

# **Assessing the Implementation of a Secondary Plan Using a Conformance-Based GIS Method: A Pilot Project in Winnipeg, Manitoba**

A report submitted to the School of Urban and Regional Planning in conformity with the  
requirements for the degree of Master of Urban and Regional Planning

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## Executive Summary

This case study evaluates the implementation of a secondary land use plan. The area selected for this case study is the Northeast Neighbourhood, a part of Waverley West, which is located in Winnipeg, MB. The development of the Northeast Neighbourhood was guided by the Waverley West Northeast Neighbourhood Area Structure Plan (NNASP). This plan functions as a secondary plan for the Northeast Neighbourhood, an area of approximately 145 hectares (360 acres). The NNASP is one plan among seven total secondary plans for the Waverley West planning area, which is itself a planning district of for the City of Winnipeg.

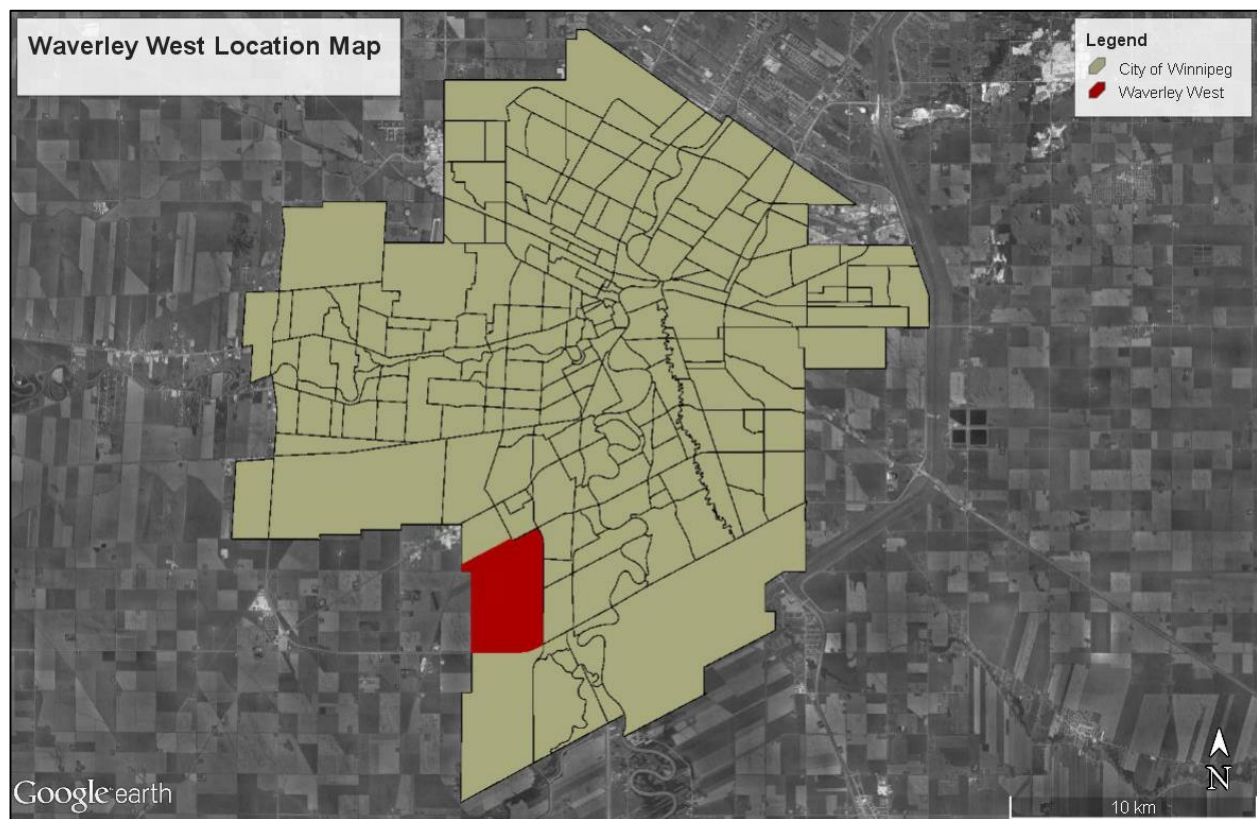


Figure 1 - Waverley West Location Map

The Waverley West subdivision is a 1214 hectare (3000 acre) area of land located in the southwest corner of Winnipeg. It is largely a joint development venture between the two primary

landowners, the Manitoba Housing and Renewal Corporation (MHRC), operated by the Provincial government, and Ladco, a private development company. The Northeast Neighbourhood was the first phase of development for Waverley West and experienced rapid development after the plan for the area was passed in 2006, and at the time of writing this report the area is nearly entirely developed.

There is an extra layer of interest for this case study because Waverley West and the NNASP was an attempt to begin doing greenfield suburban development differently in Winnipeg. This the proposal was controversial from the beginning since the need for additional land being made available for suburban development was criticized. Despite this, there was an effort made to plan for a development that incorporated good planning principles such as sustainability, access to transit, walkability, etc.

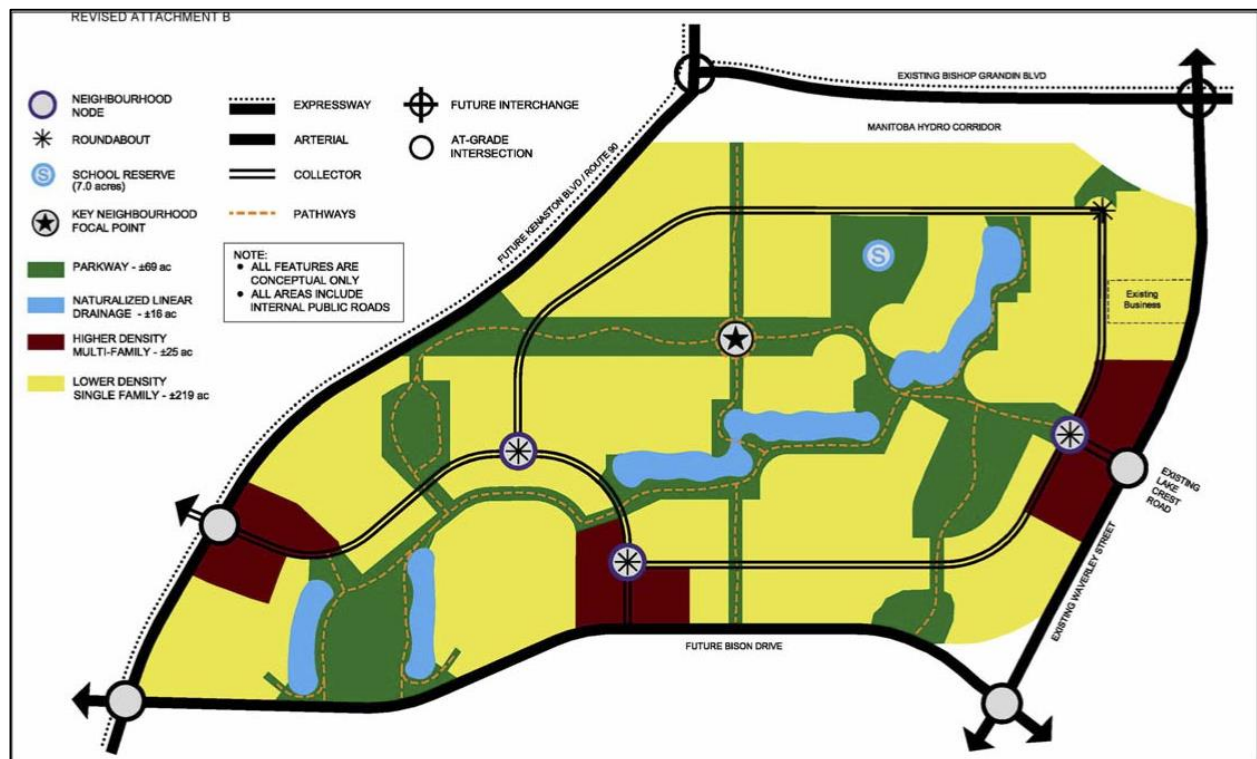


Figure 2- NNASP land use concept plan (amended)

This case study evaluates the plan implementation of the Northeast Neighbourhood of Waverley West through a conformance analysis which answers the following research questions:

- 1) Does the developed land use pattern in the NNASP area conform to what was planned?
- 2) Does the implementation of the NNASP conform to the goals, objectives, policies, and intent of the plan?

In order to evaluate the implementation of the NNASP 62 evaluation criteria were generated which were created based on the policies of the NNASP. In this way the development of the Northeast Neighbourhood is effectively evaluated against the requirements of the NNASP.

<b>Table 1 – NNASP conformity analysis summary table</b>				
	Number of criteria	Full conformance	Partial conformance	Nonconformance
Land Use Concept Plan	3	2 (66%)	1 (33%)	-
Housing and Density				
Low Density Residential Areas	8	7 (87.5%)	-	1 (12.5%)
High Density Residential Areas	6	5 (83%)	1 (17%)	-
Density	1	1 (100%)	-	-
Neighbourhood Nodes	12	8 (67%)	2 (16%)	2 (16%)
School Reserve	3	2 (66%)	1 (33%)	-
Neighbourhood Greenway System	10	9 (90%)	1 (10%)	-
Transportation				
Road Network	9	6 (66%)	3 (33%)	-
Public Transit	3	1 (33%)	2 (66%)	-
Pathway and Pedestrian Networks	7	6 (86%)	1 (14%)	-
<b>Total Policies</b>	<b>62</b>	<b>47 (75.8%)</b>	<b>12 (19.4%)</b>	<b>3 (4.8%)</b>

The method for this conformity test utilized a threefold approach to evaluate the plan implementation. The first step was a conformity test between the Northeast Neighbourhood Area Structure Plan and the GIS parcel dataset. A ‘not equal’ analysis was conducted between layers

in GIS revealing areas in the Northeast Neighbourhood that do not conform to the land use plan of the NNASP. The GIS analysis was also used to evaluate the implementation of other aspects of the NNASP. A site visit of the Northeast Neighbourhood was also conducted to make on site observations and collect data for the purpose of completing the conformity test of any areas that could not be determined directly by GIS. Document analysis was conducted alongside the GIS and site visit portions of the conformity test. The document analysis entailed using the NNASP and supporting documents to complete the evaluation criteria by evaluating these documents against the data gathered through the GIS portion of the conformity test as well as the site visit. This method effectively identified areas of nonconformity between the NNASP and actual development of the Northeast Neighbourhood.



*Figure 3 - Aerial view of Northeast Neighbourhood (Google Earth, 2014)*

The results of the conformance analysis determined that the Northeast Neighbourhood was implemented according to the NNASP. Of the 62 evaluation criteria, 75.8% (47) were in full



conformity, 19.4% (12) were in partial conformity, and only 4.8% (3) were in non-conformance. Despite the Northeast Neighbourhood being in general in conformity with the plan, the end result does not appear to be substantially different from other conventional suburban developments in Winnipeg. Low density residential areas with strictly single-family detached housing, a largely conventional street network, limited transit service, all contribute to a developed product that appears very similar to conventional suburban development. Considering that a fairly conventional development is in conformance with the plan, with respect to development standards, the NNASP can therefore be considered to be a missed opportunity for the Provincial government to take a leadership role in achieving a more progressive form of development.

From the results of this case study there are several recommendations that can be made regarding future development in Winnipeg, future development of Waverley West, as well as future research into Waverley West.

Recommendations for Winnipeg and Waverley West:

- 1) The secondary plans for the undeveloped and partially developed areas should be re-examined to ensure that they are firm enough with respect to development standards and planning principles so that the developed product will be a significant improvement for suburban development in Winnipeg.
- 2) The evaluation of these secondary plans should ensure that external design features such as architectural guidelines are not emphasized at the expense of more important planning principles such as a mix of housing, higher densities, mixed uses, access to transit, and walkability.

- 3) The plans for the remaining undeveloped lands in Waverley West should be re-evaluated to ensure that the development of these areas achieves a higher standard of development with respect to progressive planning principles, as was the original stated intention.
- 4) As there was considerable controversy regarding whether or not Waverley West even needed to be developed to accommodate growth, the remaining vacant greenfield lands slated for development within the City of Winnipeg should be re-evaluated to determine whether it is necessary for these areas to be developed and that the projected growth cannot be accommodated in already developed areas.

Recommendations for future research in Waverley West:

A possible program of research is outline below:

- 1) The Waverley West Secondary Plan as well as the Neighbourhood Secondary Plans should be evaluated to ensure they have development standards sufficiently robust to ensure the development of these areas will occur at a higher standard than conventional suburban developments.
- 2) The remaining neighbourhoods of Waverley West should be evaluated to assess whether or not the developed product conforms to each respective plan.
- 3) A comparative case study should be conducted where the neighbourhoods of Waverley West are compared against other conventional suburban developments to determine whether Waverley West is an improvement compared to existing development with respect to development standards.

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## Chapter 1 - Introduction

Evaluating plan implementation is considered to be an understudied area in planning and few studies have provided an assessment of the implementation of specific plans (Talen, 1996). This stands in contrast to the evaluation of plans themselves, which is a more common practice (Stevens, 2013). This makes it difficult to determine what is successful in planning efforts and what is not. Part of this gap can be attributed to the unique and complex challenge that planning presents for evaluation (Laurian et al., 2010), yet despite this complexity, evaluation is rightly deemed a necessary exercise (Oliveira and Pinho, 2010), and there is a strong desire within the literature to correct this.

The understudied nature of evaluating plan implementation is compounded by the fact that plan implementation seems to be a problem within the planning profession more broadly. Planning as a discipline has been criticized for what is dubbed ‘new plan syndrome’ (Calkins, 1979) where after a period of time it becomes apparent that the development patterns of the urban area do not conform to what is called for in the plan, the municipality or planning authority simply repeats the planning process to create a new plan that better reflects reality.

Another common criticism of planning is that a great deal of energy is expended in making plans, only to have them ‘sit on the shelf’ for years without being used, and without accountability for results (Berke et al. 2006). The unwanted result of this is that in certain cases planning is ineffective as unimplemented plans are not influential and waste the good will, trust, and efforts of those who participated in plan creation (Loh, 2011). The problem is given further weight if the plan in question is considered to be a ‘good’ plan by all relevant standards. Morckel (2010) asks a pertinent question, that if the plan or the planning process is well done, even if it is



an award-winning plan, but the final product is never implemented, does it really matter that a ‘good’ plan was created? The quality and content of plans can arguably be considered to be irrelevant if their implementation does not occur.

## 1.1 Scope of work

The area selected for this case study is the Northeast Neighbourhood, a part of Waverley West, which is located in Winnipeg, MB. The development of the Northeast Neighbourhood was guided by the Waverley West Northeast Neighbourhood Area Structure Plan (Winnipeg, 2006a) hereafter referred to as the NNASP. This plan functions as a secondary plan for the Northeast Neighbourhood, an area of approximately 145 hectares (360 acres) (Winnipeg, 2006a). The NNASP is one plan among seven total secondary plans for the Waverley West planning area, which is itself a secondary plan for the City of Winnipeg (Winnipeg, 2006b).

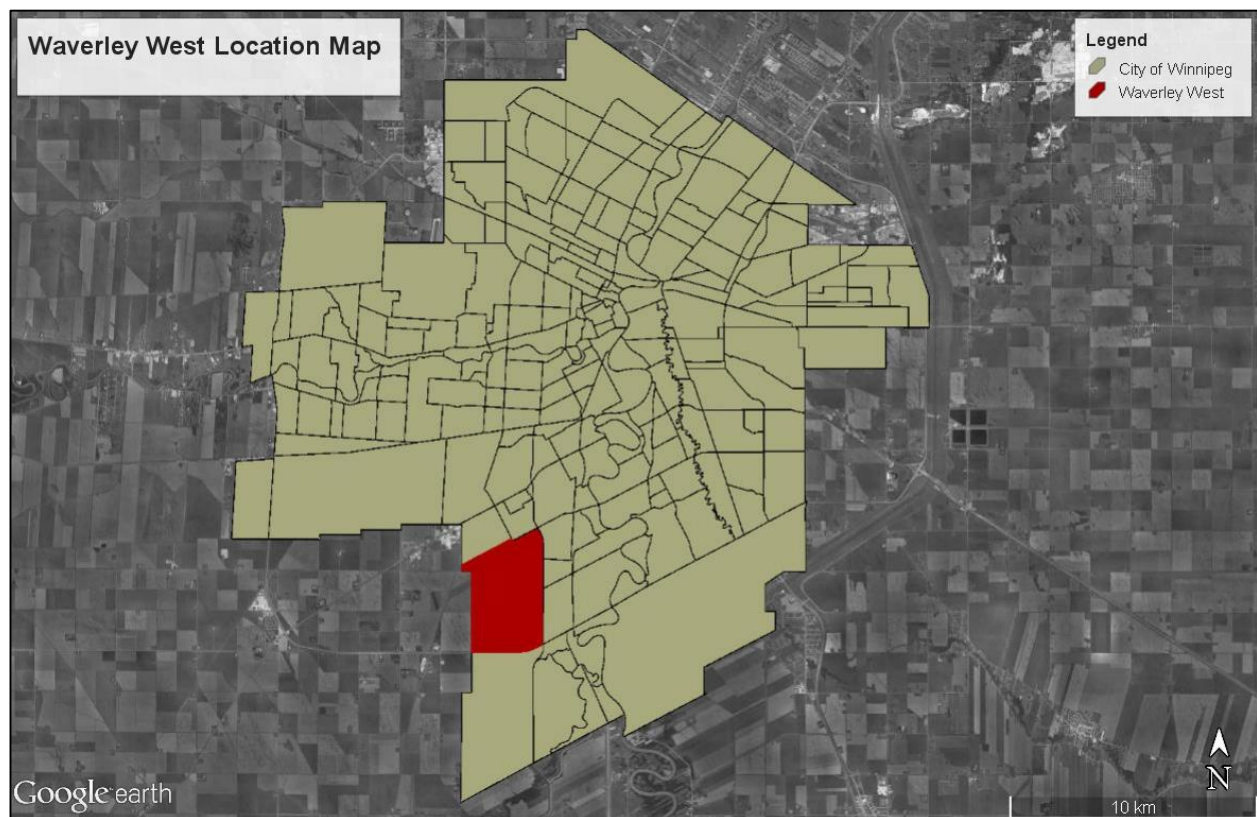


Figure 4 - Waverley West Location Map

The Waverley West subdivision is a 1214 hectare (3000 acre) area of land located in the southwest corner of Winnipeg (Winnipeg, 2006b). It is largely a joint development venture between the two primary landowners, the Manitoba Housing and Renewal Corporation (MHRC), operated by the Provincial government, and Ladco, a private development company (Clark and Witty, 2009). The Northeast Neighbourhood was the first phase of development for Waverley West and experienced rapid development after the plan for the area was passed in 2006, and at the time of writing this report the area is nearly entirely developed.

## 1.2 Research questions

This report focuses on evaluating plan implementation of the NNASP. Considering the scope presented above, this case study will seek to answer the following research questions:

- 3) Does the developed land use pattern in the NNASP area conform to what was planned?
- 4) Does the implementation of the NNASP conform to the goals, objectives, policies, and intent of the plan?

In answering these research questions, the implementation of the NNASP is evaluated and the research questions are answered through a conformity test that compares the Northeast Neighbourhood as it actually developed against what was planned according to the NNASP.

## 1.3 Relevance to planning

This case study is relevant to planning due to the understudied nature of the subject and the lack of studies that evaluate the implementation of specific plans. Loh (2011) identifies two benefits that can come from evaluating plan implementation; 1) studies that show how planning is effective can demonstrate the value of planning to planners, politicians, and the general public and; 2) studies that identify factors associated with successful implementation can improve both plans and the planning process. By evaluating the NNASP and understanding its implementation

there is potential benefit for one or both of these benefits specific to the context of Waverley West.

This case study is also relevant to planning in Winnipeg as the Northeast Neighbourhood and Waverley West represented an attempt to begin conducting suburban development in Winnipeg differently than it had been conducted in the past (Clark & Witty, 2009). Conventional suburban development in Winnipeg has been very similar to other communities across Canada; Waverley West is different in the sense that the plans for these areas were highlighted by the fact that they attempted to incorporate progressive planning policies such as a mix of uses, walkable neighbourhoods, an emphasis on transit, and environmental sustainability. Since the lands were provincially-owned, expectations were heightened that suburban development practices might be improved, as happened with provincially-owned lands in Markham, Ontario and Federally owned lands in Calgary, Alberta (Tomalty and Haider, 2013). By evaluating the implementation of the NNASP, the first neighbourhood to be developed in Waverley West, it can be considered to be a gauge for how the rest of Waverley West might be developed.

## Chapter 2 - Context

### 2.1 Context of Evaluating Plan Implementation

The first portion of this chapter will outline the context of evaluating implementation within planning.

#### 2.1.1A Typology of Evaluation in Planning

There are several types of evaluation research within the planning literature and some of these are more studies than others. Talen (1996b) has outlined a typology of planning that distinguishes between evaluating the implementation of plans versus other types of evaluation. The first is evaluation prior to plan implementation. This type of evaluation can take two forms; the evaluation of alternative plans and analysis of the planning documents themselves. The evaluation of plans is a routine procedure within the planning profession as plans are recognized and awarded for their excellence. The implicit assumption here is that the better a plan is, the better on-the-ground results it will have for the community that adopts it. As will be made clear this assumption is incorrect. The second type of evaluation associated with planning is the evaluation of planning process or planning practice. Studies that seek to evaluate this aspect of planning seek to study and evaluate planning behavior and these studies are more closely aligned with performance-based evaluation methods (Alexander and Faludi, 1989). Evaluation of the planning process can also include descriptions of the impact of planning and plans. The third type of evaluation associated with planning is policy implementation analysis a broad topic in itself. The fourth and final type of evaluation of planning in Talen's typology is evaluation of the implementation of plans. Studies that evaluate plan implementation can then be further split up into qualitative studies (Alterman & Hill, 1978) and quantitative studies (Laurian et al. 2004).

Studies that evaluate plan implementation in this way tend to be more closely aligned with conformance-based methods. It is the fourth type that this case study is concerned with as there is a broad consensus in the literature that evaluation in planning is underdeveloped and that there is a gap between plans and outcomes, between intentions and results and that further quantitative studies evaluating the impact of plans are needed (Talen, 1996). In particular there is seen to be a gap in studies that objectively assess plans and it is a common belief in the literature that planning must improve its evaluation methods in order to progress as a discipline. “Planning must be subject to evaluation of its success and failures just like any other human activity; it cannot be undertaken or continued on faith alone (Alexander & Faludi, 1989, 138).

#### 2.1.2 Obstacles to Evaluating Planning

Despite the broad acknowledgement of this gap in the planning literature, there are a number of reasons why this gap exists. Oliveira and Pinho (2010) identify some obstacles as to why this gap exists. The first obstacle relates to time in that it is not always clear when the outcome of a plan should be determined and what this outcome should be compared to in order to determine its success or failure. The second obstacle is that since the research has definitively shown that the value of planning is not determined solely by the plan content alone, there is disagreement over how the effectiveness of planning should then be measured. The third obstacle is that the apparent lack of longitudinal data sets and agreed upon research methods makes it difficult to examine planning impacts over long periods of time. In order for planning implementation to ever be effectively and systematically evaluated, baseline data from which to detect and track change is necessary. This lack of data and methods is then compounded by inconsistency across and within jurisdictions when it comes to the collection of data and its analysis. The fourth obstacle is the lack of consensus over the meaning of success and the

evaluation of plan conformity. Conformity-based evaluation measures the degree to which planning decisions, outcomes, or impacts adhere to the objectives, instructions, or intent expressed in a plan and its policies. This means-ends approach to evaluating plan effectiveness is rejected by Alexander and Faludi (1989). They cite complexities of the decision making process and the fact that deviations from a plan's original design is a normal consequence of policy implementation. From this, the mere consultation of a plan may be viewed as an indicator of implementation success.

If the position of Alexander and Faludi (1989) can be viewed as being on one end of the plan implementation spectrum, the strict linear association between plan goals and outcomes of the conformance-based approach is the other end of the spectrum. The extreme end of this view is found in Wildavsky (1973) who asserted that any departure from the goals and objectives of the adopted plan would be considered a failure. However as discussed above, due to the uncertainties involved in the planning process and the complex social and political context within which planning takes place, a direct cause and effect relationship is likely an unrealistic expectation for planning. Faludi (2000) later distinguished between strategic plans and project plans and concedes that project plans are supposed to act more like blueprints, thus supporting a conformance-based evaluation method for these types of plans. Realistic expectations as to the degree to which plans can and should be followed are likely not found in either of these extremes, but somewhere in the middle of this implementation spectrum (Brody et al., 2006). That being said, while the objections of Alexander & Faludi (1989) do hold merit this raises an inherent tension due to the fact that if plans are not to be followed in a blueprint like manner, at what point does planning devolve into an ad-hoc procedure vulnerable to all manner of changes and manipulation from outside interests? Failure to hold decision makers to account for their

adopted plans and policies would serve to undermine and delegitimize the planning field (Brody et al., 2006).

These obstacles to evaluating plan implementation have resulted in an underdeveloped understanding of the relationship between the processes of planning, the adopted plan, and plan implementation, whether evaluated through conformance or performance-based measures. This lack of understanding has led to a current situation in the field of planning in what Calkins (1979) described as ‘new plan syndrome’, where new plans and policies are adopted without any attempt to measure the progress toward achieving the stated goals and objectives. Additionally, often little effort is made to determine why the previously adopted plan was unable to meet its goals, or whether they were totally or partially met.

### 2.1.3 Performance-based Approaches to Evaluation

Performance-based evaluation is one attempt by the literature to evaluate planning and is based on defining planning as a decision-making framework (Alexander, 2006). Faludi (2000) develops the performance criteria to assess strategic plans after distinguishing between project plans and strategic plans and states that conformance-based approaches are useful only with project plans. So while strategic plans provide a frame of reference for decision-making it does not have to produce direct impacts on the physical development process. Contrary to conformance-based approaches performance-based evaluation of strategic plans should provide a detailed analysis of the planning process: the decisions and actions of those who enacted the plan. In a later work Faludi (2006) extends the performance-based approach to evaluating the European spatial development perspective (ESDP) where planning is defined as a learning process and evaluates the success of applying plan messages. In sum, what is important to the performance-based approach is to understand “if, in what conditions, and how the plan was

consulted for subsequent decisions (Oliveira and Pinho 2010).” What actually happens with the plan and how it is used in the decision making process is what is assessed with this evaluation method.

Finally, Tomalty and Haider (2013) compared recent new urbanist suburban plans with adjacent conventional suburban development across a broad range of performance criteria. They found that the new urbanist plans performed better than adjacent conventional suburbs on many criteria.

#### 2.1.4 Conformance-based Approaches to Evaluation

As mentioned earlier, conformance-based evaluations of plan implementation judge the success or failure of planning using one or more criteria. The degree of conformance between the realized outcomes and the policies in the plan determines the degree of success the plan achieves (Talen, 1996). A strength of this method is that it allows the detailed identification of land use changes as it focuses on the parcel level and thus enables the researcher to determine the amount and location of new development that is in conformance or nonconformance with the plan.

Alterman and Hill (1978) were one of the first studies to take this approach, where their research sought to measure the degree of conformance between proposed land use plans and actual urban development patterns by using a hand-drawn grid of cells, a precursor to today’s GIS technology. Another conformance-based method was presented by Calkins (1979) who created the planning monitor which is a method used to measure the achievement of plan objectives and to explain the differences between planning and development.

Following these studies, Talen (1996b) evaluated plan implementation utilizing a conformance-based approach by analyzing the distribution of public facilities in Pueblo, Colorado. Talen’s (1996b) conformance-based evaluation approach was one of the first attempts



to use GIS to assess plan implementation; the use of GIS is essentially a quicker and more efficient way to conduct the same type of analysis first conducted by Alterman and Hill (1978). Loh (2011) conducted a conformance-based evaluation of plan implementation based on a GIS comparison between planned versus actual land use. Chapin et al. (2008) focus on environmental issues where they present a parcel-based geographic information system (GIS) method for evaluating the conformance of local land use planning.

Gkotsis (2014) conducted a conformance analysis on the implementation of a New Urbanist secondary plan in Kingston, Ontario. Gkotsis (2014) evaluated the Cataraqui North Alternative Master plan through criteria set out in the plan itself. The criteria were grouped into five categories: Commercial Development; Parks and Open Spaces; Street Network; Housing and Residential Density, and Schools. The conformance analysis was completed using a parcel-based GIS land use conformity test. Gkotsis (2014) then conducted a document analysis that consisted of archival research into areas where non-conformity was observed to understand how instances of non-conformity were allowed to occur. Other conformance-based evaluations of plan implementation were conducted by Brody et al. (2006) and Alfasi et al. (2011).

## 2.2 Case Study Context

The second portion of this chapter provides background information regarding the case study area – the Northeast Neighbourhood and Waverley West.

### 2.2.1 Location:

Waverley West is geographically located in the southwest quadrant of Winnipeg (Figure 1). The Northeast Neighbourhood is the neighbourhood in the northeastern most corner of Waverley West and has the closest proximity to existing developed areas of the future neighbourhoods of Waverley West. It is approximately 145 hectares (360 acres) in size

(Winnipeg, 2006a). It is bounded by Bishop Granden Boulevard to the north, Waverley Street to the east, Cadboro road to the south, and Kenaston Boulevard to the west (Neighbourhood Plan Area ‘A’ – Figure 2).



Figure 5 – Waverley West plan area (Winnipeg, 2006b)

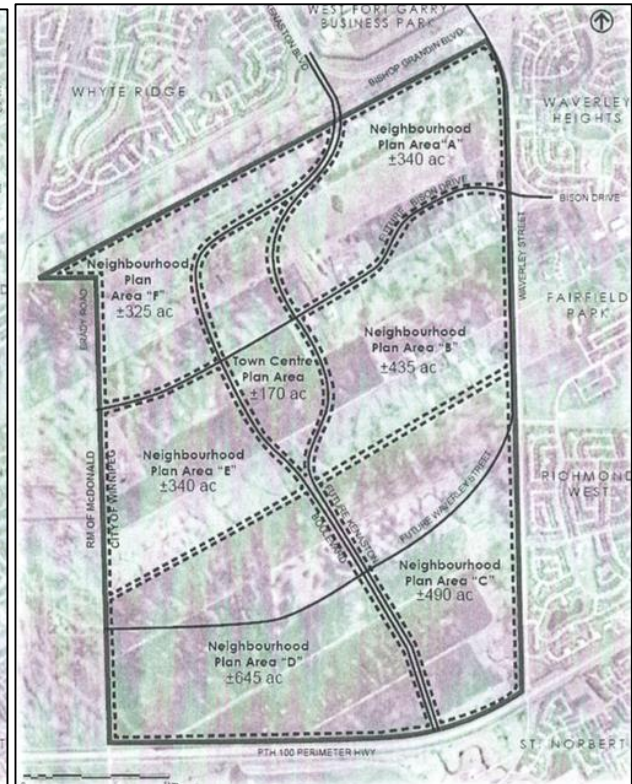


Figure 6 – Neighbourhood Plan areas (Winnipeg, 2006b)

## 2.2.2 Background:

The beginning point of the planning process for Waverley West can be relayed back to the Official Plan amendment of Plan Winnipeg 2020. The amendment changed the Official Plan designation of the Waverley West lands from a Rural Policy Area to a Neighbourhood Policy Area (Winnipeg, 2004c). The amendment to the Official Plan would permit the area to be developed whereas it previously was not designated as an area where development was to occur in the Official Plan. This Official Plan designation permits a “residential mix together with a variety of educational, recreational, institutional, commercial, and possibly industrial uses, at a scale and density compatible with each other.” (Winnipeg, 2001). The two major landowners of

the Waverley West lands, MHRC and Ladco initiated the process (Clark and Witty, 2009).

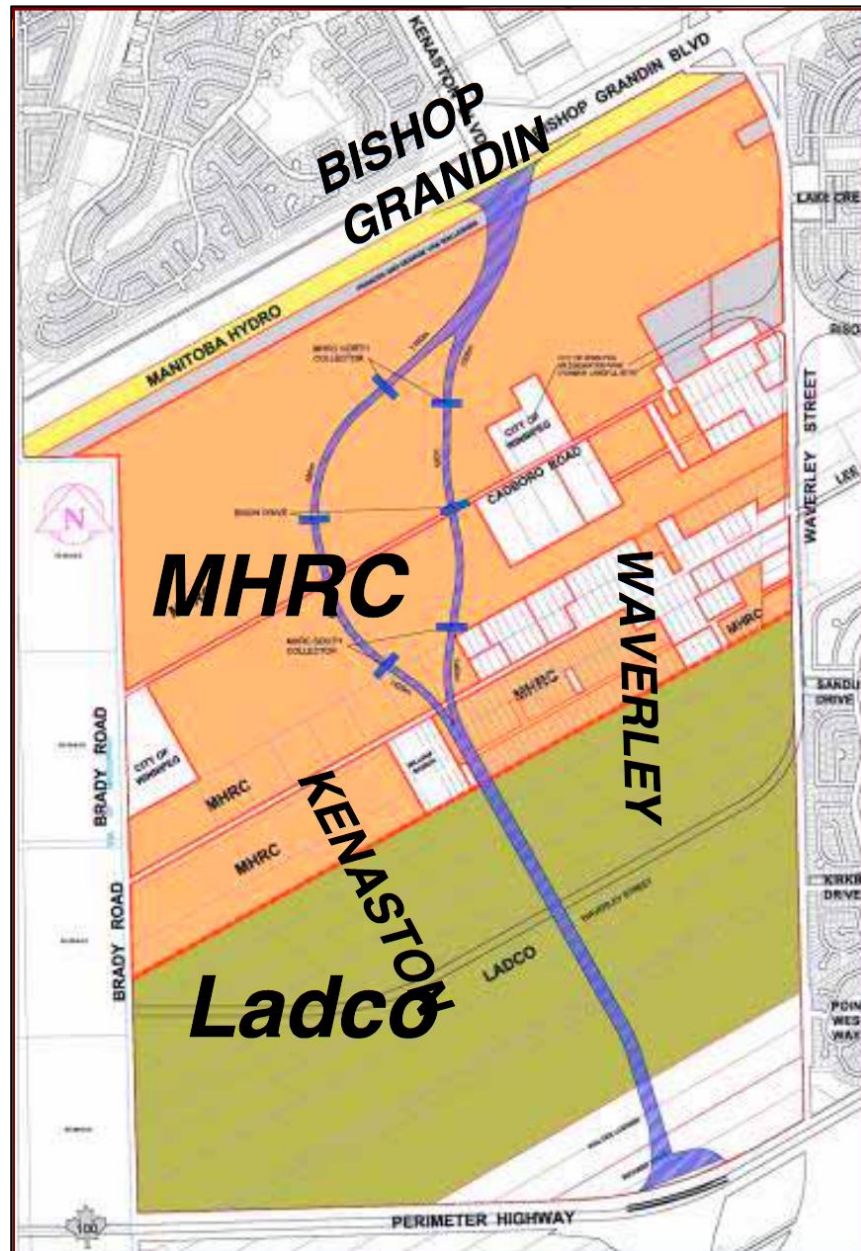


Figure 7 – Waverley West land ownership map (McNeil and Tebinka, 2007)

The rationale for the development of Waverley West was based on three separate justifications. The first justification that was the most significant, and also the most controversial, came from two studies prepared as part of the background information collected for the Official Plan amendment process. The first report prepared by consultants ND Lea, was the Waverley

West Plan Winnipeg Amendment Housing and Population Report (ND Lea, 2004), the second one being the City of Winnipeg Residential Land Supply Study (Winnipeg, 2004a). The main finding of these studies was that based on the population growth projected by these studies and the amount of land currently available, the supply of serviced land for residential development in Winnipeg was running out. In order to accommodate the projected population growth and housing demand, new greenfield development areas (i.e. Waverley West among other areas) would need to be made available. The findings of these studies in that they are supportive of the Waverley West lands being opened are contentious; Sjoberg (2005) argues both studies use overestimated figures to provide justifications for their conclusions. Milgrom (2011) corroborates the findings of Sjoberg in that Waverley West may not have been necessary as there were underutilized areas within the urbanized area that could accommodate the additional population growth and that new greenfield development was not necessary to address this land supply shortfall

The second justification for the development of Waverley West is the projected financial benefits to be reaped from the project (Winnipeg, 2004b). Waverley West was projected to be a profitable development and as the Provincial government is one of the main landowners in Waverley West through the MHRC, they have stated that profits generated from Waverley West can be used to fund programs and development in core areas of the city (Province of Manitoba, 2008). In short this justification makes the case that the profits generated from the Waverley West greenfield suburban development will be utilized to subsidize the development of programs and housing in inner-city Winnipeg.

The third justification for the development of Waverley West is that it is necessary for Winnipeg to accommodate a growing population by increasing the supply of building lots within

the city limits. The rationale for this as outlined by Milgrom (2011) is to prevent urban sprawl and make the best use of existing infrastructure. Milgrom argues that this assessment sounds good as a policy however does not account for the fact that the 350 sq.km. currently urbanized area only accounts for three quarters of land within city limits and that close to 100 sq.km. outside the urbanized area is officially part of the city, currently used for agricultural purposes. Built onto this justification, and perhaps closer to the real reason, is the fear that Winnipeg needs to promote growth within the city limits or neighbouring municipalities would take the growth instead. There is perhaps some merit to this fear, since Winnipeg is a provincial capital that lacks a regional plan that would prevent this from happening (Milgrom, 2011).

<b>Table 2 – By-law History of Northeast Neighbourhood</b>		
<b>By-law Number</b>	<b>By-law Title</b>	<b>Date Passed</b>
By-law No. 50/2004	Plan Winnipeg amendment	April, 27 <sup>th</sup> 2005
By-law No. 10/2006	Waverley West Secondary plan	July, 26 <sup>th</sup> 2006
By-law No. 210/2006	NNASP Secondary plan	December 6 <sup>th</sup> , 2006
By-law No. 20/2007	Plan of subdivision	January 24 <sup>th</sup> , 2007
By-law No. 88/2007	Plan of subdivision	April 25 <sup>th</sup> , 2007
By-law 139/2008	Correction to By-law No. 20/2007	September 24 <sup>th</sup> , 2008
By-law 186/2008	Plan of subdivision	December 17 <sup>th</sup> , 2008
By-law 45/2009	Plan of subdivision	March 25 <sup>th</sup> , 2009
By-law 35/2009	NNASP Secondary plan amendment	September 30 <sup>th</sup> , 2009
By-law No. 44/2010	Plan of subdivision	April 28 <sup>th</sup> , 2010

In terms of process, the overall planning process for Waverley West was two-tiered (Winnipeg, 2006c). The Waverley West Area Structure Plan, being the first tier, provides high-level direction to the entirety of Waverley West and includes planning principles that apply to all future neighbourhood plans. The seven Neighbourhood Area Structure Plans are the second tier of the planning process. These plans are specific to each neighbourhood and are meant to be prepared so that they implement the requirements and policies of the Waverley West Area Structure Plan. The rationale behind this two-tiered process was that

“high-level community issues (transportation, servicing, neighbourhood delineation etc.) can be dealt with through one overall plan, while providing needed flexibility for each developer to proceed with specific neighbourhood level plans on their own timeline and incorporating their own development priorities (Winnipeg, 2006c).”

The NNASP, the first of seven Neighbourhood Area Structure Plans, was prepared in accordance with this two-tiered system. The preparation of the NNASP included a public consultation program that “included advice through a neighbourhood Advisory Committee, stakeholder discussion sessions, and public input through an open house.” The preparation of the NNASP was also informed by the findings of a design charrette that was held early in the planning process for Waverley West (Southwest Fort Garry Design Charrette, 2003).

Considering this background, this case study provides an interesting opportunity to evaluate plan implementation for a number of reasons. Waverley West is a relevant case study because it represents an attempt to begin doing suburban development differently in Winnipeg (Clark & Witty, 2009). The contentious nature of the development is also a compelling reason to use Waverley West as a case study, because an evaluation of the plan implementation can provide some clarity to the merits of the various arguments surrounding Waverley West. Additionally, there is an element of political significance to Waverley West as the Manitoba Government touted the new development would provide benefits to inner city development and benefit social programs (Province of Manitoba, 2008). Another, perhaps more significant, reason also relates to the involvement of the Manitoba Government; through the Manitoba Housing and Renewal Corporation (MHRC) the provincial government was in the role of developer for the development of Waverley West. While the MHRC and Ladco were the two principal landowners for Waverley West, the land that the NNASP was developed upon was nearly all owned by MHRC. All these factors contribute to the fact that the attention upon Waverley West was higher than would be the case for a normal greenfield development. Therefore, when it comes to

evaluating the implementation of the NNASP the expectations seem to be slightly higher than they would be otherwise, and due to the land owners involved, there seems to be a larger onus on the land owners, MHRC, to get it right.



## Chapter 3 - Research Methods

This case study evaluates the plan implementation of the Northeast Neighbourhood of Waverley West through a conformance analysis. This chapter outlines the research methods used to conduct this analysis, as well as the data sources and evaluation criteria that are used.

### 3.1 Research Questions:

To revisit the research questions, this case study answers the following:

- 5) Does the developed land use pattern in the NNASP area conform to what was planned?
- 6) Does the implementation of the NNASP conform to the goals, objectives, policies, and intent of the plan?

### 3.2 Data sources

Several sources of data were used to conduct this analysis. Municipal planning documents are the first source of information, including the original and consolidated versions of the NNASP, the Waverley West Area Structure Plan, and other supporting documents.

GIS datasets and aerial photographs are the second data source. GIS datasets are parcel data in the form of shapefiles and tables from the City of Winnipeg (Survey Parcel, 2014). This data source was selected because of the accuracy with which it displays the parcels in the NNASP area. The aerial photographs are taken from Google Earth as this is the most recent source of aerial images, taken in September, 2014. The final data source is observations made during a site visit to the NNASP area.

### 3.3 Evaluation criteria

In order to evaluate whether the NNASP conformed to the vision, goals, policies, and intents of the plan, 62 evaluation criteria were developed based on the vision, goals, and policies



found in the NNASP. Following Gkotsis (2014), the evaluation criteria formed an important part of the conformity test as the NNASP was evaluated against evaluation criteria that were generated from the plan itself. Through the process of the conformance test described below the information gathered were used to systematically test the implementation of the NNASP based on the evaluation criteria that were developed. This resulted in the implementation of the NNASP being evaluated against criteria (i.e. policies) set out in the plan itself.

<b>Table 2 – Evaluation Criteria</b>		
Criteria Category	Number of criteria questions	Methods
Land Use Concept Plan	3	GIS, Site Visits, Document analysis
Land Use Policy Areas		
LDRA	8	GIS, Site Visits, Document analysis
HDRA	6	GIS, Site Visits, Document analysis
Density	1	GIS, Document analysis
Neighbourhood Nodes	12	GIS, Site Visits, Document analysis
School Reserve	3	GIS, Site Visits, Document analysis
NGS	10	GIS, Site Visits, Document analysis
Transportation		
Road Network	9	Site Visits, Document analysis
Public Transit	3	GIS, Site Visits, Document analysis
Pathway and Pedestrian Networks	7	GIS, Site Visits, Document analysis

### 3.4 Data analysis: Conformance test of NNASP

#### 3.4.1 GIS conformity test

This conformity test utilized a three-step approach to analyze the data. The first step was a conformity test between the Northeast Neighbourhood Area Structure Plan and the GIS parcel dataset. The GIS parcel data accurately represents the current built out land use of the NNASP. To perform this test, the land use concept plan from the NNASP was uploaded, along with the most recent aerial photographs. These files were then georeferenced to the GIS parcels layer so that they were accurately orientated and overlapped. Based on the georeferenced plans and aerial

photographs, the GIS parcel data was coded to their current existing land use. Next, the land use map from the NNASP was digitized into a separate parcel layer that reflects the land use parcels of the NNASP map; this effectively created a copy of the NNASP land use map that is digitized into GIS parcel format. This was possible to do because the size of the Northeast Neighbourhood was not prohibitively large enough so as to make this unfeasible. Following this, a ‘not equal’ analysis was conducted between the layer containing the NNASP land use parcels and the layer containing the current existing land use parcels. The ‘not equal’ analysis revealed areas in the current existing land use parcels layer that are different from or do not conform to the NNASP land use parcels layer.

#### 3.4.2 Site visit to NNASP area

A site visit of the Northeast Neighbourhood was conducted at the beginning of January, 2015. The purpose of the site visit was to conduct site observations and collect data for the purpose of completing the conformity test of any areas that could not be determined directly by the above GIS method.

#### 3.4.3 Document analysis

Document analysis was conducted alongside the GIS portion of the conformity test discussed above, as well as the site visit. The document analysis of the NNASP and supporting documents was conducted to complete the evaluation criteria. The document analysis entailed using the NNASP and supporting documents to complete the evaluation criteria by evaluating these documents against the data gathered through the GIS portion of the conformity test as well as the site visit.

This method effectively identified areas of nonconformity between the NNASP and actual development of the Northeast Neighbourhood. Identifying nonconformity in this way

leads to a better understanding of how well the NNASP was implemented and takes into account the recursive and iterative nature of planning and plan implementation, respecting the understanding that there will never be one-to-one conformance in the implementation of any plan.

### 3.5 Limitations of research method and study parameters

This case study assessed the implementation of one neighbourhood within the Waverley West subdivision. This is because the Northeast Neighbourhood is the only secondary plan area within Waverley West that is currently complete. As such the other neighbourhoods within Waverley West will be not be included in this case study. Future studies may seek to assess the other neighbourhoods or Waverley West as a whole. Additionally, it is beyond the scope of this case study to determine the success or failure of the Waverley West subdivision. Though this study proposes to assess the degree to which actual land use and development in the Northeast Neighbourhood area conforms to the NNASP, this does not necessarily determine the success or failure of the plan.

## Chapter 4 - Analysis and Discussion

### 4.1 Introduction

The following chapter presents the results and discussion of the conformance analysis that assesses the implementation of the NNASP described in the previous chapter. The first subsection assesses the conformity of land use concept plan and presents the results of the spatial analysis of the NNASP in GIS. This section assesses whether the structure, design, and land use distribution of the NNASP as presented in the land use concept plan of the NNASP was implemented in a manner that is consistent with the plan.

Each of the following subsections below assesses the implementation of the different sections of the NNASP, evaluating the plan to assess whether or not the policies of those sections of the plan were implemented. These subsections include Housing and Density, including LDRA (Lower Density Residential Areas) and HDRA (Higher Density Residential Areas), Neighbourhood Nodes, School Reserve, NGS (Neighbourhood Greenway System), and Transportation including the Road Network, Public Transit, and Pathway and Pedestrian Networks.

This chapter will address two of the primary research questions:

1. Does the developed land use pattern in the NNASP area conform to what was planned?
2. Does the implementation of the NNASP conform to the goals, objectives, policies, and intent of the plan?

This chapter presents a number of tables and charts. For the conformance analysis the scoring system is as follows ● = conformance, ◐ = partial conformance, and ○ = nonconformance. For a criterion to be considered in conformance the measurable quantitative or

qualitative aspect or aspects of the criteria question will need to be demonstrably present in the actual development of the NNASP. For a criterion to be considered in partial conformance, only some of the measurable quantitative or qualitative aspects or aspects of the criteria question are demonstrably present in the actual development of the NNASP. For a criterion to be considered in nonconformance, none of the measurable quantitative or qualitative aspect or aspects of the criteria question are demonstrably present in the actual development of the NNASP.



*Figure 8 – Aerial view of the Northeast Neighbourhood prior to development (Google Earth, 2014)*

## 4.2 Land use concept plan

There are three main land uses that are found in the NNASP. Lower Density Residential Areas (LDRA), Higher Density Residential Areas (HDRA), and the Neighbourhood Greenway System (NGS). The NGS is made up of several different components, but the components work together to form the overall system. The NGS includes the parkway (which includes the walkway system), open space, forested areas, and stormwater retention facilities (Winnipeg,

2006a, 12). Table 1 compares the different land uses across the original and amended plans with actual development of these land uses in the NNASP.



Figure 9 – Aerial view of Northeast Neighbourhood (Google Earth, 2014)

**Table 3 – Land uses within Original and Amended Plans compared to Actual Development of NNASP**

	Original Plan			Amended Plan			Actual Development		
	Hectares	Acres	Percentage	Hectares	Acres	Percentage	Hectares	Acres	Percentage
<b>LDRA</b>	<b>80.6</b>	199	60.5%	<b>88.7</b>	219	66.6%	<b>87.8</b>	217	65.8%
<b>HDRA</b>	<b>11.3</b>	28	8.5%	<b>10.1</b>	25	7.6%	<b>8.1</b>	20	6.1%
<b>NGS</b>	<b>41.3</b>	102	31.1%	<b>34.4</b>	85	25.9%	<b>37.2</b>	92	28.1%
Parkway (including school site)	27.5	68	20.7%	27.9	69	21.0%	31.1	77	23.6%
Open space (former landfill)	7.3	18	5.5%	-	-	-	-	-	-
Linear Drainage	6.5	16	4.9%	6.5	16.5	4.9%	6.1	15.0	4.5%
<b>Total</b>	<b>133.2</b>	329	100.0%	<b>113.2</b>	329	100.0%	<b>133.2</b>	329	100.0%



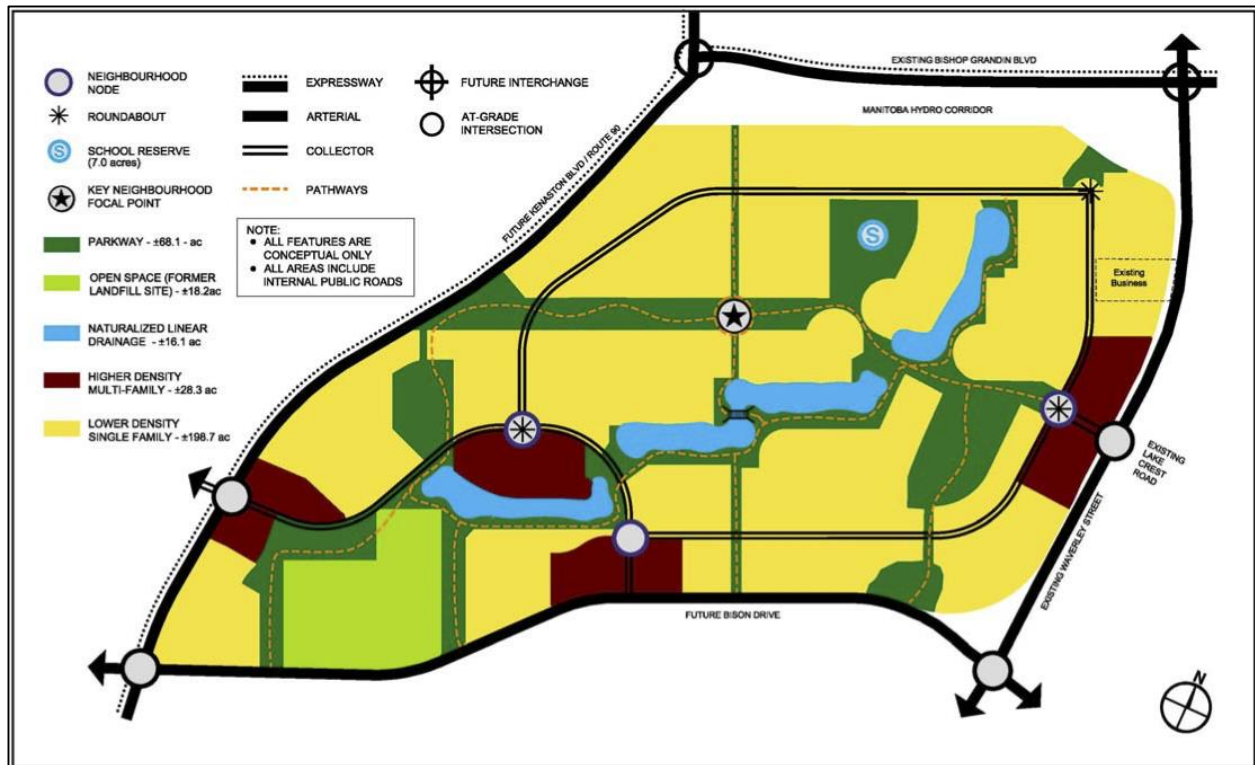


Figure 10 – NNASP land use concept plan (original)

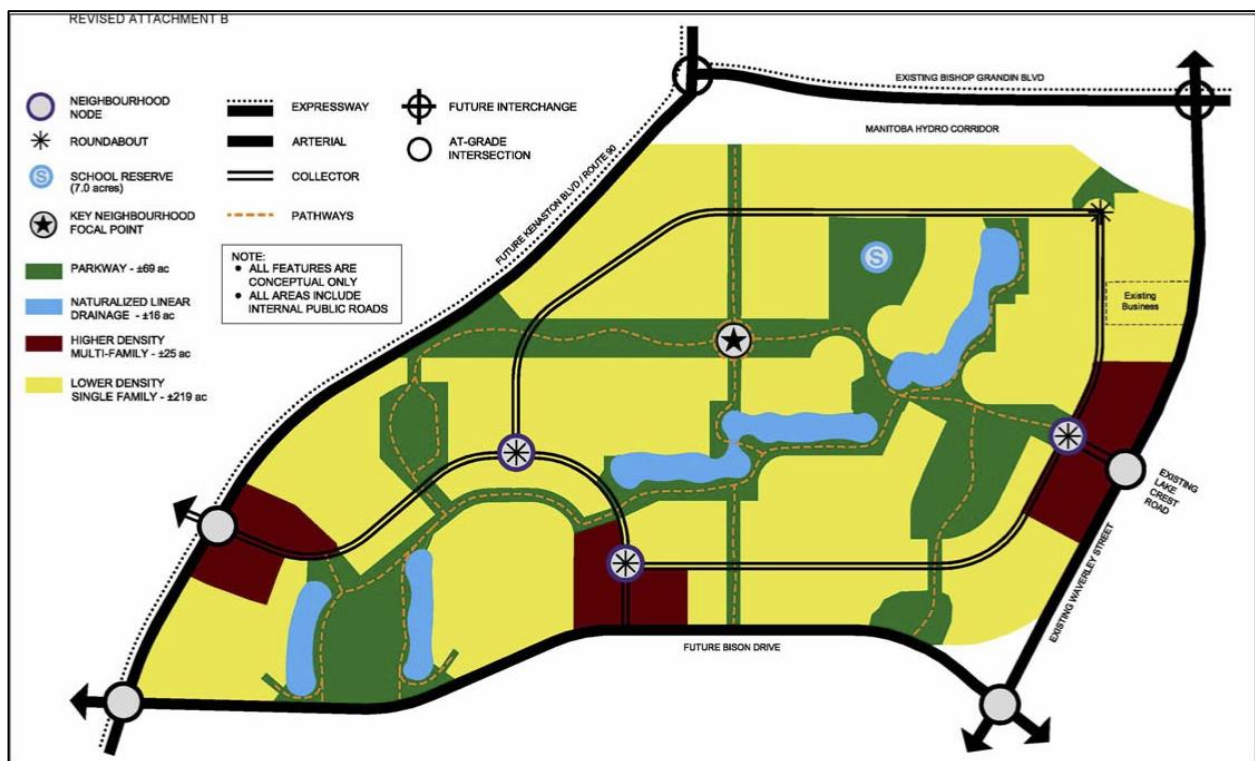


Figure 11 – NNASP land use concept plan (amended)

The land use concept plan for the NNASP is a key component of the overall plan as it is a map that serves as a visual representation of the layout and design of the land uses contained within the NNASP. This land use concept plan is compared to the actual development of the NNASP through a spatial analysis using GIS software. A collector road is also shown on the land use concept plan, however this road as well as all internal roads are included in the land use areas displayed in Table 1 which outlines the land use areas for the original and amended plans as well as the land use areas that were actually developed.

The NNASP was amended by a secondary plan amendment (SPA 1/2009, BY-LAW NO. 35/2009). The amendment to the plan significantly changed the amount of land dedicated to each land use area. This plan amendment came about mainly as the result of a change regarding the former landfill site, which was allocated 7.3 hectares (18 acres) in the original plan. The landfill was originally intended to remain as open space with a buffer area of 45m around it. However, the intent regarding the landfill site changed and it was remediated thus opening up additional land for development; prior to remediation the landfill site could not be developed on. Having more land available for development thus resulted in a complete redesign of the southwest quadrant of the NNASP around the former landfill site and also resulted in a redistribution of land area allocated to the different land uses of the NNASP. Table 1 outlines these changes, showing the land areas allocated to each land use in the original and amended plans, as well as the percentage of total land area each land use occupies in the NNASP.



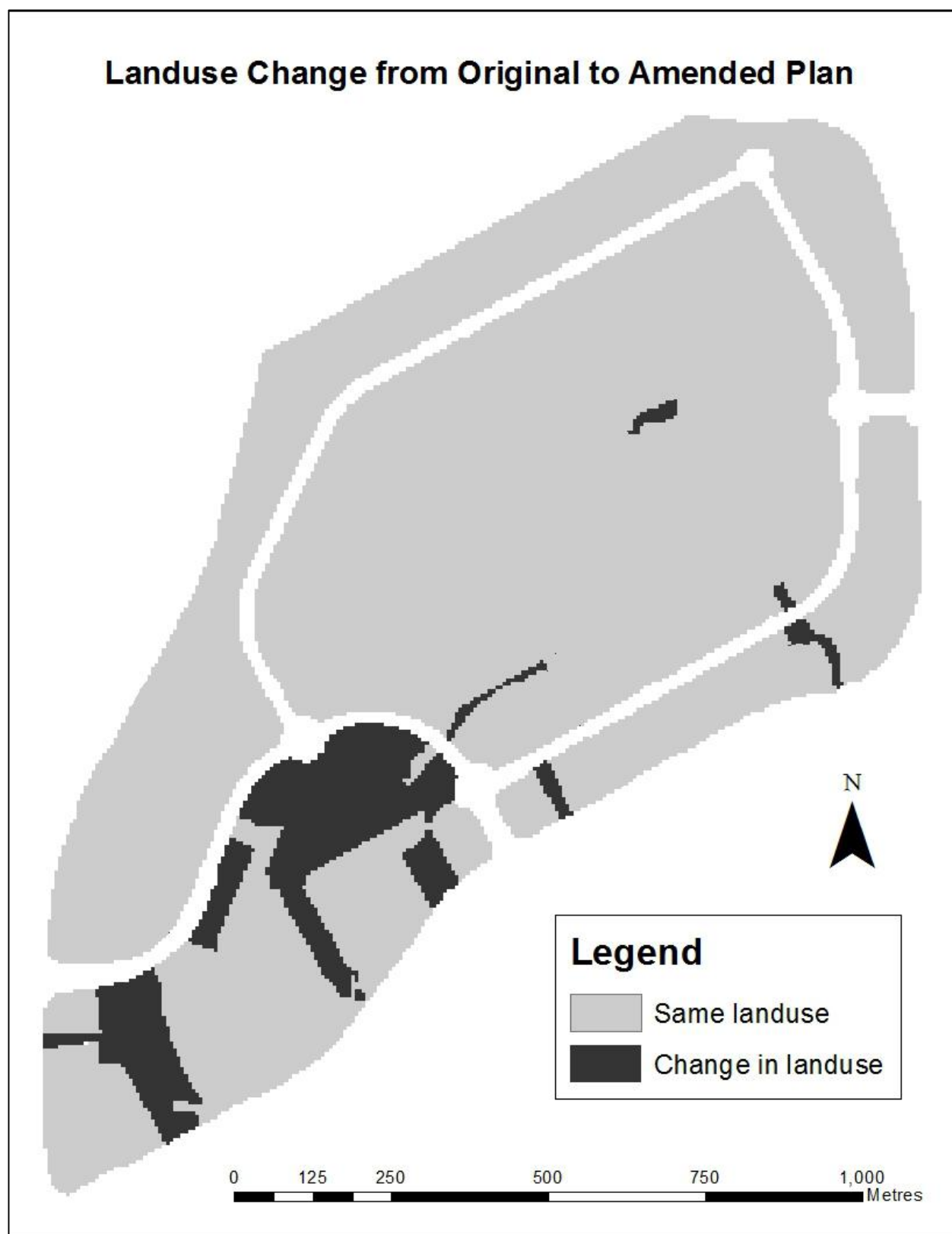





Figure 12 – Changes in land use distribution from original to amended plan

The most significant change between the original and amended plans was the 8.1 hectare (20 acre) increase in the LDRA from 80.5 hectares (199 acres) to 88.6 hectares (219 acres). This increase is understandable as with the remediation of the landfill, more area was available for development. Another significant change was the 1.2 hectare (3 acre) decrease in HDRA from 11.3 hectares (28 acres) to 10.1 hectares (25 acres). Reducing the size of the HDRA does not seem to be a positive change from a planning perspective, particularly for a neighbourhood seemingly built on smart growth principles.

The ‘not equal analysis’ performed in GIS provides a visual depiction of how the land use configuration of the land use concept plan changed with the secondary plan amendment. The results of the ‘not equal analysis’ are shown in Figure 5.

<b>Table 4 – Change in land use amounts from Original to Amended plan</b>						
	Original Plan			Amended plan		
	Hectares	Acres	Percentage	Hectares	Acres	Percentage
LDRA	7.3	18.1	9%	-0.7	-1.9	-1%
HDRA	-3.2	-7.9	-28%	-2.0	-4.9	-19%
NGS	3.9	9.7	14%	3.5	8.7	13%

The conformance analysis compared the amended plan land use area numbers with actual development. The actual development of the land use areas was analyzed in ArcGIS using projected maps of the land use concept plan from both the original and amended plan, aerial imagery from Google Earth as well as current parcel data from the City of Winnipeg.

<b>Table 5 – Land use concept plan conformity</b>	
Criteria Question	Conformity
LDRA (Lower Density Residential Areas)	
HDRA (Higher Density Residential Areas)	
NGS (Neighbourhood Greenway System)	
Number of Criteria: 3; Fully Implemented Criteria: 2	

Actual development of the LDRA, the largest land use in the NNASP, measured at 87.8 hectares (217 acres) and was almost exactly what the amended plan prescribed at 88.6 hectares (219 acres). The amended plan increased the LDRA by 8.1 hectares (20 acres) and the implementation of the LDRA was 1 percent less than the LDRA prescribed in the plan. Thus the implementation of the LDRA land use area is in conformance.

The HDRA, the smallest land use in the NNASP, measured at 8.1 hectares (20 acres) was 2.0 hectares (4.9 acres) less than the 25 acres of the NNAPS. This means that the HDRA was implemented at a rate of 19% less than what the amended plan called for. While the actual amount of land that was not implemented is not a large amount compared to the whole NNASP, because the HDRA is such a small land use in the overall plan, this translates to a significant percentage of the housing mix target that was not implemented. While most of the HDRA was implemented, in the locations the plan called for, the reduction in actual acres developed results in a partial conformity score for this category.

The reason for the partial conformity of the HDRA appears to have occurred at the development approval stage. The plans of subdivision for the NNASP that provide the design for the neighbourhood appear to decrease the size of the HDRA when compared to the HDRA in the land use concept plan in the NNASP. This is likely where the approximately 2.0 hectares (5 acres) was lost from the HDRA that was prescribed in the plan.

The NGS, this includes the parkway and walking paths, open space, forested areas, and stormwater retention facilities is the second largest land use in the NNASP, measured 37.2 hectares (92 acres) after implementation. This is 2.8 hectares (7 acres), or 13 percent, more than what was prescribed by the plan. Because the implementation of the NGS is more than what is prescribed by the plan the NGS land use area is in conformance.

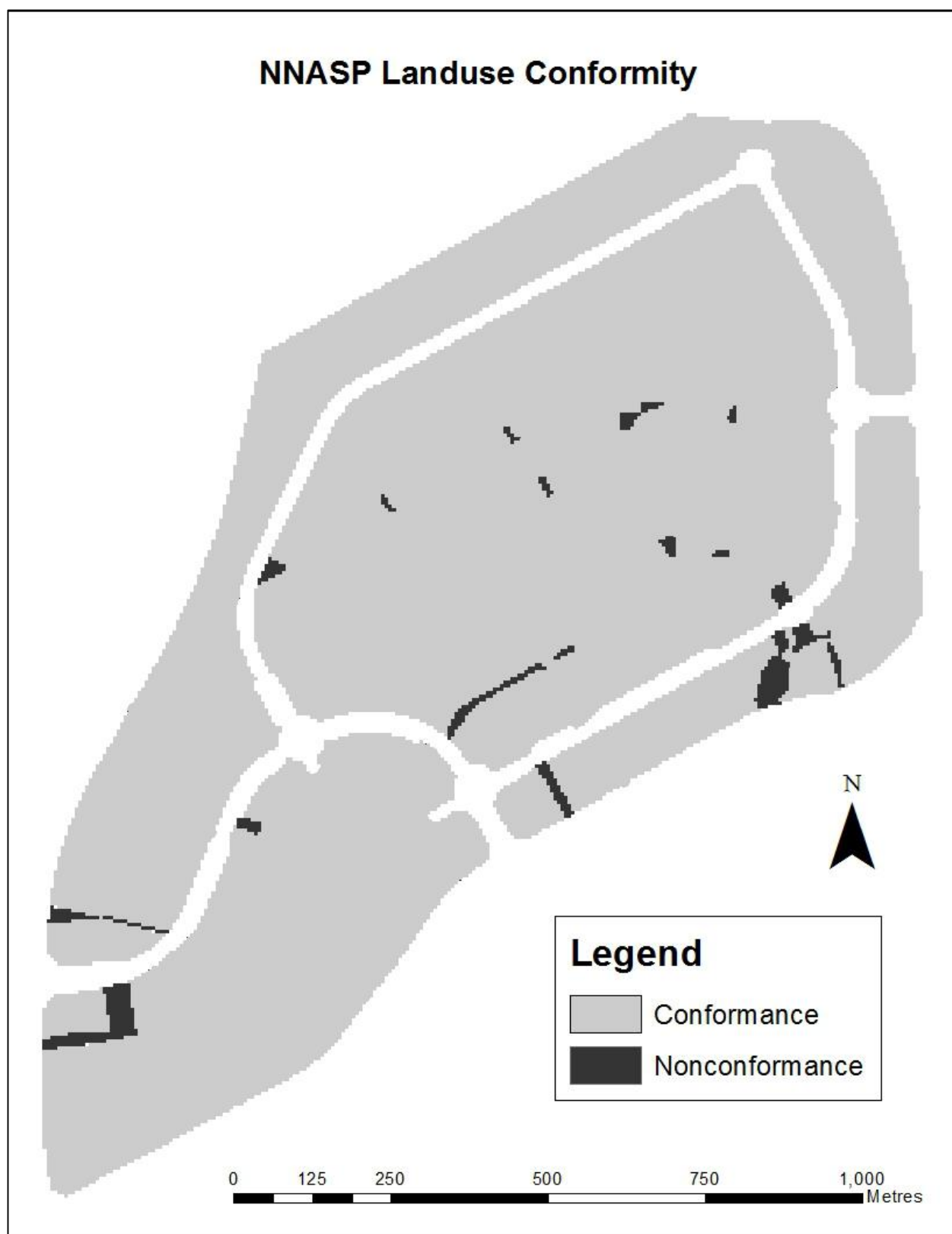


Figure 13 – Not-equal analysis results

The 'not equal analysis' (Figure 6) provides a visual representation of how the developed land use configuration of the NNASP changed from the amended plan. The coloured portions of Figure 6 reveal areas of the land use concept plan that are different, or areas that are 'not equal too', actual development of the NNASP. The 'not equal analysis' reveals several things. First the spatial configuration of the land use concept plan of the NNASP is generally followed and is implemented over a wide area. There are no significantly different changes in the spatial configuration and distribution of the land uses of the NNASP when comparing the NNASP to actual development. The second thing that the 'not equal analysis' reveals is how the HDRAs in the southwest quadrant of the neighbourhood have been made smaller in the implementation of the plan. This is the most significant difference that the 'not equal analysis' reveals.

#### 4.3 Implementation of Land Use Policy Areas

##### 4.3.1 Housing and Density Conformity

###### 4.3.1.1 Low Density Residential Areas (LDRA)

The intent of the Lower Density Residential Areas (LDRA) is to provide areas dedicated to residential development at a lower level of density, generally single family residential. The Land Use Concept Plan of the NNASP indicates the areas dedicated to LDRA in yellow, with the final design of these areas being determined through the development application process (Winnipeg, 2006a).

Based on the policies of the NNASP the implementation of the LDRA has a high degree of conformity. Seven out of the eight policies relating to the composition and design of the LDRA have been fully implemented. Regarding the composition of the LDRA, single family

residential is the only land use in the LDRA, and the LDRA has plenty of access to open space via the neighbourhood greenway network which is provided throughout the plan area.



*Figure 14 – Single family dwellings along street*



*Figure 15 – Access to pathway system from LDRA*

Regarding the design of the LDRA, the one policy that is in nonconformance in this section is whether there are a variety of housing types and alternatives provided in the LDRA. While the LDRA makes up a significant portion of the total land use of the NNASP, single family uses are the only type of housing found in the LDRA. In addition to this policy, it was explicitly stated in the planning goals of the NNASP that a variety of housing types was a goal of the plan. Note that this policy is prefaced with a ‘shall’ making it a mandatory policy, however it has not been conformed to. Nonconformance of this policy serves to undermine the goal of housing diversity of the NNASP (Winnipeg, 2006a).

Besides this policy that was not conformed to, the design of the LDRA is in full conformance with the policies of this section. The LDRA has multiple access points to the pathway system that is aligned with the neighbourhood greenway system. The NNASP is interesting in its focus on certain design elements. There are a series of architectural design guidelines that were created for the NNASP. These architectural design guidelines are for builders and developers to follow and it appears as though their intent is to create a certain

design and feel for the NNASP. Some of these features listed in the policy are roundabouts and laned and non-laned lots, which the NNASP includes. The laned lots are included in phases 1A and 1B of the plan, but for some reason the provision of laned lots was not continued in the later phases of development of the NNASP.



*Figure 16 – Single family dwellings on laned lots*



*Figure 17 – Laneway at the rear of laned lots in LDRA area*

Another interesting policy in the design of the NNASP is emphasizing a north-south lot orientation to encourage the passive use of solar energy. As most of the streets in the NNASP run roughly east-west, most lots do have an approximate north-south orientation. The north-south orientation can only be approximate though as the entire NNASP does not run horizontally east-west, but has a slightly slanted orientation.

Minimized front yard setbacks is the final policy addressing the design of the LDRA. It is stated in the policy that minimized front yard setbacks will assist in maximizing density. In comparing the NNASP to two adjacent neighbourhoods, Waverley Heights and Whyte Ridge, the NNASP does appear to have a minimized front yard setback relative to those two neighbourhoods. Based on Google Earth imagery and measurements, a random sampling of lots in the NNASP resulted in an average front yard setback of 8m. Comparatively the same methods resulted in average front yard setbacks in Waverley Heights and Whyte Ridge of 12-13m.

<b>Table 6 – Low Density Residential Areas Conformity</b>	
Criteria Questions	Conformity
<b>Composition of Lower Density Residential Areas:</b>	
Whether single family uses are the predominant land use;	●
Whether open space are provided throughout the Low Density Residential Area to contribute to the active and passive recreational needs of residents.	●
<b>Design of Lower Density Residential Areas</b>	
Whether the design of the Lower Density Residential Areas emphasizes opportunities for distinct neighbourhoods that incorporate a variety of housing types and housing alternatives,	○
Whether the design of the Lower Density Residential Areas provides for a unique neighbourhood character through the implementation of tools such as architectural and neighbourhood design standards, the inclusion of both laned and non-laned lots, the inclusion of neighbourhood scale round-about, and the inclusion of nodal development	●
Whether the design of the Lower Density Residential Areas provides for neighbourhood connections through the incorporation of a neighbourhood pathway system for pedestrians and cyclists	●
Whether the design of the Lower Density Residential Areas maximizes exposure and access to the neighbourhood greenway system	●
Whether the design of the Lower Density Residential Areas encourages the use of passive solar energy by emphasizing a north-south lot orientation	●
Whether the design of the Lower Density Residential Areas maximizes density in lower density residential areas by minimizing front yard setbacks subject to market demand and required City of Winnipeg approvals	●
Number of Criteria: 8; Fully Implemented Criteria: 7	

There are some policies within the LDRA section of the plan that demonstrate a desire to create a different type of suburban development in Winnipeg. The inclusion of laned lots and minimized front yard setbacks, along with dedicated architectural guidelines demonstrates this, even if they are not fully implemented across the NNASP. However, the LDRA falls short on



arguably the most crucial policy in this section of the plan, the policy requiring a variety of housing types and alternatives, by having single-detached houses as the only housing type in this land use designation. It is not clear from the plan whether or not its creators believe the inclusion of architectural guidelines, that technically do provide a variety of designs for single-detached houses, meets the requirement of having a variety of housing types and alternatives. However, from a planning perspective a single-detached house, regardless of design is a single-detached house. Simply having different designs does not and should not constitute having a variety of housing types and alternatives.

#### 4.3.1.2 High Density Residential Areas (HDRA)

The intent of the Higher Density Residential Areas (HDRA) is to provide areas dedicated to residential development at a higher level of density, generally multi-family residential. The Land Use Concept Plan of the NNASP indicates the areas dedicated to HDRA in red, with the plan indicating these areas should be located near the Town Centre or along bus routes (Winnipeg, 2006a).

Based on the policies of the NNASP the implementation of the HDRA has a high degree of conformity. Five of the six policies relating to the composition and design of the HDRA have been fully implemented. Regarding the composition of the HDRA, “[s]mall lot single family or high density single family, two family and greater density (Winnipeg, 2006a, 14)” are to be the predominant land use in the HDRA. This policy also has a prescribed density target of 17-49 units per hectare (7-20 units per acre). Upon development, the HDRA ended up having 494 units; when divided by the area of the HDRA this resulted in a net density of 61 units per hectare (26.7 units per acre), higher than the prescribed density. The HDRA was required to have access to open space via the neighbourhood greenway network, while the neighbourhood greenway

system is in close proximity to the HDRA, at all locations it is required that users cross the street therefore resulting in a partial conformity score for this policy.



*Figure 18 – HDRA at west end of NNASP*



*Figure 19 – HDRA at south side of NNASP*

Regarding the design of the HDRA, buffering features in the form of trees and fencing have been provided and the parking areas of the HDRA have landscaping.

The HDRA areas of the NNASP are the only areas that provide a housing alternative to the single family only LDRA. Townhouse development comprises the HDRA at the eastern end of the NNASP at the Waverley Street entrance. The other two HDRA locations are comprised of low rise apartment/condominium buildings. While the total land area dedicated to HDRA was reduced by the plan amendment it is still a positive that they were included. The adjacent neighbourhood currently being developed in Waverley West, the Northwest Neighbourhood, currently does not have any higher density residential planned for the neighbourhood and it is likely that the residential areas will be comprised entirely of single family dwellings (MMM Group, 2010).



Figure 20 – From pathway towards HDRA at east side of NNASP Figure 21 – HDRA (townhouses) at east side of NNASP

<b>Table 7 – High Density Residential Areas Conformity</b>	
Criteria Questions	Conformity
<b>Composition of Higher Density Residential Areas</b>	
Whether small lot single family or high density single family, two family and greater density uses are the predominant use with target densities of approximately 7- 20 units per acre	●
Whether open space is provided throughout the Higher Density Residential Area to meet the active and passive recreational needs of residents	◐
Whether higher density residential areas are generally located near the Town Centre, or along bus routes, with the exception of a site at the Waverley Street entrance to the plan area.	●
<b>Design of Higher Density Residential Areas:</b>	
Whether the design of the Higher Density Residential Areas includes appropriate buffering features to separate the area from incompatible uses and adjacent roadways	●
Whether the design of the Higher Density Residential Areas incorporates appropriate connections to adjacent land uses including the neighbourhood greenway system	●
Whether the design of the Higher Density Residential Areas includes appropriate landscaping features including parking lot landscaping	●
Number of Criteria: 6; Fully Implemented Criteria: 5	

#### 4.3.1.3 Density policies

The intent of the density policies is to “ensure that residential development in the neighbourhood occurs within an acceptable density range in order to reduce land consumption and servicing costs and to promote transit use (Winnipeg, 2006a, 19).” The policies in this section provide a target density range for development to occur.

In the intent section of the density policies the plan addresses the density of the NNASP within the overall density context of Waverley West. This section outlines the belief that as the NNASP includes a large amount of land in the form of existing forest cover and open space that the Northeast Neighbourhood will have a lower density than future neighbourhoods in Waverley West (Winnipeg, 2006a). This claim has yet to be corroborated as Waverley West is not fully developed, however the Northwest Neighbourhood did not include any land dedicated to higher density residential development and has a minimum density target that is the same as the NNASP at 5 units per acre, however no maximum is provided. Because of this, it is not certain that the Northeast Neighbourhood will in fact have a lower density than surrounding neighbourhoods. This intent section also outlines the belief that Waverley West town centre, which is intended to be a mixed-use neighbourhood at higher densities will increase the overall density of Waverley West and make up for the fact that the NNASP has a lower density (Winnipeg, 2006a).

The density range required by the NNASP is a minimum of 12.4 and a maximum of 19.8 units per gross developable hectare (5-8 units per gross developable acre). There are 1617 units (including both single family and multi-family units) and 96.3 developable hectares (238 acres) in the NNASP. This yields an overall density of 16.8 units per gross developable hectare (6.8

units per gross developable acre). Therefore, the development of the NNASP is in conformance with this policy.

Table 8 – Density conformity	
Criteria Questions	Conformity
Whether the required residential density of the Northeast Neighbourhood is a minimum of 12.4 and a maximum of 19.8 units per gross developable hectare (5-8 units per gross developable acre).	●
Number of Criteria: 1; Fully Implemented Criteria: 1	

### 4.3.2 Neighbourhood Nodes

The intent of the Neighbourhood Nodes policies is to provide a transit focus and meeting place for the surrounding area (Winnipeg, 2006a). The intent of the plan is to ensure that these Neighbourhood Nodes are connected through a convergence of roads and pathways, complimented by a strong pedestrian orientation that emphasizes the street as the focus of neighbourhood activity (Winnipeg, 2006a). There are three Neighbourhood Nodes identified in the NNASP.



Figure 22 – Neighbourhood Node 1 from park

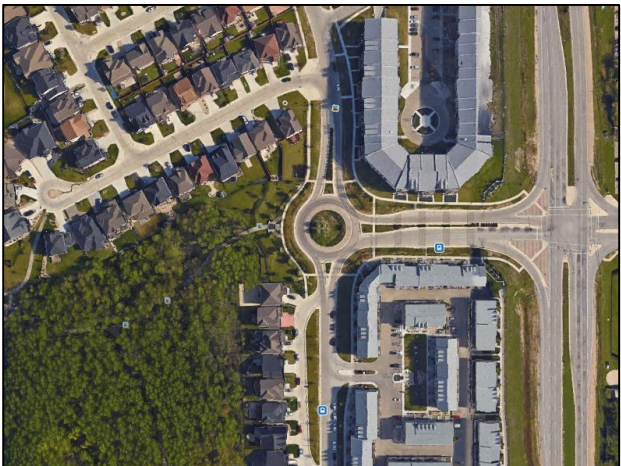


Figure 23 – Aerial view of Neighbourhood Node 1

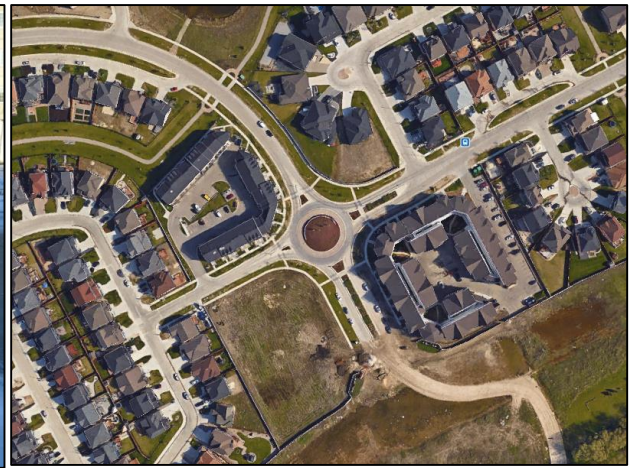
The Neighbourhood Nodes are a unique feature of the NNASP. Conceptually they are an interesting idea that has potential to bring a unique pattern of development to the NNASP. However, based on their implementation, only one of the three Neighbourhood Nodes is in full



conformity with the policies of the NNASP. The easternmost Neighbourhood Node that is off of the entrance from Waverley Street is in full conformity with the policies of the plan. This Neighbourhood Node contains a connection to the pathway system, a park, as well as a concentration of housing in multi-unit residential. This combination serves to give this Neighbourhood Node a distinct character, something that appears identifiably different from the surrounding area.



*Figure 24 – Pedestrian crossing at Neighbourhood Node 2*



*Figure 25 – Aerial view of Neighbourhood Node 2*

The other two Neighbourhood Nodes only partially conform to the policies of the plan and ultimately function as little more than traffic roundabouts. From the list of criteria dictating what combination of things a Neighbourhood Node should have, each of the remaining Neighbourhood Nodes only have a concentration of housing; one of them has multi-unit residential around it, the other only has low density residential. By not having anything else from the list of criteria, there is little to distinguish these two Neighbourhood Nodes from the surrounding area apart from being identified as such in the plan and containing a roundabout at each spot.



Figure 26 – Aerial view of Neighbourhood Node 3

Table 9 – Neighbourhood Nodes conformity			
Criteria Questions	Conformity		
	Node 1	Node 2	Node 3
Whether Neighbourhood Nodes contain any combination of the following: i) A transit stop ii) A concentration of housing which may include multi-unit residential iii) A park iv) A school v) A pathway connection vi) Institutional, recreational, community, local commercial, or other transit supportive uses	●	◐	◐
Whether Neighbourhood Nodes are complementary to the surrounding neighbourhood while maintaining a distinct and identifiable character?	●	○	○
Whether pedestrian routes from the surrounding residential area converge at the Neighbourhood Node providing multiple and convenient connections to the node from the surrounding residential area?	●	●	●
Whether Neighbourhood Nodes are located along a collector road system and conform to the general vicinity shown on the Land Use Concept map, and in an appropriate location relative to the surrounding neighbourhood?	●	●	●
Total Number of Criteria: 12; Fully Implemented Criteria: 8			

Transit stops are identified as one of the criteria that could be included in a Neighbourhood Node, however as all the Neighbourhood Nodes contain a roundabout which

functions to continuously move the flow of traffic, it is not possible to have a transit stop at a Neighbourhood Node as their area is delineated in the land use concept plan.

All three of the Neighbourhood Nodes are in conformity with the pedestrian and vehicle connectivity policies of the plan, containing sidewalks and/or a pathway connection and being located on the main collector road. The Neighbourhood Nodes are an example of how the NNASP had some good visions, goals, and policies behind it, but the implementation was only partial as only eight out of the twelve criteria were fully implemented.

#### 4.3.3 School Reserve

The intent of the School Reserves is to provide locations for a required school in a central and convenient location in the neighbourhood with connections to recreation areas (Winnipeg, 2006a).

At the time that the NNASP was prepared, through consultation with the Pembina Trails School Division, it was determined that the proposed location in the NNASP would be a possible site for a future elementary/middle years school (Winnipeg, 2006a). The policies of the School Reserves section scored high on conformity, with two out of three policies fully implemented. The School Reserve area in the development of the NNASP is located as indicated on the land use concept plan of the NNASP. The site also has frontage on collector road (Bridgeland Drive North). The NNASP required the School Reserve site to be a minimum of 2 hectares (5 acres) in size and a maximum of 2.8 hectares (7 acres) in size. The site is approximately 2.8 hectares (7 acres), however as can be seen on the aerial imagery, roughly half of the site has forest cover on it. Other policies of the NNASP indicated the existing forest cover is an asset worth preserving, thereby making it highly likely that this forest cover would need to be retained, conversely



making it unlikely that a school would be developed on the site. This fact results in a partial conformity score for this criteria.

<b>Table 10 – School Reserve conformity</b>	
Criteria Questions	Conformity
Is an elementary/middle years school reserve included according to the plan location?	●
Does the school reserve have frontage on a collector road or greater standard?	●
Is the school reserve a minimum of 5 acres/maximum of 7 acres?	◐
Number of Criteria: 3; Fully Implemented Criteria: 2	



Figure 27 – School Reserve area, currently open space

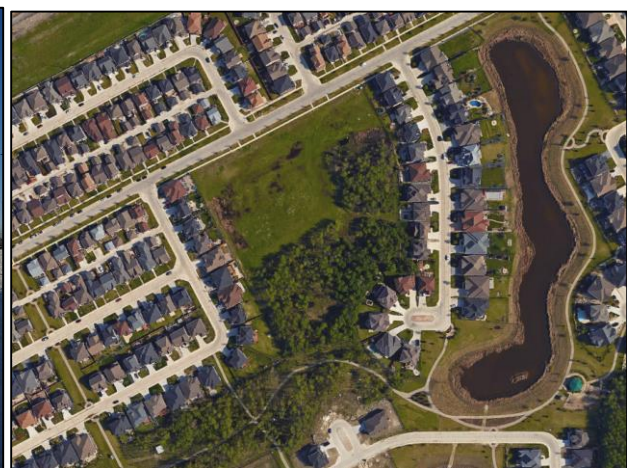


Figure 28 – Aerial view of School Reserve area

Two additional policies provide a degree of flexibility that could serve to ensure that a school is not in fact built on the location. 5.4.1.4 states that “Elementary/middle years school reserves shall be considered reserve land and zoned residential, and do not ensure that a school will be constructed at that location (Winnipeg, 2006a, 16).” The next policy, 5.4.1.5 states that “[a] residential use on a school reserve shall not require amendment to this plan” (Winnipeg, 2006a, 16). School reserve land is set aside as a safety measure at development to ensure that if a school is required then space will be available for it. These two policies ensure that should a school not be required then the land can easily be converted to a residential use.

The suggested sizing of the School Reserve site in the NNASP, combined with the fact that roughly half of the site had protected forest cover on it made it unlikely that a school would ever be developed on the site.

#### 4.3.4 Neighbourhood Greenway System – Parks, Open Space, and Natural Areas Conformity

The intent of parks section of the plan is to ensure that the variety of green spaces provided meet the functions of active and passive recreation, active transportation networks, and on-site drainage (Winnipeg, 2006a). A variety of parks, open space, and natural areas are implemented including forests, stormwater retention ponds, a pathway network, sports fields, and neighbourhood parks all coming together to form the neighbourhood greenway system.

The neighbourhood greenway system is one of the most well-planned and most well-implemented sections of the NNASP. Based on the policies of the NNASP the implementation of the parks section of the plan has a high degree of conformity. Nine out of the ten policies relating to the composition and design of the parks, open space and natural areas have been fully implemented.



*Figure 29 – Linear drainage pond*



*Figure 30 – Forested area*

The NNASP was unique in Waverley West in that it had a significant amount of existing forest cover. Preservation of this was made a priority in the plan and the forest cover has largely been retained. These existing natural areas have all been incorporated into the parkway system.

The one policy where implementation has not been in full conformity was the requirement that public access be provided to all linear lakes and retention ponds. While all these lakes and retention ponds do have public access provided to them, they are only accessible from one side as on the other side there are low density residential lots that have frontage onto the lakes and ponds. Because this access is only partial this results in a partial conformity score for this policy. Full public access is however provided to all forested areas.



*Figure 31 – Fenced off LDRA side of Linear Drainage area*



*Figure 32 – Open space at southwest quadrant of NNASP*

The connections between the variety of greenspaces into a neighbourhood greenway system complete with a pathway network is perhaps the strongest part of the plan. The plan requirements for having a variety of greenspaces for different functions, having these greenspaces be connected to each other, and having pathway system embedded within this greenway system are all in full conformity. This greenway and pathway system is also connected into the larger community greenway system.

<b>Table 11 – Neighbourhood Greenway System conformity</b>	
Criteria Questions	Conformity
Whether the Northeast Neighbourhood maximizes the preservation of existing forest cover where feasible (excluding required arterial or expressway rights-of-way).	●
Where existing forest cover is removed is a comparable area will be reforested by the developer.	●
Whether existing natural areas are incorporated with parkway systems to the greatest degree possible.	●
Whether public access is provided to all linear lakes and/or retention ponds.	◐
Whether public access is provided to all significant existing forest cover areas.	●
Whether a variety of greenspaces are provided to meet different functions including linear parks, naturalized areas, neighbourhood parks, and active and passive recreation areas.	●
Whether greenspaces are connected to one another through a neighbourhood greenway system that facilitates a generally uninterrupted network of habitats and/or pathways.	●
Whether efficient pathway or sidewalk connections are provided from residential areas to access the neighbourhood greenway system.	●
Whether the neighbourhood greenway system is connected with the community greenway system for Waverley West as outlined in the Area Structure Plan for Waverley West.	●
Whether prior to development, the former landfill site was remediated.	●
Number of Criteria: 10; Fully Implemented Criteria: 9	

The amendment to the NNASP, in addition to changing the land use amounts and distribution also changed part of the policies of this section. These policies relate to the landfill that existed prior to developing the NNASP. In the original plan the area of the landfill was to remain as open space. The landfill was not to be remediated and a 45 metre naturalized buffer was to be established around the landfill. However, the landfill was remediated and as such the

land use around this area was redesigned. There is still open space at the former landfill location but it is smaller than originally planned. The remediation of the landfill was largely what prompted the amendment to the original plan and the changes in land use distribution and land use acreage numbers is attributed to this amendment as well as the changes in the design of the NNASP.

#### 4.4 Transportation

The intent of the transportation policies of the NNASP is to provide for a transportation system that is efficient and connected. Multiple modes of transportation, including active transportation, vehicles, and public transportation, are intended to provide connections within the neighbourhood as well as to connect the neighbourhood to the rest of the city (Winnipeg, 2006a).



*Figure 33 – Cul-de-sac in LDRA*



*Figure 34 – Towards frontage road on main collector street*

##### 4.4.1 Road network

Based on the policies of the NNASP the implementation of the road network appears to have a high degree of conformity. Six of nine policies relating to the interior and exterior road network have been fully implemented. The interior collector road and external roads are located as indicated on the Land Use Concept Plan. The design of interior public roads was finalized at the plan of subdivision and development approval stage.



Despite having a high degree of conformance, this does not mean that the street network implemented in the NNASP is necessarily a desirable one. There is one main collector that runs in a loop through the neighbourhood. There are three entrance/exit points to the neighbourhood and the internal street network is largely based on the loops and lollipops design that is common in suburban development. This type of street network, while appearing to conform to many of the policies of the plan, ultimately serves to undermine several of the goals of the plan such as walkability, connectivity, and traffic management.

<b>Table 12 – Road network conformity</b>	
Criteria Questions	Conformity
Whether the external road rights-of-way, and the related interchange areas, shall be generally located as illustrated on the Land Use Concept Plan.	●
Whether residential development adjacent to major arterial roads shall incorporate appropriate sound attenuation measures as outlined in the Development Agreement Parameters.	◐
Whether direct private access to roads classified as Expressways is not be permitted.	●
Whether at grade intersections as illustrated on the Land Use Concept Plan are signalized as warranted.	●
<b>Design</b>	
Whether the design of the internal road network provides for sensitivity to future stormwater management facilities	●
Whether the design of the internal road network provides for convenient connections and multiple route choices to origin/destination points within the neighbourhood;	◐
Whether the design of the internal road network provides for walkway connections between streets, to meet transit coverage requirements;	●
Whether the design of the internal road network provides for interconnected pedestrian systems within the residential neighbourhood;	●
Whether the design of the internal road network provides for transit routes that are efficient.	◐
Number of Criteria: 9; Fully Implemented Criteria: 6	

There are some constraints that prevent the implementation of a street network based more on a grid. Some of these constraints are good policies prescribed by the plan such as preserving forest cover and having stormwater retention ponds. The neighbourhood greenway system consisting of the preserved forest, retention ponds, and park system largely tied together into one continuous block precludes the development of a grid street pattern. However, this does not discount the fact that the NNASP largely has a conventional suburban street network based on loops and lollipops. The result of this street network pattern, combined with the fact that there are only 3 entrance/exit points for the entire neighbourhood limit travel options for road users and public transit, contributing to the same funneling effect on collector road that is so common in suburban development patterns.

#### 4.4.2 Alternate transportation

##### 4.4.2.1 Public transit

Based on the policies of the NNASP, the implementation of public transit appears to have conformed adequately, however there are some gaps in the provision of public transit for the NNASP. The policies of this section of the plan indicate a desire to link transit routes and stops with transit supportive uses such as higher density residential uses, as well as neighbourhood facilities. The potential school site is the only identified neighbourhood facility in the NNASP; because this site is served by a transit stop it is in full conformity.

There are three clusters of higher density residential housing within the NNASP. They are all located at the periphery of the neighbourhood at major intersections that are entrance/exit points to the neighbourhood. Two of these three clusters are served by public transit, the third cluster located at the east end of the neighbourhood by Kenaston Boulevard is not served by

public transit as it is not within 400m of a transit stop. For this reason the NNASP is only in partial conformity with transit policy, with only one of three policies fully implemented.

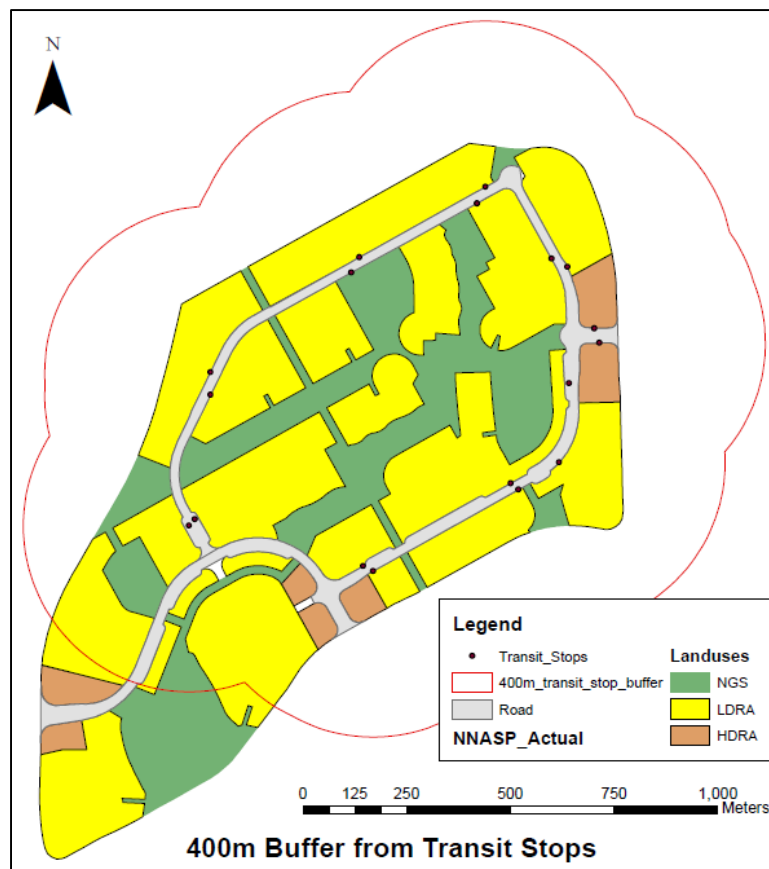


Figure 35 – Land uses within 400m of a transit stop

However, in spite of this public transit is not particularly well implemented in the NNASP. There is only one bus route that serves the neighbourhood that travels around the main arterial. The bus route functions to bring people into the city centre and back again. There is no public transit provided to Waverley West town centre just to the east across Kenaston Boulevard. While only having this one route, the route does not provide bus service throughout the whole day, only operating for a few hours at a time in the peak times in the morning and evening. It appears as though this route is intended to serve commuters working in other parts of the city, and while it may function well for this group, having no bus service between 9:00 am and 3:30



pm does not support the notion that Waverley West and the NNASP are encouraging people to use alternative transportation modes such as public transit.



Figure 36 – Transit stop



Figure 37 – Transit route serving NNASP

Table 13 – Public transit conformity	
Criteria Questions	Conformity
Whether transit stops are located in close proximity to neighbourhood facilities including schools, libraries, community centres etc.	●
Whether transit nodes are easily accessible from all higher density residential areas	◐
Whether most housing shall be within 400m of a City Transit route.	◐
Number of Criteria: 3; Fully Implemented Criteria: 1	

#### 4.4.2.2 Pathway and pedestrian

Active transportation is the final transportation mode addressed by the plan. However, this does not mean it has taken last priority as pathway and pedestrian routes have been implemented quite well as six of seven policies are fully implemented.

The pathway system of the NNASP was implemented quite well as the pathway system provides coverage to the entire neighbourhood as all residences are within 400m path access. As a result of this coverage, this pedestrian system provides interconnectivity within the NNASP.



Figure 38 – Pedestrian bridge focus point on pathway system



Figure 39 – Pathway in forested area on pathway system

<b>Table 14 – Pathway and pedestrian networks conformity</b>	
Criteria Questions	Conformity
Whether pathways, walkways and sidewalks include short, convenient, and direct connections to activity nodes	●
Whether pathways, walkways and sidewalks include connections to regional pathway systems including the TransCanada Trail, and Fort Whyte Centre	●
Whether pathways, walkways and sidewalks include linkages to destination points within the Northeast Neighbourhood and Waverley West such as schools, recreation facilities, etc.;	●
Whether pathways, walkways and sidewalks include access to transit routes.	●
Whether major pathways are constructed to accommodate the shared use of a variety of active transportation modes including walking, cycling, and in-line skating.	●
Whether all housing units are located within 400m of a recreational path access. Sidewalks will be provided on both sides of collector streets.	◐
Whether direct connections and multiple route choices are provided to allow for efficient traffic movements within the neighbourhood, and to destination points outside of Waverley West.	●
Number of Criteria: 7; Fully Implemented Criteria: 6	

The only policy that was not fully implemented was that sidewalks were not provided on both sides of the collector street, as was specifically required by the policy. There are small

indents that are almost like a shallow bay; the sidewalk does not continue around the indent, nor does it continue straight across. These frontage roads or access lanes are likely there because the City does not want private driveways to dwellings coming directly off of a main collector. And there are in fact no private driveways coming directly off the main collector; access to these dwellings is always facilitated through frontage roads or access lanes. However, this does not explain the lack of sidewalks along these parts of the road network.

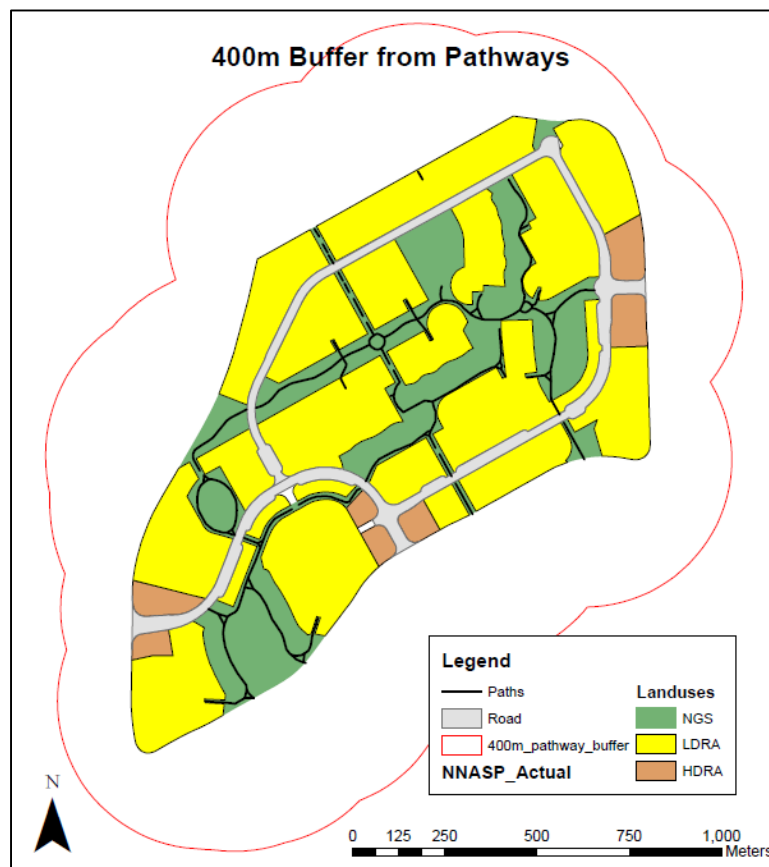


Figure 40 – Land uses within 400m of a pathway

While providing excellent connectivity within the NNASP there are also connections to the rest of the city as the pathway system is connected into a larger city-wide pathway and trail system. This provides connections to the TransCanada Trail, the Fort Whyte Centre, as well as the rest of Waverley West, all of which were explicitly stated in the policies of this section.

## 4.5 Planning Vision and Goals

The NNASP has a number of high-level components to the plan that are meant to direct the plan through its implementation. These high-level components include the vision of the NNASP, followed by guiding principles, which are further followed by the overall goals of the NNASP. The policy sections that were previously examined implement the goals, vision, and intent of the NNASP. It was helpful to first look at the specific policies of the NNASP to examine how effectively these policies implemented the goals, vision, and intent of the NNASP. Evaluating the implementation of high-level policy statements will be conducted in light of the previous sections of this chapter which evaluated the implementation of the policies of the NNASP.

The Waverley West Area Structure Plan, the secondary plan for the entire Waverley West neighbourhood, had a number of goals that were to be implemented by subsequent Neighbourhood Area Structure Plans, such as the one for the Northeast Neighbourhood. Table 14 outlines these goals as well as which of these the NNASP and how well they were implemented. Of the 14 goals of the WWASP the NNASP implemented nine of these goals and did not implement or address five of the goals. The main area where the NNASP did not implement the goals of the WWASP was in commercial development. The WWASP has goals related to commercial development including core commercial areas and mixed-use development, most of which is to be located in the future Town Centre. Table 13 simply takes a high level view of the WWASP goals and whether or not the development of the NNASP resulted in the implementation of these goals.

<b>Table 15 – Waverley West Area Structure Plan goals</b>		
Neighbourhoods	To provide a framework for the creation of planned neighbourhoods that fulfill market demands and needs.	●
Pedestrian Connectivity	To provide pedestrian linkages between and within the neighbourhoods of Waverley West, for recreation and alternative transportation purposes.	●
Town Centre - North	To establish a town centre where mixed-use development can occur, providing opportunities for a combination of land uses.	○
Greenway Network	To create a linear greenway network linking the neighbourhoods of Waverley West to one another and beyond, where naturalized land drainage systems, pedestrian trails, parks, and open spaces can be created in shared corridors.	●
Community Pathways	To provide a system of pathways that effectively integrates the neighbourhoods and amenities.	●
Transportation System	To provide a safe, efficient and functional transportation system including a hierarchy of public streets, provision of public transit and a community pedestrian network.	●
Commercial Core Areas	To provide commercial areas to service the surrounding communities.	○
Community Recreation Facility	To provide a Community recreation facility that is centralized, and accessible to both vehicular and non-vehicular traffic.	○
Residential Development	To provide a framework for housing development that is capable of meeting the needs and desires of the housing market.	●
Commercial Development	To establish a full range of retail and commercial services.	○
Mixed-Use Development	To provide mixed-use development opportunities within the town centre, and commercial core areas.	○
Emergency Services	To provide fire, police and ambulance protection to meet the emergency service demands for the area.	●
Environmental Awareness	To raise an awareness of environmental conservation including the integration of existing sensitive areas into development plans, and through the use of environmental technologies where feasible.	●
Park Space	To provide outdoor recreation and park space to meet the needs of the local residents.	●

#### 4.5.1 Planning Vision

The Planning Vision for the NNASP outlines the overarching vision for the plan and the guiding framework for development. It is a high-level statement on the overall intent of the plan and acts as a source of direction for development in the planning area. The vision outlines a

number of items that have been assessed in the previous sections of this chapter such as protection of wooded areas, the establishment of a linear park and pathway system with stormwater retention ponds, the provision of transit service, etc. As outlined in the previous sections many of these items have a high to partial degree of conformity, and as they have been discussed in previous sections they will not be belabored here.

However, there are some items in the planning vision that are not well translated through to the policies and as a result have low degree of implementation in actual development of the neighbourhood. For some of these items it appears as though there is a disconnect between high-level statements and the actual policies intending to implement those statements.

One part of the planning vision states that the neighbourhood is to be focused on a series of nodes. These nodes are to have important community features and a convergence of transportation networks. Because there is no commercial development or public facilities in this plan, it is difficult to imagine how the creators of this plan envisioned these nodes being developed. With the exception of the entrance to the neighbourhood at the east end, the places indicated as being ‘nodes’ on the land use concept plan are wholly unremarkable and functionally consist only of a roundabout. Had these locations included some commercial development or a public facility the function of these nodes could have been different.

The second part of the planning vision that was not translated well to the policies of the plan was the desire to ensure that the neighbourhood was environmentally friendly through the use of alternative energy (geothermal technology), the use of passive solar energy, and the incorporation of LEED standards for neighbourhood development. Of these items only the use of passive solar energy is incorporated into the policies.

This discrepancy between vision, goals, and intents of the plan is important because in the interpretation section the plan itself gives precedence to the policies of the plan in Section 1.5.2. This serves to hollow out the plan as the policies of the plan, while good in many parts, do not contain the entirety of the vision of the plan, thereby limiting its effectiveness.

#### 4.5.2 Guiding Principles

The seven guiding principles of the plan are summarized in Table 15. The first guiding principle of the NNASP is the creation of a cohesive and diverse neighbourhood. This is a difficult principle to evaluate as it is not clear what is meant in the plan by ‘cohesive and diverse’.

The second guiding principle of the NNASP is the development of an efficient, multi-modal transportation system. There are multiple modes of transportation available in the NNASP, including pedestrian routes, public transit, and streets, therefore the multi-modal part of the principle is implemented. However, the implementation of this principle appears to fall short on the question of efficiency. Transportation systems are meant to connect people not just within their neighbourhood but outside of it as well. Apart from the independent pedestrian network, any other mode of transportation is required to use the same road to get into and out of the neighbourhood. The three entrance/exit points to the neighbourhood limit the efficiency of the transportation network by requiring users to travel a distance simply to get to the adjacent neighbourhood across the road.

The third guiding principle of the NNASP is the protection of existing natural areas. The most significant existing natural areas in the NNASP is the forested areas which were preserved in the implementation of the plan.

The fourth guiding principle was to ensure that the NNASP has compatibility and connectivity with existing and future neighbourhoods. The NNASP is certainly compatible with existing and future neighbourhoods as it does not contain any incompatible land uses such as industrial. It is connected to the adjacent neighbourhoods, however there are limited connections. The neighbourhood is configured in such a way so that major arterial routes bound it on all sides, and as previously mentioned the street network of the NNASP has only three entrance/exit points for the entire neighbourhood which does limit the connectivity to other neighbourhoods.







The fifth guiding principle is the creation of an innovative and unique neighbourhood design. The NNASP has some design elements that lend itself to a unique feel. This is most present in the northern part of the neighbourhood where the presence of laned lots give the street a different look as garages for the lots are located off of the laneways at the back. However, laned lots are not present throughout the neighbourhood. The NGS is the other major element contributing to the unique appearance of the neighbourhood. Other minor design elements include fencing features and roundabouts. However, these features are not so distinctive that the neighbourhood does appear substantially different from other newer suburban developments in Winnipeg.

The sixth guiding principle is a greater use of alternative energy sources in the NNASP. This principle is present much more in the high-level aspects of the plan than in its actual policies. There is only one policy that addresses a greater use of alternative energy sources, the policy calling for the majority of lots to be oriented within 30 degrees of due south. This guiding principle does not receive enough support in the policies to be well implemented.

The seventh and final guiding principle is access to a wide choice of housing alternatives. There are three different types of housing present in the NNASP – single family detached



dwellings, townhouses, and low rise apartments/condos. The variety of housing offered is a positive, however the fact that the types of housing offered in the NNASP are clustered together according to type and not interspersed, particularly townhouses interspersed with single-family detached dwellings, is a strike against the plan.












<b>Table 16 – Evaluation of Guiding principles of the NNASP</b>	
Creation of a cohesive and diverse neighbourhood	-
Development of an efficient, multi-modal transportation system	
Protection of existing natural areas	
Compatibility and connectivity with existing and future neighbourhoods	
Creation of an innovative and unique neighbourhood	
Greater use of alternative energy sources	
Access to a wide choice of housing alternatives	

#### 4.5.6 Planning Goals

Table 16 displays the goals of the NNASP and it is clear that these goals flow from the guiding principles of the plan. Based on the implementation of the various policy sections of the plan, a high-level examination of how those were implemented yield insights into how well these goals were implemented as well.

Housing diversity, a goal which flows directly from the guiding principles, is present to a degree in the NNASP as there are three types of housing available, yet these are arranged in separate blocks of residential development and not mixed together. Recreational amenities are developed in the neighbourhood through the linear greenway system, pathways, and sports fields in the large open space in the southwest corner of the neighbourhood. A goal of the plan is also that the neighbourhood should have a unique identity. This has already been addressed in the

guiding principles section which outlines the features that contribute to a unique appearance of the neighbourhood.

<b>Table 17 – Planning goals of the NNASP</b>		
Housing Diversity	To provide for a diverse mix of housing that includes a variety of housing types and market groups.	
Recreational Amenities	To create passive and active recreational opportunities for residents and the general public.	
Densification	To provide opportunities to increase the overall density of residential areas.	
Energy Efficiency	To encourage the use of energy efficient design and alternative energy technologies.	
Unique Identify	To create a unique identity for the Northeast Neighbourhood.	
Transportation Alternatives	To encourage the use of alternative and active transportation modes.	
Traffic Management	To ensure efficient and effective traffic management strategies within the Northeast Neighbourhood, that give priority to pedestrians.	
Ecological Preservation	To protect existing natural areas from development and to enhance ecological habitats	
Connectivity	To consider the principle of connectivity underlies the development of transportation and greenspace systems.	
Environmental Design	To encourage low impact, energy efficient building and site design.	
Walkability	To encourage a substantial walkable system that is independent of the traditional street system.	

Transportation alternatives, another goal, are provided in the form of pedestrian networks, public transit, and the street network. However, traffic management, the following goal does not seem to have been implemented as well. The goal strives to ensure that efficient traffic management strategies that give priority to pedestrians are present. However, the loop-and-lollipop design of a large portion of the street network is not conducive to either of these. Additionally, roundabouts, of which there are four that are developed in the neighbourhood, exist solely for the benefit of cars as they function to keep traffic moving and do not benefit the pedestrian as four-way-stops or signalized intersections would. This leads directly in two other

goals – connectivity and walkability. In spite of the loop-and-lollipop nature of the street network, the independent pedestrian network allows pedestrians to circumvent this system if required and as a result connectivity and walkability within the neighbourhood is present. However, the limited connections to areas outside the neighbourhood limit the degree to which this goal can be achieved and as a result connectivity is only partially implemented.

Ecological preservation and environmental design are two other goals of the plan. As has been previously described the existing forested areas have been preserved, and the stormwater retention ponds function to enhance ecological habitats. Energy efficiency and environmental design are goals that are present more in the high-level sections of the plan than in the policies implementing the plan. The vision for the plan describes how geothermal heating and LEED standards for neighbourhood development should be incorporated into the development of the plan. However, there are no policies that support this vision. The only policies that support energy efficiency and environmental design is the orientation of the majority of lots within 30 degrees of due south, the implementation of the neighbourhood wide stormwater management system, and that the parking lots of the HDRA areas include landscaping.

#### 4.6 Conclusion

To conclude the analysis and discussion on this chapter it is helpful to revisit the research questions that this analysis has attempted to answer:

1. Does the developed land use pattern in the NNASP area conform to what was planned?
2. Does the implementation of the NNASP conform to the goals, objectives, policies, and intent of the plan?

Regarding research question 1; yes, the developed land use pattern in the NNASP largely conforms to what was planned. If this report only compared the original plan to the developed

land use pattern of the NNASP, the plan would have had a much higher degree of nonconformance compared to what was actually developed. The reason for this was that the amended plan significantly changed the land use design and distribution in the NNASP. However, the amended plan, which came about from the secondary plan amendment, was the land use concept plan that was used to compare actual development with. This was considered to be an appropriate decision because plans can change, and the NNASP should not be thought of as being in nonconformance simply because the plan changed. As can be seen by the not-equal-analysis, the developed land use pattern of the NNASP and the land use concept plan had a high degree of conformity.

<b>Table 18 – NNASP conformity analysis summary table</b>				
	Number of criteria	Full conformance	Partial conformance	Nonconformance
Land Use Concept Plan	3	2 (66%)	1 (33%)	-
<b>Housing and Density</b>				
LDRA	8	7 (87.5%)	-	1 (12.5%)
HDRA	6	5 (83%)	1 (17%)	-
Density	1	1 (100%)	-	-
Neighbourhood Nodes	12	8 (67%)	2 (16%)	2 (16%)
School Reserve	3	2 (66%)	1 (33%)	-
NGS	10	9 (90%)	1 (10%)	-
<b>Transportation</b>				
Road Network	9	6 (66%)	3 (33%)	-
Public Transit	3	1 (33%)	2 (66%)	-
Pathway and Pedestrian Networks	7	6 (86%)	1 (14%)	-
<b>Total Policies</b>	<b>62</b>	<b>47 (75.8%)</b>	<b>12 (19.4%)</b>	<b>3 (4.8%)</b>

Regarding research question 2, again the policies, which were what the criteria questions were based on, were mostly well-conformed to. Table 18 shows a summary of the various categories this chapter examined. Only three policies out of a total of 62 were in

nonconformance and 47 policies were fully implemented. However, many policies being implemented does not necessarily mean that the results met the overall objectives for the project.

## Chapter 5 - Conclusion

Waverley West and the NNASP was an attempt to begin doing greenfield development differently in Winnipeg differently (McNeil and Tebinka, 2007). The need for additional land being made available for suburban development was a controversial decision criticized by Milgrom as “the sprawl machine” (2011). Despite this, there was an effort made to plan for a development that incorporated good planning principles such as sustainability, access to transit, walkability, etc.

The objective of this case study was to evaluate the implementation of the NNASP and to examine whether the development of the plan area matched the vision, goals, and policies of the plan. Evaluation criteria were formulated based on the vision, goals, and policies of the NNASP. Of the 62 evaluation criteria, 75.8% (47) were in full conformity, 19.4% (12) were in partial conformity, and 4.8% (3) were in non-conformance. Based on these findings the NNASP was generally implemented in conformity with the plan.

These findings answer the research questions raised at the beginning of this case study:

- 1.) Does the developed land use pattern in the NNASP area conform to what was planned? and;
- 2.) Does the implementation of the NNASP conform to the goals, objectives, policies, and intent of the plan?

The simple answer to both of these research questions is yes. However, despite the NNASP being in general conformity with the plan, the end result does not appear to be substantially different from other conventional suburban developments in Winnipeg. Low density residential areas with strictly single-family detached housing, no commercial areas or

schools, a largely conventional street network, limited transit service, all contribute to a developed product that does not appear to meet the original intention behind Waverley West.

<b>Table 19 – NNASP conformity analysis summary table</b>				
	Number of criteria	Full conformance	Partial conformance	Nonconformance
Land Use Concept Plan	3	2 (66%)	1 (33%)	-
Housing and Density				
LDRA	8	7 (87.5%)	-	1 (12.5%)
HDRA	6	5 (83%)	1 (17%)	-
Density	1	1 (100%)	-	-
Neighbourhood Nodes	12	8 (67%)	2 (16%)	2 (16%)
School Reserve	3	2 (66%)	1 (33%)	-
NGS	10	9 (90%)	1 (10%)	-
Transportation				
Road Network	9	6 (66%)	3 (33%)	-
Public Transit	3	1 (33%)	2 (66%)	-
Pathway and Pedestrian Networks	7	6 (86%)	1 (14%)	-
<b>Total Policies</b>	<b>62</b>	<b>47 (75.8%)</b>	<b>12 (19.4%)</b>	<b>3 (4.8%)</b>

So while the development of the Northeast Neighbourhood was largely in conformity with the plan, this does not mean that it was a ‘good’ development, or an improvement over the design of adjacent areas. In fact, in many respects the Northeast Neighbourhood has many attributes traditionally found in conventional suburban development. The street network is based on a traditional hierarchy in addition to being based largely on “loops and lollipops.” The proposed laneway network was only implemented in the northern portion of the development. While the Northeast Neighbourhood may be a more walkable neighbourhood internally, there are no land uses apart from residential areas to walk to. Low density single-family detached housing is the dominant land use by a large margin with a minimal amount of multi-family residential areas added at the edges of the neighbourhood and high order arterial roads bound the Northeast

Neighbourhood on all sides. However, while the Northeast Neighbourhood bears many similarities with conventional suburban development, and visually it looks very similar, this comparison with other suburban areas was beyond the scope of the original research questions. In retrospect, the research questions may have been too limited as this important question was not answered through this case study.

This apparent similarity to other conventional suburban development raises the issue of whether the NNASP was demanding enough to create an end product that was a significant improvement over other recent conventional suburban development in Winnipeg. In other words, were the implementing policies of the plan strong enough so that they would result in a developed product that was better than other conventional suburban developments in Winnipeg? The argument could be made that if a standard-looking suburban product is in conformity with the plan, then the plan could be considered to be weak with regard to innovative planning principles. Considering this apparent similarity between the Northeast Neighbourhood and other suburban developments in Winnipeg, this could be a question for future research efforts to address.

This apparent similarity with conventional suburban development is directly related to the greatest shortcoming of the NNASP – that while development was generally implemented according to the plan, the overarching goal behind the development of Waverley West, the goal of creating a different kind of suburban development, does not appear to have been met.

The goal of creating a different kind of suburban development appears to have been channeled into places that would not necessarily make a substantive impact in moving towards an improved suburban development. The clearest example of this is are the architectural guidelines that were in place for the Northeast Neighbourhood (MHRC, 2008). The architectural



guidelines deal almost exclusively with exterior features of the houses such as cladding, window design, and landscaping. The architectural guidelines also deal with finishing elements of the neighbourhood included a neighbourhood-wide fencing plan. While the elements addressed in the architectural guidelines may create a neighbourhood that appears distinct and different from other neighbourhoods in Winnipeg, these architectural guidelines should not be considered as making a meaningful impact towards creating a different kind of suburban development in the region. It remains to be seen whether or not this will be a repeated pattern in the rest of Waverley West, but further innovation is unlikely with the same policies.

Some of the responsibility for this shortcoming can be placed is on the landowners, the MHRC and Lado, but particularly on the MHRC. There was a real opportunity in Waverley West for the Provincial government to create something truly unique and progressive in Winnipeg; a neighbourhood that was denser, walkable, transit and pedestrian oriented, and that met market demands. These objectives were certainly the stated intention of the Province for the development of Waverley West (Province of Manitoba, 2008). Since the developed product does not appear to be significantly different from other conventional suburban development in Winnipeg, it is a disappointing outcome considering the potential for a more progressive development based on the landowner, the Province of Manitoba.

Should the Province have chosen to follow through on this path it would not have been forging into new territory either as there is substantial precedent elsewhere in Canada of progressive development projects that are led by various government agencies. Perhaps the most notable example of this is Cornell in Markham, Ontario (Tomalty and Haider, 2013). Cornell bears some similarities to Waverley West in that they are both greenfield developments at the periphery of both cities, and they are both developed on land that was owned by their respective

Provincial governments. Where Cornell distinguishes itself from Waverley West is that it is a significant improvement in practice over other conventional suburban developments in Markham (Tomalty and Haider, 2013); it is not clear at this point whether the same can be said of Waverley West. Cornell is an example where the Ontario government took advantage of their position as land owners and created a development that was a substantial change in suburban development practice in Markham.

The findings of this case study are that the NNASP was implemented, but the development standards of the plan were general enough that a fairly conventional development is in conformance with the plan. The NNASP can therefore be considered to be a missed opportunity for the Provincial government to take a leadership role in developing a more innovative form of development. It remains to be seen whether or not in 20 years time will there be regret that the opportunity of Waverley West was not seized on to establish a higher standard of development in Winnipeg. In the meantime, it is hard not to conclude that Milgrom's "sprawl machine" (2011) has been at work in realizing the development of Waverley West.

### 5.1 Limitations of research and lessons learned

Functionally, the case study presented in this report is a pilot study. Future research efforts can incorporate some aspects of the methodology used in this case study in addition to building on it through some of the suggestions outlined above.

In reflecting back on the method used in this case study there are several limitations that become apparent. The method used in this case study was designed to assess the implementation of the Northeast Neighbourhood based on its own vision, goals, policies, etc. The effect of this method is that the comparison that is being conducted is that the developed product is measured against the plan to see if it is in conformance. To a degree, this assumed that the plan that the

developed product is being evaluated against is high quality, and progressive with respect to good planning principles, as statements and rhetoric from the parties involved indicated (Province of Manitoba, 2008). Therefore, a limitation in the method is that the NNASP itself was not evaluated. This is an important consideration because the Northeast Neighbourhood does not appear to be significantly different than other suburban developments in Winnipeg, therefore the plan may not be high quality or innovative with respect to planning principles and development standards. An evaluation of the plan would have benefited this case study as it may have yielded additional information regarding how the plan affected the development of the Northeast Neighbourhood.

Another limitation is that the method does not compare the the Northeast Neighbourhood against other conventional suburban developments in Winnipeg. The result of this is that this case study has not determined whether the development in the Northeast Neighbourhood is a ‘better’ form of suburban development than other conventional forms of suburban development in Winnipeg. This type of comparative study which evaluated newer forms of suburban development against conventional forms of suburban development was done in a previous study by Tomalty and Haider (2013). Tomalty and Haider compared New Urbanist developments against comparable conventional suburban developments in communities across Canada across a variety of planning metrics to determine whether the New Urbanist communities were an improvement over conventional suburban development. The Northeast Neighbourhood does not claim to be a New Urbanist development, nor does Waverley West as a whole, however it is reasonable to claim that Waverley West was an attempt to improve how suburban development is done in Winnipeg. Therefore, research using methods similar to Tomalty and Haider (2013) could be performed in the context of Waverley West. In that instance, Waverley West could be

compared to other adjacent suburban developments such as the Waverley Heights or Whyte Ridge neighbourhoods. This is a possible objective for future research into Waverley West and would likely be illuminating with respect to how Waverley West performs against other suburban areas in Winnipeg. Evaluating plan implementation, as this case study has done, when done solely through the method utilized here does not determine whether or not what was evaluated was an improvement over “business as usual.” It is limited to revealing whether the planning and development process is consistent so that what was developed conforms to what was planned.

Another limitation of the method was that as a case study it only focused on the Northeast Neighbourhood. The rest of Waverley West was not assessed. This limitation is somewhat mitigated by the fact that a large portion of Waverley West is not yet developed at the time of writing this report. However, as Waverley West is being developed through a total of seven secondary plans, the majority of Waverley West remains unevaluated. Additionally, due to the fact that Waverley West is being developed through seven neighbourhood secondary plans it would be interesting to see what differences there are in the neighbourhoods with respect to performance across planning metrics. Will there be a significant difference in neighbourhoods where the land was owned predominantly by the Province (through MHAC) as opposed to neighbourhoods where land was predominantly owned by Ladco?

A final limitation of the method is related to the evaluation criteria. The evaluation criteria were drawn from the vision, goals, and policies of the plan, which is an effective way to evaluate the developed product against the plan. However for the purposes of this analysis the evaluation criteria were all treated as equal and were not weighted in any way. The result of this is that a policy that should be of greater importance, if it is found to be in non-conformance,

shows the same result in the analysis as a relatively minor evaluation criteria that is in non-conformance. An example of an evaluation criteria that should be of significant importance is that the LRDA incorporate a variety of housing types and alternatives. This criteria was in non-conformance and is a neighbourhood-wide policy. Another evaluation criteria that was in non-conformance that does not seem to be as significant was whether the Neighbourhood Nodes were complementary to their surrounding neighbourhood while maintaining a distinct and identifiable character. This category was in non-conformance for two of the three Neighbourhood Nodes, is focused only on specific areas within the neighbourhood and does, yet this contributes the same score in the analysis as the previous more significant criteria.

## 5.2 Recommendations

From the results of this case study there are several recommendations that can be made regarding future development in Winnipeg, future development of Waverley West, as well as future research into Waverley West.

*Recommendations for Winnipeg and Waverley West:*

- The secondary plans for the undeveloped and partially developed areas should be re-examined to ensure that they are firm enough with respect to development standards and planning principles so that the developed product will be a significant improvement for suburban development in Winnipeg.
- The evaluation of these secondary plans should ensure that external design features such as architectural guidelines are not emphasized at the expense of more important planning principles such as a mix of housing, higher densities, mixed uses, access to transit, and walkability.

- The plans for the remaining undeveloped lands in Waverley West should be re-evaluated to ensure that the development of these areas achieves a higher standard of development with respect to progressive planning principles, as was the original stated intention.
- As there was controversy regarding whether or not Waverley West even needed to be developed to accommodate growth, the remaining vacant greenfield lands slated for development within the City of Winnipeg should be re-evaluated to determine whether it is necessary for these areas to be developed and that the projected growth cannot be accommodated in already developed areas.

*Recommendations for future research in Waverley West:*

A possible program of research is outline below:

- The Waverley West Secondary Plan as well as the Neighbourhood Secondary Plans should be evaluated to ensure they have development standards sufficiently robust to ensure the development of these areas will occur at a higher standard than conventional suburban developments.
- The remaining neighbourhoods of Waverley West should be evaluated to assess whether or not the developed product conforms to each respective plan.
- A comparative case study should be conducted using the methodology of Tomalty and Haider (2013) where the neighbourhoods of Waverley West are compared against other conventional suburban developments to determine whether Waverley West is an improvement compared to existing development practice.

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