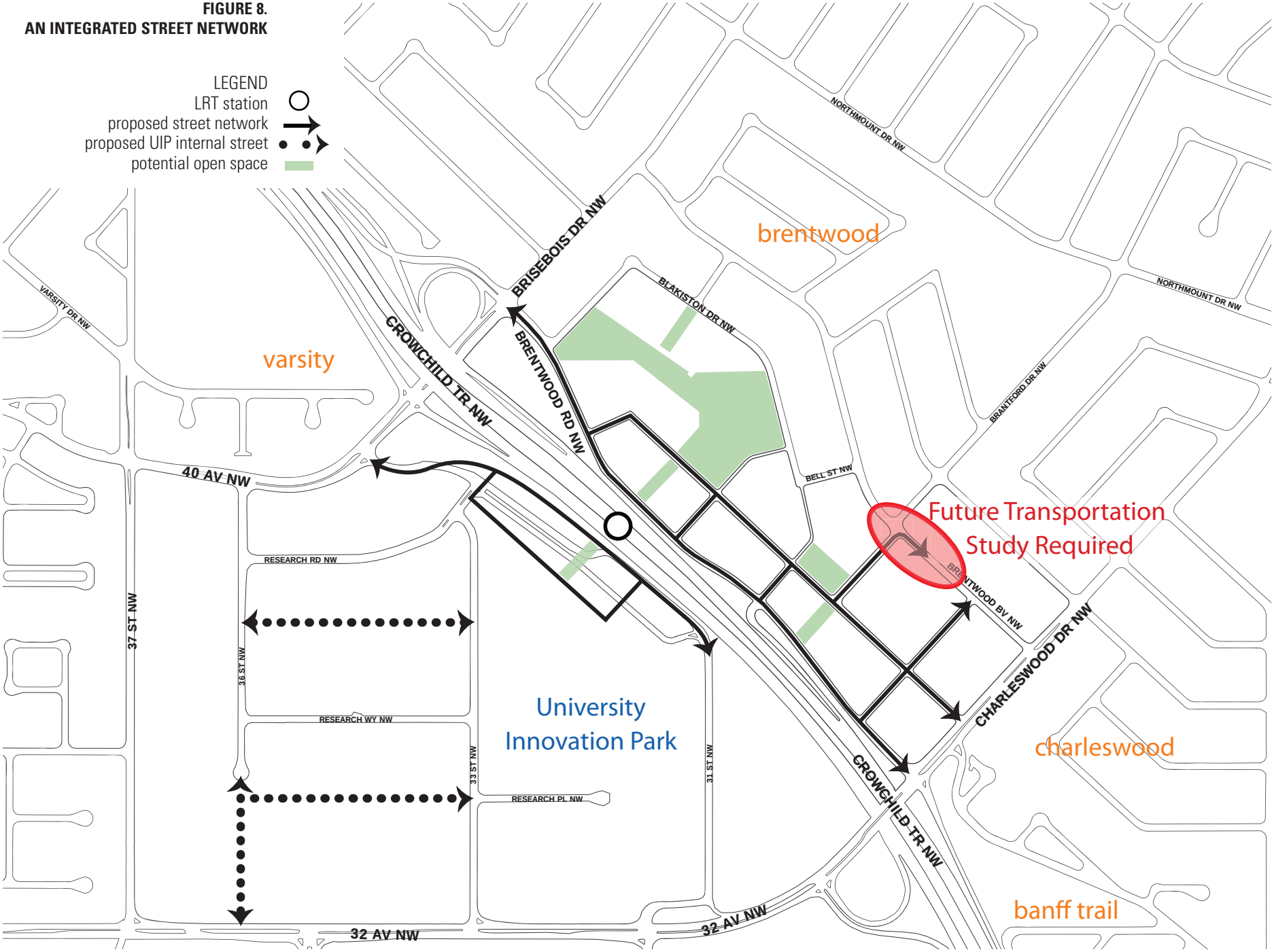
### 3.1.2 Introducing an Integrated Street Network

Perhaps the most important principle for Brentwood's urban structure is the introduction of an integrated street network into the station area. This means creating connections to existing streets in the adjacent residential community as well as throughout the areas that will experience redevelopment and between redevelopment sites.

The goal of the street network is to provide people with the means to move throughout the community and between key destinations as well as to the transit station efficiently, comfortably, safely and with universal accessibility. The street network will also be the primary organizing element that will inform the location of open spaces, development parcels and the placement of buildings.

The existing condition of large surface parking lots with commercial uses in the middle, that are serviced by driveways is not transit-supportive. Further, new development within the new Brentwood Station Area Redevelopment Plan should not be isolated or kept separate from the existing residential neighbourhood. Brentwood should become one integrated and connected community.

**FIGURE 8.**
**AN INTEGRATED STREET NETWORK**



## Creating an urban grid pattern

A street network can take a variety of forms. In an urban place, a grid network provides the most efficient and effective way to organize streets. A grid facilitates movement that is well connected, logical and easy to navigate for all modes of transportation. Grid patterns also possess the additional advantage of creating regular development parcels and manageable block sizes that can easily accommodate street-oriented buildings.

**Policies:**

The conceptual street network does not necessarily have to align exactly as is illustrated in this Plan; however, it shall be demonstrated how to achieve the following:

1 Proposed development within Brentwood Station Area Redevelopment Plan shall demonstrate how the circulation pattern will contribute to the creation of a connected, fine grain of streets and blocks, as illustrated in Figure 8.

2 New streets should not terminate or end in cul-de-sacs, crescents or result in a dead end.

3 A new east-west street through the Brentwood Shopping Centre and Brentwood Co-op lands shall be created to facilitate a Commercial Main Street spine and a direct route through the site, and to Brentwood LRT.

4 Proposed street networks should demonstrate how they achieve urban development parcels that facilitate street-oriented buildings.

5 Two new streets will integrate into the community of Brentwood, north of the Commercial Main Street spine (two new streets intersecting with Brentwood Boulevard N.W.).

6 Proposed street networks should allow for universally accessible routes for users including pedestrians, cyclists and motorists.

7 Two new pedestrian/bicycle only connections will integrate into community of Brentwood, north of the Commercial Main Street spine (intersecting with Blakiston Drive and Bell Street N.W.).

8 Potential traffic calming measures should be explored within the existing Brentwood and Varsity communities.

## Connecting key destination points

The area surrounding Brentwood LRT Station is a significant activity hub in northwest Calgary, which includes a number of major destination points. Connections to and from Brentwood LRT Station require special consideration, as it represents the primary destination point in the area.

**Policies:**

9 Proposed street networks shall demonstrate how they effectively allow easy and direct movement to and from Brentwood LRT Station.

10 The mobility network should consider the connections between major destination points and create legible, direct, safe and comfortable routes for pedestrians, cyclists and automobiles.

## Linking both sides of Crowchild

Crowchild Trail presents a significant obstacle to circulation in the station area. Each side of Crowchild is physically and psychologically separated from the other. Creating new connections and improving existing ones should better integrate both sides into more of a cohesive whole. Currently, there are three routes across Crowchild: the bridge at 32nd Avenue, the underpass at 40th Avenue and the pedestrian overpass at Brentwood LRT Station. The first two of these routes are unpleasant pedestrian environments. The existing LRT station pedestrian bridge begins and ends in surface parking lots. Further, there is a large distance between the LRT station crossing and 32nd Avenue.

**Policies:**

11 The City should explore creating a new pedestrian bridge over Crowchild Trail as illustrated in Figure 9.

12 Improvements to pedestrian routes along 32nd Avenue and 40th Avenue underpass should be implemented, including the widening of sidewalks, weather protection elements and enhanced pedestrian crossings.

13 Improvements to the transit station and related pedestrian bridges should be explored that would improve the pedestrian environment and strengthen the integration of these key pedestrian routes with surrounding new development.

### 3.1.3 Prioritizing Modes of Transportation

Although there are several modes of movement accommodated within Brentwood Station Area Redevelopment Plan, creating a walkable community with vibrant street life is a key principle in achieving a liveable and transit-supportive community. The design and function of the mobility network should recognize pedestrian circulation and comfort as its highest priority.

#### Establishing a pedestrian priority area

By virtue of its intense use and function, the area immediately surrounding Brentwood LRT Station will experience significantly higher pedestrian volumes and activity than other areas. The intent of the pedestrian priority area is to facilitate a comfortable and attractive place for pedestrians and reduce conflicts with automobiles as much as possible. As such, there should be special considerations for ensuring pedestrian comfort and safety in this area. Figure 9 sets out the pedestrian priority area surrounding Brentwood LRT Station.

As the Brentwood station area redevelops, both new residents and people arriving on transit, will seek connections toward the regional recreational opportunities at Nose Hill Park. Brantford Drive will provide a direct connection from the station area towards the park and should be developed as an active mode corridor.

**Policies:**

1 The design of streets, sidewalks and crossings within the pedestrian priority area and the active mode corridor should include special design treatments such as differentiated paving materials, enhanced landscaping, pedestrian lighting, public art and wider sidewalks to demarcate the area as a pedestrian priority district.

2 All development fronting streets or pathways designated as part of the pedestrian priority areas should include active frontages at grade including such uses as retail or restaurants.

3 Traffic should be slowed down in the pedestrian priority area and the active mode corridor by narrowing roadway widths, bumping out corners, introducing textured paving materials, and creating buffers such as on street parking between moving traffic and the pedestrian realm.

4 Street cross sections within the pedestrian priority area should follow a Commercial Main Street type illustrated in Figure 13 of the public realm section.

Prioritization of travel modes

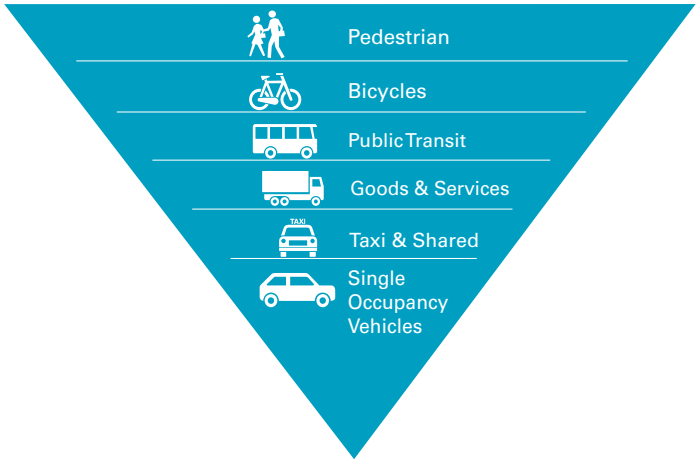
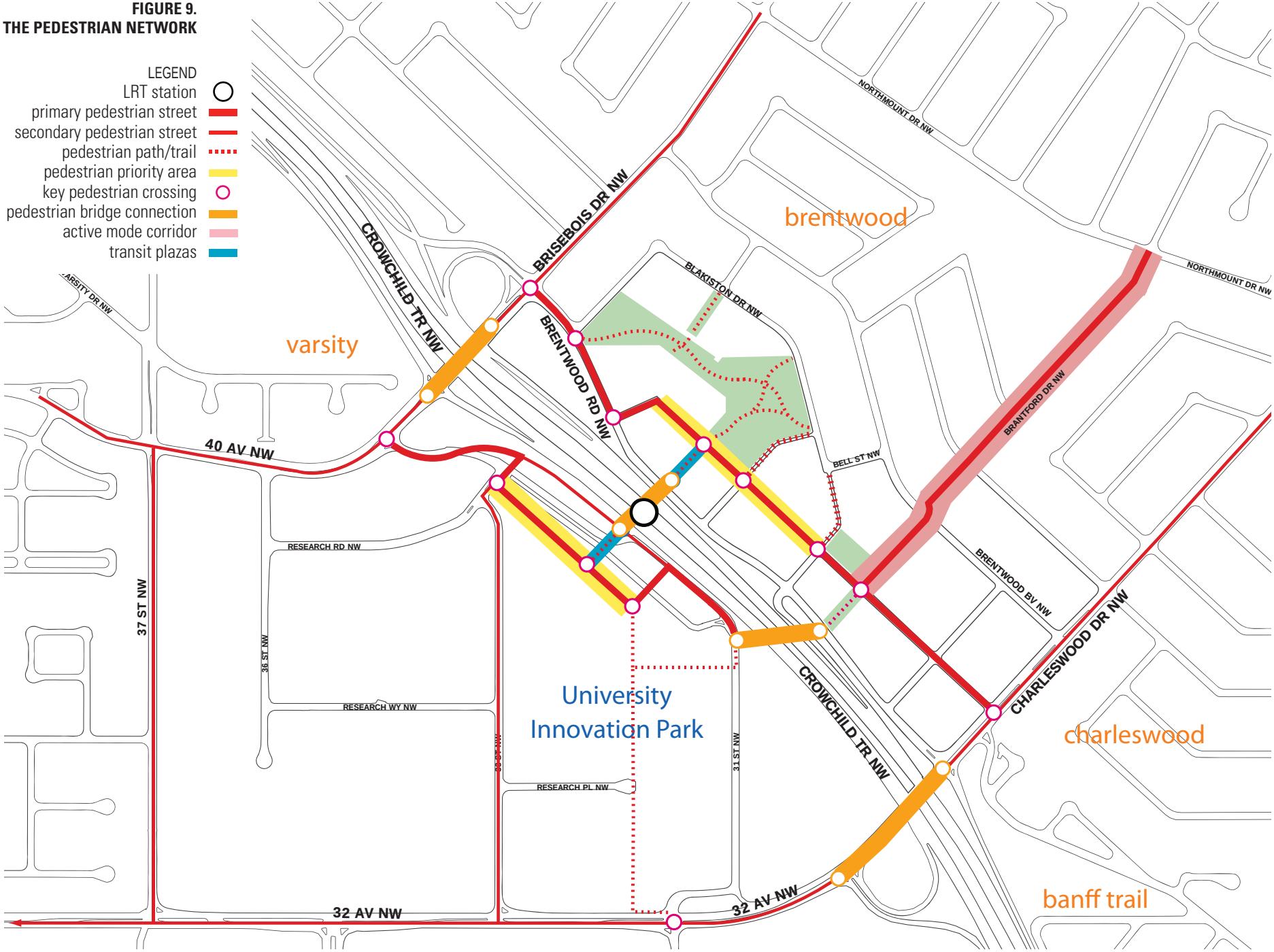


**FIGURE 9.**
**THE PEDESTRIAN NETWORK**



## Creating direct and legible pedestrian routes

Pedestrian movement to and from Brentwood LRT Station forms the basis for identifying primary and secondary pedestrian routes. Primary pedestrian routes are those that will carry the highest volume of pedestrian traffic and provide the most direct routes to Brentwood LRT Station. Secondary routes are those that feed pedestrian traffic onto the primary routes leading to and from Brentwood LRT Station. The pedestrian network is completed with the inclusion of pedestrian paths/trails, which are off street pedestrian routes.

**Policies:**

5 Proposed street network plans should identify primary and secondary pedestrian routes.

6 Primary pedestrian routes should provide clear, direct routes to and from Brentwood LRT Station.

7 Primary pedestrian routes should include high quality wide sidewalks and clearly identifiable street crossings.

8 Development along primary pedestrian routes should provide active frontages at grade to animate the public realm.

9 Secondary pedestrian routes should include generous sidewalks, street trees and be candidates for traffic calming measures.

10 Access to safe and friendly pedestrian paths/ trails should be considered in new development and improvements to public spaces.

## Completing the pedestrian network

Placing a priority on the pedestrian requires a complete sidewalk network. Currently, there is a fragmented and incomplete network of sidewalks that leaves the pedestrian with no clear route to walk. This leads to pedestrians having to cut through parking lots, pushing them into an unsafe situation in conflict with automobile movement. Street crossings are areas of potential conflict between pedestrians and motorists. Crossings should be considered part of the comprehensive pedestrian network.

**Policies:**

11 Proposed street network plans shall include sidewalks on both sides of the street.

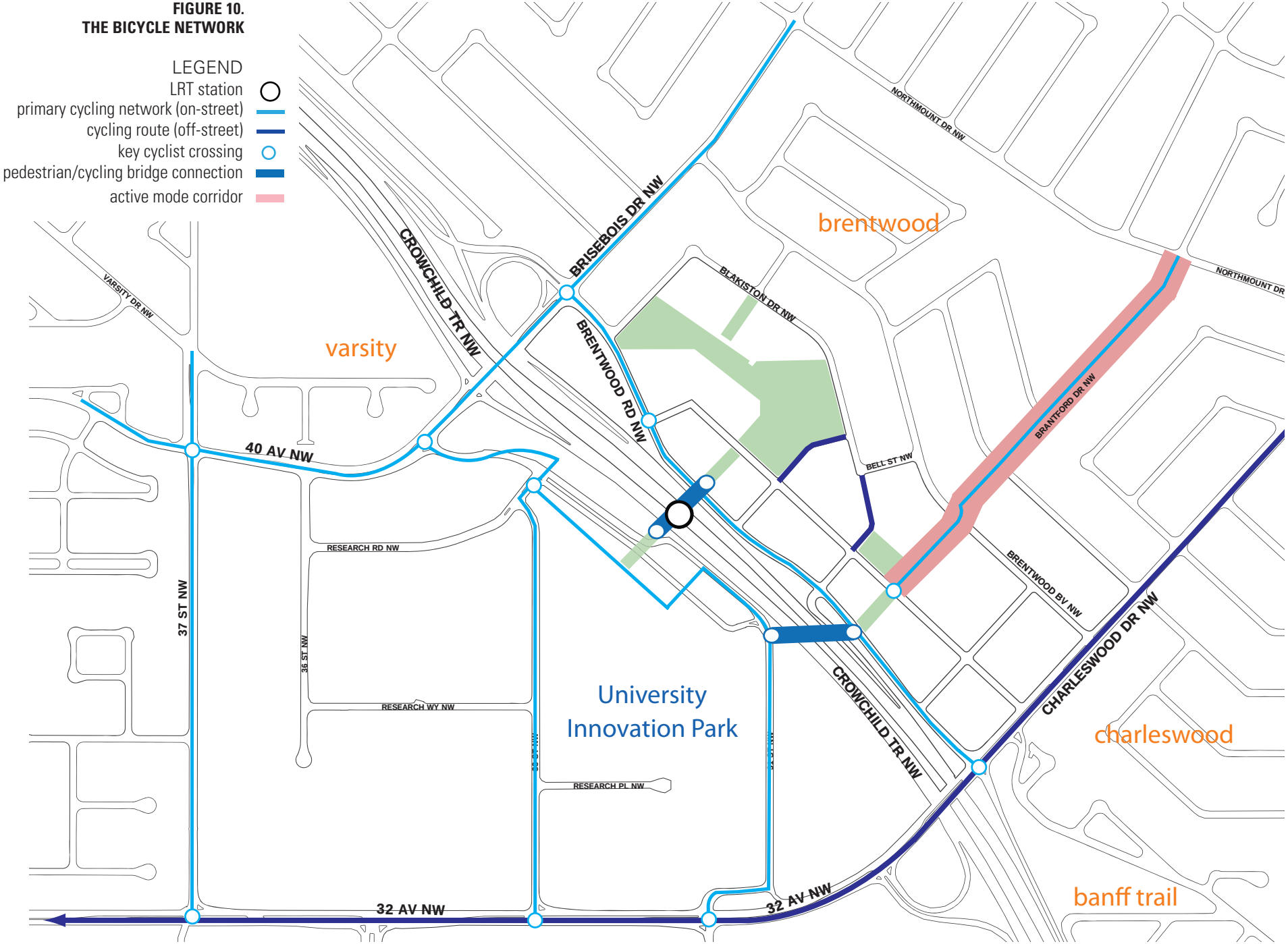
12 The design of sidewalks should consider their role within the station area, including whether it falls within the pedestrian priority area or is part of a primary pedestrian route.

13 Location of pedestrian crossings should be clearly identifiable to motorists.

14 Crossings in the pedestrian priority area or along primary pedestrian routes should be designed with differentiated paving materials or colours so its function as a pedestrian crossing is unambiguous.

15 Development at the +15 level is not permitted over streets, or between buildings except over a rear lane or private internal vehicle access route.

**FIGURE 10.**
**THE BICYCLE NETWORK**



## Integrating a bicycle network

Bicycles will share the road network with motorists and have a dedicated bicycle network connecting to Calgary's extensive pathway system. Figure 10 proposes a bicycle network for the station area. Bicycle parking is also an important consideration as part of integrating a bicycle network into Brentwood station area.

**Policies:**

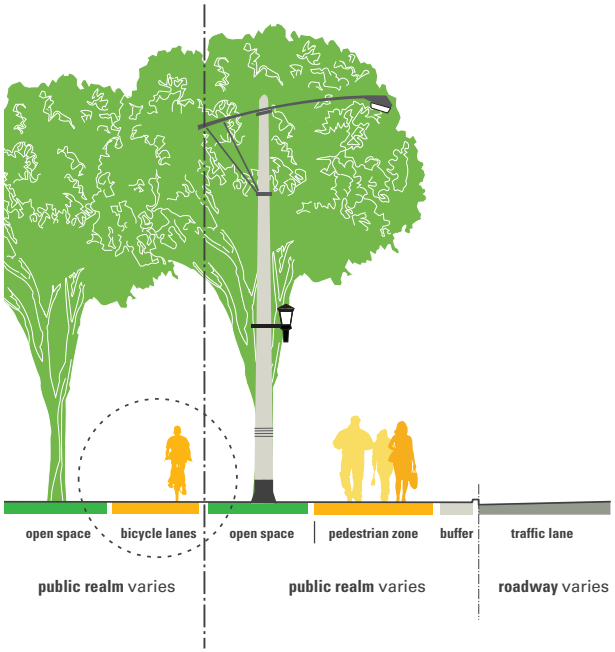
16 Streets identified as primary bicycle routes in Figure 10 should include dedicated bicycle lanes of at least 1.2 metres wide as part of the design.

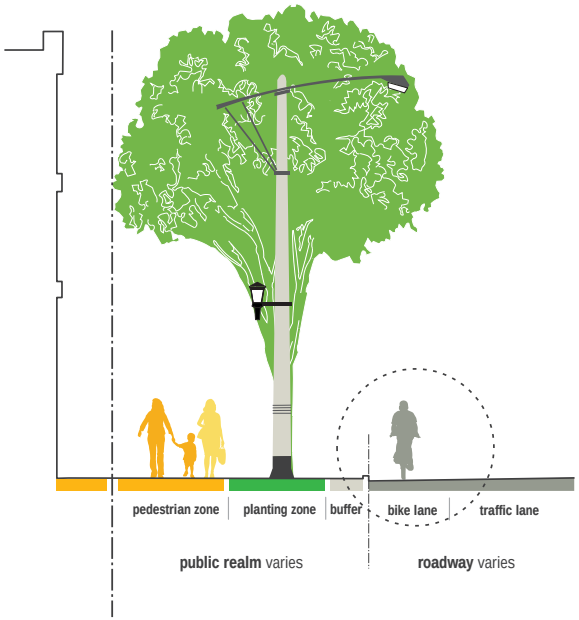
17 All new buildings are encouraged to provide generous bicycle infrastructure and amenities.

18 Publicly accessible bicycle parking locker storage facilities should be included in public space and in close proximity to the Brentwood LRT Station.

19 All street designs should include provision for bicycle parking posts or racks.

20 A new bicycle path connecting to the regional system should be created on the south side of Charleswood Drive as illustrated in Figure 10.

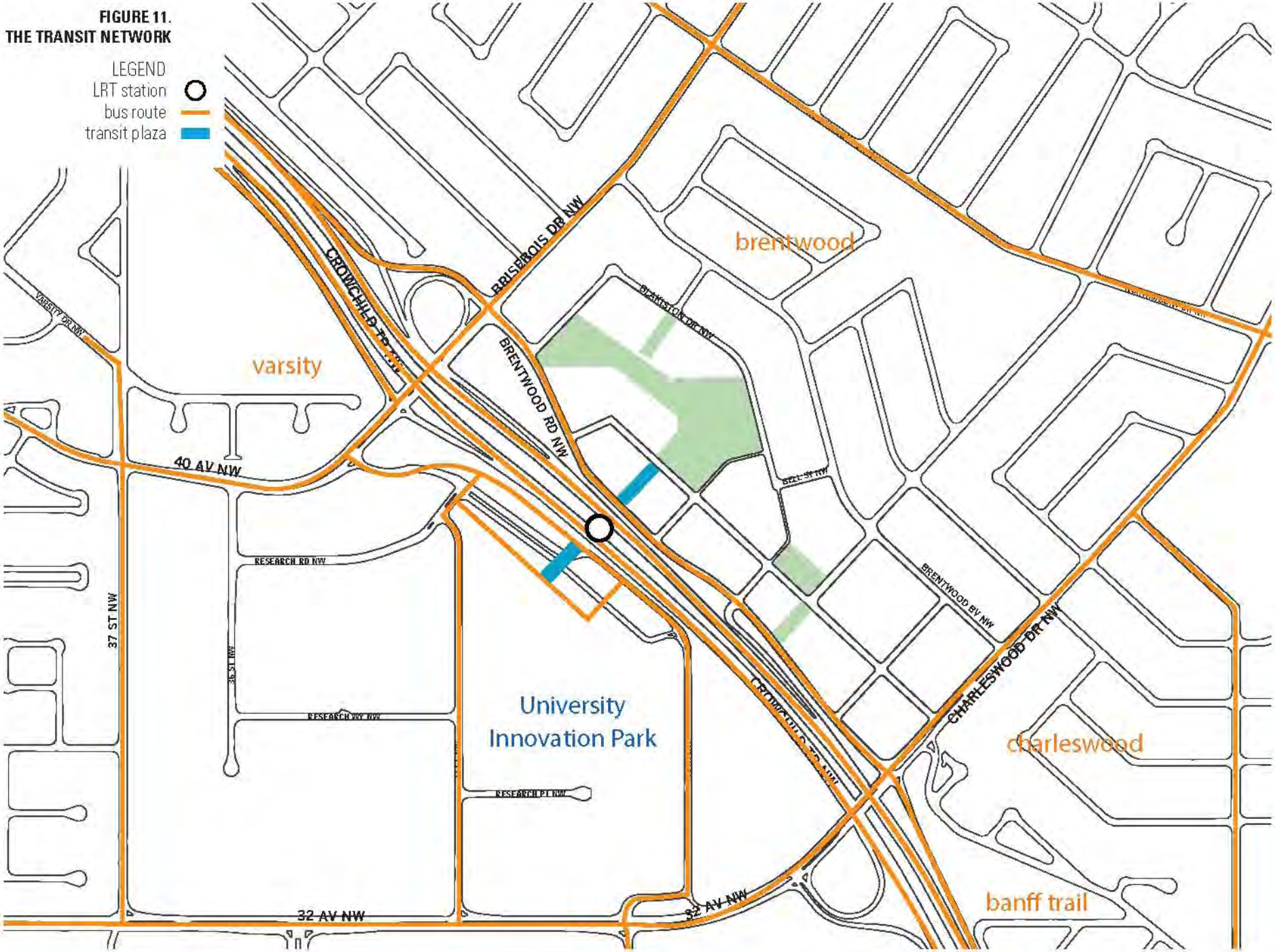



OFF STREET PEDESTRIAN AND BICYCLE LANE

ON STREET BICYCLE LANE

**FIGURE 11.**
**THE TRANSIT NETWORK**



## Integrating bus and LRT networks

Brentwood LRT and its connections to the surrounding area were originally designed to deliver people from bus loops and parking lots to the platform in the median of Crowchild Trail. Its role up to this point has been purely functional. As the Brentwood station area develops into a major hub and liveable community, the LRT station has the potential to be an unifying centre between the two sides of Crowchild Trail. The areas immediately adjacent to the station will experience the most intense development. This will tie directly into the pedestrian bridge connecting the station.

Brentwood is a major transit hub within northwest Calgary. In addition to the Brentwood LRT Station, many bus routes pass through, terminate or originate at Brentwood. Due to this intensity within the station area, it is important to efficiently and effectively integrate transit into the community.

Currently, large bus loops take up large amounts of land, and waiting areas are located on islands in the middle of a sea of parking lots. As a result, the waiting areas are not comfortable places for people to wait for buses.

**Policies:**

21 As a community mobility hub, Brentwood LRT Station should be a welcoming, hospitable and vibrant public space including consideration for a covered pedestrian bridge, connections into surrounding development, better circulation, shelters and seating areas, secure bicycle storage, public art and the ability to handle increasing capacity.

22 These potential improvements to the Brentwood LRT Station should be considered when Calgary Transit initiates the extension of the platform to handle 4 or 5 car LRT trains, depending on the availability of funding.

23. The Brentwood transit parking and bus terminal are critical components of the area public transit service. These lands are to be retained for transit use until such time as studies indicate portions may no longer be required for transit use.

## Accommodating vehicular traffic

As a community where pedestrians are the highest priority, vehicular traffic must be accommodated in a way that recognizes a balanced movement pattern between pedestrians, cyclist and vehicles. Designated routes for service traffic will help eliminate the infiltration of commercial traffic through the existing residential community.

**Policies:**

24 Vehicular movement should be slowed in pedestrian priority areas or on primary pedestrian routes by narrowing road widths, emphasizing pedestrian-oriented design such as textured road materials, slower speed limits or other traffic calming measures.

25 Service vehicles should be restricted on neighbourhood streets and be directed to commercial streets.

26 Access and servicing for buildings should not be permitted along pedestrian priority streets and primary pedestrian routes.

## Encouraging Transportation Demand Management

Transportation Demand Management (TDM) is an umbrella term for a variety of strategies to reduce automobile trips and parking requirements. These include providing subsidized transit passes to employees or residents (in place of subsidized parking spaces), rideshare or car pool programs, car co-op programs, flextime and telecommuting programs for local businesses.

**Policies:**

27 Encourage developers and employers to adopt TDM measures such as transit reimbursement, car pool programs, car co-ops, showers and lockers for active mode commuters, and telecommuting.

28 Reductions in required parking should be permitted with the adoption of TDM measures as outlined in section 3.3.4.

29 Developments are encouraged to include dedication of car pooling or car co-op spaces and work with program managers to identify need and priority locations.

## Managing Construction Traffic

With the redevelopment occurring over an extended period of time, the impact on the established residential community needs to be managed. Construction traffic should access the site via Brentwood Road.

**Policies**

30 Construction traffic should be restricted on residential streets and be directed to Brentwood Road N.W.

## 3.2 Public Realm

This section sets out the conceptual public realm framework for Brentwood Station Area Redevelopment Plan. Lively and beautiful streets, plazas, parks, and public art are the key place making elements that will make Brentwood a liveable, attractive and vibrant community. The positive effects of beautiful and comfortable places are well known. Quality places enliven us and create a strong sense of comfort and community gathering. Conversely, poorly designed public spaces can feel harsh, depressing, unsafe, and alienating. Brentwood needs to include a network of well designed public spaces that foster community building and place making, thereby improving the quality of life for existing and future residents and employees.

During Brentwood's public engagement workshop, residents expressed a strong desire to have a village-like atmosphere and people-friendly places in the station area. Currently, the immediate station area possesses very little sense of place and is generally a hostile environment for people due to the overwhelming amount of surface parking, auto-oriented buildings and the uninviting open space of Blakiston Park. However, the Brentwood station area has the potential to be a truly special community, capable of attracting residents, companies and workers who will be drawn by quality places.

This section provides direction and policy related to two key public realm components: streets and open spaces.

### 3.2.1 Creating Vibrant Pedestrian-Friendly Streets

Whether it's Stephen Avenue in Calgary, or Champs-Élysées in Paris, great cities are known for their great streets. Streets are the public spaces where people most often experience the public realm. As such, creating attractive, pedestrian-friendly streets is a vital component to creating a liveable community at Brentwood.

#### Identifying character-based street types

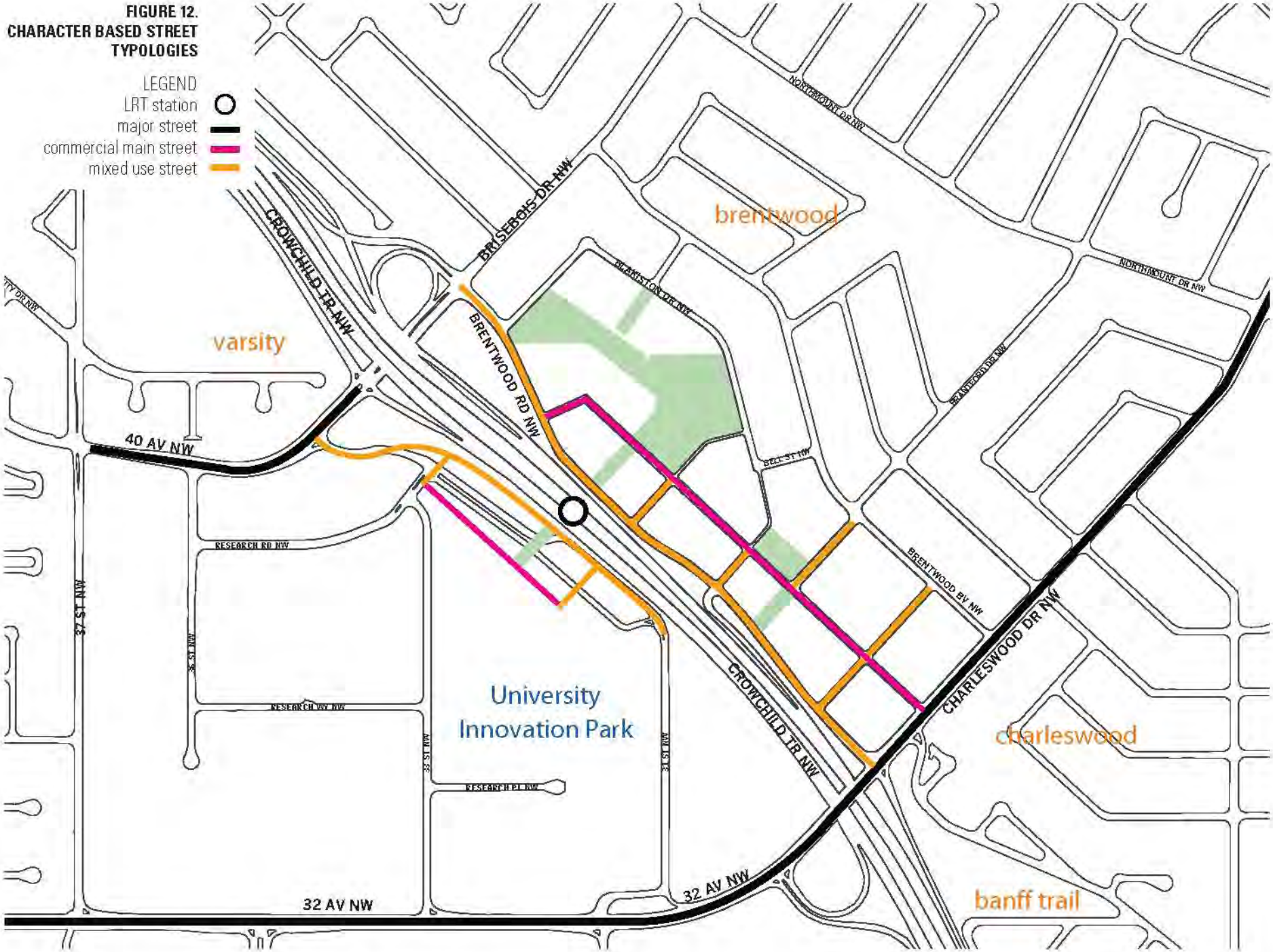
Not every street in the station area will fulfill the same function or role. Streets will have distinct characteristics and design depending on how it will be used by pedestrians, cyclists or motorists, as well as its surrounding uses. As illustrated in Figure 12, within Brentwood Station Area Redevelopment Plan, two primary street types have been identified to guide design as they are built or redeveloped.

**Policies:**

1 Development proposals and public street improvements should demonstrate how their design aligns with the street types as generally illustrated in Figure 12.

2 Public utilities should be planned to integrate with public realm cross sections to avoid conflict with pedestrian infrastructure including tree planting and other streetscape elements.

**FIGURE 12.**
**CHARACTER BASED STREET TYPOLOGIES**



**Commercial Main Street**
The Commercial Main Street is a key spine for the public realm and mixed use development. Its design has special characteristics that allow it to function as a gathering place with special break out spaces that give room for activity to spill out onto the street. This street type is mostly lined by retail uses and is a primary pedestrian connector through the village.

**Policies:**

3 Ensure that active street interfaces, including retail and restaurant uses, front onto Commercial Main Street.

4 Streetscapes should be designed with generous sidewalks and break out spaces for retail and restaurant/café uses, as illustrated in Figure 13.

5 Street parking is strongly encouraged to support retail and buffer pedestrians from moving vehicular traffic.

6 The Commercial Main Street spine should be designed to function like public streets, but portions of this street may be publicly accessible private right of way.

7 Service and loading should not be on the main street frontage.

8 Curb cuts for motor vehicle access along Commercial Main Street frontages should be limited to no more than 2 per block.

9 The new east-west Commercial Main Street spine should include design features to slow traffic, for example by alternating the alignment of traffic lanes at each intersection (as illustrated in Figure 15).

10 Disabled parking including handibus access should be provided throughout all streets.

**FIGURE 13. COMMERCIAL MAIN STREET TYPOLOGY**

## Mixed Use Streets

The Mixed Use Street accommodates the needs of a broad array of uses and through its design, anticipates the changing nature of uses over time. This urban street is of scale and character that creates an address for development while maintaining a strong pedestrian focus.

**Policies:**

11 Allow a variety of uses, including commercial and residential, to front onto Mixed Use Streets.

12 Mixed use streetscapes should be designed to include generous sidewalks, street trees, on street parking and the potential for small scale outdoor cafes as illustrated in Figure 14.

13 Service and loading should be accommodated from a rear or side lane.

14 Redesign Brentwood Road as an urban street, including sidewalk infrastructure and building frontages on the north side.

**FIGURE 14. MIXED USE STREET TYPOLOGY**

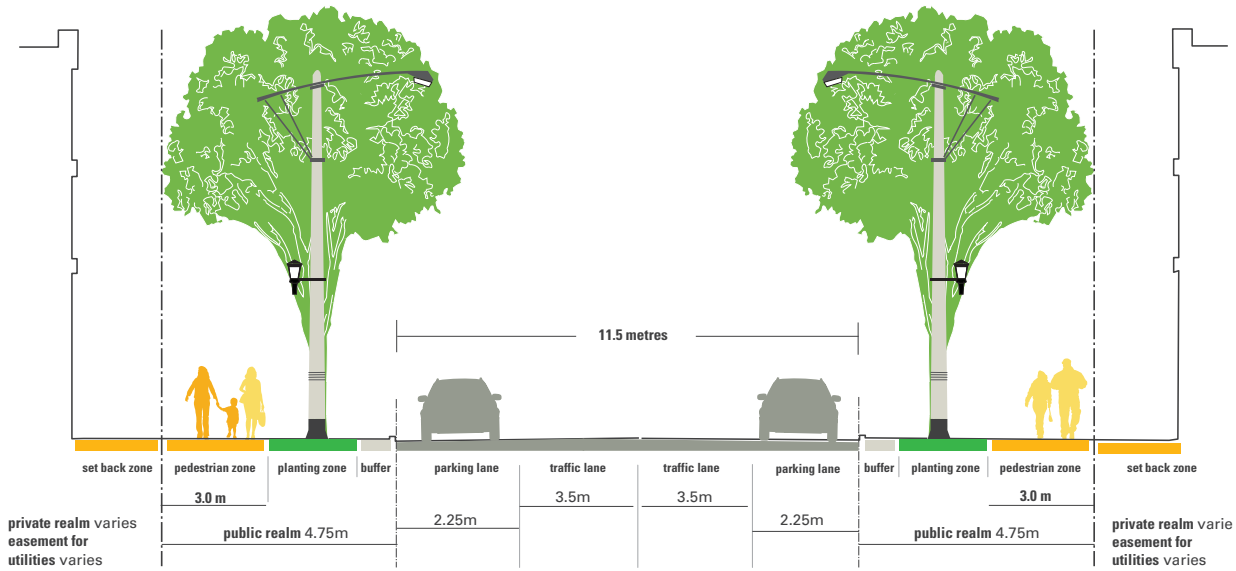
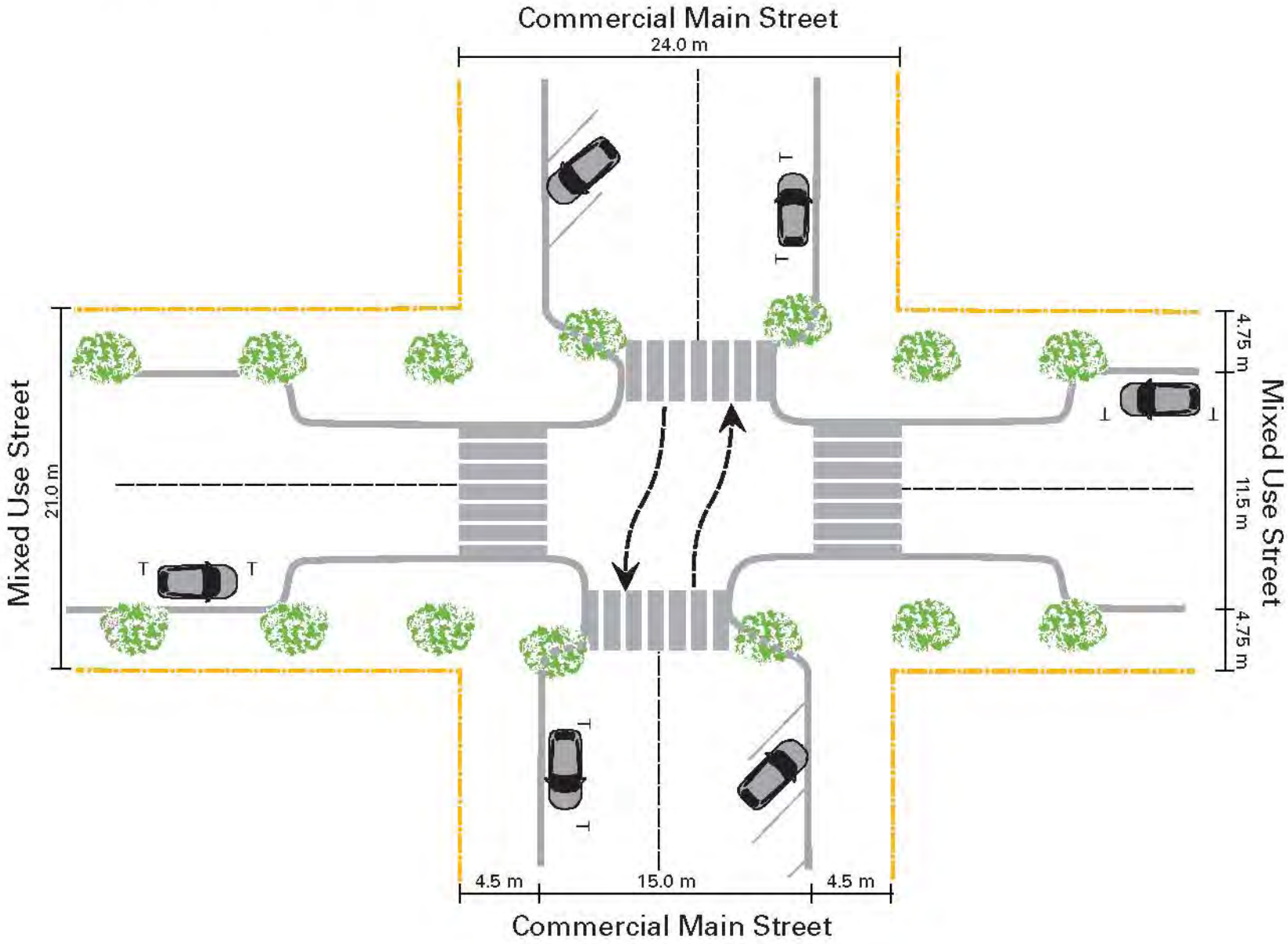


**FIGURE 15. AERIAL VIEW MIXED USE/ COMMERCIAL MAIN STREET**



## Designing pedestrian-friendly streets

Great streets share a number of common design elements. These elements help create safe, accessible, comfortable places for people to walk and enjoy. Important design features of the streetscape include, distinctive paving, street furniture, trees, landscaping, and lighting. Establishing streetscape standards that exceed the traditional standards in Calgary will be an important factor in creating a people-friendly Brentwood station area. Streetscape design should adhere to the following policies:

## Sidewalks and Crosswalks

15 Sidewalks should be built from high quality, durable material.

16 Crosswalks should be detailed with distinctive pavement treatment and be a minimum of 2-3 metres (depending of width of the adjacent sidewalk) in width.

## Street Furniture

17 Street furniture, including well designed benches, should be included in the composition of the streetscape.

18 Street designs should include attractive, human scaled light standards that will create a sense of safety and provide a distinctive design feature.

19 Well designed garbage and recycling bins should be incorporated into the streetscape.

20 Bus stops should be integrated into building facades where possible and stand alone shelters should be designed with high quality and durable materials.

21 Bicycle posts and other bicycle parking should be an integral part of the streetscape with a high quality design.

### Trees and Landscaping

22 A generous street tree canopy and other landscaping should be a primary feature of the streetscape.

23 Designs for tree planting on streets should accommodate and facilitate an average 25 year lifespan for sidewalk vaults and 50 years in tree lawns. Designs shall include sufficient root and branching space and should include a means of supplying supplementary water, fertilizer and air as well as protection against snow clearing and de-icing activities.

24 Additional soft landscaping to buffer pedestrians from vehicular traffic and improve the appearance of the street is strongly encouraged.

### Signage

25 There shall be no large automobile-oriented third party advertising billboards.

26 Provision for banners or other signage which distinguishes Brentwood Station Area Redevelopment Plan should be incorporated into the streetscape design.

## 3.2.2 Creating Great Open Spaces

Open spaces are a key component of the public realm and of community life. They create spaces for people to gather, enjoy recreational activities, or to simply relax. Open spaces come in a variety of shapes, sizes and forms. Anything from secondary spaces such as courtyards, parkettes, to urban plazas and substantial park spaces such as Blakiston Park are part of the open space network. Open spaces can also be private, such as green roof top spaces; semi-public, such as publicly accessible courtyards; or fully public like a park or urban plaza.

The open space network illustrated in Figure 16 identifies new and improved public space initiatives that can greatly increase the amenity within the station area and create key placemaking moments in Brentwood . The drawing demonstrates the types and scale of open spaces that should be found within the station area, but is not a fixed plan for exact size and configuration of open spaces. Section 4.1 in the Implementation chapter outlines mechanisms to achieve and develop a range of open spaces over time.

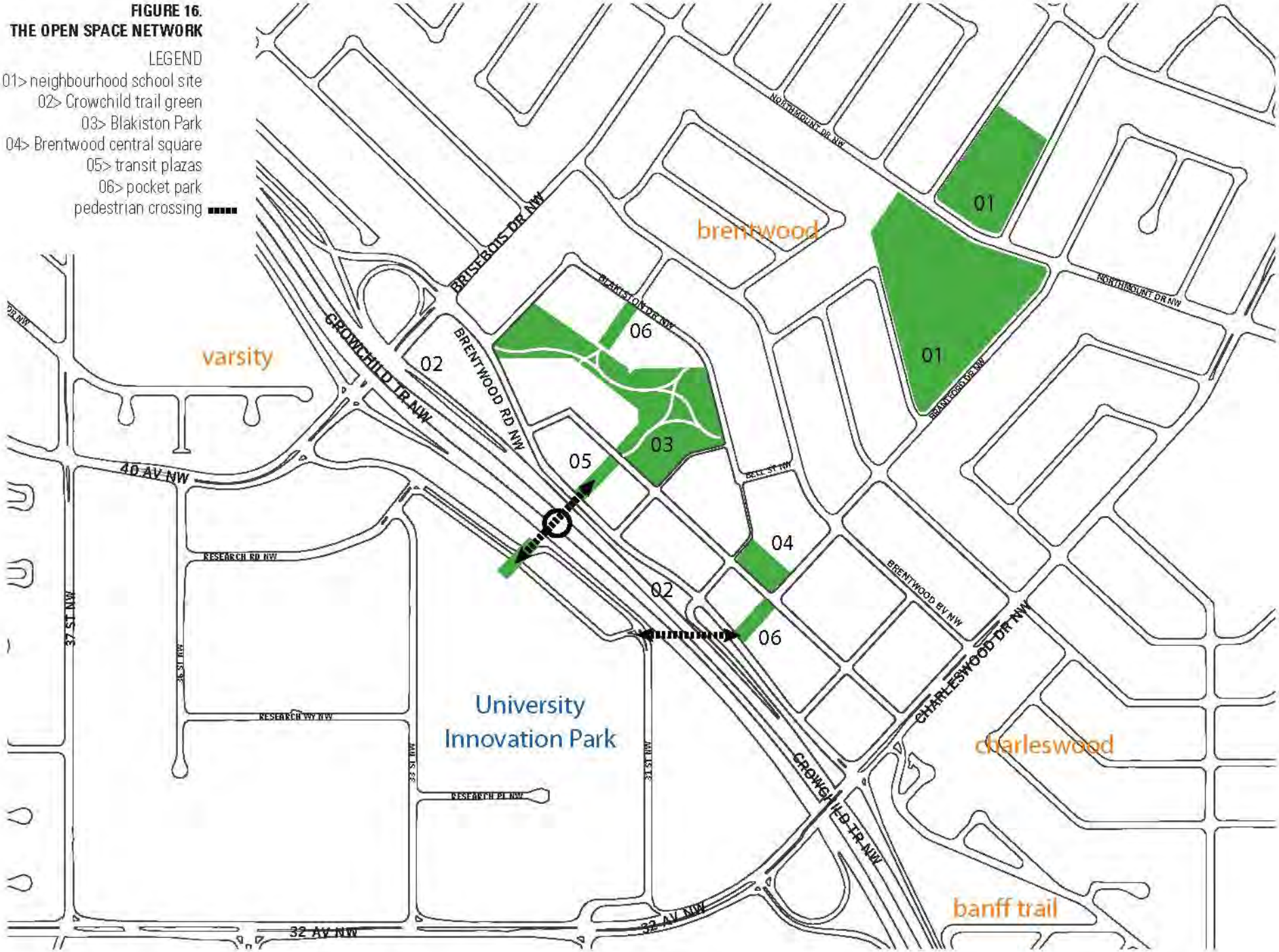
**Policies:**

1 Future development applications should demonstrate how the proposal contributes to the creation of an enhanced network of open spaces within the Brentwood station area as illustrated in Figure 16.

2 Explore options to provide community gardens.

**FIGURE 16.**
**THE OPEN SPACE NETWORK**

LEGEND
01> neighbourhood school site
02> Crowchild trail green
03> Blakiston Park
04> Brentwood central square
05> transit plazas
06> pocket park
pedestrian crossing



## Neighbourhood School Sites >01

The existing neighbourhood school sites already constitute important open spaces within the community. These spaces should be retained and enhanced over time as the community grows. There should also be consideration for improving pedestrian and bicycle connections between the station area and these open spaces.

## Crowchild Trail Green >02

A linear green space along Brentwood Road will provide a buffer from Crowchild Trail for new development. It is not recommended that a noise attenuation wall be constructed as along other portions of Crowchild Trail where low density residential housing is nearby. Instead, options for buffer landscaping and planting should be explored to assist in noise attenuation, and to improve the appearance of this freeway corridor.

## Blakiston Park >03

Blakiston Park is a significantly underutilized yet sizeable existing public space in the Brentwood station area. Commercial and residential uses back onto the park with loading facilities and parking, providing very little activity at its edges. The lighting and landscaping quality are also poor. As the most substantial open space in the Brentwood station area, it is essential that Blakiston Park be reconfigured and rejuvenated into a lively and attractive community focal point.

**Policies:**

3 Development surrounding Blakiston Park shall be oriented to the park with active frontages.

4 Blakiston Park should be reconfigured, as shown in Figure 16, to normalize the development potential adjacent to the Park.

5 A Blakiston Park Master Plan should be created to guide the renovation of this significant public space. The Master Plan would contemplate programmatic, enhanced landscaping, circulation and pathways, environmental performance, water drainage and lighting.

## Brentwood Central Square > 04

The Brentwood Central Square will be the most significant new open space within Brentwood Station Area Redevelopment Plan. This square is envisioned as a hard landscaped urban plaza that will act as a strong community focal point. Development fronting the Brentwood Central Square should include retail, restaurants and publicly accessible uses in order to help animate the space and provide eyes onto the square. The design of the square should support the potential for a farmer's market, festivals and other community programming. The construction of a parking structure underneath the park below grade is encouraged.

## Transit Plazas > 05

Transit plazas at either end of the Brentwood LRT pedestrian bridge will act as gateways into the community and provide efficient connections for transit users. These spaces will generally be hard surface plazas, with active uses including retail and restaurant spaces fronting onto them.

## Pocket Parks > 06

Secondary open spaces such as pocket parks are strongly encouraged in Brentwood Station Area Redevelopment Plan. Potential locations for pocket parks are suggested in Figure 16. In some cases, pocket parks can serve as secondary pedestrian connections through blocks to help facilitate ease of movement throughout the community. Pocket parks may be public or publicly accessible private spaces.

### Semi-Public and Private Open Spaces > 07

Green spaces that are part of new developments will include private courtyards, green roofs and other semi-public spaces. These spaces should be included in every new development to provide adequate amenity spaces for residents and users, and provide a public benefit to the community as a whole. High quality landscaping in places such as corner plazas, front yards, or other interstitial spaces add an element of beauty to the community, and is strongly encouraged.

### 3.2.3 Ensuring Accessibility in the Public Realm

Ensuring that all people can comfortably and easily access all places within the Brentwood station area is vital. Those who are physically impaired require special consideration in the design of the public realm.

**Policies:**

1 All curbs at crosswalks and intersections should have curb cuts to accommodate movement for the physically impaired.

2 Signalized intersections should include audible aids for the visually impaired.

3 Sidewalks and pathways should include an urban Braille system to assist the visually impaired in navigating the community.

4. Ensuring accessibility by encouraging developers to follow City of Calgary Access Design Guidelines.

### 3.2.4 Incorporating Public Art and Programming in the Public Realm

Incorporating public art into the public realm is increasingly seen as a vital aesthetic, social, economic and cultural advantage for communities. Public art is a major component of place making and should be integrated at every opportunity possible. This integration of public art may be defined as: the inclusion of artists on professional design teams to affect space design from the initial stages of planning; the creation of objects to beautify public spaces, improve their function and enhance their meaning in the community; and the creation of site-specific experience using various art forms and media, including time-based works, to enhance the sense of place.

**Policies:**

1 All projects from both private and public investment, are encouraged to contribute to a Brentwood public art program for public spaces in the station area.

2 Funding for public art installations should be identified in City projects in accordance with the Public Art Policy. In addition, the Community Enhancement Fund may be used to fund public art.

3 Private development should consider public art opportunities as part of their project design.

4 Encourage community infrastructure such as benches, lighting, sidewalks, bus shelters, and bike racks to be artistically designed or incorporate public art.

5 Include public art components on streets and open spaces.

6 Encourage design of streets and open spaces to take into consideration the ability to program the park with markets, festivals or other activities. This could include infrastructure such as electric plug-ins and public washrooms.

## 3.3 Land Use

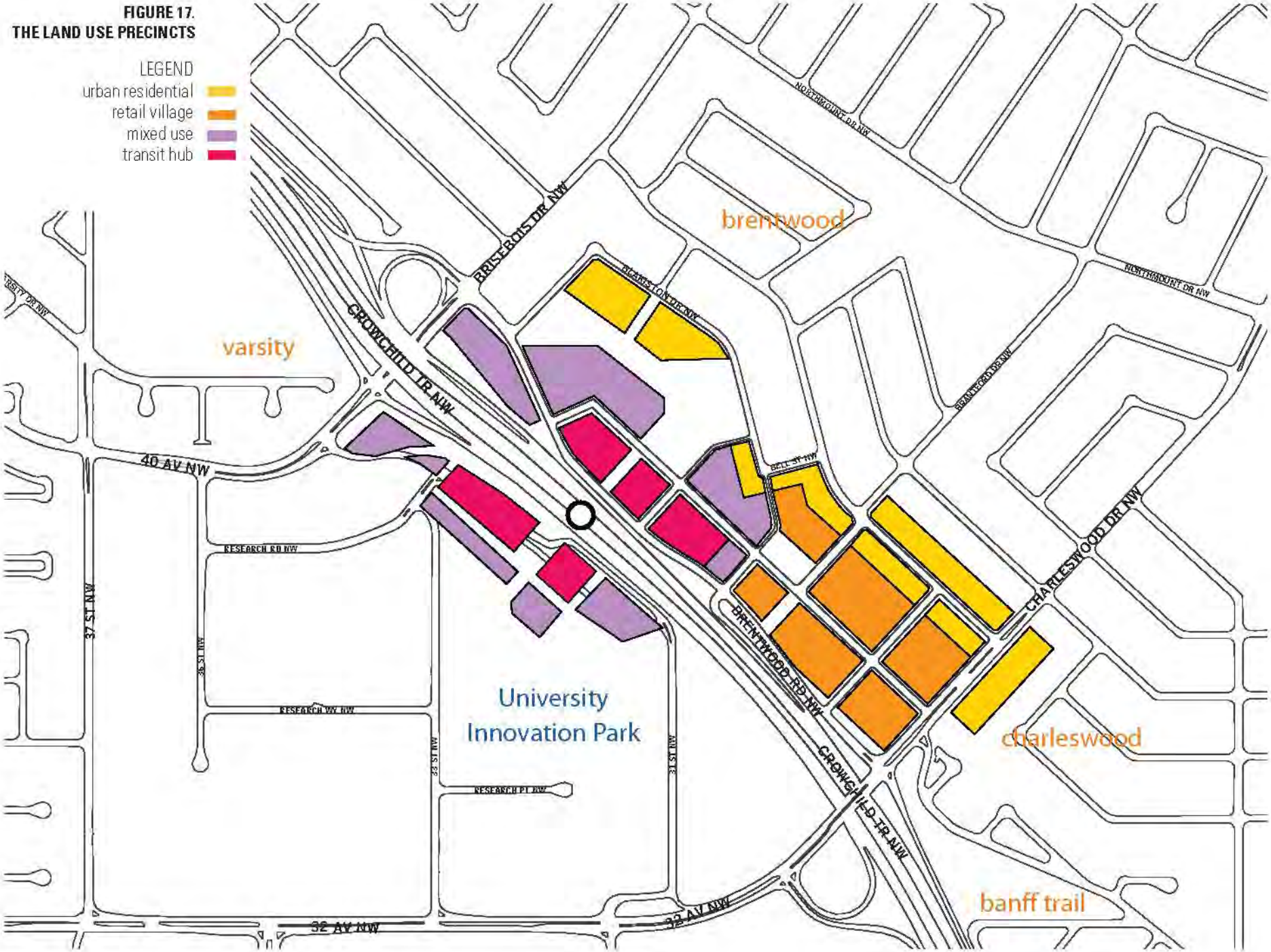
This section sets out the land use framework for Brentwood Station Area Redevelopment Plan. The station area presents virtually a blank slate for reurbanization. While many of the existing land uses support a range of transit-supportive activity, none of the existing forms of development, which consist primarily of large surface parking lots and low-scale auto-oriented commercial uses, are transit-supportive.

Over time, a complete reurbanization of Brentwood Station Area Redevelopment Plan is needed to achieve the vision of a liveable community and maintain the area as a major employment, education and retail destination within Calgary. This change will occur over time through the initiative of private and public land owners.

### 3.3.1 Establishing Land Use Precincts

Land Use Precincts are places with distinct elements that will each have unique roles to play in achieving the vision for Brentwood Station Area Redevelopment Plan. Establishing these precincts are a way to structure the concept plan to achieve many of the important principles outlined in this document. Development within these precincts should pay close attention to their intent and role. All land use precincts, except the stable residential community and urban residential area, will be able to facilitate a broad mix of uses including office, retail, institutional and residential. Specific land use designations will occur at the Outline Plan and land use redesignation stage, but follow principles outlined in this section of the plan.

**FIGURE 17.**
**THE LAND USE PRECINCTS**



**Stable Residential Communities**
The stable residential communities that surround Brentwood Station Area Redevelopment Plan possess their own distinct character. This character will remain relatively unchanged as redevelopment of the station area happens over time. Improving the connection of places near the station with the existing residential community will help ensure that the area becomes more of an integrated whole. Low scale infill and incremental improvements to mobility and key open spaces will enhance the stable residential community over time. The area will remain primarily residential in use.

**Urban Residential**
The urban residential district is a transitional area between the existing low density residential area, and the more intense mixed use areas within a redeveloped Brentwood station area. Its character is primarily residential with some potential for live-work type units. As a transition area, the height and density ranges from medium to low. Buildings between 2 - 4 storeys will provide a sensitive interface between redeveloped and established areas. The urban residential precinct includes lands which already have medium density residential uses. The two clusters of apartment blocks, one lining Blakiston Park, and the other fronting Brentwood Blvd between Charleswood Dr. and Brantford Dr., could potentially be rebuilt over time. These would remain as medium density residential clusters, but should be redeveloped with more street-oriented forms.

**Retail Village**

The retail village will be the commercial hub within the Brentwood station area. Today this area has a critical mass of retail activity and serves as a regional destination. This critical mass should be reinforced over time with the addition of more retail space. The precinct should evolve over time from an interior suburban mall and big box format to one of a urban format retail main street. Larger format retail within Brentwood should be concentrated in the retail village. However, these larger retail uses are encouraged to be incorporated in an urban format, with smaller floor plates, distributed over multiple floors and incorporated into mixed use buildings. Parking within the retail village should be provided through a combination of on street parking and underground parking.

Other uses such as residential or office may be incorporated as complimentary uses within the retail village. Building types will be retail-oriented at grade, with medium scale buildings on top.

**Mixed Use Precinct**

The mixed use precincts will offer a wide range of uses including residential, office, and retail as well as a variety of building types. Areas closer to Crowchild Trail or the Brentwood LRT Station will be taller, podium and tower building types, with mid rise types elsewhere. This area will not be the primary retail hub within Brentwood, but areas with active frontage designations will support retail uses. One large format commercial use, a supermarket may be included in the mixed use precinct.

**Transit Hub**
By virtue of its proximity to Brentwood LRT, the transit hub will facilitate the most intense amount of density and use within Brentwood station area. Eventually, it will be a unifying element that will tie both sides of Crowchild Trail together.

Its use will be residential, commercial or institutional and will include supportive ground level retail in places where active frontages are designated. Parking requirements should be further reduced for uses within the transit hub. This is where the tallest towers at Brentwood are appropriate and may be up to 90 metres in height.

### 3.3.2 Facilitating a Broad Mix of Transit Supportive Uses

Facilitating a wide variety of uses is critical to creating a liveable, transit-supportive community at Brentwood. Urban villages all possess the common characteristic of a "messy vitality". That is, there are many different people and activities in the community that make it come alive.

#### Ensuring transit supportive uses

Creating a wide mix of uses is important and should be intense and transit supportive. Transit supportive uses are those which are capable of generating significant levels of transit ridership. Such uses also support high levels of street activity and vitality at all times of the day. Development in the station area should demonstrate that it is transit-supportive in use, scale and mix.

**Policies:**

Uses that are encouraged in the station area include, but are not limited to:

1 Employment uses such as offices and research facilities

2 Retail uses, either stand alone or integrated into buildings

3 Educational institutions including colleges and universities

4 Residential uses including low rise townhouses, mid rise buildings and high rise towers

5 Services including hotels, day cares and clinics

6 Entertainment uses including recreation and cultural facilities, theatres, fitness centres, and libraries

7 Institutional uses such as seniors housing, health care and community facilities

#### Discouraging auto-oriented uses

Auto-oriented uses detract from the character and walkability of a liveable community and also inhibit the ability to gain transit ridership from development near the station. These uses generate significant amounts of automobile traffic conflicting with pedestrians and require vast amounts of parking. They are also low density and consume greater amounts of land without creating an attractive public realm.

**Policies:**

New land use districts within the Plan area should strongly discourage auto-oriented and low density uses including:

8 Stand alone: gas stations, auto parts repair and service, car washes, drive throughs, car dealerships, commercial uses under 2.0 FAR, and commercial surface parking

9 Low intensity industrial: bottle depots, warehouses and storage facilities

10 Low density single detached housing

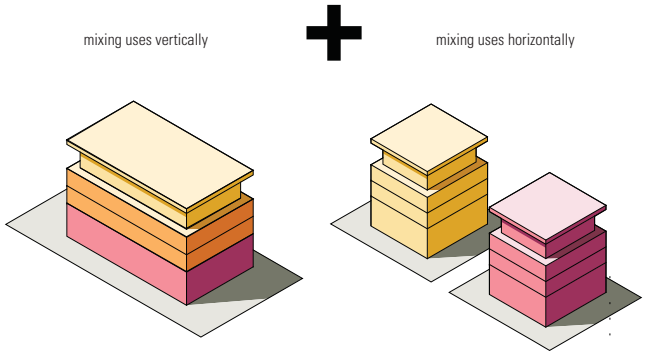
11 New commercial or other large surface parking lots

## Mixing uses both horizontally and vertically

Providing for a mix of people who live and work in the area as well as amenities they use, such as retail, is critical in capitalizing on the opportunity to accommodate growth in transit supportive ways.

Brentwood's mix of uses can be incorporated in two ways:
Vertically: whereby multiple uses, for example retail on the ground floor, office uses on lower floors, and residential uses on higher floors, are accommodated within a single building.

Horizontally: Brentwood as a whole will have a wide variety of uses, but different buildings may have single uses. Thus, while three buildings adjacent to each other may have different uses, on a broad scale the uses in the station area will be mixed.




## Maintaining Brentwood as a regional commercial and retail centre

Currently, Brentwood is a regional retail destination in Calgary. Much of the area's retail and services are located at Brentwood, thus it is important to strengthen and increase retail and service options as population and intensity in the area increases. A wider variety of retail and services will allow residents to meet all their daily needs without having to leave their community. Larger retail uses, retail uses above 930 square metres (10, 000 square feet) including big box, supermarkets, or department stores are encouraged to be a part of Brentwood Station Area Redevelopment Plan. However, these larger retail uses should be incorporated in an urban format, with smaller floor plates, distributed over multiple floors and incorporated into mixed use buildings.

**Policies:**

12 Encourage Brentwood to continue as regional retail destination by permitting a variety of retail and service uses to exist in the station area.

13 Create a strong commercial urban format retail main street, with a strong sense of place, which will be a regional destination in Calgary.

## Solidifying Brentwood as a key employment and institutional hub

One of Brentwood's greatest strengths is its position in Calgary as one of the only major existing employment hubs outside of Downtown. This should be further strengthened into the future as Brentwood redevelops. Education, research and technology clustered near Brentwood LRT are significant emerging industries in Calgary. Expansion of this hub is strongly encouraged as part of the redevelopment of Brentwood station area.

**Policies:**

14 Encourage Brentwood to continue as a major employment and institutional hub by allowing a variety of these uses within the station area.

## Increasing housing choices

One of the consequences of the way Brentwood has developed is the lack of housing choices that exist in the area. Housing is primarily comprised of single family bungalows, with very few multi-family dwellings. With population aging and housing affordability declining, more people are looking for different housing options that don't currently exist in Brentwood. People are being forced to leave their community and are looking to other areas in the city to meet their housing needs.

Places like the Brentwood station area present an opportunity to introduce more affordable housing for Calgary's changing population including options for seniors and other lower income earners for whom access to transit is a priority.

**Policies:**

15 Encourage different housing types within Brentwood station area including: townhouses, live/work units and apartment units of all sizes.

16 Encourage the development of seniors housing and affordable housing initiatives.

17 Encourage the development of rental, co-op and other affordable housing options.

18 Encourage affordable housing units to be mixed into the same buildings as market units.

## Introducing new community facilities as population grows

As population at Brentwood increases, community facilities will also need to be integrated to support residents. Recreation centres, community centres, day cares, libraries and other facilities that support the community are necessary to making Brentwood truly liveable and sustainable.

**Policies:**

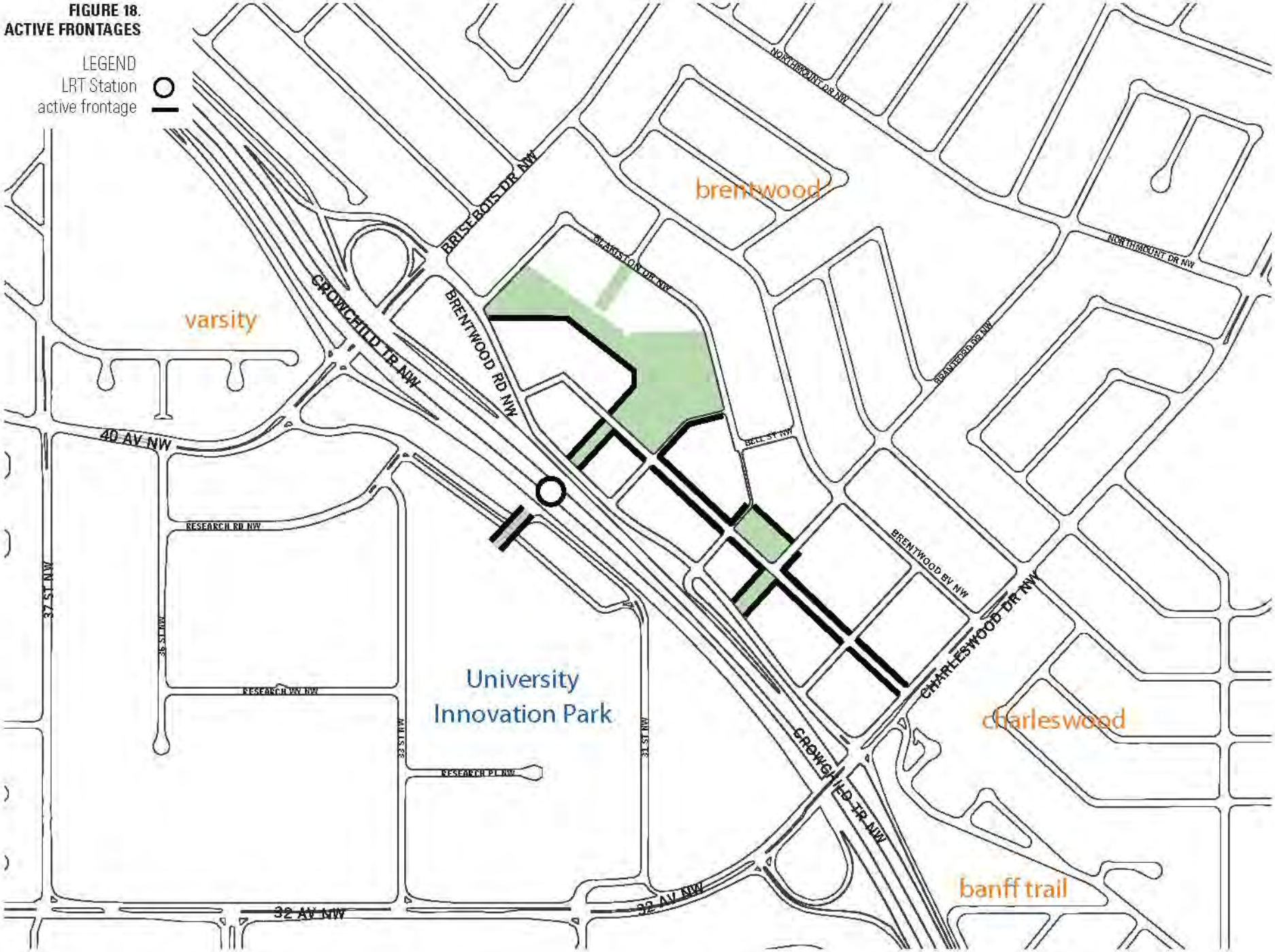
19 Community needs assessments should be undertaken by the City as the Brentwood community grows.

20 Significant development should demonstrate the impact on demand for community facilities and recommend a means to contribute to this important infrastructure.

21 Where possible, community facilities should be located adjacent to pedestrian priority areas and public spaces.

**FIGURE 18.**
**ACTIVE FRONTAGES**

LEGEND
LRT Station
active frontage



### 3.3.3 Ensuring Appropriate Ground Level Uses and Design

To reinforce the urban village character of Brentwood, the uses fronting onto streets and parks need careful consideration. Figure 18 illustrates where it is critical that active frontages be incorporated into the ground floor to animate and accentuate the street as a key public space.

On primary pedestrian routes, including the main streets and frontages onto important public parks and urban plazas, active frontages are considered necessary for creating a lively and safe environment.

#### Active frontages

**Policies:**

1 On the commercial main street and new urban public plaza, all frontages should primarily consist of street oriented retail, restaurants and services.

2 Commercial uses that do not generate significant pedestrian activity, such as financial institutions, may also locate along active frontages, provided frontages do not exceed 10 metres (30 feet). The remainder of the use may locate above or below the ground floor.

3 Frontages facing onto Blakiston Park should be active and may consist of residential or commercial uses.

4 Large lobby frontages or other inactive frontages are strongly discouraged.

5 All at grade residential units should, in most cases, have individual primary entrances and main floor levels placed slightly above grade (0.3 - 1.0 metres) in order to achieve visual privacy from any sidewalks and streets.

#### Service and loading frontages

Generally, servicing functions are a detriment to a pedestrian-oriented environment. Such functions should be screened from pedestrian view, and/or not located along street fronts.

**Policies:**

6 Wherever possible, loading and servicing functions should not be accessed from commercial main streets

7 Through service lanes behind buildings within blocks should be created to accommodate the majority of servicing, loading and parking access as illustrated in Figure 18.

8 Servicing and loading functions should not be permitted in areas where active frontages are specified in Figure 18 or along public open spaces.

## 3.3.4 Managing Parking

The goal of creating a pedestrian and transit-oriented Brentwood station area demands making the management of parking a high priority. Car-oriented places like Brentwood today, illustrate the impacts of vast amounts of surface parking.

### LRT Park'n'Ride surface parking lots

The existing LRT surface parking lots at the Brentwood station will remain until the sites redevelop. Prior to redevelopment, an assessment of public parking requirements to serve transit users will be undertaken.

### Reducing parking requirements

A primary tenet of creating a liveable, pedestrian and transit-oriented community is to reduce dependence on the automobile. Clustering people and development around transit infrastructure reduces the need to drive in these areas. A higher proportion of people living in the area will not own cars, or might own fewer cars. Also, fewer people commuting to the station area for work will drive, and many of the commercial or other uses in the area will be accessed by foot or transit. Consequently, parking standards near stations are typically lower relative to other suburban areas further from transit stations.

**Policies:**

1 For residential uses, parking should be provided in structured or underground lots.

2 Residential parking shall not be provided on street.

3 Parking relaxations for small scale, ground floor commercial uses should be encouraged for mixed use buildings.

4 Commercial auto share should be a candidate to count for parking provisions.

5 TDM measures, such as transit reimbursement, car pool programs, car coops and telecommuting, can reduce parking demand and automobile ownership. Individual development projects shall demonstrate how TDM could reduce parking requirements.

6 Shared parking facilities are strongly encouraged to reduce the total number of spaces required, reduce development costs and to reduce the amount of space required to facilitate parking.

7 New developments shall provided bicycle parking and related infrastructure on site.

8 The issuance of residential parking passes should be revised to consider on-street frontage, off-street parking supply and lane access. Dwellings in new multi-residential development should not receive parking passes, regardless of their off-street parking provisions. Visitor parking should be managed through a guest permit system rather than the current visitor parking system.

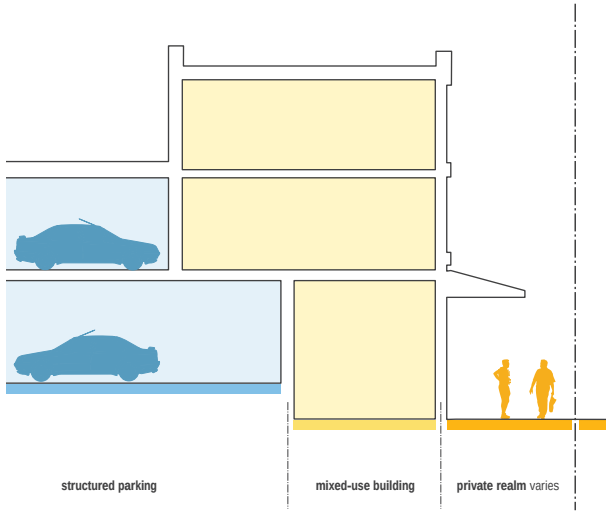



**FIGURE 19. STRUCTURED PARKING: SECTION**
Parking structures should be lined with uses to animate the streetscape.

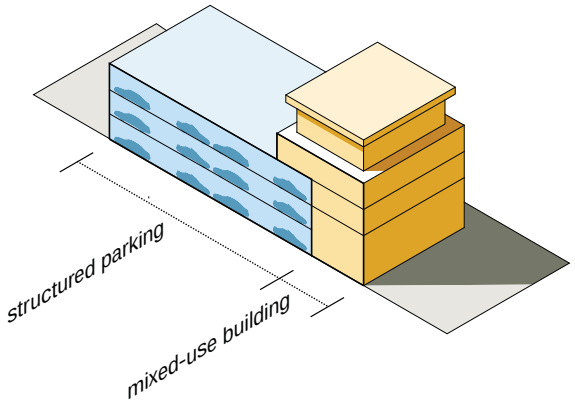



**FIGURE 20. STRUCTURED PARKING: AXONOMETRIC**

### Ensuring parking forms support an attractive public realm

It is important to facilitate parking in places and in forms where it is unobtrusive and is not a detriment to Brentwood's quality of place. This means dramatically reducing surface parking and placing parking underground or in above grade parkades, and screened from pedestrians behind buildings. In creating a street and block structure, many opportunities will open up for on street parking. This is beneficial to retail uses, particularly to those on the proposed commercial main street. On street parking also buffers the pedestrian realm from moving traffic.

**Policies:**

9 Parking access ramps or drives shall be limited in areas designated as active frontages in Figure 18

10 A maximum of 25% of the parking requirement for commercial/retail uses may be provided in surface parking. 75% of the requirement shall be provided in underground or structured parking.

11 There shall be no surface parking between buildings and a street.

12 Any surface parking lots shall be screened behind buildings and not visible from streets.

13 Where small surface parking lots exist, the design shall include provision for pedestrian circulation.

14 Below grade parking is the least obtrusive on the pedestrian environment and should be utilized wherever feasible.

15 Parking access ramps for below grade or structured parking should be located on lanes or off commercial main streets where possible.

16 A below grade destination parking structure is encouraged for development underneath the proposed Urban Central Square as indicated in Figure 16.

17 Ground floor frontages on parkade structures should be active retail or commercial spaces.

18 Where feasible, parkade structures should be wrapped in residential or commercial uses to screen parking from the public realm.

19 On street parking is strongly encouraged on commercial main streets.

### 3.3.5 Density and the Bonus System

Introducing a critical mass of people for a lively and transit supportive community is an important principle for Brentwood station area. The low scale and low density buildings that exist today at Brentwood do not support a walkable, sustainable and transit-supportive community.

Maximum densities are designated to closely correlate with height limits across the Brentwood Station Area Redevelopment Plan.

Each block has been assigned a minimum, a maximum and a bonus density. A minimum density has been set in order to ensure that new development will contribute sufficient activity to the area and to ensure that the building mass will be large enough to contribute to an appropriate streetwall. In order to encourage a true mixed-use area, residential development is required to achieve the maximum density in the Transit Hub Land Use Precinct.

**FIGURE 21.**
**MAXIMUM DENSITIES**

Zone A

| | |
|---|---|
| – | maximum FAR (no residential) |
| 2.5 | maximum FAR (with residential) |
| – | maximum FAR (with bonus) |

Zone B1

| | |
|---|---|
| 3.0 | maximum FAR (no residential) |
| 3.0 | maximum FAR (with residential) |
| 3.5 | maximum FAR (with bonus) |

Zone B2

| | |
|---|---|
| 2.0 | maximum FAR (no residential) |
| 2.0 | maximum FAR (with residential) |
| 3.5 | maximum FAR (with bonus) |

Zone C1

| | |
|---|---|
| 4.0 | maximum FAR (no residential) |
| 3.0 | maximum FAR (with residential) |
| 4.5 | maximum FAR (with bonus) |

Zone C2

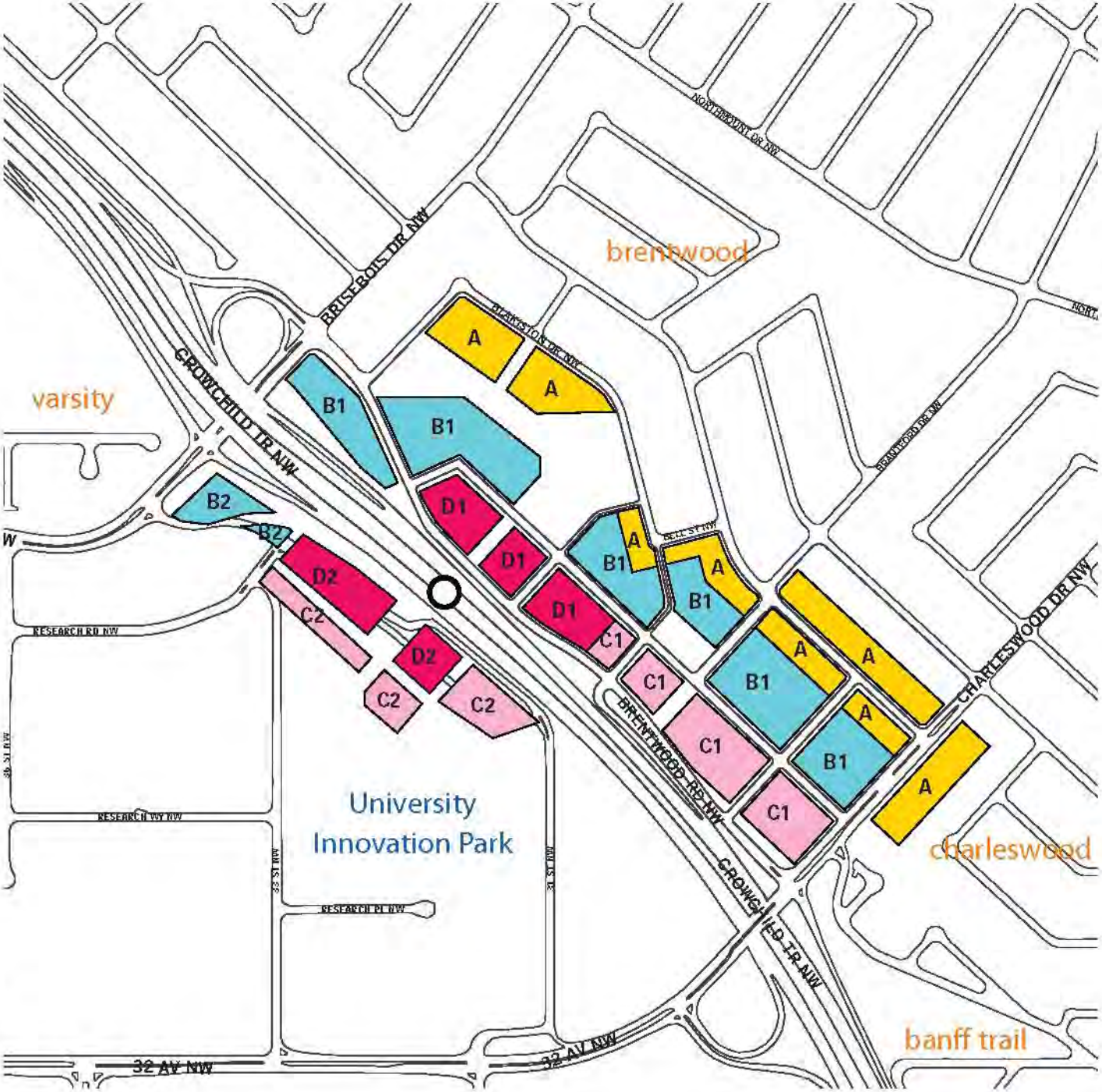
| | |
|---|---|
| 2.0 | maximum FAR (no residential) |
| 2.0 | maximum FAR (with residential) |
| 4.5 | maximum FAR (with bonus) |

Zone D1

| | |
|---|---|
| 4.5 | maximum FAR (no residential) |
| 4.5 | maximum FAR (with residential) |
| 8.0 | maximum FAR (with bonus) |

Zone D2

| | |
|---|---|
| 2.0 | maximum FAR (no residential) |
| 2.0 | maximum FAR (with residential) |
| 8.0 | maximum FAR (with bonus) |



| TABLE FOR FIGURE 21 - MINIMUM AND MAXIMUM DENSITIES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Zone | Minimum FAR | Maximum FAR | | Bonus FAR | | Maximum FAR Total including Bonus | |
| | | Office Commercial Only | Residential with/without Office Commercial | Office Commercial Only | Residential with/without Office Commercial | Office Commercial Only | Residential with/without Office Commercial |
| A | 1.0 | n/a | 2.5 | n/a | n/a | 2.5 | 2.5 |
| B1 | 2.0 | 3.0 | 3.0 | 0.5 | 0.5 | 3.5 | 3.5 |
| C1 | 2.0 | 4.0 | 3.0 | 0.5 | 1.5 | 4.5 | 4.5 |
| D1 | 2.0 | 4.5 | 4.5 | 1.5 | 3.5 | 6.0 | 8.0 |
| B2 | 2.0 | 2.0 | 2.0 | 1.5 | 1.5 | 3.5 | 3.5 |
| C2 | 2.0 | 2.0 | 2.0 | 2.5 | 2.5 | 4.5 | 4.5 |
| D2 | 2.0 | 2.0 | 2.0 | 4.0 | 6.0 | 6.0 | 8.0 |

The area covered by above-grade parking structures is to be included in the calculation for the total gross floor area permitted for a development. A bonus system may also be used by the developer and has been designed to balance the higher density development with the provision of appropriate public benefits and amenities based on the provision of Section 4.2.3. The bonus system may be used to build additional residential and/or office commercial development.

**Policies:**

1 To ensure transit supportive densities and to discourage low density stand alone uses, buildings within Brentwood Station Area Redevelopment Plan are strongly encouraged to have a minimum density on a building parcel of 2.0 FAR, except for zone A. FAR means the quotient of the gross floor area of a building divided by the gross site area.

2 Development shall not exceed the maximum densities outlined in Figure 21.

3 Within Zone C1, any development over the minimum density of 2.0 FAR are strongly encouraged to have 50% of any floor area over 2.0 FAR as office use.

## 3.4 The Built Form

This section sets out the proposed built form framework for Brentwood Station Area Redevelopment Plan. With the mobility network, public realm concept and land use plans set out, built form is the final layer in reurbanizing Brentwood Station Area Redevelopment Plan. Built form is the physical characteristics of buildings, which have a big role to play in ensuring a quality place. Currently, buildings in Brentwood are inward looking, automobile-oriented and low density. These buildings,, contribute little to an urban character or pedestrian-friendly nature of the existing environment. Redevelopment at Brentwood must create good quality buildings exhibiting sound urban design characteristics which will contribute to a truly liveable and transit-supportive place.

Some of the key considerations of built form include height, building types, the relationship to pedestrians at ground level, building design including materials, scale, style and environmental sustainability.

### 3.4.1 Including a Variety of Building Types

A variety of building types is desirable within the Brentwood Station Area Redevelopment Plan. This variety will ensure sensitivity with surrounding communities and accommodate higher density where considered appropriate. Encouraging a variety of building types will also mean the introduction of different housing forms and commercial uses thereby, fostering a greater degree of diversity within the Brentwood Station Area Redevelopment Plan.

**Low rise (1-4 storeys)**
Low rise buildings can range from single family and semi-detached houses to townhouses, live-work units, and walk up apartments. These generally have grade related units with entries that directly access the street.

**Mid rise (5-10 storeys)**
Mid rise buildings consist primarily of apartment forms. However individually accessed townhouses on the lower floors are encouraged to increase housing diversity in the community. Mid rises also don't necessarily equate with medium density. 'Perimeter block' forms common in Europe cover a high proportion of the building parcel, translating to very high densities even at lower heights.

**High rise (above 10 storeys)**
High rises accommodate the highest density uses. These types come in a variety of forms and include point towers stepped back on top of a low to mid rise podium, most common in Calgary. The podium creates a sense of human scale with the slender tower stepped back on top of the podium, reducing the impacts of height on the pedestrian. Podiums may include retail uses, live/work uses, or residential townhouses at grade depending on location.

### 3.4.2 Integrating with Surrounding Communities

Redevelopment of the Brentwood station area presents the potential for dramatic improvements. Although much within the existing low residential neighbourhood will remain the same over time, redevelopment in the Brentwood station area will undoubtedly have an impact on surrounding communities. This change should be sensitive to existing communities, providing for transition of scale, form and character, while creating opportunities to enhance connectivity and public realm offered to the community.

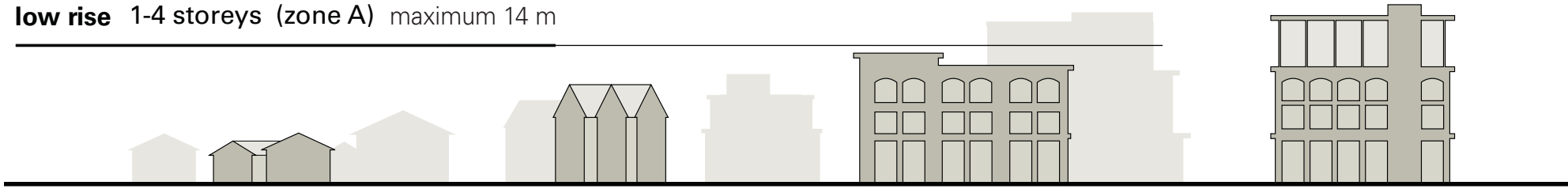
**FIGURE 22. A RANGE OF BUILDING HEIGHTS:** Reducing impacts on existing communities

**Zone B** is a transitional area which will have predominately mid rise buildings ranging to a maximum of 10 storeys.

**mid rise** 5-10 storeys (zone B) maximum 38 m

**Zone A** is an area of transition meant to provide a sensitive interface to the existing residential community by limiting heights to 4 storeys in low rise building forms

**low rise** 1-4 storeys (zone A) maximum 14 m



**urban residential**

**retail village**

**Zone D** is the area where it will be the most appropriate location for the tallest buildings in the station area. Buildings in this area are closest to the LRT station, and have the least impact on the existing lower density residential community. Buildings in this zone may range from 16 storeys up to a maximum of 25 storeys.

**high rise** 16-25 storeys (zone D) maximum 90 m

**Zone C** is further from existing residential areas and include areas where more height can be accommodated. Buildings within this area will generally range from mid to high rise buildings with a maximum of 15 storeys.

**mid-high rise** 11-15 storeys (zone C) maximum 55 m

**live/work village**

**transit hub**

**FIGURE 23.**
**MAXIMUM BUILDING HEIGHTS**

LEGEND

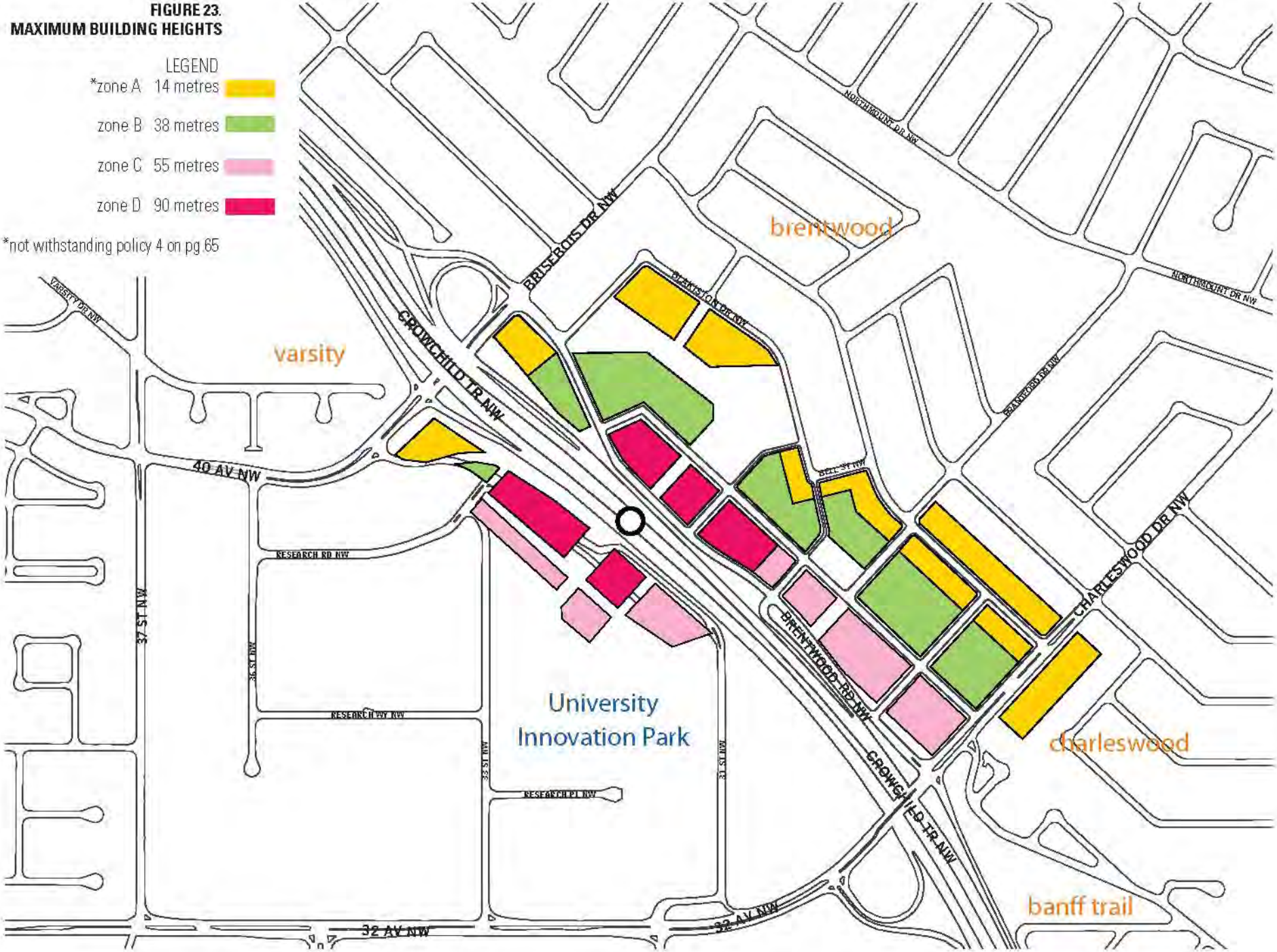
*zone A 14 metres

zone B 38 metres

zone C 55 metres

zone D 90 metres

*not withstanding policy 4 on pg 65



### Transitioning building heights to reduce impacts on existing communities

A key strategy in achieving a sensitive interface between areas of change and areas of stability is to transition the scale of buildings from their lowest, directly adjacent to the existing residential neighbourhood, to their highest further away where impacts are minimized.

Although buildings on the edge of the area of change will not likely be single family homes, lower scale buildings such as townhouses or low rise walk-up apartments provide compatible building forms with houses across the street.

The land use concept identified the transit hub precinct as the most desirable location for taller buildings in Brentwood Station Area Redevelopment Plan. Because this precinct is immediately adjacent to the transit station, the highest intensity of use is appropriate. Other areas within the station area propose a range of height depending on their relationship to the streets and blocks structure and adjacency to public spaces.

Height Zones, illustrated in Figure 23, demonstrate how the range of height will be deployed across the area of change at Brentwood.

**Policies:**

1 Building heights shall respect the maximum height limits with each height zone established in Figure 23.

2 Building height limits apply to any use including residential, office or institutional, or a mix of uses.

3 New buildings should generally be a minimum of 2-3 storeys.

4 Building height limits in Zone A must be sensitive to the existing low density residential interface. Any site directly adjacent to or across from a R-C1 site be designed to address the transition to lower density residential by:

- providing lower heights, generally no higher than 3 storeys, along site edges that are adjacent to or across existing from R-C1 sites
- creating articulated building frontages that are compatible with the surrounding community
- front yard setbacks should generally be consistent with the setback of the surrounding residential lots and provide for landscaping in this setback

### 3.4.3 Incorporating larger uses

Larger format retail uses including supermarkets, department stores or other 'big-box' retailers already exist within Brentwood. Stores such as Calgary Co-op and Safeway provide valuable amenities for community residents. Such uses should remain as part of a redeveloped Brentwood. However, larger format retail should be accommodated in a much more urban and pedestrian-friendly built form than exists now. As the Brentwood Station Area evolves into a mixed use community with a larger amount of residential units, the potential impacts of larger entertainment establishments should be limited by restricting the allowed sizes of these uses.

**Policies:**

1 Large format retail should be designed in a pedestrian-friendly manner including at least one entrance on the public street and large transparent glass frontages that allow activity within to be seen from the street.

2 Large format retail should be encouraged to minimize their building footprint by distributing floor area over multiple stacked floors

3 Large format retail shall not exceed 4650 square metres (50,000 square feet) in a single building. Large format retail should not be stand alone, and instead should be incorporated into the base of higher density mixed use buildings.

4 Buildings with larger retail uses, above 930 square metres (10 000 square feet) should have smaller retail bays fronting the commercial main street, with larger uses accessed from the street but located primarily behind the small retail bays or on higher floors.

5 New land use districts within the Plan area should strongly discourage Drinking Establishment - Large, Restaurant: Licensed Large and Nightclubs.

### 3.4.4 Ensuring Quality Building Design

Design that enhances the safety and security of public spaces and that responds to the conditions of a winter city should be prime considerations in the design of buildings and interface with the public realm.

**Policies:**

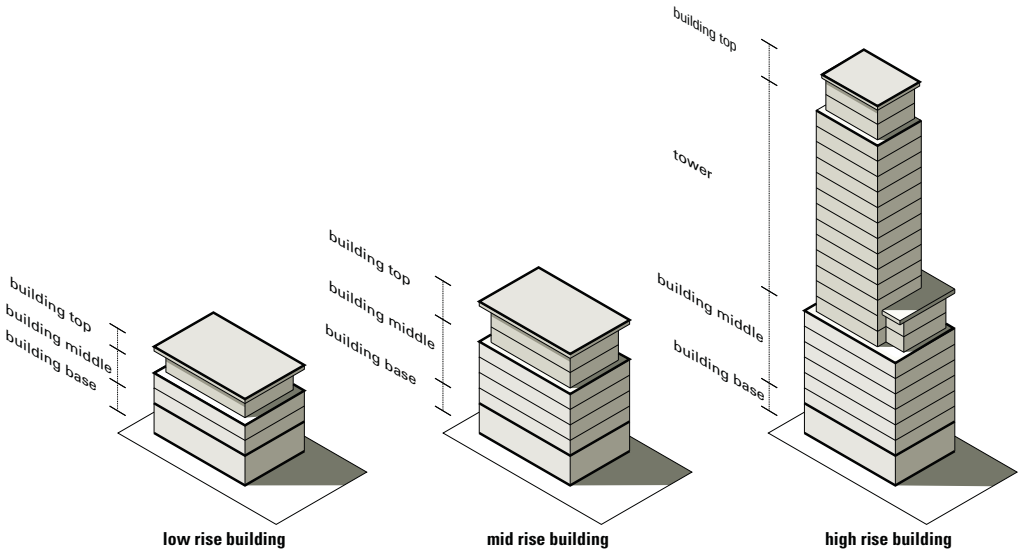
1 New development should be designed in accordance with the principles of Crime Prevention Through Environmental Design. In particular, the following factors should be considered in the evaluation of Development Permit applications:

- clear distinction between the public and semi-private realms;
- clear sight lines along public pathways and in public spaces;
- opportunities for natural surveillance of lanes, sidewalks, streets, and other public spaces;
- provision of adequate security lighting of pedestrian and cycling routes, car parking areas, and other public spaces; and
- Ensuring that landscaping does not compromise security by preventing clear views from streets to pathways, open space or car parking areas.

2 Weather protection should be incorporated into streetscape design. This can be achieved with use of canopies, shelters, and street trees.

- maximizing sun exposure for waiting areas (especially in winter months) by careful location of seating, plantings, building elements, and limiting the heights of adjacent buildings (if necessary).
- providing protection from wind, rain, and snow with plant screens, walls, and canopies.
- avoiding wind tunnels and large barren expanses in design of the station and surrounding area.

**FIGURE 24. A VARIETY OF BUILDING TYPES**




There are various elements to building design that will determine its ability to contribute to a quality public realm including its interaction with the street and pedestrian, the building body, and building top. Buildings should be of high quality and include durable and attractive building materials. They should also aim to be on the leading edge of contemporary architectural quality. Building design should adhere to the following design directions.

## Building bottom

Pedestrians visually experience primarily the first few floors of a building. As such, the design of the building at street level should pay particular attention to quality while demonstrating pedestrian-oriented principles. The following design policies should be applied to all buildings:

**Human scaled architectural detail**

3 Buildings should have detailed and well articulated street level façades with quality materials to help animate the street and create a visually interesting street interface.

4 The ground floor should feature narrow retail bays and frequent street entrances to help create a strong visual rhythm.

5 Break out spaces for selling, displays, or patios are encouraged to create a dynamic pedestrian environment.

6 Pillars and colonnades should be discouraged at podium bases.

7 Podiums should provide variation in finishing materials from towers above the 3 floor level.

8 Different podium bases on different blocks should provide variation in design treatment and building materials.

**Permeability**

9 Commercial or retail uses located at grade should help animate the street by incorporating large transparent glass frontages that allow activity within to be seen from the street.

10 A minimum of 70% of non-residential building façades at grade should have transparent glazing.

**Human scaled street walls**

11 Development shall build to the street face with a street wall of at least 2 storeys from grade before any step backs.

12 From grade, the first step back shall not occur higher than the 6th storey of the building.

13 In general, as the height of a building increases on mid and high rise buildings, the height or definition of the building base should also increase as illustrated in Figure 24.

14 As illustrated in Figure 25, in general, the height of the street wall should be lower on narrow right of ways including the commercial main street, and higher on wide streets or those with buildings on only one side, such as those fronting Brentwood Road.

15 Step backs on higher floors are encouraged to reduce the visual impact of taller buildings.

**At grade residential entrances**

16 All at grade residential units should, in most cases, have individual primary entrances and main floor levels placed slightly above grade in order to achieve visual privacy from any sidewalks and streets.

## Building middle

Building massing

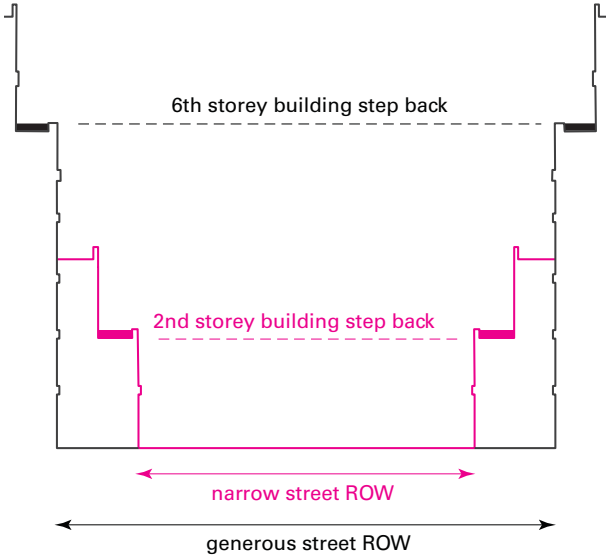
Large buildings can affect local micro-climates including wind impacts and shadowing of streets and public spaces. The tower portion of the building should have a more slender profile. Slender towers help reduce the shadow impacts below, and generally have a more desirable form.

17 To encourage mid rise buildings, there is no floor plate area restriction below 32 metres.

18 Above 32 metres, residential or hotel floor plate area shall not exceed 750 square metres.

19 Above 32 metres, office floor plate area shall not exceed 2000 square metres.

**FIGURE 25. STREET ROW COMPARISON**



Tower separation

20 To ensure sunlight penetration to the ground level, and the privacy of building occupants, there shall be a minimum tower separation of 20 metres from an office tower and 24 metres from a residential tower.

Balconies

21 Balconies should be designed as integral components of the building and should not appear as 'tacked on'.

Sound Attenuation

22 Building faces fronting toward Crowchild Trail will face noise issues resulting from the large volume of traffic accommodated on this major thoroughfare. In addition to sound attenuation measures through landscaping along Crowchild, buildings should include soundproof windows and walls to reduce the impacts of noise to residents and users within buildings.

## Building top

23 Tower tops should screen or incorporate mechanical penthouses and elevator cores into the design of the building top and contribute to an attractive skyline profile.

24 All roof tops are encouraged to include green roof spaces for environmental sustainability, as well as to provide additional private amenity space for users of the building.

### 3.4.5 Variety in development design to facilitate a diversity of household structures

As the Brentwood station area redevelops into a mixed use community with a variety of housing types and forms, the design of individual sites and the overall community needs to provide housing choices that are attractive to all citizens.

In the Calgary context, often high density residential areas provide housing for households without children. To develop a complete community, with housing choices attractive to all, specific building and site design approaches are required.

As the proportion of the Calgary population over 65 years of age increases, especially in the established communities, the demand for housing attractive for seniors is essential.

#### Households with children

Generally households that include children seek safe and simple access to grade and easy opportunity to overlook play and amenity areas. Providing residential units with short and direct stair access to grade, and nearby high quality public and private play spaces, are preferred by households with children.

**Policies**

1 New developments with residential units in the Urban Residential and the Mixed Use Land Use Precincts, adjacent to Blakiston Park and the future Brentwood Central Square, are strongly encouraged to provide the primary entrance to all grade level dwelling units with separate and direct access from grade.

2. New developments with residential units in the Urban Residential and the Mixed Use Land Use Precincts, adjacent to Blakiston Park and the future Brentwood Central Square, are encouraged to:
   - provide separate and direct access from grade to individual dwelling units;
   - arrange dwelling units to provide direct access to public or private outdoor spaces, and provide internal floor plans that give occupants surveillance over these outdoor spaces;
   - interior rooms of residential units should favour living spaces, not bedrooms, overlooking these outdoor amenity spaces;
   - arrange exterior entrances of dwelling units to be adjacent to public or private outdoor amenity space;
   - dwelling units with separate and direct access to grade are encouraged to have 2 or more bedrooms;
   - dwelling units without direct access to grade are encouraged to provide generous outdoor amenity space; and
   - building and site design should provide for direct and easy access to outdoor amenity space or provide legible connections to public spaces.

## Households with seniors

A transit supportive, mixed use and pedestrian friendly community has many attributes to attract seniors. The potential housing choices in the Brentwood station area provides the ability to prolong an independent lifestyle and allow the full range of supportive or assisted living housing options.

The Brentwood station area should provide a greater range of housing forms and affordability, supportive recreational, social and community services, medical clinics and pharmaceutical services and many other commercial services, all within a comfortable, convenient walking environment for all mobility levels.

The station area will continue to provide, and improve, efficient and reliable access to city wide transit networks, often desired by seniors who are driving less or not at all.

**Policies**

3 New developments with residential units in the Transit Hub Land Use Precinct are encouraged to:

- provide a variety of commercial uses along the street level, with easy access from sidewalks and plazas;
- provide a range of sizes in commercial floor areas to allow a variety of commercial service types and community or recreational uses;
- provide flexible common amenity spaces that could allow social and communal activities like community gardens, art and craft workshops, fitness programs or pet areas; and
- building and site design should provide for direct and easy access to outdoor amenity space or provide legible connections to public spaces.

4 New developments with residential units in the Mixed Use Land Use Precinct are encouraged to:

- provide flexible common amenity spaces that could allow social and communal activities like community gardens, art and craft workshops, fitness programs or pet areas; and
- building and site design should provide for direct and easy access to outdoor amenity space or provide legible connections to public spaces.

### 3.4.6 Encouraging environmentally sustainable neighbourhood and building design

Part of the goal of creating transit-oriented development is to reduce the environmental impact and improve the sustainability of the city. Building and neighbourhood design as well as the design of streets and open spaces should contribute to overall environmental sustainability.

Development within Brentwood Station Area Redevelopment Plan should demonstrate the potential to incorporate sustainable neighbourhood and building practices including:

1 Optimizing energy efficiency of buildings
2 Encouraging LEED certification of all new buildings
3 Encouraging the incorporation of green roofs on all buildings
4 Using renewable energy sources
5 Using innovative wastewater technologies
6 Introducing stormwater management including reduction in quantity, increased permeable surface, collection, filtering and reuse
7 Integrating indigenous planting and biodiversity of material within landscaping, streetscaping and public spaces
8 Provision of building recycling facilities
9 Orientation of buildings to optimize solar gain

# 4.0 Implementation

## 4.1 Future Projects

Approval of this Plan is simply the first step in realizing the potential for Brentwood. Its most important step will be implementation. A number of initiatives, studies, investments and other actions will be needed as Brentwood develops into a transit-supportive community. Careful planning and approval of privately and publicly led development will also be fundamental in the success of Brentwood.

In no way is this list final or comprehensive. Timing for these projects will depend upon City work programs, priorities and funding as well as on the priorities of other stakeholders in the Brentwood station area.

The specific timing for projects identified in Appendix D will in some cases be set by Council either through reporting on specific projects or studies or through approval of corporate work programs. The list in Appendix D should serve as a guide in the preparation of future work programs.

## 4.2 Financing the Public Realm

Creating a high quality TOD requires appropriate development on individual sites and in the public realm. Financing the public realm improvements requires a partnership between the City and private development interests.

In achieving such a partnership, the City needs to play the following roles:

- Be prepared to fund for the costs of key public realm improvements and undertake appropriate improvements to public infrastructure such as the revitalization and reconfiguration of Blakiston Park and the refurbishment of the Brentwood LRT station. Some the costs of these improvements may be recovered by the Off-Site Development Levy or the Redevelopment Levy.

- Establish clear expectations with respect to the responsibilities of individual developments for upgrading of adjacent public rights of way.

- Establish an equitable method to enable all new development to contribute to public realm improvements that serve the entire area.

### 4.2.1 Publicly Funded Improvements

**Rationale:**
The redevelopment of the Brentwood Station Area in the manner proposed in this Plan contributes to the achievement of Council's sustainability principles and is serving a greater public interest.

**Approach:**
City Council will be requested in future capital budgets to allocate funds for projects such as:

- Funding the majority of the costs of to revitalization and reconfiguration of Blakiston Park. This improvement is considered essential to signal to the intent to change the character of this area into a pedestrian friendly transit oriented environment. The City is the only agent which can undertake this scale of work in a comprehensive, cohesive manner.

- Undertaking improvements to the transit facilities within and adjacent to the Brentwood LRT Station. These improvements could be undertaken by the redevelopment of the City-owned land (current park'n'ride surface parking lots) with a suitable high density mixed-use project. Potential recommended improvements include creation of a transit plaza and the redesign of the station platform which could be timed with lifecycle upgrades and extension of the platform to accommodate four cars. Any changes to the transit facilities, including the surface parking lots, are dependent on transit needs and would have a separate public process, as approved by Council.

### 4.2.2 Development Funded Improvements

**Rationale:**
Lands within the Brentwood station area will benefit from enhanced development opportunities and an improved physical environment. Such development should contribute to the creation of this environment.

**Approach:**
New developments will be required to contribute to the creation of the public realm in the following ways:

- Upgrading of adjacent public rights of way and public accesses: All new development regardless of density will be required to reconstruct the public right of way adjacent to the development incorporating the appropriate sidewalk, landscaping and street lighting and furniture.

- Utility obligations: All new development will be responsible for paying for any necessary upgrades to underground utilities including any improvements required to handle the increased intensity of development.

- Development Levy (Off-site Levy): All new development will be required to pay a development levy or levies based on each square metre of building towards the cost of public improvements that serve the entire area once the levy is established.

The following is a preliminary list of improvements that should be considered in the establishment of an Development Levy (Off-site Levy):

- Road network and pedestrian improvements as determined by the Mobility Assessment and Plan (MAP);

- Reconfiguring Brentwood Road;

- Greening Crowchild Trail;

- An additional Crowchild Pedestrian Crossing and

- Traffic management features such as

- Signals, traffic circles, other traffic calming features.

Implementation of such a Development Levy (Off-site Levy) will require:

- The completion of a sub-regional transportation analysis Mobility Assessment and Plan (MAP). The MAP will be used to identify constraints and opportunities to improve all types of mobility and modes of transportation to facilitate the mobility network, public realm, land uses and built form within this Area Redevelopment Plan.

- Preparation of detailed designs, including cost estimates;

- Further consultation with all stakeholders; and

- Preparation and approval by Council of appropriate bylaws, procedures and policies.

The Plan also proposes the creation of a new community open space, which will require the assembly and development of land. Potential new open space includes;

- Creating Brentwood Central Square; and

- Developing Transit Plazas.

Options that exist for creating such an open space include:

- Acquisition of land through the subdivision process and/or use of the Joint Use Reserve Fund;

- Imposition of a Redevelopment Levy on new development in the area.; and/or

- Use of funds received under the proposed Bonus System.

Following Council approval of this Plan a consultation process will be set up with all stakeholders to explore these options and a separate report will be presented to Council.

### 4.2.3 Provision of Public Amenities through Bonus System

**Rationale:**
A bonus system may also be used by the developer and has been designed to balance the higher density development with the provision of appropriate public benefits and amenities and amenities based on the following principles:

- Density Bonuses should only be established for items of features that provide a perpetual or enduring benefit to the community in which the density is being accommodated.

- Density Bonuses should not be granted for elements of building or site design that can be achieved or required through other means.

- The amount of floor area granted through a bonus should be based on the additional monetary value added to the land as a result of the bonus and the cost to the developer of providing the bonus item.

**Approach:**
Development sites can be developed up to the maximum density without providing any bonus items. In order to develop above the maximum density and up to the bonus density, developments may provide one or more bonus items in exchange for a defined amount of additional density.

Many of the parcels within the Brentwood Plan Area are large parcels that require the introduction of new roads, public open spaces and access. Determining the maximum density and potential bonus density is described in 4.3 Approval Processes.

Any combination of bonus items can be used to earn additional density, subject to the discretion of the Approving Authority and the local context of the proposed development site. Details of each item are as follows:

**1. Provision of Recreational or Cultural Space**

**Description:**
Recreational or Cultural Space is defined as floor area made available within the proposed development, in perpetuity to The City of Calgary, in a form acceptable to The City of Calgary for not for-profit community purposes including but not limited to: offices, meeting rooms, assembly spaces, recreation facilities, educational facilities, cultural facilities and other social activities.

**Rationale**:
With an increasing population, new facilities and new ways of delivering such facilities, need to be provided in order to create the necessary social infrastructure to foster the development of a strong community. Having such community uses within private projects can also be an advantage to the developer if the project is paired with a complementary use or group that fits the overall project objectives. For example, providing space for senior's programming in an adult oriented building.

**Eligibility:**
Projects must provide physical space of a location, size and configuration that is acceptable to The City and the proposed user group when the proposed user group is not directly affiliated with The City of Calgary. The space must be secured by The City in perpetuity through ownership or other acceptable means. The City will then contract the space to specific user groups.

Developers are encouraged to develop their own relationships with possible users or consult with The City of Calgary on potential users for Recreational or Cultural Space within their project.

**Bonus Rate:**
The allowable bonus floor area will be based on the construction cost of the raw floor space and, where provided, any improvements to the space required by the proposed user. It does not include operating costs. Cost estimates shall be prepared by a Professional Quantity Surveyor.

For example, if the cost to the developer to provide the space is $500,000 and the average land value per square metre of buildable floor area for the area is $ 215, then the amount of the bonus floor area will be calculated as follows:

Total construction cost / (average land value x 75%) = Allowable Bonus Floor Area

$500,000 / ($ 215 x 75%) = 3100 m²

Note: The average land value is discounted at a rate of 25% to account for transactional costs associated with the provision and negotiation of the bonus.

**2. Provision of Publicly Accessible Private Open Space**

**Description:**
Publicly accessible private open space is defined as a portion of a private development site that is made available to the public through a legal agreement acceptable to The City, that is in a location, form and configuration and is constructed in a way that is acceptable to The City.

**Rationale:**
Actual acquisition of park and open space by The City should not be relied on to build the entire open space network over time. Opportunities often exist to utilize private lands for public purposes that can benefit both the private development and the public. Such arrangements can help mitigate density impacts on both an individual site or the cumulative impact of density in a broader area.

**Eligibility:**
Any development that can provide a publicly accessible private space that is in a location, form and configuration that is acceptable to The City is eligible for this bonus.

**Bonus Rate:**
The bonus is based on the cost of construction (excluding land costs) of the proposed space to be accessible by the public. Cost estimates shall be prepared by a Registered Landscape Architect or Professional Quantity Surveyor.

For example, if the cost to the developer to construct the space is $500,000 and the average land value per square metre of buildable floor area for the area is $ 215 then the amount of the bonus floor area will be calculated as follows:

Total construction cost / (average land value x 75%) = Allowable Bonus Floor Area

$500,000 / ($ 215 x 75%) = 3100 m²

Note: The average land value is discounted at a rate of 25% to account for transactional costs associated with the provision and negotiation of the bonus.

**3. Provision of Affordable Housing Units**

**Description:**
Affordable housing units, as per Council's approved definition, are owned and operated by The City of Calgary or any bona fide non-market housing provider recognized by The City of Calgary, provided within the proposed development.

**Rationale:**
As allowable densities increase, so does the likelihood that smaller, affordable rental apartment buildings will be redeveloped to higher density uses. Providing for some affordable housing units within new developments will help increase the supply of existing affordable housing in the city.

**Eligibility:**
Any new development that can provide affordable housing units for a minimum of twenty years, within a proposed development in a number, operating plan, location and of a design acceptable to The City or other bona fide non-market housing provider recognized by The City, is eligible for this bonus.

**Bonus Rate:**
The allowable bonus floor area will be based on the total construction cost of the units to a standard acceptable to The City. Cost estimates shall be prepared by a Professional Quantity Surveyor. For example, if the cost to the developer to provide the units and associated parking stalls is $500,000 and the average land value per square metre of buildable floor area for the area is $ 215, then the amount of the bonus floor will be calculated as follows:

Total construction cost / (average land value x 75%) = Allowable Bonus Floor Area

$500,000 / ($ 215 x 75%) = 3100 m²

Note: The average land value is discounted at a rate of 25% to account for transactional costs associated with the provision and negotiation of the bonus. Further, the provided affordable housing units and associated parking stalls shall not be included in the calculation of gross floor area.

**4. Contribution to a Community Enhancement Fund (CEF)**

**Description:**
A CEF is a fund to be used for projects within the Brentwood station area related to public realm improvements, including but not limited to: park acquisition, park design, redevelopment or enhancement, streetscape design and improvements within City rights-of-way, implementation of urban design strategies and public art on public land.

Projects to be funded in whole or in part with CEF monies should, where possible, be included within the approved Capital Budget. Where possible, projects will be funded through multiple sources including mill rate support. It is an objective of the Fund to implement projects throughout the Brentwood station area.

**Rationale:**
As development intensity increases, there is an increased demand for public parks and open spaces, sidewalks, lanes and roads. In order to provide future residents with a quality public environment, new park space should be provided.

Upgrading the public environment will make the Brentwood Station Area a more attractive residential and business location and as a result will assist in the Brentwood Station Area reaching its full potential.

**Eligibility:**
Upon creation of the CEF, any development proposing to build above the maximum density allowed for the subject site is eligible to make a contribution to the CEF. The contribution may be one component of a larger package of bonus items.

**Bonus Rate:**
The amount of the contribution will be calculated at the time of the development permit approval based on the average land value per square metre of buildable floor area, as established by The City. For example, if the average land value per square metre of buildable floor area for the area is $ 215, and the developer is proposing to build 1,000 m2 of floor area, then the amount of the contribution will be calculated as follows:

Average land value x Proposed amount of bonused floor area = Contribution

$ 215 x 1,000 m2 = $215,000

This contribution amount represents what a developer would, on average, have to pay for the additional land within the Brentwood station area necessary to support the additional floor area.

### 4.2.4 Administration of the Community Enhancement Fund

The CEF will be established by Council and administered by a Committee with a Terms of Reference and membership to be approved by Council. The Committee should have a core membership from the following City Business Units: Land Use Planning and Policy, Parks, Recreation, Urban Development, and Transportation and Transit. Additional membership could include other stakeholders within the Brentwood Station Area who have an interest, such as businesses, landowners or community associations. Each year, or as is necessary, the Committee will prepare a list of priority projects for funding that will be approved by Council and, where possible, through the Capital Budget.

### 4.2.5 Establishing the Average Land Value per Square Metres of Buildable Floor Area

The actual dollar amount used to represent the average land value per square metre of buildable floor area in the bonus floor area calculations will be approved by Council, reviewed annually and updated as necessary in order to represent changing market conditions, i.e. the amount could be increased or decreased. Where appropriate, the dollar amount may be different for different areas of the Brentwood Station Area where market conditions are significantly different.

## 4.3 Approval Processes

**Outline Plans**
Due to the lack of a current street and block network, and large undivided pieces of land, the Brentwood station area requires a different implementation approach than a place with primarily infill development on established streets and blocks. The requirement of Outline Plans, Road Plans and subsequent land use redesignations and Plans of Subdivision for redevelopment at Brentwood is a fundamental implementation mechanism.

Redevelopment needs to be thought of in a comprehensive fashion to meet the goals and objectives of this Plan. Therefore, contiguous parcels of land over 5000 square metres in area should be required to come forward with a comprehensive Outline Plan or if appropriate, a concept plan.

Outline Plans are usually prepared as an initial stage in major subdivision applications. Outline Plans are approved by the Calgary Planning Commission and form the basis for subdivision of the area into private and public parcels and public rights-of-way.

**Land Use Redesignations**
Proposed land use redesignations for the redevelopment must clearly and purposely outline how these redesignations will facilitate the transit-supportive uses and densities set out in this Plan.

Direct Control districts may be required in some circumstances in order to implement the bonus density options, land use, built form and urban design guidelines specific to this Plan.

Land Use Redesignations and Outline Plan applications must include detail regarding how it achieves the full complement of features to create a liveable and transit-supportive community set out in this Area Redevelopment Plan, including, but not limited to:

1. The introduction of an integrated street network within the site, connected to the adjacent properties, and the community, including road cross sections with tree planting and enhanced public sidewalks and pedestrian crossings.
2. Blocks to accommodate new development, each with building fronting onto streets.
3. A balanced mobility network that prioritizes the pedestrian, includes provision for cycling, transit and private automobiles.
4. Street design consistent with the City standards and the provisions within this Plan
5. An open space network that is attractive and accessible
6. Proposed land uses that are transit supportive.
7. Built form concept and heights consistent with the Plan.
8. Sustainability features

**Subdivision**
It is intended that the majority of new streets shall become public streets. This will require that, in most cases, land developers come forward with a Plan of Subdivision, subsequent to their Outline Plan, which will specify development parcels and right of ways that will be dedicated to the City. Some streets or portions of streets, such as the commercial main street, may be retained as a private street.

**Development Permit Applications**
As individual projects and buildings move forward the development approval process will ensure that each development is in conformance with the policies within this Area Redevelopment Plan and contribute to the vision of Brentwood Village.

This process includes CPAG team review, Urban Design Review Panel and Calgary Planning Commission. All development within the specified boundaries of the Brentwood Station Area Plan is subject to the provisions of this Plan.

**Mobility Assessment and Plan**
Transportation Planning initiated the Brentwood Station Mobility Assessment and Plan in January 2009. This project included the assessment of pedestrian, cyclist, transit, parking, automobile and community traffic mobility issues, and the recommendation of over 50 improvements to the transportation network in Brentwood and Varsity. It also included local data collection for understanding existing traffic conditions and an extensive public engagement process. The MAP was completed in November 2009.

An executive summary of the Mobility Assessment and Plan (MAP) is attached to the Brentwood Station Area Redevelopment Plan (SARP) as Appendix G. Appendix G highlights the key findings of the MAP relating to key capital infrastructure improvements recommended for the transportation network, including road, pedestrian, cycling, transit and community traffic.

### 4.3.1 Adjusted Maximum FAR

Perhaps the most important principle for reurbanizing the Brentwood station area is the introduction of an integrated street network. The grid road network also creates regular development parcels, manageable block sizes and new public open spaces. Policies in 3.1.1 indicate principles and policies to achieve this grid road network of fine grain streets and blocks.

Many of the parcels within the Brentwood station area are large and do not provide this road network. With the increase in development opportunity allowed by the higher building densities, building heights and expanded residential uses, this new road mobility network must be provided.

When an application to redesignate a parcel to a land use district consistent with the Brentwood Station Area Redevelopment Plan is submitted, the application must provide the new road network and new public open space system.

The FAR for bonus density shown in Figure 21 is based on a net site area, after dedication of public road right of way or provision of public open space. Any land that remains in private ownership, but provides public access for streets or public open space is included in net site area and can be used to determine allowable building areas.

Many of the current commercial land use districts north of Crowchild Trail have an existing maximum of 3.0 FAR. These sites will be subject to road dedication and provision of open space as shown in Figures 8 and 16. Assuming all of these roads and open spaces were provided by public land, the total land available for development would be significantly reduced.

The allowed maximum density, without bonus, will be increased to compensate for this potential loss of developable area. The current parcels with an allowed density of 3.0 FAR have an area of 120,850 square metres. The conceptual public street and open space network would consume approximately 35,000 square metres of land. The resulting development parcels would provide 85,850 square metres.

Comparing the current allowed maximum building gross floor area, 362,550 square metres (120,850 x 3.0 FAR), to the reduce land area of the conceptual development parcels, a maximum density, without bonus, has been established in a range of 4.0 to 4.5 FAR, for the most intense areas. Other commercial land use precincts have a maximum of 3.0 FAR.

*current allowed maximum building gross floor area / conceptual development parcel area = new net base density, without bonus*

362,550 square metres / 85,850 square metres = 4.22 FAR

This density is a new base density and applies as a net site area that excludes any new public roads or open spaces.

Sites currently with a lower allowed maximum FAR have been designated with a maximum density, without bonus, to 2.0 FAR. This applies to Density Zones B2, C2, and D2

# Appendices

**For information, not part of the Area Redevelopment Plan Bylaw**

A. A lesson in Reurbanization: The Bridges ..... A3
B. Summary of Existing City of Calgary Policy ..... A5
C. Future Projections ..... A9
D. Proposed Implementation Projects and Studies ..... A17
E. Stakeholder Engagement ..... A19
F. Blakiston Park Redesign Community Charette ..... A23
G. Brentwood Station Mobility Assessment and Plan ..... A35

# Appendix A

## A Lesson in Reurbanization: The Bridges

The Bridges development along Calgary's northeast LRT line is one of the best examples anywhere of large-scale reurbanization. Many parallels can be drawn from The Bridges example of reurbanization to Brentwood today, and how it will move forward.

Prior to the redevelopment of The Bridges, the Bow Valley Centre lands sat as large uninterrupted parcels with vast amounts of surface parking, no street and block network, underutilized and unattractive park spaces, no identifiable development parcels and, following the demolition of the Calgary General Hospital, only a few remaining buildings.

The Bridges sought to create a real urban community that would provide a great place for people to live and work, integrate with the surrounding community, reintroduce a commercial high street, create large and attractive open spaces and higher density buildings that exemplified good urban design principles. The result is a community that clearly demonstrates the four building blocks of reurbanization.

### Streets and blocks

The Bridges took a collection of 3 large parcels of land and reintroduced the city's street grid into the site. This breaks down the site and creates a fine-grained and well integrated community. A strong connection between the community and Bridgeland/Memorial LRT Station is established. 9th Street NE serves as a pedestrian-friendly spine that provides a direct route to and from the station. Secondary routes within the community link to 9th Street. In Bridges, the street network occupies just over 30% (11.6 acres) of the total site area.

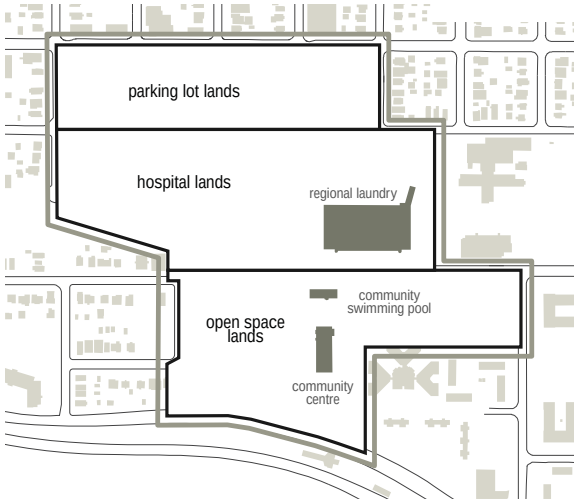



**FIGURE 26. LANDS PRIOR TO BRIDGES REDEVELOPMENT**

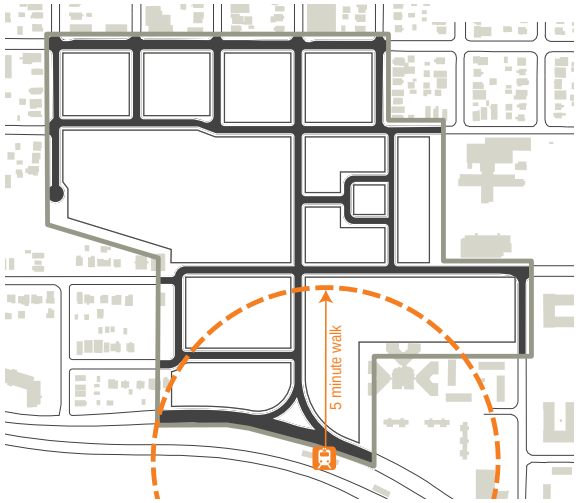



**FIGURE 27. STREETS AND BLOCKS NETWORK**

## Parks and open spaces

The placement and size of open spaces was a critical starting point for configuring development parcels and buildings around them. Open space types vary with two large parks, and three smaller urban plaza spaces. The Parks and open spaces occupy just over 30% (11.7 acres) of the total site area.

## Development parcels

Development parcels for individual buildings have been created within the block pattern and are oriented to frame open spaces. In total, 17 sites will be developed, incorporating 36% of the site area or 13.7 acres of land. All the public infrastructure including parks, sidewalks, community centre and utilities have been built by the City prior to the sale of the land to private developers.

## Building types

A range of building types and forms have been planned for in The Bridges. All buildings are designed to ensure their street edge is pedestrian-scaled and meet the public realm with active edges. Buildings fronting 1st Avenue provide retail at grade to reintroduce a strong shopping street into the community. Buildings are at their tallest closest to the station and transition down toward the existing residential community. The Bridges has a maximum number of residential units of 1575.

**FIGURE 28. OPEN SPACE NETWORK**

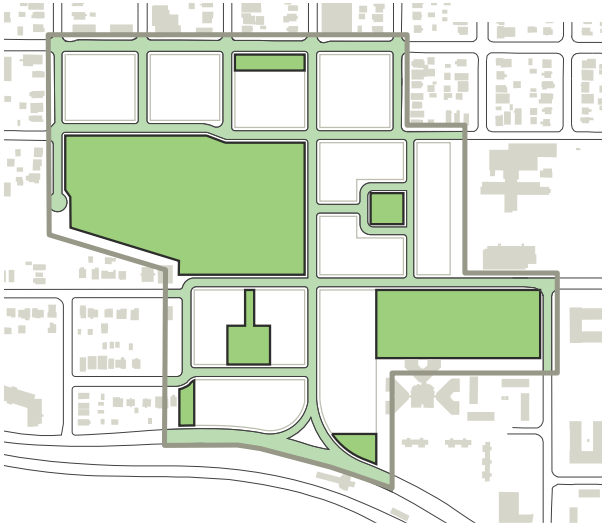


**FIGURE 29. DEVELOPMENT PARCELS**

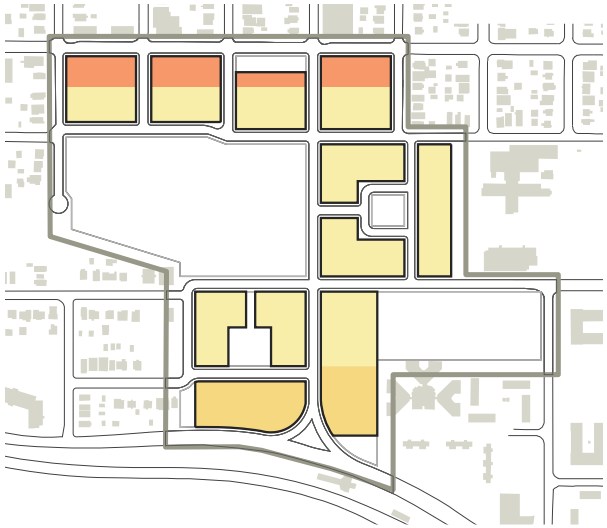
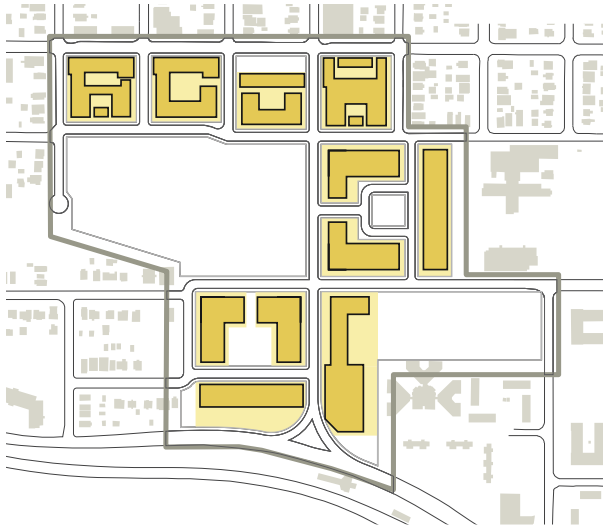


**FIGURE 30. BUILT FORM**



# Appendix B

## Summary of Existing City of Calgary Policy

The following is a summary of existing City policy relevant to the Chinook Station Area.

**The Calgary Plan**

The Calgary Plan is the Municipal Development Plan for the City. A key objective of the Calgary Plan is to encourage the use of alternatives to the private automobile particularly for the journey to work. It sets out the overall framework for land use and transportation planning in Calgary, including the following policies that set the context for planning the Chinook Area.

### POLICY 2–1.1A

Protect and improve atmospheric air quality by developing and supporting complementary programs such as:

- Monitoring and review of policies and strategies that encourage less automobile use and the need to commute, and that encourage transit use, walking and cycling;
- Review of options or mechanisms that reduce emissions from City-owned and operated vehicles;
- Reduction of emissions from City facilities;
- Educational programs which increase public awareness of individual choices that can improve air quality and promote energy management both locally and globally; and
- Protection and enhancement of the urban forest.

### POLICY 2–2A

Improve the jobs/population balance in all areas of the city to reduce travel distances by:

- Encouraging most housing development in the North, South, Northeast and Southeast growth corridors;
- Increasing job opportunities in the North, South, West, Northwest and Southwest sectors;
- Focusing new suburban jobs in mixed-use, higher density centres that work well for pedestrians and transit;
- Locating compatible jobs within and close to residential neighbourhoods to support walking, cycling and shorter vehicle trips;
- Using industrial lands for industrial purposes which require separation from other uses and/or rail access; and
- Endeavouring to ensure that land uses and commercial activities in industrial areas are compatible with the capacity of the road systems designed for the area.

### POLICY 2–2.2.2E

Increase the efficiency of land use in the inner city (eg. increased use of vacant and under-used land, infill and selective redevelopment).

### POLICY 2 – 2.2.3B

Enhance the quality of commercial and industrial areas by:

- Creating viable, diverse commercial areas throughout the city, that provide opportunities for working, shopping and entertainment activities close to one another; and
- Improving public environments and the ease of accessibility to existing and future employment areas, especially the Downtown and major shopping districts.

### POLICY 2–2.3.1G

Increase the proportion of persons using public transit, relative to the private car, particularly for the journey to work, by implementing traffic and parking measures that provide a speed advantage for transit vehicles relative to private vehicles.

### POLICY 2–2.3.3E

Strategically manage congestion in the system to encourage other modes of transportation such as transit, walking or cycling.

### POLICY 2–2.3.3F

Incorporate all feasible traffic management techniques and modest construction improvements before major construction improvements are implemented.

### POLICY 2–2.3.4C

Encourage the use of public transit as a means to address resource consumption and emissions of private auto use.

### POLICY 2–2.3.4E

Involve citizens in planning processes in order to reflect community objectives and promote mutual transit/community benefits.

### POLICY 2–2.3.4F

Provide a transit system that offers Calgarians a reasonable alternative to auto travel by:

- Providing a level of service competitive with auto travel;
- Using a range of transit service types (eg. LRT, express buses, cross-town routes, feeder routes, community shuttles, etc.);
- Minimizing transit travel times;
- Ensuring the fare system is simple and equitable, providing comfortable and safe environments in transit vehicles, stations, and shelters;
- Facilitating access to transit for seniors and persons with disabilities; and
- Integrating transit with other modes of travel.

### POLICY 2–2.3.4G

Provide a high standard of public transportation service within congested areas such as the inner city, Downtown and in major travel corridors.

### POLICY 2–2.3.4H

Locate light rail transit stations to optimize service to communities and potential transit supportive development.

### POLICY 2–2.3.6A

Encourage walking by including the pedestrian environment as a design element in all land uses and plans for roads, LRT and transit facilities.

### POLICY 2–2.3.6B

Encourage the provision of pedestrian facilities that are safe, direct, continuous and barrier free for all existing, expanded and new developments regardless of the type of land use or intensity of development.

### POLICY 2–3.3.2E

Avoid causing speculation and instability in communities abutting LRT stations. Through appropriate planning processes such as a station area plan, area redevelopment plan and/or area structure plan preparation, provide the public with an indication of Council's intention with respect to the level of development opportunity.

### POLICY 4–1.2A

Consider the following three options when proposed development would lead to transportation demands that exceed road network threshold capacities in any sector of the city:

- Approval of the additional development and, also, of improvements to the existing transportation system to accommodate it;
- Not approving additional development, thereby forestalling the need for any improvements; and
- Approval of the development but deferral of any decision on improvements, thereby accepting a lower standard of transportation service for that sector.

## Transit-Oriented Development Policy Guidelines

In 2005 Calgary City Council approved a series of guidelines to be used in the development of areas within 600 metres of a transit station. The six key policy objectives are:

1. Ensure Transit-Supportive Land Uses: Ensure land uses around Transit Stations support ridership by generating high levels of transit use and provide a mixed-use activity node for the local community and city-wide transportation network benefits. This provides the local community with increased services, employment, and housing options within their community.

2. Increase Density Around Transit Stations: Increase density around all Transit Stations to support high frequency, rapid transit service and provide a base for a variety of housing, employment, local services and amenities that support a vibrant station area community.

3. Create Pedestrian-Oriented Design: Create convenient, comfortable, direct and safe pedestrian linkages to and from all Transit Stations in order to support a walkable station area and promote the use of transit.

4. Make Each Station Area a "Place": Each station area should be developed as a unique environment, transforming a utilitarian transit node into a community gateway and a vibrant mixed-use hub of activity.

5. Manage Parking, Bus & Vehicular Traffic: Accommodate transit bus and private automobile circulation and parking needs, while creating a comfortable pedestrian environment.

6. Plan In Context With Local Communities: TOD should benefit the local community. Through consultation with local communities, TOD should provide a wide range of supporting benefits for local communities, including increased uses and services, a variety of housing, increased transportation options and a more walkable environment and community amenities.

## Corporate Affordable Housing Strategy

The Corporate Affordable Housing Strategy (CPS2002-57) is a Council Policy that was approved unanimously in July 2002. The policy defines Affordable Housing and identifies the following eight City of Calgary roles in housing by establishing goals and policies for each role:

1. Management & Operation of Non-Market (Social) Housing

2. Administration of Resources from other governments

3. Direct Funding and Development

4. Strategic Partnerships

5. Planning & Regulation

6. Community Development & Education

7. Research

8. Advocacy

Planning and regulation including the enforcement of development and building standards to encourage affordable housing is identified in the plan as a unique strength of the City. The plan identifies goals and policies related to this role such as but not limited to:

- Relaxation of development fees and standards for affordable housing where it enhances the viability and affordability of the project;
- Development of regulatory incentives to encourage the private sector to provide and protect lower cost housing;
- Encourage the development of new rental housing and the protection and enhancement of existing rental housing stock; and,
- Where appropriate on a site specific basis facilitate the provision and retention of affordable housing by supporting changes to land and building development standards and land use by-law regulations.

# Appendix C

## Future Projections

| TABLE C.1 – BUILDING FLOOR AREA | | | | |
|---|---|---|---|---|
| | 2006 Building Floor Area (sq. m) | Minimum Build-out Building Floor Area (sq. m) | Maximum Build-out Building Floor Area (sq. m) | Maximum Bonus Build-out Building Floor Area |
| Residential | 8,500 | 153,038 | 272,248 | 404,237 |
| Retail | 38,500 | 37,396 | 56,711 | 73,835 |
| Office | 0 | 74,803 | 113,440 | 120,816 |
| | | | | |
| **Total** | **47,000** | **265,237** | **442,399** | **598,889** |

| TABLE C.2 – POPULATION | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2006 Population | Projected Population - Minimum Build-out | Projected Dwelling Units - Minimum Build-out | Projected Population - Maximum Build-out | Projected Dwelling Units - Maximum Build-out | Projected Population - Maximum Bonus Build-out | Projected Dwelling Units - Maximum Bonus Build-out |
| Residents | 2,043 | 2,407 | 1,301 | 4,281 | 2,314 | 5,823 | 3,148 |
| Employees | 1,000 | 3,121 | n/a | 4,733 | n/a | 5,249 | **n/a** |
| | | | | | | | |
| **Total** | **3,043** | **5,528** | **1,301** | **9,014** | **2,314** | **11,072** | **3,148** |

Assumptions include the following:
**Minimum Build-out:** Minimum required FAR density. Urban Residential Precinct 100% residential, other areas 50% residential/ 50% commercial. Commercial floor space assumed 2/3 office and 1/3 retail.
**Maximum Build-out:** Maximum allowed FAR density (without bonus). Urban Residential Precinct 100% residential, other areas 50% residential/ 50% commercial. Commercial floor space assumed 2/3 office and 1/3 retail
**Maximum Bonus Build-out:** Maximum allowed FAR density with bonus. Urban Residential Precinct 100% residential; Transit Hub Precinct 90% residential, 10% retail, other areas 50% residential / 50% commercial. Commercial floor space assumed 2/3 office and 1/3 retail

| | | | |
|---|---|---|---|
| Average Dwelling Size | 100 square meters | Employee Workspace | |
| Average Occupancy | 1.85 People per Dwelling Unit | Retail | 55 square meters |
| | | Office | 25 square meters |

Net Floor Area 85% of Gross Floor Area

2006 Population from Statistics Canada Census tract profile for 0067.00 (CT), Calgary (CMA). Census tract larger than Brentwood Station Area Redevelopment Plan

# Land Allocation

## Roads, Parks and Development Parcels

| TABLE C.3 – EXISTING LAND ALLOCATION WITHIN BRENTWOOD STATION AREA | | | |
|---|---|---|---|
| | Hectares | Acres | % of total plan area |
| Road right of ways<br>(Crowchild Trail 81,471 sq.m) | 12.5763 | 31.1 | 35.5 |
| Park and Open Space | 2.4470 | 6.0 | 6.9 |
| Development Parcels | 20.4294 | 50.5 | 57.6 |
| | | | |
| **Total Brentwood Station Area Redevelopment Plan Area** | **35.4527** | **87.6** | **100.0** |

| TABLE C.4 – EXISTING LAND ALLOCATION WITHIN BRENTWOOD STATION AREA<br>NORTH CROWCHILD | | | |
|---|---|---|---|
| | Hectares | Acres | % of North plan area |
| Road right of ways<br>(Crowchild Trail 43,540 sq.m) | 8.4448 | 20.9 | 31.6 |
| Park and Open Space | 2.4470 | 6.0 | 9.2 |
| Development Parcels | 15.8119 | 39.1 | 59.2 |
| | | | |
| **Brentwood Station Area - North Crowchild** | **26.7037** | **66.0** | **100.0** |

| TABLE C.5 – EXISTING LAND ALLOCATION WITHIN BRENTWOOD STATION AREA<br>SOUTH CROWCHILD | | | |
|---|---|---|---|
| | Hectares | Acres | % of South plan area |
| Road right of ways<br>(Crowchild Trail 37,931 sq.m) | 4.1315 | 10.2 | 47.2 |
| Park and Open Space | 0.0 | 0.0 | 0.0 |
| Development Parcels | 4.6175 | 11.4 | 52.8 |
| | | | |
| **Brentwood Station Area - South Crowchild** | **8.7490** | **21.6** | **100.0** |

| TABLE C.6 – POTENTIAL LAND ALLOCATION WITHIN BRENTWOOD STATION AREA | | | |
|---|---|---|---|
| | Hectares | Acres | % of total plan area |
| Conceptual Road right of ways (Crowchild Trail 81,471 sq.m) | 16.5098 | 40.8 | 46.6 |
| Conceptual Park and Open Space | 3.6391 | 9.0 | 10.3 |
| Conceptual Development Parcels | 15.3038 | 37.8 | 43.1 |
| | | | |
| **Total Brentwood Station Area Redevelopment Plan Area** | **35.4527** | **87.6** | **100.0** |

| TABLE C.7 – POTENTIAL LAND ALLOCATION WITHIN BRENTWOOD STATION AREA NORTH CROWCHILD | | | |
|---|---|---|---|
| | Hectares | Acres | % of North plan area |
| Conceptual Road right of ways (Crowchild Trail 43,540 sq.m) | 11.0848 | 27.4 | 41.5 |
| Conceptual Park and Open Space | 3.237 | 8.0 | 12.1 |
| Conceptual Development Parcels | 12.3819 | 30.6 | 46.4 |
| | | | |
| **Brentwood Station Area - North Crowchild** | **26.7037** | **66.0** | **100.0** |

| TABLE C.8 – POTENTIAL LAND ALLOCATION WITHIN BRENTWOOD STATION AREA SOUTH CROWCHILD | | | |
|---|---|---|---|
| | Hectares | Acres | % of South plan area |
| Conceptual Road right of ways (Crowchild Trail 37,931,541 sq.m) | 5.425 | 13.4 | 62.0 |
| Conceptual Park and Open Space | 0.4021 | 1.0 | 4.6 |
| Conceptual Development Parcels | 2.9219 | 7.2 | 33.4 |
| | | | |
| **Brentwood Station Area - South Crowchild** | **8.7490** | **21.6** | **100.0** |

## TABLE C.9 - POTENTIAL DEVELOPMENT PARCEL AND BUILDING AREAS

| Development Parcel | | Built Form Typology | Potential Development Parcel Area (sq.m) | Total Building Gross Floor Area (sq.m) | | | Residential Building Gross Floor Area (sq.m) | | | Retail Building Gross Floor Area (sq.m) | | | Office Building Gross Floor Area (sq.m) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Minimum Build-out | Maximum Build-out | Maximum Bonus Build-out | Minimum Build-out | Maximum Build-out | Maximum Bonus Build-out | Minimum Build-out | Maximum Build-out | Maximum Bonus Build-out | Minimum Build-out | Maximum Build-out | Maximum Bonus Build-out |
| North Crowchild | 1A1 | Urban Residential - 14m \| f2.5 | 6,003 | 6,003 | 15,008 | 15,008 | 6,003 | 15,008 | 15,008 | - | - | - | | | |
| | 1A2 | Urban Residential - 14m \| f2.5 | 5,522 | 5,522 | 13,805 | 13,805 | 5,522 | 13,805 | 13,805 | - | - | - | | | |
| | 1A3 | Urban Residential - 14m \| f2.5 | 1,887 | 1,887 | 4,718 | 4,718 | 1,887 | 4,718 | 4,718 | - | - | - | | | |
| | 1A4 | Urban Residential - 14m \| f2.5 | 3,856 | 3,856 | 9,640 | 9,640 | 3,856 | 9,640 | 9,640 | - | - | - | | | |
| | 1A5 | Urban Residential - 14m \| f2.5 | 4,301 | 4,301 | 10,753 | 10,753 | 4,301 | 10,753 | 10,753 | - | - | - | | | |
| | 1A6 | Urban Residential - 14m \| f2.5 | 2,358 | 2,538 | 6,345 | 6,345 | 2,538 | 6,345 | 6,345 | - | - | - | | | |
| | 1A7 | Urban Residential - 14m \| f2.5 | 9,253 | 9,253 | 23,133 | 23,133 | 9,253 | 23,133 | 23,133 | - | - | - | | | |
| | 1A8 | Urban Residential - 14m \| f2.5 | 7,479 | 7,479 | 18,698 | 18,698 | 7,479 | 18,698 | 18,698 | - | - | - | | | |
| | 1B1 | Mixed Use - 14m \| f3 \| b3.5 | 4,238 | 8,479 | 12,714 | 14,833 | 4,238 | 6,357 | 7,417 | 1,413 | 2,119 | 2,472 | 2,825 | 4,238 | 4,945 |
| | 1B2 | Mixed Use - 38m \| f3 \| b3.5 | 3,889 | 7,778 | 11,667 | 13,612 | 3,889 | 5,834 | 6,806 | 1,296 | 1,944 | 2,268 | 2,593 | 3,889 | 4,537 |
| | 1B3 | Mixed Use - 38m \| f3 \| b3.5 | 15,010 | 30,020 | 45,030 | 52,535 | 15,010 | 22,515 | 26,268 | 5,003 | 7,504 | 8,755 | 10,007 | 15,011 | 17,513 |
| | 1B4 | Mixed Use - 38m \| f3 \| b3.5 | 6,654 | 13,308 | 19,962 | 23,289 | 6,654 | 9,981 | 11,645 | 2,218 | 3,327 | 3,881 | 4,436 | 6,654 | 7,763 |
| | 1B5 | Retail Village - 38m \| f3 \| b3.5 | 3,934 | 7,868 | 11,802 | 13,769 | 3,934 | 5,901 | 6,885 | 1,311 | 1,967 | 2,295 | 2,623 | 3,934 | 4,590 |
| | 1B6 | Retail Village - 38m \| f3 \| b3.5 | 13,802 | 27,604 | 41,406 | 48,307 | 13,802 | 20,703 | 24,154 | 4,600 | 6,900 | 8,050 | 9,202 | 13,803 | 16,103 |
| | 1B7 | Retail Village - 38m \| f3 \| b3.5 | 7,833 | 15,666 | 23,499 | 27,416 | 7,833 | 11,750 | 13,708 | 2,611 | 3,916 | 4,569 | 5,222 | 7,833 | 9,139 |
| | 1C1 | Mixed Use - 55m \| f4 \| b4.5 | 1,327 | 2,654 | 5,308 | 5,972 | 1,327 | 2,654 | 2,986 | 442 | 885 | 995 | 885 | 1,769 | 1,991 |
| | 1C2 | Retail Village - 55m \| f4 \| b4.5 | 2,218 | 4,436 | 8,872 | 9,981 | 2,218 | 4,436 | 4,991 | 739 | 1,479 | 1,663 | 1,479 | 2,957 | 3,327 |
| | 1C3 | Retail Village - 55m \| f4 \| b4.5 | 8,460 | 16,920 | 33,840 | 38,070 | 8,460 | 16,920 | 19,035 | 2,820 | 5,639 | 6,344 | 5,640 | 11,281 | 12,691 |
| | 1C4 | Retail Village - 55m \| f4 \| b4.5 | 5,008 | 10,016 | 20,032 | 22,536 | 5,008 | 10,016 | 11,268 | 1,669 | 3,338 | 3,756 | 3,339 | 6,678 | 7,512 |
| | 1D1 | Transit Hub - 90m \| f4.5 \| b8 | 2,331 | 4,662 | 10,490 | 18,648 | 2,331 | 5,245 | 16,783 | 777 | 1,748 | 1,865 | 1,554 | 3,497 | - |
| | 1D2 | Transit Hub - 90m \| f4.5 \| b8 | 2,840 | 5,680 | 12,780 | 22,720 | 2,840 | 6,390 | 20,448 | 947 | 2,130 | 2,272 | 1,893 | 4,260 | - |
| | 1D3 | Transit Hub - 90m \| f4.5 \| b8 | 5,436 | 10,872 | 24,462 | 43,488 | 5,436 | 12,231 | 39,139 | 1,812 | 4,077 | 4,349 | 3,624 | 8,154 | - |
| | subtotal | | 123,819 | 206,799 | 395,579 | 457,272 | 123,819 | 243,029 | 313,627 | 27,657 | 46,973 | 53,534 | 55,323 | 93,959 | 90,111 |
| South Crowchild | 2B1 | Mixed Use - 14m \| f2 \| b3.5 | 7,254 | 14,508 | 14,508 | 25,389 | 7,254 | 7,254 | 12,695 | 2,418 | 2,418 | 4,231 | 4,836 | 4,836 | 8,463 |
| | 2B2 | Mixed Use - 38m \| f2 \| b3.5 | 4,273 | 8,546 | 8,546 | 14,956 | 4,273 | 4,273 | 7,478 | 1,424 | 1,424 | 2,492 | 2,849 | 2,849 | 4,985 |
| | 2C1 | Mixed Use - 55m \| f2 \| b4.5 | 2,852 | 5,704 | 5,704 | 12,834 | 2,852 | 2,852 | 6,417 | 951 | 951 | 2,139 | 1,901 | 1,901 | 4,278 |
| | 2C2 | Mixed Use - 55m \| f2 \| b4.5 | 3,672 | 7,344 | 7,344 | 16,524 | 3,672 | 3,672 | 8,262 | 1,224 | 1,224 | 2,754 | 2,448 | 2,448 | 5,508 |
| | 2C3 | Mixed Use - 55m \| f2 \| b4.5 | 4,980 | 9,960 | 9,960 | 22,410 | 4,980 | 4,980 | 11,205 | 1,660 | 1,660 | 3,735 | 3,320 | 3,320 | 7,470 |
| | 2D1 | Transit Hub - 90m \| f2 \| b8.0 | 3,464 | 6,928 | 6,928 | 27,712 | 3,464 | 3,464 | 24,941 | 1,155 | 1,155 | 2,771 | 2,309 | 2,309 | - |
| | 2D2 | Transit Hub - 90m \| f2 \| b8.0 | 2,724 | 5,448 | 5,448 | 21,792 | 2,724 | 2,724 | 19,613 | 908 | 908 | 2,179 | 1,816 | 1,816 | - |
| | subtotal | | 29,219 | 56,438 | 58,438 | 141,617 | 29,219 | 29,219 | 90,610 | 9,739 | 9,739 | 20,301 | 19,480 | 19,480 | 30,706 |
| | **total** | | 153,038 | 265,237 | 442,399 | 598,889 | 153,038 | 272,248 | 404,237 | 37,396 | 56,711 | 73,835 | 74,803 | 113,440 | 120,816 |

## TABLE C.10 - POTENTIAL POPULATION PROJECTIONS

| Development Parcel | | Built Form Typology | Potential Development Parcel Area (sq.m) | Projected Residential Population | | | Projected Employee Population | | | Projected Dwelling Units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Minimum Build-out | Maximum Build-out | Maximum Bonus Build-out | Minimum Build-out | Maximum Build-out | Maximum Bonus Build-out | Minimum Build-out | Maximum Build-out | Maximum Bonus Build-out |
| North Crowchild | 1A1 | Urban Residential - 14m \| f2.5 | 6,003 | 94 | 236 | 236 | - | - | - | 51 | 128 | 128 |
| | 1A2 | Urban Residential - 14m \| f2.5 | 5,522 | 87 | 217 | 217 | - | - | - | 47 | 117 | 117 |
| | 1A3 | Urban Residential - 14m \| f2.5 | 1,887 | 30 | 74 | 74 | - | - | - | 16 | 40 | 40 |
| | 1A4 | Urban Residential - 14m \| f2.5 | 3,856 | 61 | 152 | 152 | - | - | - | 33 | 82 | 82 |
| | 1A5 | Urban Residential - 14m \| f2.5 | 4,301 | 68 | 169 | 169 | - | - | - | 37 | 91 | 91 |
| | 1A6 | Urban Residential - 14m \| f2.5 | 2,358 | 40 | 100 | 100 | - | - | - | 22 | 54 | 54 |
| | 1A7 | Urban Residential - 14m \| f2.5 | 9,253 | 146 | 364 | 364 | - | - | - | 79 | 197 | 197 |
| | 1A8 | Urban Residential - 14m \| f2.5 | 7,479 | 118 | 294 | 294 | - | - | - | 64 | 159 | 159 |
| | 1B1 | Mixed Use - 14m \| f3 \| b3.5 | 4,238 | 67 | 100 | 117 | 118 | 177 | 206 | 36 | 54 | 63 |
| | 1B2 | Mixed Use - 38m \| f3 \| b3.5 | 3,889 | 61 | 92 | 107 | 108 | 162 | 189 | 33 | 50 | 58 |
| | 1B3 | Mixed Use - 38m \| f3 \| b3.5 | 15,010 | 236 | 354 | 413 | 418 | 626 | 731 | 128 | 191 | 223 |
| | 1B4 | Mixed Use - 38m \| f3 \| b3.5 | 6,654 | 105 | 157 | 183 | 185 | 278 | 324 | 57 | 85 | 99 |
| | 1B5 | Retail Village - 38m \| f3 \| b3.5 | 3,934 | 62 | 93 | 108 | 109 | 164 | 192 | 33 | 50 | 59 |
| | 1B6 | Retail Village - 38m \| f3 \| b3.5 | 13,802 | 217 | 326 | 380 | 384 | 576 | 672 | 117 | 176 | 205 |
| | 1B7 | Retail Village - 38m \| f3 \| b3.5 | 7,833 | 123 | 185 | 216 | 218 | 327 | 381 | 67 | 100 | 117 |
| | 1C1 | Mixed Use - 55m \| f4 \| b4.5 | 1,327 | 21 | 42 | 47 | 37 | 74 | 83 | 11 | 23 | 25 |
| | 1C2 | Retail Village - 55m \| f4 \| b4.5 | 2,218 | 35 | 70 | 78 | 62 | 123 | 139 | 19 | 38 | 42 |
| | 1C3 | Retail Village - 55m \| f4 \| b4.5 | 8,460 | 133 | 266 | 299 | 235 | 471 | 530 | 72 | 144 | 162 |
| | 1C4 | Retail Village - 55m \| f4 \| b4.5 | 5,008 | 79 | 158 | 177 | 139 | 279 | 313 | 43 | 85 | 96 |
| | 1D1 | Transit Hub - 90m \| f4.5 \| b8 | 2,331 | 37 | 82 | 147 | 65 | 146 | 29 | 20 | 45 | 79 |
| | 1D2 | Transit Hub - 90m \| f4.5 \| b8 | 2,840 | 45 | 100 | 179 | 79 | 178 | 35 | 24 | 54 | 97 |
| | 1D3 | Transit Hub - 90m \| f4.5 \| b8 | 5,436 | 85 | 192 | 342 | 151 | 340 | 67 | 46 | 104 | 185 |
| | subtotal | | 123,819 | 1,947 | 3,822 | 4,398 | 2,308 | 3,921 | 3,891 | 1,052 | 2,066 | 2,377 |
| South Crowchild | 2B1 | Mixed Use - 14m \| f2 \| b3.5 | 7,254 | 114 | 114 | 200 | 202 | 202 | 353 | 62 | 62 | 108 |
| | 2B2 | Mixed Use - 38m \| f2 \| b3.5 | 4,273 | 67 | 67 | 118 | 119 | 119 | 208 | 36 | 36 | 64 |
| | 2C1 | Mixed Use - 55m \| f2 \| b4.5 | 2,852 | 45 | 45 | 101 | 79 | 79 | 179 | 24 | 24 | 55 |
| | 2C2 | Mixed Use - 55m \| f2 \| b4.5 | 3,672 | 58 | 58 | 130 | 102 | 102 | 230 | 31 | 31 | 70 |
| | 2C3 | Mixed Use - 55m \| f2 \| b4.5 | 4,980 | 78 | 78 | 176 | 139 | 139 | 312 | 42 | 42 | 95 |
| | 2D1 | Transit Hub - 90m \| f2 \| b8.0 | 3,464 | 54 | 54 | 392 | 96 | 96 | 43 | 29 | 29 | 212 |
| | 2D2 | Transit Hub - 90m \| f2 \| b8.0 | 2,724 | 43 | 43 | 308 | 76 | 76 | 34 | 23 | 23 | 167 |
| | subtotal | | 29,219 | 459 | 459 | 1,425 | 813 | 813 | 1,358 | 248 | 248 | 770 |
| | **total** | | 153,038 | 2,407 | 4,281 | 5,823 | 3,121 | 4,733 | 5,249 | 1,301 | 2,314 | 3,148 |

FIGURE 31. Potential Development Parcels

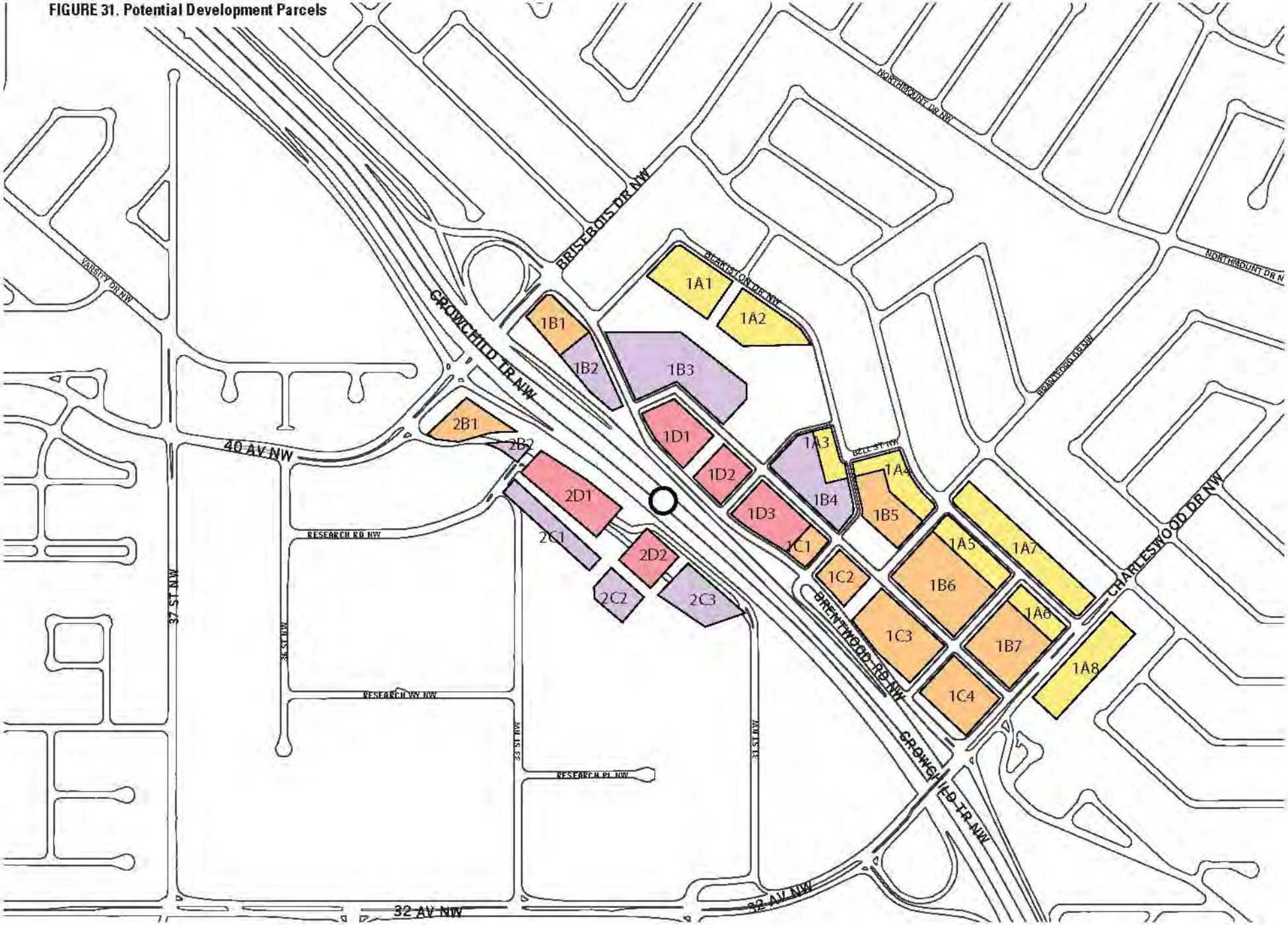


**FIGURE 32. POTENTIAL LAND ALLOCATION**

| SOUTH | | NORTH | |
|---|---|---|---|
| Road Row | 54,250 m² | Road Row | 110,848 m² |
| Parks/Plazas | 4,021 m² | Parks/Plazas | 32,370 m² |
| Parcels Area | 29,219 m² | Parcels Area | 123,819 m² |

# Appendix D

## Proposed Implementation

## Projects and Studies

The following is a list of key projects and studies that should be undertaken in order to implement the policies of the Brentwood Station Area Redevelopment Plan.

Projects to be identified by Land Use Planning and Policy and other business units in future work programs include:

- The completion of a sub-regional transportation analysis Mobility Assessment and Plan (MAP). The MAP will be used to identify constraints and opportunities to improve all types of mobility and modes of transportation to facilitate the mobility network, public realm, land uses and built form within this Area Redevelopment Plan (in collaboration with Transportation Planning).

- As the most substantial open space in the Brentwood station area, it is essential that Blakiston Park be reconfigured and rejuvenated into a lively and attractive community focal point. A Blakiston Park Master Plan should be created to guide the renovation of this significant public space. The Master Plan should contemplate enhanced landscaping, road and pedestrian circulation and pathways, environmental performance, water drainage, lighting and park programs (in collaboration with Parks).

- Undertake a detailed urban design streetscape plan for pedestrian and cycling improvements for all local streets within the Station Area (in collaboration with Transportation Planning)

- Prepare off-site development levy and redevelopment levy bylaws.

- Report to Council on the establishment, membership and operation of the Brentwood Station Area Community Enhancement Fund.

Projects requiring further consultation and collaboration with other City Business Units.

- Provide a detailed landscape and urban design plan for the transit plazas

- Undertake a Stormwater Management Report for the Brentwood Station Area.

# Appendix E
## Stakeholder Engagement

**The Vision**

The vision began with community members expressing what they wanted to see happen in Brentwood. The following is a list of ideas expressed by stakeholders about the future of Brentwood.

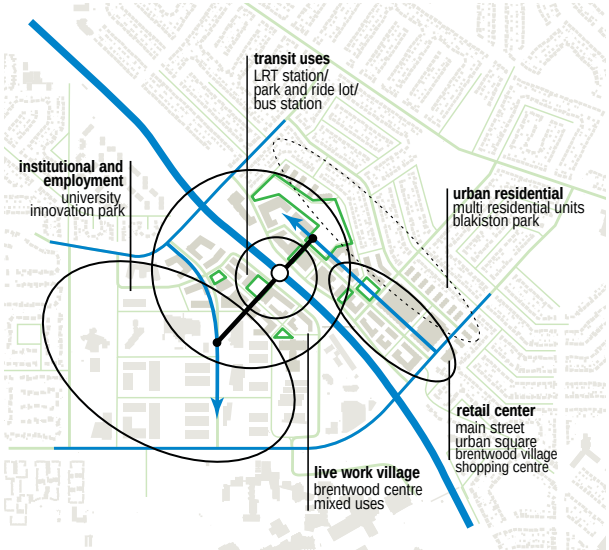
- Create better connections for walking and cycling
- Improve the pedestrian crossing over Crowchild Trail
- Maintain bike paths and lanes properly
- Reduce conflicts between pedestrians and cars
- Make the area pedestrian-friendly
- Integrate both modes of transit (bus and LRT)
- Create more comfortable transit waiting areas
- Make Blakiston Park an important pedestrian connection
- Incorporate public art
- Integrate Park with development and improve public safety
- Make the station area a "people place"
- Create a true "Brentwood Station Area Redevelopment Plan" atmosphere
- Create a central gathering hub
- Mix land uses including offices, residential, open spaces and community services
- Develop more shops, grocery stores community services, farmer's market, arts and entertainment
- Provide adequate parking so it doesn't spill into adjacent neighbourhood
- Create parking structures with retail at grade
- Accommodate most parking underground or in parking structures
- Introduce affordable housing options for students, seniors and others
- Face new residential units towards the existing ones
- Face buildings onto streets and onto park spaces
- Incorporate Crime Prevention through Environmental Design principles
- Ensure high quality buildings but do not be too prescriptive with architectural controls
- Accommodate high density (even high rises) but minimize its negative impacts such as shadowing, parking problems
- Ensure a better development consultation process

The ideas were refined in a vision statement to encapsulate the aspirations of the community:

### Vision statement

Brentwood station area will become a "Urban Village"; a major hub in northwest Calgary where people can live, shop, dine, work, be entertained and meet their daily needs. It will be a "people place" with quality connections and a well integrated transit system. Attractive public spaces and a wide variety of uses will contribute to a vibrant and safe community. Existing residential community character will be preserved while places with an opportunity to change will greatly enhance the community. The two sides of Crowchild will become unified and Brentwood Station Area Redevelopment Plan will be a place that will make the community proud.

**FIGURE 33. THE VISION FOR BRENTWOOD**



**Brentwood Station Area Model**

An all day workshop on April 3, 2008 with community stakeholders helped solidify the vision for Brentwood. Early in the day, themes including mobility networks, public realm, land use and built form were discussed. The principles and objectives that came out of the morning session were illustrated through the creation of a scale model during the afternoon. The purpose of the model was not to create a definitive or final plan, but to illustrate the potential for the station area. This model and other information gathered from stakeholders forms the basis for the Station Area Redevelopment Plan.

**Overview of Brentwood Station Area looking south**
**PHYSICAL MODEL OF BRENTWOOD STATION AREA**

**Proposed main street supports new development and parks spaces**

**A network of urban streets strengthen the Brentwood retail village**

**PHYSICAL MODEL OF NORTHWEST LRT CORRIDOR**

## What we heard

Site visits as well as extensive consultation with community stakeholders provided the foundation for understanding the station area's characteristics. Through this process, a wealth of knowledge was gathered about likes, dislikes and other impressions about Brentwood Station, including how it functions and its potential for the future.

easy access to LRT, downtown and shops • walking distances are short • connectivity to and within the station area is poor • 24 hour use • barriers to mobility including conflicts with pedestrians and cars • poor integration of buses with the LRT • poor bicycle connections • parking and traffic in adjacent neighbourhoods is getting worse • the station area has no sense of place • an integrated Brentwood Station Area Redevelopment Plan • lack of pedestrian-friendly streets • Blakiston Park feels unsafe • lack of a centre, gathering place • not a people place • asphalt jungle • lots of amenities • too much surface parking • not enough community services • the 'backs' of the mall and CO-OP including loading facilities facing the park and residential neighbourhood behind • lack of housing choices, affordable housing • hostile environment • not enough to do • poor organization of shopping centre • good sense of community • great mix of people • flooding and water drainage issues in the area • schools have declined and no longer service local residents • eyes on the park • underutilized school open space

# Appendix F

## Blakiston Park Redesign Community Charrette

The goal of the Blakiston Park redesign community charrette was to discuss ways to can rejuvenate the park and improve its role as the most substantial open space in the Brentwood Station Area. The stakeholder/community group explored design ideas with the goal of redesigning the existing park into a lively and attractive community focal point that can better serve the area.

**Gathering Information and Issues**

A meeting held on Wednesday June 17, 2009 engaged community members to find out how they feel about the park currently, and how they envision improvements for the future. Feedback and responses were gathered in the form of questionnaires, written responses, and "sticky note" comments.

Questionnaire:

- What is great about Blakiston Park today?

Participants identified the mature trees, spacious green lawn, and playground as three things they love about the park.

- Are there existing problems with Blakiston Park?

Poor pathways and the need for an LRT connection topped the list of concerns held by participants. Other issues included transients sleeping in the park, and the current lack of activities.

- What could be better about Blakiston Park?

The most common thing identified by participants as a way to improve Blakiston Park was Music Events. The questionnaires also indicated that residents would like seating areas, as well as "eyes on the park".

- Are there specific events, activities or equipment you would like to see in Blakiston Park?

The need for eating areas such as barbecuing areas, and restaurant cafes. Gathering spaces like bandstands and group seating would also be a great addition. Lighting was also commonly suggested to improve the safety and comfort levels within the park.

- Ideas, comments or suggestions about Blakiston Park.

Generally people felt the current park was not well programmed and there was very little to do. The park needs activities and events to serve the local residents and to create a destination for others to come and experience. Other elements such as seating, lighting and pathways were also identified as currently missing or lacking and should be integrated in the future design of the park.

**Workshop Orientation and Agenda**

A meeting held on Friday June 19, 2009 provided information to public and area stakeholders about the Brentwood Station Area Redevelopment Plan progress, background information about Blakiston Park and how the design charrette workshop would function.

**Design Workshop**

A full day design charrette workshop was held on Saturday June 20, 2009. A Saturday morning tour of the park familiarized participants with the physical elements. Through observation, analysis and discussion of the existing park and it's future role within a more dense, transit oriented development, dialogue was generated and strengths and weakness were highlighted. This was followed by a morning session of brainstorming to generate the guiding principles for the new park design.

*What are the design principles for the new park?*

- Environmental (off-grid, sustainable, re-use of existing features)
- People place
- Accessible (use, ages, abilities inclusive)
- Connection (physical, visual permeability)
- Inspiring (creative, heritage)
- Amenities (high-quality)
- Flexible/Variety
- Safety/Eyes on Park
- Public commitment + private Investment
- Funded
- Integration (act as a Zipper)
- Blend: Brentwood - Village – Park
- Part of a broad open space system
- Internal servicing (not on park)
- Beautiful and bold
- Education for sustainability methods
- Sense of adventure
- Fun

*What is the new approach to the creation of the park?*

- Not timid - BOLD!
- Design intensive
- High standards
- Civic pride - community based and city-wide
- Urban in design (urban is good)
- Civic form for community identity
- Uses existing assets (first step towards being sustainable

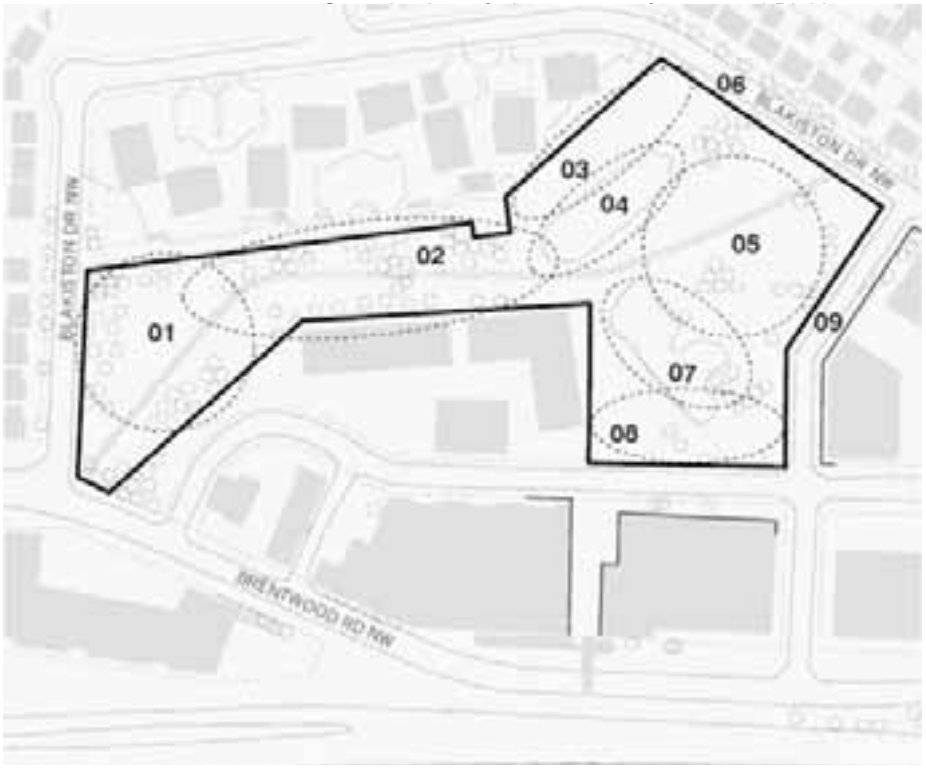
With a good understanding of the park and aspirations for what the park should become, the group moved into the design exercise.

The various 'rooms' that make up the park were explored and defined. A total of nine 'rooms' were identified and discussed.

**FIGURE 34 :ANALYSIS OF BLAKISTON PARK INTO 'ROOMS' FROM MORNING DISCUSSIONS.**

**FIGURE 35. EXISTING BLAKISTON PARK SURROUNDINGS.**

**FIGURE 36. ORGANIZATION OF NINE ROOMS OF PROPOSED BLAKISTON PARK**




**Park 'Rooms'**

01 The Triblaka Room
02 The Valley
03 The Meadow
04 The Grove
05 The Lawn
06 The Edge
07 The Mound
08 The Hub
09 The "Spark Street

Using both visual and verbal descriptions the participants defined their vision of the nine 'rooms'. This exercise painted a vision for the specific uses and functions participants would ultimately like to see supported in the new design of Blakiston Park.

## 01 **The Triblaka** a comfortable play space protected from the wind.

- Community Garden
- Playground
- Water Park
- Washroom
- Orchard
- Seating
- Lighting

CHILDREN'S PLAY AREA

LEARNING

PATHWAYS

FACILITIES

## 02 **The Valley** a narrow meandering corridor perfect for an afternoon stroll.

- Community Garden
- Children Play Area
- Enhanced Grades
- Zen Garden
- Permeable Paving
- Natural Landscaping
- Seating
- Lighting
- Natural Pond
- Labyrinth
- Ecological Features

PUBLIC ART / SCULPTURE

COMMUNITY GARDENS

PATHWAYS

STORMWATER FEATURES

## 03 **The Meadow** a private and distinct space ideal for a wide range of activities

- Skating
- Lawn Bowling
- Picnic Area
- Hedge Maze
- Orchard
- Dog Park
- Natural Landscaping
- Seating
- Lighting
- Natural Pond
- Labyrinth
- Ecological Features

GARDENS

GAMES

RECREATION

PICNICS

## 04 **The Grove** a quiet and natural meeting place.

- Ideal for rest and relaxation
- Accessibility
- Picnic Area
- Pedestrian
- Solar-power Installations
- Walking Trails and Paths
- Sheltered Seating
- Public Art

## 05 **The Lawn** an open green ready for activities and gatherings.

- Bio-swale Plantings
- Accessibility
- Pedestrian Lighting
- Solar-power Installations
- Pathways
- Moveable Seating
- Amphitheatre

## 06 **The Edge** welcoming plantings and pathways that greet the community.

- Accessibility
- Pedestrian Lighting
- Solar-power Installations
- Off the Grid
- Connectivity
- Pathways
- Sculpture / Public Art
- Stormwater Management
- Ecological Features
- Plantings / Bio-swale
- Natural Renewal
- Intimate Spaces
- Off the Grid
- Orchard
- Water Fountains
- Public Art
- Stage Area
- Walking Trails & Paths
- Trees
- Intimate Spaces
- Trees
- Stormwater Features
- Entrance Features
- Eco-park
- Flower Plantings
- Intimate Spaces

OPEN AREAS

FLEXIBLE EVENT SPACE

RESTORATION

MEETING PLACES

ENERGY EFFICIENCY

OPEN AREAS

FLEXIBLE EVENT SPACE

PUBLIC ART

PLANTED EDGE

SIGNAGE

PATHWAYS

LIGHTING

## 07 **The Mound** a hilly destination with great views to the rest of the park.

- Bio-swale plantings
- Unexpected Landscapes
- Trees
- Pedestrian Lighting
- Public Art
- Pathways
- Seating

ENHANCED GRADES

SEATING AREAS

LANDSCAPE FEATURES

GARDENS

## 08 **The Hub** the active face of the park and the gateway to transit

- Accessibility
- Bike Racks
- Moveable Seating
- Paving Treatments
- LEED Buildings
- Flower Beds and Planters
- Farmer's Market

PLAZA SPACE

WATER FEATURES

MOVEABLE SEATING

BIKE RACKS / SCULPTURE

## 09 **The "Spark"** Street an extension of the park and a flexible entertainment venue

- Accessibility
- Bike Racks
- Cafes
- Paving Treatments
- Trees
- Pedestrian Lighting
- Public Art / Sculpture
- Amphitheatre
- Music / Event Spaces
- Solar Power
- Stormwater Management
- Enhanced Grades
- Eating Spaces
- Intimate Spaces

EVENT SPACES

TREED WALK

PAVEMENT TREATMENTS

SEATING

The last portion of the day was dedicated to pulling it all together. Ideas from the day were consolidated and refined to draft a vision for the new park. Key design elements were defined as part of the vision for the new park.

- **A park designed to prevent crime and ensure safety** with new ideas about the edge conditions of the park. Having "eyes on the park" by reconfiguring and expanding the existing park so that it has as much street frontage as possible is key. This idea of natural surveillance around Blakiston Park will also occur when new buildings facing onto the park are realized as part of the redevelopment of the shopping centre. Introducing a clear, visible and well lit pathway system is also essential to creating a comfortable and inviting pedestrian environment. Installing pedestrian lighting in and around the park will ensure that people can travel safely throughout the park both day and night.
- **An accessible amenity that is well connected** and integrated to its surrounding residential, commercial and transit uses through a series of quality pathways and trails. This emphasizes the importance of encouraging walking between the LRT station and the existing communities, and throughout the park for casual daily use.
- **A destination that attracts a variety of users** which are diverse in age, gender, and ethnicity, among other things. Universally accessible trails for walking, biking, and rollerblading are included to ensure no one is excluded from the general park use. Active features such as children's play equipment and areas, recreational areas for structured and non structured sports, flexible event space and community gardening will provide multiple active uses for Blakiston Park. Programmable event spaces in areas such as intended with the The Hub, Street Spark, Mound and Lawn rooms will become gathering spaces for festivals and events throughout the year. In contrast suggested passive uses in areas such as intended in the Valley, Meadow or Grove rooms will include a variety of covered and non-covered seating areas, a contemplative labyrinth and gathering areas for picnics and table games such as chess.
- **A strategy for park furniture and finishes** that focuses on high quality materials and design and that fits the character of the envisioned Blakiston Village. Although not illustrated in such detail on the schemes, the selection of elements such as porous paving, lighting, benches, garbage cans as well as any storage or washroom facilities or other structures should be coordinated and well designed. Ensuring durable, high quality materials that will allow them to remain beautiful with limited maintenance. A strategy for incorporating public art to commemorate the history of the community as well as celebrate its future role as a true destination is also key. Locations such as the Hub or the Triblaka room would be ideal high traffic areas for elements such as water features and sculptures.

- **A sustainable design that offers a learning experience** to visitors and could be a unique feature in Blakiston Park and could be achieved in various ways. Increasing the quantity and variety of vegetation and tree canopy will reduce the overall urban heat island effect and provide effective shade for park users. Integrating stormwater management techniques into the landscape can create attractive and educational opportunities by collecting and transmitting water through elements such as naturalized rain gardens, water features, rock creeks and naturalized swales (bio-swales) rather then the use of exposed sewer drains. Utilizing energy efficient or solar powered equipment, and the regeneration of natural areas. Community gardens (such as butterfly gardens) were also suggested to attract and support pollinator species, which in turn, will assist the proposed creation of orchards with fruit bearing trees.

After several iterations two park designs were generated both supporting these design ideas as well as the vision of the distinct 'rooms' within the new Blakiston Park. **Schemes A and B** refined the days work into two visual records.

FIGURE 37. PARK DESIGN - SCHEME A

**Park "Rooms"**

**01 The Triblaka Room**

**02 The Valley**

**03 The Meadow**

**04 The Grove**

**05 The Lawn**

**06 The Edge**

**07 The Mound**

**08 The Street "Spark"**

FIGURE 38. PARK DESIGN - SCHEME B

**Park 'rooms'**

**01 The Triblaka Room**

**02 The Valley**

**03 The Meadow**

**04 The Grove**

**05 The Lawn**

**06 The Edge**

**07 The Mound**

**08 The Hub**

**09 The Street "Spark"**

The ideas, concepts and desires of the Blakiston Park Design Charette will inform the design and progression of this key open space. Similar to the redevelopment of existing sites, the changes in Blakiston Park will take place over a long period of time. The improvements will be tied to capital and operational funding sources. These sources of funding will also change over time.

In the short term, the primary sources will be tied to funds collected from redevelopment projects that exercise the bonus system and provide money to the Brentwood Station Area Community Enhancement Fund. This fund, along with development projects adjacent to the park, will provide immediate opportunities for implementation of concepts from the Blakiston Park Design Charette.

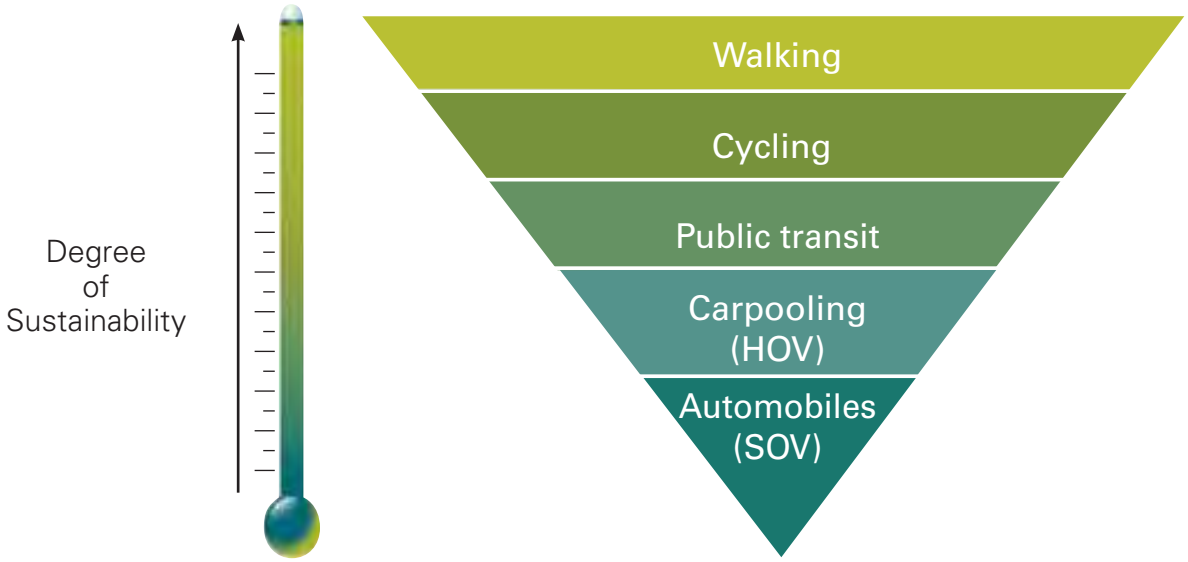
# Appendix G
## Brentwood Station Mobility Assessment and Plan

Transportation sustainability is about creating communities and a city that is less reliant on the automobile and more on the active modes of travel (walking, cycling) and transit. The vision is that the Brentwood station area will become an "Urban Village"; a major hub in northwest Calgary where people can live, shop, dine, work, be entertained and meet their daily needs. It will be a people place with quality connections and a well integrated transit system. Attractive public spaces and a wide variety of uses will contribute to a vibrant and safe community. The Brentwood station area will be a place that will make the community proud.

The City of Calgary has adopted the Transportation Sustainability Triangle shown below. It flips the traditional triangle upside down and, in the context of Transit Oriented Development areas, places walking as the top priority and single occupancy vehicles as the bottom priority.

Motor vehicle delay is the typical measure of intersection or corridor performance. Measuring the performance of an intersection or corridor under the new Transportation Sustainability Triangle framework, however, requires a different approach. First, pedestrians, bicycles, transit and automobiles need to be measured together. Second, for active modes (i.e. pedestrians and cyclists), average delay is only one measure of performance or attractiveness. Facilities and the environment also need consideration. A new measure, namely "Quality of Service", needs to consider:

- Average Delay
- Frequency of Service (e.g. every 5min for bus)
- Facilities (e.g. crosswalks, bike racks)
- Environment (e.g. street trees)




### Background

As part of the Brentwood Station Area Redevelopment Plan project, The City worked with local community representatives to complete a Mobility Assessment and Plan (MAP). The MAP assesses the existing and future demand on the transportation network (particularly the active mode facilities), examines connectivity between the community and the station area, and identifies capital infrastructure priorities required to implement mobility improvements for the TOD area. It also seeks to deal with the staged needs of the redevelopment of the study area, as Brentwood Station moves from a primarily auto dependant area today, to a more transit dependant, pedestrian oriented area in the future.

The MAP process also seeks to engage the community at a higher level than typical transportation studies. A community transportation team, consisting of residents from both the Brentwood and Varsity communities, was established to identify issues and concerns of the community, generate solutions and provide feedback on solutions identified by The City, and to inform the community of the study progress. The team met eight times during 2009 to discuss a number of topics relevant to the MAP, including walking and cycling, transit, parking, existing community traffic and future traffic issues. The public engagement culminated in a public open house on October 21, 2009.

## Mobility Assessment

**Existing Conditions**

The Brentwood Station area is currently developed as a regional commercial area, with a variety of retail formats surrounding the Brentwood LRT Station. The street and sidewalk networks are fragmented, and there is limited connectivity between the surrounding communities and the LRT station. The land uses (regional commercial, University Innovation Park (UIP)) are also currently auto-oriented, with large surface parking lots located in between the station and the current developments.

The Brentwood LRT station currently serves approximately 15,000 passengers on a daily basis. In addition, the transit hub serves 17 bus routes. Due to its proximity to the University of Calgary, the University Innovation Park and the regional commercial centre, Brentwood Station also attracts many trips during the peak hours, in addition to the downtown generated trips. The Brentwood Park and Ride currently provides 1381 stalls for transit customers. Members of the community transportation team identified concerns with the current spillover parking into the residential community. The community's perception is that the spillover parking is exacerbated by the current pay for parking in place at the Brentwood Park and Ride.

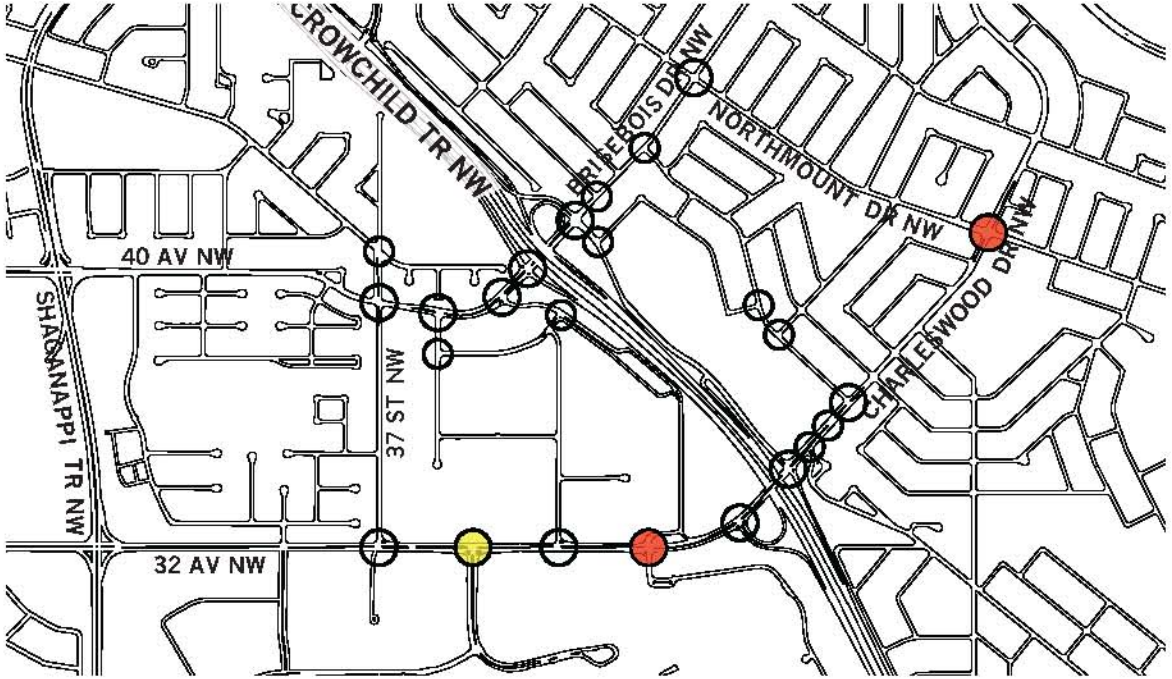
A comprehensive traffic count program was undertaken in the April 2009 to establish a base condition for traffic analysis in Brentwood and Varsity. Analysis of existing traffic conditions identified that most of the studied intersections have adequate capacity to accommodate the existing traffic volumes. Figure 39 illustrates the existing peak hour intersection performance.

A public information session was held by The City in January 2009 to provide an opportunity for the local residents of Brentwood and Varsity to provide comments on both existing and future transportation issues. A significant number of the issues focused on existing traffic within the area and the impact of the proposed transit-oriented development. Common themes included:

- speeding and high traffic volumes on community roadways,
- lack of pedestrian and cyclist connectivity,
- pedestrian crossing safety at key intersections, and
- future development impact on the existing community.

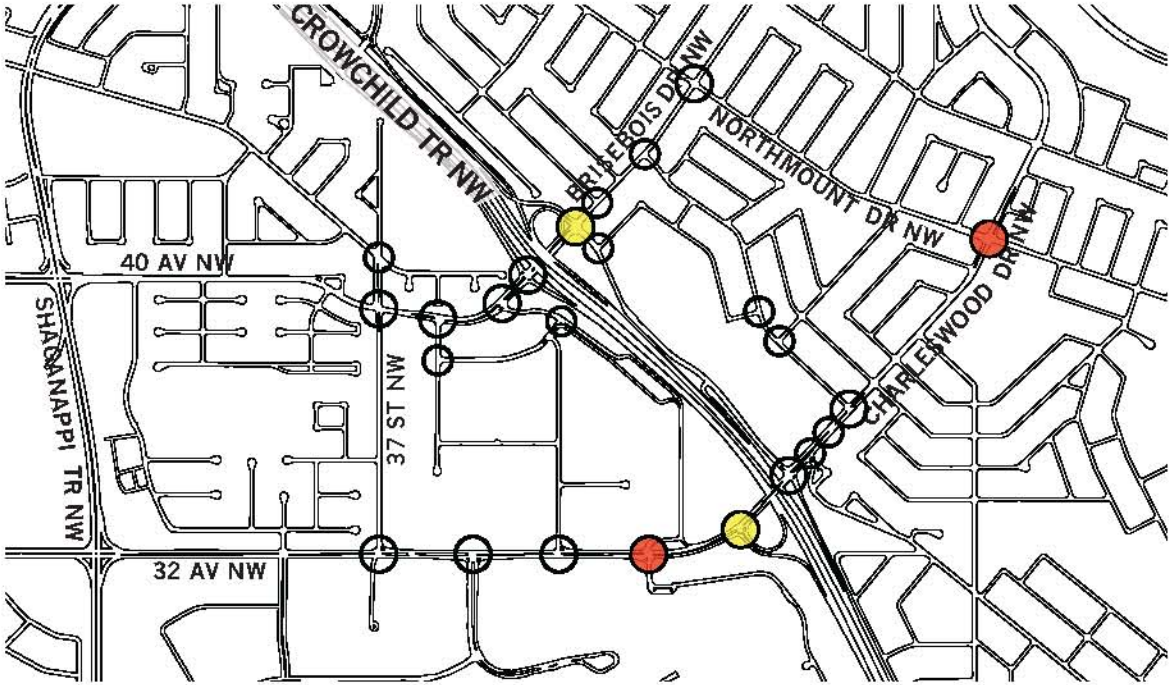
Prior to large-scale redevelopment of the station area, The City is committed to enhancing the mobility for the existing residents and businesses in the area. Based on input from the community, and the prioritization by the community transportation team, The City has identified a number of solutions to address existing transportation concerns in the Brentwood and Varsity communities. These improvements are summarized in The Mobility Plan section.

FIGURE 39: EXISTING INTERSECTION PERFORMANCE




Spare Capacity
Near Capacity
Over Capacity

**Existing 2009 AM**




Spare Capacity
Near Capacity
Over Capacity

**Existing 2009 PM**

## Medium Term Conditions

As the Brentwood Station area begins to redevelop, the transportation network will evolve to meet the goals and objectives of the plan. This includes strategic improvements to address pedestrian and cycle connectivity, minimize development-related traffic on existing residential streets and to create a more walkable and transit-friendly precinct. The recommended improvements are identified in The Mobility Plan section.

In addition to the redevelopment of the station area lands themselves, there are two key developments in the vicinity of the proposed Brentwood TOD development that will also impact the transportation network: The University of Calgary and the University Innovation Park. Through the course of the development of the Brentwood TOD, the actual growth of these adjacent institutions will need to be closely monitored to accurately assess the combined impact of these three significant developments. The timing and scale of each of these developments will greatly impact the timing and scale of the necessary infrastructure improvements. In addition, the City of Calgary should work with the University Innovation Park in order to encourage more use of transit and active modes with the expansion of the UIP.

For the purpose of analysis, a medium-term horizon of 2020 was chosen. The development intensity at the 2020 horizon was established based on discussions with the landowners in the area, and the land use framework included in Section 3.3 of the Station Area Redevelopment Plan. Table G.1 summarizes the land use assumptions in the study area at the 2020 horizon.

**TABLE G.1 - LAND USE ASSUMPTIONS**

| Horizon | Residential (Units) | Retail (Sq. Ft.) | Office (Sq. Ft.) |
|---|---|---|---|
| 2020 | 1,200 | 400,000 | 250,000 |

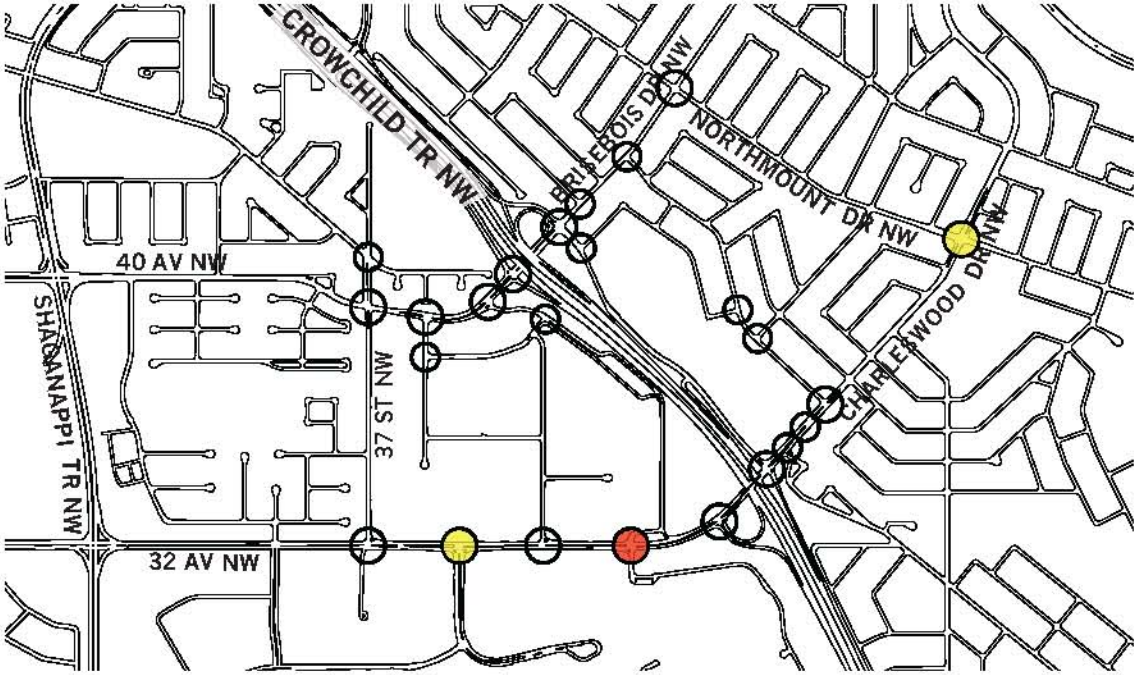
As the Brentwood Station area redevelops, the characteristics of travel within the area will evolve. The current retail development, which generates a significant amount of auto traffic, will be replaced with more transit-supportive and pedestrian-oriented retail, as well as more residential units and office space within walking distance of the station. This type of development will lead to lower auto demand,demand and increased use of the walk, cycle and transit modes of travel. As such, in the medium term, projected auto volumes will decrease substantially, mainly in the afternoon peak period. Table G.2 compares the trip generation of the existing Brentwood Village Mall site with the future redeveloped site:

Analysis of the 2020 post-development traffic conditions identified that most of the studied intersections continue to have adequate capacity to accommodate the anticipated traffic volumes. A few intersections remain as either approaching or at capacity. Minor improvements to the 32 Avenue NW at Crowchild Trail Ramp (West Intersection) will accommodate the anticipated traffic volumes in the medium term horizon. Figure 40 illustrates the medium term peak hour intersection performance.

**TABLE G.2 - BRENTWOOD VILLAGE MALL TRIP GENERATION COMPARISON**

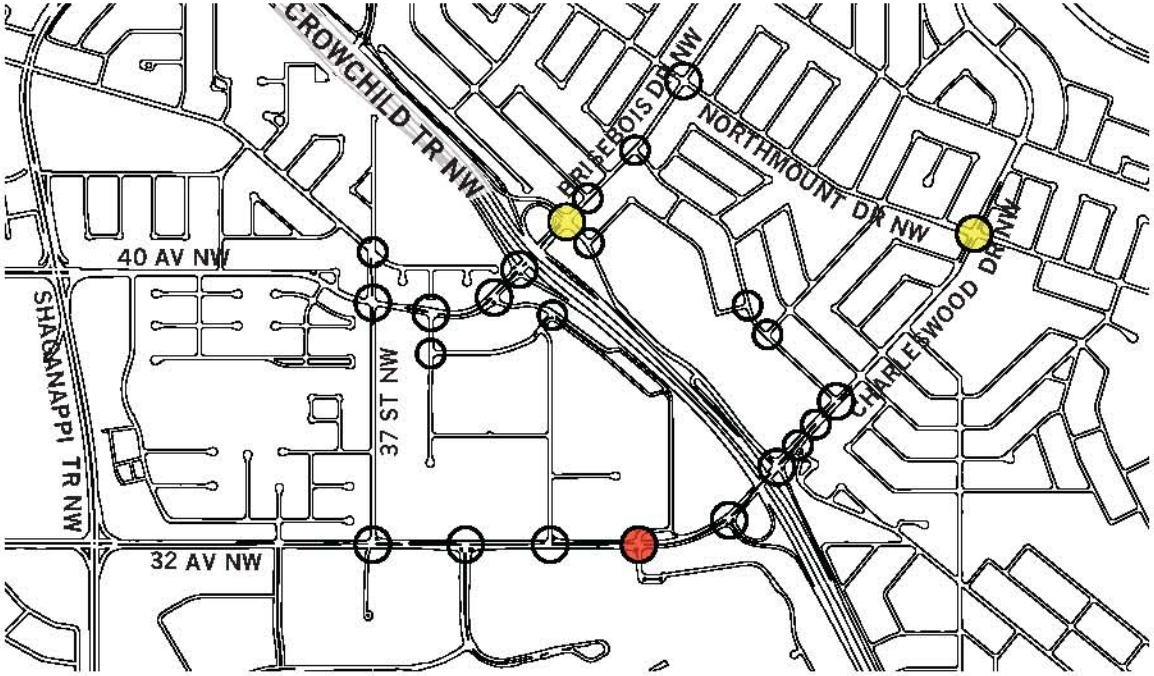
| Horizon | Description | AM | PM |
|---|---|---|---|
| Existing | Existing Volumes | 880 | 2530 |
| 2020 | Projected Volumes | 830 | 1500 |
| | Difference from Existing | -50 (-6%) | -1030 (-41%) |

FIGURE 40: MEDIUM TERM INTERSECTION PERFORMANCE




Spare Capacity
Near Capacity
Over Capacity

**2020 AM** (with recommended improvements)




Spare Capacity
Near Capacity
Over Capacity

**2020 PM** (with recommended improvements)

## Long Term Conditions

While a long term horizon was assessed for the purpose of the MAP, full buildout of the Brentwood station area may extend past the 2035 horizon. Based on current demand for suburban office, the office land use allowed for in the Station Area Plan may take longer to fully develop than 2035. Table G3 summarizes the land use assumptions in the study area at the 2035 horizon.

The additional activity generated by the variety of uses is critical for the successful transformation of the station area. As noted previously, travel characteristics will further evolve in the area as the Brentwood station area transforms into an "Urban Village". Auto trip reductions for individual uses will be offset by the increased density planned for the station area. The increased number of pedestrians and transit patrons will lead to more active street-level activity and retail opportunities.

Table G4 compares the trip generation of the existing Brentwood Village Mall site with the future redeveloped site:

**TABLE G.3 - LAND USE ASSUMPTIONS**

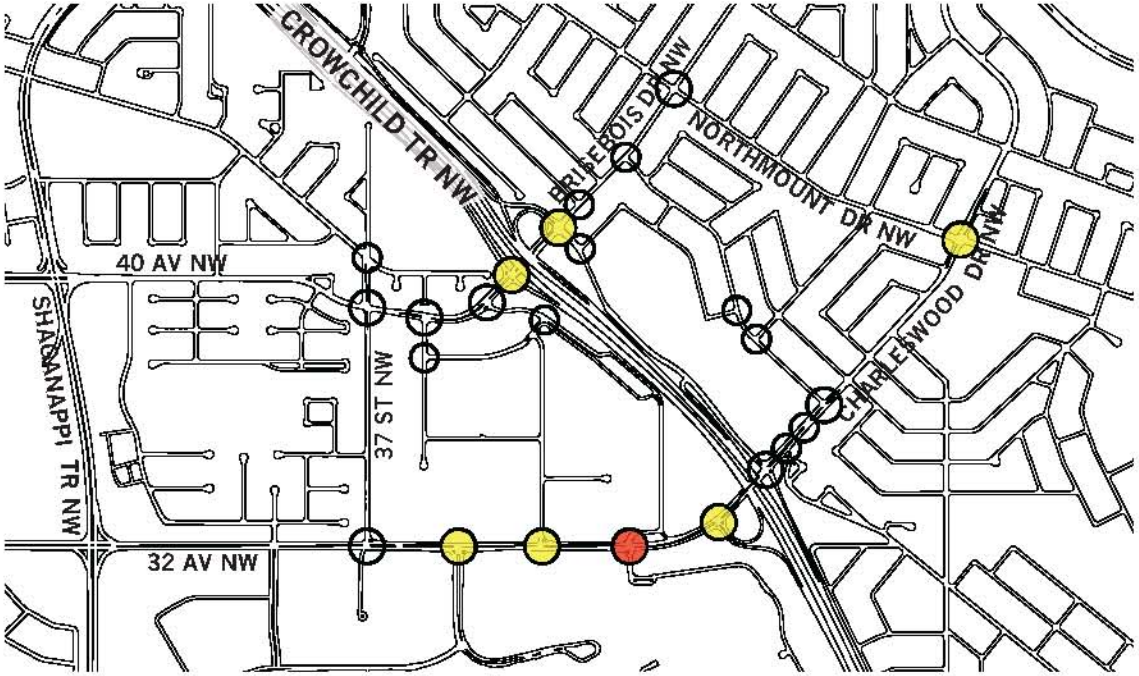
| Horizon | Residential (Units) | Retail (Sq. Ft.) | Office (Sq. Ft.) |
|---|---|---|---|
| 2035 | 1,700 | 600,000 | 450,000 |

Analysis of the 2035 post-development traffic conditions identified that most of the studied intersections continue to have adequate capacity to accommodate the anticipated traffic volumes. A few improvements are required to accommodate the anticipated background growth in the University Innovation Park. Figure 41 illustrates the long term peak hour intersection performance.

**TABLE G.4 - BRENTWOOD VILLAGE MALL TRIP GENERATION COMPARISON**

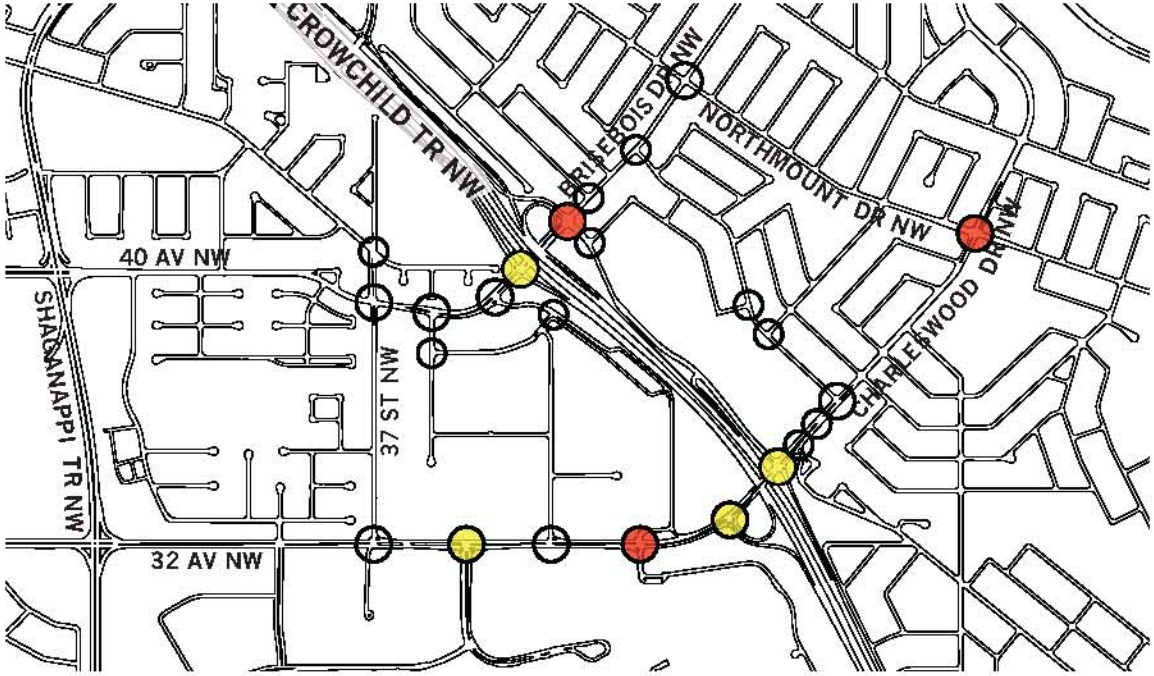
| Horizon | Description | AM | PM |
|---|---|---|---|
| Existing | Existing Volumes | 880 | 2530 |
| 2035 | Projected Volumes | 1200 | 2150 |
| | Difference from Existing | +320 (+36%) | -380 (-15%) |

FIGURE 41: LONG TERM INTERSECTION PERFORMANCE




Spare Capacity
Near Capacity
Over Capacity

**2035 AM** (with recommended improvements)




Spare Capacity
Near Capacity
Over Capacity

**2035 PM** (with recommended improvements)

## The Mobility Plan

Based on the review of existing conditions, and the anticipated impact on the transportation network, a number of improvements have been identified to support the redevelopment of the station area over time. A number of the improvements are recommended to be implemented in the next two years to address the existing issues identified by the community. The remaining improvements are identified as development related, and would be implemented as redevelopment occurs in the area.

| TABLE G.5 - SUMMARY OF STATION AREA IMPROVEMENTS | |
|---|---|
| **Recommended Improvement** | **Timeframe** |
| **Pedestrian Network Recommended Improvements** | |
| 1) Undertake improvements to the 40 Avenue underpass for pedestrian lighting, drainage and maintenance. | Short Term |
| 2) Upgrade 40 Avenue underpass environment using similar principles to the Downtown Underpass Design Guidelines. | Medium Term |
| 3) Upgrade walkway between Brantford Drive and Brooklyn Crescent NW | Short Term |
| 4) Upgrade walkway between Blakiston Drive and Brentwood Boulevard NW | Short Term |
| 5) Upgrade walkway between Butler Crescent and Northmount Drive NW | Medium Term |
| 6) Construct curb extensions at Charleswood Drive and Capri Avenue NW | Short Term |
| 7) Construct curb extensions at Charleswood Drive and 26 Street NW crosswalk (east and west sides) | Short Term |
| 8) Construct curb extensions at Charleswood Drive and 24 Street NW crosswalk (NW side) | Short Term |
| 9) Construct or replace wheelchair ramps along Charleswood Drive, where required. | Short Term |
| 10) Construct or replace wheelchair ramps along Brisebois Drive, where required. | Short Term |
| 11) Construct a full traffic signal at 40 Avenue and 33 Street NW. | Short Term |
| 12) Construct curb extensions at 40 Avenue and 40 Street NW | Short Term |
| 13) Construct curb extensions at 40 Avenue and 42 Street NW | Short Term |
| 14) Construct sidewalk at 40 Avenue and Vardell Road to bus stop on north side | Short Term |
| 15) Construct or replace wheelchair ramps along 40 Avenue NW, where required. | Short Term |
| 16) Construct curb extensions at Varsity Drive and 37 Street NW | Short Term |
| 17) Construct curb extensions at Varsity Drive and 40 Street NW | Short Term |
| 18) Construct curb extensions at Varsity Drive and 41 Street NW | Short Term |
| 19) Pursue a public access agreement with one of the existing multifamily developments on the north side of Blakiston Park to formalize the north-south pedestrian route | Short Term |
| 20) Maintain a north-south pedestrian connection through the existing mall site during construction | Medium Term |
| 21) Provide a pedestrian access route through the multifamily residential site on the north side of Blakiston Park by a public access easement, or other mechanism. | Long term, tied to redevelopment of multifamily site |
| 22) Construct a new sidewalk on the west side of Brantford Drive, between Northmount Drive and Burgess Drive. | Short Term |
| 23) Construct a new sidewalk on 26 Street on the Conrad Drive island on the north side. | Short Term |
| 24) Construct wheelchair ramps at Northmount Drive and 26 Street NW: SE and SW corners. | Short Term |
| 25) Construct wheelchair ramps at 26 Street and Capri Avenue: NE corner. | Short Term |

| TABLE G.5 - SUMMARY OF STATION AREA IMPROVEMENTS | |
|---|---|
| **Recommended Improvement** | **Timeframe** |
| **Pedestrian Network Recommended Improvements** | |
| 26) Extend active mode corridor through the TOD site connecting to the proposed new pedestrian overpass across Crowchild Trail. | Long term, tied to redevelopment |
| 27) Upgrade pedestrian routes through UIP. | Medium term, tied to UIP redevelopment |
| 28) Construct sidewalk on north side of 32 Avenue NW, west from 39 Street to the bus stop | Short Term |
| 29) Construct sidewalk on north side of 32 Avenue NW, from 37 Street to 31 Street | Short Term |
| 30) Construct a sidewalk along the north side of Brentwood Road to provide a continuous sidewalk between Brisebois Drive and Charleswood Drive NW. | Medium term; tied to southern redevelopment of Brentwood Mall parcels |
| 31) Prioritize the winter maintenance of existing and new pathways, sidewalks, and walkways in and around the TOD. | Short term |
| 32) Fix drainage issue at the base of the pedestrian overpass stairs on the north side of Brentwood Road. | Short term |
| **Cyclist Network Recommended Improvements** | |
| 33) Construct a Regional Pathway along the south side of Charleswood Drive from Crowchild Trail to Capri Avenue | Short term |
| 34) Implement on-street bike lanes on Charleswood Drive, from Capri Avenue to John Laurie Boulevard | Short term |
| 35) Improve bicycle access from 32 Avenue and 37 Street NW into the University of Calgary | Short term |
| 36) Implement on-street bike lanes on 37 Street NW, from 32 Avenue to Varsity Drive | Short term |
| 37) Construct a Regional Pathway from 37 Street NW to Northland Drive, along the south side of Crowchild Trail | Short term |
| 38) Construct Regional Pathway on west side of Northland Drive, from Crowchild Trail to Northmount Drive NW | Short term |
| 39) Implement on-street bike lanes on Northland Drive, from Northmount Drive to 52 Avenue NW | Short term |
| 40) Investigate improvements for east-west movement of cyclists along 24 Avenue NW, crossing Crowchild Trail | Short term |
| 41) Restrict parking along 33 Street NW, south of 40 Avenue NW | Short term |
| 42) Restripe Brentwood Road NW to accommodate on-street bicycle lanes | Short term |
| 43) Implement a bicycle station amenity at the TOD at Brentwood. | Medium term |
| 44) Establish a local Bike Share program for the Brentwood Station Area. | Medium term |
| **Transit Network Recommended Improvements** | |
| 45) Increase transit service to Primary Transit levels as per Plan It Calgary | Medium to Long Term |
| 46) Match increases in ridership with local bus frequency. | Medium Term |
| 47) Integrate bus zones as part of redevelopment opportunities. | Medium Term |
| 48) Extend Brentwood LRT platform to accommodate four-car trains | Short term, by 2014 |
| 49) Increase LRT capacity through the implementation of four-car train service | Short term, by 2014 |

| TABLE G.5 - SUMMARY OF STATION AREA IMPROVEMENTS | |
|---|---|
| **Recommended Improvement** | **Timeframe** |
| **Pedestrian Network Recommended Improvements** | |
| 50) Provide signage at the elevator to facilitate the use of the elevator for bicycles | Short Term |
| 51) Install wheel channels on the stairs to assist cyclists pushing bicycles up the stairs. | Short Term |
| 52) Review existing bicycle parking at the Brentwood LRT Station, and identify any opportunities for improvements. | Short Term |
| 53) Provide real-time arrival information to transit patrons at the LRT station and bus terminal. | Medium Term |
| 54) Implement technology to improve transit access by seeing- and hearing-impaired passengers. | Short Term |
| 55) Implement electronic fare payment across transit services | Medium term |
| 56) Undertake a functional design study for the Brentwood bus terminal to accommodate the increased transit, pedestrian, and cyclist demand | Short term |
| **Parking Recommended Improvements** | |
| 57) Use automated video technology to manage and enforce residential parking permit zones. | Medium term |
| 58) Investigate the opportunity to incorporate 'shared parking' into the Land Use Bylaw 1P2007. | Short Term |
| 59) Monitor parking demand as development occurs and revise the parking requirement for subsequent phases. | Medium term |
| **Road Network Recommended Improvements** | |
| 60) Conduct further analysis in consultation with the public to implement a suitable traffic management solution to access at Brentwood Blvd and Brantford Drive NW. | Short to Medium term, timed to coincide with early phases of TOD redevelopment |
| 61) Provide active mode and emergency access only to Bell Street NW and Blakiston Drive NW. | Medium term |
| 62) Install Vehicle-Activated Traffic Calming Sign on Charleswood Drive, north of 26 Street NW | Short Term |
| 63) Install Vehicle-Activated Traffic Calming Sign on Brisebois Drive, north of 52 Avenue NW | Short Term |
| 64) Install Vehicle-Activated Traffic Calming Sign on 40 Avenue, at 42 Street NW | Short Term |
| 65) Review geometry of the Brisebois Drive and John Laurie Boulevard intersection to reduce the speed of vehicles entering the community. | Short Term |
| 66) Construct a median on Charleswood Drive NW from John Laurie Boulevard to Capri Avenue. | Short Term |
| 67) Construct a speed hump on Brenner Drive NW near Brenner Place NW. | Short Term |
| 68) Add new eastbound right-turn lane at 32 Avenue NW and Crowchild Trail Ramp (west intersection) | Medium term |
| 69) Consolidate existing accesses to Charleswood Drive NW into single access point for central spine road | Long term |
| 70) Revise lane designations at 40 Avenue NW and Crowchild Trail Ramp (west intersection) to accommodate additional right turn demand. | Long term |
| 71) Install full traffic signal at 32 Avenue and 33 Street NW | Medium Term, tied to redevelopment |
| 72) Add dedicated northbound left turn lane at 32 Avenue and Campus Drive NW. | Long term |
| 73) Update Brentwood MAP as development progresses, based on actual land use, intensity, and trip rates. | Medium and Long term, tied to redevelopment |
| 74) Review design of 31 Street NW to ensure it can function as both a regional cycle route and as a transit route. | Medium Term |

## Conclusion

As directed by Council, The City of Calgary Transportation Department (with input from the communities of Brentwood and Varsity) has produced this Mobility Assessment and Plan report to:

- Identify the demands of the TOD project on the transportation network (emphasis on pedestrians and cyclists) within the plan area;
- Develop a plan for short, medium and long-term improvements to the transportation network to accommodate the demand for all modes of travel; and
- Address existing and future community traffic concerns.

With a shift in emphasis from the motor vehicle to active modes of transportation and transit, the new "Quality of Service" measure considers average delay, frequency of service, facilities and the built environment. Implementation of the improvements identified in The Mobility Plan Section gradually improves the walking, cycling and transit Quality of Service. While some improvements have also been identified to address the automobile, long term Quality of Service for the automobile will be lower than today. The Quality of Service Table summarizes the mobility assessment for the various modes over time.

While many of the public concerns tend to be related to the auto impact of redevelopment, improvements to the walking, cycling and transit modes, along with improved design of the station area, will lead to an overall high mobility quality of service in the Brentwood station area.

- As redevelopment occurs in Brentwood, there will be a number of benefits to the community: Significant improvements addressing existing community traffic and mobility issues will be constructed in 2010-12.
- Mobility choices and the quality of the urban form will improve.
- The quality and connectivity of walking, cycling and transit connectivity will improve.
- Several medium and long term improvements have been identified for when future redevelopment occurs.

A key short-term recommendation is a functional design study for the Brentwood bus terminal to accommodate the increased transit, pedestrian, and cyclist demand. Progress on this and other short-term improvements will be monitored, and communicated to the community.

As development applications are submitted to the City for review, Transportation is committed to ensuring that the MAP is re-evaluated and updated based on actual site development information. Updated MAPs will be circulated to the Community Associations for their information.

TABLE G.6 - QUALITY OF SERVICE SUMMARY

| | Walking | Cycling | Transit | Vehicle | Overall |
|---|---|---|---|---|---|
| **Short term** | medium | low | medium | medium | medium |
| **Medium term** | medium | medium | high | medium | medium |
| **Long term** | high | high | high | low | high |