

## Regional Growth Strategy Backgrounder Urban Residential Growth Patterns 1982-2006

### Purpose

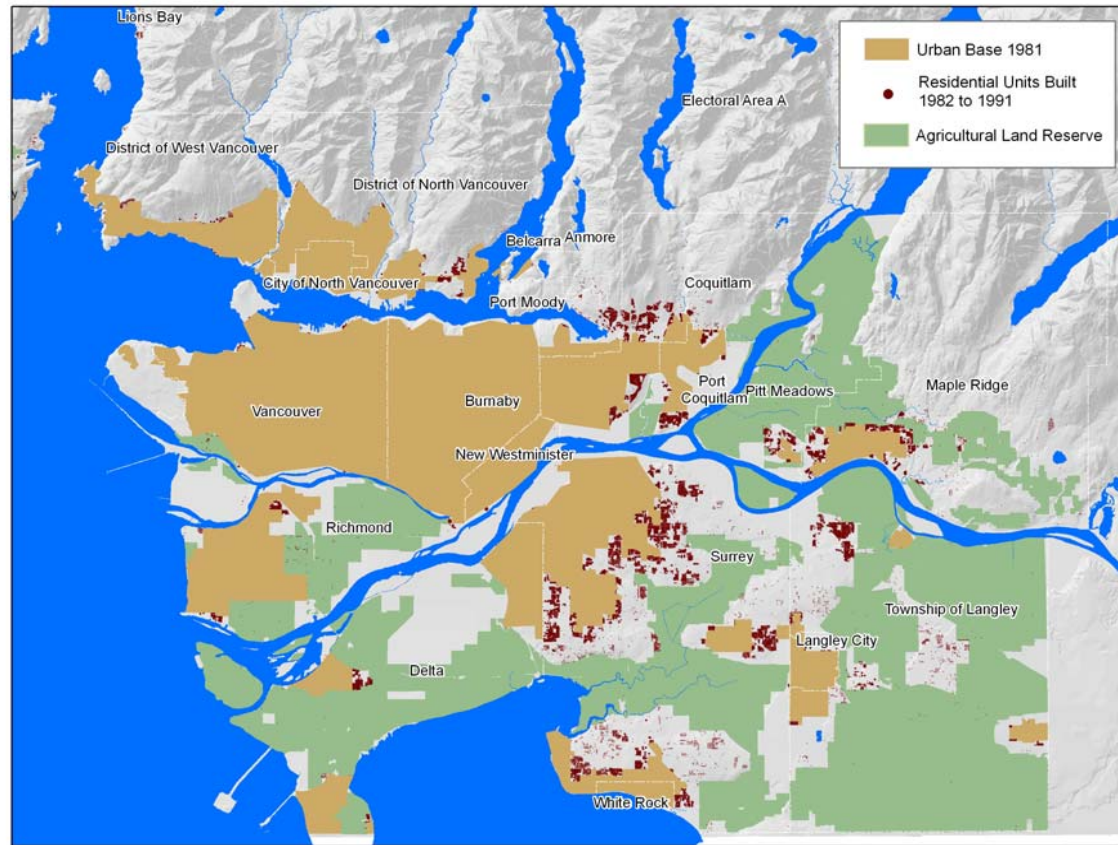
This backgrounder provides a brief profile of Metropolitan Vancouver’s historical pattern of urban residential development over the past 25 years. In order to provide efficient delivery of services and protect natural assets, regional urban growth strategies seek ways to contain and direct urban growth. The expansion of the urban footprint provides an indicator of sustainable development.

Historic residential land use and construction records were used to estimate the share of residential development occurring within the established urban base, and the extent that development has expanded the region’s urban base through the years 1982 to 2001.

### Defining the Urban Base

The crucial factor in assessing urban growth patterns is to define the developed urban base at given points in time.

**Figure 1. Urban Base 1981 and Residential Development 1982-1991**



	1982-1991			Net Density (Units/ha)
	Units Built	% of Total Units	Net Hectares Developed	
<b>Within 1981 Urban Base</b>	94,800	67%	2,700	35.1
<b>Outside 1981 Urban Base</b>	47,600	33%	3,300	14.4
<b>Total Development</b>	142,400	100%	6,000	23.7



Historically, Metro Vancouver’s settlement patterns have emerged in multiple locations under a broad range of urban and rural development forms.

Over time, development has filled in and expanded to form larger contiguous urban areas alongside historic rural areas. To define an urban base within this shifting context, this profile combines historic planning boundaries, property development records and land use density calculations to derive an urban base for the years 1981, 1991 and 2001. The urban base includes a contiguous geographic pattern of development comprised of all properties utilized for multiple residential use, detached dwellings on properties less than one acre, and may include abutting commercial, industrial and institutional/park land uses (see Appendix A for a more detailed description).

**Residential Development 1982-2001**

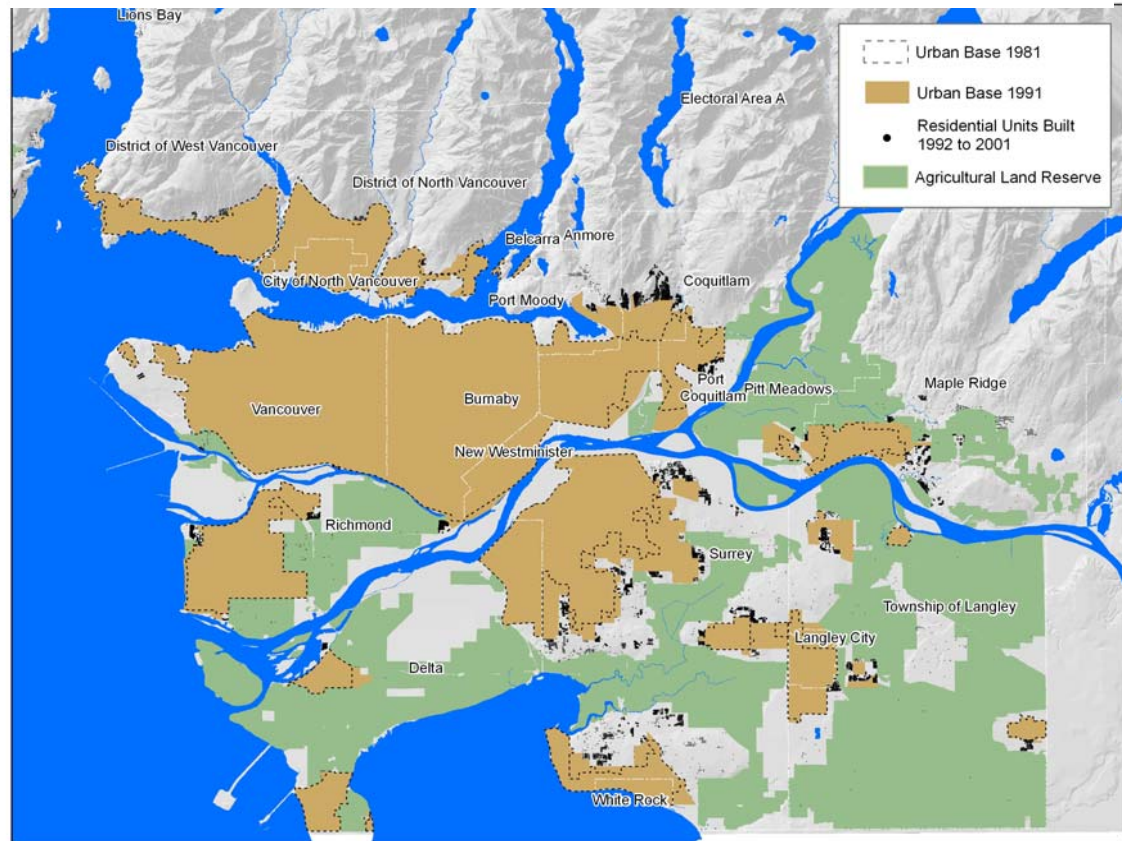
The urban base derived for the year 1981 included about 50,000 hectares of land, or 17% of the gross land area within the regional district. Figure 1 shows the derived 1981 urban base and new residential construction that occurred outside of the urban base from 1982 to 1991. The Agricultural Land Reserve and

North Shore Mountains are shown for context.

Between 1982 and 1991 about 142,000 new dwelling units were

constructed in Metro Vancouver<sup>1</sup>. As shown in Figure 1, about 67% of the new dwellings were built within the 1981 urban base, while 33% were built outside of that urban base.

**Figure 2. Urban Base 1991 and Residential Development 1992-2001**



	1992-2001			
	Units Built	% of Total Units	Net Hectares Developed	Net Density (Units/ha)
<b>Within 1991 Urban Base</b>	109,600	78%	2,700	40.6
<b>Outside 1991 Urban Base</b>	31,500	22%	2,100	15.0
<b>Total Development</b>	141,100	100%	4,800	29.4

Properties developed outside of the urban base absorbed a net land area of about 3,300 hectares. Along with other associated urban development (roads, parks, schools, commercial uses), and the absorption of pre-existing developments, the contiguous urban base increased by about 7,800 hectares between 1982 and 1991 (from 17% to 20% of the regional land base).

Urban growth in particular areas during the 1980s was sporadic, resulting in irregular development patterns and many isolated pockets of vacant land. During the 1990s there was significant infill development within those vacant pockets. Consequently, through the 1990s about 78% of residential development was within the urban base, while about 22% was outside of the urban base. Figure 2 shows the derived 1991 urban base and new growth over the following 10 year period. Properties developed outside of the urban base absorbed a net land area of about 2,100 hectares. Combined with associated land uses and pre-existing developments, the contiguous urban base expanded to about 61,000 hectares by the year 2001 (22% of the regional land base).

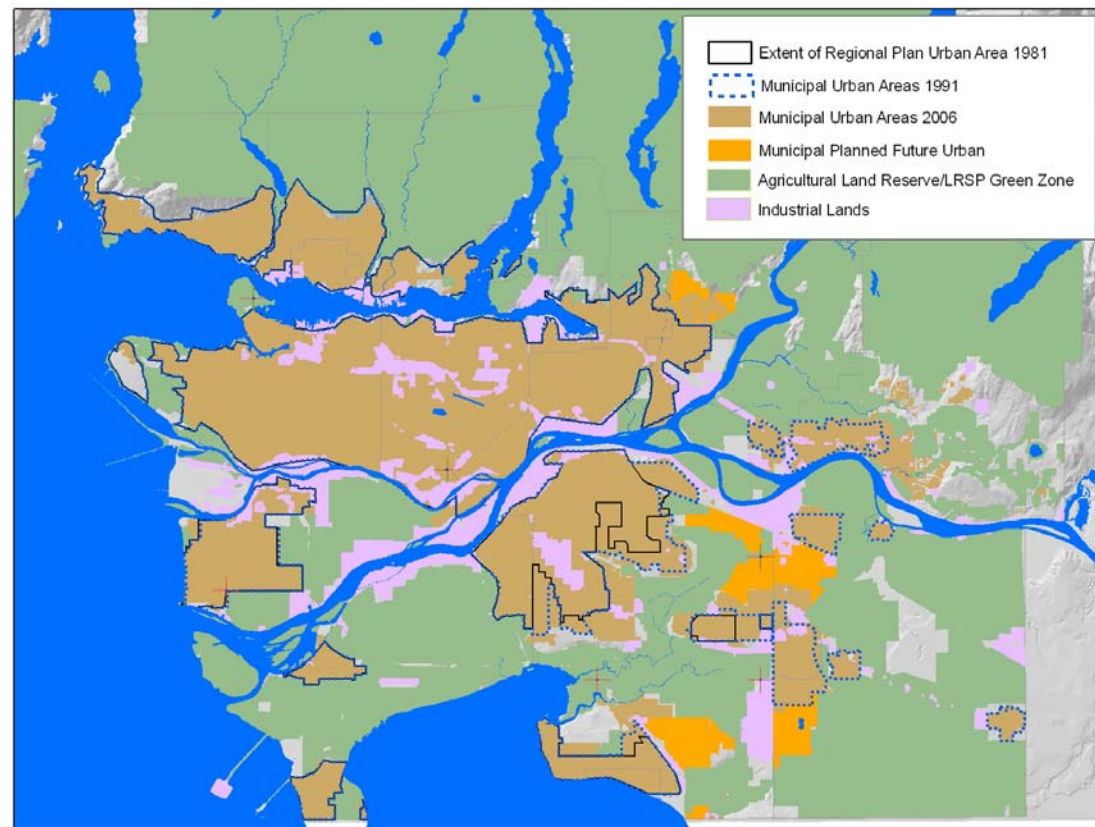
Net residential densities for new construction increased both within

and outside of the urban base during the 1990s. This reflects trends toward an increasing share of multiple residential housing units, the redevelopment of existing single detached housing stock, as well as smaller lot sizes for new single detached housing subdivisions. Comparative net development

densities are shown in Figures 1 and 2.<sup>2</sup>

In total, between 1982 and 2001 new residential construction absorbed about 5,400 hectares of land outside of the urban base. The gross land area of the urban base increased by about 11,000 hectares<sup>3</sup>.

**Figure 3. Historic Expansion of Urban Residential Boundaries**



### **Regional Distributions of New Housing Development**

In 1981, the urban areas within Vancouver, Burnaby, New Westminister, Richmond and the North Shore were well established, with little remaining new urban areas<sup>4</sup> land available for development. The municipalities of Surrey, Coquitlam, Langley and Maple Ridge had well established urban areas, but also contained the vast majority of the region's new urban areas designated for urban development.

Of these Cities, Surrey had the largest share of new urban areas and consequently absorbed about 40% of the region's new residential growth outside of the urban base during the 1980 and 1990. Langley Township, Maple Ridge, Coquitlam and Richmond each contained between 7% and 12% of the growth outside of the urban base.

The majority of new residential growth outside of the urban base occurred on lands that had been planned by municipalities for future urban development. Figure 3 approximates the progression of municipal urban planning boundaries from 1981 to 2006.

### **Growth 2001 to 2006 and Beyond**

Detailed residential development data for the 2001 to 2006 period is not available; however, estimates gathered from municipal and other sources indicate that the share of residential growth outside of the urban base has been relatively consistent with 25% to 30% share. Municipal records also indicate that development densities have continued to increase. The popularity of small lots and a variety of ground-oriented multiple-unit housing forms has led to increasingly compact densities and much more efficient land utilization within newly developing urban communities.

Figure 3 shows areas currently planned by municipalities for future urban development. The proposed future urban areas include about 5,000 gross hectares of land and have the capacity to absorb up to 20-25% of the region's projected residential growth over the next 25 years.

Further research on Metro Vancouver's residential capacity will be provided in the Regional Growth Strategy Backgrounder: Residential Capacity Analysis.

### **Conclusion**

Between 1982 and 2001, new residential construction absorbed about 5,400 hectares of land outside of the urban base, representing 26% of all developed land during the time period. In the 1990s, the expansion of the urban footprint slowed considerably over the previous decade. The rate of expansion in the 1990s was approximately 480 hectares per year versus 600 hectares per year during the 1980s. This is attributable to several trends, including an increased share of multiple-dwelling units in the overall housing stock, and smaller lot sizes for new single-detached dwelling units.

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## End Notes

- <sup>1</sup> *New dwelling units* are based on BC Assessment Authority records for residential properties and period of construction. This total is generally consistent with historic records for total regional housing starts as compiled by CMHC.
- <sup>2</sup> *Net density calculation* is based on the total number of new units constructed divided by the total land area of all corresponding properties. The calculation includes the redevelopment of existing properties, which may frequently involve the demolition and rebuilding of a single detached dwelling.
- <sup>3</sup> *Gross land area* within the defined urban base and subsequent expansion includes adjacent lands that are contiguous with the residential development perimeter. These lands may include pre-existing or newly developed commercial, industrial, institutional, park, recreation areas, as well as pre-existing residential pockets that had become contiguous within the expanded urban perimeter.
- <sup>4</sup> *New urban areas* refer to lands available for urban development, that have not been previously developed or, if developed, only at rural densities.

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## Appendix A: Defining the Urban Residential Base

To gauge the amount of urban base expansion versus infill development occurring over time, it is necessary to establish a contiguous urban residential perimeter that defines the urban base in relation to subsequent areas of urban residential expansion. The method used in this analysis includes a combination of two criteria: a minimum urban residential density; and, significant contiguous patterns of urban development.

To define the actual extent of the urban residential base in 1981 and 1991, a minimum urban residential density was assumed to include all multiple residential development, and all single detached development on properties less than one acre. However, this method results in numerous small pockets of development scattered throughout otherwise sparsely developed areas of the region – areas that were subsequently redeveloped or subsumed by new urban residential development.

A second assumption in defining an urban perimeter was to include only the significant contiguous patterns of urban development. Based on the previous criteria, a visual

interpretation of maps and air photos was used to fine-tune the urban perimeter to exclude residential developments that were not contiguous with the major developed areas – that is, isolated developments that were surrounded by substantial tracts of vacant land and were comprised of a small number of developed residential properties. No absolute distance or number of units was used in making this distinction. The contiguous urban base also includes adjacent commercial, industrial or park areas, although these areas were not explicitly included in the analysis.

This assessment recognizes that there is no absolute definition or method of defining the urban base. All analyses are based on assumptions and available data, and, to some degree, are arbitrary. Nevertheless, the intent of this urban development profile is to provide a reasonable basis for consideration and discussion of the urban footprint and residential development patterns in Metro Vancouver.