DOWNTOWN SUBURBIA?
ASSESSING THE DEVELOPMENT OF A SUBURBAN MIXED-USE CENTRE

by

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EXECUTIVE SUMMARY

Background

The development of regional town centres has been a priority for planners and politicians, in Greater Vancouver since the mid-1970s. Regional town centres are intended as places where a wide variety of uses and activities are concentrated, including employment, retail, civic and cultural services, and high-density housing. They are part of a regional strategy which values, among other priorities, the protection of agricultural and ecologically significant landscapes, and the promotion of a more efficient urban transportation system. In recent years, Surrey City Centre has been re-designated into something higher than a regional town centre, yet below Vancouver’s central business district. Rebranded as Surrey Metro Centre, it is intended that this district be developed as a second-tier “downtown” for Greater Vancouver, serving the rapidly growing South of Fraser sub-region.

The purpose of this report is to examine the historical development of Surrey City Centre and to look for quantitative evidence that either supports or problematizes the notion that it is becoming the region’s second “downtown”. The analysis assumes that urban development is a process driven primarily by economic demand. Concepts from neoclassical economics, urban geography and suburban planning are used to formulate the framework through which to compare the characteristics of a suburban mixed-use centre to those of a traditional CBD. In particular, the research seeks to apply principles derived from the monocentric model to study a suburban, polycentric context.

Research Question: How do the housing and household characteristics of Surrey’s regional town centre compare to those one would expect to find associated with a traditional CBD?
Methods

Data was collected from three types of sources. Quantitative analysis of tract-level census data was used to examine changes in household and dwelling characteristics form 1981 to 2006. To support the quantitative analysis, academic literature was used to provide a theoretical framework, and government documents and case-related literature was reviewed to provide a historical analysis of the case study.

Results

The analysis found moderate support for the idea that certain principles of the monocentric model can be applied to a suburban, polycentric context, and that Surrey Centre is an appropriate example of this application. Residential densities were generally found to be higher nearer the centre, though the gap between the City Centre and surrounding tracts appears to have narrowed over the course of the study period. Similarly property value density was highest near the centre, but the difference with surrounding tracts narrowed over time, as shown in the figure below.
These density and land value figures suggest that land values are nominally higher near the City Centre, but not dramatically higher as to spur the large volume of high-density development necessary to achieve the desired transformation.

The analysis found some evidence that households are taking on more urban-like characteristics near the centre, particularly smaller household size, fewer children and slightly higher proportion of adults of professional age. Additionally, housing size, cost and income data aligned well with the principles of the monocentric model; households were wealthier and lived in larger, more expensive homes nearer the periphery, and vice versa for the centre.

Finally, the analysis found evidence that transit mode share is gradually higher with proximity to the centre, where the rapid transit stations are located, but that there had not been a significant shift in mode share over the last 10 years of the study period. The rapid transit network currently terminates in the City Centre, the north-west corner of the city; most of the city is not connected to its centre by rapid transit. Therefore, it is likely that the current extent of the transit system has reached the limit of its ability to influence the dynamics of development in Surrey City Centre.

In summary, there is some evidence to suggest that Surrey City Centre is developing into an important suburban mixed-use centre, showing a few characteristics typically associated with a CBD; however, to consider the district to be a second-tier CBD appears to be premature based on both the quantitative and qualitative evidence.

**Recommendations**

In light of planning priorities that promote compact housing, the protection of agricultural and environmentally significant lands and the development of high density suburban centres, while
promoting alternative modes of transportation, as well as in light of the findings of this research, the following recommendations are offered.

1. Continue to support the protection of agricultural and environmentally significant lands on the periphery.
2. Consider measures to discourage or restrict the development of office uses in low-density employment lands on the periphery and to encourage offices uses to locate in Surrey City Centre.
3. Continue to promote the proposed expansion of the rapid transit network further east and south into Surrey and surrounding communities.
4. Plan for the long-term evolution of existing neighbourhoods adjacent to the City Centre.
5. Continue to promote well-designed development that contributes to the attractiveness and desirability of the City Centre.
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1 INTRODUCTION

1.1 BACKGROUND

The development of suburban mixed-use centres has been a priority for planners and politicians, in Greater Vancouver for several decades. Since the mid-1970s, a series of regional plans have designated an ever-expanding constellation of these centers, officially termed \textit{regional town centres}. Regional town centres are intended as places where a wide variety of uses and activities are concentrated, including employment, retail, civic and cultural services, and high-density housing. They are intended to be pedestrian- and transit-oriented by being walkable in design and serving as nodes on the regional rapid transit network. The regional town centres are part of a regional strategy which values, among other priorities, the protection of agricultural and ecologically significant landscapes, and the promotion of a more efficient urban transportation system, including greater use of public transit. As such, the regional town centres represent an effort to increase residential and employment density, in order to limit the outward expansion of the urbanised area (commonly called sprawl) and to make more efficient use of transit services.

In recent years, the hierarchy of town centres has been expanded, such that Surrey’s regional town centre, \textit{Surrey City Centre}, has been re-designated into something greater than a regional town centre, yet below Vancouver’s Central Business District (CBD). Rebranded as \textit{Surrey Metro Centre}, it is intended that this district be developed as a second-tier “downtown” for Greater Vancouver, serving the rapidly growing South of Fraser sub-region. However, due to a relatively low level of success in attracting large concentrations of employment or housing and the persistence of auto-oriented land uses, the justification for this re-designation is not visibly apparent, and seems premature.
1.2 PURPOSE AND RESEARCH QUESTION

This report examines the historical development of Surrey City Centre and looks for quantitative evidence that either supports or problematizes the expectation that it is transforming into a second-tier “downtown”. The analysis is based on the assumptions that urban development is a demand-driven process, fueled in part by land values, and that certain principles derived from neoclassical economics have predictive value regarding development potential. Concepts derived from the monocentric models of the 1960s are used to construct a framework from which to compare Surrey City Centre to the characteristics of a traditional CBD. Using this framework, the research seeks to address the following question:

*How do the housing and household characteristics of Surrey’s regional town centre compare to those one would expect to find associated with a traditional CBD?*

To answer this primary question, the research is directed by a number of sub-questions. In addition to neighbourhood change, the researcher is also interested in transportation characteristics, namely mode share for automobile and transit commuting, since this issue is so dominant in the normative literature on suburbs and mixed-use centres. Questions to direct the research include:

- *How has built form changed over time? What can housing data tell us about changes in built form?*

- *How have household characteristics changed over time?*

- *How do housing and household characteristics change geographically (i.e. from center to periphery)?*
• How will does the evidence regarding housing and households suggest a pattern of rising land values that could create the potential for major transformation in Surrey City Centre?

• How has work commuting changed over time and how does it vary spatially?

Finally, in assuming the position that the planning goals regarding discussed above are desirable, the report offers recommendations based on the following question:

• What strategies would help to promote the development of Surrey City Centre as Greater Vancouver’s second-tier downtown?

1.3 REPORT STRUCTURE

The remainder of the report is divided into five chapters. Chapter 2 describes the research methods employed. Chapter 3 presents the findings from the academic literature review; this review provides the theoretical framework through which the case study is analyzed. Chapter 4 presents discusses the regional and local context for Surrey and its Surrey City Centre, documenting the historical development of the regional town centres concept in planning policy. The final section of this chapter provides a brief qualitative assessment of Surrey City Centre’s development to date. Chapter 5 presents the findings from the quantitative analysis. Finally, Chapter 6 discusses the quantitative findings in light of key themes from the literature and offers recommendations to help promote the development of Surrey City Centre.
2 METHODS

To answer the research question, data was collected from three types of sources. First, academic literature covering topics such as neoclassical urban economics, urban geography, and suburban planning was reviewed to provide a theoretical and practical background. Second, an analysis of government planning documents and case-related literature was done to build a background for the case study. Third, census data was analyzed to track changes in household and dwellings over time, this represents the primary method of the research and is discussed in further detail for the remainder of this chapter. These three methods represent Chapters 3, 4 and 5 respectively.

2.1 CENSUS DATA ANALYSIS

The report uses tract-level census data to compare Surrey City Centre with its surroundings and to track changes over a 25-year period. As such, most of the data was drawn from the 1981 and 2006 Censuses. The report also draws the 1996 Census to examine transportation mode share. The first part of the analysis in Chapter 5 uses tract boundaries from the 1981 Census; the data from 1996 and 2006 was aggregated to match the 1981 boundaries. The final part of the analysis uses only the 2006 data and maintains the 2006 tract boundaries to provide a more detailed geographic profile for the end of the study period. Data was analyzed using IBM SPSS.

The study area consists of 33 tracts, as defined by the 1981 Census. This area includes 25 tracts which comprise the whole of the City of Surrey. It also includes 6 tracts located in the Corporation of Delta, the neighbouring municipality to the west, which encompass the community of North Delta, and 2 tracts which comprise the City of White Rock, a small municipality in the south. The North Delta and White Rock tracts were included because they represent urbanized areas that are contiguous with Surrey’s urban development.
In the first part of the analysis, census tracts were divided into three zones forming rough concentric rings around the central node. The Centre comprises 4 tracts which cover most of the area currently defined as Surrey City Centre by planning documents, plus a few predominantly single-family neighbourhoods adjacent to the district. The Inner Ring is defined as all tracts beyond the Centre with centroids up to 5 km straight-line distance from Surrey Central Station, the main transit hub; 12 tracts were included in the Inner Ring based on this method or measurement. It was initially intended that the Inner Ring consist of tracts immediately adjacent to the Centre tracts. However, it was found that some of the larger tracts extended a considerable distance outward, creating a highly irregular ring shape. The 5 km cut-off was used include other smaller tracts that would create a relatively even ring around the Centre. The Outer Ring comprises the remaining 17 tracts beyond 5 km. The purpose for categorizing tracts into zones is to determine whether notable patterns, based on distance, of urban form and household characteristics emerge when values are averaged into concentric rings. The centroids of each tract and their distances to the transit hub were produced and measured using ArcGIS software.

The second part of the analysis graphs key variables for individual tracts against distance (in kilometres) to the central hub; however in this case, the 2006 census data was used alone and the 2006 tract boundaries were retained. By this census year, the number of tracts in the study area had nearly tripled from 33 to 92. The use of the 2006 boundaries does not permit an analysis of change over time; however, it was recognized that much information is lost by the three-zone approach and that 33 tracts, some of which are very large, did not provide a sufficient level of detail in some cases. Plotting variables against each tract’s distance to the centre allows for a more detailed profile of the effects of proximity to Surrey City Centre. This section compliments
the three-zone analysis by showing the degree a variability which may be lost when data are combined into large groups.

### 2.2 JUSTIFICATION AND PRECEDENTS

As a method, the analysis of census data has been called secondary analysis of quantitative data sources (Dale, Wathan & Higgins, 2008). The analysis is secondary since the researcher is drawing from data originally collected by another researcher or organization for some other purpose. This method is effective at tracking historical changes when using surveys which are repeated in a relatively consistent manner (Dale, Wathan & Higgins, 2008); the Census of Canada is a good example of a consistently administered survey.

The method of tracking historical trends in census tract data for the purpose of analyzing neighbourhood change has been used in previous M.Pl. reports. Nelson (2012) examined change in Toronto’s low income neighbourhoods; Hommik (2012) compared gentrifying neighbourhoods in Montreal to previous findings from another master’s report which examined gentrification in Toronto (Higgins, 2010). These reports differ from the present research in terms of subject matter but they are comparable in approach. In each of these reports, tracts were categorized into groups, such as gentrifying or low income tracts, and groups were compared.

In the academic literature, Skaburskis and Moos (2008) use tract level data to examine the spatial distribution of changes in residential property value in Canada’s large metropolises. A number of variables, including housing value, are plotted against distance to the CBD. This empirical data is used to analyze the relevance of two theoretical concepts in economics, neoclassical and structuralist. In this sense, Skaburskis and Moos (2008) is perhaps the best example of a similar method being used to address similar subject matter.
2.3 UNIT OF ANALYSIS AND VARIABLES

As noted above, the unit of analysis is the census tract. Data was collected from summary tables, using both electronic and print sources. The types of variables examined fall into two general categories, those relating to dwellings, and those relating to the population (individuals and households); these are discussed below. The majority of the summary statistics used in this report represent average or proportional values for the tract; these values were derived directly from the data sources or calculated by the author. The values presented in the three-zone analysis portion of Chapter 5 represent the weighted average for all tracts in each zone. For each variable, the associated denominator variable was used as the weight factor (for example, the average proportion of 1981 single-detached dwellings uses the total 1981 dwellings variable as the weight factor. For the few variables that indicate a total value (such as land area), these represent the sum for all tracts in each zone.

2.3.1 Dwelling Variables

Several variables related to the characteristics of occupied dwellings were examined; these include variables related to structural type, tenure, value and cost, and number of rooms. This data facilitated an analysis of urban structure, including housing density and form, as well as approximations of property values. Particular attention is paid to two sets of variables, structural type of dwelling (single-detached, apartments, etc) and the density of property value (i.e. the total value of dwellings per hectare.

2.3.2 Population and Household Variables

Various population characteristics relating to households, families and individuals were also examined; these include household size, number of children, age and income. This data was
used to complement the data on urban structure, showing various trends in the population and how they relate to trends in housing. Mode of transportation for work commuting is also examined, though this analysis is limited to the final 10 years of the study period as transportation data was only added to the Census in 1996.

2.4 Limitations

2.4.1 Relative lack of spatial detail

For studies which cover entire CMAs, census tracts usually provide a sufficiently detailed geographic scale. In this case however, the tracts according to their 1981 boundaries are relatively large in size and few in number, and the study area represents a relatively small area. As can be seen in Figure 5.1, much of the data is amalgamated into a few very large areas. The tracts defined as the Centre incorporate a much larger area than the official boundaries of Surrey City Centre. By switching to 2006 boundaries, which offer a greater level of detail, the final section of Chapter 5 attempts to address this issue.

2.4.2 Straight-line distance as a measure of proximity

All measures of distance in the analysis represent straight-line distances. Straight-line measurements are only an approximation of actual travel distances, and therefore proximity. Furthermore, it is recognized that proximity is only one aspect of accessibility. At the neighbourhood scale, however, this is likely not a significant concern. It should be noted that Surrey’s road network is laid out in a relatively uniform grid of arterials. Therefore, if straight-line distance is an approximation, it is at least a relatively consistently applied approximation.
2.4.3 Study area represents a varied urban landscape

The application of the principles of a monocentric model in part implies that the study area represent a single contiguous urbanized area containing a single centre and is free of influence from surrounding communities. In reality, this is not the case. The contiguous urban area surrounding Surrey City Centre is contained within the north-west portion of the municipality and study area. A large belt of farmland runs through the center of the study area and separates at least three distinct urbanized communities. This pattern is easily recognizable in various figures presented in Chapter 4, including Figures 4.1, 4.3, 4.5 and 4.6. An alternative approach would have been to limit the study area to the contiguous urbanized area in the north-west; however this alternative was not viable since it would have severely limited the number of tracts, resulting in a very small sample size for the statistical analysis. This alternative might be more viable in the future, using the larger number of tracts as defined by a later censes.

2.4.4 Study period out of date

Ending the study period in 2006 means that the data is nearly a decade out of date. This is an unfortunate limitation of using census data. At the time of this report, the applicable data from the 2011 Census was not available. In order to acknowledge this limitation, Chapter 4 includes a qualitative discussion of developments in planning and public investment since 2006.
3 LITERATURE REVIEW

3.1 THE MONOCENTRIC MODEL

The monocentric model of urban structure, as theorized by neoclassical economists such as Alonso (1964), Muth (1969) and Mills (1972), offer some valuable insights regarding the effects of a regional sub-centre on housing characteristics. This seems counterintuitive at first glance, since the monocentric model, as the name suggests, is designed to describe a metropolis with a single CBD. However, a number of elements of the model are valuable enough to contain some explanatory power.

Alonso’s (1964) bid-rent concept is premised on the trade-off between distance from the CBD (transportation costs) on the one hand, and the cost of housing/quantity of land on the other hand. Land values are highest near the CBD and decrease with distance as one moves further out towards the periphery on account of transportation costs. As Alonso remarks, this basic premise had been well established by earlier economists; however considerations of the size of land parcels, and therefore of density, was a relatively novel concept (Alonso, 1964). A household’s bid-rent curve indicates the rent it is willing to pay at a given distance from the center. Higher-income households receive greater benefit from consuming a larger quantity of housing/land relative to the marginal costs of transportation; their bid-rent curves are flatter than those of lower-income households (Alonso, 1964). As Alonso states, “Given a strong appetite for land, so that the holdings of land vary greatly with income, the wealthier are affected relatively less by the costs of commuting because they spread these costs over larger sites. Consequently, the rich are price-oriented whereas the poor are location-oriented” (1964, p. 109). Poorer households therefore out-bid richer households near the center and vice versa.
In addition to explaining the location decisions of households relative to wealth, the model also provides a general explanation for the process of decentralization. Transportation costs act as a gravitational force compelling all households to locate as close to the center as possible. Transportation improvements, such as cars and highways, decrease the cost of commuting and flatten bid-rent curves. Muth’s (1969) empirical analysis of Chicago confirmed theoretical predictions of the effects of transportation improvements. Rising income levels also flatten curves by increasing the benefit of consuming more housing/land relative to the cost of transportation. Both cases result in a greater rate of decentralization.

The bid-rent model, therefore explains the apparent paradox of the lowest-income households occupying the most expensive land in the center while the highest-income households occupy the cheapest land at the periphery. Alonso (1964) states that this paradox was traditionally explained by the process of filtering. Older housing stock is filtered down to poorer households as the wealthy are drawn to the new homes on the periphery and away from the decay of older neighbourhoods. The major limitation of this explanation, in the view of Alonso, is that it necessarily assumes that the city is growing. The bid-rent model does not require this assumption and is therefore a more robust explanation of urban decentralization.

Elements of neoclassical economics may still provide valuable insight into the gravitational effects of urban centres, whether or not the monocentric model is applied in its entirety. The following sections of this chapter examine more recent literature on the development of suburbs in the post-modern, post-industrial era, as well as the normative planning objectives in regards to suburban development, mixed-use centres and transportation.
3.2 SUBURBS

One major theme that emerges from the literature on suburbs is the increasingly dynamic role that suburbs are playing in their urban regions. The image of the homogeneous, middle-class bedroom community is one that fails to capture the reality of today’s suburban experience, which is diverse both in terms of the characteristics of its residents including class, ethnicity and household composition, as well as the structure of suburbs, land use mix and economic activity. Bunting and Filion summarize the historical evolution of suburbs since the mid-twentieth century quite succinctly:

The latter part of the period 1945-1975 was one of decreasing ties between the suburb and the inner city. As we move towards the mid-1970s, suburbia’s interaction with older parts on the agglomeration becomes more tenuous. By 1975, the suburb has attained a high level of self-sufficiency in terms of retail, employment and public services such as education and health care (Bunting & Filion, 1996, p. 25-26).

This is a common historical narrative that views significant change from the monocentric metropolises described not only by the neoclassical urban economists, but also the early-twentieth century urban geographers with their zonal models. However, other authors (such as Harris and Lewis, 1998; Soja, 2000; and Durham-Jones and Williamson, 2011) have called into question the accuracy of this narrative, asserting that the image of the homogenous bedroom community suburb is not even representative of the suburbs of the past. This critique applies to the perceived lack of diversity of suburban populations; Durham-Jones and Williamson (2011), for example, point to evidence that suburbs have always housed more diverse populations than is usually acknowledged. It also applies to the perception of homogeneous residential landscapes;
Soja (2000) for example, argues that the process of suburbanization has been primarily driven by the decentralization of employment, not housing.

Regardless of the realities concerning the suburbs of yesterday, it is clear that the suburbs of today are ever increasingly complex and diverse places. Hayden (2003) points to the decreased prevalence of the conventional nuclear family household as a major social driver of change in suburban communities. Durham-Jones & Williamson (2011) argue that the suburbs of the future will be characterized by increasing numbers of singles, childless households, empty-nesters, seniors, minority enclaves and clusters of poverty. For many authors, this signals a need for a greater variety of housing types to meet the needs of a diverse population. Merrill, (in Schmitz et al, 2003), states that an influx of empty-nesters will increase demand for smaller homes. Richardson (in CNU, 2000) argues that housing the ever-growing number of working poor will require a strategy of increased density to keep housing relatively affordable. This concept he calls ‘Lest Cost Housing’, arguing that an incredible amount of housing capacity would become available if cities were to revise their exclusionary large-lot zoning practices.

For some authors, then, the predominance of single-use, single income housing patterns is woefully ill suited to the emerging needs of suburbanites. For Torti (in Schmitz et al, 2003), having the ability to offer a variety of different housing types at different price points within a project makes good economic sense because it increases the potential market, thereby increasing absorption rates. Proponents of New Urbanism often claim that most people have an inherent preference for these, more traditional neighbourhood concepts (Duany et al, 2000).
3.3 POLICENTRICITY: SUBURBAN CENTRES

If the principles of neoclassical land economics are reconsidered in light of the social and economic composition of post-modern suburbs, the polycentric nature of post-modern urban structure might be reconciled with the basic ideas of the monocentric urban model. In other words, suburbs contain the ingredients necessary to form their own nodes of high-density housing and economic activity. They have attained the “high level of self-sufficiency” (Bunting & Filion, 1996, p. 26) and take on increasingly urban characteristics. Soja summarizes this point rather efficiently: “What once could be described as mass regional suburbanization has now turned into mass regional urbanization, with virtually everything traditionally associated with ‘the city’ now increasingly evident almost everywhere in the postmetropolis” (Soja, 2000, p. 242).

Thus the forces of centralization and decentralization have become increasingly complex. Garnett (2007) questions the relevance of the discourse of decentralisation at the scale of the individual, a discourse she calls the “suburbs as exit” narrative. She argues that the majority of suburban residents have never themselves actually been residents of central cities; today’s suburbanites were either born in their suburban communities or have migrated from other suburban or rural communities. Suburbs have also replaced central cities as the dominant gateway destinations for immigrant populations (Garnett, 2007). While, the concept of decentralization may still be used to describe patterns of built form (for example, low density land use or outward suburban growth), this argument problematizes its use to describe the actual movements of a city’s individual residents. While the primary intention of Garnett’s argument is to caution against the use of the “suburbs as exit” narrative to justify regional governance and growth management (Garnett, 2007), indirectly, her research adds to the evidence that
contemporary suburbs are not simply bedroom communities, but are behaving more like cities themselves.

Given the increasingly urban-like composition of suburbs and their decreased ties with the historic urban core, the gravitational forces described by land economics might be said to apply, on a smaller scale, throughout the suburban landscape, leading to the development of a constellation of sub-centres. The term “polycentric” has been used to describe the seemingly contradictory patterns of continued decentralization away from urban cores and recentralization in new suburban centres (Soja, 2000; Durham-Jones & Williamson, 2011). Fred Merrill (in Schmitz et al, 2003) argues that, because of continued expansion on the urban fringe, inner suburbs have come to occupy relatively central locations in their regions. Other recent empirical research is confirming more broadly that major Canadian metropolises are increasingly defined by this poli-nucleated urban form. Moos and Mandez (2013) argue that the concept of ‘urban versus suburban’ is no longer sufficient in describing Canadian urban structure, and that a language of nodes, corridors and fields would be more accurate. They state that, “growth occurs simultaneously in the old downtowns, in dispersed areas, and in new centers, creating networks of nodes that provide a stark contrast to unfettered low-density suburban expansion” (Moos & Mandez, 2013, p. 110). Thus the dichotomous processes of decentralization and recentralization, has blurred the lines between “urban” and “suburban” in Canada.

The monocentric model only considers the role of employment; however non-work activities and land uses are now also considered to be major gravitational forces attracting people to urban centres. Glaeser, Kolko and Saiz (2001) argue that city centres are becoming landscapes of consumption, rather than production. Kloosterman and Musterd note the effect this has had on our transportation behaviour: “Commuting from home to work has… lost its monopoly as being
the sole reason for people to take public transport or get in their car. Shopping, taking the children to school and especially leisure have become very important reasons for making a journey” (2001, p. 626). These myriad non-work activities affect our travel decisions, and by extension, our housing location decisions. Sarah Peck (in Schmitz et al, 2003) states that in contemporary society, time is at a premium, and therefore proximity is also of increasing importance; for younger generations, this means not simply proximity to work, but also proximity to nightlife, entertainment and other amenities. Moos (2014) finds that the present generation of young adults is increasingly living in more centralized neighbourhoods, and that this is associated with decreased household size and household income when compared to the previous generation of young adults. Moreover, in the Vancouver region specifically, due to the high cost of housing in the inner city, the pattern is more suburbanized (as compared to Montreal), as young adults concentrate in high density nodes along rapid transit lines (Moos, 2014). Therefore, a variety of uses and activities, in addition to employment, are attracting certain populations to live in more central locations, including the historic inner-city and by extension newer nodes in the suburbs.

The concept of suburban centres has been considered quite broadly thus far. It is necessary to acknowledge that there are a variety of discursive strands that fall under the umbrella of post-modern/post-fordist suburban development, synthesized by Soja (2000) into his catch-all concept of the *Exopolis*. It is important to differentiate because the different iterations of suburban centre development can have divergent planning issues. The *edge city* concept is one which is prominent, especially in the American context. *Edge cities* are generally described as having a heavy office commercial component that is in competition with, and has the potential to threaten the vitality of, the historic CBD (Stanback, 1991; Hayden, 2003). They are generally auto-
oriented, developing near major highway junctions, and are often derided from an urban design standpoint. Describing Tyson’s Corner, a major edge city in Virginia, Dolores Hayden has this to say: “It resembles an older commercial strip with all of the buildings exploded in scale, or a model with all the building blocks for both suburb and city thrown on the ground by a two-year-old having a tantrum” (Hayden, 2003, p. 155).

3.4 SUBURBAN MIXED-USE CENTRES

The edge city concept, with its heavy office component, is less prevalent in the Canadian, and specifically the Greater Vancouver context. While acknowledging the continuing process of employment decentralization, Skaburskis and Moos (2008) state that employment remains more centralized than residences in Toronto, Montreal and Vancouver, and only consider airport employment clusters in addition to historic CBDs as significant commuter nodes in their analysis of residential property values. Recent data on leasable office space in the Vancouver region corroborates this assertion, at least in terms of office employment. The CBD continues to dominate the region’s supply with approximately 46% of total office space and 70% of office space located in urban centres (Metro Vancouver, 2013).

The phenomenon that is most applicable to the present research is perhaps best described as the suburban mixed-use centre, to use Filion’s (2001) term. The regional planning vernacular specific to the case study employs the term regional town centre. In addition to concentrations of retail and office commercial, high-density housing is a major component. There is a significant normative planning element to this concept, with strong ties to new urbanist, smart growth and sustainability discourses. Compact development is touted as a means to promote environmental and efficiency objectives, generally, and two specific goals most explicitly: the protection of rural landscapes and ecologically significant lands, and the promotion of
transportation alternatives (Northwest Environmental Watch, 2002, is a good case-specific example of this normative discourse). The success of mixed-use centres is often measured in terms of transportation modal shift towards transit and active transportation (for example Filion, 2001).

High-density redevelopment is touted as a means to combat sprawl, or to repair the damage of previous auto-oriented development. Tachieva (2010) suggests a method termed sector mapping. Sector mapping is essentially a multi-step process of data collection and spatial analysis designed to identify specific locations where sprawl repair (redevelopment) is most feasible and desirable and should be concentrated (Tachieva, 2010). Though not stated explicitly, what Tachieva is advocating is coordinated regional planning as it applies to the development of high-density, mixed-use suburban nodes.

The nature of the development of suburban mixed-use centres is therefore rather complex. Their development may be driven in part by larger economic forces, and also in part by planning intervention. Perhaps it is more accurate to say that development is driven by forces that lead, in a general sense, to the polycentric urban form, and that planners attempt to shape and guide that growth in an effort to achieve certain objectives, namely through urban design elements that promote alternative modes of transportation.

This position is reasonable in light of Filion’s research on suburban centres in the Toronto region (2001). According to Filion, transportation mode shift goals have largely not been met, in spite of a sizable amount of high-density development. He blames the continued dominance of auto-oriented design for preventing the emergence of ‘pedestrian synergies’ (Filion, 2001). In other words, the economic demand driving the development of suburban nodes had been effectual but
the policy apparatus had not been very successful at shaping that growth to achieve the desired outcome (of course it is also possible that the goals were simply too lofty). Filion’s description of the poor design of Toronto’s mixed-use centres is much akin to Hayden’s (2003) description of the poor design of Tyson’s Corner.

3.5 RAIL TRANSIT AND SUBURBAN MIXED-USE CENTRE DEVELOPMENT

As noted above, the neoclassical economists do make predictions regarding the effect of transportation improvements on urban development. In light of the complex, poli-centric urban form of the post-modern city, the models lack the nuance necessary to describe the effects of different types of improvements (ex. highways vs transit) and in different environments (ex. inner-city vs suburb). Muth (1969), for example, asserts that both highways and rapid transit promote decentralization. Moreover, he states that where transit is “technologically more efficient than highways, they will merely be more efficient in encouraging decentralization” (Muth, 1969, p. 328). This seems counterintuitive in an era where transit improvements are often touted as a means to combat sprawl by encouraging compact development near stations.

However, there may still be merit to the argument that rapid transit can encourage decentralization in some cases. Moos’s (2014) discovery that young adults in Vancouver, who would otherwise be concentrating in the inner-city, are clustering near transit stations extending outward from the inner-city, is an example. However, the causal relationship between transit and decentralization is muddied in this case. According to Moos, it is the very high cost of housing in the inner-city which has driven this decentralization; at most, one could argue that the transit lines are permitting or promoting this phenomenon. In any case, the type of housing in which young adults are choosing to locate is still high-density; it is described as a concentration (Moos, 2014). It is also conceivable that the majority of these young adults have actually migrated from
other suburban locations (perhaps from the single-family neighbourhoods of their parents); in this case, at the level of the individual household, the pattern of migration is suburb-to-suburb, as described by Garnett (2007), rather than core-to-suburb. What could be concluded from this example is that the decentralization pattern as described by authors such as Muth (1969) may apply to dense urban environments; rapid-transit lines may allow the high-density urban development patterns of the inner-city to extend outward. Of course, this form of decentralization has nothing to do with sprawl as it is conceived by contemporary urban planning discourse. In fact, it is exactly the type of development that is being touted by smart growth/new urbanist proponents and their allies.

The concept of universal accessibility helps to explain why transit improvements can help to concentrate urban development. It also might help to explain how the predictions of the neoclassical economists are not exactly inaccurate, but simply outdated, as the role of transportation has shifted since the era of the monocentric models. Giuliano (1989) argued that massive highway development and car ownership has created a situation of universal accessibility, and that the link between land use and transportation has weakened because new improvements do not automatically improve accessibility as they may have in the past. That point has been reaffirmed more recently by Handy (2005). While it should be noted that Vancouver has largely avoided the massive highway development that characterises most cities across North America, traveling by automobile is still the fastest and most convenient mode of transportation, especially in the suburbs.

Given the universal accessibility provided by auto-transportation, it is not a forgone conclusion that a new light rail or rapid transit line will encourage high density development around stations. Many authors have concluded that development requires a number of favourable conditions to
occur (for example Knight & Trygg, 1977; Cervero, 1984; Boarnet & Compin, 1999; Handy, 2005; Loukaitou-Sideris, 2010). Handy (2005), in particular, argues that a new transit system must improve on the accessibility afforded by the automobile.

The continued presence of extensive road capacity and convenient parking incentivize auto travel. Chatman (2008) found that increasing density has little effect on travel behaviour unless road levels-of-service and parking capacity are reduced. Therefore, suburban centre development, even high-density development, where it lacks strong planning tools to dis-incentivize auto-travel and design for the pedestrian and the transit rider will lead to the kind of scenario described by Filion (2001); where density is achieved but design is still auto-oriented.

The ability of planners to shape development on a regional scale also affects the characteristics of the suburban centre and its residents. Cervero (1994) found that residents of transit-oriented neighbourhoods are less likely to use the transit service if they have available free parking at their work place. High quality employment is often located elsewhere leading to a trend towards reverse commuting (Cervero, 1994). If residents of mixed-use centres are employed in auto-oriented business parks, for example, then transit modal share will suffer. Encouraging public transit is therefore a regional planning issue in addition to a local planning and urban design issue (Cervero & Radisch, 1996).

For suburban centres to truly become transit-oriented, pedestrian accessibility must be improved at the expense of automobile accessibility. If this condition is met, concentration will occur due to the shift in type of accessibility. Highways improve accessibility via the automobile, and the decreased cost of transportation is spread throughout are large area. Transit improvements increase access for pedestrian-based travel; residents, employers and other activities must
concentrate within walking distance of stations in order to benefit from the improved accessibility. It is in this way that rapid transit lines can help to concentrate growth into high-density nodes.

3.6 EXPECTATIONS

What patterns should we expect to find when examining the development of a suburban centre, such as Surrey City Centre, over time? According to the basic assumptions of the monocentric model, land values should be higher near than center and lowest at the periphery. The Canadian Census does not provide data on land values; however there are a variety of variables which, when considered together, may help to approximate land values.

Higher land values should result in higher housing densities; therefore we should expect to find higher densities near the centre when compared to the periphery of suburban development in Surrey. As is discussed in the following chapter, high density development has been strongly encouraged; therefore, there are no major institutional barriers slowing or preventing this process. Census data on gross unit density and proportions of dwelling types will serve to approximate the true density of residential neighbourhoods.

If there is a considerable increase in value near the centre, it is possible that this will be apparent not only in the number of dwellings per unit of land, but also in the cost per unit of magnitude of housing. This can be approximated by dividing average cost by the average number of rooms per dwelling.

Households who prefer more peripheral locations do so because of the larger quantity of housing consumed (i.e. more land and larger dwelling size). According to the monocentric model wealthier households gravitate towards larger dwellings; therefore incomes should be higher, and
housing should be generally larger and more expensive near the periphery. If dwellings are in fact larger near the periphery, other cohorts might also be inclined to settle there, for example larger households, and families with a greater number of children. Conversely, household size and dwelling size should be smaller near the centre. There should also be a larger number of young adults living near the centre, a phenomenon which has already been noted by Moos (2014) for the whole of the Vancouver region.

Since shifting transportation mode share away from automobile use is a major planning objective, the change in transit use near the centre gives an indicator of the relative effectiveness of planning apparatus to guide development. It has been acknowledged that the relationship between built form and transportation is not necessarily straightforward; however it is beyond the scope of this research to tackle this issue in detail beyond the brief review presented in this chapter. It is assumed, then, that some link exists, however complex, between high-density development in regional town centres and transit use.

Finally, as the rural-urban fringe extends outward and as the mixed-use centre becomes more prominent over time, it is expected that observed differences between centre and periphery will grow over the study period.

These expectations are addressed specifically in Chapters 5 and 6. The following chapter will introduce the case study, Surrey City Centre, including its significance in local and regional planning documents, as well as public investments, such as major transportation improvements, that had occurred over the study period.
4 CASE STUDY

4.1 OVERVIEW

How do the concepts discussed in the academic literature relate to the real-world experience in suburban Vancouver? This chapter profiles the case of Surrey’s regional town centre. The official name of the district has changed over time, from Whalley-Guildford Town Centre, to Surrey City Centre and most recently, Surrey Metro Centre and Surrey’s Downtown, reflecting shifts in marketing strategy. In this chapter, it will be referred to simply as Surrey City Centre or the City Centre, referring in general terms, to the regional town centre as it has been conceived in local and regional plans over time.

Figure 4.1 shows the study area (consisting primarily of the City of Surrey) and the borders of Surrey City Centre in its regional context. Surrey is an outer suburb in metropolitan Vancouver. Given this location on the periphery, Surrey has experienced a tremendous amount of new, green-field development, at the same time that the City and the Regional District have attempted to concentrate growth near the City Centre. For this reason, Surrey is an appropriate case for studying the duel processes of decentralization and re-centralization that characterize the polycentric metropolis. Surrey City Centre is also served by rail rapid transit; therefore it is also relevant to the transportation literature.

The following section provides a brief history of the regional and local planning context since the mid-1970s. The chapter ends with a brief assessment of the “on-the-ground” results, what has been accomplished thus far as it relates to the City Centre’s role as a sub-regional node.

The census data analysis in Chapter 5 refers to the Centre which is defined differently (See Chapter 5).
Figure 4.1: Study Area Context including Rapid Transit Network as of 2006

Satellite Imagery source: Google Earth

4.2 PLANNING CONTEXT

4.2.1 Regional Planning and Rapid Transit: 1975 to 1986

The concept of regional town centres originates from the 1970’s with a planning document titled *The Livable Region 1976/1986* (GVRD, 1975). The document identified two existing suburban centres, Metrotown in Burnaby and Downtown New Westminster, and two emerging centres, one in Surrey and one in the Coquitlam area in the north-east (GVRD, 1975) (see Figure 4.2). *The Livable Region 1976/1986* also called for a hierarchy of smaller municipal and neighbourhood centres but did not explicitly identify the locations of these centres, leaving that work to local planning departments (GVRD, 1975). The document was not a plan in the
conventional regulatory sense but its principles were eventually incorporated into an update to the *Official Regional Plan* in 1980 (CFVRD et al., 1980; Taylor & Burchfield, 2010).

Figure 4.2: *Livable Region 1976/1986, Proposed Regional Town Centres and Transit Network.*

Unlike its contemporary counterparts, *The Livable Region 1976/1986* and the updated *Official Regional Plan* contained very few specifics regarding housing density, particularly the role of high-density housing in the regional town centres. The purpose of the document was to propose strategies for managing growth by mitigating its perceived negative effects. The authors were concerned about the increasing distance which residents needed to travel from their homes in the periphery to jobs and services in the metropolitan core. The regional town centres concept was devised as a means to redistribute offices, shopping, cultural and civic facilities, and other
amenities to decrease travel distances from emerging residential areas. *The Livable Region 1976/1986* briefly mentions the need for additional housing near the centres to help sustain their commercial viability (GVRD, 1975). Additionally, the concept of *compact housing* was employed to express the need to develop vacant land more efficiently to reduce pressure on farmland and environmentally sensitive areas, as well as to make more efficient use of public utilities and services (GVRD, 1975). To its credit, the *Official Regional Plan* did expand the discussion of housing density by stating explicitly that high-density housing was to be an integral part of the town centres concept (CFVRD et al, 1980).

The 1975 plan also proposed that the regional town centres be connected by rapid transit service. It is important to note that this was not the first time the concept of a poli-nucleated Vancouver region had been proposed. An earlier version of the *Official Regional Plan* proposed that development be dispersed into “a series of compact regional towns, each with its own business and civic center” (cited in GVRD, 1975, p. 21). This development pattern was referred to as *cities in a sea of green* (CFVRD et al, 1980). However, these towns were to be connected by freeways, not transit (CFVRD et al, 1980; Taylor & Burchfield, 2010). Significant political resistance to freeway projects during the late 1960’s provided the major impetus to shift transportation policy towards a more transit-oriented vision (Oberlander & Smith, 1993). *The Livable Region 1976/1986* proposed that the centres be transit- and pedestrian-oriented: “Activities and facilities should be within comfortable walking distance of one another along a pleasant and interesting street level environment. Providing good public transit service and reduced space devoted to the automobile are ways to accomplish this” (GVRD, 1975).

Despite these early efforts, the first decade of the study period was characterized by virtually non-existent regional planning. In 1983, the provincial government effectively abolished the
planning function of the regional districts and cancelled the official regional plans (Harcourt et al, 2007). According to Harcourt et al (2007), the principles of the _Livable Region_ plan were still influential; however, without regulatory authority their effectiveness overtime was likely not sustainable.

_The GVRD had kept the embers of planning alive by means of a voluntary contract with the fifteen member municipalities to deliver ‘development services’, the advisory, knowledge-based component. Although the 1976 Livable Region proposals lived on in the hearts and minds of many, the contractual arrangement with the municipalities was inherently unstable, and the GVRD’s planning capability was dying a slow death_ (Harcourt et al, 2007, p. 113).

Ironically, the transit portion of the plan was not halted by the absence of statutory regional planning. The Expo Line, first phase of the Skytrain rapid transit network was constructed under strong provincial direction (Oberlander & Smith, 1993), and opened in 1986. With the extension into Surrey opening a few years later (Translink, 2013), three of the four town centres identified by _The Livable Region 1976/1986_ had been connected to the CBD via rapid transit, leading Oberlander and Smith to comment that a part of the plan had been implemented “if not by explicit design, at least by benign default” (1993, p. 340).

### 4.2.2 The Agricultural Land Reserve (ALR)

Though not a policy explicitly related to regional town centres, the establishment of the Agricultural Land Commission (ALC) in the mid-1970s, has had a significant impact on urban development patterns. The Reserve currently covers approximately 4.7 million hectares of agricultural land across the province (ALC, n.d.); in the Lower Mainland (Vancouver region), it
has operated as a de facto urban containment boundary by protecting approximately half of the developable land in the region (Harcourt et al, 2007). Most of the prime agricultural soils in BC are located near the fastest growing urban communities, especially Greater Vancouver; the ALC was established in reaction to what was perceived as an alarming rate of conversion of these lands (Harcourt et al, 2007). The Commission is a provincial entity, comprising appointed commissioners, with authority to restrict land uses within the Reserve, meaning that the conversion of prime agricultural land on the rural-urban fringe had effectively been taken out of the hands of local governments.

It has been argued that the ALC and the Reserve is the primary reason why the region has experienced success in curbing sprawl and increasing housing densities, relative to other Canadian cities (Smith & Haid, 2004). Aside from the long term protection of local food production, the ALR directly affects urban structure. As Harcourt et al state, “There are other advantages the ALR brings inside the city limits. Containing a city’s edges reduces infrastructure costs and encourages denser town centres, which can support such services as public transit” (Harcourt et al 2007). The simple economic explanation for this phenomenon is that an artificially restricted supply of developable land has the effect of raising the value of that land, which in turn leads to higher densities. As is discussed in the following chapter, this effect is apparent in the census data in terms of both housing value and density.

### 4.2.3 The Next Generation of Regional Planning: 1990’s

Regional planning started to be revived in the late 1980’s with the Choosing Our Future public consultation process which culminated in the 1990 document, Creating Our Future (Harcourt et al, 2007). Creating Our Future expressed continued support for the town centres concept
Though the development of the town centres was considered to be moderately successful so far, Downtown Vancouver was still by far the dominant commercial centre; the call to redistribute commercial and cultural services to the town centres was renewed (GVRD, 1990).

The Choosing Our Future/Creating Our Future efforts lead to the adoption of the Livable Region Strategic Plan in 1996. The Plan’s town centres concept expanded significantly on the first generation. The number of regional town centres was doubled from four to eight and a number of smaller lower-tier municipal town centres were now identified explicitly in the plan (GVRD, 1996) (see Figure 4.3).

The Livable Region Strategic Plan outlined four fundamental strategies: Protect the Green Zone, Build Complete Communities, Achieve a Compact Metropolitan Region and Increase Transportation Choice (GVRD, 1996). When considered together, these four strategies perfectly exemplify the new urbanism/smart growth/sustainability discourse of curbing sprawl for the primary purposes of protecting green space and shifting travel behaviour.

Statutory regional planning was re-established in 1995 with the Growth Strategies Act, by providing regional districts with the authority to create Regional Growth Strategies (Hodge & Robinson, 2001). The Livable Region Strategic Plan was adopted as the GVRD’s Regional Growth Strategy. Each member municipality is required to include a regional context statement in their Official Community Plan (OCP), which describes how the plan supports the regional growth strategy and/or how the plan will evolve to provide greater consistency (GVRD, 1996). This is the primary means by which the regional district ensures compliance, or at least cooperation, from member municipalities.
Figure 4.3: Livable Region Strategic Plan Town Centres and Transit Network

Source: GVRD, 1996.

4.2.4 Municipal Planning

In 1991, the City of Surrey adopted the Surrey City Centre Plan (City of Surrey, 1991). This was an update to a previous plan from 1977 and addressed, among other things, two major concerns. The first was the imminent arrival of Skytrain. Knowing the locations of the three stations in the regional town centre area permitted the city to undergo detailed land use planning near those stations. The second major issue was that previous plans had designated far too large an area as the regional town centre. Local and regional plans up to this point had referred to the Whalley-Guildford regional town centre, which included not only the currently-identified district
but also Guildford Town Centre, located approximately three kilometres to the east, as well as a corridor connecting the two centres (City of Surrey, 1991). This area was deemed to be far too large for the type of concentrated development necessary to create a functional, self-sufficient city centre. The city needed to choose either Whalley or Guildford as the preeminent regional town centre, relegating the other to the designation of municipal town centre. This choice was made easy by the arrival of Skytrain to Whalley (City of Surrey, 1991).

The 1991 plan indicated a clear desire to transform the built form from the existing auto-oriented form to a transit- and pedestrian-oriented form. As demonstrated by Figure 4.4, the plan included, among other things, mixed-use high-density nodes clustered around each of the Skytrain stations; a north-south pedestrian spine connecting theses nodes, high-density residential flanking the main commercial corridor and a finer grid network of streets (City of Surrey, 1991).

The concept of poli-nucleation in planning documents is apparent at the municipal level as well as the regional level. In addition to the City Centre, the city’s 1996 OCP identified a complete hierarchy of nodes including five municipal town centres (labelled as Town Centres in the OCP) (City of Surrey, 1996). Figure 4.5 shows the geographic distribution of these nodes. This represents a significant expansion and refinement to what was identified in the LRSP (as shown in Figure 4.3), demonstrating how the town centres concept has been filtered down to the sub-regional level. Importantly, the rapid transit line terminates at Surrey City Centre, meaning all of Surrey’s sub-centres are only connected by conventional bus service. This is a significant limitation to the goal of a truly transit-oriented built form.
Figure 4.4: Surrey City Centre Plan Development Concept, 1991

Source: City of Surrey, 1991.
Figure 4.5: Surrey *Official Community Plan* Network of Centres

Source: City of Surrey, 1996.
4.2.5 Plan Updates Since 2006

Since the end of the study period, plans have been updated at both the regional and local levels. In 2011, the regional district adopted a new regional growth strategy titled, *Metro Vancouver 2040: Shaping Our Future* (Metro Vancouver, 2011). The new plan maintains the overarching vision from previous plans; the four goals from the *Livable Region Strategic Plan* remain essentially the same. However the new plan also includes more explicit language about promoting economic development, and a fifth goal was added to that effect (Metro Vancouver, 2011). Previous local and regional plans had alluded to the idea of Surrey’s town centre acting as the region’s second downtown, or as a downtown for the entire sub-region south of the Fraser River. However this “second downtown” designation was finally made explicit at the regional level in *Shaping Our Future*. Figure 4.6 shows the latest iteration of the regional town centres map; Surrey City Centre has been elevated above its fellow town centres with the new distinction of *Surrey Metro Centre*.

Significant attention has been paid to the City Centre area by various levels of government. In 2007, the *Surrey Central Transit Village Plan* was prepared for the City, the GVRD, Translink (the regional transportation authority) and Transport Canada which provided a detailed urban design and transportation plan for the area immediately surrounding the Surrey Central Skytrain station (the major transportation hub). This represented an effort to move beyond basic land use planning for the whole area, to provide focused design guidelines meant to spur development at the central node (HBBHAU et al, 2007). The City is currently in the process of updating both the *City Centre Plan* and the OCP (City of Surrey, 2014a; City of Surrey, 2014b). Translink is currently studying options for expanding rapid transit further into Surrey. The plan would
connect all of Surrey’s municipal town centres to the rapid transit network; however, this project is still in the early planning stages and funding has yet to be secured (Translink, 2014).

Figure 4.6: Shaping Our Future Town Centre and Transit Network

![Map of regional town centres and transit network]

Source: Metro Vancouver, 2011.

4.3 THE STORY SO FAR: HAVE PLANNING EFFORTS BEEN SUCCESSFUL?

4.3.1 Employment

Employment is a key component of CBDs; however, recent data on commercial space and employment indicate that Surrey City Centre has not been successful as yet in positioning itself as the region’s second CBD. As of 2011, Surrey Centre contained approximately 1.8 million square feet of office space; this represents 4% of office space located in all of the urban centres
(including the Vancouver CBD), and only 2% of the region’s total supply (Metro Vancouver, 2013). Most office space (70%) that is located in the urban centres is still concentrated in Downtown Vancouver; furthermore, among the regional town centres, Surrey City Centre lags behind Burnaby’s Metrotown, with 2.5 million square feet, and Richmond City Centre, with 1.9 million square feet (Metro Vancouver, 2013). As of 2011, Surrey City Centre contained a relatively large amount of retail space, with 4.3 million square feet (Metro Vancouver, 2014), which includes a major regional shopping centre. By comparison, Metrotown which is home to the largest shopping centre in the province had a total of approximately 2.9 million square feet; though Richmond City Centre contained more retail space with 4.8 million square feet. Surrey City Centre has also lagged in terms of employment and employment density. Out of a total of eight regional town centres plus the CBD, Surrey City Centre (labelled as Surrey Metro Centre) ranked fifth in total employment and third last in employment density, in 2006 (see Table 4.1). The notion that Surrey City Centre is the emerging second downtown for the region does not describe the experience so far, at least in terms of employment, and therefore remains a dream for the future.

Table 4.1: Employment Totals and Density in Regional Town Centres, 2006

<table>
<thead>
<tr>
<th>Centre</th>
<th>Jobs</th>
<th>Jobs/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver Metro Core</td>
<td>246,000</td>
<td>60.0</td>
</tr>
<tr>
<td>Richmond City Centre</td>
<td>28,320</td>
<td>13.3</td>
</tr>
<tr>
<td>Langley City Centre</td>
<td>21,195</td>
<td>13.7</td>
</tr>
<tr>
<td>Metrotown City Centre</td>
<td>18,065</td>
<td>23.8</td>
</tr>
<tr>
<td><strong>Surrey Metro Centre</strong></td>
<td><strong>15,080</strong></td>
<td><strong>10.5</strong></td>
</tr>
<tr>
<td>Lonsdale City Centre</td>
<td>12,730</td>
<td>18.2</td>
</tr>
<tr>
<td>Coquitlam City Centre</td>
<td>10,300</td>
<td>5.7</td>
</tr>
<tr>
<td>Maple Ridge City Centre</td>
<td>5,245</td>
<td>7.2</td>
</tr>
<tr>
<td>New Westminster Centre</td>
<td>4,995</td>
<td>19.1</td>
</tr>
</tbody>
</table>

Source: Metro Vancouver, 2014
4.3.2 Qualitative Assessment of Built Form

Despite the introduction of rapid transit, the general pattern of land use in Surrey City Centre has remained predominantly auto-oriented. The spine of the commercial corridor is a wide, suburban-style arterial with infrequent crossings. Low density retail buildings with ample surface parking dominate the landscape. Little noticeable change occurred in the years following the opening of the Skytrain in the early 1990s, as illustrated by Figure 4.7. Isolated high-density residential developments have done little thus far to change the overall atmosphere of the area, as illustrated by Figure 4.8. Since 2001, most residential development has been located on parcels flanking the commercial corridor, away from the nodes (City of Surrey, 2006a), and has therefore not contributed to altering this sprawling land use pattern. While it is beyond the scope of this report to provide a detailed urban design analysis, it is not difficult to argue that Surrey City Centre’s built form is comparable to the centres examined by Filion (2001) which lacked pedestrian-oriented design.

Figure 4.7: Aerial Photography Comparing Land Uses from 1991 to 2001.

Source: Metro Vancouver, 2014
4.3.3 Challenges and Opportunities

As discussed in the previous chapter, there are a variety of uses and activities, in addition to employment, that may be included as part of an urban centre and contribute to the centre’s gravitational effect on the surrounding community. For Surrey City Centre, it is clear that employment is not yet a major factor that would compel residents to locate in proximity. Nor has the district developed the type of urban aesthetic appeal that might attract an influx of new residents, particularly those seeking an urban-style living environment. Retail uses likely do play some role; however, these uses are primarily auto-oriented, and auto accessibility does not necessarily equate with physical proximity. In addition, shops and services are not unique to
Surrey Centre; a rival shopping centre is located in Guildford Town Centre, approximately 3 km to the east, and a variety of other retail districts are scattered throughout the city.

In recent years, there has been heavy investment from the public sector to help create a hub for civic and cultural uses, and educational and health services (Metro Vancouver, 2014). Much of this investment has occurred post-2006; however, one of the largest of these investments, a 350,000 square foot university satellite campus was opened in 2002 (SFU, n.d.), meaning this regional magnet was in place by the time of the 2006 census.

This public sector investment has also been motivated by a desire to revitalize and reimage the City Centre/Whalley neighbourhood. Crime and the fear of crime have been associated with Surrey in general, and especially the Whalley neighbourhood, for years. Though the City has been active in attempting to ameliorate the situation, through programs such as the Crime Reduction Strategy (City of Surrey, 2006b), this stigma has been difficult to shake. A recent poll found that crime is still the most important concern for Surrey residents; 51% of respondents identified crime as the most important issue, as compared to only 3% in the City of Vancouver (Insights West, 2014). Recent crime stats show that Whalley’s reputation is more than mere perception. In 2013, one-third of the City’s 24 homicides, as well as one-third of all violent crimes, were concentrated in the relatively small Whalley/City Centre district (Surrey RCMP, 2014). This district experienced 176.8 crimes per 1000 residents, compared to 92.3 for the whole city (Surrey RCMP, 2014). While it is beyond the scope of this report to examine social issues in depth, it is worth noting that the persistent stigma attached to the Whalley/City Centre neighbourhood is a significant impediment to development.

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2 Includes all crime categories including drug-related crimes.
In contrast, access to rapid transit, and by logical extension, access to employment, services and amenities in Vancouver’s CBD, is perhaps the most important locational advantage. Travel times to the inner city and CBD on Skytrain can rival auto trips for commuters who live near stations, even without factoring in road congestion. The Skytrain is therefore likely the most prevalent positive element that might cause residents to gravitate towards the City Centre. Ironically, transit stations are often the focal points of crime-related stigmas in the eyes of the public, and surrey’s Skytrain stations are no exception. Efforts to funnel public and private investment to areas near stations could potentially serve the dual purpose of concentrating residents near transit to increase ridership and mode share on the one hand, and revitalizing the neighbourhood, making it a more attractive place to live, on the other hand. Improving the neighbourhood’s image could do much in regards to making City Centre development a self-sustaining process; the transit nodes are therefore an appropriate starting point.

Therefore, the evidence of Surrey City Centre’s role as a gravitational node is mixed; clearly, some elements have yet to materialize, while some others have begun to materialize, offering hope for future decades. The following chapter analyzes changes in population, household and dwelling characteristics over a 25 year period using census data, in order to better understand what changes have in fact occurred but are not be readily apparent from this assessment.
5 CENSUS DATA ANALYSIS

5.1 OVERVIEW

This section presents the findings of the census tract data analysis. The first part of the chapter examines changes from 1981 to 2006. The study area for this section consists of 33 tracts, as defined by the 1981 Census, an area which includes the whole of the City of Surrey plus the communities of White Rock and North Delta (the study area is simply referred to as Surrey in this chapter). As outlined in Chapter 2, tracts were divided into three zones forming rough concentric rings around the central node: the Centre, Inner Ring and Outer Ring zones (see Figure 5.1). The second section re-examines key variables according to the 2006 tract boundaries (92 census tracts). The variables are plotted against distance to the central node near the Surrey Central transit exchange. This analysis provides greater detail of urban structure as it existed in 2006.

5.2 DATA ANALYSIS, 1981 TO 2006

Table 5.1: Area and Population Change

<table>
<thead>
<tr>
<th></th>
<th>Surrey</th>
<th>Centre</th>
<th>Inner Ring</th>
<th>Outer Ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area in Square Kilometres</td>
<td>344</td>
<td>12.31</td>
<td>65.98</td>
<td>265.71</td>
</tr>
<tr>
<td>Total Population</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>203,200</td>
<td>24,720</td>
<td>70,390</td>
<td>108,090</td>
</tr>
<tr>
<td>2006</td>
<td>465,463</td>
<td>35,397</td>
<td>177,059</td>
<td>253,007</td>
</tr>
<tr>
<td>Change</td>
<td>262,263</td>
<td>10,677</td>
<td>106,669</td>
<td>144,917</td>
</tr>
<tr>
<td>% Change</td>
<td>129%</td>
<td>43%</td>
<td>152%</td>
<td>134%</td>
</tr>
</tbody>
</table>

From 1981 to 2006, the population of Surrey more than doubled from 203,200 to 465,463. Growth was faster in the Inner and Outer Rings than in the Centre, as indicated in Table 5.1. This is not surprising since Surrey is an outer suburb on the rural-urban fringe of Greater
Vancouver; the area has experienced extensive green-field development. However, the *Centre* has also experienced significant growth, an additional ten thousand residents clustered in the *Centre*, a 43% increase, suggesting that growth on the edge has not happened directly at the expense of older, central neighbourhoods.

**Figure 5.1: Tracts in the Centre, Inner Ring and Outer Ring**
5.2.1 Dwelling Density and Type

Table 5.2 shows figures for dwelling density and dwelling type proportions. The change in units per hectare offers a basic measure of the increased demand for housing per unit of land, and therefore indirectly, a rough estimate of increased land values. However, the variable includes all lands in each tract and can only approximate the density of residential land. The dwelling type variable provides additional insight into the intensity of the use of residential land. In general, the two measures of density, gross units per hectare and dwelling type proportions, demonstrate the juxtaposing patterns of continued decentralization at the suburban fringe and recentralization near the town centre. The Centre was the densest of the three zones, both at the beginning and the end of the study period, adding an average of 3.8 units per hectare. However, the data does not show a significant spike in density in the Centre, instead the difference between the Centre and the Inner Ring narrowed considerably. In fact, gross density grew the fastest in the Inner Ring, both in rate and in absolute terms. On average, approximately 5 units were added per hectare over the study period, approximately more than double the average for all of Surrey. This data reflects significant suburbanization in the Inner Ring. As the rural urban fringe extended outward over the course of the study period, tracts in the Inner Ring, which likely were sparsely developed in 1981, were being filled in, such that they are now mostly developed.

The data on dwelling type proportions also suggest a significant increase in density throughout Surrey. The proportion of single-detached dwellings decreased significantly in all three zones. Though this proportion was still highest in the Outer Ring, as would be expected, there was still a significant decrease from 77% to 55%. This suggests that constraints on growth are strong enough that they have changed the shape and type of new residential development on the
periphery. Development on green-field sites is no longer predominantly made up of single family dwellings.

Table 5.2: Dwelling Density and Type

<table>
<thead>
<tr>
<th></th>
<th>Surrey</th>
<th>Centre</th>
<th>Inner Ring</th>
<th>Outer Ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total occupied dwelling units</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>68,370</td>
<td>8,765</td>
<td>23,160</td>
<td>36,445</td>
</tr>
<tr>
<td>2006</td>
<td>156,965</td>
<td>13,470</td>
<td>56,330</td>
<td>87,165</td>
</tr>
<tr>
<td>Change</td>
<td>88,595</td>
<td>4,705</td>
<td>33,170</td>
<td>50,720</td>
</tr>
<tr>
<td>% Change</td>
<td>1.30</td>
<td>0.54</td>
<td>1.43</td>
<td>1.39</td>
</tr>
<tr>
<td>Dwelling unit density (units per hectare)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>1.99</td>
<td>7.12</td>
<td>3.51</td>
<td>1.37</td>
</tr>
<tr>
<td>2006</td>
<td>4.56</td>
<td>10.93</td>
<td>8.53</td>
<td>3.28</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>2.29</td>
<td>1.54</td>
<td>2.43</td>
<td>2.39</td>
</tr>
<tr>
<td>Change</td>
<td>2.57</td>
<td>3.81</td>
<td>5.02</td>
<td>1.91</td>
</tr>
<tr>
<td>Proportion of apartments with five or more floors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.02</td>
<td>0.08</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>2006</td>
<td>0.02</td>
<td>0.12</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.20</td>
<td>1.54</td>
<td>2.38</td>
<td>0.95</td>
</tr>
<tr>
<td>Proportion of single-detached dwellings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.73</td>
<td>0.63</td>
<td>0.70</td>
<td>0.77</td>
</tr>
<tr>
<td>2006</td>
<td>0.45</td>
<td>0.30</td>
<td>0.33</td>
<td>0.55</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>0.61</td>
<td>0.48</td>
<td>0.47</td>
<td>0.71</td>
</tr>
<tr>
<td>Proportion of other dwelling types</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.22</td>
<td>0.28</td>
<td>0.24</td>
<td>0.19</td>
</tr>
<tr>
<td>2006</td>
<td>0.52</td>
<td>0.57</td>
<td>0.63</td>
<td>0.44</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>2.37</td>
<td>2.04</td>
<td>2.58</td>
<td>2.34</td>
</tr>
</tbody>
</table>

Note: Table does not show proportion of mobile dwellings, totals of dwelling type proportions do not add up to 1.

By 2006, there was virtually no difference between the proportions of single-detached dwellings in the Centre and Inner Ring; additionally, in both zones, single-detached units declined in relative terms, from representing the majority of units, to representing approximately only one-third. The proportion of single-detached units in the Centre is partially explained by the fact that the four tracts are relatively large and include a number of single family neighbourhoods
adjacent to the City Centre proper. Additionally, the Centre had the only significant proportion of high-rise dwellings in 1981 (8%) and the only significant increase (approximately 50%) in this category; by 2006, 12% of households lived in apartments with five or more floors.

Since high-rises continue to account for a minority of units, Surrey’s density increase is mostly attributable to an increase in the “other” category, which includes a wide variety of dwelling types from semi-detached houses to low-rise apartments. These dwelling types are typically associated with medium density built form.

5.2.2 Size and Cost of Dwellings

In general, the housing value and cost data, shown in Table 5.3, suggest that housing is larger and more expensive moving toward the periphery and that this differentiation has grown over the study period. The average value of owner occupied dwellings was lowest in the Centre and highest in the Outer Ring, and the Outer Ring experienced the largest increase in these values. Housing payments show the same geographic pattern, though they did not increase significantly. In fact, tenant rent actually decreased, and owner’s payments did not grow nearly as fast as did owner-occupied housing values.

Dwellings were larger on average and increased in size faster near the periphery. The average number of rooms (an approximation of dwelling unit size) is lowest in the Centre and highest in the Outer Ring. Furthermore, this figure rose the fastest in the Outer Ring over the course of the study period, so the difference widened. This difference in size of units appears to be the predominant factor in housing cost. The small variation in average payments per average number of rooms indicates that households all over Surrey are generally paying the same amount per unit of size of dwellings. It was expected that a dramatic spike in density would be coupled
with higher standardized housing cost in the *Centre*. Neither phenomenon was observed. In fact, this standardized cost was slightly higher in the other two zones in 1981; the *Centre* did gain ground slightly but only to the effect of reducing the variation between zones. In summary, households on the periphery are paying higher prices, but they are also consuming larger dwellings, at a factor which appears to be nearly proportional.

**Table 5.3: Housing Tenure, Cost and Value**

<table>
<thead>
<tr>
<th></th>
<th>Surrey</th>
<th>Centre</th>
<th>Inner Ring</th>
<th>Outer Ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of owner-occupied dwellings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.73</td>
<td>0.61</td>
<td>0.71</td>
<td>0.77</td>
</tr>
<tr>
<td>2006</td>
<td>0.75</td>
<td>0.58</td>
<td>0.71</td>
<td>0.81</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.04</td>
<td>0.95</td>
<td>1.00</td>
<td>1.05</td>
</tr>
<tr>
<td>Average value of owner-occupied dwelling ($2006)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>$313,050</td>
<td>$265,291</td>
<td>$271,895</td>
<td>$346,377</td>
</tr>
<tr>
<td>2006</td>
<td>$446,243</td>
<td>$321,720</td>
<td>$374,130</td>
<td>$501,132</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.43</td>
<td>1.21</td>
<td>1.38</td>
<td>1.45</td>
</tr>
<tr>
<td>Average owner's major payments ($2006)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>$1,104</td>
<td>$954</td>
<td>$1,101</td>
<td>$1,134</td>
</tr>
<tr>
<td>2006</td>
<td>$1,270</td>
<td>$1,091</td>
<td>$1,259</td>
<td>$1,296</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.15</td>
<td>1.14</td>
<td>1.14</td>
<td>1.14</td>
</tr>
<tr>
<td>Average tenant rent ($2006)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>$959</td>
<td>$882</td>
<td>$958</td>
<td>$991</td>
</tr>
<tr>
<td>2006</td>
<td>$819</td>
<td>$769</td>
<td>$758</td>
<td>$896</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>0.85</td>
<td>0.87</td>
<td>0.79</td>
<td>0.90</td>
</tr>
<tr>
<td>Average combined housing payments ($2006)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>$1,064</td>
<td>$926</td>
<td>$1,060</td>
<td>$1,101</td>
</tr>
<tr>
<td>2006</td>
<td>$1,160</td>
<td>$955</td>
<td>$1,115</td>
<td>$1,220</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.09</td>
<td>1.03</td>
<td>1.05</td>
<td>1.11</td>
</tr>
<tr>
<td>Average number of rooms per dwelling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>6.10</td>
<td>5.54</td>
<td>6.01</td>
<td>6.29</td>
</tr>
<tr>
<td>2006</td>
<td>6.84</td>
<td>5.64</td>
<td>6.45</td>
<td>7.28</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.12</td>
<td>1.02</td>
<td>1.07</td>
<td>1.16</td>
</tr>
<tr>
<td>Average combined payments per average number of rooms ($2006)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>$175</td>
<td>$167</td>
<td>$178</td>
<td>$175</td>
</tr>
<tr>
<td>2006</td>
<td>$171</td>
<td>$170</td>
<td>$174</td>
<td>$169</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>0.97</td>
<td>1.02</td>
<td>0.98</td>
<td>0.96</td>
</tr>
</tbody>
</table>
5.2.3 Property Value Density

The increases in property value density for each zone are shown in Figure 5.2. Total value of dwellings per hectare represents a combined figure for owned and rented dwellings, providing an estimate of the average value of all existing dwellings per hectare. The value of rented dwellings was estimated by multiplying annual gross rent (tenant rent × 12) by a capitalization factor of 20. In general, value per hectare was highest in the Centre and lowest in the Outer Ring, however the difference between the Centre and the Inner Ring had nearly disappeared by 2006. Furthermore, the Outer Ring contains vast areas of agricultural lands. Were these lands removed from the equation, it is reasonable to assume that value density in the Outer Ring would be much closer to that of the other two zones.

Figure 5.2: Property Value Density

It is important to note that in addition to value density being the highest in the Centre, it is reasonable to infer that difference in land values between the Centre and the Inner Ring is still
larger, since dwellings in the Centre are of older and smaller stock. Even with this taken into account, the narrowing of the gap between the Centre and the Inner Ring still tells a more compelling story. This data presents strong evidence of a lack of economic demand for high density redevelopment of property in the regional town centre over the study period.

5.2.4 Income

Data on household and personal income, shown in Table 5.4, match the geographic pattern of housing cost and value. Both household and personal incomes are lowest in the Centre and highest in the Outer Ring, and these differences grew from 1981 to 2006. Adjusting incomes from the 1981 census to account for inflation shows that incomes stagnated or decreased in most circumstances. There was a slight increase in average household income for all of Surrey, and this is accounted for by the increase in the Outer Ring, the only income category showing an increase in Table 5.4. Average personal incomes decreased significantly in the Centre and Inner Ring, but remained the same in the Outer Ring. These results are not surprising considering the variation in housing cost and value shown in Table 5.3. Essentially, more expensive housing on the periphery is occupied by wealthier households, as would be expected.

Table 5.4: Household and Personal Income

<table>
<thead>
<tr>
<th></th>
<th>Surrey</th>
<th>Centre</th>
<th>Inner Ring</th>
<th>Outer Ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average household income ($2005)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>$67,562</td>
<td>$57,864</td>
<td>$65,518</td>
<td>$71,192</td>
</tr>
<tr>
<td>2006</td>
<td>$73,938</td>
<td>$51,516</td>
<td>$65,037</td>
<td>$83,159</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.09</td>
<td>0.89</td>
<td>0.99</td>
<td>1.17</td>
</tr>
<tr>
<td>Average personal income ($2005)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>$35,982</td>
<td>$31,407</td>
<td>$35,042</td>
<td>$37,630</td>
</tr>
<tr>
<td>2006</td>
<td>$33,230</td>
<td>$26,120</td>
<td>$28,064</td>
<td>$37,767</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>0.92</td>
<td>0.83</td>
<td>0.80</td>
<td>1.00</td>
</tr>
</tbody>
</table>
5.2.5 Household Size, and Age of Population

The average household size and average number of children variables, shown in Table 5.5, indicate that, in general, households are smallest, and families have the fewest number of children, in the Centre; although families in the Outer Ring had fewer children by 2006. Unlike other variables discussed above, neither of these variables follows the same gradation from center to periphery; both household size and number of children are highest in the Inner Ring and lower in the Outer Ring. Moreover, the difference between the Inner and Outer Rings widened from 1981 to 2006, indicating that larger households and families with children (or at least a greater number of children) have been increasingly gravitating towards this intermediate zone.

The phenomenon might be partially explained by the age profiles of the three zones. In 2006, the proportion of adults aged 50 and older are, the two categories in Table 5.6 which most closely represent empty nesters and retirees, was highest in the Outer Ring at 33%, versus 29% for the Centre and 27% for the Inner Ring. Inversely, the proportion of adults aged 20 to 49, representing those most likely cohorts to have children at home was 45% in the Inner Ring compared to 41% in the Outer Ring. The proportion of the population aged 0 to 19 was slightly higher in the Inner Ring (28%) than in the Outer Ring. Together with the average number of children variable, this data suggests that more young families are gravitating towards the Inner Ring, while the Outer Ring is attracting an older empty-nester/retirement crowd. In spite of this assertion, the proportion of the population aged 65-plus, the retirement-age category, actually grew the fastest in the Inner Ring (ratio of 1.60). The societal trend towards an aging population has affected all areas of Surrey; therefore it is not surprising that the Inner Ring is accommodating both young families and older adults.
Table 5.5: Household Size and Population Age

<table>
<thead>
<tr>
<th></th>
<th>Surrey</th>
<th>Centre</th>
<th>Inner Ring</th>
<th>Outer Ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>203,200</td>
<td>24,720</td>
<td>70,390</td>
<td>108,090</td>
</tr>
<tr>
<td>2006</td>
<td>465,463</td>
<td>35,397</td>
<td>177,059</td>
<td>253,007</td>
</tr>
<tr>
<td>Change</td>
<td>262,263</td>
<td>10,677</td>
<td>106,669</td>
<td>144,917</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>2.29</td>
<td>1.43</td>
<td>2.52</td>
<td>2.34</td>
</tr>
<tr>
<td>Average household size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>2.94</td>
<td>2.76</td>
<td>3.02</td>
<td>2.93</td>
</tr>
<tr>
<td>2006</td>
<td>2.92</td>
<td>2.57</td>
<td>3.13</td>
<td>2.88</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>0.99</td>
<td>0.93</td>
<td>1.04</td>
<td>0.98</td>
</tr>
<tr>
<td>Average number of children per census family</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>1.31</td>
<td>1.22</td>
<td>1.33</td>
<td>1.31</td>
</tr>
<tr>
<td>2006</td>
<td>1.22</td>
<td>1.21</td>
<td>1.29</td>
<td>1.18</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>0.93</td>
<td>0.99</td>
<td>0.97</td>
<td>0.90</td>
</tr>
<tr>
<td>Proportion of population aged 0 to 19 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.34</td>
<td>0.32</td>
<td>0.35</td>
<td>0.33</td>
</tr>
<tr>
<td>2006</td>
<td>0.27</td>
<td>0.25</td>
<td>0.28</td>
<td>0.26</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>0.80</td>
<td>0.78</td>
<td>0.80</td>
<td>0.80</td>
</tr>
<tr>
<td>Proportion of population aged 20 to 34 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.27</td>
<td>0.28</td>
<td>0.30</td>
<td>0.24</td>
</tr>
<tr>
<td>2006</td>
<td>0.19</td>
<td>0.21</td>
<td>0.21</td>
<td>0.18</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>0.72</td>
<td>0.74</td>
<td>0.71</td>
<td>0.73</td>
</tr>
<tr>
<td>Proportion of population aged 35 to 49 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.18</td>
<td>0.16</td>
<td>0.17</td>
<td>0.19</td>
</tr>
<tr>
<td>2006</td>
<td>0.23</td>
<td>0.25</td>
<td>0.24</td>
<td>0.23</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.30</td>
<td>1.55</td>
<td>1.38</td>
<td>1.21</td>
</tr>
<tr>
<td>Proportion of population aged 50 to 64 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.13</td>
<td>0.14</td>
<td>0.12</td>
<td>0.13</td>
</tr>
<tr>
<td>2006</td>
<td>0.18</td>
<td>0.17</td>
<td>0.17</td>
<td>0.20</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.45</td>
<td>1.21</td>
<td>1.44</td>
<td>1.52</td>
</tr>
<tr>
<td>Proportion of population aged 65 years and over</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.09</td>
<td>0.10</td>
<td>0.06</td>
<td>0.11</td>
</tr>
<tr>
<td>2006</td>
<td>0.12</td>
<td>0.12</td>
<td>0.10</td>
<td>0.13</td>
</tr>
<tr>
<td>Ratio 2006/1981</td>
<td>1.31</td>
<td>1.25</td>
<td>1.60</td>
<td>1.22</td>
</tr>
</tbody>
</table>
Compared to the *Inner Ring*, the proportion of adults aged 20 to 49 in the *Centre* is approximately the same (and in fact slightly higher at 46%). The lower proportion of the population aged 0 to 19 and the lower average number of children per family indicates that this generation of adults is choosing to have smaller families than their peers in the *Inner Ring*. These figures hint at the possible emergence of an urban professional class, in the City Centre. Though not necessarily a wealthy professional class, as shown in the previous section, a tendency towards fewer children suggests lifestyle choices typically associated with urban living.

### 5.2.6 Mode of Transportation and Dwellings in the Centre, 1996 to 2006

Data on work commuting was first included in the Census in 1996. Unfortunately, this only allows for an analysis of the last ten years of the study period. Additionally, this does not permit a before-and-after analysis regarding the arrival of Skytrain to Surrey which was completed in 1993. The figures presented in Table 5.6 indicate that, in general, there had not been a significant shift in travel mode share. In the *Centre*, the share of public transit commuters increased by only two percentage points, to 21%; walking and cycling fared worse, actually decreasing slightly.

As discussed in the previous chapter, regional and local plans have designated lands immediately adjacent to Skytrain stations as areas for high-density, transit-oriented redevelopment. Since the transportation data does not show the modal share before the opening of Skytrain, the change which did occur during this ten-year period (or relative lack thereof) could potentially be attributed in part to the success (or lack thereof) in achieving these desired land-use changes. Table 5.7 provides more detailed information regarding the change in dwelling types in the *Centre* from 1996 to 2006. Almost no net increase in high-rise dwellings occurred during this
time. It is likely that the difference of 10 units represents a small decrease in vacancy and means that absolutely no new high-rise buildings were built and occupied during this time period. As noted in Section 5.2.1, the percentage of high-rise apartments rose from 8% to 12% from 1981 to 2006. As indicated in Table 5.7 however, this figure was 13% as of 1996. All of the growth in high-rise apartments had occurred in the first fifteen years of the study period.

Table 5.6: Commuting to Work by Mode of Transportation

<table>
<thead>
<tr>
<th></th>
<th>Surrey</th>
<th>Centre</th>
<th>Inner Ring</th>
<th>Outer Ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion private automobile</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>0.85</td>
<td>0.76</td>
<td>0.84</td>
<td>0.88</td>
</tr>
<tr>
<td>2006</td>
<td>0.85</td>
<td>0.74</td>
<td>0.83</td>
<td>0.88</td>
</tr>
<tr>
<td>Ratio 2006/1996</td>
<td>1.00</td>
<td>0.98</td>
<td>0.98</td>
<td>1.01</td>
</tr>
<tr>
<td>Proportion public transit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>0.10</td>
<td>0.19</td>
<td>0.12</td>
<td>0.07</td>
</tr>
<tr>
<td>2006</td>
<td>0.11</td>
<td>0.21</td>
<td>0.13</td>
<td>0.07</td>
</tr>
<tr>
<td>Ratio 2006/1996</td>
<td>1.07</td>
<td>1.10</td>
<td>1.11</td>
<td>1.03</td>
</tr>
<tr>
<td>Proportion walk or bicycle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>0.04</td>
<td>0.04</td>
<td>0.03</td>
<td>0.04</td>
</tr>
<tr>
<td>2006</td>
<td>0.03</td>
<td>0.04</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Ratio 2006/1996</td>
<td>0.88</td>
<td>0.93</td>
<td>0.94</td>
<td>0.84</td>
</tr>
</tbody>
</table>

A large number of low-rise apartment units were added, such that by 2006, low-rise apartments represented the single largest category of dwelling type in the Centre at 34% (the percentage of singe-detached units was 30% as shown in Table 5.2). This dwelling type could also be considered as relatively high density and transit-supportive. As discussed in the previous chapter however, the bulk of development has been occurring on parcels flanking the commercial corridor and not immediately adjacent to the transit stations. The strong growth in low-rise dwellings coincides with this pattern. The high-density transit-oriented nodes, had yet to materialize by 2006.
Table 5.7: High-density Dwelling Types in the Centre, 1996-2006

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground-oriented attached dwellings*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>2165</td>
<td>0.17</td>
</tr>
<tr>
<td>2006</td>
<td>3145</td>
<td>0.23</td>
</tr>
<tr>
<td>Change</td>
<td>980</td>
<td>0.06</td>
</tr>
<tr>
<td>Apartments with less than five floors (low rise)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>3415</td>
<td>0.27</td>
</tr>
<tr>
<td>2006</td>
<td>4565</td>
<td>0.34</td>
</tr>
<tr>
<td>Change</td>
<td>1150</td>
<td>0.07</td>
</tr>
<tr>
<td>Apartments with five or more floors (high rise)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>1660</td>
<td>0.13</td>
</tr>
<tr>
<td>2006</td>
<td>1670</td>
<td>0.12</td>
</tr>
<tr>
<td>Change</td>
<td>10</td>
<td>-0.01</td>
</tr>
</tbody>
</table>

* Ground-oriented attached includes semi-detached, duplex, other single-attached and row house dwelling types.

5.3 DISTANCE PLOTS: 2006 CENSUS TRACTS

The previous sections offered an analysis of change over the course of the study period. This section analyzes variables according to the 2006 census tract boundaries. The study area comprised 92 tracts in the 2006 census, a sufficient number of values to permit a more detailed analysis. Four key variables are plotted against distance to the centre: proportion of apartment dwellings (low-rise and high-rise), average household income, property value density and proportion of transit commuters. They are shown in Figures 5.3 to 5.6. These four variables were selected because they are good representations for the key concerns of the analysis: the development high-density built form, the distributions of income and property value, and mode of transportation. None of the variables was strongly correlated with distance, though the proportion of transit commuters was moderately correlated (r = -.60). Average household
income was also modestly correlated (r = .48). Housing value density and the proportion of apartments had very low correlation coefficients (r = .22 and r = -.13 respectively). Importantly however, both the housing value density and proportion of apartment variables are affected by the same two strong outliers. Additionally, the applicability of linear correlation coefficients is limited as clear non-linear patterns emerged.

Though there is high variability, the general pattern of the proportion of apartments is still somewhat compelling (Figure 5.3). Proportions generally decrease with distance increases. However, at approximately 15 km, the proportion appears to increase again. This is likely the result of the belt of protected agricultural and environmental lands that cut through the middle of Surrey’s urbanized areas. The increases near the end of the graph represent the communities beyond the agricultural lands which have their own municipal town centres (see Figure 4.5 in Chapter 4). The same, though inverse, pattern is visible for average household income (Figure 5.4). Incomes rise with distance from the center, and then appear to peak at around 10 to 15 km.

The findings from the previous section determined that the density of housing value was highest near the centre and lowest on the periphery, though by 2006 the Centre was not significantly higher than the Inner Ring. Figure 5.5, also shows a general lack of a pattern or trend in value density based on distance from the centre. This suggests that the higher concentration of dwellings nearer the centre and the higher value of dwellings nearer the periphery are largely offsetting each other. When considered together with the findings that the average cost per room is approximately the same throughout the study area and that high-density development had stagnated in the Centre, this data suggests that the value of land near the City Centre is only nominally higher, not dramatically higher than surrounding land.
Figure 5.3: Proportion of Apartment Dwellings by Distance to the Centre

Figure 5.4: Average Household Income by Distance to the Centre
As stated above, the proportion of transit commuters was the most strongly correlated. Moreover, Figure 5.6 shows the same non-linear pattern as other variables, with a trough in the 10 to 15 km range; therefore, the linear coefficient is understating the strength of the pattern. It is clear that distance from the centre (and by extension the Skytrain stations) is a strong predictor of the prevalence of transit commuting. Additionally, a few tracts near the centre have achieved notably high proportions of transit commuting. This finding tells a slightly more positive story than the three zone analysis of the previous section, showing that there are indeed small areas where transit use is relatively high.

Figure 5.5: Property Value Density by Distance to the Centre
Figure 5.6: Proportion of Transit Commuters by Distance to the Centre

![Graph showing the proportion of transit commuters by distance to the centre.](image-url)

- **Proportion of Transit Commuters**
- **Distance in KMs**

- **Census Tract**
- Linear (Census Tract) $r = .60$
6 DISCUSSION AND CONCLUSION

6.1 FINDINGS

The results of the previous chapter found moderate support for the idea that certain principles of the monocentric model can be applied to a suburban, polycentric context, and that Surrey Centre is an appropriate example of this application. Residential densities generally tended to be higher nearer the centre, though the gap between the Centre tracts and those surrounding them in the Inner Ring appears to have narrowed over the course of the study period. This trend appears to coincide with the stagnation in high-density development near the transit station from 1996 to 2006.

Dividing average housing cost by average number of rooms revealed that there is no significant difference in the cost of a standardized unit of size of dwellings. While higher densities in the center suggest higher land values, the lack of a difference in cost per room suggests that those land values do not rise dramatically. This finding is corroborated by the analyses of property value density. The three zone analysis revealed a shrinking gap between value per hectare in the Centre and value per hectare in surrounding tracts. Furthermore, it appears that there is no discernable pattern, based on distance to the center, in value density at the level of individual census tracts. It is likely in part due to this lack of dramatically high land values in the centre that the conversion of low-density retail uses into high-density transit-oriented development had stagnated during the last 10 years of the study period.

Coinciding with this lack in transit-oriented development, the analysis found a lack in significant mode shift away from the automobile towards public transit and active transportation. The lack of development near stations might explain in part the lack of mode shift, particularly in the
Centre, since the 10-year analysis does not account for the introduction of the transit line prior to 1996. While it is beyond the scope of this report to claim that transit-oriented development will definitely increase transit mode share, it is safe to argue that a lack of such development did nothing to help the process.

The analysis found strong evidence that incomes were higher near the periphery and that the difference between incomes at the center and at the periphery had grown significantly over the study period. Coinciding with this finding was evidence that the value and cost and size of dwellings were higher at the periphery. These findings align well with the monocentric conception that wealthy households choose to locate near the periphery in order to consume larger quantities of housing, thus supporting the hypothesis that this phenomenon can be observed even at a sub-regional level, using a suburban centre as the focal point.

The analysis did not find strong evidence that younger adults are clustering in significant numbers near Surrey Centre; however there was some evidence of an emerging urban-style population near the Centre, with smaller households and fewer children. The income figures do not suggest that this cohort is made up of wealthy young urban professionals.

Finally, the detailed analysis of 2006 census tracts suggests that the notion of centre versus periphery is complex even at the sub-regional level. The study area contained urbanized areas with their own suburban centres beyond the protected agricultural lands. The definition of periphery seems to coincide most with areas nearest to these agricultural lands, and not necessarily with the areas furthest away from the centre. Importantly, the outliers visible in Figures 5.3 and 5.5 represent another suburban node in the City of White Rock. The analysis attempted to show the effect of the regional town centre on urban structure, but also
demonstrated the confounding effects of smaller centres within the sub-region. While the three-zone analysis was useful in showing general patterns, the distance plots show that there is a high degree of variability when the data is disaggregated.

6.2 RECOMMENDATIONS

As was discussed in Chapter 4, both regional and municipal authorities have consistently sought to promote the more efficient use of land, with goals to achieve more compact housing patterns, the protection of agricultural and environmentally significant lands and the development of high density urban and suburban centres, while promoting alternative modes of transportation. In light of these planning priorities and the findings of the present research, the following recommendations are offered. They are directly applicable to the political bodies and planning departments with authority over Surrey and surrounding communities, but may also be indirectly applicable to other organizations in a similar context.

1. **Continue to support the protection of agricultural and environmentally significant lands on the periphery.**

The analysis has shown that land values and housing densities have risen across Surrey. It has also shown how this trend has coincided with continued strong protection of prime agricultural and environmentally significant lands, suggesting that the increasing scarcity of developable land has played a role in increasing densities. This assumption is supported by the monocentric model, whereby when land values at the periphery rise, we should expect to see associated increases in values in all other locations leading back to the center. Though there are other, more direct, reasons for continuing to support these policies, one indirect benefit is increased demand for high-density development in and near the City Centre.
2. Consider measures to discourage or restrict the development of office uses in low-density employment lands on the periphery and to encourage offices uses to locate in Surrey City Centre.

As discussed in Chapter 4, Surrey has to-date been largely unsuccessful at developing the City Centre as a high-density employment node, though this has been a goal of local and regional planning for decades. It was beyond the scope of this research to examine in depth the challenge and opportunities in suburban office development, or to suggest specific strategies for promoting office development in suburban centres. However, it is impossible to ignore this subject entirely as employment has historically been the primary function of urban centres. The present research may offer as example the effect that the restrictions on land development have had on housing density. Seriously discouraging, or even restricting office uses from locating in low-density employment districts may have the effect of driving up office density by restricting the land available to firms.

The author acknowledges that office development is a highly competitive market, and that office development provides significant financial benefit to municipalities. The recommendation to create additional restrictions on office development is offered cautiously and in recognition of market realities. Ideally, restrictions should be counterbalanced with increased incentives to develop in mixed-use centres, though further study is required to determine how this might work. Despite the challenges, the author believes that this is an idea worth pursuing, in light regional and local planning priorities as discussed throughout this report. Such efforts could have the dual benefit of promoting high-density employment in the City Centre, on the one hand, while preserving employment lands for industrial uses which require the space and separation from incompatible uses, on the other hand.
3. **Continue to promote the proposed expansion of the rapid transit network further east and south into Surrey and surrounding communities.**

As discussed in this report, Surrey City Centre represents a terminus in the regional rapid transit network and is only connected to the rest of the sub-region by conventional bus service. At the time of the writing of this report, Metro Vancouver has adopted an ambitious transit plan that includes major expansions to the east and south of Surrey City Centre, connecting to much of Surrey and surrounding communities. This plan has yet to secure the necessary funding sources. To help become a truly transit-oriented district, Surrey City Centre must become a node, rather than a terminus, in the network, and be connected to the constellation communities and sub-centres for which it is meant to act as a sub-regional downtown.

4. **Plan for the long-term evolution of existing neighbourhoods adjacent to the City Centre.**

For now, there is likely to be sufficient development opportunity within the boundaries of the centre to accommodate the demand. However, as the amount of this available space decreases and as land values across Surrey continue to rise and as the centre itself increases in size and influence, it is likely that demand for redevelopment will spill over into established single-family neighbourhoods near the centre. It is reasonable to expect resistance to change. However, in the interests of promoting housing affordability by offering a range of housing choices, it is advisable that policy makers not allow these neighbourhoods to become exclusive enclaves for increasingly wealthy residents by maintaining present densities. Planners should begin to consider how these neighbourhoods might evolve gradually over time in a manner which is compatible with the existing community, as demand for redevelopment increases.
5. **Continue to promote well-designed development that contributes to the attractiveness and desirability of the City Centre.**

In order to grow, Surrey City Centre must continue to evolve into a desirable place to live. Development should contribute to the overall desirability of the neighbourhood, by designing for pedestrians first and foremost, contributing to crime prevention through design, and providing an ever-expanding variety of amenities. The City should continue to promote concentrated development near the Skytrain stations, creating focal points, not only for transportation activity, but also for attractive and distinctive communities.

### 6.3 CONCLUSION

The purpose of this report was to assess the extent to which the idea that Surrey City Centre is emerging as a sub-regional “downtown” is supported by empirical data. Census data from 1981 to 2006 was compiled to analyze changes in housing and household characteristics since the emergence of the town centres concept in planning documents. Economic principles derived from the monocentric models, as well as contemporary literature on suburbs were used as the framework through with to assess this data. Specifically, the research looked for indirect evidence to suggest that land values increase with proximity to the centre. The research also looked for more tangible patterns, such as higher gross density and the prevalence of high-density dwelling types with proximity to the centre, as well higher incomes and housing cost with increased distance from the centre.

In general, the evidence appears to be mixed. There is some evidence to suggest that dwelling densities and property values are highest at the centre. However, any apparent gaps between the centre and surrounding areas tended to narrow significantly. Furthermore, the development of
high-density housing that is expected to occur around the rapid transit stations appears to have stagnated during the final decade of the study period. Data on income and housing cost did tend to follow patterns described in the literature, with the wealthiest residents being found on the periphery in the largest and most expensive homes. On the whole, the evidence appears to best reflect a period of significant outward growth, as well as medium-density infill development throughout the city, rather than a concentration near the central node. The finding that medium-density housing types have become more prevalent throughout Surrey supports the idea from the literature that suburbs are generally taking on more urban-like characteristics, regardless of the state of the mixed-use centre.

It seems that the re-designation of Surrey City Centre as a second-tier CBD was premature, when viewed historically. However, planning is about looking toward the future and not being confined to the past. It may be that Surrey City Centre (now Surrey Metro Centre) may experience massive development and become an important urban centre in the years to come. It is clear, though, that there is much to be done in order to realize that future.
7 REFERENCE LIST


Higgins, J. (2010). *Gentrification: Agent of social mix or displacement?* (Unpublished masters report). School of Urban and Regional Planning, Queen’s University: Kingston, ON.


