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Anderson Station

Area Redevelopment Plan

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Anderson Station
Area Redevelopment Plan

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1 Introduction

The Anderson Station Area Redevelopment Plan (ARP) provides a policy framework to guide redevelopment of the Anderson Station lands and surrounding area. Leveraging close proximity to the primary transit network, the plan sets out a long-term vision for transit-oriented redevelopment while capitalizing on the substantial opportunities in the Plan Area.

1.1
Plan Context

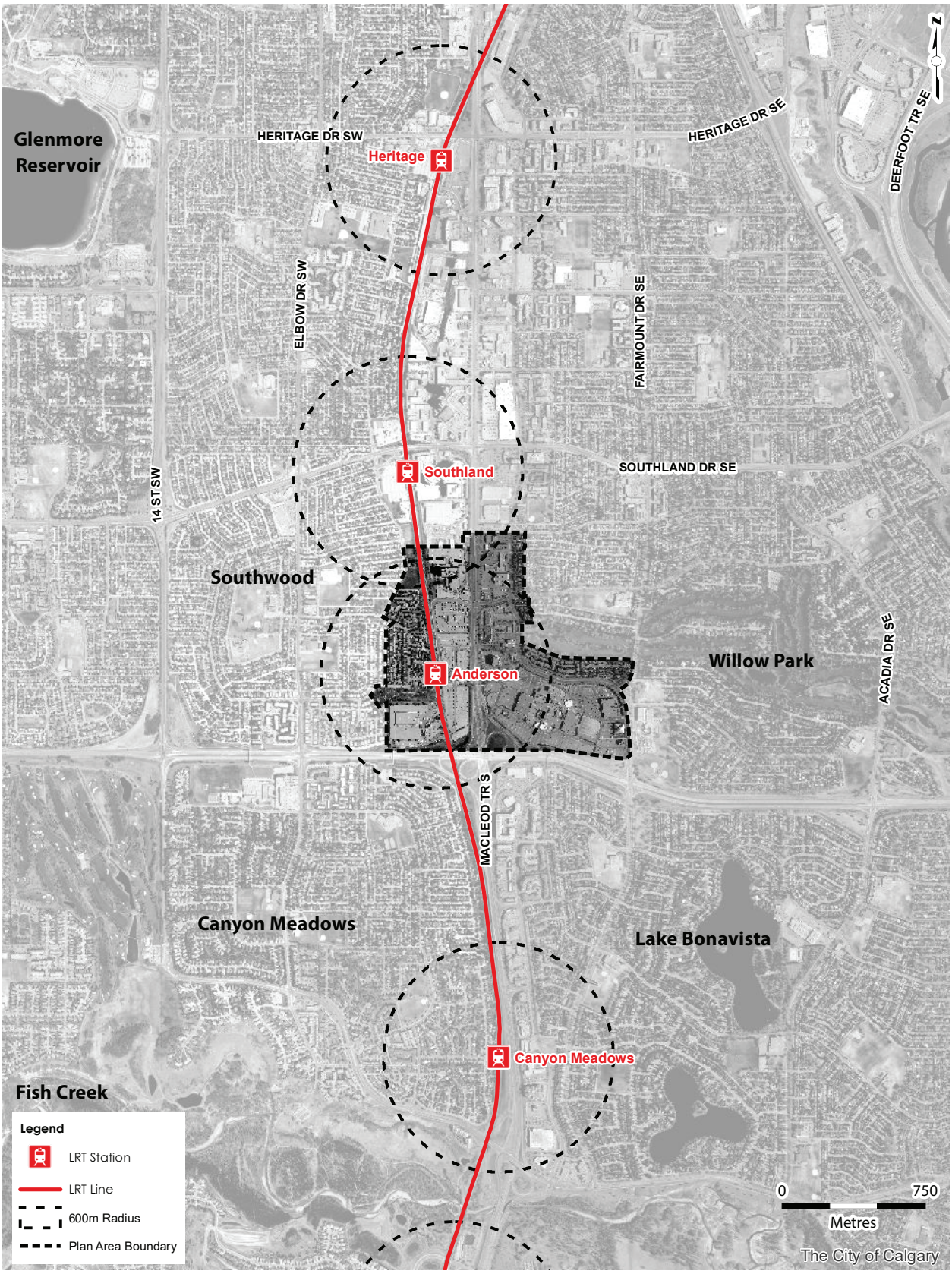
The Plan Area is located in south Calgary along the Macleod Trail S and Red Line Light Rail Transit (LRT) corridors and includes portions of the communities of Southwood and Willow Park, as shown on Map 1: Plan Context.

The Plan Area is bisected by Macleod Trail S and bound by 99 Avenue S.E. to the north and Anderson Road to the south as shown on Map 2: Plan Area. The boundaries for the Plan Area have been determined based on a 600 metre radius. This distance is about a 5 to 10 minute walk, which is considered a reasonable walking distance to primary transit.

The 600 metre radius has been modified to include some areas and exclude others based on the following criteria:

- respecting existing property lines;
- excluding physical obstacles to pedestrian travel (e.g., Anderson Road);
- including major destinations (e.g., Southcentre Mall);
- including parcels partially outside the 600 metre radius rather than splitting them; and
- Including both sides of major streets to ensure a similar interface (e.g., Bonaventure Drive S.E.).

Map 1 | Plan Context



1.2

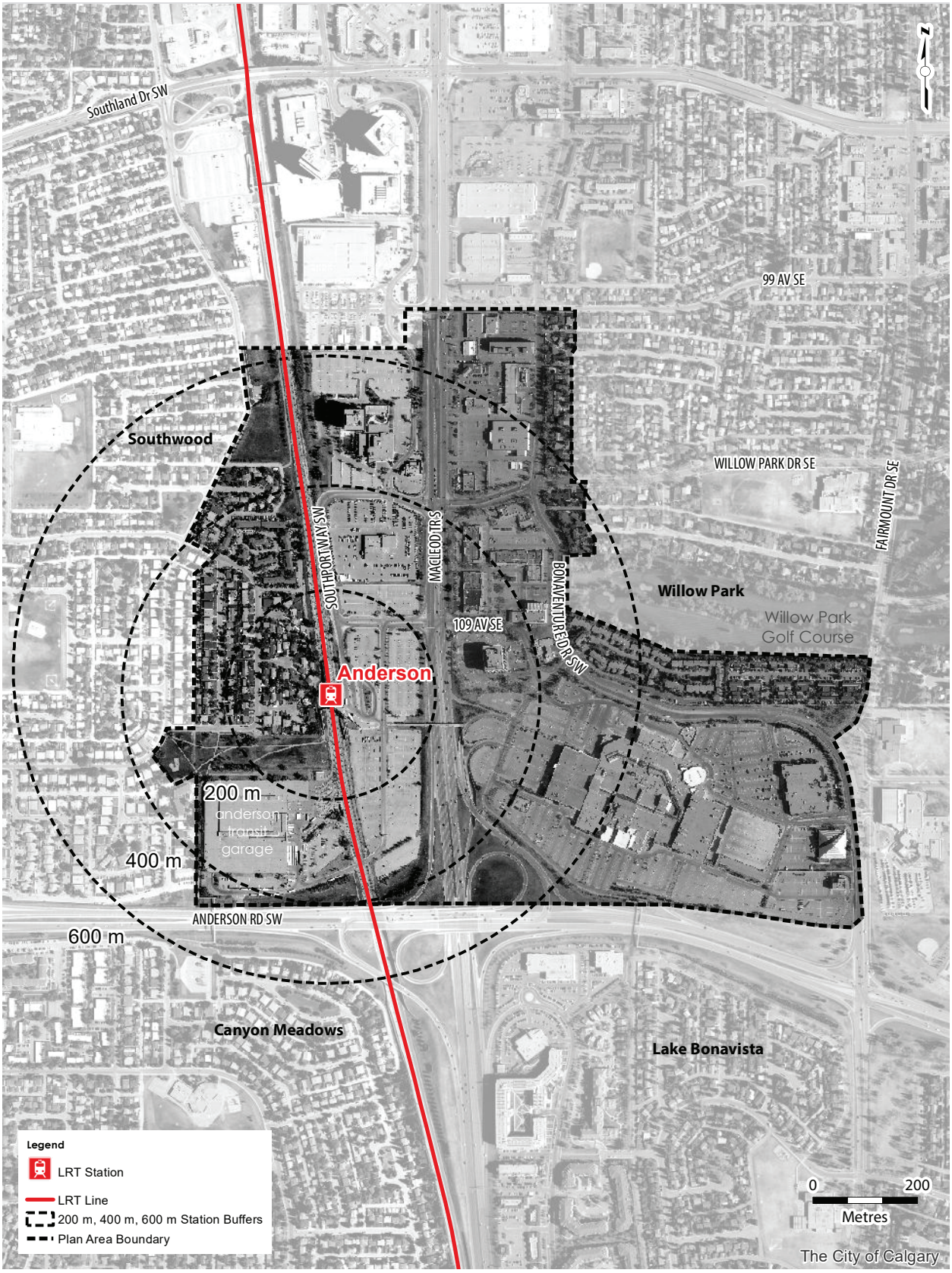
Vision and Core Ideas

This Plan meets the intent of the Municipal Development Plan (MDP) for this area, as a Major Activity Centre (MAC). The vision and core ideas will guide planning within the Plan Area.

Vision

The Plan Area will be transformed into a diverse and walkable transit-oriented development (TOD) area. A mixture of uses and a variety of activities, services and amenities will be located within convenient walking distance and connected by transformed streets and sidewalks. New development will contribute to the vitality of the public realm and the pedestrian environment and will support a range of housing choices and a diversity of employment opportunities.

Map 2 | Plan Area



Core Ideas

1. Multi-Modal Transit Hub

The transit station is the connective heart of the TOD where all modes of travel (walking, cycling, transit and driving) meet and can be comfortably accommodated. The station serves as a key centre of public activity and as an amenity that is safe and convenient for all users.

2. Compact Development / Higher-Density Development

Higher-density development arranged in compact patterns is a sustainable model for urban development and provides for a range of employment, housing and other activities within a comfortable walking distance of the transit station.

3. Mixed-Use Development

A mix of complementary land uses in close proximity provides vitality and interest and supports walking and transit as convenient travel modes for living, working and shopping.

4. Walkability

Pedestrians are the focus of the TOD neighbourhood, with streets, sidewalks and land uses designed to support convenient, interesting and safe walking as a preferred travel mode. The result is a pedestrian-oriented streetscape that improves the desirability of walking and shortens the perception of distance.

5. Urban Placemaking

TOD design reflects the local conditions and character of the area and promotes a well-defined sense of place through thoughtful design, siting of public spaces, public art, architectural details and streetscape features.

6. Parks and Plazas

Public space is incorporated into site design to create a significant public amenity that improves property value and quality of life. Well-designed public open space encourages active street life while allowing for less private open space for each household or workplace.

Core Ideas

7. Complete Streets

Active and multi-modal streets are supported with design elements coordinated to provide visual interest, pedestrian and cycling amenities, and a well-defined sense of place.

8. Parking Management and Design

Close proximity to primary transit allows for reduced reliance on the private automobile and revised parking standards. Sufficient parking for market demand will be provided in a way that reduces the amount of site area devoted to car storage.

9. Sustainable Design

Sustainability principles are incorporated into infrastructure and design elements. Sustainable infrastructure and design elements include alternative energy sources and distribution systems, stormwater retention, green roofs and the use of native vegetation and xeriscaping.

10. Design for Climate

The impact of inclement weather can be addressed though good design, thereby extending the outdoor use of the area. Including design elements such as outdoor waiting areas, parks and plazas that are not unduly shaded and transit stations that include enclosed and heated waiting areas contribute to year-round enjoyment of the area.

1.3

Attributes and Constraints

The Plan Area contains attributes and constraints that were considered as part of the development of this ARP. These attributes must be considered throughout all subsequent phases of planning and development. Key attributes and constraints are shown on Map 3: Attributes and Constraints.

Attributes

Anderson Station: Primary Transit Hub

Anderson Station is identified in the MDP as a primary transit hub (defined as a focal point for terminating primary transit lines or major transfer centres between intersecting primary transit lines).

Major Activity Centre

Most of the plan area is located within a major activity centre as identified in the MDP (MDP, Map 1: Urban Structure).

Large Parcel Land Ownership

The ownership of large parcels facilitates opportunities for comprehensive planning and investment strategies.

City of Calgary Owned Lands

Public ownership of a large parcel of land adjacent to Anderson Station provides an opportunity for the City to lead by example and act as a catalyst for other redevelopment in the Plan Area.

Major Roads

Several major roadways are located within or close to the Plan Area (e.g., Macleod Trail S, Anderson Road, Southland Drive), enabling the movement of people and goods to other areas of the city.

Community Facilities and Amenities

A wide range of community facilities and amenities already exist in the area, including schools, the Fish Creek Public Library, regional and local shopping (Southcentre Mall and Willow Park Village), a major recreational facility (Trico Centre), and several parks and open spaces.

Pedestrian Connections

The regional pathway system and several pedestrian bridges link the communities of Canyon Meadows, Southwood, Willow Park and Lake Bonavista to Anderson Station.

Constraints

Barriers to Pedestrian and Bicycle Travel

Physical barriers such as the Canadian Pacific Railway (CPR) and LRT right-of-way and major roadways (Anderson Road, Macleod Trail S) limit the number of access points to and through the Plan Area.

Proximity to Rail

Increased building setbacks and/or risk mitigation measures from the CPR heavy rail right-of-way may be required.

Electricity Transmission Lines

Building setbacks are required from the 25 kilovolt electricity transmission lines located on the west side of Macleod Trail S.

Limited Access Points to Major Roads

Additional points of access to Anderson Road and Macleod Trail S may not be permitted.

Interface with Adjacent Neighbourhoods

Providing a sensitive interface to adjacent residential neighbourhoods will require that height and massing be limited along the periphery.

Map 3 | Attributes and Constraints

2 Land Use

2.1

Land Use Concept

The *Developed Areas Guidebook* identifies a framework of land use categories and building blocks that outline the built form and desired character of a community. Each development area consists of one or more land use categories, and each land use category consists of one or more building blocks. Building blocks are associated with particular forms and building heights that are typical of specific land use districts.

The land use concept shown on Map 4: Land Use Concept illustrates the location of land use building blocks and the relationship between them and the transportation network. Refinements to the exact location of a building block may be made without an amendment to the ARP as part of an Outline Plan/Land Use Amendment application provided the vision and core values of the plan are achieved.

Building Blocks

Neighbourhood - Limited

will create a transition between the existing neighbourhood and more intense development along Bonaventure Drive S.E.. This building block allows for existing low-density residential housing to remain, complemented by sensitive infill housing of a similar scale.

Neighbourhood – Low Rise

will provide a transition between the established communities of Southwood and Willow Park and higher density areas in closer proximity to Macleod Trail S. This building block will consist of three- to four-storey residential buildings that may include row houses, townhouses and multi-residential buildings.

Community – Centre

will provide opportunities for vertical and horizontal mixed use, including residential, office and retail uses. The Community – Centre building block typically consists of buildings from six to ten stories in height (unless otherwise noted).

Community – High Density

will have the highest densities in the Plan Area. This building block has the greatest flexibility to provide for significant office, institutional and residential uses. The first floor of buildings should be constructed in a manner that allows for future conversion to retail commercial storefronts.

Employment Intensive

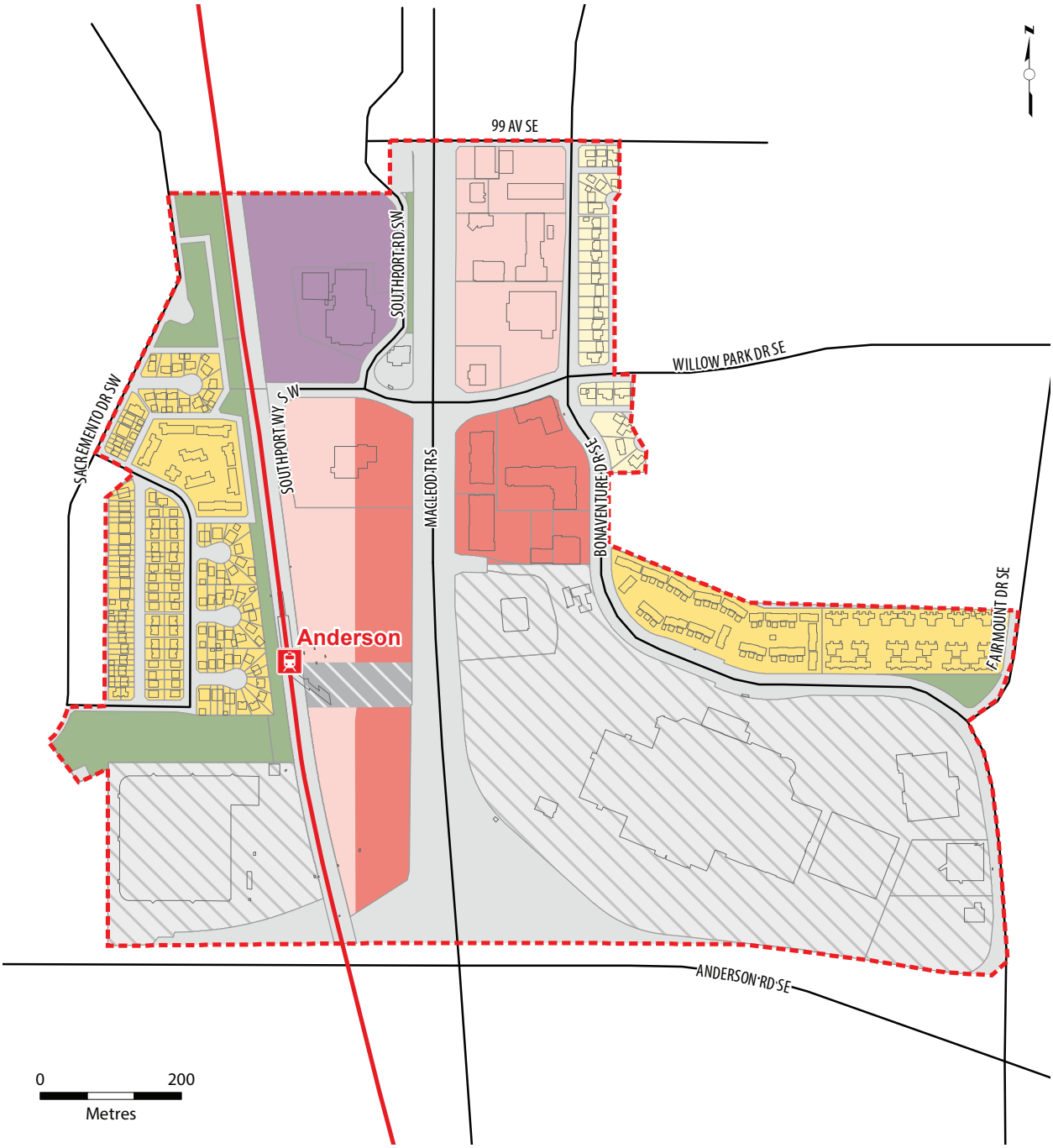
will accommodate the majority of jobs in the Plan Area. Development within this building block will consist of campus-style office development with direct connections to Anderson Station. Ancillary uses that support office jobs will be allowed; however, no comprehensive commercial retail developments will be allowed.

General Policies

1. Land use redesignations must be consistent with the building blocks identified on Map 4: Land Use Concept.
2. New automobile-oriented uses such as drive-thru businesses and service stations shall not locate within the Plan Area.
3. Any development in proximity to the rail right-of-way must conform to all requirements of The City at the time of application.
4. To allow for a range of household sizes, the provision of larger residential units with two or more bedrooms is encouraged.
5. At-grade residential units should not front onto Macleod Trail S. Lobbies for multi-unit residential buildings may front onto Macleod Trail S.
6. Smaller-scale pedestrian block sizes are required for redevelopment. Block lengths should not exceed 125 metres.

Figure 1 | Density examples

Map 4 | Land Use Concept



Legend

- Neighbourhood - Limited
- Neighbourhood - Low Rise
- Public Plaza
- Community - Centre
- Community - High Density
- Employment Intensive
- Future Comprehensive Plan Area
- Park & Open Space
- Plan Area Boundary
- LRT Line
- Anderson LRT Station

2.2

Development Areas

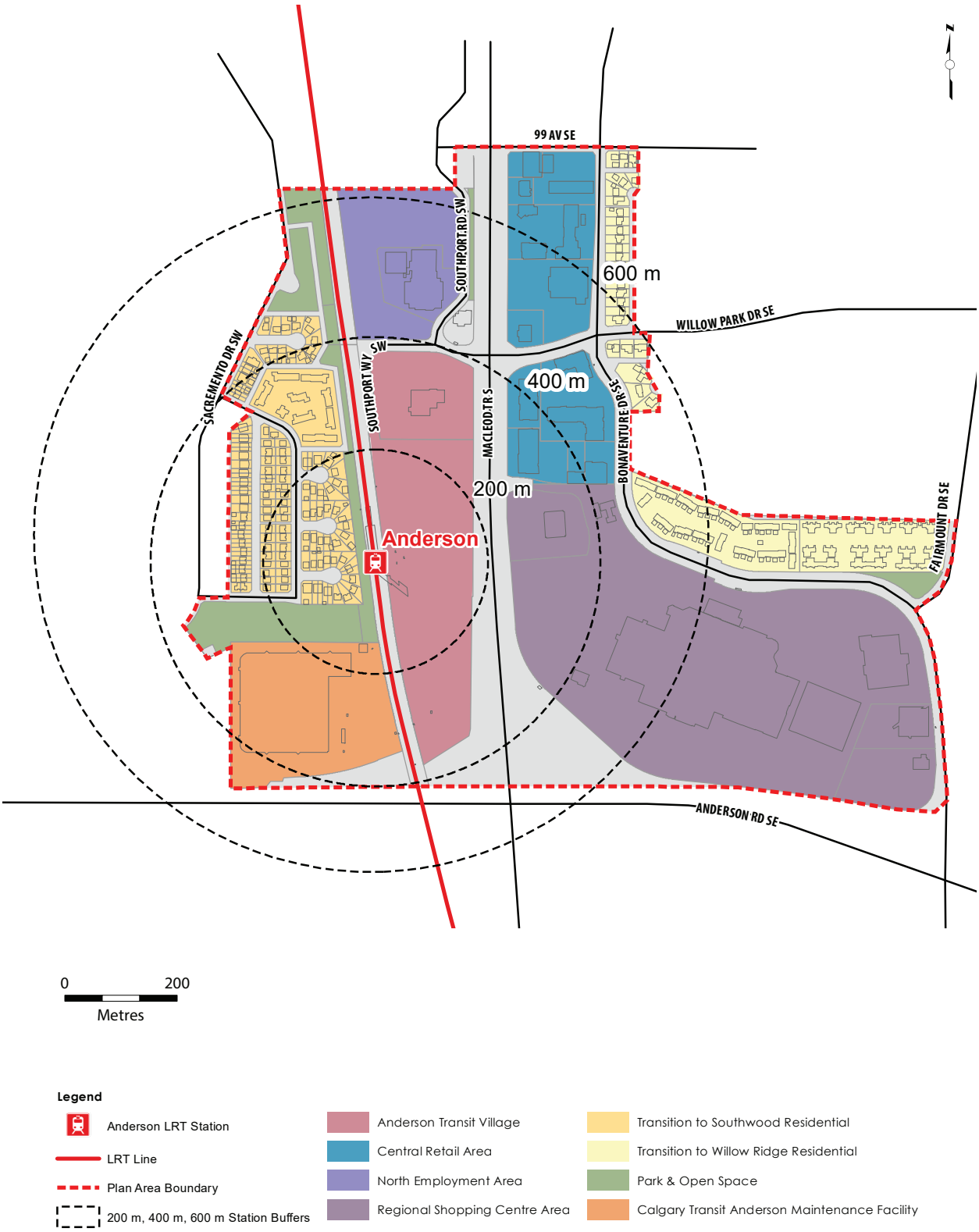
To achieve the overall vision and ensure that new development is consistent with the core ideas, this section addresses the location of land uses, their relationship to the public realm and the amenities required.

This ARP sets out a land use structure for the Plan Area which defines objectives for seven proposed development areas illustrated in Map 5: Development Areas:

1. **Anderson Transit Village**
2. **Central Retail Area**
3. **North Employment Area**
4. **Regional Shopping Centre Area**
5. **Transition to Southwood Residential**
6. **Transition to Willow Park Residential**
7. **Calgary Transit Anderson Garage**

The policies provide requirements for key elements, including built form, site design and circulation, that support the vision and core ideas of the plan.

Map 5 | Development Areas



2.2.1

Anderson Transit Village

The Anderson Transit Village is located immediately adjacent to Anderson Station. Consisting of an area of approximately 11 hectare (27 acre), this development area accommodates the Anderson LRT station, bus terminal, surface parking for transit patrons (Park and Ride) and a vehicle sales lot. The Anderson Transit Village is bound by Macleod Trail S to the east, the LRT and CPR right-of-way to the west, Anderson Road to the south and Southport Way S.E. to the north.

The vision for the Anderson Transit Village includes higher-density, mixed-use development on a series of pedestrian friendly blocks. The east half of this development area is identified as Community – High Density, which allows for taller buildings and higher densities along the Macleod Trail S corridor, while the western half is Community – Centre, which provides a transition to the adjacent lower density residential area in Southwood. Active uses such as retail shops, personal service uses, restaurants, outdoor seating areas and retail display will be located at grade on key street corners and adjacent to the centrally located park space. The architecture of buildings fronting streets should provide strong visual interest to pedestrians, with human scale accents. With adjacency to the station platform, this development area will evolve into the prime pedestrian zone within the Plan Area. This Plan directs the creation of complete streets, active frontages and new open spaces.

Policies

1. The maximum floor area ratio (FAR) for the Anderson Transit Village shall be 5.0.
2. The building block for the eastern portion of the Anderson Transit Village that is closest to Macleod Trail S is Community – High Density (see Map 4: Land Use Concept), and development should adhere to the policies in the Developed Areas Guidebook for this building block in addition to the policies of this Plan. Buildings less than 10 storeys may be considered in this area where deemed appropriate by the Approving Authority.
3. The building block for the western portion of the Anderson Transit Village that is adjacent to the existing residential development in Southwood is Community – Centre (see Map 4: Land Use Concept), and development should adhere to the policies in the Developed Areas Guidebook for this building block in addition to the policies of this Plan. Buildings less than 6 storeys may be considered in this area where deemed appropriate by the Approving Authority
4. A direct, at-grade pedestrian connection shall be established between Anderson Station and the Macleod Trail S pedestrian overpass.
5. Servicing and loading functions, and access to parkades and building mechanical systems such as ventilation screens, should be strategically located to minimize impact on the streetscape.
6. Buildings should be designed and constructed with attention to detail and a similar quality of finishing materials on all street frontages.
7. A comprehensive plan for redevelopment in the form of an Outline Plan (or similar site plan) is required prior to redevelopment and it shall establish the street network, location of open spaces and development pattern.

2.2.2
Central Retail Area

The Central Retail Area is bound by Macleod Trail S, Bonaventure Drive S.E., 109 Avenue S.E. and 99 Avenue S.E. and includes the Willow Park Village Shopping Centre and the commercial block across Willow Park Drive S.E. to the north. The primary purpose of the Central Retail Area is to accommodate a mix of office, commercial, residential and retail uses.

Policies

1. The building block for the portion of the Central Retail Area located south of Willow Park Drive S.E. is Community – High Density, while the portion north of Willow Park Drive S.E. is Community – Centre (see Map 4: Land Use Concept), and development should adhere to the policies in the Developed Areas Guidebook for those building blocks in addition to the policies of this Plan.
2. New development should be prioritized along Bonaventure Drive S.E. to help define the development area and activate the street edge.
3. Redevelopment should demonstrate sensitivity with neighbourhood context through building scale and design.
4. A comprehensive plan for redevelopment in the form of an Outline Plan (or similar site plan) may be required prior to redevelopment and it shall establish the street network, location of open spaces and development pattern.

2.2.3
Regional Shopping Centre Area

The Regional Shopping Centre Area is bound by Bonaventure Drive S.E. to the east, Anderson Road to the south, Macleod Trail S to the west and 109 Avenue S.E. and Willow Park Village Shopping Centre to the north. The primary development in this area is Southcentre Mall. Built in 1975, the mall has undergone numerous additions and renovations and now consists of approximately 93,000 square metres of retail, restaurant and medical uses. In addition to the mall, this development area also accommodates the Southcentre Executive Tower (an eight-storey office building), the Fish Creek Public Library, a grocery store, a service station, a stand-alone restaurant and a financial institution.

Redevelopment is likely to take place first on the large surface parking lots that surround the mall. Existing surface parking could be accommodated in structured parking either above or below ground, freeing up land for redevelopment.

Policies

1. Redevelopment of the Southcentre Mall site shall create improved pedestrian connections through and along the site edges. In particular, connections shall be made with the Macleod Trail pedestrian bridge to the Anderson Transit Village.
2. The building block for the Regional Shopping Centre Area is Future Comprehensive Planning Area (see Map 4: Land Use Concept), and development should adhere to the policies in the Developed Areas Guidebook for that building block in addition to the policies of this Plan.
3. New development should be prioritized along Bonaventure Drive S.E. to help define and activate the street edge.
4. Redevelopment fronting onto Bonaventure Drive S.E. should demonstrate sensitivity with the neighbourhood context through building scale and design.
5. Additions or smaller scale redevelopment of the existing Southcentre Mall may be considered by the Development Authority in advance of a comprehensive redevelopment plan for the site.
6. A comprehensive plan for redevelopment in the form of an Outline Plan (or similar site plan) may be required prior to redevelopment and it shall establish the street network, location of open spaces and development pattern.

2.2.4
North Employment Area

The North Employment Area is located at the north end of the station area on the west side of Macleod Trail S. It is intended to be a transition to employment-oriented uses, consistent with the land use pattern established north of the Plan Area.

A mix of uses is encouraged; however, the primary use should be office with retail and service uses located at grade to create active streets.

Policies

1. Residential uses may be allowed within the development area provided that they are not the primary use within a given building. Any residential uses in this area should conform to the Developed Areas Guidebook policies for residential development.
2. The building block for the North Employment Area is Employment Intensive (see Map 4: Land Use Concept), and development should adhere to the policies in the Developed Areas Guidebook for that building block in addition to the policies of this Plan.
3. A comprehensive plan for redevelopment in the form of an Outline Plan (or similar site plan) may be required prior to redevelopment and it shall establish the street network, location of open spaces and development pattern.

2.2.5
Transition to Southwood Residential

Located in the southeast corner of the community of Southwood, this development area is intended to provide a transition of building heights and densities between the Anderson Transit Village and the lower-density housing in Southwood. Appropriate transitional development in this area should be consistent with the policies for the Residential – Low Rise building block in the Developed Areas Guidebook in addition to the policies of this Plan.

Policies

1. New development located adjacent to or directly abutting the park at the corner of Sacramento Drive S.W. and 110 Avenue S.W. should provide residential units that front onto the park.
2. The maximum density for this area should be 111 units per hectare.
3. The building block for this development area is Neighbourhood – Low Rise, as shown on Map 4: Land Use Concept, and development should adhere to the policies in the Developed Areas Guidebook for that building block in addition to the policies of this Plan.
4. A comprehensive plan for redevelopment in the form of an Outline Plan (or similar site plan) is required prior to redevelopment and it shall establish the street network, location of open spaces and development pattern.

2.2.6
Transition to Willow Park Residential

Located on the eastern edge of the Plan Area along Bonaventure Drive S.E., redevelopment in this area will provide a transition of building heights and densities between the Community – Centre development on the west side of Bonaventure Drive S.E. and the lower density housing located in the community of Willow Park. Including this area within the ARP boundaries allows for appropriately scaled, comprehensive planning and development on both sides of Bonaventure Drive S.E. The eastern interface with Bonaventure Drive S.E. currently consists primarily of the rear yards of low-density residential development.

This area is envisioned to redevelop into a more vibrant, street-oriented multi-modal corridor by reclassifying Bonaventure Drive S.E. to a Neighbourhood Boulevard street type as identified in the Calgary Transportation Plan (CTP) and providing policy guidance to allow the adjacent properties to redevelop in a way that invigorates the area.

Transition to Willow Park Residential consists of two distinct areas: the north area, which runs from 99 Avenue S.E. to Willow Ridge Place S.E., and the south area, which includes the existing multi-residential area located west of Fairmount Drive S.E., south of the Willow Park Golf Course and north and east of Bonaventure Drive S.E.

Policies

A. North Area – 99 Avenue S.E. to Willow Ridge Place S.E.

5. Policies for this area will come into effect only when the CTP has been amended to identify Bonaventure Drive S.E. between 99 Avenue S.E. and Willow Ridge Place S.E. as a Neighbourhood Boulevard.
6. The Neighbourhood - Limited building block applies to this area (see Map 4: Land Use Concept), and development should adhere to the policies in the Developed Areas Guidebook for that building block in addition to the policies of this Plan.
7. The building facades on both Bonaventure Drive S.E. and Wapiti Drive S.E. should address both streets and be designed and constructed with the same attention to detail and a similar quality of finishing materials.
8. No new vehicular access points to Bonaventure Drive S.E. are permitted.
9. Until such time as these policies come into effect, the general policies for this area as established in the MDP shall apply.

B. South Area – Willow Ridge Place S.E. to Fairmount Drive S.E.

1. The maximum density for this area should be 111 units per hectare.
2. New multi-residential development should include units that front onto all adjacent streets.
3. No additional vehicle access points to Bonaventure Drive S.E. are permitted.
4. The Neighbourhood - Low Rise building block applies to this area (see Map 4: Land Use Concept), and development should adhere to the policies in the Developed Areas Guidebook for that building block in addition to the policies of this Plan.

2.2.7

Calgary Transit Anderson Maintenance Facility

The Calgary Transit Anderson Maintenance Facility is located on a 7.5 hectares (18.5 acres) parcel in the southeast corner of the community of Southwood, immediately north of Anderson Road and west of the LRT right-of-way. The facility accommodates bus and LRT vehicle repair, maintenance and storage operations for Calgary Transit. As there are no plans to redevelop at this time, the site has been identified as a Future Comprehensive Plan Area. The Developed Areas Guidebook policies for the Future Comprehensive Plan Area provide guidance for a future planning process that will result in amendments to this ARP to reflect future development.

Policies

1. This area may be suited to high-density residential development in the future, pending further study at the time of application.
2. Development should transition heights down as it approaches the adjacent residential development and park space. Shadow impacts should be minimized.
3. First floor development should incorporate residential units that front onto the park space.
4. Development should incorporate design solutions to mitigate noise, vibration and visual impact from the heavy rail.
5. The building block for this development area is Future Comprehensive Plan Area, as shown on Map 4: Land Use Concept. Development should adhere to the policies in the Developed Areas Guidebook for that building block in addition to the policies of this Plan.
6. A comprehensive plan for redevelopment in the form of an Outline Plan (or similar site plan) may be required prior to redevelopment and it shall establish the street network, location of open spaces and development pattern.

3 Public Realm

3.1

Public Realm

The public realm is defined as the space around, between and within buildings that is publicly accessible, including streets, pathways, plazas, parks and open spaces. Ensuring a quality public realm that encourages walking and community activity is essential to the successful redevelopment of the Plan Area. This ARP proposes a series of public realm improvements to create a lively, walkable and attractive district. Beginning with street and sidewalk improvements focused on increasing pedestrian amenities and interest, public realm improvements will include urban plazas and green spaces, new pedestrian and bicycle linkages, and community amenities. Design of the public realm will also reflect the need to create safe and secure environments that respond to climatic factors to optimize comfort.

To create the type of public realm that encourages walking and attracts visitors to the area, this section includes guidance on creating people-friendly streets and sidewalks, urban parks and lively public spaces.

Policies

1. Opportunities to link parks and open spaces should be included in the design of individual development projects.
2. Transit stops and facilities should be incorporated into the broader pedestrian system and public realm.
3. Open space should be distributed throughout the Plan Area in the form of publicly accessible plazas and courtyards.

3.2

Open Space Network

One of the key objectives of this ARP is to create a high-quality pedestrian environment that provides public space and amenities for the Plan Area. A mixed-use TOD designed to attract new residents and employers should also provide a diversity of attractive and functional open spaces and parks. In addition to providing opportunities for social interaction and recreational needs, these spaces will comprise a critical part of the Plan Area's green infrastructure in the form of park space, urban plazas and pathways.

As new development takes place within each development area, open spaces should be incorporated within the site design, consistent with the policies of this section. In cases where public park dedication is not able to be obtained through Municipal Reserve dedication, publicly accessible private open space should be provided where possible. An appropriate amount of open space should be integrated in a manner easily accessible for local users and designed to reflect local character. The form and type of development will be the major factor determining the size and design of open spaces.

Policies

1. A centrally located park or open space should be located within each major development area as illustrated in Map 6: Open Space Network. The intent of the park spaces illustrated in Map 6 is not to prescribe exact locations or sizes of parks or open spaces, but rather to illustrate the requirement for open space within each development area.
2. Open spaces should be located within a five-minute walk of the majority of residents and employees within a development area.
3. At the Outline Plan, Development Permit, or Subdivision stage, the developer should prepare conceptual development plans for each of the proposed parks and open space components.
4. Parks and open spaces should be designed according to the following criteria:
   - accessible to people of all ages and abilities;
   - able to accommodate a wide variety of interests;
   - reflect the identity and character of the planned development area;
   - have adequate street frontage in order to provide an interactive streetscape that enhances visibility, safety and security;
   - accommodate the anticipated activity and intensity of use in a manner that complements the character of the surrounding area; and
   - include weather protection elements such as shading for summer days and wind breaks and solar access for winter days.
5. The design and programming of parks and open spaces should be based on the intended uses and character of the adjacent blocks.
6. Parks and open space should be designed for year-round use.
7. Unique functional design elements such as water features (e.g., fountains) or structures (e.g., gazebos) are encouraged.
8. To minimize shadow impacts on parks and open spaces, building height transition and building stepbacks should be incorporated into building architecture.
9. Small public plazas and parks should have clear and legible public access, either through signage or through inviting design elements and should consider Crime Prevention Through Environmental Design solutions.
10. Parks and open space should be designed for social interaction and passive recreation.

Map 6 | Open Space Network

3.3

Anderson Transit Village Public Plaza

The ARP envisions a public plaza adjacent to the Anderson LRT station in the Anderson Transit Village development area. This space is envisioned to have an urban character and provide a dramatic gateway to the Anderson Transit Village. In addition to providing space for outdoor activity, leisure and social interaction, the park/plaza will provide a safe and direct pedestrian and cycle link between the LRT station and the existing Macleod Trail S pedestrian bridge.

Policies

1. A centrally located park/plaza should be provided as part of the comprehensive site design for the Anderson Transit Village.
2. The park/plaza design should incorporate a mix of hardscaping and green landscape elements to create a safe and interesting social and open space that is pedestrian and cyclist friendly.
3. The park/plaza should exhibit a high level of urban design quality including coordinated furnishing, landscaping, lighting and design.
4. The park/plaza shall include a multi-use pathway that links Anderson Station with the existing pedestrian bridge over Macleod Trail S.

3.4

Design for Climate

Weather protection should be built into all projects, particularly in areas where pedestrians are encouraged to gather and wait. Transit stations and stops require care to provide comfort for riders waiting in inclement weather.

The following policies aim to create standards for designing an environment that is accommodating and inviting throughout the year.

Policies

1. New retail streets should be oriented for maximum solar exposure, where possible.
2. Weather protection should be incorporated into the design of public spaces. The following are examples of design elements that contribute to weather protection:
   i. Maximizing sun exposure for waiting areas, especially in winter months, by carefully selecting the location of seating, plantings and building elements;
   ii. Designing building heights and massing to limit or avoid shadowing of parks and other major public spaces;
   iii. Planting deciduous trees, which provide shade in the summer and sun in the winter;
   iv. Providing protection from wind, rain and snow with plant screens, walls and canopies; and
   v. Avoiding large barren expanses in the design of the station and surrounding area.
3. New parks and open spaces should be designed to accommodate a variety of programs and events in the winter and summer months.
4. Pedestrian connections and waiting areas should incorporate durable paving that is resistant to de-icing chemicals and snowplow damage.
5. Consider the use of colour, light, urban furniture and natural materials to counter the effects of winter days and nights.

4 Mobility

4.1

Mobility

This section sets out the conceptual mobility network for the Plan Area. It introduces a plan for a street and block network that will be the primary organizing element to inform the size and location of open space, development parcels and buildings.

A concept for a street network begins with the understanding that urban streets have many different functions and accommodate a variety of transportation modes including walking, cycling, transit and driving. Although multiple modes of transportation are accommodated in the station area, creating a walkable community with a vibrant street life is a key principle of the Anderson Station ARP.

The design and function of the mobility network should recognize pedestrian circulation and comfort as the highest priorities. The City of Calgary has adopted the Transportation Sustainability Triangle, as shown in Figure 4.1, which prioritizes the sustainable transportation modes of walking, cycling and transit.

This ARP identifies a number of strategic improvements to the local transportation network as well as guidelines for the street and sidewalk network improvements, including the following:

- Redeveloping large parcels to introduce a street grid composed of shorter blocks;
- Providing improved pedestrian and cycling connectivity throughout the Plan Area by upgrading the existing pedestrian and cycling environment and by building additional pedestrian and cycling routes;
- Improving pedestrian and bicycle connections between Anderson Station and the surrounding communities; and
- Using increased density as a catalyst for improved transit linkages and service.

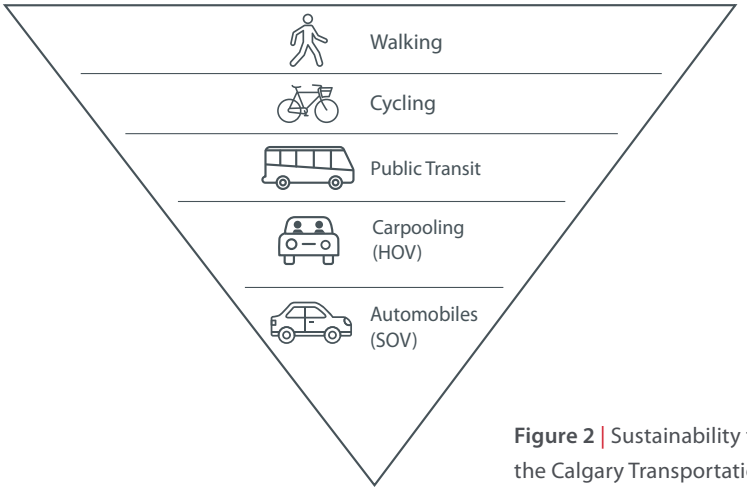


Figure 2 | Sustainability triangle from the Calgary Transportation Plan

4.2

Pedestrian Circulation

To enable a variety of travel modes within the Plan Area, particularly walking and cycling, the transportation network must ensure that these modes are convenient, safe, efficient and pleasant. In addition to accommodating pedestrian travel, sidewalks are also public spaces, providing valuable opportunities for social interaction and passive recreation.

Policies

1. A continuous pedestrian network should be provided throughout the Plan Area.
2. The pedestrian network should emphasize at-grade connections in order to encourage convenient pedestrian movement. Grade-separated facilities such as elevated pedestrian bridges or pedestrian tunnels are strongly discouraged as they dilute the potential pedestrian vitality of the area. The exception to this approach is above-grade pedestrian crossings of Macleod Trail S, Anderson Road, and the rail right-of-way.
3. The existing pedestrian bridge crossing the LRT and CPR right-of-way from the community of Southwood to Anderson Station should be upgraded or rebuilt. This important connection should meet the following criteria;
    a. provide a direct link from Southwood Park to the Anderson Transit Village;
    b. incorporate crime prevention through environmental design (CPTED) principles, including clear sight lines, natural surveillance and adequate lighting;
    c. provide universal accessibility;
    d. accommodate all users, including cyclists;
    e. accommodate expected demand by providing an appropriate bridge deck width; and
    f. provide a unique, high-quality structure that would be an important place-making element in the Plan Area.
4. Existing infrastructure connecting to the Southwood / Anderson Station bridge should be upgraded to accommodate the anticipated increase in active modes traffic.
5. The feasibility of an additional pedestrian bridge over the rail right-of-way between the Anderson and Southland LRT stations, connecting Southwood with the lands on the east side of the railway should be investigated.
6. The pathway that runs from Southland Station along the west side of the rail right-of-way should be extended to meet with the pedestrian bridge that connects to Anderson Station.
7. Investigate the feasibility of a grade-separated pedestrian crossing over Macleod Trail S north of 109 Avenue S.E. and south of 99 Avenue S.E. Area developers will be required to enter into a development agreement to fulfill their proportionate share of the cost of the construction of this crossing, subject to the provisions of the MGA.
8. The feasibility of an additional pedestrian overpass connecting the community of Southwood with the area on the east side of the rail right-of-way should be investigated.

4.3

Cyclist Circulation

The Plan Area will include a dedicated cycling network that will allow cyclists to travel on multi-use pathways and connect to Calgary's extensive pathway system. Cyclists may also share the road network with motorists. In addition to pathways and on-street bicycle infrastructure, safe and convenient facilities for parking bicycles must be provided.

Policies

1. All proposed street designs should include provision for bicycle parking as prescribed in the Complete Streets Guide.
2. Bicycle parking facilities should be located in visible areas with adequate night-time lighting.
3. New bicycle routes should be identified for each development area at the Outline Plan stage of development.
4. Publicly accessible, secure and weather-protected bicycle parking and storage facilities should be included in close proximity to Anderson Station for the use of transit patrons. The facility should be located and designed to provide natural surveillance. Consideration should be given to the size of the facility to allow for growth in the number of cyclists as the area redevelops, the city's cycling infrastructure expands, and as seasonal fluctuations occur.
5. If a bicycle share program is developed for the Anderson Station Area, key locations for bicycle docking stations include the Anderson Transit Village, the Regional Shopping Centre Area and the Central Retail Area.

4.4

Transit Network

Anderson Station is an important multi-modal hub in the city's transit network. Identified as a primary transit hub in the CTP, Anderson Station functions as an LRT station, a bus terminal for several bus routes, a park and ride facility, and a maintenance and storage facility for Calgary Transit buses and LRT vehicles. Calgary Transit's operating protocols and requirements impact how the lands adjacent to Anderson Station will redevelop.

Calgary Transit has the following operational requirements at Anderson Station:

- Buses must be able to access and egress the site via 109 Avenue S.E. and Southport Way S.E.
- Bus stops serving the LRT station should be located as close as possible to the at-grade access to the LRT platform.
- Adequate access to the Calgary Transit Anderson Garage must be maintained for transit vehicles and employees.

Policies

1. Transit priority measures such as queue jumps, transit-only lanes and signal priority should be provided where appropriate.
2. Investigate the potential for the redesign and redevelopment of Anderson Station. Redesign of the station should include a new exterior that would be compatible and complementary to the redevelopment of the Transit Village Area. Connections to both east and west park spaces envisioned in the ARP should be an organizing feature of the station.
3. The local feeder bus system should provide frequent and accessible service to surrounding communities and within the Plan Area to reduce short-distance auto trips and to increase transit ridership.
4. Transit stops should be upgraded where opportunities arise through the redevelopment of the streetscape to improve the transit riding experience, including improvements such as trees, shelters, lighting and passenger information systems.
5. Passenger transfer from bus to bus and between bus and LRT at Anderson Station should be convenient and direct.

4.5
Street Network

The Anderson Station Area will include a diversity of street types accommodating different travel modes and experiences. Local streets are expected to provide a high degree of connectivity throughout the Plan Area and to function as multi-modal streets with safe and comfortable pedestrian and bicycle accommodations.

The street network will be finalized through Outline Plan/Land Use Amendment submissions. The street network should include connections located approximately as shown on Map 7: Transportation Network.

Policies

1. All streets should be designed and constructed to meet the Complete Streets Guide. Alternative street cross-sections may be acceptable if the function and intent of the Complete Streets Policy is met.
2. Future streets internal to the development areas should be designed to form an interconnecting, coherent grid of walkable blocks.
3. Where possible, rear lanes should be provided throughout the Plan Area, either as public access easements registered against title or dedicated as public lanes.

4.6
Transportation Impact Assessment (TIA)

A TIA was undertaken to assess the impact development of the Plan Area would have on the transportation network. The study was based on the land uses, densities and transportation network proposed in this ARP. Phasing of development was also taken into consideration.

The TIA had several objectives:

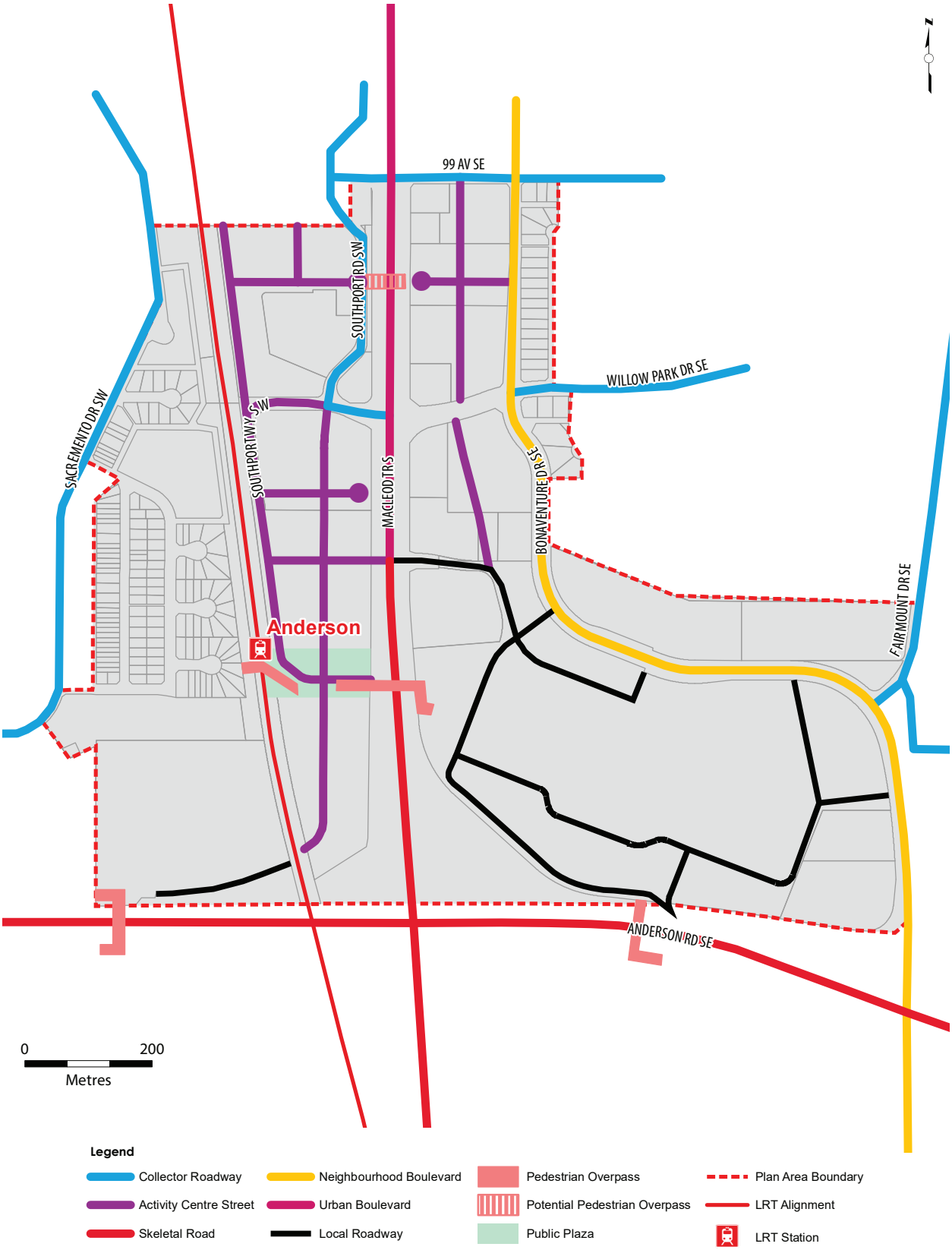
- assess the existing conditions of the transportation network in the area and make recommendations on how to improve them;
- identify the impacts of the proposed densities on the transportation network;
- develop an implementation plan for improvements to the transportation network to accommodate the demand for all travel modes; and
- implement the transportation modal priority as established by the MDP and CTP.

Transportation investments have been identified through the TIA undertaken as part of the preparation of this plan, and are listed in Appendix B. Any revised, updated or additional transportation impact assessments may require additional infrastructure investment. In addition, studies identifying other forms of infrastructure needed to support redevelopment were not completed as part of this plan. Therefore, the needs are currently unknown and are largely dependent on the type and timing of redevelopment. Supporting studies will be required as part of a redevelopment application, and the responsibility for infrastructure cost will be determined at that time. Infrastructure needs may also include, but are not limited to, water, sanitary, stormwater and emergency services.

Policies

1. To ensure that the transportation impacts of development are addressed, the requirement for the submission of a TIA as part of a planning application will be at the discretion of the Director of Transportation Planning.

Map 7 | Transportation Network



4.7

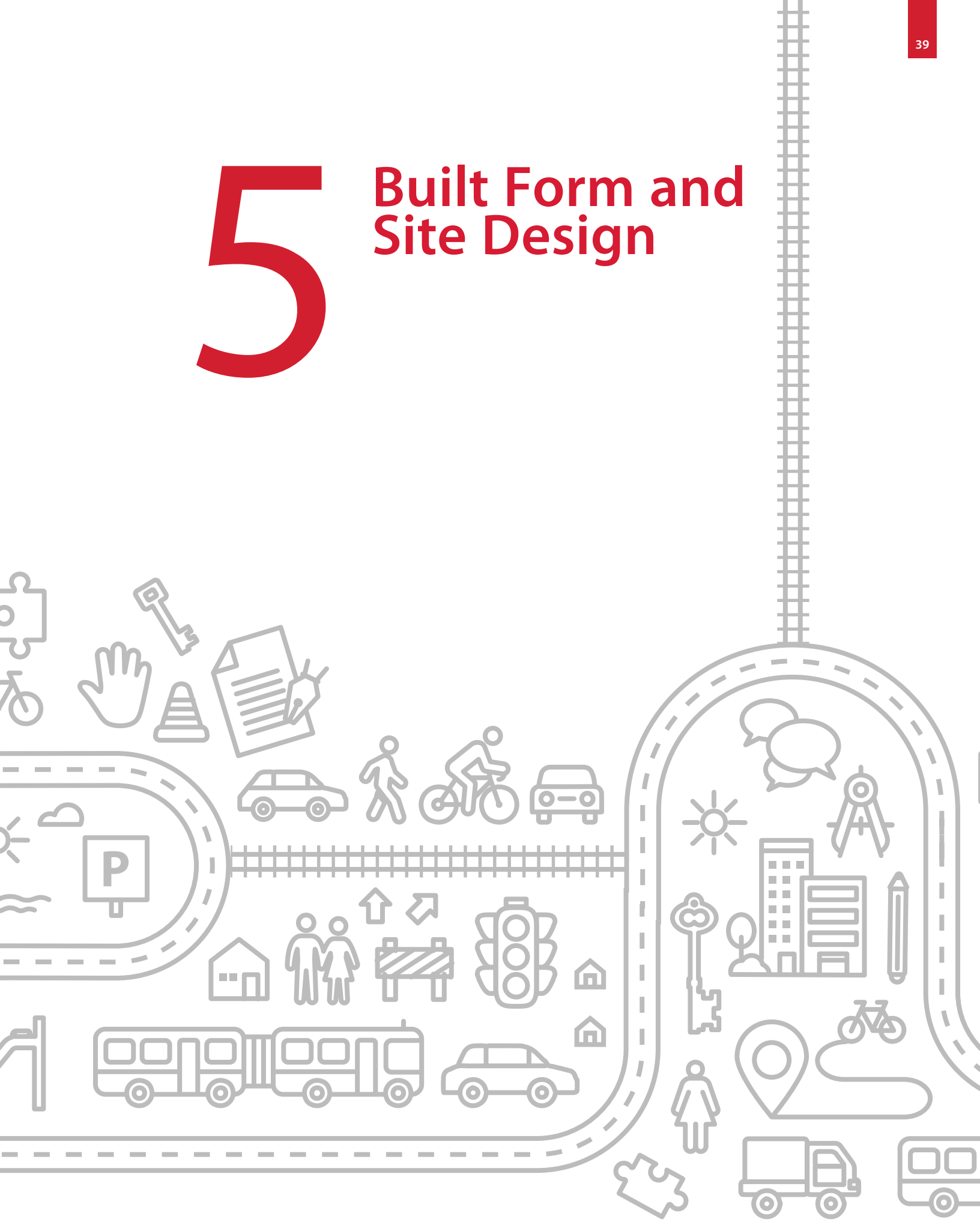
Parking Framework

As the Plan Area redevelops with higher densities and pedestrian-oriented streets, surface parking lots will be reduced and replaced with underground or above-grade parking structures that incorporate active uses at grade. Long-stay parking in activity centres and corridors should be limited where high-quality alternative modes of travel are in place (such as LRT or BRT). The design of parking facilities should consider adaptability for future uses that may or may not be related to parking.

Policies

1. The total amount of parking provided for a development should be reduced by employing transportation demand management measures. These measures include encouraging transit use, providing carpool stalls, sharing parking with complementary development, providing car share vehicles, offering cycling facilities (including showers and lockers) and other similar measures.
2. At-grade permanent parking areas should be separated from public streets with commercial or residential uses.
3. Above-grade parking structures should be screened from public streets by active uses at grade and architectural treatments that make the parking areas indistinguishable from the rest of the building façade. They should also be screened from adjacent developments to the satisfaction of the Approving Authority.
4. Bicycle parking in excess of bylaw requirements may be used to support reductions in vehicle parking requirements.
5. Parking relaxations for proposed affordable housing developments may be considered where it is demonstrated that the proposed development would have a reduced automobile ownership rate.
6. Reduced Bylaw parking requirements shall be applied within this Plan area. Further parking reductions down to and including zero parking by the Approving Authority are encouraged.

5 Built Form and Site Design



5.1

Built Form and Site Design

As an overall approach to the built form within the Plan Area, the tallest buildings will be located along the Macleod Trail S corridor with building heights stepping down as one moves north from Anderson Road toward the surrounding community. Tall buildings, where employed, are encouraged to adopt slender profiles to allow sunlight and views to pass through, to use articulation to lighten their visual impact and to use distinctive visual features on their upper levels. At the street level, buildings should be located adjacent to the sidewalk to create a uniform street wall. Exceptions are made where there are opportunities to create outdoor seating areas or plazas. Pedestrian-scaled features such as narrow shop fronts and townhouse residential entries will further contribute to the fine-grained urbanism advocated by this Plan.

This section provides policies and parameters for individual buildings and sites for all development areas, with the exception of the Transition to Southwood Residential and Transition to Willow Park Residential.

Policies

1. Unless otherwise specified, building setback ranges are recommended as follows:
   - Commercial (Office / Retail): 0–3 metres
   - Residential: 1.5–3.0 metres
2. The area between the maximum building setback and the property line should be occupied by building entryways, outdoor seating areas for restaurants, seasonal displays, bicycle parking, street furniture and residential front porches or yards.
3. A minimum of 40 percent of mixed-use retail building façades should have transparent glazing (doors and windows) at grade.
4. A minimum of 20 percent of commercial and office building façades should have transparent glazing (doors and windows) at grade.
5. The floor-to-floor height of the ground floors of commercial and mixed-use buildings should be a minimum of 4.5 metres to accommodate active uses.
6. Commercial uses that do not generate significant at-grade pedestrian activity may locate on the ground floor provided store frontages do not exceed 12 metres. The remainder of the commercial area may locate on a second floor, in a basement or wrapped behind adjacent units. Lobbies for residential uses may also locate on the ground floor provided the street frontage does not exceed 12 metres.
7. Pillars and colonnades should be discouraged at podium bases.

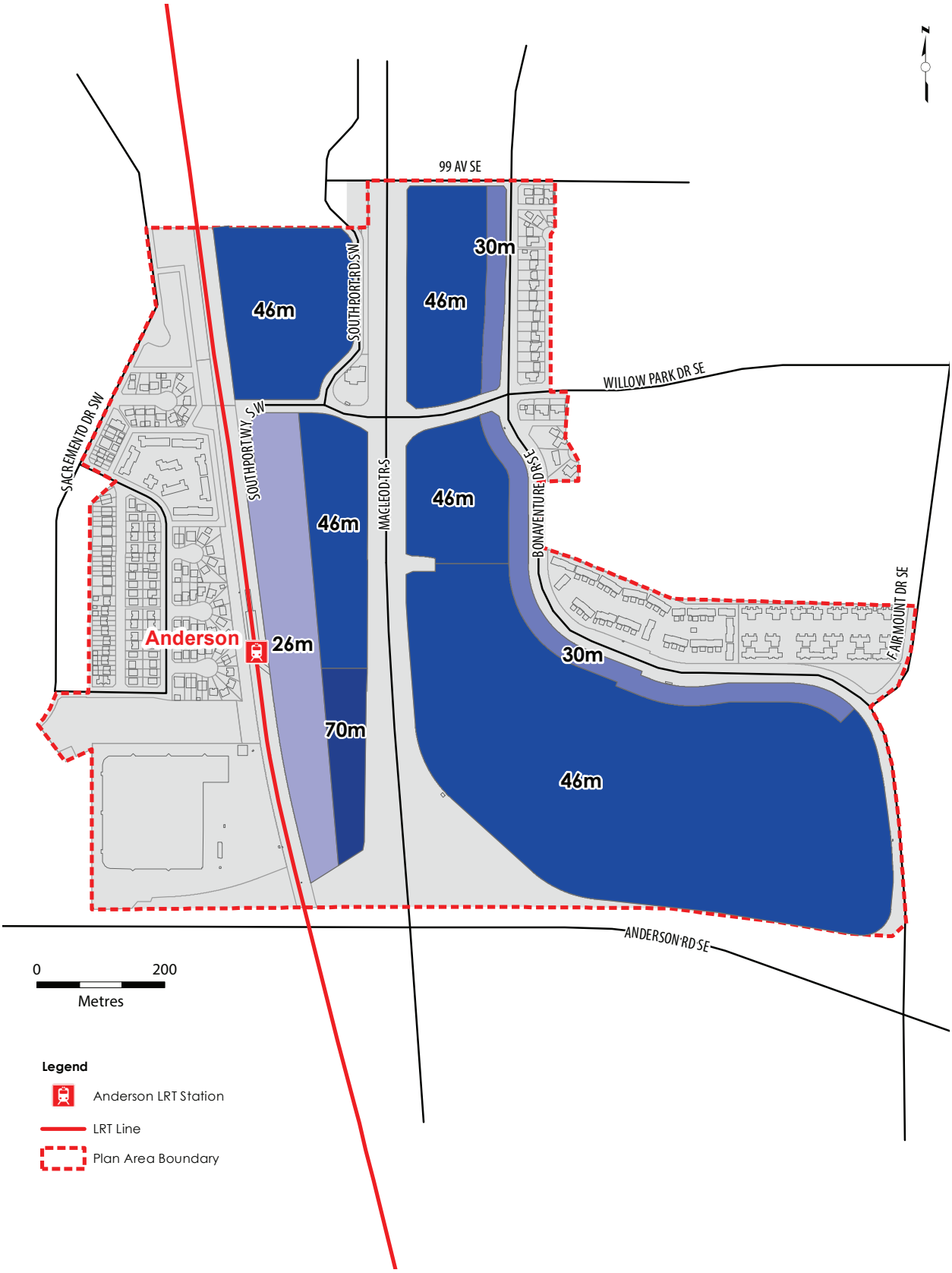
Residential Frontages

1. At-grade residential units should be designed to provide visual privacy from any public or internal sidewalk without the need for high or non-transparent privacy fences or walls that detract from the active street edge.

Building Height and Massing

1. The maximum allowable building heights for a development should be generally in accordance with Map 8: Maximum Building Height.
2. New buildings should be a minimum of 12 metres (approximately three stories) from grade at the façade.
3. From grade, the first step back must occur at or below the sixth storey of the building.

Map 8 | Maximum Building Height



Towers and Podiums

1. To reduce building massing impacts, the maximum floor plate size for the portion of a building above 25 metres and designed as a tower should be
   i. 930 square metres gross floor area for residential uses; and
   ii. 2,400 square metres gross floor area for office/commercial uses.

The Approving Authority may consider relaxing the floor plate size restriction of a residential building above the building podium. When evaluating such requests, the Approving Authority shall comprehensively consider these points:

- shadow-casting impacts on the public realm and the need to provide adequate light penetration to adjacent buildings and adjacent low-density residential neighbourhoods;
- the ability to use building orientation, shape and massing to reduce massing impacts; and
- the cumulative building mass impact given the potential build-out of the block.

2. A minimum spacing of 24 metres between residential towers should be maintained.

Macleod Trail S Interface

3. Building façades adjacent to Macleod Trail S should incorporate design elements that reduce the negative impacts of large building masses. The following design elements should be incorporated into buildings and sites adjacent to Macleod Trail S:
   a. architectural detailing that establishes a vertical rhythm;
   b. landscaping elements that soften the appearance of the façade and reinforce a vertical rhythm;
   c. pedestrian-scale lighting; and
   d. housing loading and garbage functions adjacent to Macleod Trail S within buildings and coordinating their entrances with parkade entrances where feasible.
4. Buildings that face Macleod Trail S should be designed and constructed with attention to detail, and a similar quality of finishing materials should be used on all façades of the building.
5. Individual dwelling units with access at grade should not front onto Macleod Trail S.

Bonaventure Drive Interface

6. Development fronting onto Bonaventure Drive S.E., between Fairmount Drive S.E. and Willow Park Drive S.E., should not exceed 30 metres in height to a depth of 30 metres from the shared property line with the Bonaventure Drive S.E. right-of-way.

5.2
Environmentally Sustainable Neighbourhood and Building Design

Part of the goal of creating transit-oriented development is to reduce the city's environmental impact and improve its sustainability. Building and neighbourhood design, as well as the design of streets and open spaces, should contribute to overall environmental sustainability. Development within the Plan Area should demonstrate the potential to incorporate sustainable neighbourhood and building practices.

Policies

1. Orient buildings to optimize solar gain and reduce energy demand. Consider the solar layout of buildings and streets as well as how building heights permit or block solar penetration to other sites.
2. Consider the use of renewable energy and low-carbon sources (e.g., ground and air source heat pumps, geothermal, solarthermal, photovoltaic, hydroelectric, wind turbines, biomass and energy from waste).
3. Consider methods to minimize water demand through the use of efficient water fittings (e.g., low-flow or dual flush toilets), conservation landscaping and xeriscaping.
4. Match water quality to use through rainwater harvesting and stormwater re-use to meet irrigation needs, and through the appropriate use of reclaimed water, to reduce the demand for high quality drinking water.
5. Encourage the incorporation of green roofs and living walls on all buildings.
6. Consider an integrated network of ecological areas to improve biodiversity with interconnected green corridors that link to neighbouring green spaces.
7. Encourage the reduction of impervious surfaces associated with development to improve water quality and reduce runoff volume. This may be accomplished by applying low-impact development (LID) stormwater management practices alongside landscaping that uses native vegetation with low-water requirements. These approaches will make the open space network more resilient to drought while reducing demand on the treated water supply.
8. Integrate indigenous planting and biodiversity of material within landscaping, streetscaping and public spaces.
9. Provide building recycling facilities and space for composting facilities.
10. Prioritize conservation, re-use, and recycling, as well as the use of natural, healthy and local materials in the construction and operational phases of community redevelopment.
11. Encourage minimizing waste production in both construction and operation (e.g., use site waste management plans, centralize materials handling, adopt modern construction methods, encourage re-used and recycled material in construction, produce a building lifecycle strategy and deconstruction plan, and provide space and facilities for recycling and composting).
12. Encourage LEED certification or constructing to the highest sustainable building standards possible for all new and renovated buildings.

13. A District Energy Supply Feasibility Screening Study for Anderson Station, identifying the opportunity for renewable energy deployment at the neighbourhood scale, should be completed by an applicant in advance of the submission of an Outline Plan or Land Use application involving sites greater than 1 hectare (2.5 acres) or greater than 33,000 square metres of development in accordance with a scope and terms of reference provided by The City. The study will aim to identify the potential impacts within the Plan Area of low-carbon energy supply options on the following:
    a. long-term greenhouse gas emissions;
    b. long-term life-cycle energy costs to energy end-users;
    c. risks to energy end-users such as reliability and quality of service;
    d. resource consumption such as electricity, natural gas or recovered waste; and
    e. other significant environmental impacts or benefits including, but not limited to,
        i. local air quality;
        ii. waste management;
        iii. water use; and
        iv. space requirements.
14. Where district heating system opportunities exist, new buildings shall be designed so that they are easily connectable to the district heating system through mechanical room location and mechanical equipment compatibility.
15. Renewable and low carbon energy technologies should be included in new buildings. A technology feasibility assessment examining viable building scale technologies where significant cooling is required should be provided in accordance with a scope and terms of reference to be provided by The City. The feasibility assessment should be provided as part of the development permit application for buildings with a floor area over 5,000 square metres where significant energy loads are anticipated or where significant amounts of industrial waste heat are generated. Where studies exhibit strong environmental benefit and simple payback on capital investments of less than 10 years, applicants will be strongly encouraged to proceed with these technologies.
16. Consider incorporating electric vehicle-supportive infrastructure in developments.

6 Implementation and Investment

6.1

Policy Framework

The *Municipal Government Act* (MGA) outlines the purpose and scope of powers for municipalities. The Anderson Station ARP is a statutory document that designates an area within the city for redevelopment. The ARP must be read in conjunction with the *Municipal Development Plan* (MDP) *Volume 1 and Volume 2, Part 2: The Developed Areas Guidebook, the Calgary Transportation Plan* (CTP) and other City of Calgary policy and guiding documents, unless otherwise indicated. In the event of a discrepancy between the Anderson Station ARP and the MDP, the policy of this ARP will prevail.

6.2

Area Redevelopment Plan Interpretation

Map Interpretation

1. Unless otherwise specified in this Plan, the boundaries or locations of any symbols or areas shown on a map are approximate only, not absolute, and will be interpreted as such. The maps are not intended to define exact locations except where they coincide with clearly recognizable physical features or fixed boundaries such as property lines or road or utility rights-of-way. The precise location of these boundaries, for the purpose of evaluating development proposals, will be determined by the Approving Authority at the time of application.
2. No measurements of distances or areas should be taken from the maps in this Plan.
3. All proposed land use areas, road and utility alignments, and classifications may be subject to further study and may be further delineated at the Outline Plan, Land Use Amendment, or other detailed application stage in accordance with applicable policies. Any major changes may require an amendment to this Plan, except as otherwise indicated.
4. Any change to the text or maps within this Plan shall require an amendment that includes a public hearing of Council, except as otherwise indicated.

Policy Interpretation

5. The South Saskatchewan Regional Plan (SSRP) establishes a long-term vision for the region using a cumulative effects management approach to guide local decision-makers in land use management to achieve Alberta's economic, environmental and social goals. This Plan allows The City to encourage and incentivize more progressive policies related to sustainability and the environment.
6. Where an intent statement accompanies a policy, it is provided as information only to illustrate the intent and enhance the understanding of the subsequent policies. If an inconsistency arises between the intent statement and a policy, the policy will take precedence.
7. The word "should" is explicitly used to further clarify the directional nature of the statement. Policies that use active tense or "should" are to be applied in all situations, unless it can be clearly demonstrated to the satisfaction of The City that the policy is not reasonable, practical or feasible in a given situation. Proposed alternatives will comply with MDP and CTP policies, intent and guidelines to the satisfaction of The City with regard to design and performance standards.

8. Policies that use the words "shall," "will," "must" or "require" apply to all situations, without exception, usually in relation to a statement of action, legislative direction or situations where a desired result is required.

Illustration and Photo Interpretation

9. All illustrations and photos are intended to illustrate concepts included in the Plan and are not exact representations of an actual intended development. They are included solely as examples of what might occur after implementation of this Plan's policies and guidelines.

Figure Interpretation

10. Unless otherwise specified within this Plan, the boundaries or locations of any symbols or areas shown on a figure are approximate only, not absolute, and shall be interpreted as such. Figures are not intended to define exact locations except where they coincide with clearly recognizable physical features or fixed boundaries such as property lines or road or utility rights-of-way.
11. Unless otherwise specified within this Plan, where actual quantities or numerical standards are contained within the figure, these quantities or standards shall be interpreted as conceptual only and will be determined at the detailed design stage.

Appendix Interpretation

12. The appendices do not form part of the statutory portion of this Plan. The intent of the appendices is to provide information and guidelines to support the policies of this Plan.

Monitoring, Review and Amendments

13. New concepts and ideas may arise that are constrained by or contradictory to certain policies within this Plan. Where such new concepts and ideas respond to and meet the intent of the vision and core ideas of the plan found in Section 1, or offer a creative solution to a particular problem, amendments may be supported. To make any change to the text or maps within this Plan, an amendment that includes a public hearing of Council shall be required.
14. The policies within this Plan shall be monitored over time in relation to development in order to ensure they remain current and relevant. Where determined necessary by Administration, these policies shall be updated through the plan amendment process either generally or in response to a specific issue in accordance with the MGA. Where an amendment to the Plan is requested, the applicant shall submit the supporting information necessary to evaluate and justify the potential amendment and ensure its consistency with the MDP and other relevant policy documents.

Plan Limitations

15. Policies and guidelines in this Plan are not to be interpreted as an approval for a use on a specific site. No representation is made herein that any particular site is suitable for a particular purpose. Detailed site conditions or constraints must be assessed on a case-by-case basis as part of an Outline Plan, Land Use Amendment, Subdivision or Development Permit application.

7 Abbreviations and Glossary

Abbreviations

ARP	**Area Redevelopment Plan**
BRT	**Bus Rapid Transit**
CPR	**Canadian Pacific Railway**
CPTED	**Crime Prevention Through Environmental Design**
CTP	**Calgary Transportation Plan**
FAR	**Floor Area Ratio**
LEED	**Leadership in Energy and Environmental Design**
LID	**Low Impact Development**
LRT	**Light Rail Transit**
MDP	**Municipal Development Plan**
MGA	**Municipal Government Act**
TOD	**Transit-Oriented Development**

Glossary

The following definitions shall apply. Where a term is defined in the glossary of the MDP or CTP, that definition applies in the interpretation of this ARP. The street classifications mentioned in this ARP refer to the street classifications of the Design Guidelines for Subdivision Servicing. Where a definition differs from The City of Calgary Land Use Bylaw (1P2007), the Land Use Bylaw definition shall prevail.

Active uses: At-grade retail, commercial and institutional uses that are oriented to the public street with direct access and that encourage frequent walk-up pedestrian activity. Active uses do not include goods storage, vehicle storage, office uses or uses which require non-transparent walls facing a public street.

Calgary Transportation Plan (CTP): The document that guides the transportation system and its development in Calgary.

The City: The Corporation of The City of Calgary.

City Administration: Employees of The City of Calgary.

Complete Streets: A selection of multi-modal streets that incorporate walking, cycling and transit, incorporate elements of green infrastructure and function in the context of surrounding land uses.

Council: The elected council of The City of Calgary.

Cycling infrastructure: Infrastructure that supports the needs of cyclists, including but not limited to bike lanes, cycle tracks and pathways.

Developed Areas Guidebook: Volume 2, Part 2 of the Municipal Development Plan, as amended.

Land Use Bylaw: Refers to The City of Calgary Land Use Bylaw, as it may be amended or replaced from time to time.

Live–work: A land use where a business is operated from a dwelling unit, by the resident of the dwelling unit.

Municipal Development Plan (MDP): The planning policy document guiding growth and development within the city. It reflects the kind of community Calgarians would like to see in the future. It is visionary, strategic and long-term, and provides the basis for actions and decisions to both protect and improve quality of life for all Calgarians, present and future.

Natural play space: An alternative playground that uses natural elements to inspire active and creative outdoor play, and connect people to natural. Natural play spaces are made primarily with natural elements.

Plaza: A predominately hardscaped public gathering space.

Primary transit hub: A focal point for terminating primary transit lines or major transfer centres between intersecting primary transit lines.

Public amenity space: A space designed for active or passive recreational use that is provided for all the occupants of a development.

A Appendix

A.1

Transportation Impact Assessment (TIA)

The City of Calgary has identified a number of LRT stations that would benefit from a Station Area Plan (SAP) to provide a detailed vision for a higher density, mixed use activity centre within walking distance of an LRT station. In 2011, the Anderson Station Area Plan was reinitiated and the City engaged D.A. Watt Consulting to prepare a Transportation Study to address the multi-modal aspects of the proposed redevelopment plan. The purpose of the Transportation Study was to review all modes of transportation within the Anderson Station area including vehicular traffic, transit vehicles, pedestrian and cyclists. For each mode of transportation, an assessment was made regarding how conditions may change in the future as the Anderson Station area is developed according to the City's development aspirations. The three horizons that were reviewed include existing (2012), 2019 and 2039. For the purpose of this study, the station area was broken down into a number of precincts, as shown in Map A-1 Study Precincts.

Development Assumptions:

One of the key assumptions for a Transportation Study is the development plan which outlines how much density is expected to be built at each horizon and where that density is located within the plan area. The assumptions regarding land use density were provided by the City's Land Use Planning and Policy Division and are summarized in Table A-1.

These assumptions were then translated into floor areas and residential units for each of the 2019 and 2039 horizons by considering the likely timing and rate of redevelopment for each precinct. The land use densities for 2019 and 2039 represent approximately 30 percent and 90 percent of the full-build out of the study area, respectively.

Park and Ride Assumptions:

The other key assumption that influences traffic flow volumes and patterns in the area is the number of parking stalls that are available for the park n ride site. For this study, it was assumed that the total number of parking stalls adjacent to the LRT station would decrease from 1,700 (today) to 500 by 2039. This reduction of 1,200 spaces has a positive influence on the traffic conditions in the area by reducing the number of vehicular trips made during the peak periods.

Map A-1 | Study Precincts

Table A-1 | Summary of Development Assumptions

Precinct	Existing			Long Range	
	Office / Retail /Residential Split (%)	Built FAR	Max FAR	Office / Retail /Residential Split (%)	Proposed Maximum* FAR
A	98 / 2 / 0	0.71	2.0	70 / 10 / 20	2.5
B	40 / 60 / 0	0.46	1.0	70 / 10 / 20	1.2
D	0 / 100 / 0	0.08	3.0	0 / 10 / 90	3.0
E	0 / 100 / 0	0.08	3.0	0 / 10 / 90	4.0
F	0 / 100 / 0	0.38	3.0	0 / 10 / 90	3.0
G	16 / 84 / 0	0.56	2.0	33 / 33 / 33	2.0
I	0 / 0 / 0	0.0	n/a	50 / 10 / 40	5.0

* Long Range Maximum FAR is not anticipated to be achieved in any precinct until beyond the 2039 horizon.

Table A-2 | Summary of Buildout At Each Horizon

Land Use Type	Time Horizon		
	Existing	2019	2039
Office (ft^2)	600,000	1,400,000	2,300,000
Residential* (Units)	0	1,200	3,400
Retail (ft^2)	1,300,000	2,500,000	3,000,000
Total Jobs	4,000	8,000	12,000
Total Residentis	08	2,000	6,000

* Assuming 1,000 ft^2 per unit

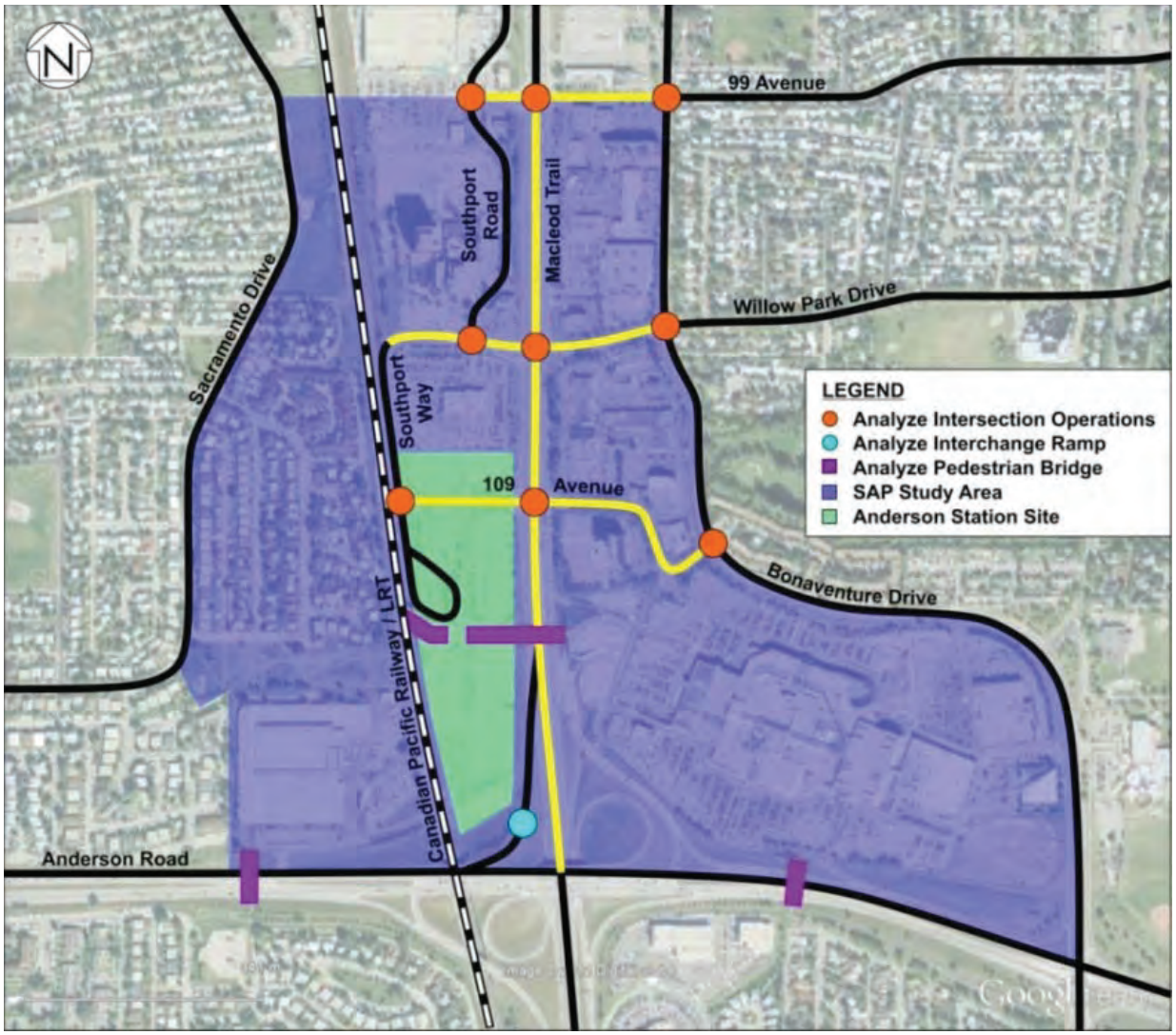
Travel Mode Split:

The City of Caglary's forecast model was revised to take these estimated growth patterns into account, and new traffic volumes were projected for the intersections and roadways in the area. The model also provided a breakdown of the anticipated split between travel modes (private vehicle / transit / pedestrian / cyclist) for trips beginning or ending in the study area. The mode split was compared to model outputs for other TOD areas already included in the forecast model to confirm the model was taking into account the benefits of transit-oriented design and mixed use development. Between 2019 and 2039, vehicle trips were anticipated to increase by 30% while transit and walking trips were anticipated to increase by 90% and 100% respectively.

Results of Traffic Analysis:

Capacity analysis was carried out for nine intersections within the study area as shown in Map A-2. The analysis was conducted for the existing, 2019 and 2039 horizons. Capacity analysis estimates the average delay for the individual traffi c movements at an intersection as well as the overall intersection. The delay is then translated into a Level of Service (LOS) that ranges from LOS A (excellent) to LOS F (congested).

Map A-2 | Study Intersections



After an initial assessment of the delays, signal timing adjustments and other improvements were considered for a number of locations, as summarized in TABLE A-3. The approach that was taken to develop the recommended improvements was in line with the goals and objectives of the Calgary Transportation Plan (CTP) that prioritizes walking, cycling, transit and car-pooling over single occupant vehicles (SOV's).

Even with the above improvements in place, some of the intersection movements at the Macleod Trail intersections are expected to be over capacity during the peak periods. It is noted that none of these movements affected major transit routes (with the exception of Macleod Trail / Willow Park Drive, where specific transit improvements are proposed, as discussed below).

The operating conditions, with the proposed improvements included are displayed in TABLE A-4.

Table A-3 | Recommended Intersection Improvements

Precinct	Recommended Intersection Improvements		
	Existing	2019	2039
99th / Southport	None	None	None
99th / Macleod	Optimize Signal Timing	None	None
99th / Bonaventure	None	None	None
Southport Wy. / Southport Rd.	None	None	• Provide SB left turn bay
Willow Park / Macleod	Optimize Signal Timing	• Provide EB/WB transit queue jump facility • Reconfi gure NB right-turn lane	• Provide EB left turn bay
Willow Park / Bonaventure	None	None	None
109th / Southport	None	None	None
109th / Macleod	Optimize Signal Timing	• Install dual NB left-turn lanes	• Upgrade to wo Trough lanes in each direction and provide dual WB left turn
109th / Bonaventure	Optimize Signal Timing	None	None

Table A-4 | Summary of Traffic Analysis

Intersection	Horizon					
	Existing		2019		2039	
	AM	PM	AM	PM	AM	PM
99th / Southport	B	B	B	B	B	C
99th / Macleod	B	C	C	D	B	C
99th / Bonaventure	A	B	A	B	A	B
Southport Wy. / Southport Rd.	A	B	B	B	C	C
Willow Park / Macleod	C	D	E	E	D	F
Willow Park / Bonaventure	B	C	B	B	B	C
109th / Macleod	E	D	E	E	F	E
109th / Bonaventure	A	C	A	B	A	B

Note: The intersection of 109th / Southport Way was analyzed but excluded from this table since capacity analysis for unsignalized intersection does not provide the same metrics as for signalized intersections.

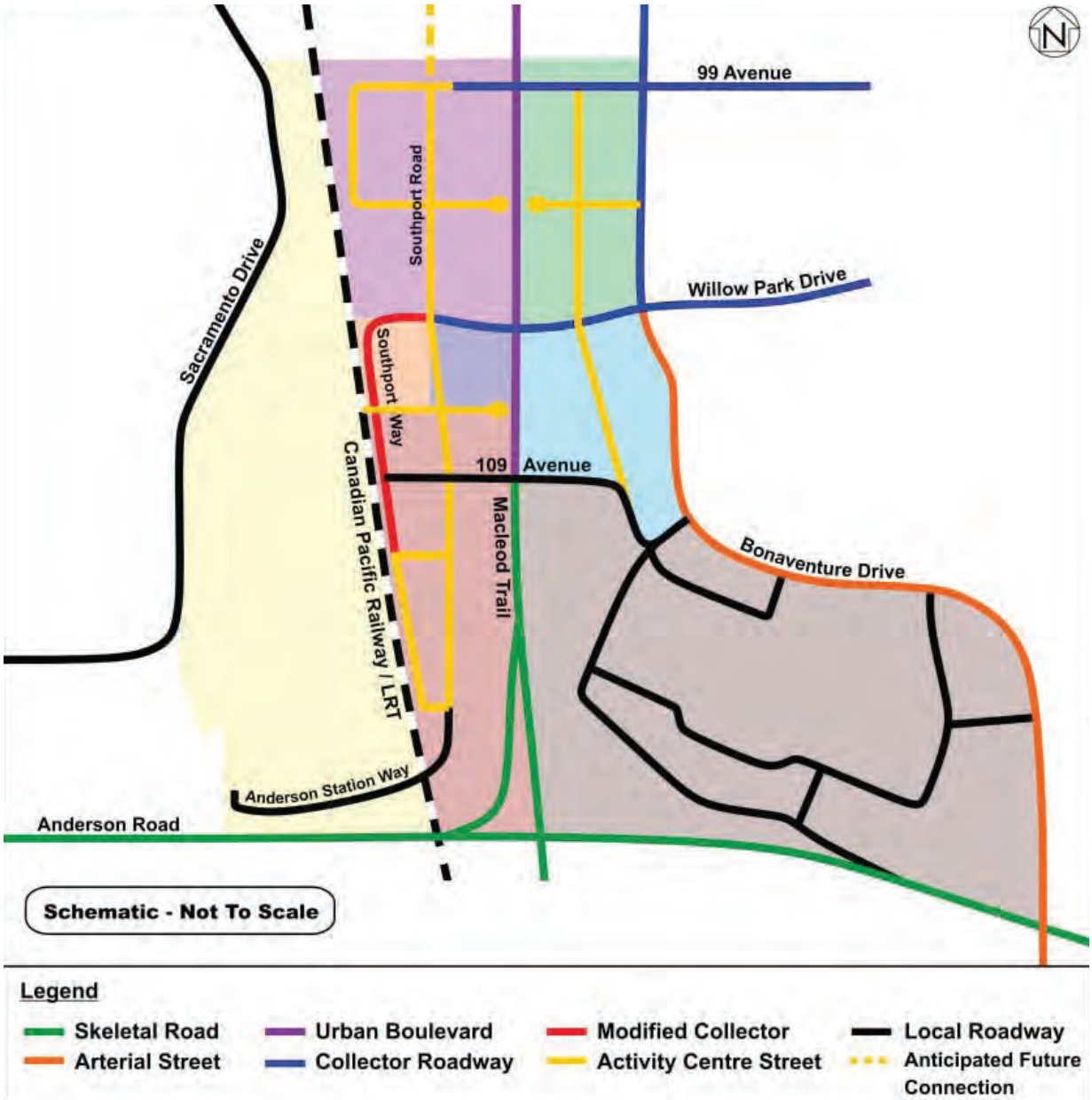
The study also reviewed daily volumes and context for roads within the study area and proposed a recommended long range road network that includes new activity centre streets (a new road type from the Complete Streets guidelines) within some of the redevelopment areas, as summarized in Map A-3. Of particular note in these recommendations is the long term realignment and extension of Southport Road to better suit the needs of redevelopment along the west side of Macleod Trail.

Pedestrian and Cyclist Facilities:

An assessment of current pedestrian and cyclist facilities was undertaken in the area surrounding Anderson Station. The purpose of the assessment was to document existing conditions and identify opportunities to improve both the connectivity and the quality of the pedestrian and cyclist network in the area. The following issues were noted with respect to current conditions: Anderson Road, Macleod Trail and the LRT tracks were identified as barriers to pedestrian and cyclist travel in the area with limited crossing opportunities;

- Macleod Trail is uncomfortable to travel along and to cross at-grade as a pedestrian or cyclist due to the wide vehicular carriageway, lack of sidewalks, high traffic volumes, long cycle lengths and right-turn lanes that are designed for high speeds;
- Missing or poor-quality connections and discontinuous routes were identified throughout the Anderson Station area;
- Cycling routes through the Anderson Station Park & Ride lot are not well marked;

Map A-3 | Recommended Long Range Road Network



- Narrow sidewalks are generally provided throughout the Station area that would not meet the City standards for complete streets, nor the City's pedestrian and bicycle design standards;
- Sidewalks are provided only on one side of some of the collector streets in the area; and,
- Three of the four pedestrian overpasses in the area do not meet today's standard minimum width guidelines.

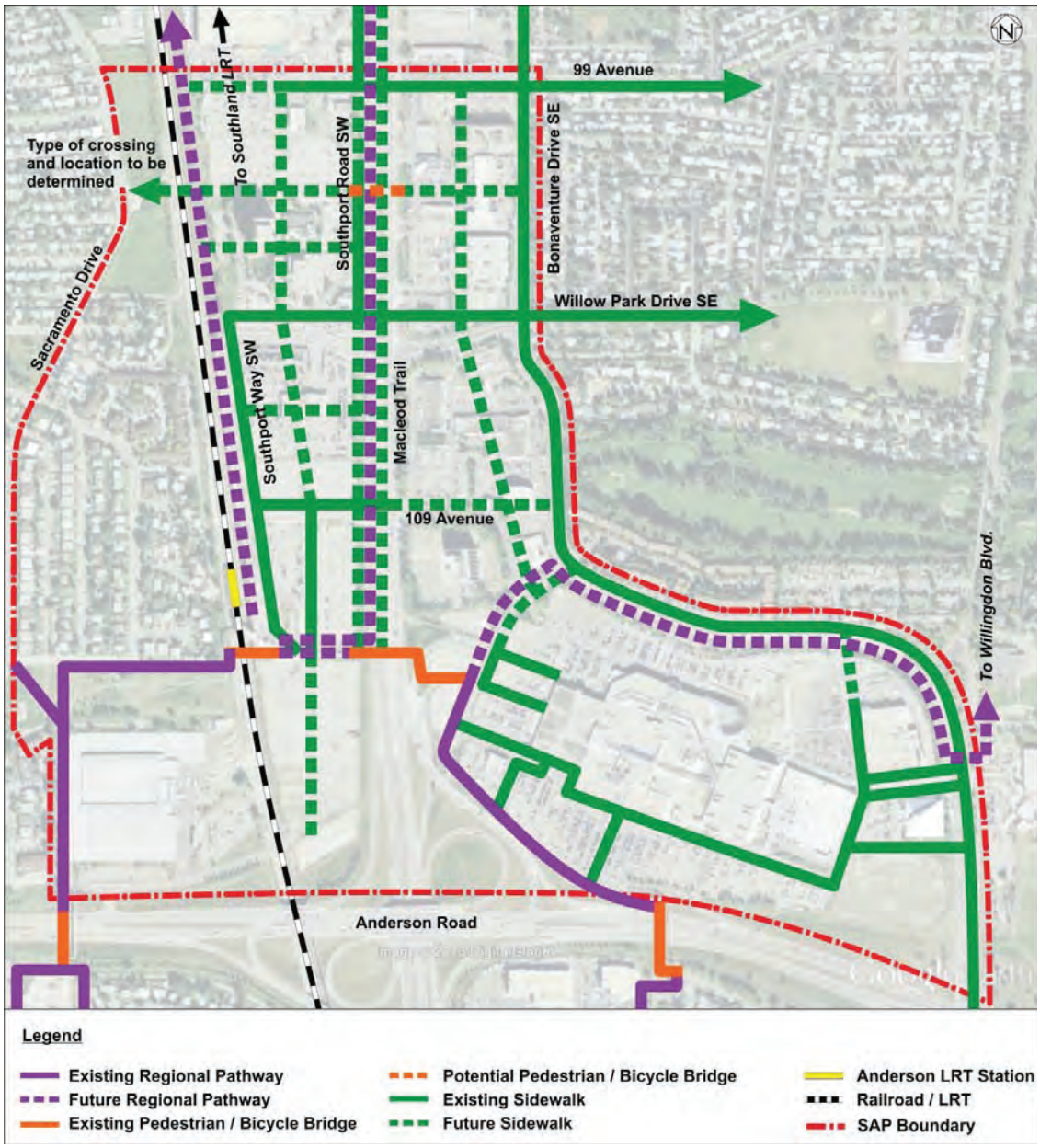
To address the network connectivity issues for pedestrians, a proposed future pedestrian network was developed as shown in Map A-4. The proposed network was designed to improve connectivity to all the precincts within the Anderson SAP by introducing new links and shortening the distances between crossing points along the street network.

To improve conditions for cyclists travelling to or through the study area, a proposed future cycling network was developed as shown in Map A-5. The proposed network combines on-street bicycle lanes in some locations with off-street multi-use pathways to provide connections to all development areas and anticipated cycling improvements along Macleod Trail as a result of the ongoing Macleod Trail Corridor Planning Study.

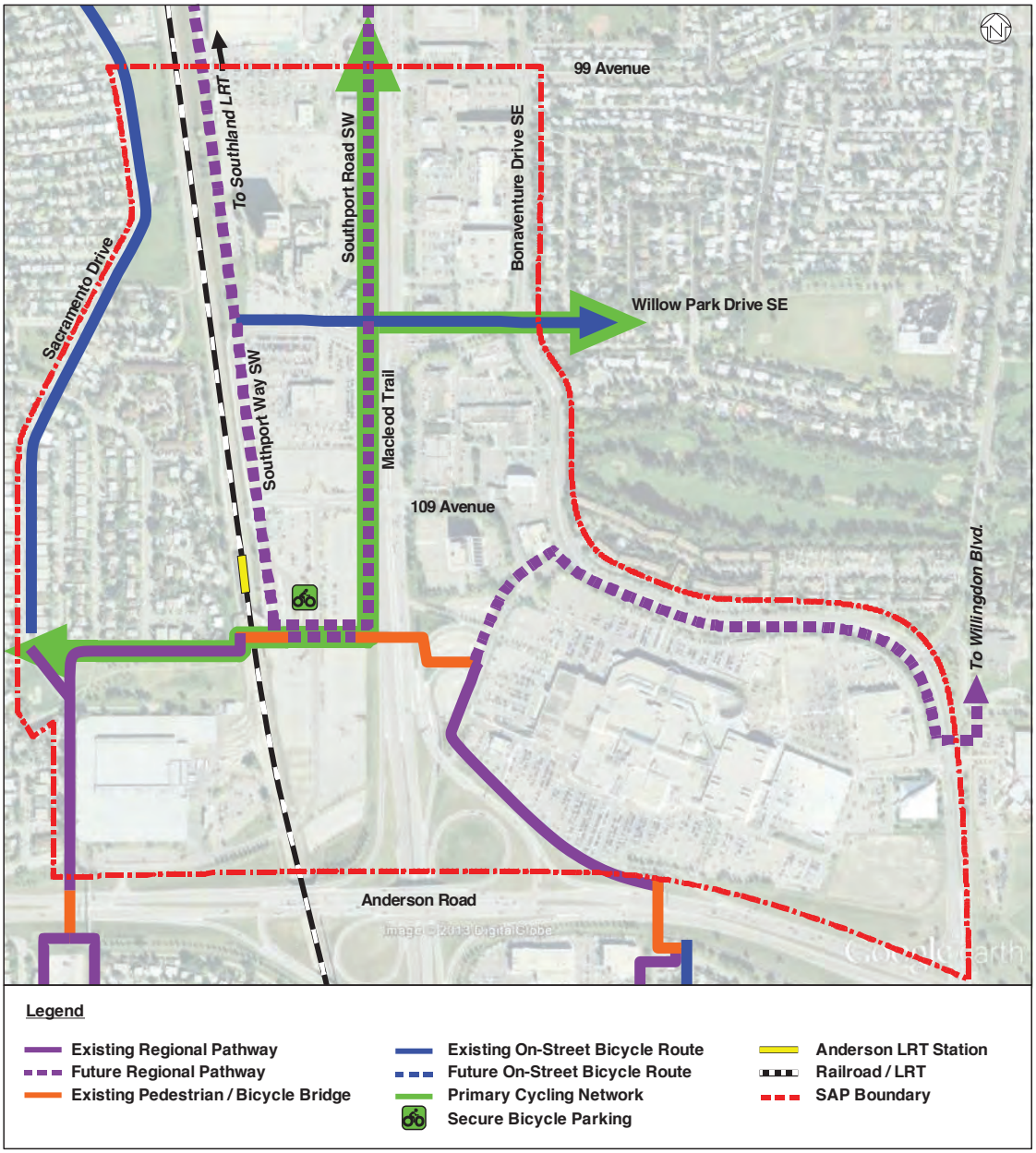
The proposed pedestrian and cycling networks could be implemented over the longer term as opportunities arise through redevelopment. In addition to the improved connectivity, a number of suggestions were made as input to the future redevelopment process to improve the quality of the pedestrian and cycling facilities in the area as follows:

- All sidewalk widths should be consistent with the City's Complete Streets Guidelines
- The pedestrian overpasses across Anderson Road (east and west of Macleod Trail) should be widened in the future to meet minimum design standards
- The high speed channelized right-turn lanes on Macleod Trail should be reviewed to determine if they are required and if so, whether a design with a smaller curb return could be implemented to reduce vehicle speeds and to make the pedestrian environment more comfortable.
- Where appropriate, curb extensions should be considered at intersections within the SAP to reduce pedestrian exposure to vehicular traffi c and to increase pedestrian visibility
- Opportunities to reduce the cycle lengths along Macleod Trail should be explored,

Map A-4 | Proposed Future Pedestrian Network



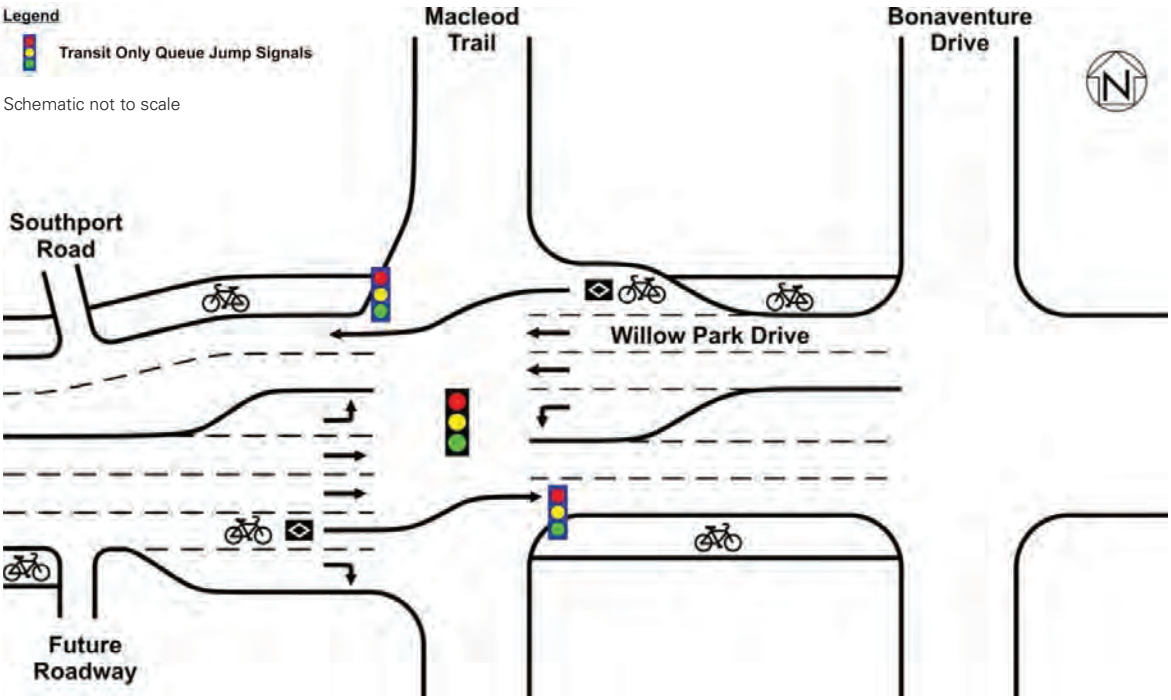
Map A-5 | Proposed Future Cyclist Network



Transit Operations and Facilities:

Current and future transit service to the area was reviewed to identify opportunities to improve the quality of transit service and to increase ridership. The vast majority of the existing transit routes access Anderson Station via Willow Park Drive across Macleod Trail. These bus routes are primarily servicing communities east of Macleod Trail (most of the communities to the west are bused to Heritage Station). According to Calgary Transit, these routes are not anticipated to change substantially in the future except for the addition of one or two more routes. Since the majority of transit routes in the area cross the Macleod Trail / Willow Park Drive intersection, the Project Team investigated options to improve transit performance at this intersection, and determined that the most feasible approach would be the provision of transit queue jump lanes in the eastbound and westbound directions along Willow Park Drive. This improvement also provided the opportunity to improve bicycle facilities at this location, as shown in the concept presented in Map A-6.

Map A-6 | Proposed Transit Queue Jump Concept



B Appendix

B.1

Summary of Station Area Plan Required Transportation Improvements*

The Transportation Impact Assessment (TIA) was based on three horizons: Existing (conditions at the time of completion of the TIA), Short-term 10 years (2019), Medium term 11 - 20 years (2039), Long-term beyond 20 years.

Table B-1 | Summary of Station Area Plan Required Transportation Improvements*

Recommended Improvements**	Construction Timeframe	Funding responsibility***
Pedestrian Network		
Complete pedestrian network as recommended in Map 5.1 of the ARP.	Concurrent with development	Developer funded
Evaluate and build pedestrian overpass north of 109 Avenue and south of 99 Avenue SW to accommodate growing pedestrian demand to/from the Anderson Station and land uses east of Macleod Trail while maintaining vehicular mobility on Macleod Trail.	Concurrent with development and as warranted by pedestrian demand	Developer funded
Improve Anderson Road pedestrian overpasses in the SAP to the satisfaction of the Director of Transportation Planning.	Medium-term	Developer funded and City if identified in Investing in Mobility (IIM)
Improve pedestrian overpass above rail right-of-way to Southwood Community to the satisfaction of the Director of Transportation Planning.	Medium-term	Developer funded and City if identified in Investing in Mobility (IIM)
Cycling Network		
Complete cycling network as recommended in Map 5.2 of the ARP	Concurrent with development	Developer funded and City if identified in Investing in Mobility (IIM)
Transit		
Transit priority measures and queue jump lanes in the eastbound and westbound directions along Willow Park Drive and any other intersection with risks of increasing delays for Transit vehicles.	Concurrent with development	Developer funded
Five car LRT platform extension program.	Long-term	As identifi ed in IIM and included in the budget cycle

Recommended Improvements**	Construction Timeframe	Funding responsibility***
Road Network		
99 Avenue / Macleod Trail: Optimize signal timing plan	Short-term	Developer funded
Southport Way / Southport Road: Provide southbound left-turn bay	Medium-term, concurrent with development	Developer funded
Willow Park Drive / Macleod Trail:		
Optimize signal timing plan	Short-term	Developer funded
Eastbound/Westbound transit priority measure and queue jump	Medium-term	Developer funded
Reconfigure Northbound right-turn lane	Medium-term	Developer funded
Provide eastbound left-turn bay	Medium-term, concurrent with development	Developer funded
109 Avenue / Macleod Trail:		
Optimize signal timing plan	Short-term	Developer funded
Dual northbound left-turn lanes	Medium-term	Developer funded
Upgrade to two through lanes on the east-west direction and provide dual westbound left-turn lanes	Medium-term, concurrent with development	Developer funded
109 Avenue / Bonaventure - Optimize signal timing plan	Short-term	Developer funded
Complete road network as recommended in Map 5.3 of the ARP	Concurrent with development	Developer funded

NOTE:

*The improvements noted in the table above are based on the land uses and intensities used to model the impacts on the transportation network. At the discretion of the Approving Authority, separate transportation analysis may be required to support development in the Station Area Plan. The improvements listed herein may vary as the transportation demand changes in the area as a result of changing uses and intensities.

**Recommended improvements may include functional and final designs, construction drawings, cost estimates, building, implementation, right-of-way dedication and acquisition, access easements. For further details on the improvements, refer to the Transportation Impact Assessment

***Payment obligations will be determined at the earliest of subdivision or development permit. As per provisions in the MGA. Schedule life-cycle is not included in this category.