Winnipeg

City of Winnipeg Residential Land Supply Study

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October 25, 2004

Winnipeg

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1.0 Introduction

The development and building industries react to changes in the residential housing market in an attempt to meet consumer demand for various housing types throughout the city. The amount of housing, the location of development, housing types and prices vary according to location and consumer preference.

Population growth and changing demographics are major factors that are currently influencing a resurgence in the demand for new housing in Winnipeg.

1.1 Purpose of the Study

Plan Winnipeg 2020 Vision is the City of Winnipeg's overall plan for managing growth and change in the City. A key directive of the Plan is as follows:

(Policy 3A-02i) "to promote compact urban form in support of sustainability by approving new residential subdivisions only where there is a reasonable relationship between the supply of land and the projected demand and when a full range of municipal infrastructure can be provided in an environmentally-sound, economical, and timely manner."

Consequently, the City of Winnipeg has a role in the ongoing process of planning for new residential development throughout the City. Monitoring the supply and location of land available to meet the demand for new housing is a critical component of this planning process and in implementing the provisions of *Plan Winnipeg 2020 Vision*.

In May of 2003, the Planning, Property and Development Department initiated a comprehensive study of the location, type, and quantity of land available for new residential development throughout the City in both existing mature neighbourhoods and in suburban areas.

By comparing supply to existing and projected demand for new housing by area, an important tool has been created to evaluate the appropriateness of proposals for new residential development as required in *Plan Winnipeg 2020 Vision*.

1.2 Land Supply Methodology

Plan Winnipeg 2020 Vision Policy Plate A designates all land in the City under five broad policy areas:

- Neighbourhood
- Rural
- Industrial
- Downtown
- Major Open Space

Areas designated as "Neighbourhood" or Neighbourhood Policy Area are generally considered to be appropriate for a mix of land uses that would be predominantly

residential in character. The other designations, with the exception of downtown, do not encourage the development of new residential areas. As a result, the land supply study focused only on those areas of the City designated as Neighbourhood Policy Area in *Plan Winnipeg 2020 Vision* Policy Plate A.

High resolution colour air photos taken in May 2002 were used in conjunction with the City's most recent assessment data to identify individual parcels of land that were vacant. Once identified, each parcel was entered into a database that was coded for location to allow for the mapping of each parcel across the City.

The result is a "snapshot" of the amount and location of vacant land within the Neighbourhood Policy Areas of the City. With the development of the land supply database, it is now possible to monitor the rate and location of the absorption of available land into residential uses on an annual basis using building permit data.

Further work is currently underway to analyze Industrial Policy Areas in a similar manner to evaluate potential opportunities for conversion of land in Industrial Policy Areas to Neighbourhood Policy Area.

2.0 Housing Demand Projections

Demand for new residential housing is influenced by a variety of factors including interest rates, local and national economic outlooks, consumer confidence, etc. However, population increase has a primary influence on the overall demand for housing over time.

Population data used for the purpose of this study has been derived from Statistics Canada's recent revised census data with projections from the Conference Board of Canada released by the City of Winnipeg's CAO Secretariat.[1]

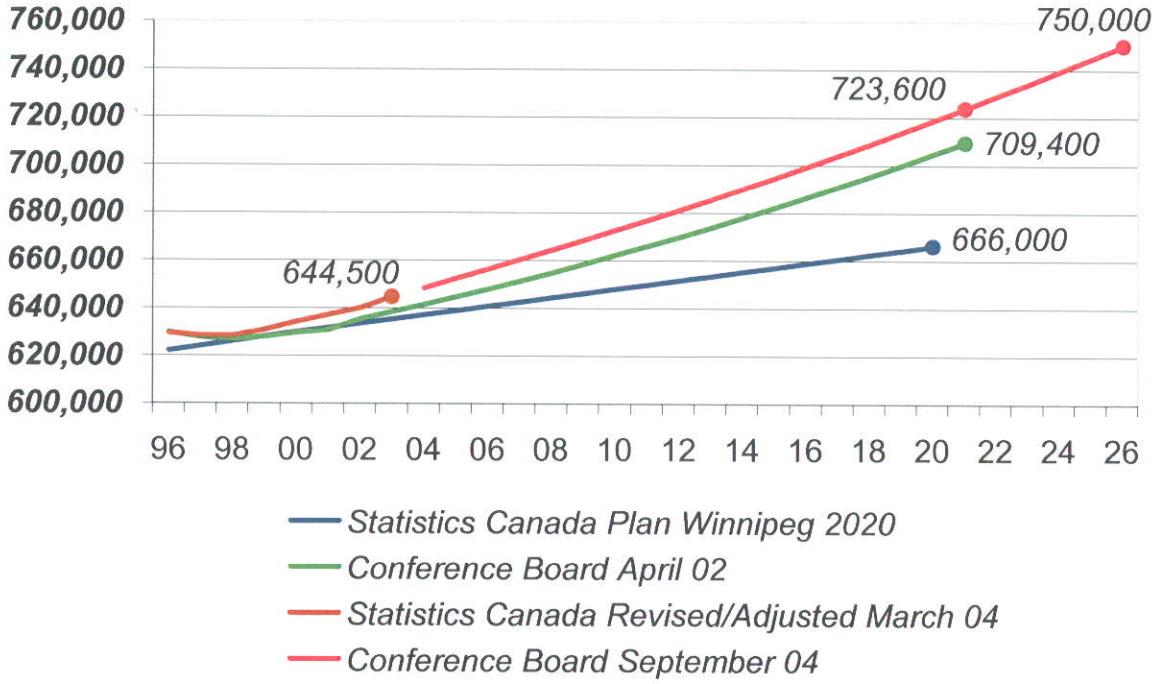


Figure 1: Population Projections for City of Winnipeg

Projecting the demand for housing in Winnipeg is based upon population forecasts, household size and market share between housing types.

2.1 Population Forecasts

Figure 2 illustrates the most recent population estimates as well as projections to the year 2026. An annual average increase of approximately 4000 to 6000 people per year is projected.

This forecast is higher than the long range population projections provided in *Plan Winnipeg 2020 Vision* that estimate an increase of approximately 38,000 people total or approximately 2000 people per year by the year 2020.

[1] Conference Board of Canada's September 2004 population projection is available online at http://www.winnipeg.ca/cao/pdfs/population_projection_data.pdf

Year	Population
2001	637,000
2002	639,800
2003	644,500
2004	648,300
2005	652,200
2006	656,200
2007	660,200
2008	664,200
2009	668,200
2010	672,400
2011	676,600
2012	680,900
2013	685,300
2014	689,800
2015	694,400
2016	699,000
2017	703,800
2018	708,600
2019	713,600
2020	718,600
2021	723,600
2022	728,800
2023	734,000
2024	739,300
2025	744,600
2026	750,000

Figure 2: Population Projection from Conference Board of Canada Sept 2004

2.2 Demographics and Household Formation

The continuing decrease in the number of people per household is a trend recognized in most Canadian cities that has already been realized in developed nations around the world. For example, in 1962 the average household size in Winnipeg was 3.7 people per household and by 2001 it had dropped to 2.45. It is expected that this trend will continue until household size stabilizes at 2.3 persons per household in 2011.

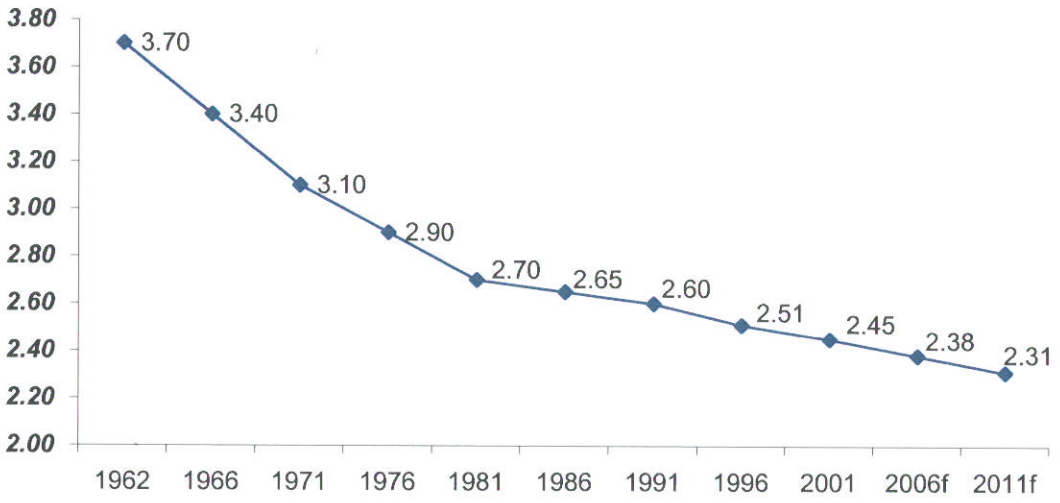


Figure 3: Graph represents the predicted reduction of household size to 2.31 in 2011.
Note: "f" Represents Forecast

The impact of decreasing household size on housing demand is dramatic and will continue to be a primary driver of housing demand over the next two decades since an increasing number of housing units will be required.

The table below represents the additional households required based on decreasing household size. Currently, Winnipeg has approximately 250,000 households. Even with zero population growth, the city would require 10,460 additional households if household size decreased by one tenth of one percent.

Persons per household	*Number of Households Required*	*Additional Households Required*
2.40	*250,000*	--
2.39	*251,046*	*1,046*
2.38	*252,092*	*2,092*
2.37	*253,138*	*3,138*
2.36	*254,184*	*4,184*
2.35	*255,230*	*5,230*
2.34	*256,276*	*6,276*
2.33	*257,322*	*7,322*
2.32	*258,368*	*8,368*
2.31	*259,414*	*9,414*
2.30	*260,460*	*10,460*

Figure 4: Table illustrates the number of new households needed if household size dropped 0.10 with a constant population.

Figure 5 illustrates the impact that a small decrease in household size has upon the demand for new housing. Of note is the ongoing demand for new residential housing that occurred during the years 1994-1998 despite the net decline in Winnipeg's population during the same period.

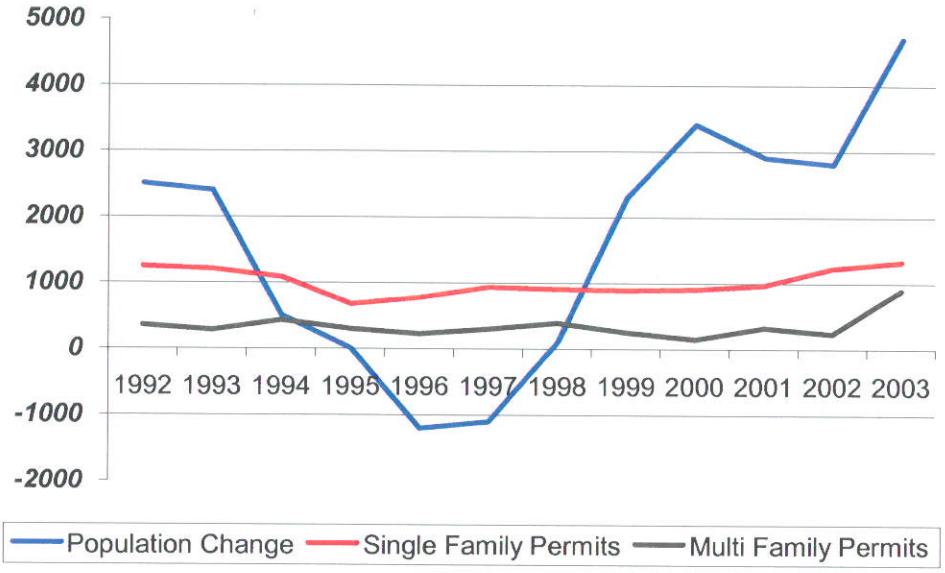


Figure 5: Graph illustrates the relatively unchanged demand for single and multi-family dwellings due to falling household size.

A second significant demographic factor influencing housing demand over the next 10 years is the aging of the "echo" generation (20-26), or the children of "baby boomers", as they begin to move into the housing market.

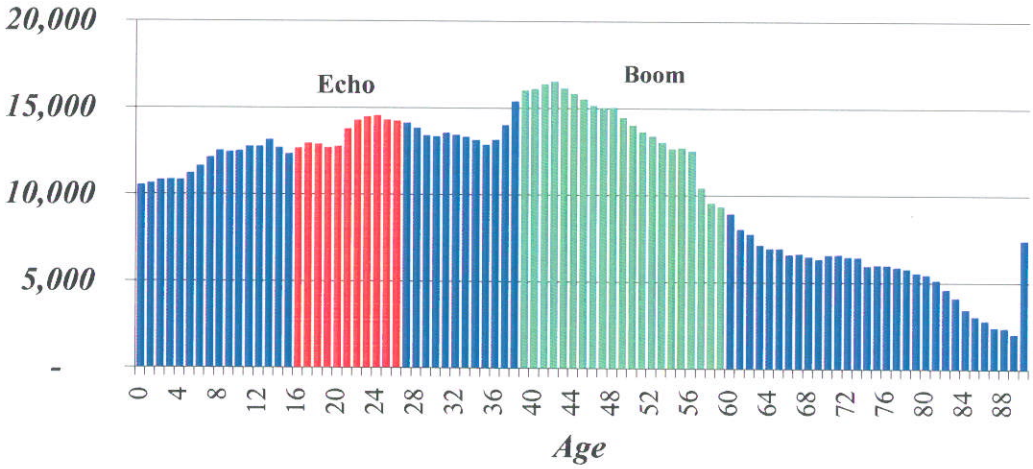


Figure 6: Winnipeg's Echo Generation 2003

Source: Conference Board of Canada - Winnipeg Long Term Population Projection for Winnipeg CMA, September 2004 -- custom work. Age Breakdown table prepared by the City of Winnipeg.

2.3 Projected Demand for New Single-Family Housing

Single-family housing is the largest consumer of available land supply. Projecting the demand for this form of housing is integral to evaluating the current and ongoing supply of land available for residential development in the City.

Currently approximately 22% of new residential housing units developed are multi-family based upon building permit data between 1998 and 2002. Recent new construction of multi-family projects in the inner-city indicates a possible upward trend in market share but it is anticipated that single-family housing will be the dominant type favoured by the market. For the purpose of this study and projecting single-family dwelling demand an assumption of 25% market share for multi-family units has been made.

	% Single-Family	*% Multi-Family*
1986-2002	*73*	*27*
1998-2002	*78*	*22*

Figure 7: Single-Family vs. Multi-Family Construction in the City of Winnipeg.

The following table summarizes single-family housing demand projections for the City of Winnipeg based upon the foregoing population projections in conjunction with the anticipated ongoing drop in persons per household. The projected number of units has been discounted to allow for both multi-family housing demand.

In addition, two population projections are used to present a range of demand. The low demand projection is based upon the Conference Board of Canada's April 2002 population projections for the City of Winnipeg. The higher projected demand is based upon the Conference Board of Canada's September 2004 population projections.

Projected Demand to 2011	*Projected Demand 2011-2021*	*Total*
16129 - 19618	*14747 – 14280*	*30876 - 35507*

Figure 8: Projected Demand for Single-Family Dwellings in the City of Winnipeg to 2021

2.4 Distribution of Housing Demand by Area

Understanding where the demand for housing will occur across the City is important in determining the appropriate level of land supply required in various locations to service the demand. For the purposes of this study the city was broken down into 4 quadrants: North West, North East, South East and South West.

The distribution of housing demand in various areas of the City will fluctuate over time with changes in market preferences, neighbourhood amenities and availability of housing types. To account for this variation a 10 year average of the most recent building permit data is used to project demand in various areas of the City.

The following illustrates the average historical distribution of single-family building permit data in Winnipeg from 1993 to 2002.

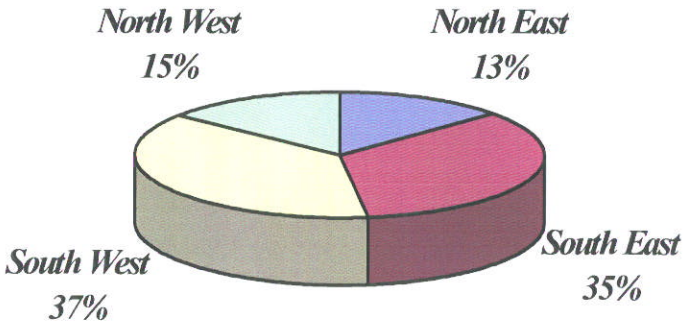
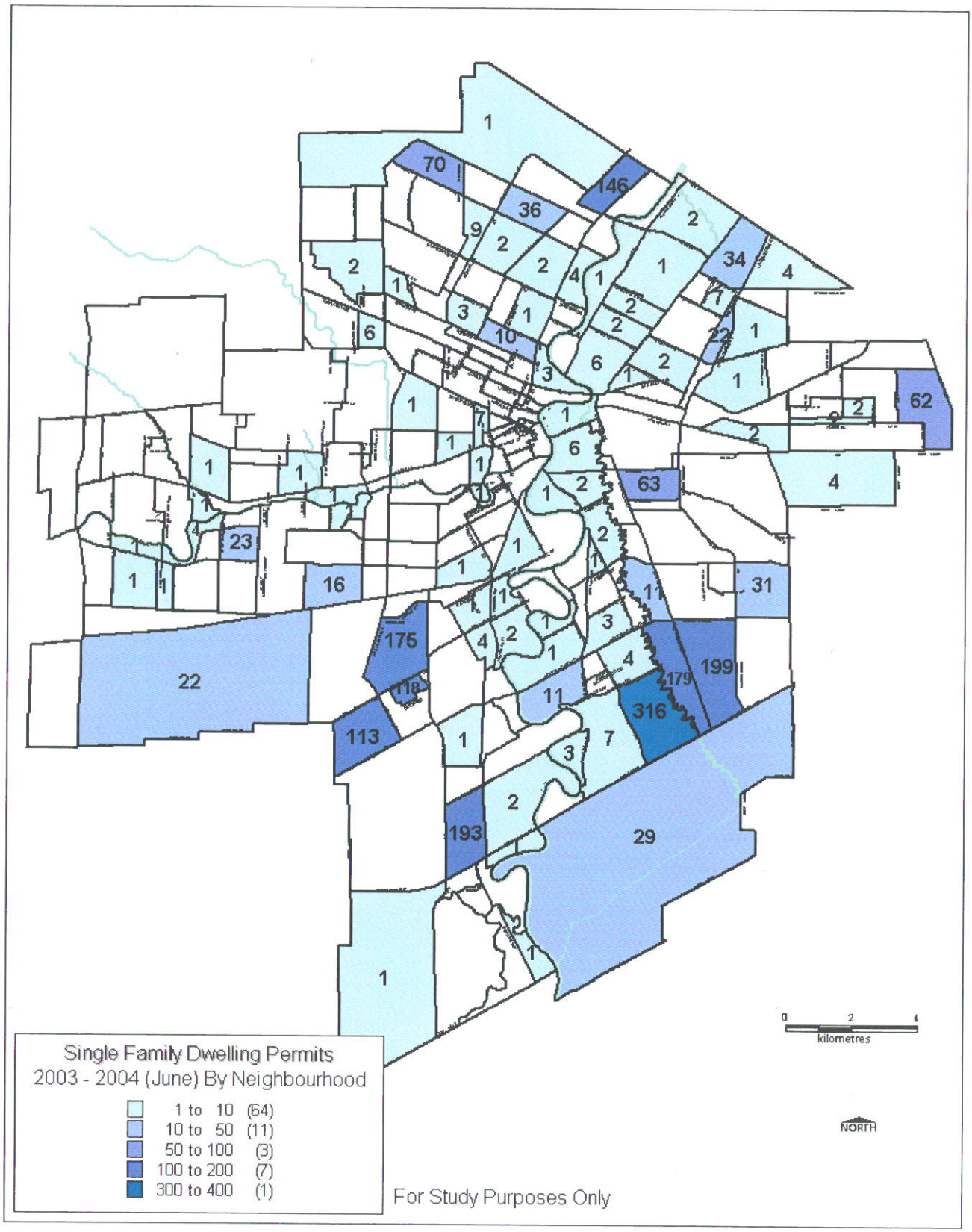


Figure 9: Single-Family Dwelling Permits by Quadrant of Winnipeg 1993 – 2002

The following figure projects demand for housing units across the City (Figure 8) by quadrant based upon the historical distribution of building permit data.

	Projected Demand to 2011	Projected Demand 2011 – 2021	Total
North West	2419 – 2943	2212 – 2383	4631 – 5326
North East	2097 – 2550	1917 – 2066	4014 – 4616
South East	5645 – 6866	5162 – 5561	10807 – 12427
South West	5968 – 7259	5456 – 5879	11424 – 13137
Total	16129 – 19618	14747 – 15889	30876 - 35507

Figure 10: Projected Demand for Single-Family Dwellings for the City of Winnipeg to 2021 by Quadrant



Map 1: Single-Family Dwelling Permits by Neighbourhood Jan. 2003 – June 2004

3.0 Residential Land Supply

Three types of vacant lands within Neighbourhood Policy Area under *Plan Winnipeg Vision 2020* were identified and mapped separately during the land supply study.

1) "Greenfield" Greenfield acreages are larger parcels usually containing 4 or more acres of vacant land. In some instances these may comprise one parcel under single ownership or a grouping of parcels forming an aggregate area of vacant land.

2) "Infill" Infill lands are smaller parcels of land in established neighbourhoods without a dwelling unit. Both individual vacant lots along with larger remnants of vacant land that could be further subdivided to create lots are identified.

3) "Re-Development" In addition to the mapping of infill and greenfield lands, there are other lands with re-development potential that are currently under a non-residential use, non-residential zoning, or other designation under *Plan Winnipeg Vision 2020*. The capacity of these sites to absorb housing demand will also be discussed in this section.

3.1 Infill Land

Map 1 shows the location of vacant infill land throughout the City and the following table summarizes the quantity and location of these lands expressed as potential lots:

	Approximate Infill Lots*
North West	***549***
North East	***284***
South East	***374***
South West	***1121***
Total	***2328***

Figure 11: Approximate number of potential infill lots in Neighbourhood Policy Area by Quadrant

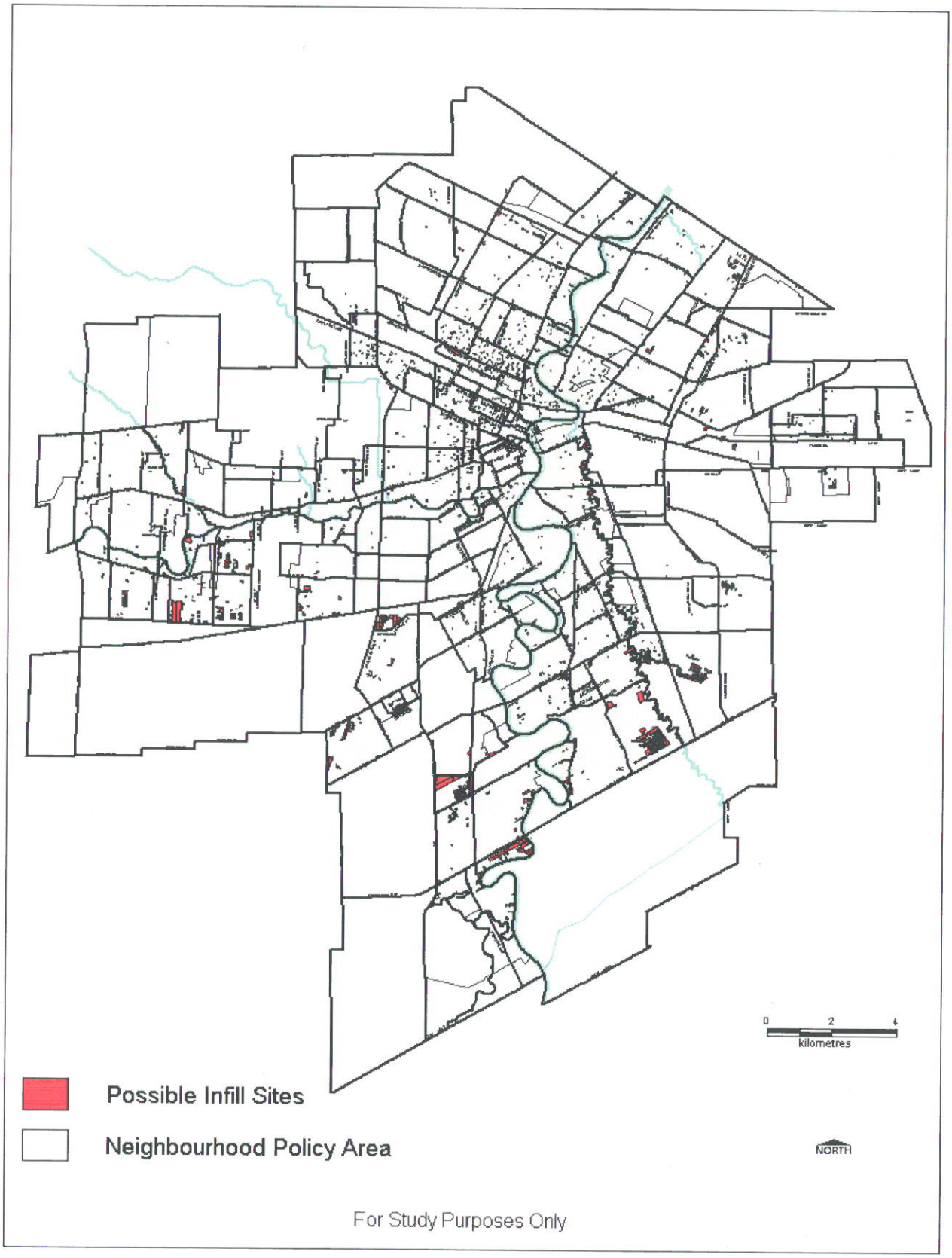
**Note: Infill Lots are not necessarily available for development (See Appendix A for more information).*

Since the mapping exercise is based upon 2002 air photo information, some of the land depicted on the map as "vacant" has since been built upon within the last two years. To account for this, the actual number of potential lots identified in the table has been discounted accordingly using building permit data from 2003 and 2004 (See Map 1).

Over one third of all vacant land in mature neighbourhoods in Winnipeg is concentrated in a cluster of inner city neighbourhoods north of downtown and west of downtown. This correlates closely with some of the "Major Improvement Neighbourhoods" and "Rehabilitation Neighbourhoods" identified in *Plan Winnipeg 2020 Vision* (Policy Plate D, Section 1B-01).

The remaining infill lands are scattered throughout the balance of the City in a dispersed pattern with concentrations located in remaining phases of previously approved suburban

developments. Much of these lands have been absorbed over the last two years as evidenced by building permit data.



Map 2: Land in Neighbourhood Policy Area with Infill Potential.

3.2 Greenfield Acreage

Map 3 indicates the location of larger areas of vacant land within the Neighbourhood Policy Designation in *Plan Winnipeg 2020 Vision*.

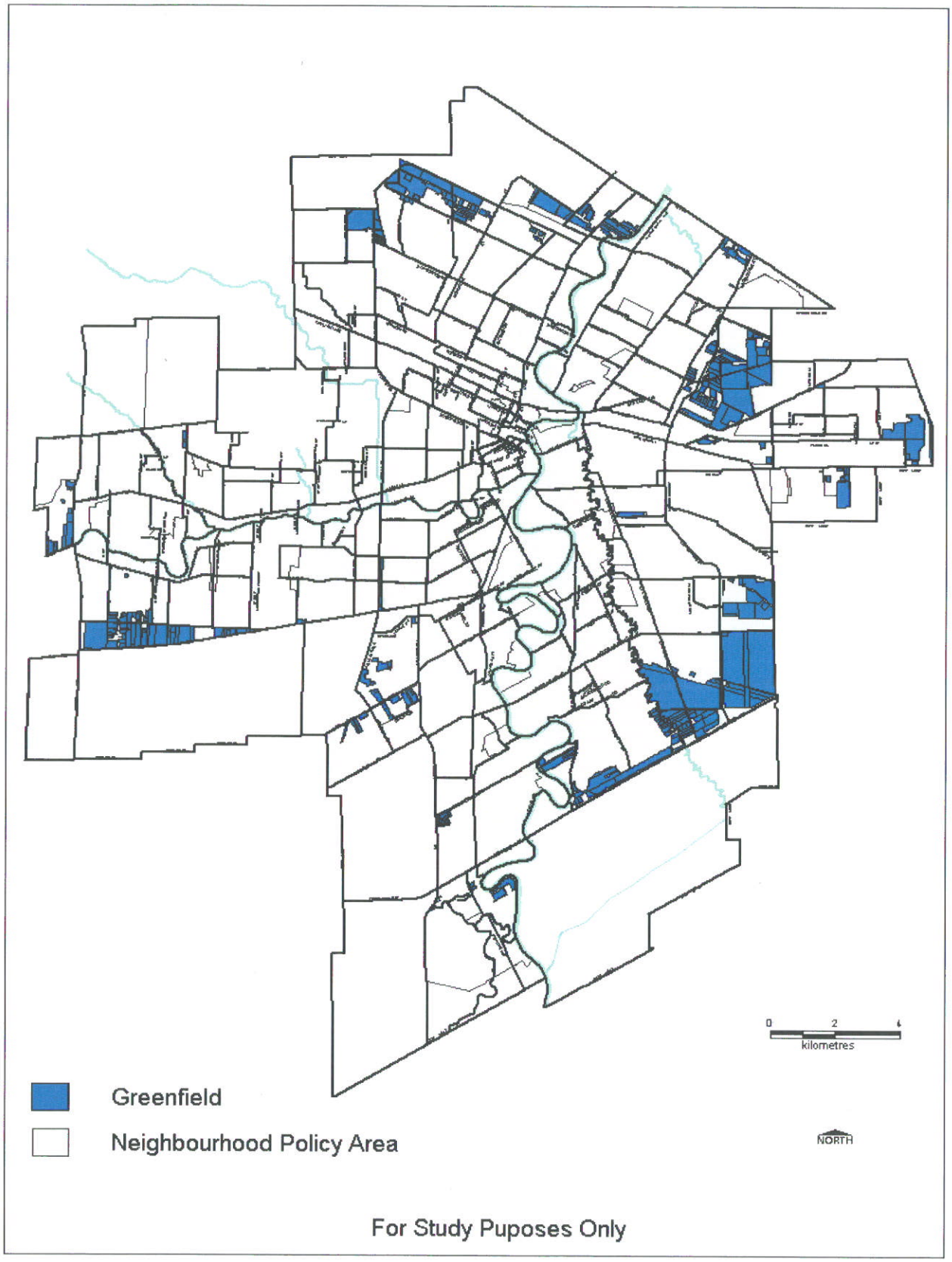
The following table provides a summary of the quantity of these lands by acreage and approximate number of lots that could be realized.

	Greenfield in Acres	*Approximate Greenfield Lots*
North West	***1151***	***3000***
North East	***1500***	***4300***
South East	***2505***	***10000***
South West	***1001***	***3000***
Total	***6157***	***20300***

Figure 12: Approximate number of Greenfield lots in Neighbourhood Policy Area by Quadrant.

In some areas, such as South Charleswood and the Transcona West area, sufficient work has been accomplished on detailed plans (Secondary Plans) to determine a more accurate estimate of lot yield and this is reflected in the statistics.

In other areas, an estimate of lot yield is provided based upon an average yield of four lots per gross acre of land. This is an average that accounts for land that would be lost for potential residential lots due to other requirements such as roads, utilities, stormwater retention areas, parks, schools, other non-residential uses.



Map 3: Greenfield Land in Neighbourhood Policy Area

3.2.1 Serviced Vacant Lots

Serviced Vacant lots represent the capacity of the homebuilding industry to absorb immediate demand for housing and is an important measure of the actual availability of land for housing.

Although there may be a substantial amount of "raw" land in various areas of the City, issues of servicing with roads and infrastructure often present challenges that result in substantial delays before serviced lots are available for housing.

For example, the south Charleswood area requires the extension of major land drainage facilities and regional roadways prior to the development of any new subdivisions across multiple individual parcels of land. The time required to assemble lands and secure agreements amongst a variety of landowners in addition to engineering, approvals and construction could take many years.

The following table summarizes the number and location by quadrant of the City of vacant lots that are either fully serviced or could be serviced quickly under existing development agreements or approvals:

	Serviced Vacant Lots
North West	***700***
North East	***800***
South East	***1100***
South West	***465***
Total	***3065***

Figure 13: Current inventory of serviced lots as of September 2004.

Information used to generate this data is approximate and was obtained through discussions with the development industry. It represents lots that are currently available to the housing industry or could be made available with the extension of previously approved phases in developing subdivisions.

3.3 Lands with Re-development Potential

The remaining category of land with potential for housing are areas currently not identified for residential purposes under *Plan Winnipeg 2020 Vision* or designated for residential uses under the zoning bylaw. The potential for these sites to provide housing units is difficult to determine since the process of re-designating and approving them for such purposes has not been initiated.

Notable examples include sites that are former industrial areas such as Fort Rouge Yards or the Molson Brewery site. The suitability of these types of lands for residential development is often constrained by issues of site contamination or incompatible adjacent land uses that may contain existing active industrial uses. Although it is difficult to predict the actual yield in terms of dwelling units that these sites might contribute, they are relatively small in size and even at higher densities would not produce significant numbers of housing units.

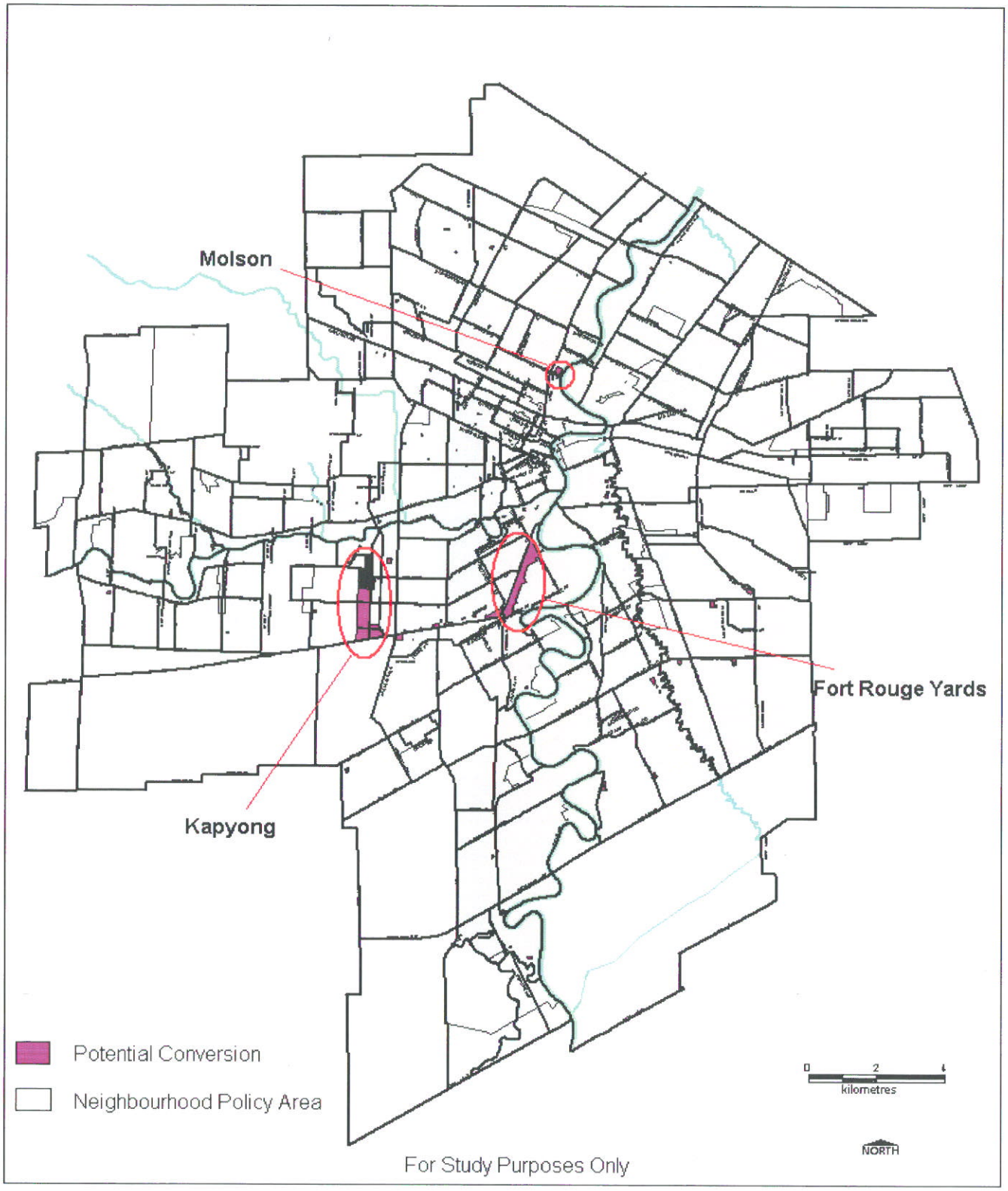
Former military lands also represent potential for conversion to residential uses. An opportunity exists at the Kapyong site for re-development into a new mixed use residential community. This might include a combination of multi-family, single-family and local commercial development. In the absence of more detailed planning, it is difficult to predict a potential yield for the site but, at an overall density of 10 housing units per acre, the site might produce between 1200 and 1600 housing units.

Figure 14 provides an overview of the estimated number of units that might be realized from these sites as a combination of both multi and single-family housing types.

	Area In Acres	*Possible Units*
Kapyong	***160 – 220***	***1200 – 1600***
Fort Rouge Yards	***25***	***200 – 565***
Molson Brewery	***9***	***50 – 100***
Total	***194***	***1465 – 2263***

Figure 14: Estimated Units for Re-development lands – Multi and Single-Family.

Re-development sites provide an important opportunity for the City to continue the process of promoting urban infill development and enhancing development in existing neighbourhoods. These types of development projects are by their nature unique and often require longer planning and approvals processes to address more complex issues. As such, they are often not a reliable contributor of lot supply to meet an immediate demand for new housing in the short term.



Map #4: Possible Re-development Sites

4.0 Supply and Demand Conditions

By comparing the projected demand for housing against the supply of both unserviced and serviced land, a determination of the adequacy of land supply in various quadrants of the City can be determined.

4.1 Years of Supply

Years of supply of both raw unserviced lands and lots that are serviced and immediately available for development provide a measure of land supply across the City. The following table summarizes these results:

	Total Lots	*Serviced Lots*	*Projected Lot Demand to 2011*	*Projected Lot Demand 2011-2021*	*Total*	*Years of supply*		
						Unserviced	*Serviced*	*Total*
North West	*3549*	*700*	*2419–2943*	*2212–2383*	*4631–5326*	*7 to 8*	*1.5 to 2*	*8.5 to 10*
North East	*4584*	*800*	*2097–2550*	*1917–2066*	*4014–4616*	*11 to 13*	*2 to 2.5*	*13 to 15.5*
South East	*10374*	*1100*	*5645–6866*	*5162–5561*	*10807–12427*	*9.5 to 12*	*1 to 1.5*	*10 to 13.5*
South West	*4121*	*465*	*5968–7259*	*5456–5879*	*11424–13137*	*3.5 to 4.5*	*.5 or less*	*4 to 5*
Total	*22628*	*3065*	*16129–19618*	*14747–15889*	*30876-35507*	*7 to 8.5*	*1 to 1.5*	*8 to 10*

Figure 15: Demand and Supply for Single-Family Dwellings -Years of Land Supply

Although the actual availability of infill lots to the housing market is unpredictable, the raw number is included in the summary under total lots to present the most conservative estimate of land supply. In addition, the relatively small number represents about 10% of the estimated total available in the City and as such have little overall impact on land supply.

4.2 Summary

Overall, the City of Winnipeg has approximately 6 to 10 years of total land supply available for residential development. There are approximately 1 to 2 years of supply for the entire City available immediately in the short term.

The southern quadrants of the City are currently experiencing the greatest shortage of serviced and readily serviced land compared to the other two quadrants in the north. In particular, the southwest will begin to experience a severe shortage of available serviced lots during 2005.

Since the conversion of land from raw to serviced can take 2 years or more to allow for planning, approvals, engineering, development agreements, financing, construction, marketing etc., some areas of the City may experience a more rapid depletion of serviced lots as demand shifts from other areas with lot shortages.

Appendix A: Study Assumptions and Definitions

Identifying Parcels

Using colour air photos taken in May 2002, lots were identified independent of ownership and zoning. The 2004 Assessment role (published in May 2003) was used to verify if a dwelling unit existed. If the assessment data indicated there was a dwelling unit on a small lot, the lot was removed from the inventory.

Neighbourhood Policy Area

Plan Winnipeg 2020 Vision Policy Plate A designates all land in Winnipeg as one of five types: Neighbourhood, Rural, Industrial, Downtown, or Major Open Space. This study considered *only* land with a Neighbourhood policy designation.

Greenfield Acreage

Parcels of land larger than 4 acres or smaller parcels adjacent to undeveloped land were deemed greenfield parcels. Parcels larger than 4 acres may or may not have a dwelling unit or some form of development on the parcel. All greenfield parcels have been included in this study regardless of zoning.

Approximate Greenfield Lots

Lots in the South West and North East are based on preliminary planning work and represent predicted yields. A density of 4 units per acre was used to estimate the number of lots in the North West and South East quadrants of the city. Four units per acre was chosen as it is a good indication of the net yield after land is used for roads, schools, utilities, land drainage lakes, etc.

Approximate Infill Lots

Parcels classified as infill represent smaller pieces of land in established neighbourhoods that do not have a dwelling unit. If developed, they would be contiguous to other development. Gravel or small parking lots at the fringe of residential blocks or within residential blocks are included. Larger pieces of infill land were converted into lots in order to have constant units. Infill lots represent parcels that are zoned for residential or agricultural uses and exclude parcels zoned for industrial or commercial uses.

The total number of estimated infill lots has been discounted by the number of single-family home building permits issued since the date of the air photos.

It is assumed that all lots for infill development are available for development. Possible reasons for lots not being available for development are:

- Lots are privately owned and owner does not want to develop
- Community housing plans have identified use for vacant lots other than infill development (i.e. greenspace, community gardens, increased lot sizes)

- Infrastructure needs upgrading

In reality, many of the infill lots identified in mature neighbourhoods may be unavailable for new housing as they form parts of extended side-yards adjacent to existing homes or are being used for other purposes such as storage, parking etc.

Total Lots – Sum of Approximate Greenfield Lots and Approximate Infill Lots

Calculation Methodology for Projecting Single-Family Lot Demand

1. Projected Population (high and low) at target date divided by average household size (2.3 persons/house) equals total number of households required.
2. Subtract existing number of households to calculate additional units required to house the projected population.
3. Multiply additional units required by 75% to account for 25% of the market as multi-family units provides the net number of single-family homes required.
4. Subtract 5% of the total to account for new single-family home for infill development in older neighbourhoods.
5. The result is the demand for suburban single-family homes at the future date identified.

Projected Single-Family Lot Demand to 2011

Demand projections are based on updated population counts and projections from the City of Winnipeg CAO's office Demand for single-family dwellings is expected to be strong due to decreasing household size and modest population growth. The demand is displayed as a range to account for a low and high prediction of demand. Demand per quadrant is based on 10 years of historical single-family dwelling permit data. Over the past 10 years 15% of new single-family homes were built in the North West, 13% in the North East, 35% in the South East, and 37% in South West.

Projected Single-Family Lot Demand 2011 – 2021

Household size is expected to stabilize around the year 2011. Therefore, the demand represented from 2011 – 2021 is due to population growth alone, and is consequently, lower. The demand is displayed as a range to account for a low and high prediction of demand.

20 Year Total

Total of estimated demand for single-family dwellings over the next 20 years.

Years of Supply

Projections are based on the number of lots available for development in Neighbourhood Policy Area and the demand for single-family dwellings. Years of supply is calculated on the basis of the first and second ten years of projected average annual demand and are ranged to account for the low and high demand predictions.

Other Definitions

Lot – Parcel of land suitable for a single-family dwelling.

Serviced Land – Vacant land that is either fully serviced and subdivided into lots or is currently approved for development or included in the provisions of an existing development agreement. These lands are considered to be readily serviceable for development of housing within at least one year.

Unserviced Land – Vacant land that has no services and is not included in an existing development approval or agreement. These lands may or may not have significant servicing constraints requiring large investments in off-site infrastructure.