

Attachment 3: Market Study

The following attachment contains the executive summary from the real estate market study undertaken by Coriolis Consulting Corporation and submitted in February 2015. It was compiled when a staged implementation using Bus Rapid Transit (BRT) for the initial opening was approved by Council. It does not take into consideration Light Rail Transit (LRT) on opening day based on the recent Federal funding announcement.

An addendum to this study will be prepared to reflect the effect LRT on opening day would have on the assumptions and results of the study.

Executive Summary

The City of Calgary is planning the Green Line Southeast (GL-SE) Transitway, a new transit line which will run from Downtown to the community of Seton and include 15 new transit stations. Initially, the line will be for BRT, but it will be designed so it can be converted to LRT in the future.

The City of Calgary retained a team led by Hatch Mott MacDonald and IBI Group to complete a preliminary design for the GL-SE from 4th Street SE to Seton and to conduct a comprehensive Transit Oriented Development (TOD) planning study for the line.

As input to the TOD study, Coriolis Consulting Corp. analyzed the overall size of the Calgary multifamily residential and office markets, the number of competing growth areas, and the potential market appeal of the GL-SE corridor in order to:

1. Estimate the long term demand for different types of multifamily housing in the corridor.
2. Estimate the long term demand for new office space in the corridor.
3. Identify the implications for TOD opportunities along different parts of the corridor.

This analysis focuses on the multifamily residential and office markets as these uses will account for most private sector development at TOD projects.

TOD locations will also include retail and service space. However, the amount of retail and service space that is warranted will vary across each TOD location depending on the local trade area population, which will depend on the planned residential development capacity in the station area. Therefore, the opportunity for

retail and service space will be considered as part of the detailed planning of each TOD location.

Major Assumptions

The major assumptions used in this analysis are as follows:

1. The GL-SE project will be completed in phases over the next 20 to 30 years. The first phase will consist of BRT service from Downtown to DouglasGlen (or Shepard). Construction of the first phase is anticipated to begin in 2017. The second phase will consist of BRT service to Seton. Over the longer term (20 to 30 years), the BRT will be transitioned to LRT connecting Downtown to Seton.
2. The population of the City of Calgary will grow from about 1.2 million in 2014 to about 1.9 million in 2044, consistent with the population projections provided to us by the City of Calgary.
3. The real estate market will experience cycles during the time frame of this analysis, but this analysis assumes any downturns are relatively short and that the overall direction for the market is continued growth (as indicated by the City's population projections) during the forecast period.
4. Over the next 30 years, TOD development will proceed as planned along the existing LRT lines in Calgary at a variety of stations, such as Chinook, Anderson, Westbrook, and Banff Trail (and possibly other stations). Therefore, TOD projects along the GL-SE will face competition to varying degrees from other TOD locations in the City.



Residential Forecasts

Our projected residential development by structure type from 2014 to 2044 for the City is summarized in Exhibit A.

Average Annual Housing Development by Type	2014 to 2019	2019 to 2024	2024 to 2029	2029 to 2034	2034 to 2039	2039 to 2044	2014 to 2044
Detached	5,574	4,558	4,597	3,940	3,587	3,455	4,285
Apartment	3,814	3,444	3,840	3,644	3,682	3,948	3,729
Attached (Duplex, Row, Townhouse)	2,347	2,127	2,380	2,265	2,296	2,468	2,314
Total Units	11,735	10,129	10,817	9,850	9,565	9,871	10,328

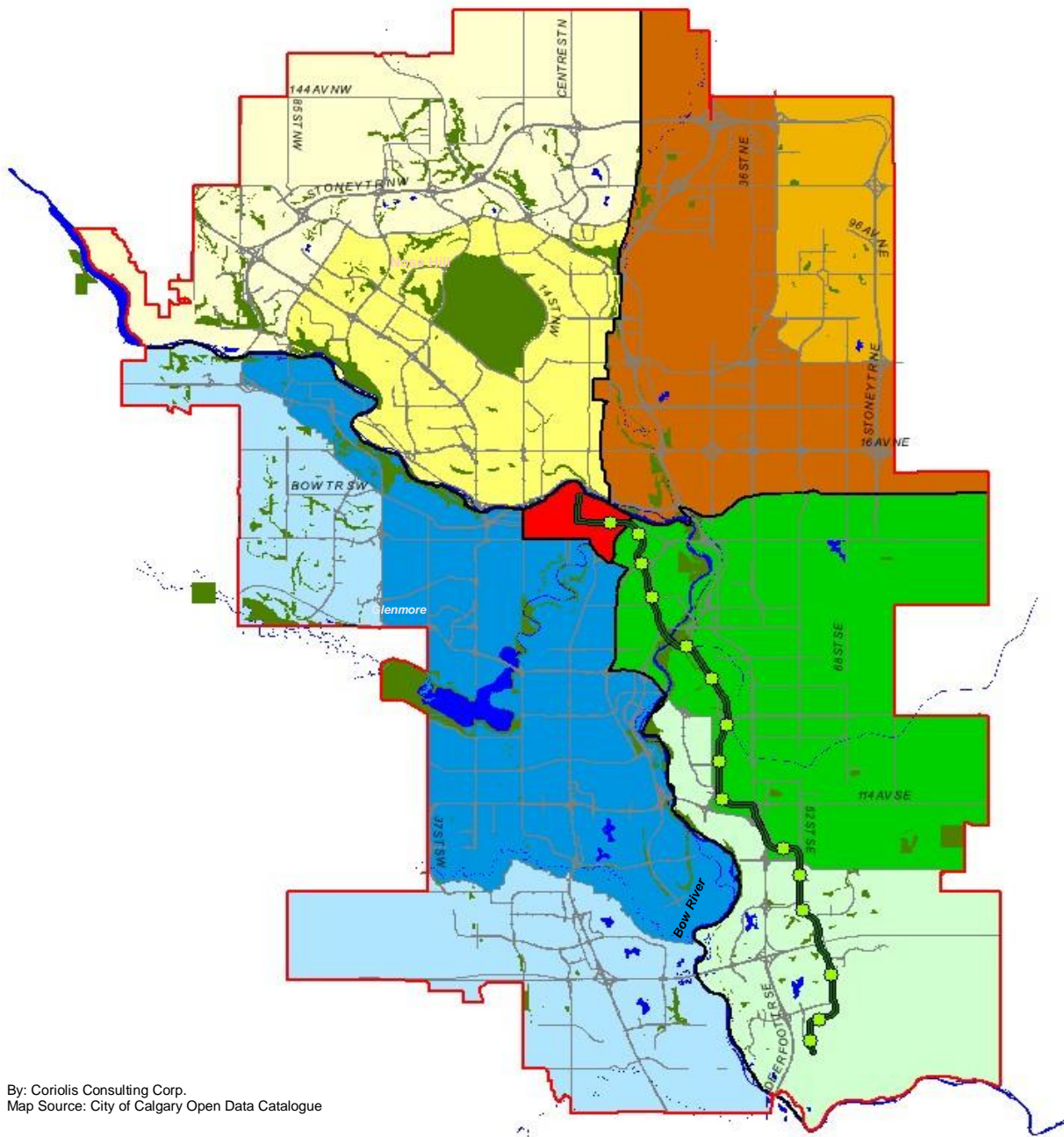
Source: Coriolis Consulting Corp.

Between 2014 and 2044, we anticipate that single detached starts will average about 4,300 units per year, apartment starts will average about 3,700 units per year, and attached starts will average about 2,300 units per year. Over the 30 year time period, we estimate that a total of 112,000 apartment units and 69,000 attached units will be built in the City. Single detached units are not a candidate for TOD locations.

The Calgary residential market can be divided into five different subareas as shown in Exhibit B, including the Centre City, Southeast, Southwest, Northwest and Northeast.



Exhibit B: Calgary Residential Market Subareas



By: Coriolis Consulting Corp.
Map Source: City of Calgary Open Data Catalogue

The GL-SE is located in the Southeast subarea. Between 2000 and 2014, the Southeast captured about 16% of city-wide apartment development and about 25%



of city-wide attached unit development. The introduction of the GL-SE will help increase the share of apartment development that goes to the Southeast from about 16% to 20% and the amount of attached development from 25% to 28%.

With the GL-SE, we estimate that attached and apartment unit development in the Southeast will total about 41,000 units between 2014 and 2044, including about 22,000 apartment units and about 19,000 attached units as shown in Exhibit C.

Exhibit C: Projected Attached and Apartment Unit Development in the Southeast with the GL-SE

Southeast by Type of Location	Average Annual Units Per Year by Time Period						Total 2014 to 2044	
	2014 to 2019	2019 to 2024	2024 to 2029	2029 to 2034	2034 to 2039	2039 to 2044		
Apartment Units	648	654	768	729	736	790	721	21,629
Attached Units	634	596	666	634	643	691	644	19,318
Total Multifamily Units	1,282	1,250	1,434	1,370	1,379	1,481	1,365	40,947

Source: Coriolis Consulting Corp.

Part of this multifamily development will go to locations in the Southeast that are served by the GL-SE stations (making it a candidate for TOD) and part will go to Southeast communities that are not served by rapid transit. Our forecast of development at station locations along the different segments of the GL-SE line is summarized in Exhibit D.

Exhibit D: Summary of Projected Multifamily Unit Development at Stations¹ along the GL-SE (2014 to 2044)

Segment	Apartment Units	Attached Units	Total Units
Inglewood to Ogden	5,500 to 6,000 units	1,000 to 1,500 units	6,500 to 7,500 units
South Hill to Seton	6,000 units	5,500 units	11,500 units
Total Units Near GL-SE Stations	11,500 to 12,000 units	6,500 to 7,000 units	19,000 to 20,000 units

Source: Coriolis Consulting Corp.

¹ This excludes any development at the proposed 4th Street SE Station which is located in the Centre City.

As shown in the exhibit, we expect about 19,000 to 20,000 multifamily units to be developed near GL-SE station locations between 2014 and 2044.

Most of this development would occur in communities along the GL-SE even if the new transit line was not constructed. The new line will help focus new multifamily development in the Southeast near new station locations. It will also lead to a shift in development from other existing and planned TOD locations in other parts of Calgary to TOD locations along the GL-SE. However, any shifts will be modest.

Implications for Multifamily Residential TOD Opportunities along the GL-SE

The forecasted amount of apartment and attached unit development along the GL-SE corridor has implications for the number and scale of TOD opportunities along the route. To identify the implications we made the following assumptions:

1. Any new TOD location should be largely completed over the 30 year time period of our forecasts (by 2044).
2. Each new TOD should have a large enough population to support (at a minimum) a full complement of the businesses that are typically found in neighbourhood scale shopping district. This will help ensure that the TOD functions as a highly walkable mixed-use neighbourhood.

A population of about 7,500 to 10,000 (depending on the amount of inflow and outflow spending) is required to support a 150,000 square foot to 200,000 square foot neighbourhood scale shopping district, including a full range of retail and service businesses such as supermarket, drug store, cafe, restaurants, specialty food stores (such as a bakery and deli), salons, liquor store, bank, and other businesses that are typically located in a local shopping district.

Therefore, the target for the number of residents in the station area should be a minimum of 7,500 or so.

Assuming about 1.9 people per unit², this suggests a minimum of about 4,000 units per new TOD location. This figure could be lower if there is an existing residential population in (or adjacent) to the TOD location. Using 4,000 units as a guideline, our development forecasts indicate that over the next 30 years:

1. There is an opportunity for one or two new TOD locations along the segment of the GL-SE³ that will run between Inglewood and Ogden. Most units at TOD locations in this segment would be apartment units, including a mix of woodframe and concrete units.
2. There is an opportunity for two or three TOD locations along the segment of the GL-SE that will run between South Hill and Seton. TOD locations in these developing areas would include a mix of apartment (primarily woodframe) and attached units. The number of potential TOD locations will depend on the number of attached units that can be physically accommodated within a TOD area.

We would expect most of the apartment units and all of the attached units built in TOD locations to be strata (ownership) units. Based on historic trends about 93% of apartment units built in Calgary are strata units and 7% are purpose-built rental units. However, it should be noted that a share of the strata units will be made available for rent by purchasers who acquire units for investment purposes (CMHC data indicates that, in 2014, 30% of condominium apartment units in Calgary were rented).

² This is a blended average of the apartment and attached unit household sizes in Calgary. Based on the 2014 Civic Census, the average number of people per apartment unit in Calgary is 1.7. The average number of people per townhouse unit is 2.3. Our development forecasts indicate that about 65% of new units near LRT along the GL-SE will be apartment units and 35% will be attached resulting in a blended average household size of about 1.9.

³ There would be an opportunity for an additional TOD at the 4th Street station in the Centre City.



Strategies to facilitate development of purpose built rental housing and other forms of affordable housing can be considered as part of the detailed planning of each TOD location.

Office Forecasts

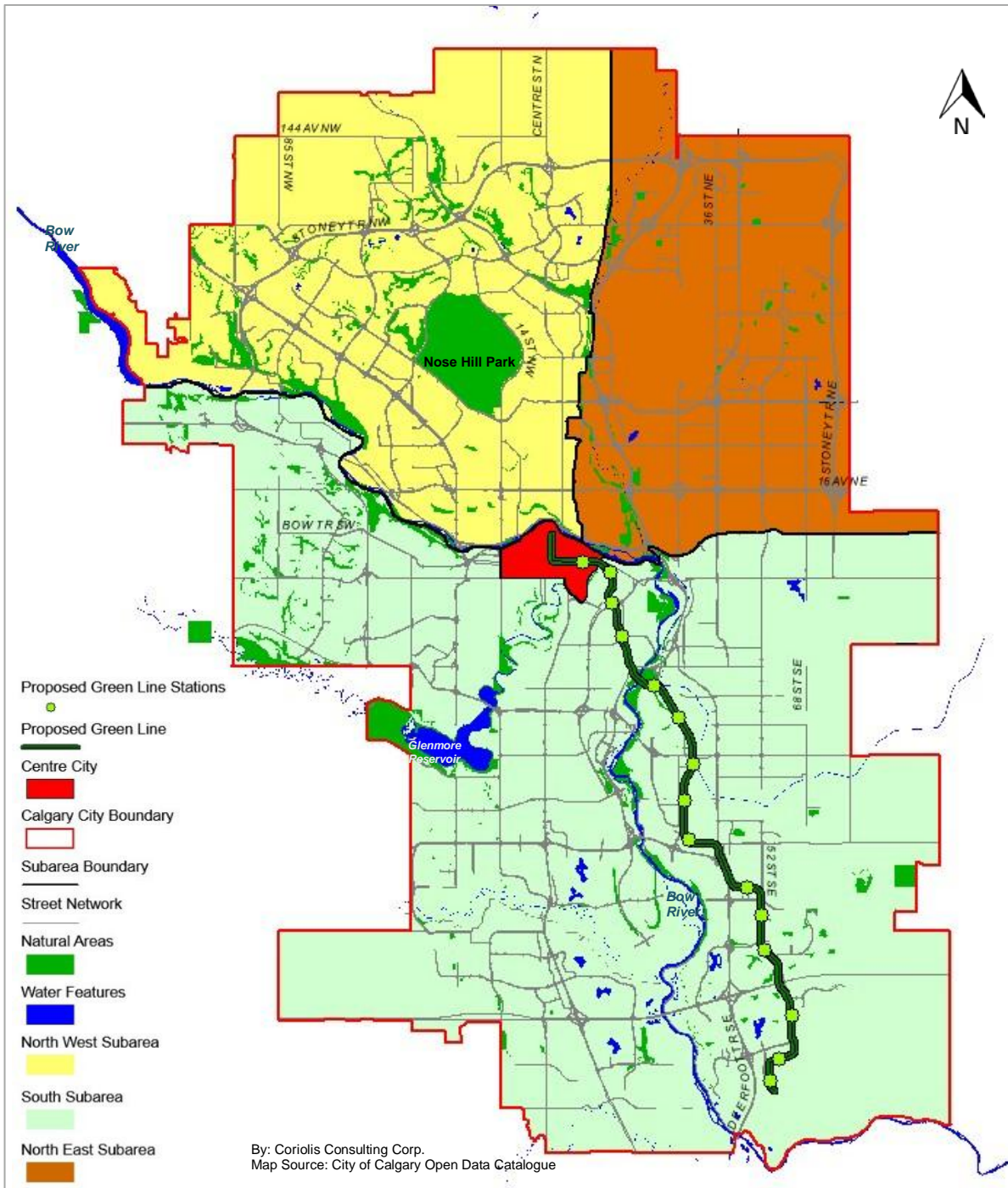
We estimate that new office development in Calgary will total about 42 million square feet between 2014 and 2044, or about 1.4 million square feet per year on average.

The Calgary office market can be divided into four different subareas as shown in Exhibit E, including the Centre City, South, Northwest and Northeast.



Green Line Southeast

Exhibit E: Office market Subareas





New office projects along the GL-SE will compete for a share of office development in Calgary’s South sector. Between 1999 and 2014, the South sector captured about 23% of City-wide office development. We anticipate that the introduction of the GL-SE will help increase the share of office development that goes to the South from about 23% in 2014 to about 29% by 2044.

Office development in South Calgary will be split between commercial (or mixed-use) locations and industrial/business park locations as shown in Exhibit F.

Exhibit F: South Calgary Office Development Forecast by Type of Location (square feet)

South Sector Office Demand by Type of Location	2014 to 2019	2019 to 2024	2024 to 2029	2029 to 2034	2034 to 2039	2039 to 2044	2014 to 2044
Commercial or Mixed-Use Locations	105,043	311,828	324,301	336,774	349,247	361,720	8,944,568
Industrial Locations	26,261	77,957	81,075	84,194	87,312	90,430	2,236,142
Total	131,303	389,785	405,376	420,968	436,559	452,151	11,180,709

Source: Coriolis Consulting Corp.

We estimate that new office development at commercial or mixed-use locations in South Calgary will total about 9 million square feet between 2014 and 2044, or about 300,000 square feet per year on average.

Implications for Office TOD Opportunities along the GL-SE

The GL-SE corridor is a strong candidate to accommodate a share of the 9 million square feet of estimated new office development that will occur in South Calgary’s commercial and mixed-use locations between 2014 and 2044.

However, we estimate that existing and planned office locations in South Calgary (some of which are owned by the City, such as Anderson and Westbrook) can accommodate at least 6.9 million to 8.5 million square feet of new office space, or about 75% to 95% of our projected office development in South Calgary from 2014 to

2044, leaving at most 0.5 million to 2.1 million square feet of additional office development potential in the South sector at commercial or mixed-use locations.

The GL-SE route already includes three of the existing and planned office locations in South Calgary:

1. Quarry Park. Based on information from the developer, another 2.0 million square feet is planned at this project.
2. Seton. Our understanding is that a minimum of 750,000 square feet of office space will be accommodated at the Seton community near the new South Health Campus.
3. Shepard Regional Centre. Shepard Development Corporation is planning about 850,000 square feet of office space in Southeast Calgary at Deerfoot Trail and 130 Avenue SE.

Assuming that the City wants to see these planned office locations (and the other planned South Calgary office locations) developed in a timely manner, there is little or no need for an additional planned office node along the GL-SE prior to 2044.

We think three different TOD office planning strategies could be considered for the GL-SE corridor:

1. Do not create any new office nodes and do not expand the existing office nodes along the GL-SE (beyond current plans). Any new TOD locations along the GL-SE would include a modest amount of new office space focused primarily on accommodating local oriented office users such as medical and dental tenants, realtors, insurance agencies and other businesses that serve residents of the immediate area.

2. Increase the office development planned at Quarry Park, Shepard and Seton to accommodate a portion of the 0.5 to 2.1 million square feet of estimated office potential in South Calgary.
3. Identify one additional location along the GL-SE for a significant amount of office development (say up to 1.0 million square feet). This new node would compete for a share of the 9 million square feet of projected office development in South Calgary between 2014 and 2044, which would make the market more competitive and slow development at other existing and planned office locations in South Calgary. If an additional office node is considered, South Hill would be a strong candidate given its convenient access to the regional highway system and its proximity to the large office inventory at Quarry Park.