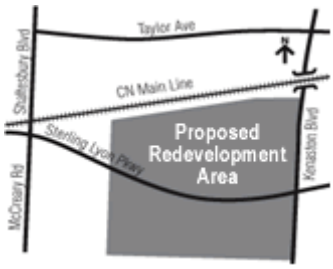
Exhibit “A.1” referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009



Redevelopment Details

Who initiated this project, and what does it involve?

MMM Group has made, on behalf of Winnipeg Intermodal Ltd. and 5083851 Manitoba Ltd., several applications with the City of Winnipeg for the redevelopment of the former CN Intermodal Yards, at Kenaston Boulevard and Sterling Lyon Parkway, as a super-regional commercial destination centre.

What is a super-regional commercial destination centre?

This super-regional commercial destination centre will be unique in Winnipeg, and is one of the largest commercial projects for Winnipeg in the last 25 years. It will be the first and likely only retail centre that will draw several one-store-per-market retailers to Winnipeg, as 198 acres of land will be developed to provide an estimated 750,000 square feet for super-regional retailers and 750,00 square feet for complementary commercial uses for full build-out by 2018.

Where is this project located?

SW & NW quadrants of Sterling Lyon Parkway and Kenaston Boulevard, Tuxedo Industrial Neighbourhood, Charleswood – Tuxedo Ward, Assiniboia Community, City of Winnipeg. Lat./Long (Deg./Min./Sec.): (49 50' 23"N, 97 12' 41"W). North: across CNR Rivers Subdivision, Kapyong Barracks and South Tuxedo. South: across CNR’s industrial spur, Lehigh Inland Cement and Fort Whyte Alive. East: across Kenaston Blvd, 47.4 acres of underused lands (former Centra Gas), and Lindenwoods. West: Fort Whyte Alive.

Who will be the anchor store?

IKEA, one of the world’s largest furniture manufacturers and most recognizable furniture retail store, will anchor the commercial development with a 350,000 square foot store on 27 acres of land.

How big is this project?

196.3 acres of land. 1.5 million square feet of commercial space. 750,000 square feet for super-regional retailers and 750,000 square feet for complementary commercial uses with 6,000 parking stalls. Mixed use complementary component may include a 100-room hotel, 16-screen movie theatre, 150,000 sq ft office park, and a 500-unit multi-family residential building - 1,517 parking stalls.

How many lots and how big are the zoning districts?

31 lots will be created; 111.6 acres will be zoned for regional commercial uses on the north side of Sterling Lyon Parkway; 16.3 acres of mixed use, commercial / residential in the south west corner of the area; 45.2 acres of regional commercial in the south east corner of the area; and 23.2 acres on the south side of Sterling Lyon that may be mixed use OR regional commercial.

What stores and what other lands and uses will be part of this project?

IKEA will anchor the commercial development with a 350,000 square foot store on 27 acres of land. Other tenants for the retail spaces are being finalized and may include a grocery store, a sporting goods / outdoor store, and/or a home improvement store. The store sizes will likely be: at least one store in the 200,000+ square foot range, two stores in the 140,000 - 200,000 square foot range, and numerous smaller retail stores (less than 50,000 square feet in floor area). The mixed use complementary component may include a 100-room hotel, 16-screen movie theatre, 150,000 square foot office park, and a 500-unit multi-residential condominium complex.

How does this project compare to Polo Park? Mall of America? West Edmonton Mall? Eaton Centre Toronto?

Polo Park Mall is Winnipeg's largest mall, and the 11th largest in Canada. One of the first enclosed shopping malls in Canada, Polo Park Mall is approximately 1.2 million square feet.

The Mall of America is the largest US mall in terms of total floor area (4.2-million square feet); a substantial portion of its interior space is non-retail. Its retail space is 2.5 million square feet.

The West Edmonton Mall is the largest shopping mall in North America; it includes an indoor wave pool, amusement areas, a hotel, restaurants, and 20,000 parking spaces – of 5.3 million square feet of floor area, 3.8 million square feet is leasable area. The Eaton Centre is Toronto's top tourist attraction, with around one million visitors per week. It is the largest shopping mall in Eastern Canada and 3rd-largest in Canada, at 1.7 million square feet.

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Redevelopment Site

Where is the project located?

SW & NW quadrants of Sterling Lyon Parkway and Kenaston Boulevard, Tuxedo Industrial Neighbourhood, Charleswood – Tuxedo Ward, Assiniboia Community, City of Winnipeg. Lat./Long. (Deg,/Min./Sec.): (49 50' 23"N, 97 12' 41"W). North: across CNR Rivers Subdivision, Kapyong Barracks and South Tuxedo. South: across CNR’s industrial spur, Lehigh Inland Cement and Fort Whyte Alive. East: across Kenaston Blvd, 47.4 acres of underused lands (former Centra Gas), and Lindenwoods. West: Fort Whyte Alive.

Downloads

- Proposed Development Location Map

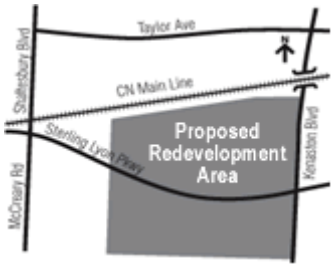

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Figure 1:
Former CN Winnipeg
Intermodal Terminal
Proposed Development Site

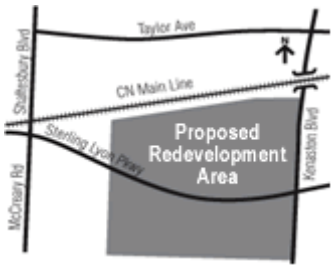


LEGEND

PROPOSED DEVELOPMENT

FIGURE 1.1:
PROPOSED DEVELOPMENT LOCATION

Exhibit “A.3” referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009



Site Design

How is the site being developed?

Preliminary site plans have been submitted that are conceptual in nature, illustrating how the area may develop with buildings, parking areas, and internal roads. The Developer, as a condition of approval, will be required to provide a master site plan for the entire development (except for the IKEA Site) for approval by the Director of Planning, Property and Development, who will use the Site Plan Guidelines for Regional / Community Commercial Centres.

What is the plan for pedestrian and cyclist access?

A walkway is required to be constructed to connect the building entrance to the public pathway. This walkway must be designed using colours, textures, material or grade elevations that differ from automobile parking surfaces. The City of Winnipeg’s Universal Design Policy will be one of the tools used to guide the design of this walkway. Connections will be made to both the Thundering Bison Trail, and the new Kenaston Pathway.

What is the plan for the large paved parking area?

Site Plan Guidelines for Regional / Community Commercial Centres indicate limiting the length of parking rows to a maximum of 20-30 contiguous spaces. Longer rows should include landscaped breaks to ensure pedestrian safety (i.e., islands with shade trees for all seasons). Large surface parking areas should be divided both visually and functionally into smaller parking courts through the use of landscaped islands and protected pedestrian pathways. These and other General Design Principles and Detailed Design Guidelines in the Site Plan Guidelines for Regional / Community Commercial Centres will be used by the Director of Planning, Property and Development during the review process.

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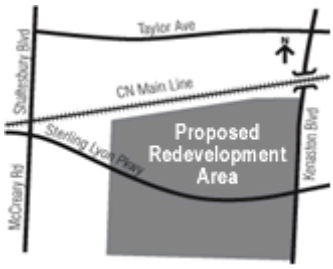

Economic Agreement

What are the provisions of the redevelopment project’s economic agreement?

The Developer will front-end a total of $26.5M for off-site infrastructure improvements. The City will reimburse the developer $14M plus interest (at the City’s current five-year borrowing rate of 4%) over a period not exceeding 12 years, by using incremental tax dollars generated by the development for the regional street improvements that are the responsibility of the City. The Province will contribute $8M towards the widening of Kenaston Boulevard. The Provincial funds will flow to the City over three fiscal years, by way of a contribution agreement (2010, 2011, and 2012) and the City will reimburse these funds to the Developer as they are received. The remaining $4.5M will be direct costs to the Developer for the off-site improvements affected by the development.

What is the anticipated level of private investment?

Private capital investment could exceed $400M. The total development will generate from between 3,500 to 4,000 new jobs.

What are the anticipated benefits to the City of Winnipeg?

Based on rough estimates, the completed development will generate approximately, $3.7M of incremental municipal realty and business tax dollars annually and, including Provincial School and Levy taxes, the total taxes are estimated at $5.93M annually.

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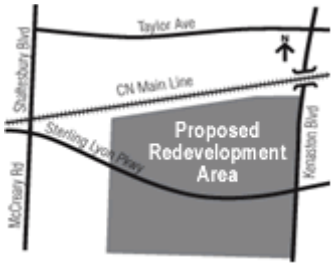

Environmental Planning

Are these Ecologically Significant Natural Lands (ESNL)?

The City followed its Ecological Significant Natural Lands Strategy: Step 2 – Planning for ESNL. A blind panel unaware of the development used the 'Multi-Criteria Evaluation Matrix' to evaluate the lands. The panel, which included the City Naturalist and Parks Planner, determined these lands are not Environmentally Sensitive Natural Lands that require protection.

Where can I find out more information about the ESNL?

http://winnipeg.ca/publicworks/Naturalist/ns/esnl.pdf.

What about the white tail deer?

Fort Whyte Alive (+500 acres) and Assiniboia Forest (+700 acres) offer suitable, and safer, habitats for white tail deer.

What about the trees and grasses that presently grow on the site?

Non-native species such as smooth brome, Kentucky bluegrass, and European buckthorn dominate the site. Aspen stands on the southern portion of the site have a poorly developed understory with considerable dumping of concrete, wood, tires, and fence wire.

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Exhibit “A.6” referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

FORMER CN INTERMODAL TERMINAL LANDS REDEVELOPMENT

KENASTON BOULEVARD & STERLING LYON PARKWAY

PW 2/08 & DASZ 37/08

RETAIL COMMERCIAL LANDS INVENTORY
SOUTH-WEST AND WEST-CENTRAL WINNIPEG

Prepared for:

Kenaston Intermodal Ltd. & 5083851 Manitoba Ltd.

Submitted by:

MMM Group Limited

February 27, 2009

5541878.105



1.0 OVERVIEW OF THE PROJECT

CN Rail was operating its Winnipeg Intermodal Terminal on a 200-acre parcel of land in South Tuxedo adjacent to their main rail line on lands leased from a local ownership group. CN consolidated their rail operations at Symington Yards and did not extend their lease on the Tuxedo lands. The local ownership group, in partnership with Fairweather Properties and IKEA Canada, are proposing to redevelop the former industrial site into a retail commercial centre, anchored by an IKEA retail store. The general area is illustrated on Figure 1.

To redevelop the former intermodal lands as a retail commercial centre, Policy Plate "A" of Plan Winnipeg must be amended to re-designate the area and the City's zoning by-law must be amended to provide the appropriate zoning. Both of these amendments are appropriate given the significant land use changes that have taken place in the surrounding areas during the past three decades. Thirty years ago, South Tuxedo was a heavy industrial area housing Portland cement powder manufacturing plants and other heavy industrial, trucking and agricultural sector uses. Since that time the manufacturing operations have ceased and FortWhyte Alive has been established in the area; the residential communities of Linden Woods and Whyte Ridge have developed; and the residential area of South Tuxedo has developed right up to the CN Main Line. The proposed Plan Winnipeg amendment and rezoning to commercial and mixed-use districts of the former intermodal site would remove the option of its reuse for heavy industrial uses in the future.

2.0 PROPOSED PLAN WINNIPEG AMENDMENT

MMM Group Limited (MMM) has filed a Plan Winnipeg application (PW 2/08) with the City of Winnipeg to amend Policy Plate "A" by re-designating approximately 233 acres of "Industrial Policy Area" to a "Neighbourhood Policy Area" and to an "Area of Regional Commercial and Mixed-Use Concentration", as illustrated on Figure 2. The amendment is being requested in conjunction with a rezoning application to rezone the majority of the site to a "C4" district, to permit the development of a regional shopping centre, and the balance of the site to be rezoned to a "CMU" district to allow for a mixed-use development, including a possible mix of commercial, office and residential uses.

The request for the amendment to a "Neighbourhood Policy Area" would result in a continuation of the existing "Neighbourhood Policy Area" that exists to the north of the subject site in the

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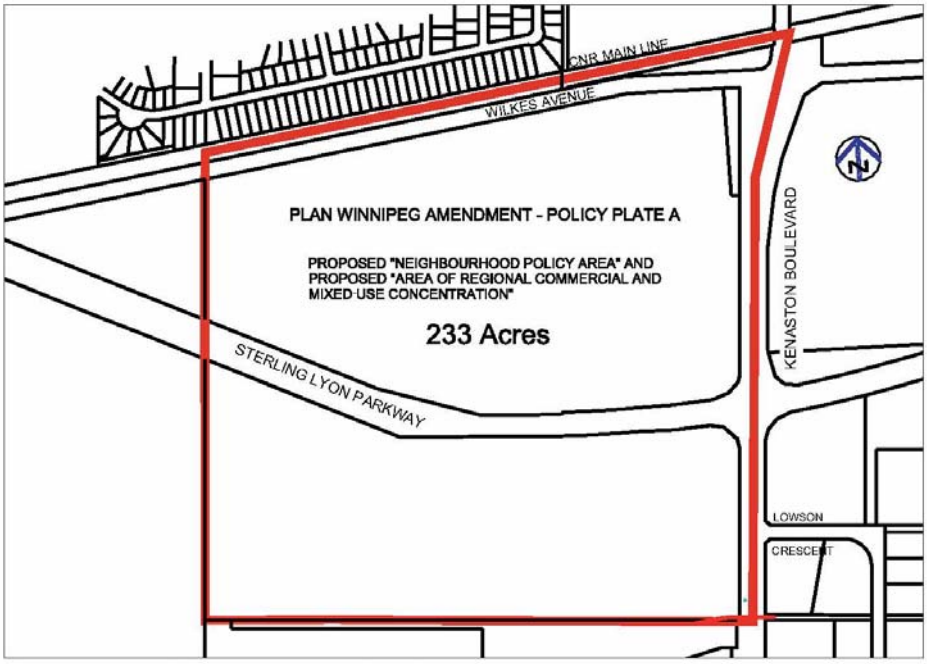
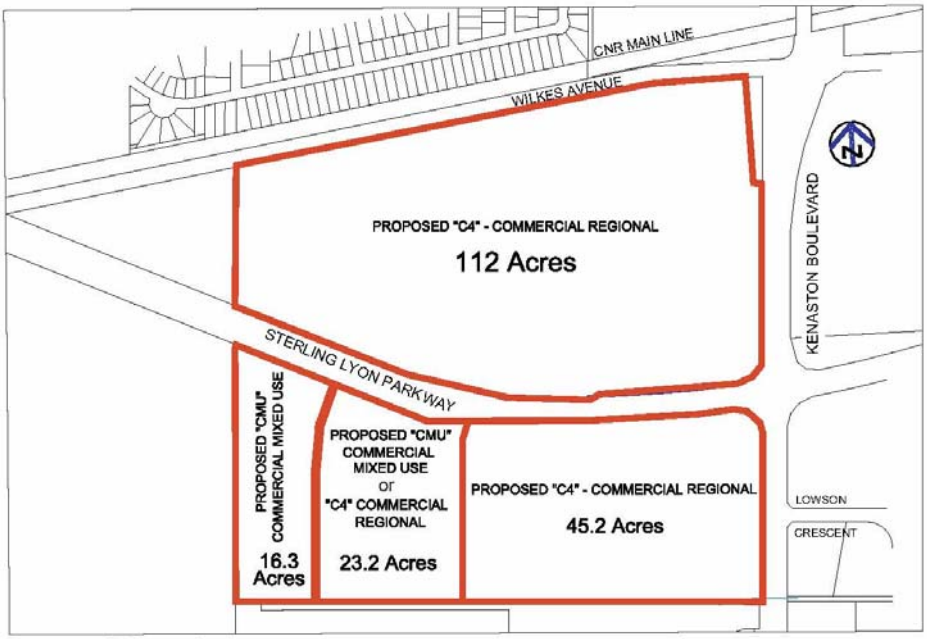


Proposed Plan Winnipeg Amendment



Proposed Rezoning

Figure 2:
Proposed Development Site

South Tuxedo neighbourhood. This is reflective of the evolution of the area from heavy industrial uses to a mix of uses that are more compatible with the adjacent residential neighbourhoods. The site was most recently utilized as CN Rail's Winnipeg Intermodal Terminal, as well as supporting logistical operations. The intermodal terminal was relocated from the site in 2002. There are two remaining active trucking and logistical businesses on the site.

3.0 PROPOSED ZONING BY-LAW AMENDMENT

MMM has filed applications (DASZ 37/08) with the City of Winnipeg to rezone the subject lands from "M2" and "M3" industrial districts to "C4" commercial and "CMU" commercial mixed-use districts in Zoning By-law 200/06. The areas to be rezoned are also illustrated on Figure 2. The "C4" commercial zoning is being requested to permit the development of a regional shopping centre located on the north and south sides of Sterling Lyon Parkway, west of Kenaston Boulevard. The "CMU" commercial mixed use zoning is being requested for the south-west part of the site, adjacent to FortWhyte Alive. It is anticipated that this area will have a mix of uses that are complementary to the shopping centre that may include some smaller commercial enterprises, a cinema complex, offices, a hotel, and multi-family residential apartments.

The application also has a subdivision component to open a public street right-of-way in the mixed-use area; to widen portions of the Sterling Lyon Parkway and Kenaston Boulevard right-of-ways; and to create a number of individual development lots.

4.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The proposed development will include approximately 150 acres of retail commercial lands, plus an additional 48 acres of supporting and complementary mixed-use lands.

The retail commercial centre will contain several "super-regional" retailers. Super-regional retailers are large, destination stores, such as IKEA, that are often "one-offs" (a single store) in a marketplace (the closest existing IKEA stores are in Calgary, Minneapolis and Toronto). This centre is being planned to attract two or three retailers of this caliber, which individually and collectively will reinforce the potential ability of the site to draw customers and tourists from the City of Winnipeg, the Capital Region and the balance of the province, as well as Northwest Ontario and parts of Saskatchewan, North Dakota and Minnesota.

The proposed shopping centre will be anchored by IKEA, which is planning to construct a "flagship store" of 350,000 square feet. IKEA is expected to draw at least two other large retailers to the centre that are not currently in the Manitoba marketplace and which will likely build only one store in the province. Collectively, these super-regional retailers are expected to build in the order of 700,000 square feet of retail space, or almost half of the space available in the proposed shopping centre.

The impact of the clustering of these retailers is one of the key elements that will attract customers from such a wide geographic range. It will also distinguish this centre from other regional shopping centres and power centres and help establish the development as a destination centre. It is expected that the super-regional retailers will also provide a draw for an additional 800,000 square feet of complementary retail on the site, comprised of a mix of large- and medium-format retailers, restaurants, and personal service businesses, such as financial services outlets, located on smaller "pad" sites.

In addition to the 1.5 million square feet of retail space, the centre is expected to attract a multi-screen theatre and a hotel. The vision for the shopping centre is that it will contain a mix of destination retailers, complementary retail, restaurants and other entertainment and support services which will offer a full range of attractive activities, including shopping, eating out, entertainment and lodging, and that the centre will become a tourist attraction of itself. By being an attractive destination to tourists, the site may draw new business to Winnipeg and the province. In this regard, the proposed centre will be unique to Winnipeg and will be distinguished from other regional shopping centres that have smaller, more localized catchment areas.

4.1 IKEA

The IKEA store will be located at the south-west corner of the intersection of Kenaston Boulevard and Sterling Lyon Parkway. It will be approximately 350,000 square feet in size, comprised of main floor and mezzanine retail areas, a customer-warehouse distribution centre and a seasonal sales area. The plans include the ability to expand the centre by an additional 30,000 square feet. The store will be located on a separate parcel of land approximately 27 acres in site area. These lands will be developed exclusively by IKEA for its use.

4.2 Joint-Venture Lands

The joint venture lands comprise approximately 122 acres of land located on both the north and south sides of Sterling Lyon Parkway. These lands will be developed jointly by IKEA and local

partners and the site will contain approximately 1,150,000 square feet of floor area of retail, restaurant and commercial land uses located in free-standing stores, multi-tenanted buildings and individual pad sites. At this point in time, aside from IKEA, the other tenants for the proposed retail spaces have not been finalized. However, there is expected to be at least one in the 200,000+ square foot range, and two others in the 140,000 – 180,000 square foot range, plus numerous smaller retail stores (typically less than 50,000 square feet in floor area).

4.3 Deferred Lands

The deferred lands are comprised of approximately 40 acres of land located in the southwest and northwest parts of the site fronting onto Sterling Lyon Parkway. They will contain a complementary mix of land uses that may include a hotel, cinemas, light industrial, office and/or residential uses. The mix will be market-driven and will emerge over time as the rest of the shopping centre develops.

The final internal plan for the overall 200-acre site has not been finalized because it is expected to evolve as other major tenants are confirmed. As a result, the final mix and location of the retailers and other users are yet to be determined.

5.0 OVERVIEW OF THE COMMERCIAL RETAIL MARKET LAND SUPPLY

The purpose of this study is to examine and analyze the supply and availability of commercial land in the west-central and southwestern areas of Winnipeg to accommodate larger scale retail developments (see Figure 3 – Study Area). The study area takes into account the Polo Park area, St. James, Charleswood, Tuxedo, River Heights/Crescentwood and Fort Garry east to Pembina Highway. It focuses on larger sites that have the potential to accommodate retailers whose markets are more regional in scope. Generally, these require lands zoned as "C3" (up to 120,000 square feet of building floor area per retailer) or "C4" (up to and exceeding 120,000 square feet per retailer). The timeframe for consideration is from the present to a 20-year and beyond horizon. Excluded from this analysis is the variety of small parcels scattered throughout the area that exist on either individual sites or are part of partially developed commercial lands. Such sites typically provide opportunities for new retail of a more localized nature.

Although the study does not examine current vacancy rates in retail commercial centres, it should be noted that at present there are no significant vacant, large-format retail buildings available in the study area. Any major new retailer currently considering entering the Winnipeg market and locating within the study area would need to build new premises. Furthermore, many retailers have very specific space requirements that make it difficult to adapt existing space to

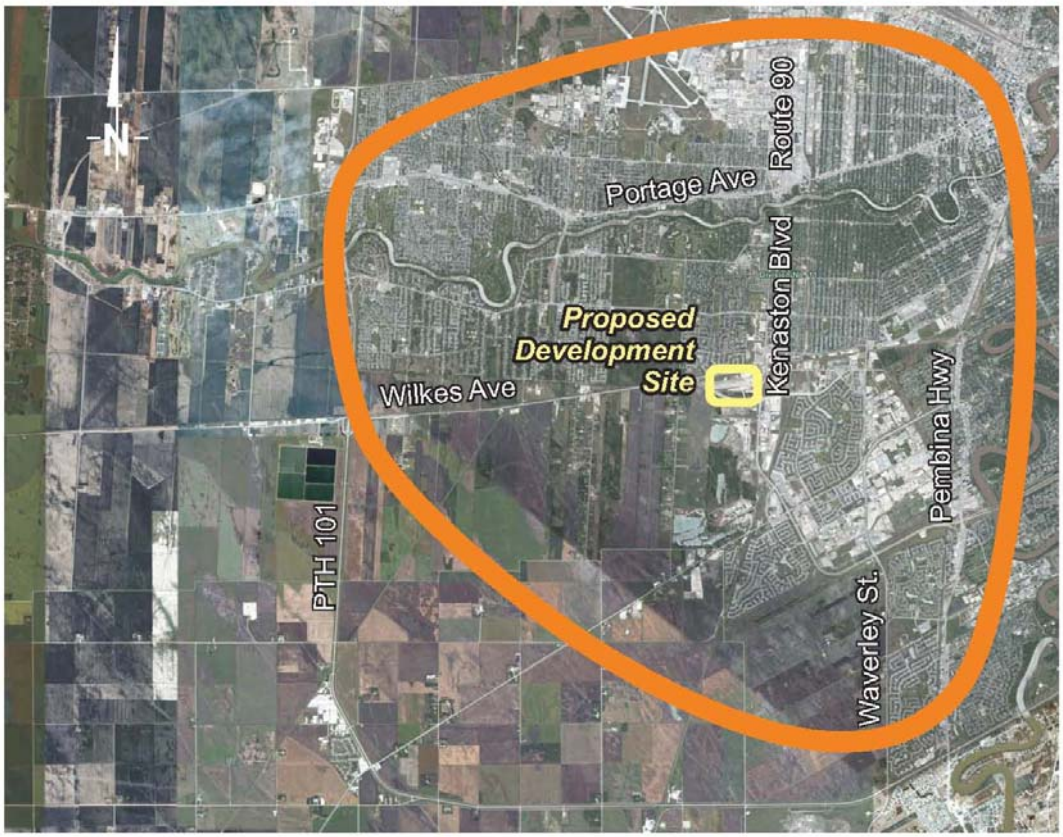


Figure 3:
Study Area

their needs. For this reason, new buildings on new development sites are often the only space that many large retailers will consider. This study focuses on suitable sites for such retail development.

There has been numerous new large-format retail stores (120,000 – 140,000 square foot range) built within the study area in recent years. These include replacement stores (Canadian Tire – 3 stores and Wal-Mart – 2 stores); new stores by retailers that were already in the Winnipeg marketplace (Superstore – 2; Wal-Mart – 1; Costco – 1), and stores for retailers new to the Winnipeg market (Rona – 2; Home Depot – 2). With the exception of the demolition of the former Canadian Tire Polo Park and the Unicity Wal-Mart stores (which were demolished), the buildings formerly occupied by the retailers that have rebuilt have also been utilized by other retailers. Collectively, these new stores alone have added over 1.5 million square feet of net new floor area within the study area. In addition to these major retailers, there have been many other new retailers who have also expanded or entered the Winnipeg market. Collectively, they account for at least another 1.5 million square feet of building space. On average, there has been an annual demand for over 300,000 square feet of new retail floor space in west-central and south-west Winnpeg over the past decade.

While it may be said that many of the retailers who are in Winnipeg have now likely achieved their optimum coverage for this market, there are many retailers who have not yet opened stores in Winnipeg. In addition, several of the existing retailers may find that their current premises do not meet their needs and they will need to expand, or more likely, rebuild on more suitable sites. Retailers are constantly changing and adjusting their market strategies and it is imperative that the City designate enough land to provide opportunities for a suitable supply of appropriate sites to avoid the market from becoming stagnant and from discouraging new retailers from locating and investing in Winnipeg.

It must also be recognized that the proposal for the Kenaston and Sterling Lyon site is unique in Winnpeg. This will be the first and likely only, shopping centre that will draw several one-store-per-market retailers to Winnipeg. IKEA is one such retailer and it represents such a strong market draw, not only from within Winnipeg, but across the province and beyond, that it is expected that other major retailers who are not currently in Winnipeg may also want to open businesses in Winnipeg in proximity to IKEA. As with IKEA, which has a proposed building floor area of 350,000 square feet, several of these retailers have building floor plates much larger than those that are typically built by retailers that have multiple stores per marketplace.

The nature of the one-per-market stores is a business model that typically generates synergy from proximity to other similar stores. This contributes not only to the success of the individual stores, but also to the strength of the overall shopping centre. This brings with it a greater opportunity and need for other retailers and complementary consumer professional services such as banking, hospitality services including restaurants and hotels, and a variety of other smaller enterprises.

It is anticipated that almost half of the proposed retail floor area in the shopping centre (up to 700,000 square feet) will be comprised of large-format, one-store-per-market retailers. Another approximately 800,000 square feet of floor area is expected to be comprised of other large, medium and small retailers that have multiple outlets in Winnipeg, or are smaller, distinctive enterprises. Given the unique nature of the proposed development, where almost half of the retail space is expected to be stores that would be new to the Winnipeg marketplace, the floor areas for these stores should be considered over and above the normal annual market demand for 300,000 square feet that has been experienced in the study area over the past decade.

Given this supposition, it is anticipated that the demand for new retail space in west-central and south-west areas of Winnipeg in the 2010 – 2015 timeframe will be comprised of IKEA (350,000 square feet), other super-regional retailers (±350,000 square feet), and other retail and associated space (±900,000 square feet). This is an average of approximately 250,000 square feet per year. Once the wave of super-regional stores have been constructed, annual demand is expected to decrease to somewhere in the 100,000 – 150,000 square foot range.

This study is focused on sites that could potentially accommodate the large-format retailers and the other complementary retailers that they attract. It is intended to address the question as to whether designating the subject site for a major retail commercial development will over-supply the marketplace in west-central and south-west Winnipeg and leave the City with large tracks of commercially designated land that exceeds a reasonable demand for supply of such land.

6.0 ANALYSIS OF CURRENT, FUTURE AND POTENTIAL RETAIL COMMERCIAL LANDS IN THE POLO PARK AND SOUTHWEST WINNIPEG AREAS

The broad study area contains three areas designated as "Areas of Regional Commercial and Mixed-Use Concentration" in Plan Winnipeg: Unicity Shopping Centre; Polo Park; and Kenaston McGillivray. A review of available and potential redevelopment sites in the study area rules out anything west of Route 90 in St. James and Charleswood. There are no designated or known significant potential retail commercial development sites in these areas. Most of the available or potentially available sites fall along the south Route 90 (Kenaston Boulevard) and Bishop Grandin Boulevard corridors. Several involve the redevelopment of former large-scale industrial sites. The sites that have been identified for analysis are illustrated on Figure 4.

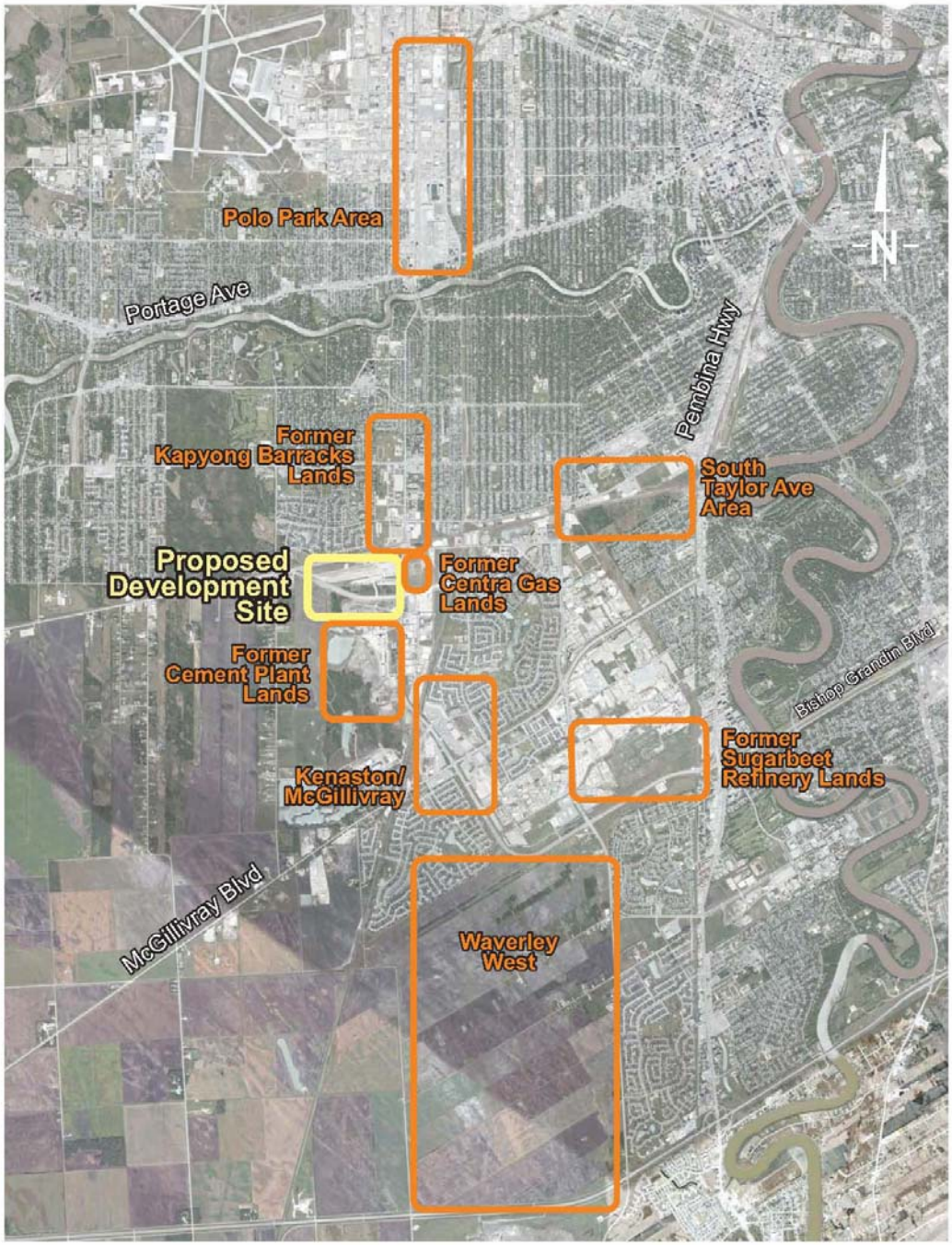


Figure 4:
Development Areas

Sites that have been identified for commercial development or potential development have been separated into three categories in the following analyses:

- Current Development Sites (zoned as C3 & C4 commercial and have trunk services available);
- Future Development Sites (zoned C3 & C4, or are designated as commercial, and trunk services may or may not be readily available); and
- Potential Development Sites (not zoned or designated as commercial; trunk services may or may not be readily available).

6.1 Current Retail Development Sites

Current development sites are defined as those that are designated as "Neighbourhood Policy Areas", and may also be designated as "Areas of Regional Commercial and Mixed-Use Concentration", in Plan Winnipeg. They are currently zoned for retail commercial use and have major public street access and trunk sewer and water services adjacent to the sites. They also are vacant and available for development. Only the larger sites of greater than 5 acres (supporting more than 55,000 square feet of retail) have been considered in this analysis.

6.1.1 Polo Park Area

At present, there are only two significant sites in the Polo Park area that meet the criteria for as current development sites: the former arena site located on Arena Road just north of the Polo Park Shopping Centre; and a vacant site on the north side of Ellice Avenue east of the CP La Riviere rail line (see Figure 5).

At 5.0 acres in size, the former arena site, which is zoned C3, could accommodate approximately 55,000 square feet of retail on a single level and with surface parking. The site has been acquired by Cadillac Fairview, the owner of the Polo Park Shopping Centre, and it is expected that the site will be redeveloped in the near future.

The vacant 5.2-acre parcel on Ellice Avenue is zoned M2. To develop as a retail use, it would require rezoning to C3. The site is subject to a current land use approval application for a hotel development of the site. If approved, this site will be developed as a non-retail use.

6.1.2 Kenaston and McGillivray

The Kenaston McGillivray cluster of power centres (including Kenaston Common, Linden Ridge Shopping Centre, Linden Woods Shopping Centre and the adjacent supporting commercial areas) comprises approximately 150 acres of land and contains roughly 1.35 million square feet of developed retail floor area (see Figure 6). This area has developed over the past decade. With the exception of several small pad sites, the only remaining significant development site is

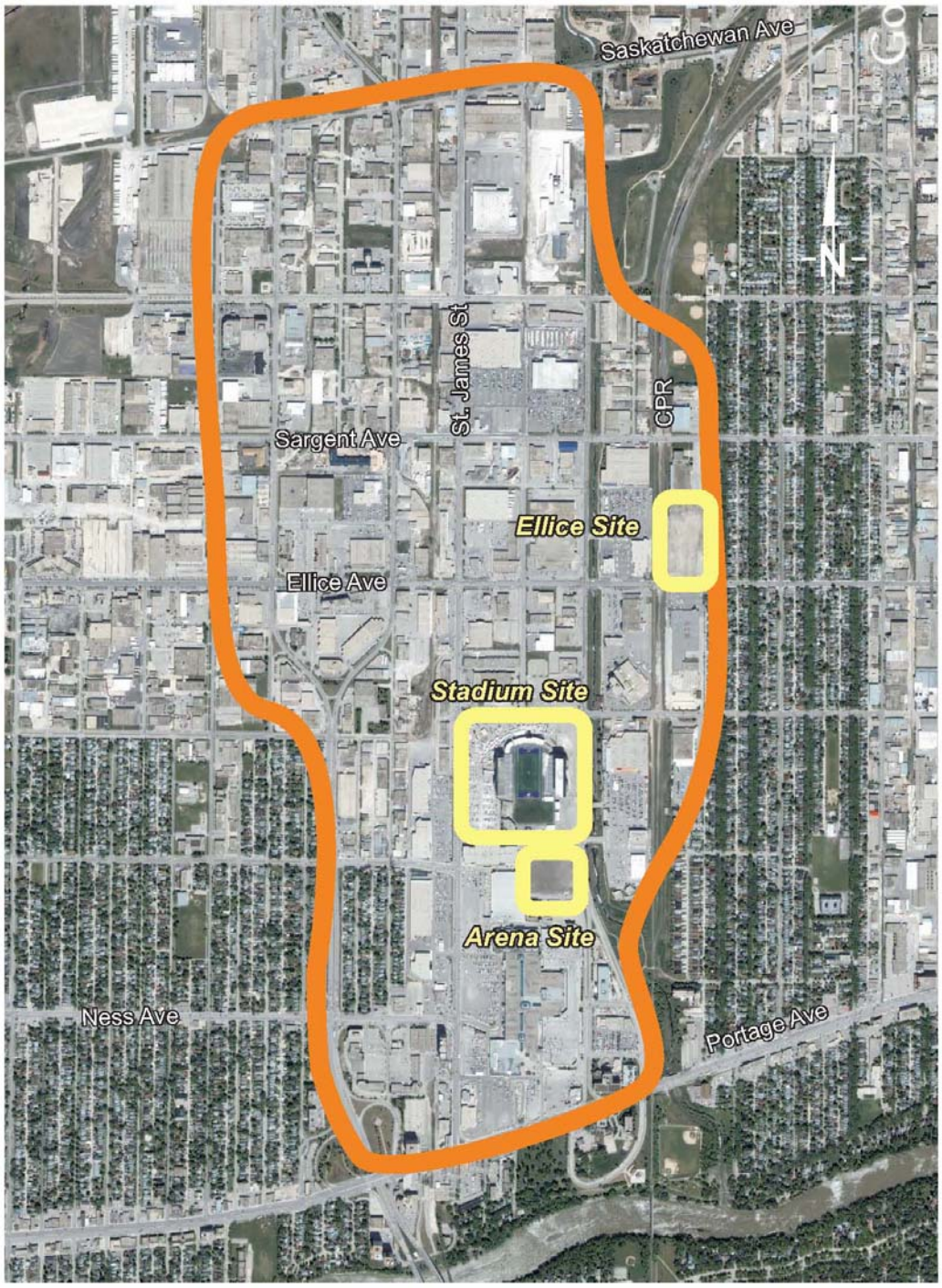


Figure 5:
Polo Park Area



Figure 6:
Kenaston/McGillivray

the vacant 12-acre site at the Linden Ridge Shopping Centre that was acquired by Wal-Mart several years ago as a site for a possible Sam's Club store. All three corners of this Area of Regional Commercial and Mixed-Use Concentration, as defined in Plan Winnipeg, are essential built-out with no opportunity for any further major development other than the potential for roughly 130,000 square feet on the vacant Sam's Club site.

6.1.3 Waverley West – Ladco Lands

Ladco Development Company recently registered a Plan of Subdivision for the first stage of its Waverley West residential community (Neighbourhood Area "C" on Figure 7). Ladco began installing roads and underground services in the subdivision in 2008 and the first houses are expected to be occupied in 2009. The rezoning and subdivision application also approved two large "C3" commercial sites located on the west Side of Kenaston Boulevard comprising approximately 47 acres. This would allow about 500,000 square feet of retail floor area to be developed on these sites.

The Waverley West Area Structure Plan identifies the future extension of Kenaston (Route 90) from Bishop Grandin Boulevard to the Perimeter Highway (PTH 100). At present, the street pavement in Kenaston Boulevard is not yet installed in any areas of Waverley West. The current plan is for Kenaston to be extended as the adjacent residential subdivisions develop, starting with MHRC's Bridgewater Forest (Neighbourhood Area "A" on Figure 7). The first extension of Kenaston will likely be completed in 2010. Eventually Kenaston will be extended through Waverley West to the Perimeter Highway, at which time the existing Waverley Street connection to the Perimeter will be discontinued. The long-range Manitoba Infrastructure and Transportation plan is to eventually construct a direct connection between PTH 75 and the Perimeter Highway (the St. Norbert By-pass), which would be aligned with Kenaston, and to construct a grade-separated interchange at the Kenaston & Perimeter intersection.

The timing of development of the Ladco commercial lands is tied into the extension of Kenaston and its connection to the Perimeter. The adjacent residential subdivisions will not have the critical mass of population to support a significant amount of retail in this area other than a grocery store (60,000 – 80,000 square feet) and other smaller uses for some time without access to additional pass-by traffic. It is possible that the Kenaston Boulevard connection to the Perimeter and termination of the Waverley connection at the Perimeter could be made prior to the full extension of Kenaston through Waverley West. But without a direct, continuous link to Route 90, the large retail areas in the Ladco subdivision will not be able to reach their full potential.

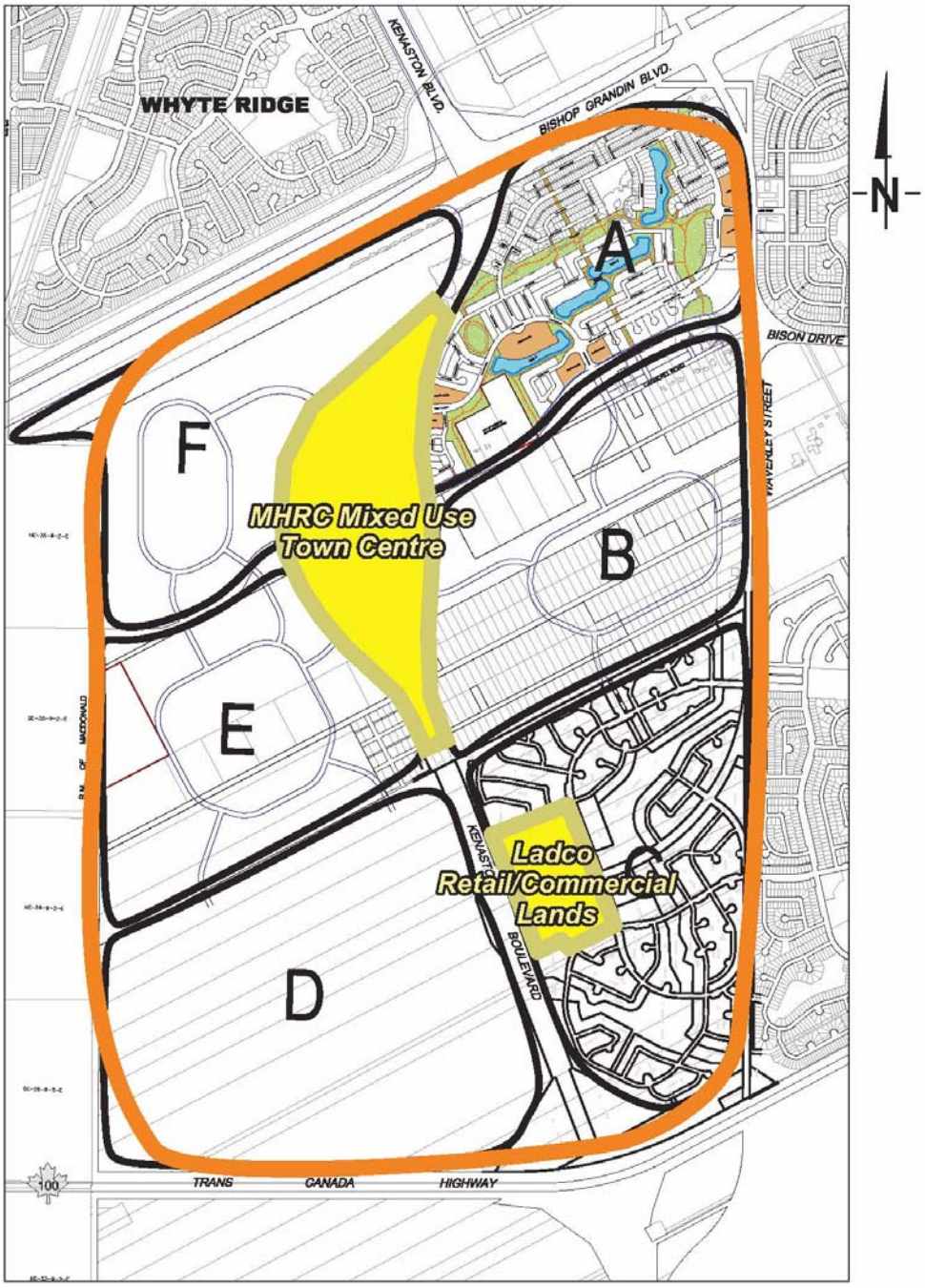


Figure 7:
Waverley West

If Kenaston is extended in conjunction with the adjacent residential subdivisions, and if residential building lots are absorbed at current levels, it is anticipated the full Kenaston extension could take up to 10 - 12 years to complete. This would suggest that the majority of the Ladco commercial sites will not be fully developed with new retail space until the year 2018 – 2022 timeframe.

6.2 Future Retail Development Sites

6.2.1 Polo Park Area – Stadium Site

There have been several proposals in the past few years regarding constructing a new stadium to replace the existing stadium located just north of the Polo Park Shopping Centre. The viability of all of these proposals is based on significant financial contributions from the Province of Manitoba and the Government of Canada. There is no clear timeframe or commitment for such funding and without the funding, any discussion regarding the future re-use of the stadium site is speculative. If, however, funding were to come in place and the site were to be re-developed for retail commercial purposes, at about 25 acres in size (as illustrated on Figure 5), and with the current "C3" zoning, the site could accommodate up to 275,000 square feet of retail development with surface parking. "C3" zoning has a provision for a maximum store floor area size of 120,000 square feet per retailer. To be available for larger users, the site would require "C4" zoning. If the stadium were to be fast-tracked for a move to the University of Manitoba, as has been proposed, the earliest timing for re-development of the existing stadium site would be in the 3 – 4 year timeframe.

6.2.2 Waverley West – MHRC Lands

Following the Plan Winnipeg re-designation of the Waverly West lands from a "Rural Policy Area" to a "Neighbourhood Policy Area", City Council also adopted an Area Structure Plan (ASP) for Waverley West that identified six future residential neighbourhoods and a "Town Centre". The Town Centre is proposed to be comprised of approximately 125 acres of land located between the northbound and southbound legs of the future extension of Kenaston Boulevard adjacent to the ASP Neighbourhood Areas A, B, E and F (Figure 7). The future Town Centre lands are owned by MHRC.

The Town Centre concept is for a centrally-located clustering of retail commercial, office commercial, multiple-family residential, institutional, recreational, public service and other similar complementary uses. The centre would be a mixed-use area that would develop over time in response to the needs of the community. Its conceptual design, with the north and south legs of

Kenaston split on either side of the Town Centre, is intended to make the centre more accessible from the adjoining residential neighbourhoods by reducing the number of active traffic lanes that pedestrians would cross to get to the centre; to reduce the speed of the traffic on Kenaston without reducing the traffic progression through the neighbourhood, and to provide maximum exposure by the retail commercial to passing regional traffic flows.

It is expected that mix of uses would be comprised of roughly 45 – 50 acres zoned for retail commercial uses. These lands will likely be a mix of regionally- and locally-focused retailers and restaurant uses. Some of these lands may be designed to accommodate larger-format retailers. The concept as previously articulated by MHRC is that the Town Centre will be an integrated mix of uses that will be the "heart" of Waverley West, both physically and communally. Its scale and urban-fabric texture will be pedestrian-focused to be compatible with MHRC's goal of creating a "walkable" community focused on a central "main street". Any large-scale retail will likely be flanking along the two legs of Kenaston.

Although no applications have been filed by MHRC, it is likely that the zoning will be a combination of "CMU" (commercial mixed-use) and "RMU" (residential mixed-use) districts. There may also be some limited "C2" and "C3" areas as well. At this point, it seems unlikely that any portion of the Town Centre will be zoned "C4" to accommodate retail users over 120,000 square feet of floor space. To do so would require a Plan Winnipeg amendment to designate all or part of the Town Centre as an "Area of Regional Commercial and Mixed Use Concentration".

With potentially ±45 acres of commercial zoning of some sort, it is anticipated that the Town Centre will accommodate in the order of 380,000 – 480,000 square feet of retail use. In addition, another 30 – 35 acres is expected to be set aside for mixed-use including residential, office, restaurant and small-scale retail uses. It is difficult to hypothesize as to the resulting amount of retail floor area that a mixed-use area would support, but it is not likely the type of retail, other than restaurants, that would be drawing customers on a regional scale. It would more likely be targeted to the Waverley West community, which will eventually be significant in its own right.

As discussed above, the timing of the development of commercial uses in Waverley West will, to a large degree, be significantly influenced by the timing of the extension of Kenaston between Bishop Grandin Boulevard and the Perimeter Highway. In addition, the nature of the Town centre, with its concept for mixed-use, may take longer to fully develop than a conventional retail centre. Some of the multi-family, institutional and recreational uses may not develop until the community matures and reaches close to full development. It is estimated that the first components of the retail commercial portions of the Town Centre, including provision of local

convenience and grocery shopping, may begin to develop in the 2012 – 2014 timeframe. The larger retail commercial sites are more likely in the 2018 – 2022 timeframe. The Town Centre is likely to begin to reach its full potential sometime around 2025.

6.3 Potential Retail Development Sites

6.3.1 Former Sugar Beet Refinery Lands

Following the closure of the Rogers Sugar beet refinery located in south Fort Garry (west of Pembina Highway and north of Bishop Grandin Boulevard Figure 8) in the early 1990s, the lands were sold to a local ownership group that established two businesses in the former refinery buildings at the north-east corner of the site. The balance of the site, constituting approximately 125 acres, was subsequently sold to a land development and shopping centre company, Hopewell Developments. Hopewell processed a rezoning and subdivision application in 2007 to consolidate the zoning to "M2" and to create public street rights-of-way to provide access to the land-locked site. They retain some of their "grandfathered" rights under the "M2" provisions of the former zoning by-law, allowing them some retail development. The physical improvements of new sewers, water lines and street pavements have not yet been installed.

In 2008, Hopewell filed an application to rezone parts of the site to "C3" and "C4" commercial zoning to expand their rights to establish retail uses on the site. The applications include 20 acres of proposed "C3" zoned lands and 33 acres of "C4". The "C4" areas would support in the order of 360,000 square feet of large-format retail store space. It is anticipated that the rezoning application will be dealt with in early 2009. If successful with the application, Hopewell would be in a position to proceed with the retail portion of the development beginning in 2009.

6.3.2 Former Kapyong Barracks

The Department of National Defense (DND) shut down the former Kapyong Barracks site located on both sides of Kenaston Boulevard adjacent to Taylor Avenue and stretching along the west side of Kenaston to north of Grant Avenue (Figure 9). The 160-acre site has been declared surplus by the DND and an agreement was reached to sell the lands to the Canada Lands Company, a Crown corporation with a mandate to redevelop surplus Federally-owned lands. Canada Lands has developed several other former military bases in Western Canada adopting a model of primarily residential uses, but incorporating retail commercial and mixed-use sites. The retail tends to be smaller-scale in nature, typically permitting a grocery store to serve the community as the largest such retail use.



Figure 8:
Former Sugar Beet Refinery Lands



Figure 9:
Former Kapyong Barracks

The re-development of Kapyong Barracks has been delayed by legal action on behalf of a First Nation claiming an interest in the land. It is unknown how long this will take to resolve and whether the First Nation will be successful in its action. It is, therefore, very difficult to say when the site would become available to begin the land use planning and approval processes, and when it might actually be developed. The development pattern may also be very different depending on the outcome of the legal process.

Making an assumption, for the purpose of this study and analysis, that Canada Lands does secure the lands and proceeds to develop the site, and based on their development patterns in other western Canadian cities, it is anticipated that roughly 35 – 40 acres of the site would likely be developed for retail commercial uses. Most of this would be set aside for smaller-scale retail. It is assumed that the development would permit some larger-scale retail, but likely with no more than "C3" zoning with a maximum floor area per store of 120,000 square feet. An allowance of 120,000 square feet has been made for this purpose. It has also been assumed that the earliest that these lands would be available for actual development for retail use would be no earlier than five years; sometime after 2014.

6.3.3 Former Cement Plant Lands

A number of years ago, two Portland cement powder manufacturing plants, located west of Kenaston Boulevard in South Tuxedo and Fort Whyte, ceased production. Surplus lands associated with the former plants have been disposed of to various owners for a variety of uses, including establishing and expanding Fort Whyte Alive. Parts of the former Lehigh Inland Cement South Tuxedo manufacturing plant have been retained and are currently used as a cement powder distribution centre and a ready-mix concrete batching plant. These uses are expected to continue operations in the foreseeable future. The surplus portions of the Lehigh Inland lands were sold to Terracon Developments. Terracon has been redeveloping these lands over the past few years as the South Tuxedo Business Park (Figure 10) and they have attracted a mix of tenants including professional offices and light industrial uses.

There are additional lands south of the Tuxedo Business Park that could conceivably become available for redevelopment, possibly as a commercial centre. This area is generally illustrated on Figure 10. At first glance, there appears to be a large area of vacant land, however, a significant part of these lands are part of a registered, but unimproved, City of Winnipeg street right-of-way. The City's Public Works Department operates a snow dump and storage within the right-of-way area. The net area of land, excluding the street right-of-way, that could possibly be

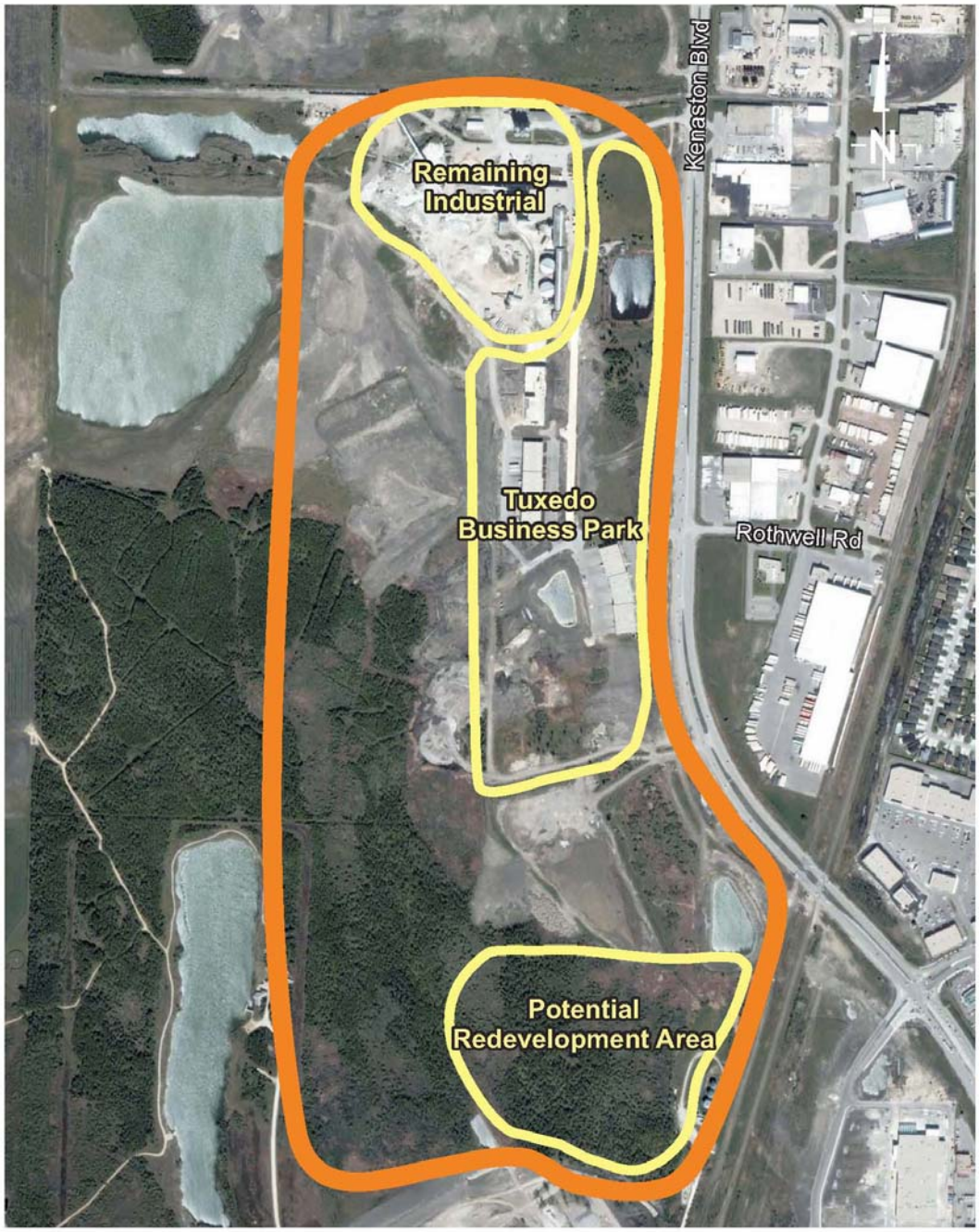


Figure 10:
Former Cement Plant Lands

developed, is about 25 – 30 acres. If zoned for commercial uses, this area could support roughly 275,000 – 325,000 square feet of retail floor area.

The locale is currently designated as an "Industrial Policy Area" in Plan Winnipeg and the portions of the area that are not part of the registered street right-of-way are zoned "M3". Development of this land for retail commercial purposes would require both a Plan Winnipeg amendment and rezoning. In considering such an application, access to the site would likely be an issue due to the limited length of actual frontage on Kenaston; the fact that the frontage is on a curve with compromised sight lines; and is in close proximity to an adjacent rail line. All of these factors tend to lower the site's development potential for retail commercial use.

6.3.4 Former Centra Gas Lands (Manitoba Hydro)

Manitoba Hydro owns a 44-acre site on the northwest corner of the Kenaston Boulevard – Sterling Lyon Boulevard intersection (Figure 11). It was part of the Centra Gas Company holdings that were acquired by Manitoba Hydro when it acquired Centra Gas. The site contains some remaining gas-industry related infrastructure in the north-east corner, but since the removal of the former above-ground natural gas storage tanks a number of years ago, about 36 acres of the site has remained vacant.

Manitoba Hydro recently declared about 24 acres of this site surplus to their needs and offered it for sale for development. The property being sold is in two parcels: a larger parcel fronting onto Kenaston (21.27 acres) and a smaller, non-contiguous parcel (2.91 acres) fronting onto Sterling Lyon Parkway. The lands are designated as an "Industrial Policy Area" in Plan Winnipeg and are zoned "M2".

This site is challenged by access limitations. Adjacent to the site, Kenaston begins to dip below grade for the CN Main Line underpass. It is highly unlikely that the City would permit any vehicular access to or from Kenaston. The lands also have limited opportunity for all-directional access from Sterling Lyon Boulevard due to the proximity of the Kenaston – Sterling Lyon intersection to the west and the at-grade railway crossing to the east.

The site would also require a Plan Winnipeg amendment and rezoning to permit retail commercial development. Notwithstanding the site challenges as an ideal retail site, if it were to be redeveloped, the lands that have been offered for sale could support in the order of 200,000 square feet of retail floor area. If the balance of the site were also to become available for development as a retail site, it could support roughly another 200,000 square feet of floor area.



Figure 11:
Former Centra Gas Lands

6.3.5 Polo Park Area – Other

The Polo Park area has been in transition for the past decade. The Polo Park Shopping Centre has been a well-established retail centre for many years, but there was a limited amount of other retail around the shopping centre. Most of the Polo Park area was utilized for older industrial uses until 1998, when the first of the many redevelopments began to transform industrial areas into retail areas. The "M1" and "M2" industrial zoning districts in the City's former zoning by-law permitted retail development and the area was ripe for redevelopment. As a result, most of the well-known large-format retailers have established stores in the area including Home Depot, Wal-Mart, Rona and Superstore. In addition, Canadian Tire and, more recently, Safeway, have replaced their stores with larger stores. In addition to the larger store, there has been a significant amount of other new retail development. Polo Park Shopping Centre has also recently expanded its floor area and has purchased the former arena site.

Although a large part of the Polo Park area is designated as an "Area of Retail Commercial and Mixed-Use Concentration" in Plan Winnipeg, the new zoning by-law removed many of the retail permissions in industrial-zoned areas. As a result, sites that retained industrial zoning under the new zoning by-aw must either be rezoned or seek Conditional Use approvals prior to redevelopment for retail or commercial uses. Notwithstanding this new limitation, large portions of the Polo Park area were granted "C2", "C3" and "C4" zoning categories during the new by-law adoption process. However, most of these sites have already been redeveloped, so there are limited opportunities for much additional, large-scale redevelopment to take place other than on the site previously cited. Taking a broad-brush approach to what could be developed; it is conceivable that up to another 500,000 square feet of retail commercial building space could be developed in the Polo Park area, likely over a period of about ten years or beyond. Most of this redevelopment would require the demolition of existing buildings.

6.3.6 South Taylor / Parker Lands

In recent years, an area along the south side of Taylor Avenue south of Grant Park Shopping Centre and the Pan Am Pool has been developing as an emerging commercial node. The uses include a mix of retail stores and office uses, including a call centre. Although most of the available land has been developed, there is a larger undeveloped area between the existing Sobeys and the Manitoba Hydro building that would appear to be a possible opportunity for redevelopment. This area is encumbered by a considerable number of high voltage transmission line towers that significantly limit its redevelopment prospects.

Taking a broader perspective on this area, the City has some unresolved regional transportation issues in this quadrant associated with the termination of Sterling Lyon Parkway at Waverley Street. There has been some recent dialogue regarding the possible extension of Sterling Lyon eastward to link with Taylor Avenue (Figure 12). This would involve a new grade-separated rail crossing of the CN Main Line.



Figure 12:
Taylor/Parker Lands

Although purely speculative at this time, if this new alignment were to be adopted as part of the City's plans and eventually built, it could open up for development an area of 40 – 50 acres on the north side of the Sterling Lyon Parkway extension. If these lands, referred to as the Parker neighbourhood, were developed for retail commercial uses, they could support in the range of 400,000 – 500,000 square feet of retail use. The timing would not likely be in the near future, more likely decades, if this plan were to be agreed to.

7.0 SUMMARY AND CONCLUSION

7.1 Summary

7.1.1 Current Retail Development Sites

In summary, most of the available or potentially developable land that is suitable for concentrations of large-format and complementary retail in the southwest and west central parts of Winnipeg are in the Polo Park area or are located along the Kenaston and Bishop Grandin boulevard corridors. There are no significant available or potential available development sites in St. James or Charleswood. As illustrated in the tables that follow, "ready to go" sites that are zoned and serviced are very limited, and what is available could support less than 200,000 square feet of retail space. Based on the retail floor area that has been built in the last decade within the study area, this represents less than a year's supply of land.

The approved "C3" lands that Ladco have in inventory in Waverley West could potentially add to this inventory, but they are likely years away from reaching their potential as attractive sites for major retailers until Kenaston is extended south to the Perimeter Highway.

Table 1: Current Development Sites (zoned as C3 & C4 and have trunk services are available)

Geographic Areas (sites available for retail stores over 50,000 square feet in floor area)	Potential Square feet of Retail Floor Area*	Potential Development Timeframe
Polo Park; Former Arena Site**	55,000	2009 – 2010
Kenaston / McGillivray	130,000	2009 – 2010
Waverley West; Ladco	500,000	2018 – 2022
Totals	**±685,000**	

*assumes 25% building site coverage; excludes small pad sites
**assumes surface parking, but could be higher if structured parking was built

7.1.2 Future Retail Development Sites

When other lands that are either zoned for "C3" and "C4" retail or that have potential for such use due to adopted Secondary Plans or announced development plans are taken into account, the potential commercial land inventory appears much higher. This must be tempered by a number of factors that will affect the probability and timing of these sites. In some cases, development may be many years away.

The highest potential, in terms of time to come to market, would be Hopewell's redevelopment of the former sugar beet refinery lands. A servicing plan for these lands has been approved and land use applications are in the process of being reviewed. If approved for rezoning to "C3" and "C4", and if servicing were undertaken in the summer of 2009, these lands could be available by late fall, 2009.

Much of the Polo Park area is currently zoned for "C3" and "C4" commercial use. Other than the former arena site, there are currently no large, uncommitted sites. Redevelopment of any large-scale retail would require land assembly and demolition. This is expected to happen gradually over time as the Polo Park area continues to evolve and transform itself. At present, there are no significant sites being presented as development sites suitable to attract larger retailers.

The current stadium site will present some opportunities should relocation of the stadium happen. If it does, a new stadium must be designed and built, and the existing stadium demolished. A best-case scenario for this would likely be about three years, making the site available for redevelopment sometime around 2012. At 25 acres in size, the site will support about 275,000 square feet of retail on one level with surface parking. An option is to increase the intensity of the use of the site by building structured parking. This is a technically feasible, but expensive option. It would be speculative to assume a more intense use of the site for purposes of this analysis because there are so few precedents in Winnipeg for structured parking for retail use other than the Polo Park Shopping Centre.

The other significant potential retail areas, and in particular the MHRC Waverley West Town Centre and the Canada Lands former Kapyong Barracks sites, appear to be many years away from becoming available for retail development.

Table 2: Future Development Sites (zoned or designated as C3 & C4, and trunk services may or may not be readily available)

Geographic Areas (sites available for retail stores over 50,000 square feet in floor area)	Potential Square feet of Retail Floor Area*	Potential Development Timeframe
Waverley West; MHRC Town Centre	±325,000	2018 – 2022+
Former Sugar Beet Refinery Lands	500,000	2009 – 2012
Former Kapyong Barracks	±120,000	2014 – 2020
Polo Park Area; Current Stadium Site	±275,000	2012+
Polo Park Area; Other	±500,000	2009 – 2020+
Totals	**±1,220,000**	

*assumes 25% building site coverage; excludes small pad sites.

7.1.3 Potential Retail Development Sites

The last grouping of potential development sites includes some quite speculative sites, all of which would require Plan Winnipeg amendments. In addition, they also have some access limitations that diminish their suitability for intense retail use, or will require major infrastructure investments that are not presently being contemplated. Of these, the former Centra Gas lands located at Kenaston and Sterling Lyon have the most potential because of the recent sale of part of the site. Since the new owners have not announced their intentions for the land, its present designation and zoning as industrial mitigates considering it as having a high potential for commercial retail development.

Of these sites, the South Taylor / Parker lands are intriguing, but if even feasible, are likely decades away from development potential. They have been included to ensure that all reasonably potential sites within the study area have been considered.

Table 3: Potential Development Sites (not zoned or designated as commercial; services may or may not be readily available)

Geographic Areas (sites available for retail stores over 50,000 square feet in floor area)	Potential Square feet of Retail Floor Area*	Potential Development Timeframe
Former Cement Plant Lands	±300,000	Beyond 2020
Former Centra Gas Lands	±400,000	2010 – 2016
South Taylor-Parker Lands	±400,000	2015 – 2025+
Totals	**±1,100,000**	

*assumes 25% building site coverage; excludes small pad sites.

7.2 Conclusion

The review and analysis of retail commercial development sites in the west-central and south-west areas of Winnipeg clearly indicates that the City does not have an adequate inventory of land designated in Plan Winnipeg designated as "Areas of Regional Commercial and Mixed-Use Concentration" to meet the current needs of the marketplace. Normal annual market absorption of new retail space over the past decade has been averaging about 300,000 square feet of floor area per year. Excluding IKEA and associated retailers, and assuming a reduced demand (say 150,000 square feet) due to slower economic conditions and less aggressive expansion plans by retailers, the current inventory of under 20 acres of "C3" and "C4" zoned and serviced lands (which would support roughly 200,000 square feet of retail floor area), represents less that a two-year's supply of land.

When the Hopewell lands are taken into account (which are subject to land use approvals), the inventory increases to perhaps four to five years, but limited essentially to one site. The proposed IKEA, and the additional stores that IKEA will draw to Winnipeg, suggest an opportunity or need for about 350,000 square feet of new floor area, in addition to IKEA's 350,000 square feet, over the next four to five years.

Beyond 2010, the available land for regional commercial development is minimal until the 2014 – 2015 timeframe when some of the Waverley West lands and the former Kapyong Barracks lands begin to become available (which are still subject to several variables). The other, more speculative sites, such as the south Taylor-Parker lands, have too many unknowns to be seriously considered as being potentially available in the inventory.

In conclusion, the City needs to designate new lands on Policy Plate "A" in Plan Winnipeg as "Areas of Regional Commercial and Mixed-Use Concentration" to be able to accommodate the proposed IKEA and associated development. Even without IKEA, more vigorous growth in the

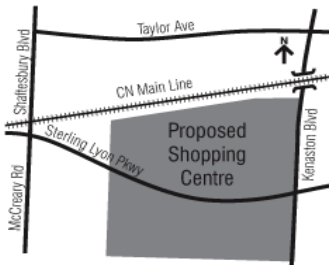
city than anticipated during the last Plan Winnipeg review has almost exhausted the supply of commercial land designed in Plan Winnipeg and suitable for major retail development in west-central and south-west Winnipeg. Despite the availability of some sites in the Polo Park area, and even with the existing stadium site being taking into account, Polo Park will not be able to meet the needs of the retail commercial marketplace, particularly the area south of the Assiniboine River where much of the City's new residential growth has been taking place.

The re-designation of the former intermodal industrial lands in Plan Winnipeg Policy Plate "A" to a "Neighbourhood" Policy Area and an "Area of Regional Commercial and Mixed-Use Concentration", and rezoning the majority of the site to a "C4" commercial district, will not result in an over supply of commercial land in the west-central and south-west areas of Winnipeg. The proposal to construct a 350,000 square foot IKEA store in Winnipeg, plus the associated other over one million square feet of retail that will be concentrated around IKEA, cannot be accommodated within any areas of the City currently designated as an "Area of Regional Commercial and Mixed-Use Concentration".



Exhibit "B.1" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

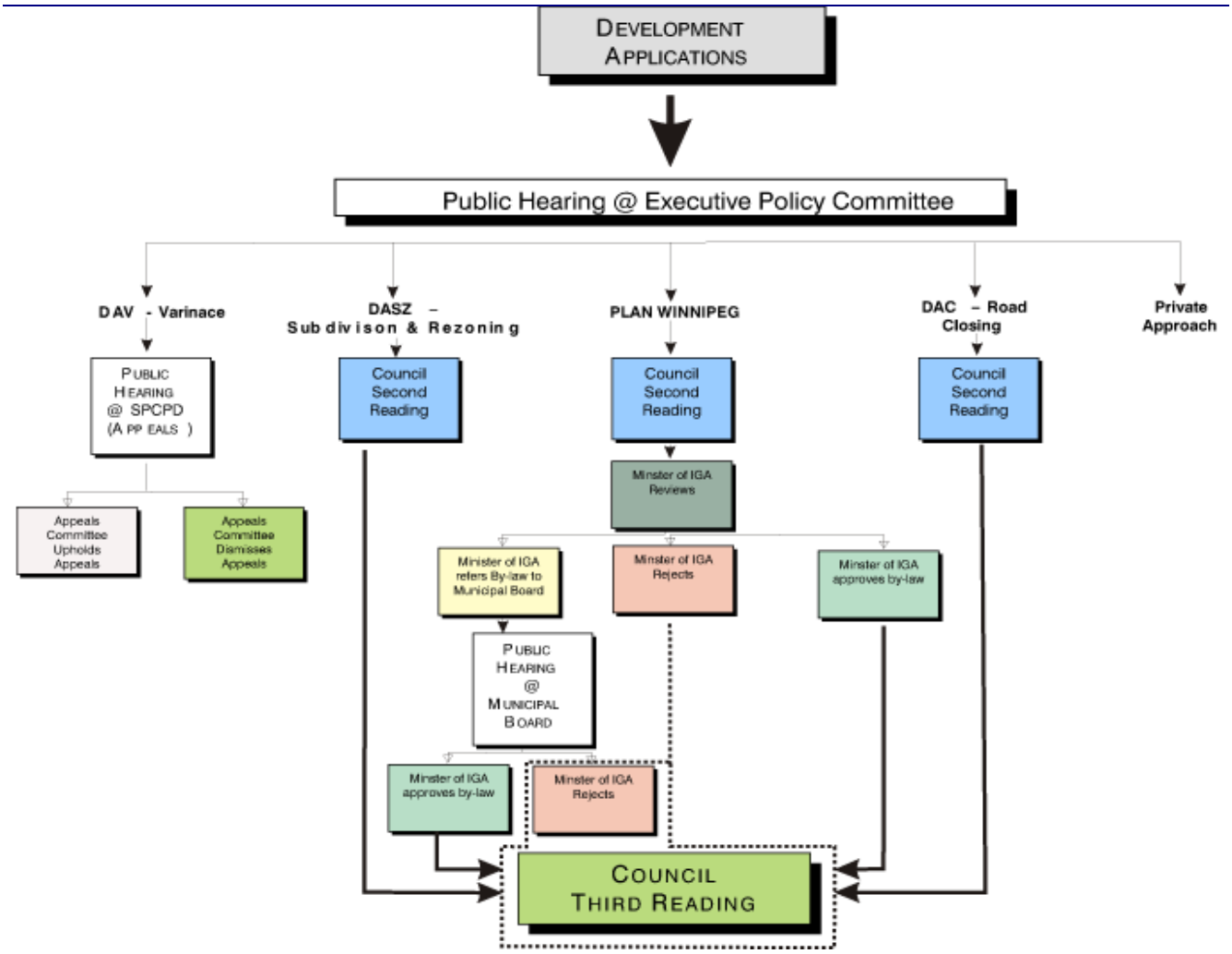
Sterling Lyon @ Kenaston



decision process

what is the process for Council Approval?

Public Hearing is required at the Executive Policy Committee (EPC) for the Variance (DAV), Subdivision & Rezoning (DASZ), and Plan Winnipeg Amendment (PW). EPC must also make a decision on the Private Access and the Road Closing (DAC). The DAV may be appealed to the Appeals Committee for a new Public Hearing *on the variances only*. The Minister of Intergovernmental Affairs reviews & approves the Plan Winnipeg Amendment application prior to Council giving Third and Final Reading for the DASZ and PW. The Minister may refer Plan Winnipeg Amendment to the Municipal Board for a new Public Hearing *on the Plan Winnipeg Amendment*.


DEVELOPMENT APPLICATIONS
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DAV - Varinace
DASZ – Subdivison & Rezoning
PLAN WINNIPEG
DAC – Road Closing
Private Approach
PUBLIC HEARING @ SPCPD (APPEALS)
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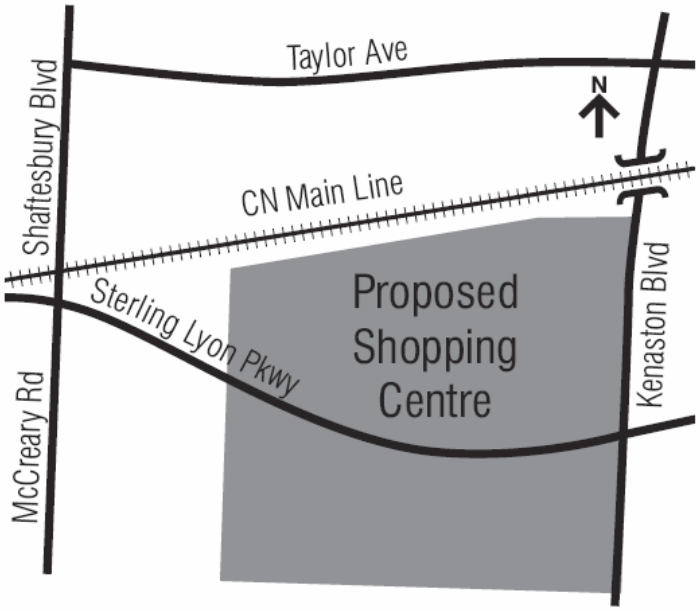
Council Second Reading
Council Second Reading
Appeals Committee Upholds Appeals
Appeals Committee Dismisses Appeals
Minster of IGA Reviews
Minister of IGA refers By-law to Municipal Board
Minster of IGA Rejects
Minster of IGA approves by-law
PUBLIC HEARING @ MUNICIPAL BOARD
Minster of IGA approves by-law
Minster of IGA Rejects
COUNCIL THIRD READING

Exhibit "B.2" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

PUBLIC OPEN HOUSE

Proposed Kenaston/Sterling Lyon Re-development

The public is invited to attend an open house to view material, receive information and discuss with company representatives the proposed redevelopment of the former intermodal rail yard and adjacent lands into a shopping centre and mixed-use development that includes an IKEA retail store.



Location: **J.B. Mitchell School Gymnasium**
1720 John Brebeuf Place

Date: **Wednesday, March 11, 2009**

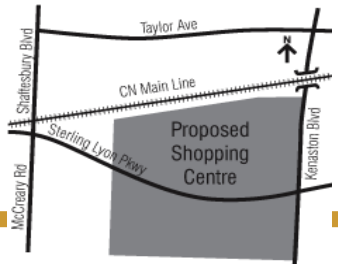
Time: **4:00 PM - 8:00 PM**
(Drop-in Format)

MMM GROUP

Exhibit "B3" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

Sterling Lyon @ Kenaston

plan winnipeg (2/08)



what is plan winnipeg?

Plan Winnipeg 2020 Vision is City Council's long-range policy plan. It was adopted December 12, 2001. The Plan is intended to guide Winnipeg into the twenty-first century by addressing the broad physical, social, economic, and environmental conditions in the city.

what are they amending in Plan Winnipeg??? what is PW 2 / 2008?

The lands are designated 'Industrial Policy Area' in the Tuxedo Industrial Policy in Policy Plate 'A' in *Plan Winnipeg.* This does not allow non-industrial land-uses such as regional commercial.

233 Acres (includes the Wilkes and Sterling Lyon Right-of-ways and a strip of City of Winnipeg Lands in the NE corner) bound on the east by Kenaston Blvd, north by CN Rivers, west by Fort Whyte Alive, and south by Inland Cement will be re-designated under Plan Winnipeg application 2 / 2008.

Re-designating the lands from 'Industrial Policy Area' to 'Neighbourhood Policy Area', and create an 'Area of Regional Commercial and Mixed-Use Concentration'.

what is an 'Area of Regional Commercial and Mixed-Use Concentration'?

'Areas of Regional Commercial and Mixed-Use Concentration' are identified on Plan Winnipeg in six (6) locations to accommodate the Regional Centres with large scale retail and service space, entertainment space, and suburban office employment of a regional nature. They include the Polo Park area, St. Vital Centre, Kildonan Place / Crossroad Station / Kildonan Crossing, Unicity Mall, Garden City Mall.

what steps are in the plan winnipeg amendment process??

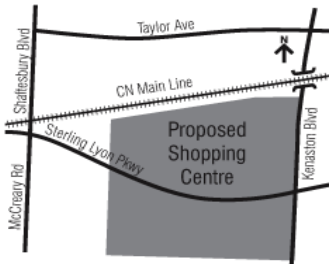
On January 28, 2009, Council gave First Reading to by-law 2 / 2009, the amendment by-law for changing Plan Winnipeg. Council approved this application proceeding to a public hearing for further scrutiny. Plan Winnipeg Amendments require a public hearing at the Executive Policy Committee (EPC).

EPC will make a decision to recommend approval or rejection that is forwarded to Council for Second Reading. The Minister of Intergovernmental Affairs (IGA) reviews & approves the PW application prior to Council giving Third and Final Reading for the DASZ and PW. The Minister may refer PW to the Municipal Board for a new Public Hearing *on the Plan Winnipeg Amendment only*.

Exhibit "B4" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

Sterling Lyon @ Kenaston

subdivision/rezoning



why do they need to subdivide and rezone?

The lands are zoned 'M2 – Manufacturing Light' and 'M3 - Manufacturing Heavy Districts', which allow only noxious, heavy industrial users such as rail yards, garbage incinerators, slaughter houses, etc. The plan of subdivision and rezoning will allow the establishment of commercial uses under Zoning By-law 200/2006.

what is DASZ 37 / 2008?? what is their subdivision and rezoning application for?

An application to create 31 lots; rezone 111.6 acres for regional commercial uses (C4) on the north side of Sterling Lyon Parkway; 16.3 acres for mixed use (CMU), commercial / residential in the south west corner of the Planned Area; 45.2 acres of regional commercial (C4) in the south east corner of the Planned Area; and 23.2 acres on the south side of Sterling Lyon that may be mixed use (CMU) OR regional commercial (C4).

what is CMU?

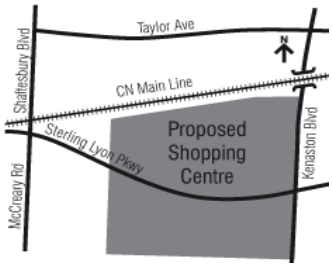
'CMU Commercial Mixed Use District' is intended to provide for community-serving mixed use development at a higher scale than is appropriate for neighbourhood locations. The district is intended to include attractive commercial, institutional, recreational, and service facilities needed to support surrounding neighbourhoods and the community at-large. Although the area, site, or building should have a predominantly commercial character, multi-family housing may be incorporated within the district, and development should facilitate pedestrian connections between residential and nonresidential uses. Mixed uses zoned 'CMU' may include a 100 room hotel, 16 screen movie theatre, 150,000 sq ft office park, and 500 unit multi-family residential.

what is C4?

'C4 Commercial Regional District' is intended to accommodate the development of large-scale, distinctive and attractive regional centres containing a mix of concentrated land uses. The centre should provide commercial, office, institutional and residential uses and structures at higher intensities than surrounding areas. The area may also contain concentrations of medium to high density office development, as well as a broad mix of complementary uses. The district may contain multi-family housing, and development should facilitate and encourage pedestrian travel between residential and non-residential uses. These areas are generally associated with the Areas of Regional Commercial and Mixed Use Concentration identified in Plan Winnipeg. 1.5 million square feet of commercial space (750,000 super-regional retailers) will be 'C4' zoned.

Exhibit "B5" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

Sterling Lyon @ Kenaston



variance

what is a variance?

Variance is a way to make sure that a property owner is not deprived of normal rights to use his or her property. This could occur when the requirements of the Zoning By-Law cannot be met due to unique circumstances related to a property. A variance can be approved to allow a modification to development standards such as land use, density, building setbacks, height restrictions, lot coverage, etc.

what is their variance? what is DAV 08-157053D?

Variances have been made for free standing signage height and surface area; bicycle parking stalls; and establishment of lots that do not abut upon a public street

what are they building that needs to be varied?

A 'navigational tower' for IKEA that is 155 feet in height at the southwest corner of Sterling Lyon Parkway and Kenaston. Three sets of IKEA store flags to be located on north, east and west sides of their property.

Five (5) free standing pylon signs 35 feet in height and 377 square feet that will service the other commercial properties. Four (4) signs will be along Sterling Lyon Parkway, and one on Kenaston Blvd north of Sterling Lyon.

Eleven (11) of the proposed 31 lots in the plan of subdivision do not abut a public street and are considered 'land locked' parcels.

IKEA will provide a minimum of 50 lockable cycling stalls instead of the required 140.

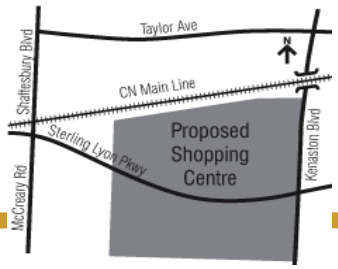
what happens after the public hearing for the Variances?

The variances may be appealed to the Appeals Committee for a new public hearing *on the variances only*, whereas the recommendation by Executive Policy Committee for rezoning proceeds to Council for decision and the recommendation for the Plan Winnipeg Amendment is reviewed by the Minister of Intergovernmental Affairs.

Exhibit "C1" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

Sterling Lyon @ Kenaston

road improvements



what improvements are being made to Kenaston Boulevard?

Kenaston is a four-lane divided roadway (two northbound and two southbound lanes) with an urban cross section from Taylor Ave to south of Lowson Cr, where it transitions to a rural cross section. Kenaston will be widened to six lanes, three northbound and three southbound from Taylor Ave to south of Lowson Cr with improvements made to the rail crossing. A City Study is currently underway to upgrade Kenaston to 6 lanes from Taylor Ave north to Ness Ave

what improvements to Sterling Lyon Parkway?

Sterling Lyon is currently a four-lane divided roadway (two eastbound and two westbound lanes) east of Kenaston. Sterling Lyon west of Kenaston transitions from a four-lane divided roadway with an urban cross section to a two-lane undivided roadway with a rural cross-section. Sterling Lyon will be widened to a four lane divided roadway, two eastbound and two west bound lanes from west-of-Kenaston to extend through the Shaftesbury/McCreary intersection.

what improvements to Shaftesbury Boulevard?

Shaftesbury north of Wilkes Ave will be widened with two southbound left-turn storage lanes..

how many lanes on Sterling Lyon? how many turning lanes?

Sterling Lyon will have three eastbound left turning lanes at Kenaston in addition to the two eastbound through lanes. A third westbound through lane on Sterling Lyon from Kenaston to the second signalized all directional private approach west of Kenaston (with transition back to the two westbound lanes), and a third eastbound through lane from the east private approach on Sterling Lyon to Kenaston (with proper upstream transitions). The total number of lanes on Sterling Lyon, west of Kenaston, will be nine (9)

how many lanes on Kenaston? how many turning lanes?

Kenaston will have three left turning lanes for northbound traffic turning onto Sterling Lyon (this will result in 9 lanes, just south of the Kenaston /Sterling Lyon intersection, and 6 lanes north of the Kenaston /Sterling Lyon intersection)..

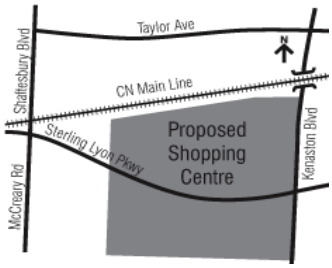
when will the improvements be made?

Completed prior to the construction of the anchor tenant as a cost saving initiative.

Exhibit "C2" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

Sterling Lyon @ Kenaston

road closing



what road is getting closed? what is DAC 1 / 2009?

Wilkes Avenue west of Kenaston and east of the Sterling Lyon immediately adjacent to their lands. Wilkes Avenue is presently barricaded at Kenaston Boulevard and gated at its junction with Sterling Lyon Parkway to the west, and serves no public purpose.

what will happen to the closed road?

The closed right-of-way will be divided into Parcel "A" and Parcel "B". Parcel "A" may be incorporated into the development of the adjoining property currently being processed under subdivision and rezoning application DASZ 37/2008. Parcel "B" has been included in the application at the request of the Public Works Department and will be retained by the City.

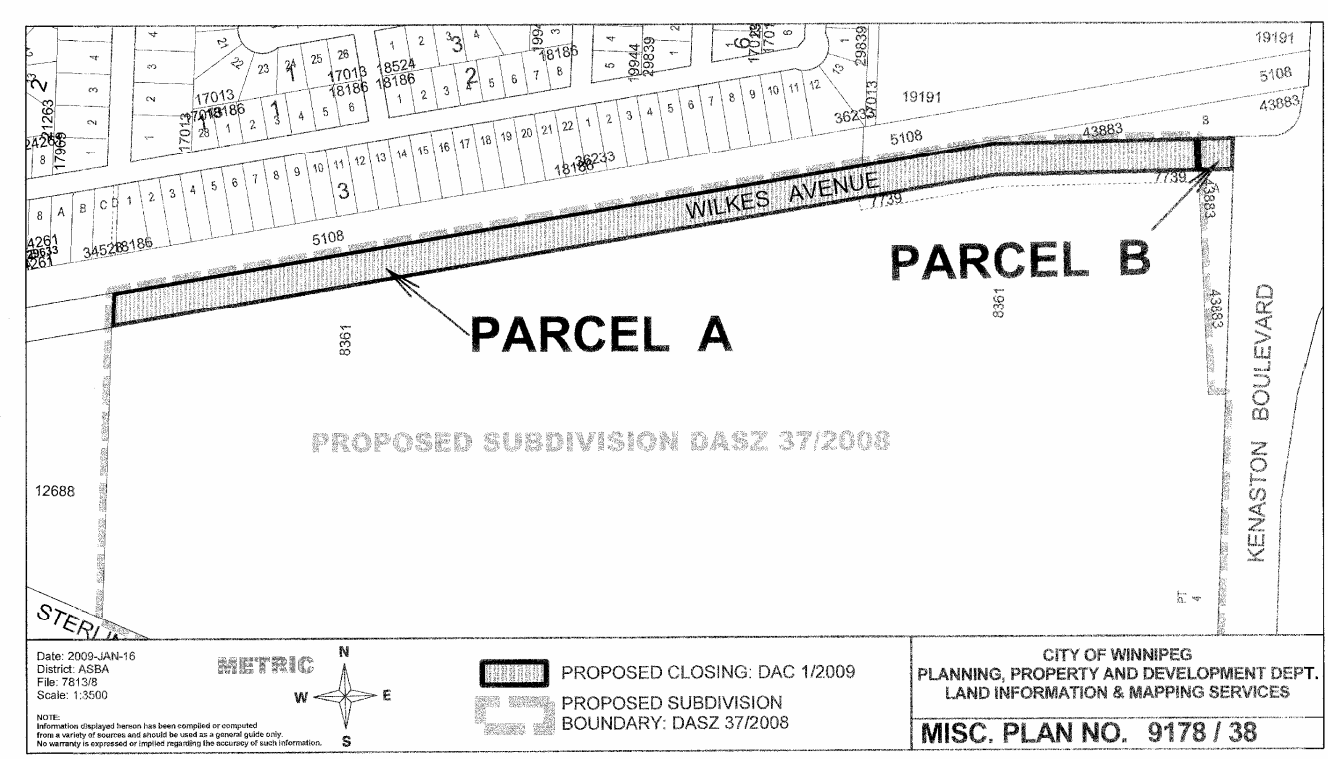
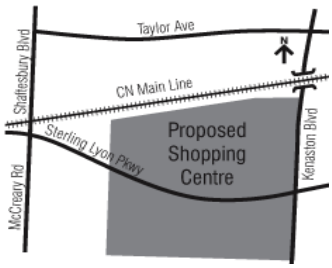


Exhibit "C3" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

Sterling Lyon @ Kenaston



private access

what private access points are they constructing?

The buildings on the south side will be served by three (3) to five (5) private approaches including: a 27.0 metre wide bi-directional signalised on the south side of Sterling Lyon (approach # 1); 30.0 metre wide bi-directional signalised on the west side of Kenaston, (approach # 2), opposite Lowson Cr; a 7.7 metre wide angular "entrance only" on the west side of Kenaston, (approach # 3); 21.0 metre bi-directional un-signalised (approach # 9) on the south side of Sterling Lyon that may become signalised opposite approach #6; 12.4 metre wide right in/right out private approach (approach # 10).

The buildings on the north side will be served by four (4) private approaches including: 35.9 metre wide bi-directional signalized (approach # 4 opposite approach #1); 10.3 metre wide right in-right out (approach # 5), 21.0 metre bi-directional un-signalised (approach # 6); and a 12.0 metre right in/ right out (approach # 7). The buildings on the north side of Sterling Lyon will also be serviced by a 6.8 metre angular "entrance only", (approach # 8) on the west side of Kenaston.

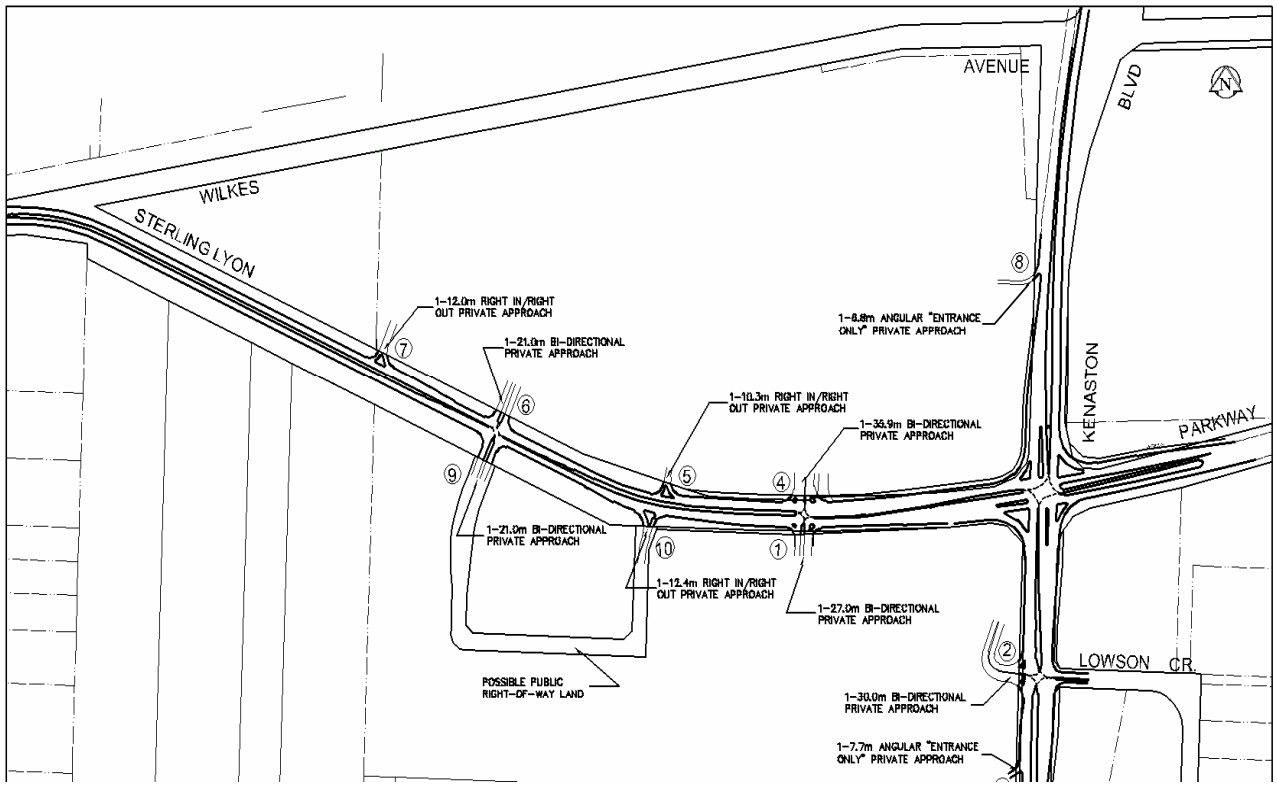
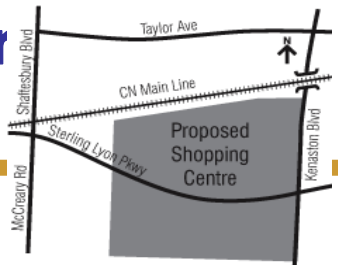


Exhibit "C4" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

Sterling Lyon @ Kenaston



transit service

can I take a bus to IKEA?

A basic operational plan for Transit to service the site has been outlined for the opening of Phase 1 (IKEA) with the routing of Route 78 (Crosstown West) all-day and weekend service, which provides service along Kenaston Blvd between Polo Park and the University of Manitoba, into the SE corner of the area with Bus Stop and taper lanes.

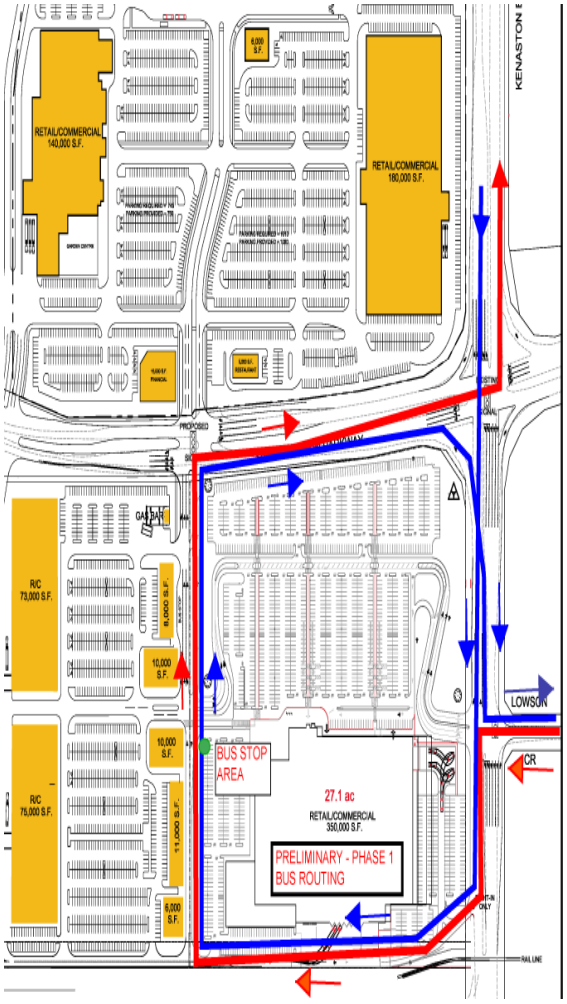
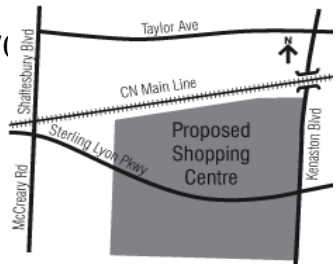


Exhibit "C5" referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157(DAC 1/2009



Sterling Lyon @ Kenaston

bicycles & walking

can I bike or walk to these stores?

The Developer will be constructing a 3.5 metre wide asphalt pathway along the entire length of their new development, alongside the west side of Kenaston Blvd to Lowson Cr.

This pathway will connect *Thundering Bison Trail*, which is on the south side of Sterling Lyon Parkway, eventually to Taylor Ave to the north.

Thundering Bison becomes the *TransCanada Trail* to the west as it comes out of Fort Whyte Alive - goes north into Assiniboia Forrest (*Harte Trail*) and connects to the east across Kenaston Blvd into Lindenwoods. Future developments along Kenaston will extend this new this trail to the *McGillvary – Wildwood Greenway.*

what about crossing the streets?

Pedestrian crossing lights will be installed at all crossings of Kenaston and Sterling Lyon, and at the new four-legged intersection at Lowson Cr.

how do I safely bike or walk to the store entrance across the parking lot?

A walkway is required to be constructed that must connect the building entrance to the public pathway. This walkway must be designed through the use of colours, textures, material or grade elevations that differ from automobile parking surfaces. The City of Winnipeg's *Universal Design Policy* will be one of the tools used to guide the design of this walkway. Connections will be made to both *Thundering Bison Trial*, and the new Kenaston Pathway.

where do I park my bike?

Bicycle parking facilities will be provided at IKEA; the exact number is not known though a minimum of 50 lockable bicycle parking stalls will be provided. This will include lockable bicycle parking stalls near the store entrance for customers, and a separate bicycle lock-up facility for employees.

what about walking from the Transit Stop?

A pedestrian walkway will be constructed that leads from the Transit Stop to the store entrance.

Exhibit “C6 referred to in File EP-1.1(PW 2/2008), DASZ 37/2008, DAV 157053/2008D and DAC 1/2009

FORMER CN INTERMODAL TERMINAL LANDS REDEVELOPMENT

KENASTON BOULEVARD & STERLING LYON PARKWAY

PW 2/08 & DASZ 37/08

TRAFFIC IMPACT STUDY

Prepared for:

Kenaston Intermodal Ltd. & 5083851 Manitoba Ltd.

Submitted by:

MMM Group Limited

February 27, 2009

5541878.105

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1.0 INTRODUCTION

MMM Group Limited (MMM) was retained by Kenaston Intermodal Limited and 508351 Manitoba Limited to conduct a traffic impact study for a proposed combination commercial/office/residential development in southwest Winnipeg at the intersection of Kenaston Boulevard and Sterling Lyon Parkway. This traffic impact study forms part of the supporting documentation for the Plan Winnipeg amendment application PW 2/08 and the subdivision and rezoning application DASZ 37/08. The location of the proposed multi-use development is illustrated in **Figure 1.1**.

This study will investigate the potential traffic impacts of the proposed development on the adjacent street network during the weekday p.m. peak hour and Saturday peak hour. Transit service as well as pedestrian and cyclist facilities will also be discussed. The City of Winnipeg Public Works Department (Public Works) was contacted to confirm the City's requirements for this traffic impact study. Public Works indicated that they would require the following signalized intersections included in the traffic analysis:

- Kenaston Boulevard with Corydon Avenue;
- Kenaston Boulevard with Grant Avenue;
- Kenaston Boulevard with Taylor Avenue;
- Kenaston Boulevard with Sterling Lyon Parkway;
- Kenaston Boulevard with Rothwell Road / Commerce Drive;
- Kenaston Boulevard with Lindenwood Drive East;
- Kenaston Boulevard with McGillivray Boulevard;
- Sterling Lyon Parkway / Wilkes Avenue with Shaftesbury Boulevard / McCreary Road;
- Sterling Lyon Parkway with Whidden Gate;
- Sterling Lyon Parkway with Victor Lewis Drive;
- Wilkes Avenue with Waverley Street; and
- Waverley Street with Victor Lewis Drive.

Potential access locations for the proposed development along Kenaston Boulevard and Sterling Lyon Parkway will also be reviewed as part of this study.



FIGURE 1.1:
PROPOSED DEVELOPMENT LOCATION

2.0 STUDY AREA

The study area for this traffic impact study was identified by Public Works and includes Kenaston Boulevard from Corydon Avenue to the north to McGillivray Boulevard to the south and Sterling Lyon Parkway from Waverley Street to the east to Shaftesbury Boulevard / McCreary Road to the west, as illustrated in **Figure 2.1.**

2.1 Kenaston Boulevard

Kenaston Boulevard is a major arterial that runs north-south through west Winnipeg. Kenaston Boulevard is currently a four-lane divided roadway (two northbound lanes and two southbound lanes) with speed limits within the study area ranging from 80 kilometres per hour adjacent to the development site to 50 kilometres per hour north of Grant Avenue. Kenaston Boulevard has an urban cross section from the north study limit to south of Lowson Crescent and then transitions to a rural cross section. Major intersections along Kenaston Boulevard are signalized. Kenaston Boulevard is part of the City of Winnipeg's designated truck route network and is a major economic route for the City of Winnipeg and Province of Manitoba.

Current daily traffic volumes on Kenaston Boulevard south of Sterling Lyon Parkway were available from a tube count conducted by the City of Winnipeg Public Works Department in November 2008. Average two-way traffic volumes on this portion of Kenaston Boulevard adjacent to the proposed development are over 52,000 vehicles per day. A City of Winnipeg study (*Preliminary Design and Public Consultation for Route 90 from Taylor Avenue to Ness Avenue*) is currently underway to upgrade Kenaston Boulevard from Taylor Avenue north to Ness Avenue, which will likely include widening Kenaston Boulevard to six lanes. The City's plan is to ultimately widen Kenaston Boulevard to six lanes south of Taylor Avenue and eventually to the Perimeter Highway once Kenaston Boulevard is extended through the Waverley West development. Kenaston Boulevard from Taylor Avenue to south of Lowson Crescent adjacent to the development site will be widened to a six-lane divided roadway (three northbound lanes and three southbound lanes) in conjunction with this development. However, it is important to note that the existing traffic volumes along Kenaston Boulevard already make it a candidate for six lanes, and the Mayor of Winnipeg and Premier of Manitoba have both stated publically their intent to accelerate the widening of this portion of Kenaston Boulevard prior to the opening of this proposed multi-use development.



FIGURE 2.1:
STUDY AREA

2.2 Sterling Lyon Parkway

Sterling Lyon Parkway is an east-west arterial roadway in southwest Winnipeg. Sterling Lyon Parkway is currently a four-lane divided roadway (two eastbound lanes and two westbound lanes) east of Kenaston Boulevard. West of Kenaston Boulevard, Sterling Lyon Parkway transitions from a four-lane divided roadway with an urban cross-section to a two-lane undivided roadway with a rural cross-section. The speed limit on Sterling Lyon Parkway is 80 kilometres per hour and major intersections are signalized. Sterling Lyon Parkway is also part of the City of Winnipeg's designated truck route network.

Current daily traffic volumes on Sterling Lyon Parkway at the intersection with Kenaston Boulevard were available from an intersection count conducted by Public Works in October 2007. Average two-way traffic volumes on Sterling Lyon Parkway west of Kenaston Boulevard adjacent to the proposed development were over 14,800 vehicles per day in 2007. The City's approved annual growth rate of 2.5 percent per year for Sterling Lyon Parkway results in over 15,000 vehicles per day on Sterling Lyon Parkway in 2008, and approximately 19,500 vehicles per day by 2018. Generally, urban road authorities begin to look at two-lane undivided arterial roadways with more than 10,000 to 12,000 vehicles per day as candidates for twinning, which means that Sterling Lyon Parkway west of Kenaston Boulevard should already be considered for widening with the background traffic volumes. Sterling Lyon Parkway adjacent to the development site from Kenaston Boulevard to Shaftesbury Boulevard / McCreary Road will be widened to a four-lane divided roadway (two eastbound lanes and two westbound lanes) in conjunction with this development. Similar to Kenaston Boulevard, the Mayor of Winnipeg has stated publically the City's intent to accelerate the widening of this portion of Sterling Lyon Parkway in conjunction with this multi-use development.

3.0 PROPOSED DEVELOPMENT

3.1 Site Development

The proposed development site is located in the northwest and southwest quadrants at the intersection of Kenaston Boulevard and Sterling Lyon Parkway and includes approximately 195 acres of land. The development is planned to consist of a combination of retail, restaurant, gas bar, hotel, movie theatre, office park and multi-family residential and is illustrated in **Figure 3.1** (site plan as of December 2008).

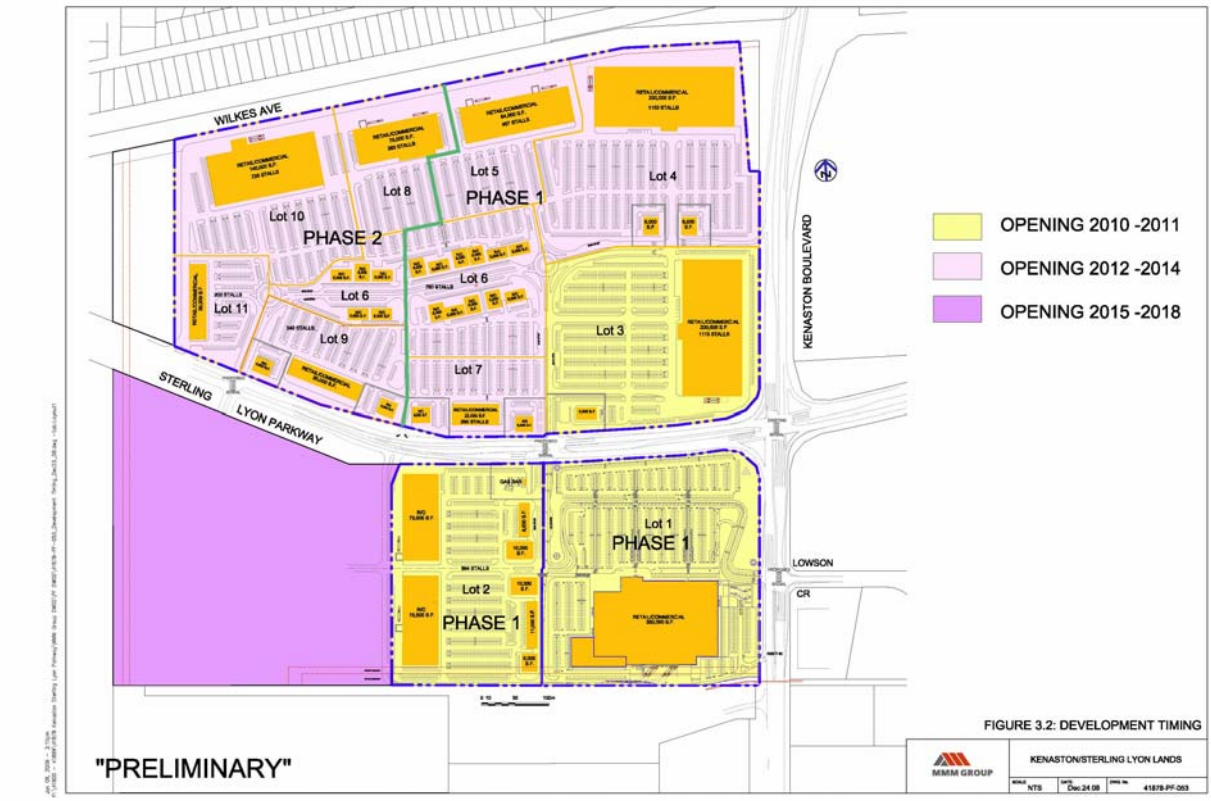
At this point in time, aside from the main anchor home furnishing store (350,000 square feet), the other actual tenants for the proposed retail spaces have not been finalized. However, there is expected to be at least one store in the 200,000 square foot plus range and two other stores in the 140,000 to 200,000 square foot range, plus numerous smaller retail stores (less than 50,000 square feet in size). Tenants of the large format retail stores may include a grocery store, a sporting goods / outdoor store, or a home improvement store; however, for the purposes of this study, all retail space outside of the home furnishing store was designated as general retail for the analysis.

The development is anticipated to be built out over several years. Opening of the first retail store is expected in 2011 (no later than fall 2013) and completion of the site is anticipated by 2018 with the construction of the multi-family residential units (**Figure 3.2**). The following timeframes are considered for the purposes of this study:

- ***Opening Day:*** Year 2011 following opening of the 350,000 square foot home furnishing store, 400,000 square foot of general retail, and the gas bar (eight pumps).
- ***Full Build-Out:*** Year 2018 following opening of all remaining retail space (additional 695,000 square feet), the 100-room hotel, 16-screen movie theatre, 150 thousand square feet of office park and 500 residential condominium units.



FIGURE 3.1: PROPOSED SITE PLAN


WILKES AVE
Lot 5
PHASE 1
Lot 4
Lot 8
Lot 10
PHASE 2
Lot 6
Lot 11
Lot 6
Lot 9
Lot 7
Lot 3
KENASTON BOULEVARD
STERLING
LYON PARKWAY
Lot 1
PHASE 1
LOWSON
CR
Lot 2
PHASE 1
OPENING 2010 -2011
OPENING 2012 -2014
OPENING 2015 -2018
"PRELIMINARY"
FIGURE 3.2: DEVELOPMENT TIMING
MMM GROUP
KENASTON/STERLING LYON LANDS
NTS
Dec.24.08
41878-PF-053

For the purposes of this study, traffic operations will be reviewed for five scenarios for both the weekday p.m. peak hour and Saturday peak hour:

(1) 2008 Background;

(2) 2011 Background (Optimized);

(3) 2011 Opening Day;

(4) 2018 Background (Optimized); and

(5) 2018 Full Build-Out.

3.2 On-Site Parking

Winnipeg Zoning By-law 200/2006 requires one parking space for every 250 square feet of floor area for a shopping centre. The commercial portion of the proposed development is estimated at a maximum of 1,500,000 square feet of development, which results in a requirement for 6,000 parking stalls. All parking stalls for the commercial development will be provided through at-grade parking spaces.

The Zoning By-law requires two parking spaces for every three guest rooms plus one parking space for every eight seats in any auxiliary rooms. A 100 room hotel results in a requirement for a minimum of 67 parking stalls, plus the requirement for the auxiliary rooms. All parking stalls for the hotel will be provided through at-grade parking spaces.

The Zoning By-law requires one parking space for every six persons maximum occupancy load for a theatre. A 16-screen movie theatre has a maximum capacity of approximately 3,000 seats, which results in a requirement for 500 parking stalls. All parking stalls for the movie theatre will be provided through at-grade parking spaces.

The Zoning By-law requires one parking space for every 750 square feet of floor area for an office development. The proposed 150,000 square foot office park results in a requirement for 200 parking stalls. All parking stalls for the office park will be provided through at-grade parking spaces.

The Zoning By-law requires 1.5 parking spaces for every multi-family dwelling unit. The proposed 500 unit condo development results in a requirement for 750 parking stalls. All parking stalls for the condo units will be provided through at-grade parking spaces.

In total, a minimum of 7,517 parking spaces are required for the proposed development.

3.3 Site Access and Circulation

The size and scale of the proposed mixed-use development requires multiple vehicular access points into the site. The proposed access locations are illustrated in **Figure 3.1**.

A major access to the development is proposed on Kenaston Boulevard opposite Lowson Crescent, which is currently a three-legged unsignalized T-intersection. Northbound and southbound traffic on Kenaston Boulevard is free flowing, while westbound vehicles on Lowson Crescent approach a stop sign at the intersection. Following development of the proposed multi-use site, the intersection of Kenaston Boulevard and Lowson Crescent is proposed to become a four-legged signalized intersection, with the access to the home furnishing store forming the fourth leg of the intersection on the west side of Kenaston Boulevard.

There is an existing approach to the site on southbound Kenaston Boulevard located north of Sterling Lyon Parkway. The approach on Kenaston Boulevard is currently a right-in only and will remain a right-in only with the development.

Three additional access points for the development are proposed along Sterling Lyon Parkway. There is an existing unsignalized access into the north side development site on Sterling Lyon Parkway west of Kenaston Boulevard. Following development of the proposed multi-use site, this access will shift slightly to the west (approximately 345 metres west of Kenaston Boulevard) and become a four-legged signalized intersection, with the access to the south side development forming the fourth leg of the intersection on the south side of Sterling Lyon Parkway.

A second access point to the development will be located approximately 290 metres west of the east access on Sterling Lyon Parkway. Eastbound and westbound right-in / right-outs only are proposed for this location.

A third access to the development will be located approximately 240 metres west of the right-in / right-out access on Sterling Lyon Parkway. This location is proposed as an all-directional signalized access.

Two dedicated truck / delivery access locations are also proposed for the development. A right-in only is proposed at the south end of the development off Kenaston Boulevard at an existing right-in / right-out location to serve the south side development. A right-in / right-out is proposed on Sterling Lyon Parkway at the west end of the development to serve the north side development. These approaches will provide dedicated access for delivery vehicles and allow

trucks to manoeuvre through the site behind the buildings without mixing with the passenger vehicular traffic on site. The proposed truck access locations were not considered in the traffic analysis.

It should be noted that both Kenaston Boulevard and Sterling Lyon Parkway are listed on Schedule "A" of the City of Winnipeg Private Access By-law 49/2008, which means that no private approach can be constructed or altered on either road without approval by the City of Winnipeg Standing Policy Committee on Infrastructure Renewal and Public Works.

4.0 TRAFFIC VOLUMES

4.1 Current Traffic

Existing traffic volumes along the study area roadways and at the study area intersections were obtained from Public Works and supplemented by traffic counts conducted by MMM on Saturday, November 8, 2008, Wednesday, November 12, 2008, Thursday, November 13, 2008 and Saturday, November 15, 2008. The weekday p.m. peak hour was analyzed as it is generally the busiest time and therefore the most critical period for on-street traffic. The Saturday peak hour was also selected for analysis as it is generally the busiest time and therefore the most critical period for retail-oriented commercial developments.

The traffic counts within the study area were collected during different months of the year and significant differences between some adjacent intersections were identified upon review. The counts were therefore adjusted to ensure that traffic volumes moving between adjacent intersections are approximately balanced. At some intersections the balancing resulted in an increase in traffic volumes, at other intersections it resulted in a reduction in traffic volumes. It should be noted that the traffic counts still do not balance exactly as there may be unsignalized intersections or private approaches located between signalized intersections that are not included in the study network. As well, peak hours at adjacent intersections do not always occur at the same time.

Year 2008 weekday p.m. peak hour traffic volumes and Saturday peak hour traffic volumes are illustrated in **Figures 4.1** and **4.2**. Traffic volumes have been rounded to the nearest five vehicles per hour in all figures.

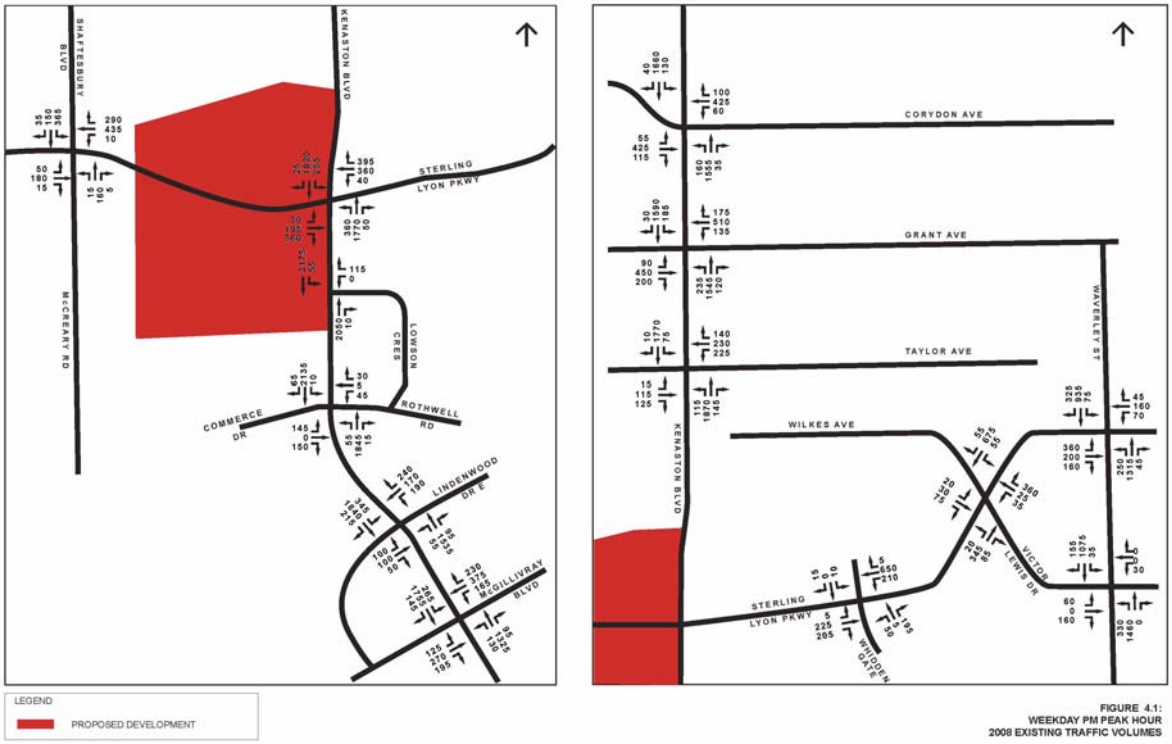


FIGURE 4.1:
WEEKDAY PM PEAK HOUR
2008 EXISTING TRAFFIC VOLUMES

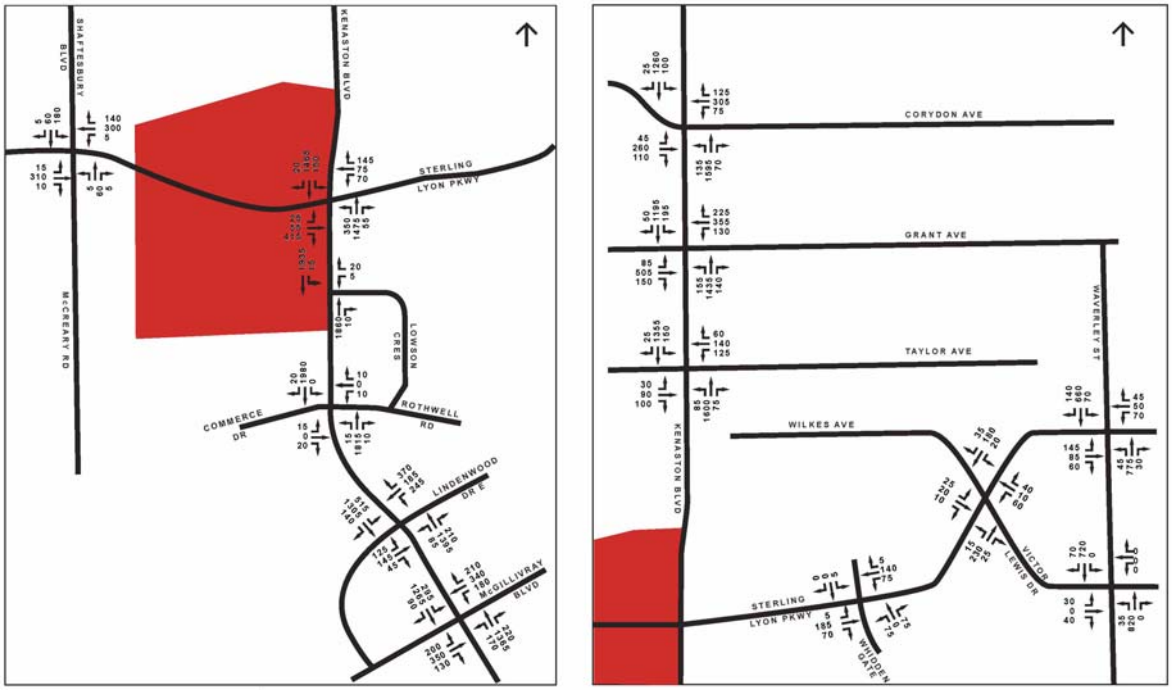


FIGURE 4.2:
SATURDAY PEAK HOUR
2008 EXISTING TRAFFIC VOLUMES

4.2 Future Traffic

In order to forecast future background traffic volumes, historical traffic volumes within the study area were also obtained from Public Works. The data was analyzed, selected growth rates were reviewed with the City, and forecast traffic volumes were then estimated as follows:

- ***Kenaston Boulevard:*** Traffic growth rates along Kenaston Boulevard vary by time of day and location. For this study, traffic volumes on Kenaston Boulevard are assumed to increase at a rate of 2.5 percent per year. This rate includes the forecast development within the Waverley West neighbourhood.

- ***Sterling Lyon Parkway:*** Traffic growth rates along Sterling Lyon Parkway have increased considerably over the past few years, and are expected to continue to increase in the near future. For this study, traffic volumes on Sterling Lyon Parkway are assumed to increase at a rate of 2.5 percent per year.

- ***McGillivray Boulevard:*** Traffic volumes on McGillivray Boulevard near Kenaston Boulevard have increased substantially over the last ten years in conjunction with the commercial development in this area. For this study, traffic volumes on McGillivray Boulevard are assumed to increase at a rate of 2.5 percent per year.

- ***Other Roadways:*** Historical traffic volumes on other roadways within the study area were reviewed and a growth rate of 1.0 percent per year was assumed for this study.

Background traffic volumes for the study area were estimated for Opening Day in 2011 and Full Build-Out in 2018. Future background peak hour traffic volumes are illustrated in **Figures 4.3** through **4.6**.

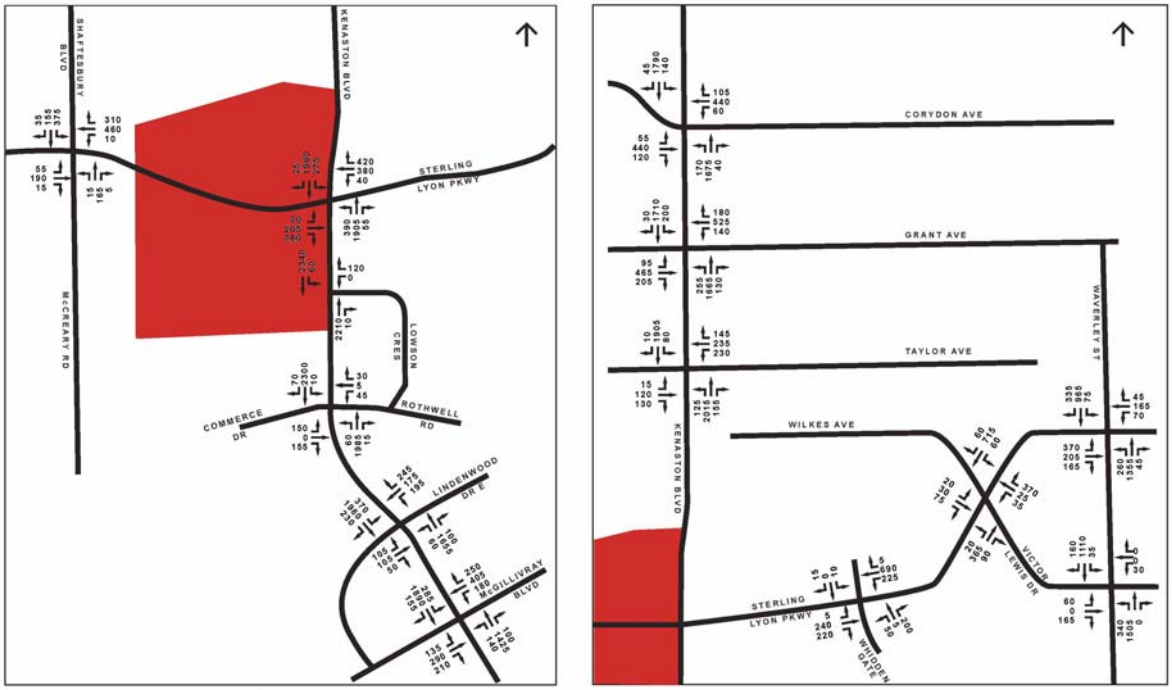


FIGURE 4.3:
WEEKDAY PM PEAK HOUR
2011 BACKGROUND TRAFFIC VOLUMES

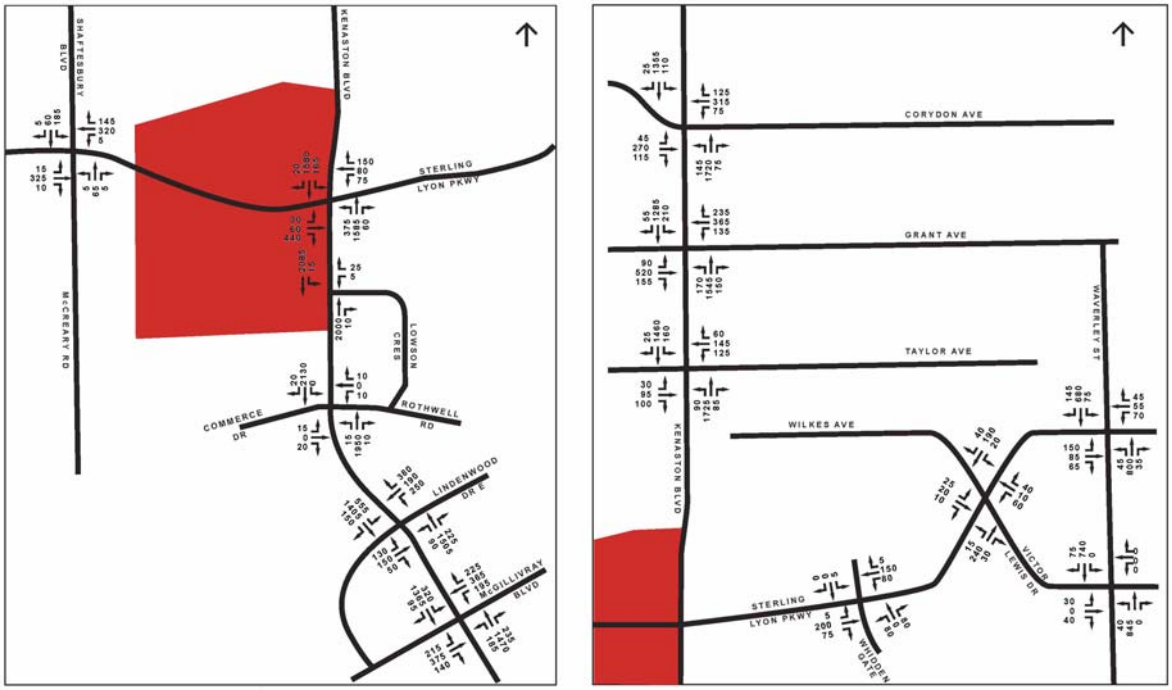


FIGURE 4.4:
SATURDAY PEAK HOUR
2011 BACKGROUND TRAFFIC VOLUMES

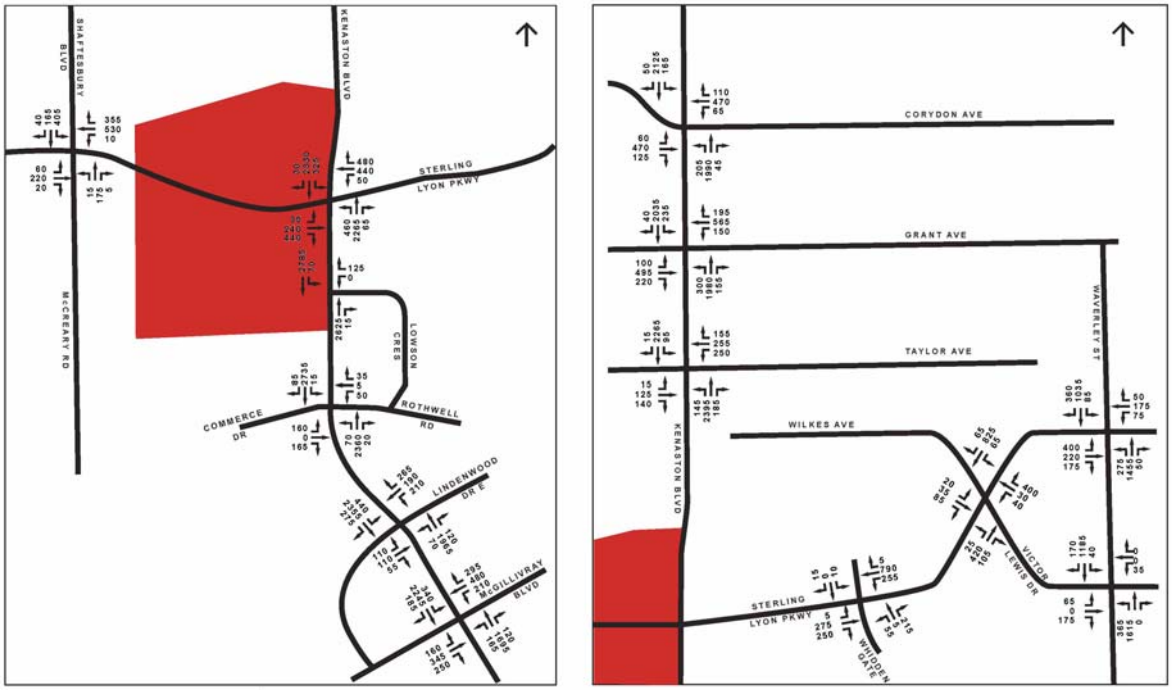


FIGURE 4.5:
WEEKDAY PM PEAK HOUR
2018 BACKGROUND TRAFFIC VOLUMES

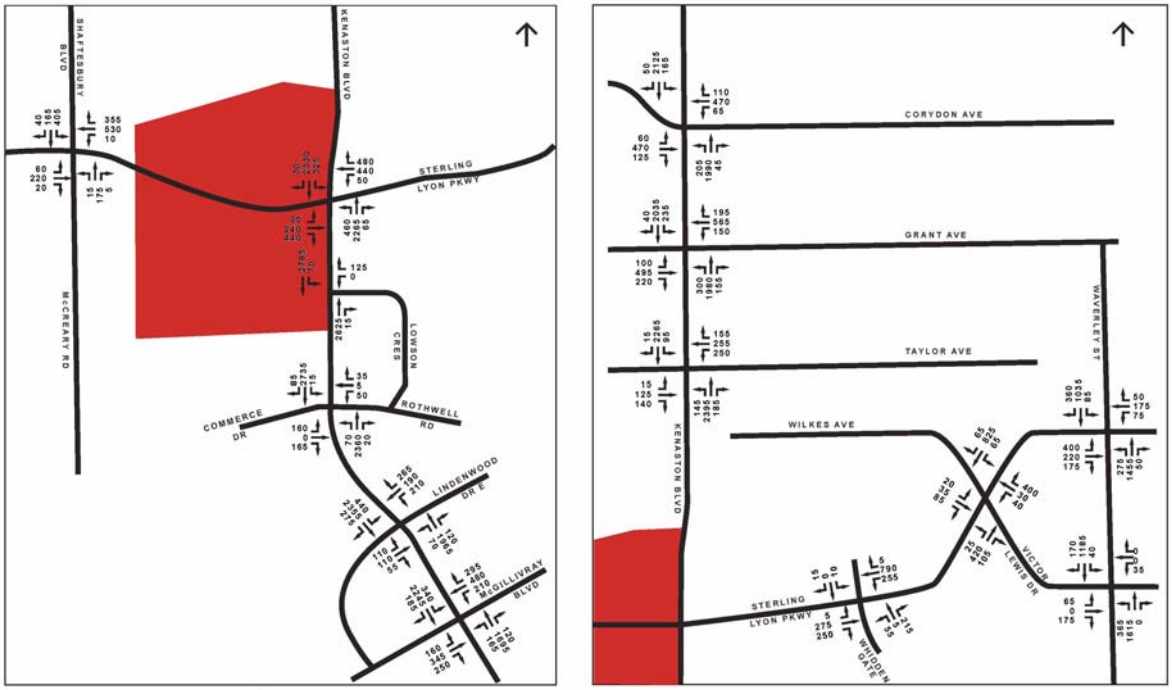


FIGURE 4.6:
SATURDAY PEAK HOUR
2018 BACKGROUND TRAFFIC VOLUMES

4.3 Development Traffic

4.3.1 Trip Generation

Trips generated by the proposed development were estimated for the weekday p.m. peak hour of adjacent street traffic and Saturday peak hour of generator, as well as daily trip estimates for a typical weekday and Saturday. Estimates of inbound and outbound trips per hour are based on trip rates obtained from the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 8th Edition*, while joint use rates and drop-in rates were obtained from the *ITE Trip Generation Handbook, Second Edition*. Where available, fitted curve equations as opposed to average trip generation rates were used to estimate the number of vehicle trips.

As was noted in Section 3.0, the actual tenants for the proposed retail spaces have not been finalized for this development. For the purposes of this study, all retail other than the home furnishing store was designated as general retail.

The following assumptions were used to generate the weekday p.m. peak hour trip generation forecasts:

- The trip generation rate and trip direction used for the home furnishing store were based on actual trip generation data collected at two Canadian stores located in British Columbia and Ontario.
- The joint use rate used for the gas bar was verified in the field at a gas station in Steinbach, Manitoba.

The following assumptions were used to generate the Saturday peak hour trip generation forecasts:

- Saturday peak hour joint use rates and drop-in rates were assumed to be the same as the weekday p.m. peak hour rates if not specifically available for Saturday.
- The trip generation rate and trip direction used for the home furnishing store were based on actual trip generation data collected at two Canadian stores located in British Columbia and Ontario.
- The Saturday peak hour trip generation rate used for the gas station was estimated from the ratio of the Saturday peak hour trip generation rate to the weekday p.m. peak hour trip generation rate for ITE Land Use 946 (Gasoline/Service Station with Convenience Market and Car Wash).

- Saturday trips for the movie theatre were generated for the Saturday peak hour of street traffic between 11:00 a.m. and 1:00 p.m. instead of the peak hour of generator as the peak hour for movie theatres occurs in the evenings, while commercial usages peak during the early afternoon.

The following assumptions were used to generate the weekday trip generation forecasts:

- The trip generation rate and trip direction used for the home furnishing store were based on ITE Land Use 869 (Discount Home Furnishing Superstore).
- The joint use rate used for the gas bar was assumed to the same as the weekday p.m. peak hour.

The following assumptions were used to generate the Saturday trip generation forecasts:

- Saturday joint use rates and drop-in rates were assumed to be the same as the weekday rates if not specifically available for Saturday.
- The trip generation rate and trip direction used for the home furnishing store were based on ITE Land Use 869 (Discount Home Furnishing Superstore).
- The Saturday trip generation rate used for the gas station was the same as the weekday trip generation rate.
- The Saturday trip generation rate used for the movie theatre was estimated from the ratio of the weekday trip generation rate to the weekday p.m. peak hour trip generation rate for ITE Land Use 445 (Multiplex Movie Theatre).

No reductions were made to the trip generation estimates to account for transit, cyclist or pedestrian mode split.

The site plan illustrated in **Figure 3.1** was used for the trip generation forecasts and is the most up-to-date information available as of December 2008. Forecast trip generation for the proposed development is summarized below in **Table 4.1** for the weekday p.m. peak hour, **Table 4.2** for the Saturday peak hour, **Table 4.3** for a weekday, and **Table 4.4** for a Saturday. Trip estimates have been rounded to the nearest five vehicles per hour during the peak hour and to the nearest 50 vehicles per day for daily estimates.

Table 4.1: Development Trip Generation – Weekday P.M. Peak Hour

Development Type	Land Use	Development Size	Trip Equation / Rate (trips / unit size)	Joint Use	Trip Direction		Total Trips (veh/hour)			Drop-In Trips (veh/hour)					New Trips (veh/hour)		
					In	Out	In	Out	Total	Equation	Rate	In	Out	Total	In	Out	Total
Home Furnishing	869	350,000 sq.ft.	1.85	20 %	45 %	55 %	230	285	515	--	20 %	45	55	100	185	230	415
General Retail	820	1,095,000 sq.ft.	Ln(T) = 0.67 Ln(X) + 3.37	20 %	49 %	51 %	1,240	1,290	2,530	Ln(T) = -0.29 Ln(X) + 5.0	20 %	250	260	510	990	1,030	2,020
Gas Bar	944	8 fueling positions	13.87	90 %	50 %	50 %	10	10	20	--	42 %	5	5	10	5	5	10
Hotel	310	100 rooms	0.59	20 %	53 %	47 %	25	20	45	--	0 %	--	--	--	25	20	45
Movie Theatre	445	16 screens	13.64	20 %	45 %	55 %	80	95	175	--	0 %	--	--	--	80	95	175
Office Park	750	150.000 sq.ft.	T = 1.22 (X) + 95.83	25 %	14 %	86 %	30	180	210	--	0 %	--	--	--	30	180	210
Multi-Family	230	500 units	Ln(T) = 0.81 Ln(X) + 0.03	50 %	66 %	34 %	50	25	75	--	0 %	--	--	--	50	25	75
TOTAL TRIP GENERATION							1,665	1,905	3,570			300	320	620	1,365	1,585	2,950

Table 4.2: Development Trip Generation – Saturday Peak Hour

Development Type	Land Use	Development Size	Trip Equation / Rate (trips / unit size)	Joint Use	Trip Direction		Total Trips (veh/hour)			Drop-In Trips (veh/hour)					New Trips (veh/hour)		
					In	Out	In	Out	Total	Equation	Rate	In	Out	Total	In	Out	Total
Home Furnishing	869	350,000 sq.ft.	5.43	20 %	50 %	50 %	760	760	1,520	--	20 %	150	150	300	610	610	1,220
General Retail	820	1,095,000 sq.ft.	Ln(T) = 0.65 Ln(X) + 3.76	20 %	52 %	48 %	1,690	1,560	3,250	T = -0.02 (X) + 38.59	17 %	285	265	550	1,400	1,295	2,695
Gas Bar	944	8 fueling positions	20.11	90 %	50 %	50 %	10	10	20	--	42 %	5	5	10	5	5	10
Hotel	310	100 rooms	T = 0.69 (X) + 4.32	20 %	56 %	44 %	35	25	60	--	0 %	--	--	--	35	25	60
Movie Theatre	445	16 screens	T = 30.28 (X) – 188.62	20 %	72 %	28 %	170	65	235	--	0 %	--	--	--	170	65	235
Office Park	750	150.000 sq.ft.	0.14	25 %	74 %	26 %	10	5	15	--	0 %	--	--	--	10	5	15
Multi-Family	230	500 units	T = 0.29 (X) + 42.63	20 %	54 %	46 %	50	45	95	--	0 %	--	--	--	50	45	95
TOTAL TRIP GENERATION							2,725	2,470	5,195			440	420	860	2,280	2,050	4,330

Table 4.3: Development Trip Generation – Weekday

Development Type	Land Use	Development Size	Trip Equation / Rate (trips / unit size)	Joint Use	Trip Direction		Total Trips (veh/day)			Drop-In Trips (veh/day)					New Trips (veh/day)		
					In	Out	In	Out	Total	Equation	Rate	In	Out	Total	In	Out	Total
Home Furnishing	869	350,000 sq.ft.	20.00	30 %	50 %	50 %	2,450	2,450	4,900	--	20 %	500	500	1,000	1,950	1,950	3,900
General Retail	820	1,095,000 sq.ft.	Ln(T) = 0. 65 Ln(X) + 5.83	30 %	50 %	50 %	11,250	11,250	22,500	Ln(T) = -0.29 Ln(X) + 5.0	20 %	2,250	2,250	4,500	9,000	9,000	18,000
Gas Bar	944	8 fueling positions	168.56	90 %	50 %	50 %	100	100	200	--	42 %	50	50	100	50	50	100
Hotel	310	100 rooms	T = 8.95 (X) – 373.16	30 %	50 %	50 %	200	200	400	--	0 %	--	--	--	200	200	400
Movie Theatre	445	16 screens	292.50	30 %	50 %	50 %	1,650	1,650	3,300	--	0 %	--	--	--	1,650	1,650	3,300
Office Park	750	150.000 sq.ft.	T = 10.42 (X) + 409.04	20 %	50 %	50 %	800	800	1,600	--	0 %	--	--	--	800	800	1,600
Multi-Family	230	500 units	Ln(T) = 0.87 Ln(X) + 2.46	35 %	50 %	50 %	850	850	1,700	--	0 %	--	--	--	850	850	1,700
TOTAL TRIP GENERATION							17,300	17,300	34,600			2,800	2,800	5,600	14,500	14,500	29,000

Table 4.4: Development Trip Generation – Saturday

Development Type	Land Use	Development Size	Trip Equation / Rate (trips / unit size)	Joint Use	Trip Direction		Total Trips (veh/day)			Drop-In Trips (veh/day)					New Trips (veh/day)		
					In	Out	In	Out	Total	Equation	Rate	In	Out	Total	In	Out	Total
Home Furnishing	869	350,000 sq.ft.	33.29	30 %	50 %	50 %	4,050	4,050	8,100	--	20 %	800	800	1,600	3,250	3,250	6,500
General Retail	820	1,095,000 sq.ft.	Ln(T) = 0.63 Ln(X) + 6.23	30 %	50 %	50 %	14,600	14,600	29,200	T = -0.02 (X) + 38.59	17 %	2,500	2,500	5,000	12,100	12,100	24,200
Gas Bar	944	8 fueling positions	168.56	90 %	50 %	50 %	100	100	200	--	42 %	50	50	100	50	50	100
Hotel	310	100 rooms	T = 9.62 (X) – 294.56	30 %	50 %	50 %	250	250	500	--	0 %	--	--	--	250	250	500
Movie Theatre	445	16 screens	321.57	30 %	50 %	50 %	1,800	1,800	3,600	--	0 %	--	--	--	1,800	1,800	3,600
Office Park	750	150.000 sq.ft.	1.64	20 %	50 %	50 %	100	100	200	--	0 %	--	--	--	100	100	200
Multi-Family	230	500 units	T = 3.62 (X) + 427.93	35 %	50 %	50 %	750	750	1,500	--	0 %	--	--	--	750	750	1,500
TOTAL TRIP GENERATION							21,650	21,650	43,300			3,350	3,350	6,700	18,300	18,300	36,600

The proposed development is anticipated to generate a total of:

- 2,950 new trips (1,365 entering and 1,585 exiting) plus an additional 620 drop-in trips (300 entering and 320 exiting) during the weekday p.m. peak hour at full build-out.
- 4,330 new trips (2,280 entering and 2,050 exiting) plus an additional 860 drop-in trips (440 entering and 420 exiting) during the Saturday peak hour at full build-out.
- 29,000 new trips (14,500 entering and 14,500 exiting) plus an additional 5,600 drop-in trips (2,800 entering and 2,800 exiting) on a typical weekday at full build-out.
- 36,600 new trips (18,300 entering and 18,300 exiting) plus an additional 6,700 drop-in trips (3,350 entering and 3,350 exiting) on a typical Saturday at full build-out.

The proposed development site is currently designated as industrial land. By comparison, if the entire site (195 acres) was built out as an industrial park (ITE Land Use 130), it would generate a total of:

- 1,030 new trips (215 entering and 815 exiting) during the weekday p.m. peak hour at full build-out.
- 920 new trips (295 entering and 625 exiting) during the Saturday peak hour at full build-out.
- 9,900 new trips (4,950 entering and 4,950 exiting) on a typical weekday at full build-out.
- 6,350 new trips (3,175 entering and 3,175 exiting) on a typical Saturday at full build-out.

4.3.2 Trip Distribution and Assignment

Trip distribution refers to the directional split of traffic entering and exiting the overall study area while trip assignment refers to the detailed assignment of distributed trips to the adjacent road network. Trip distribution for this study is based on a review of traffic volumes adjacent to the proposed development site and within the study area as well as a review of residential development throughout Winnipeg and the capital region.

Trip distribution for the proposed mixed use development is as follows:

- 30 percent from/to the north via Kenaston Boulevard (north of Corydon Avenue);
- 25 percent from/to the south via Kenaston Boulevard and McGillivray Boulevard, as well as Lindenwood Drive East;
- 25 percent from/to the east via Sterling Lyon Parkway, Waverley Street, Taylor Avenue, Grant Avenue and Corydon Avenue; and
- 20 percent from/to the west via Sterling Lyon Parkway, Wilkes Avenue, Shaftesbury Boulevard, Grant Avenue and Corydon Avenue.

New trips generated by the proposed development were assigned to the road network using the distribution noted above. New development traffic volumes for the two development phases are illustrated in **Figures 4.7** through **4.10**.

Background traffic was redistributed based on 2008 existing traffic patterns to account for drop-in trips. Drop-in traffic volumes for the two development phases are illustrated in **Figures 4.11** through **4.14**.

4.4 Forecast Traffic Volumes

Redistributed background traffic was combined with new traffic generated, distributed and assigned to the road network to determine traffic projections for the post development scenarios. Post development traffic volumes for the weekday p.m. peak hour and Saturday peak hour are illustrated in **Figures 4.15** through **4.18**.



FIGURE 4.7:
WEEKDAY PM PEAK HOUR
2011 OPENING DAY NEW DEVELOPMENT TRAFFIC



FIGURE 4.8:
SATURDAY PEAK HOUR
2011 OPENING DAY NEW DEVELOPMENT TRAFFIC



FIGURE 4.9
WEEKDAY PM PEAK HOUR
2018 FULL BUILD-OUT NEW DEVELOPMENT TRAFFIC



FIGURE 4.10
SATURDAY PEAK HOUR
2018 FULL BUILD-OUT NEW DEVELOPMENT TRAFFIC

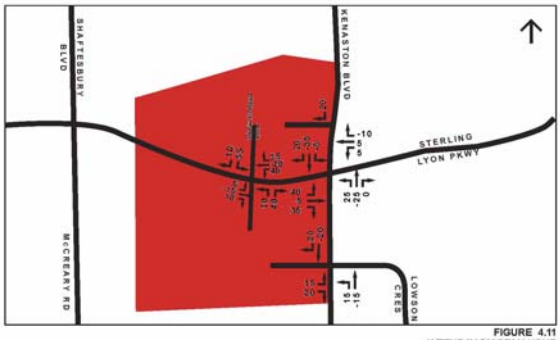


FIGURE 4.11
WEEKDAY PM PEAK HOUR
2011 OPENING DAY DROP-IN TRAFFIC

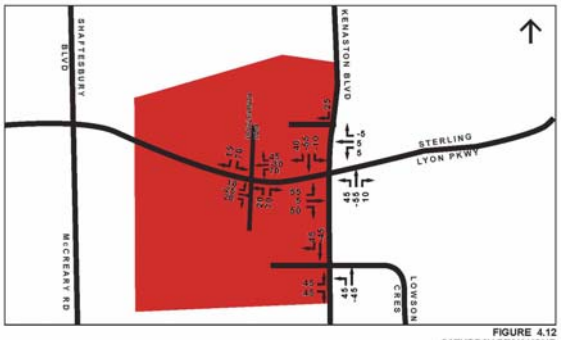


FIGURE 4.12
SATURDAY PEAK HOUR
2011 OPENING DAY DROP-IN TRAFFIC

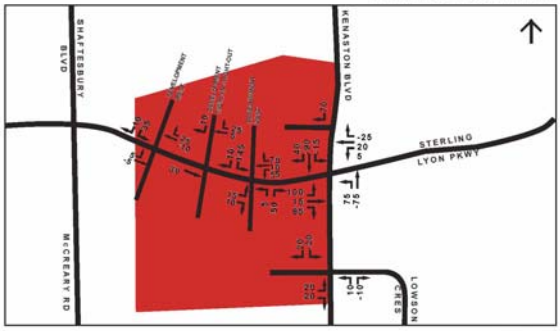


FIGURE 4.13
WEEKDAY PM PEAK HOUR
2018 FULL BUILD-OUT DROP-IN TRAFFIC



FIGURE 4.14
SATURDAY PEAK HOUR
2018 FULL BUILD-OUT DROP-IN TRAFFIC

LEGEND
PROPOSED DEVELOPMENT

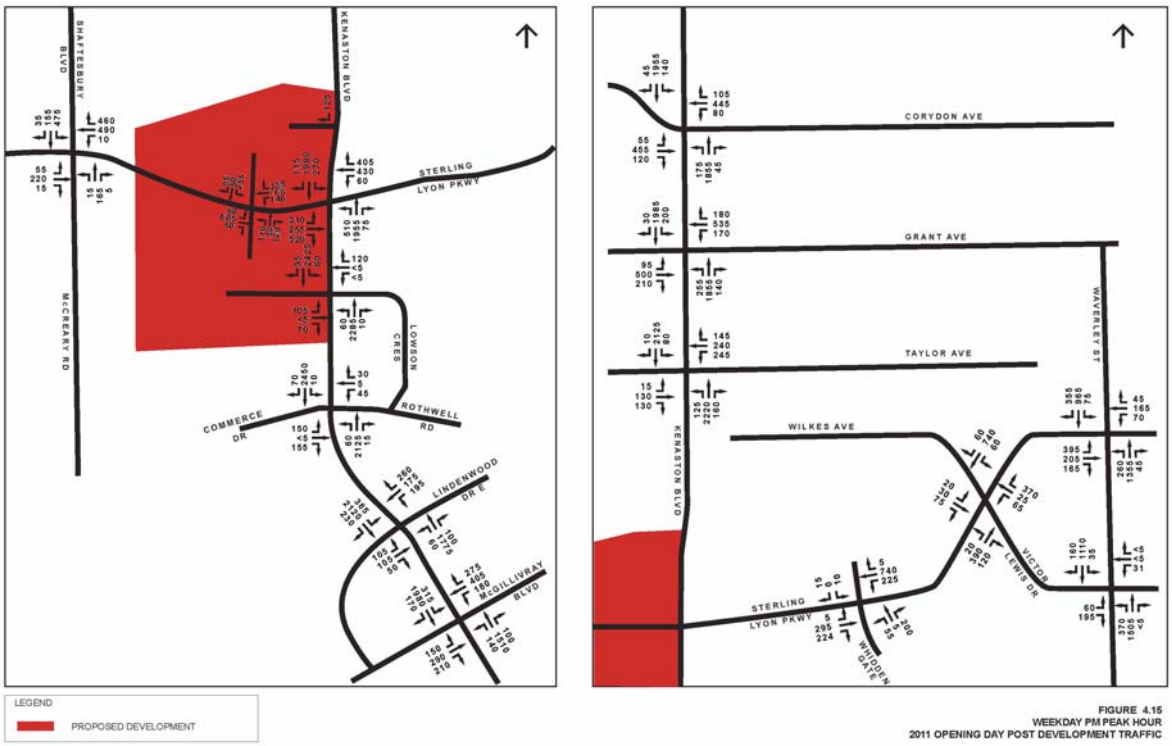


FIGURE 4.15
WEEKDAY PM PEAK HOUR
2011 OPENING DAY POST DEVELOPMENT TRAFFIC

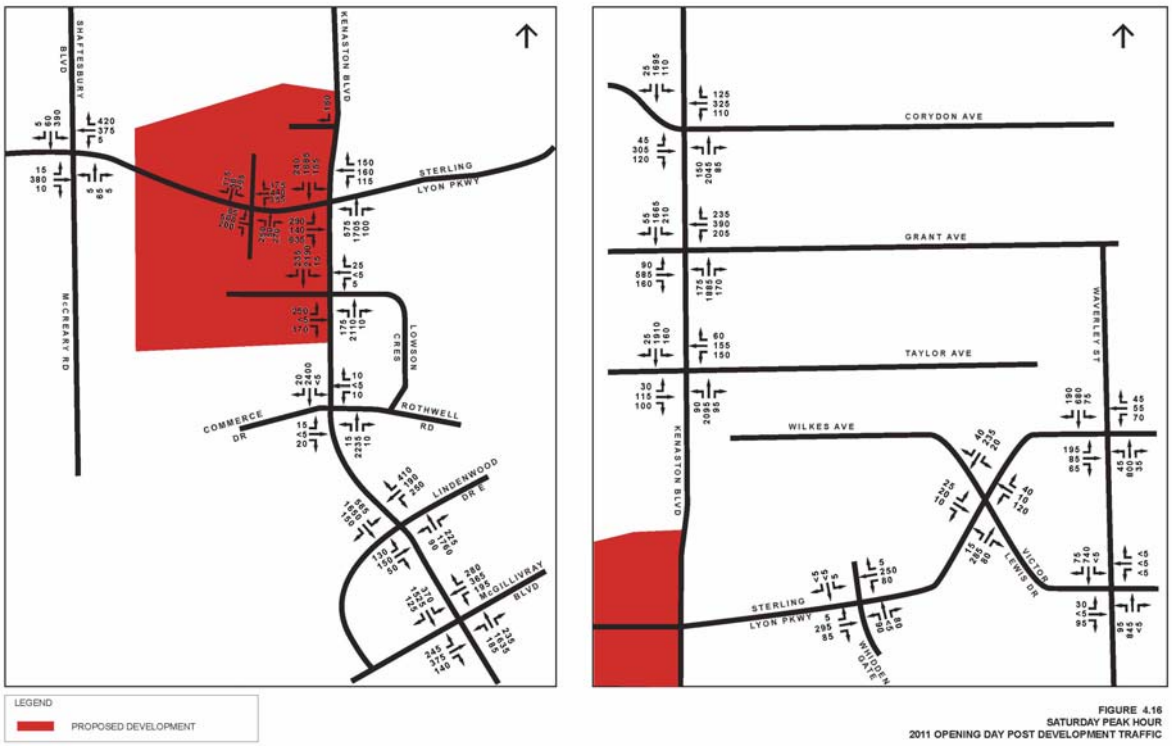


FIGURE 4.16
SATURDAY PEAK HOUR
2011 OPENING DAY POST DEVELOPMENT TRAFFIC

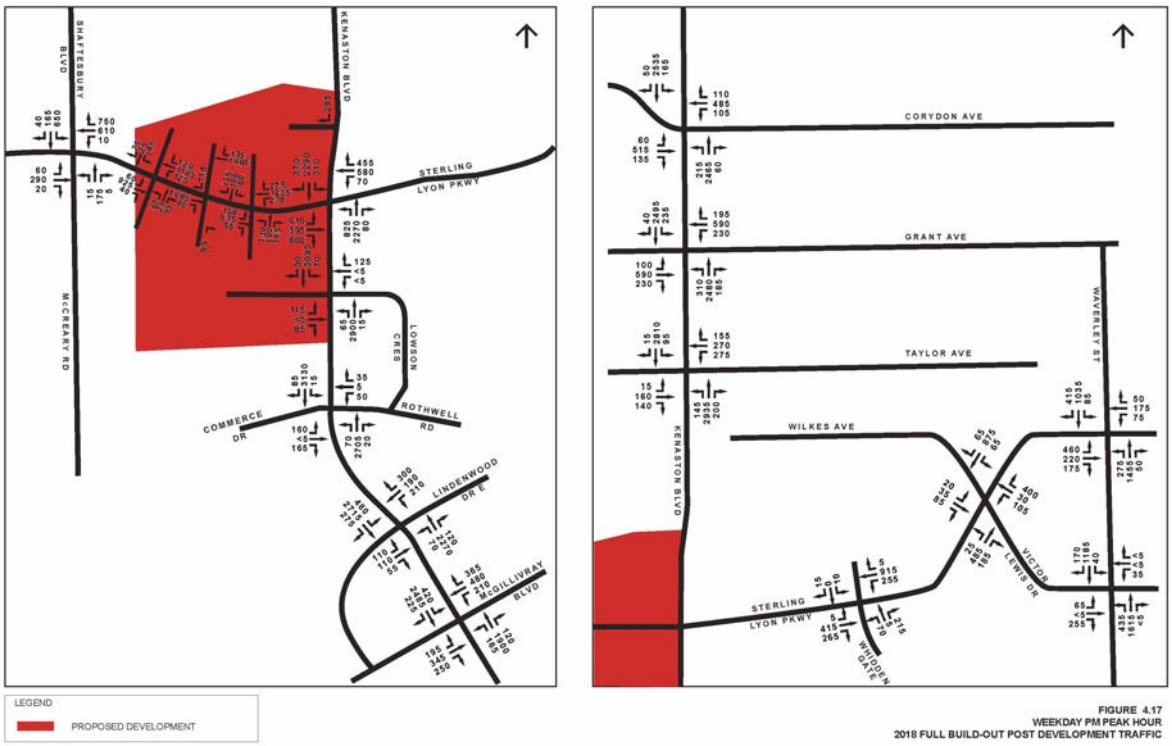


FIGURE 4.17
WEEKDAY PM PEAK HOUR
2018 FULL BUILD-OUT POST DEVELOPMENT TRAFFIC

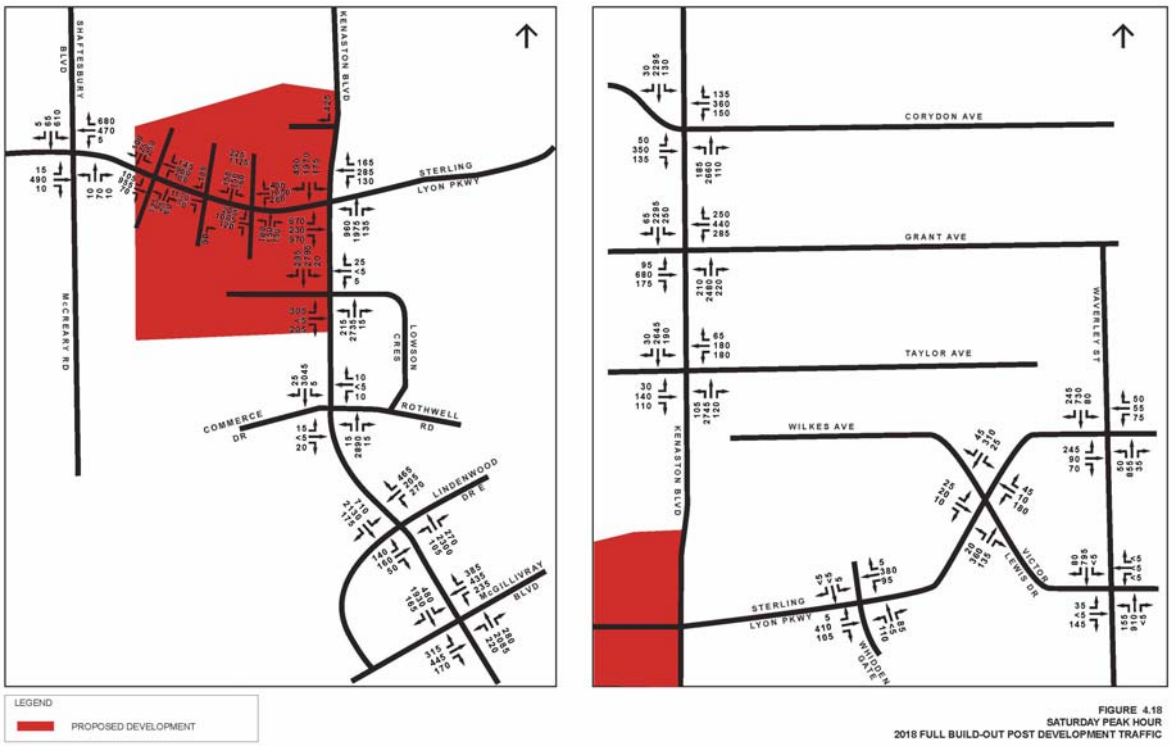


FIGURE 4.18
SATURDAY PEAK HOUR
2018 FULL BUILD-OUT POST DEVELOPMENT TRAFFIC

5.0 INTERSECTION REVIEW

The traffic analysis for the proposed mixed-use development was undertaken using Synchro 7.0 traffic analysis software. The relative performance of an intersection is measured in terms of level of service (LOS). Levels of service range from A (excellent) to F (beyond capacity). In general, LOS E is considered to be at capacity. Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, cycle length, green ratio and ratio for the lane group in question. Level of service criteria for unsignalized intersections is also defined in terms of delay. Delay is the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue position to the first.

Intersection capacity utilization level of service (ICU LOS) provides additional insight into how an intersection is functioning and how much extra capacity is available to handle traffic fluctuations and incidents. ICU is based on the volume to capacity ratio and may not necessarily match the LOS generated due to delay forecasts. ICU LOS ranges from A (excellent) to H (beyond capacity), with ICU LOS E generally considered to be at practical capacity.

Ideally, LOS D or better for the overall intersection is desirable in urban areas during peak hour conditions. At unsignalized intersections, LOS E or better is generally considered acceptable for minor streets accessing a major arterial, with LOS F not uncommon. Oftentimes, a lower LOS is tolerated if no cost effective solution is available and if the proposed development is considered desirable from the City's standpoint. Numerous examples exist of intersections that operate at lower than LOS D in the peak hours in Winnipeg, including many intersections along Lagimodiere Boulevard, Bishop Grandin Boulevard, and other major arterials. Accepting a less than ideal LOS is oftentimes a policy decision on the part of the City.

Traffic signal timing information for existing signalized intersections was obtained from Public Works. Signal timings were optimized for all future scenarios, including the 2011 and 2018 background scenarios.

5.1 Kenaston Boulevard & Corydon Avenue

The intersection of Kenaston Boulevard and Corydon Avenue is a four-legged signalized intersection. All four approaches to the intersection consist of a left-turn lane, a through lane, and a shared through/right-turn lane. As was noted earlier, Public Works is currently working on a study (*Preliminary Design and Public Consultation for Route 90 from Taylor Avenue to Ness Avenue*) to upgrade Kenaston Boulevard from Taylor Avenue north to Ness Avenue, which will likely result in Kenaston Boulevard being widened to six lanes. It was therefore assumed for this study that Kenaston Boulevard will be widened by 2018 and there will be three northbound lanes and three southbound lanes on Kenaston Boulevard north of Taylor Avenue. Kenaston Boulevard is assumed to transition from six lanes to four lanes at the Taylor Avenue intersection (lanes will be added or dropped at the intersection). Following the widening in 2018, the northbound and southbound approaches on Kenaston Boulevard are assumed to consist of a left-turn lane, two through lanes and a shared through/right-turn lane. No changes are proposed for the eastbound and westbound approaches on Corydon Avenue. The intersection configuration is assumed to be the same following development of the proposed multi-use site.

Table 5.1 summarizes the results of the background and post development intersection analysis for Kenaston Boulevard and Corydon Avenue.

5.2 Kenaston Boulevard & Grant Avenue

The intersection of Kenaston Boulevard and Grant Avenue is a four-legged signalized intersection. All four approaches to the intersection consist of a left-turn lane, two through lanes, and a right-turn cut-off lane. Following widening of Kenaston Boulevard in 2018, the northbound and southbound approaches on Kenaston Boulevard will each consist of a left-turn lane, three through lanes, and a right-turn cut-off lane. No changes are proposed for the eastbound and westbound approaches on Grant Avenue. The intersection configuration is assumed to be the same following development of the proposed multi-use site.

Table 5.2 summarizes the results of the background and post development intersection analysis for Kenaston Boulevard and Grant Avenue.

Table 5.1: Kenaston & Corydon Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday .P.M Peak Hour				
2008 Background	C (32 sec)	F (96%)	WB Left	F (149 sec)
2011 Background (Optimized)	D (37 sec)	G (100%)	WB Left	F (166 sec)
2011 Opening Day	D (53 sec)	G (106%)	WB Left	F (161 sec)
2018 Background (Optimized)	C (29 sec)	F (95%)	EB Left	F (135 sec)
2018 Full Build-Out	D (53 sec)	G (105%)	WB Left	F (151 sec)
Saturday Peak Hour				
2008 Background	C (21 sec)	E (88%)	WB Left	E (78 sec)
2011 Background (Optimized)	C (23 sec)	F (93%)	WB Left	F (101 sec)
2011 Opening Day	D (41 sec)	G (102%)	WB Left	F (148 sec)
2018 Background (Optimized)	C (23 sec)	E (87%)	WB Left	F (99 sec)
2018 Full Build-Out	D (42 sec)	F (99%)	WB Left	F (138 sec)

Table 5.2: Kenaston & Grant Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	D (43 sec)	F (95%)	WB Left	F (117 sec)
2011 Background (Optimized)	D (50 sec)	G (100%)	WB Left	F (127 sec)
2011 Opening Day	D (54 sec)	G (108%)	WB Left	F (157 sec)
2018 Background (Optimized)	C (35 sec)	F (96%)	SB Left	F (93 sec)
2018 Full Build-Out	E (58 sec)	H (113%)	WB Left	F (175 sec)
Saturday Peak Hour				
2008 Background	C (31 sec)	E (90%)	SB Left	F (119 sec)
2011 Background (Optimized)	D (37 sec)	F (95%)	SB Left	F (123 sec)
2011 Opening Day	E (64 sec)	H (110%)	WB Left	F (197 sec)
2018 Background (Optimized)	C (29 sec)	F (91%)	WB Left	F (85 sec)
2018 Full Build-Out	E (66 sec)	H (115%)	SB Left	F (>200 sec)

5.3 Kenaston Boulevard & Taylor Avenue

The intersection of Kenaston Boulevard and Taylor Avenue is a four-legged signalized intersection. The northbound and southbound approaches on Kenaston Boulevard each consist of a left-turn lane, two through lanes, and a right-turn cut-off lane. The eastbound approach on Taylor Avenue consists of a left-turn lane, two through lanes, and a right-turn cut-off lane, while the westbound approach consists of a left-turn lane, a through lane and a right-turn cut-off lane. Following widening of Kenaston Boulevard in 2018, the intersection configuration will remain unchanged, as the third northbound and southbound lanes will be added or dropped at the intersection. With development of the proposed multi-use site, the northbound and southbound approaches on Kenaston Boulevard will each consist of a left-turn lane, three through lanes, and a right-turn cut-off lane. No changes are proposed for the eastbound and westbound approaches on Taylor Avenue.

Table 5.3 summarizes the results of the background and post development intersection analysis for Kenaston Boulevard and Taylor Avenue.

Table 5.3: Kenaston & Taylor Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	B (17 sec)	E (90%)	WB Thru	E (68 sec)
2011 Background (Optimized)	B (17 sec)	F (95%)	WB Thru	F (73 sec)
2011 Opening Day	E (68 sec)	G (106%)	WB Left	F (172 sec)
2018 Background (Optimized)	C (34 sec)	H (112%)	WB Thru	F (120 sec)
2018 Full Build-Out	D (38 sec)	G (104%)	WB Left	F (134 sec)
Saturday Peak Hour				
2008 Background	B (13 sec)	E (87%)	WB Thru	E (57 sec)
2011 Background (Optimized)	B (16 sec)	E (91%)	WB Thru	E (64 sec)
2011 Opening Day	C (27 sec)	G (102%)	WB Left	F (129 sec)
2018 Background (Optimized)	C (27 sec)	G (102%)	WB Thru	F (96 sec)
2018 Full Build-Out	C (20 sec)	G (100%)	WB Left	F (120 sec)

5.4 Kenaston Boulevard & Sterling Lyon Parkway

The intersection of Kenaston Boulevard and Sterling Lyon Parkway is a four-legged signalized intersection. The northbound and southbound approaches on Kenaston Boulevard each consist of two left-turn lanes, two through lanes, and a right-turn cut-off lane. The eastbound and westbound approaches on Sterling Lyon Parkway each consist of a left-turn lane, two through lanes, and a right-turn cut-off lane. Following development of the proposed multi-use site and the widening of Kenaston Boulevard to six lanes adjacent to the site by 2011, the northbound approach on Kenaston Boulevard will consist of three left-turn lanes, three through lanes and a right-turn cut-off lane, while the southbound approach will consist of two left-turn lanes, three through lanes and a right-turn cut-off lane. The eastbound approach on Sterling Lyon Parkway will consist of three left-turn lanes, two through lanes and a right-turn cut-off lane, while the westbound approach will consist of a left-turn lane, two through lanes and a right-turn cut-off lane. In the 2018 post development scenarios, a second right-turn cut-off lane (signalized) will be added to the southbound approach on Kenaston Boulevard and the eastbound and westbound approaches on Sterling Lyon Parkway.

Table 5.4 summarizes the results of the background and post development intersection analysis for Kenaston Boulevard and Sterling Lyon Parkway.

The forecast LOS and delays are based on a number of assumptions, including background traffic growth remaining constant over time and estimated trip generation, distribution and assignment for the proposed development. It is suggested that traffic volumes at the intersection be monitored to determine actual LOS and delay levels as development proceeds. It should be noted that a variety of interchange options were examined as part of this review and it was found that they did not relieve the traffic operation issues at the intersection. The interchange issues were primarily due to heavy turning movements and weaving problems brought about by high weaving volumes and limited weaving distances.

Table 5.4: Kenaston & Sterling Lyon Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	D (38 sec)	F (91%)	SB Left	F (94 sec)
2011 Background (Optimized)	D (53 sec)	F (97%)	WB Thru	F (110 sec)
2011 Opening Day	C (32 sec)	E (87%)	EB Left	F (88 sec)
2018 Background (Optimized)	F (111 sec)	H (111%)	WB Thru	F (>200 sec)
2018 Full Build-Out	E (72 sec)	G (104%)	NB Left	F (156 sec)
Saturday Peak Hour				
2008 Background	B (16 sec)	D (74%)	NB Left	E (61 sec)
2011 Background (Optimized)	C (24 sec)	D (79%)	NB Left	E (72 sec)
2011 Opening Day	C (37 sec)	D (78%)	NB Left	E (67 sec)
2018 Background (Optimized)	C (28 sec)	F (93%)	WB Left	F (126 sec)
2018 Full Build-Out	D (47 sec)	F (94%)	WB Left	F (106 sec)

5.5 Kenaston Boulevard & Rothwell Road / Commerce Drive

The intersection of Kenaston Boulevard and Rothwell Road / Commerce Drive is a four-legged signalized intersection. The northbound and southbound approaches on Kenaston Boulevard each consist of a left-turn lane, two through lanes, and a right-turn lane. The westbound approach on Rothwell Road and the eastbound approach on Commerce Drive consist of a left-turn lane and a shared through/right-turn lane. The intersection configuration is assumed to be the same following development of the proposed multi-use site.

Table 5.5 summarizes the results of the background and post development intersection analysis for Kenaston Boulevard and Rothwell Road / Commerce Drive.

The low LOS and ICU LOS forecasts at this intersection are the result of high through traffic volumes on Kenaston Boulevard. Adjusting the signal timing or adding turning lanes has little impact on overall intersection operations. The addition of a third southbound through lane on Kenaston Boulevard results in a forecast LOS D and ICU LOS H during the 2018 full build-out weekday p.m. peak hour, and the 95th percentile southbound queue length is reduced from 585 metres to approximately 100 metres. The third southbound lane on Kenaston Boulevard was assumed to continue from Lowson Crescent and extend through the Rothwell Road /

Commerce Drive intersection before transitioning to two lanes north of the CP rail tracks before Lindenwood Drive East.

Table 5.5: Kenaston & Rothwell / Commerce Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	B (16 sec)	F (94%)	EB Left	E (124 sec)
2011 Background (Optimized)	C (26 sec)	F (99%)	EB Left	F (133 sec)
2011 Opening Day	D (42 sec)	G (103%)	EB Left	F (>200 sec)
2018 Background (Optimized)	F (83 sec)	H (111%)	EB Left	F (151 sec)
2018 Full Build-Out	F (137 sec)	H (122%)	SB Thru	F (>200 sec)
Saturday Peak Hour				
2008 Background	A (9 sec)	D (75%)	NB Left	D (48 sec)
2011 Background (Optimized)	A (10 sec)	D (79%)	WB Left	D (45 sec)
2011 Opening Day	B (17 sec)	E (86%)	NB Left	E (72 sec)
2018 Background (Optimized)	D (39 sec)	E (90%)	SB Thru	E (62 sec)
2018 Full Build-Out	F (104 sec)	G (104%)	SB Thru	F (129 sec)

5.6 Kenaston Boulevard & Lindenwood Drive East

The intersection of Kenaston Boulevard and Lindenwood Drive East is a four-legged signalized intersection. The northbound and southbound approaches on Kenaston Boulevard each consist of two left-turn lanes, two through lanes, and a right-turn cut-off lane. The westbound approach on Lindenwood Drive East and the eastbound approach exiting the Kenaston Common development each consist of a left-turn lane, two through lanes, and a right-turn cut-off lane. The intersection configuration is assumed to be the same following development of the proposed multi-use site.

Table 5.6 summarizes the results of the background and post development intersection analysis for Kenaston Boulevard and Lindenwood Drive East.

Table 5.6: Kenaston & Lindenwood Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	C (23 sec)	E (88%)	NB Left	F (83 sec)
2011 Background (Optimized)	C (24 sec)	F (92%)	WB Left	F (96 sec)
2011 Opening Day	C (26 sec)	F (96%)	WB Left	F (118 sec)
2018 Background (Optimized)	D (46 sec)	G (103%)	WB Left	F (142 sec)
2018 Full Build-Out	F (103 sec)	H (113%)	WB Left	F (196 sec)
Saturday Peak Hour				
2008 Background	C (25 sec)	E (91%)	WB Left	F (100 sec)
2011 Background (Optimized)	C (29 sec)	F (95%)	WB Left	F (113 sec)
2011 Opening Day	D (42 sec)	G (103%)	WB Left	F (132 sec)
2018 Background (Optimized)	F (84 sec)	G (108%)	SB Left	F (>200 sec)
2018 Full Build-Out	F (107 sec)	H (123%)	SB Left	F (>200 sec)

5.7 Kenaston Boulevard & McGillivray Boulevard

The intersection of Kenaston Boulevard and McGillivray Boulevard is a four-legged signalized intersection. The northbound and southbound approaches on Kenaston Boulevard each consist of two left-turn lanes, two through lanes, and a right-turn cut-off lane. The eastbound and westbound approaches on McGillivray Boulevard each consist of a left-turn lane, two through lanes, and a right-turn cut-off lane. The City of Winnipeg is currently in the process of twinning McGillivray Boulevard through the Kenaston Boulevard intersection and two eastbound and westbound left-turn lanes will be constructed on McGillivray Boulevard at the intersection as part of this project. All approaches to the intersection will therefore consist of two-left turn lanes, two through lanes, and a right-turn cut-off lane for the 2011 and 2018 scenarios. The intersection configuration is assumed to be the same following development of the proposed multi-use site.

Table 5.7 summarizes the results of the background and post development intersection analysis for Kenaston Boulevard and McGillivray Boulevard.

Table 5.7: Kenaston & McGillivray Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	D (37 sec)	E (89%)	WB Left	F (>200 sec)
2011 Background (Optimized)	D (41 sec)	E (91%)	SB Left	E (67 sec)
2011 Opening Day	D (50 sec)	F (93%)	SB Thru	F (81 sec)
2018 Background (Optimized)	F (84 sec)	G (104%)	SB Left	F (160 sec)
2018 Full Build-Out	F (132 sec)	H (111%)	SB Thru	F (>200 sec)
Saturday Peak Hour				
2008 Background	C (33 sec)	E (85%)	WB Left	F (91 sec)
2011 Background (Optimized)	C (31 sec)	E (84%)	SB Left	E (74 sec)
2011 Opening Day	D (38 sec)	F (91%)	SB Left	F (90 sec)
2018 Background (Optimized)	E (74 sec)	F (97%)	SB Left	F (169 sec)
2018 Full Build-Out	F (105 sec)	H (111%)	SB Left	F (>200 sec)

5.8 Sterling Lyon Parkway / Wilkes Avenue & Shaftesbury Boulevard / McCreary Road

The intersection of Sterling Lyon Parkway / Wilkes Avenue and Shaftesbury Boulevard / McCreary Road is a four-legged signalized intersection. The eastbound approach on Wilkes Avenue and the westbound approach on Sterling Lyon Parkway each consist of a left-turn lane, a through lane, and a right-turn lane. The northbound approach on McCreary Road and the southbound approach on Shaftesbury Boulevard each consist of a shared left-turn/through lane and a right-turn lane. With development of the proposed multi-use site in 2011, the southbound approach on Shaftesbury Boulevard will consist of a left-turn lane and a shared through/right-turn lane, which will require modification of the intersection geometry to properly align the approaches north and south of Sterling Lyon Parkway / Wilkes Avenue. All other approaches are unchanged in 2011. With development of the site in 2018, the southbound approach on Shaftesbury Boulevard will consist of two left-turn lanes and a shared through/right-turn lane. The westbound approach on Sterling Lyon Parkway, eastbound approach on Wilkes Avenue and northbound approach on McCreary Road are unchanged.

Table 5.8 summarizes the results of the background and post development intersection analysis for Sterling Lyon Parkway / Wilkes Avenue and Shaftesbury Boulevard / McCreary Road.

Table 5.8: Sterling Lyon / Wilkes & Shaftesbury / McCreary Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	D (41 sec)	E (83%)	EB Left	F (170 sec)
2011 Background (Optimized)	D (51 sec)	E (86%)	EB Left	F (162 sec)
2011 Opening Day	C (30 sec)	E (85%)	EB Left	F (137 sec)
2018 Background (Optimized)	F (86 sec)	F (91%)	SB Left	F (>200 sec)
2018 Full Build-Out	C (30 sec)	E (83%)	SB Left/Thru	F (>200 sec)
Saturday Peak Hour				
2008 Background	C (21 sec)	A (54%)	EB Thru	D (41 sec)
2011 Background (Optimized)	C (23 sec)	B (56%)	EB Thru	D (44 sec)
2011 Opening Day	C (27 sec)	C (67%)	EB Thru	D (51 sec)
2018 Background (Optimized)	C (25 sec)	B (59%)	EB Thru	D (41 sec)
2018 Full Build-Out	C (23 sec)	C (70%)	EB Thru	D (38 sec)

It should be noted that no development trips were assumed to use McCreary Road due to the limited generation/attraction locations in this area. In reality, as traffic conditions become more congested, people may find alternate routes to use to access the development, including perhaps McCreary Road. This may especially be true as future upgrades to McCreary Road occur as Waverley West development progresses, which would somewhat reduce new development trips along Kenaston Boulevard. The analysis presented in this report can therefore be considered to be a "worst-case" scenario.

5.9 Sterling Lyon Parkway & Whidden Gate

The intersection of Sterling Lyon Parkway and Whidden Gate is a four-legged signalized intersection. The eastbound and westbound approaches on Sterling Lyon Parkway each consist of a left-turn lane, two through lanes and right-turn cut-off lane. The northbound and southbound approaches on Whidden Gate consist of a single approach lane with a right-turn

cut-off. The intersection configuration is assumed to be the same following development of the proposed multi-use site.

Table 5.9 summarizes the results of the background and post development intersection analysis for Sterling Lyon Parkway and Whidden Gate.

Table 5.9: Sterling Lyon & Whidden Gate Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	A (6 sec)	A (45%)	NB Left	E (63 sec)
2011 Background (Optimized)	A (6 sec)	A (46%)	NB Left	E (63 sec)
2011 Opening Day	A (6 sec)	A (48%)	NB Left	E (64 sec)
2018 Background (Optimized)	A (6 sec)	A (49%)	NB Left	E (64 sec)
2018 Full Build-Out	A (6 sec)	A (53%)	NB Left	E (64 sec)
Saturday Peak Hour				
2008 Background	A (8 sec)	A (34%)	NB Left	D (53 sec)
2011 Background (Optimized)	A (8 sec)	A (35%)	NB Left	E (60 sec)
2011 Opening Day	A (9 sec)	A (38%)	NB Left	E (65 sec)
2018 Background (Optimized)	B (12 sec)	A (37%)	NB Left	E (64 sec)
2018 Full Build-Out	A (9 sec)	A (44%)	NB Left	E (65 sec)

5.10 Sterling Lyon Parkway & Victor Lewis Drive / Wilkes Avenue

The intersection of Sterling Lyon Parkway and Victor Lewis Drive / Wilkes Avenue is a four-legged signalized intersection. The eastbound and westbound approaches on Sterling Lyon Parkway each consist of a left-turn lane, two through lanes, and a right-turn cut-off lane. The northbound approach on Victor Lewis Drive consists of a left-turn lane, a through lane and a right-turn cut-off lane, while the southbound approach on Wilkes Avenue consists of a left-turn lane and a shared through/right-turn cut-off lane. The intersection configuration is assumed to be the same following development of the proposed multi-use site.

Table 5.10 summarizes the results of the background and post development intersection analysis for Sterling Lyon Parkway and Victor Lewis Drive / Wilkes Avenue.

Table 5.10: Sterling Lyon & Victor Lewis / Wilkes Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	A (7 sec)	A (42%)	SB Left	E (55 sec)
2011 Background (Optimized)	A (10 sec)	A (43%)	SB Left	E (55 sec)
2011 Opening Day	A (9 sec)	A (46%)	SB Left	E (55 sec)
2018 Background (Optimized)	B (10 sec)	A (47%)	SB Left	D (53 sec)
2018 Full Build-Out	B (11 sec)	A (52%)	NB Left	E (61 sec)
Saturday Peak Hour				
2008 Background	A (10 sec)	A (31%)	SB Left	D (49 sec)
2011 Background (Optimized)	B (11 sec)	A (32%)	SB Left	E (55 sec)
2011 Opening Day	B (14 sec)	A (36%)	SB Left	E (61 sec)
2018 Background (Optimized)	B (11 sec)	A (33%)	SB Left	E (63 sec)
2018 Full Build-Out	B (19 sec)	A (42%)	SB Left	E (59 sec)

5.11 Waverley Street & Wilkes Avenue / Hurst Way

The intersection of Waverley Street and Wilkes Avenue / Hurst Way is a four-legged signalized intersection. The northbound approach on Waverley Street consists of a left-turn lane, a through lane, and a shared through/right-turn lane, while the southbound approach consists of a left-turn lane, a through lane, and a shared through/right-turn cut-off lane. The eastbound approach on Wilkes Avenue consists of a shared left-turn/through lane and a shared through/right-turn cut-off lane, while the westbound approach on Hurst Way consists of a shared left-turn/through lane and a shared through/right-turn lane. The intersection configuration is assumed to be the same following development of the proposed multi-use site.

Table 5.11 summarizes the results of the background and post development intersection analysis for Waverley Street and Wilkes Avenue / Hurst Way.

Table 5.11: Waverley & Wilkes / Hurst Way Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	D (45 sec)	E (90%)	WB Thru/Right	F (101 sec)
2011 Background (Optimized)	D (48 sec)	F (92%)	WB Thru/Right	F (106 sec)
2011 Opening Day	D (45 sec)	F (93%)	WB Thru/Right	F (106 sec)
2018 Background (Optimized)	E (63 sec)	F (98%)	WB Thru/Right	F (125 sec)
2018 Full Build-Out	E (59 sec)	G (101%)	WB Thru/Right	F (125 sec)
Saturday Peak Hour				
2008 Background	B (17 sec)	B (57%)	WB Left	E (55 sec)
2011 Background (Optimized)	B (18 sec)	B (58%)	WB Left	E (62 sec)
2011 Opening Day	C (21 sec)	B (61%)	WB Left	E (68 sec)
2018 Background (Optimized)	C (23 sec)	B (61%)	WB Left	E (61 sec)
2018 Full Build-Out	C (21 sec)	C (65%)	WB Left	E (70 sec)

5.12 Waverley Street & Victor Lewis Drive

The intersection of Waverley Street and Victor Lewis Drive is a four-legged signalized intersection (the parking lot access for the Winnipeg Soccer Complex makes up the fourth leg of the intersection on the east side of Waverley Street). The northbound approach on Waverley Street consists of a left-turn lane, two through lanes, and a right-turn lane, while the southbound approach consists of a left-turn lane, two through lanes, and a right-turn cut-off lane. The eastbound approach on Victor Lewis Drive consists of a left-turn lane and a shared through/right-turn cut-off lane, while the westbound approach exiting the parking lot consists of a single approach lane. The intersection configuration is assumed to be the same following development of the proposed multi-use site.

Table 5.12 summarizes the results of the background and post development intersection analysis for Waverley Street and Victor Lewis Drive.

Table 5.12: Waverley & Victor Lewis Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	B (19 sec)	E (87%)	WB L/T/R	F (127 sec)
2011 Background (Optimized)	C (23 sec)	E (88%)	NB Left	F (134 sec)
2011 Opening Day	C (24 sec)	E (90%)	NB Left	F (138 sec)
2018 Background (Optimized)	D (37 sec)	F (92%)	NB Left	F (>200 sec)
2018 Full Build-Out	E (71 sec)	F (97%)	NB Left	F (>200 sec)
Saturday Peak Hour				
2008 Background	A (2 sec)	A (42%)	EB Left	D (45 sec)
2011 Background (Optimized)	A (2 sec)	A (47%)	EB Left	D (50 sec)
2011 Opening Day	A (3 sec)	B (57%)	EB Left	E (71 sec)
2018 Background (Optimized)	A (3 sec)	A (47%)	EB Left	E (74 sec)
2018 Full Build-Out	A (4 sec)	B (61%)	EB Left	E (63 sec)

5.13 Kenaston Boulevard & Lowson Crescent

The intersection of Kenaston Boulevard and Lowson Crescent is currently a three-legged unsignalized T-intersection located adjacent to the proposed development site. Northbound and southbound traffic on Kenaston Boulevard is free flowing, while westbound vehicles on Lowson Crescent approach a stop sign at the intersection. The northbound approach on Kenaston Boulevard consists of two through lanes and a right-turn lane, while the southbound approach consists of a left-turn lane and two through lanes. The westbound approach on Lowson Crescent consists of a single lane; however, the approach has a rural cross-section and is wide enough to allow for two vehicles to manoeuvre side-by-side at the intersection.

Following development of the proposed multi-use site, the intersection of Kenaston Boulevard and Lowson Crescent is proposed to become a four-legged signalized intersection, with the access to the home furnishing store forming the fourth leg of the intersection on the west side of Kenaston Boulevard. In the post development scenarios, the northbound approach on Kenaston Boulevard will consist of a left-turn lane, three through lanes and a right-turn lane, while the southbound approach will consist of a left-turn lane, three through lanes and a right-turn lane. The eastbound approach exiting the home furnishing store will consist of a left-turn

lane, a shared left-turn/through lane and a right-turn lane, while the westbound approach on Lowson Crescent will consist of a shared left-turn/through lane and a right-turn lane.

Table 5.13 summarizes the results of the background and post development intersection analysis for Kenaston Boulevard and Lowson Crescent. It should be noted that in the background scenarios the intersection remains unsignalized and therefore an overall intersection LOS is not provided by Synchro.

Table 5.13: Kenaston & Lowson Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2008 Background	(4 sec)	D (74%)	WB Left/Right	F (89 sec)
2011 Background (Optimized)	(7 sec)	D (79%)	WB Left/Right	F (144 sec)
2011 Opening Day	A (6 sec)	B (63%)	EB Left/Thru	E (57 sec)
2018 Background (Optimized)	(14 sec)	F (91%)	WB Left/Right	F (>200 sec)
2018 Full Build-Out	B (12 sec)	D (73%)	EB Left/Thru	E (58 sec)
Saturday Peak Hour				
2008 Background	(8 sec)	B (63%)	WB Left/Right	F (>200 sec)
2011 Background (Optimized)	(124 sec)	C (68%)	WB Left/Right	F (>200 sec)
2011 Opening Day	B (11 sec)	D (79%)	EB Left/Thru	E (57 sec)
2018 Background (Optimized)	(115 sec)	D (79%)	WB Left/Right	F (>200 sec)
2018 Full Build-Out	C (22 sec)	F (99%)	EB Left/Thru	D (55 sec)

5.14 Sterling Lyon Parkway Access Locations

Three access locations are proposed on Sterling Lyon Parkway to serve the multi-use development.

Sterling Lyon Parkway East Access

There is an existing unsignalized access into the north side development site located on Sterling Lyon Parkway west of Kenaston Boulevard. Following development of the proposed multi-use site, this access will shift slightly to the west and become a four-legged signalized intersection, with the access to the south side development forming the fourth leg of the intersection on the south side of Sterling Lyon Parkway. In the 2011 post development

scenarios, all four approaches consist of a left-turn lane, a through lane and a right-turn cut-off lane. In the 2018 post development scenarios, the westbound approach on Sterling Lyon Parkway will consist of two left-turn lanes, two through lanes and a shared through/right-turn cut-off lane, while the eastbound approach will consist of a left-turn lane, two through lanes and a right-turn cut-off lane. The southbound approach exiting the north side development will consist of two left-turn lanes, a through lane and a right-turn cut-off lane. No changes are proposed for the northbound approach exiting the south side development.

Table 5.14 summarizes the results of the post development intersection analysis for the Sterling Lyon Parkway east access location.

Table 5.14: Sterling Lyon East Access Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2011 Opening Day	C (25 sec)	D (79%)	EB Left	F (132 sec)
2018 Full Build-Out	D (36 sec)	D (78%)	EB Left	E (71 sec)
Saturday Peak Hour				
2011 Opening Day	D (40 sec)	E (84%)	NB Left	F (103 sec)
2018 Full Build-Out	D (44 sec)	E (88%)	EB Left	E (80 sec)

Sterling Lyon Parkway Right-In / Right-Out

Eastbound and westbound right-ins / right-outs are planned for the second access point on Sterling Lyon Parkway west of Kenaston Boulevard. In the post development scenarios, the eastbound and westbound approaches on Sterling Lyon Parkway will consist of two through lanes and a right-turn lane. The northbound and southbound approaches exiting the development will each consist of a single right-turn lane. This access will not be constructed by 2011, but will be implemented in the future as development of the site proceeds west.

Table 5.15 summarizes the results of the 2018 post development intersection analysis for the Sterling Lyon Parkway right-in/right-out access location.

Table 5.15: Sterling Lyon Right-In/Right-Out Intersection Analysis

Scenario	Delay	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday P.M. Peak Hour				
2018 Full Build-Out	1 sec	A (52%)	SB Right	B (11 sec)
Saturday Peak Hour				
2018 Full Build-Out	1 sec	A (45%)	SB Right	B (11 sec)

Sterling Lyon Parkway West Access

The third access to the development on Sterling Lyon Parkway is planned as an all-directional signalized access. This access will not be constructed by 2011, but will be implemented in the future as development of the site proceeds west. In the 2018 post development scenarios, the eastbound and westbound approaches on Sterling Lyon Parkway will consist of a left-turn lane, a through lane and a shared through/right-turn lane. The northbound and southbound approaches exiting the development will each consist of a shared left-turn/through lane and a right-turn lane.

Table 5.16 summarizes the results of the 2018 post development intersection analysis for the Sterling Lyon Parkway west access location.

Table 5.16: Sterling Lyon West Access Intersection Analysis

Scenario	LOS (Delay)	ICU LOS (Intersection Utilization)	Critical Movement	
			Movement	LOS (Delay)
Weekday PM Peak Hour				
2018 Full Build-Out	A (10 sec)	C (66%)	SB Left/Thru	C (21 sec)
Saturday Peak Hour				
2018 Full Build-Out	B (15 sec)	C (70%)	WB Left	E (71 sec)

6.0 TRANSPORTATION ISSUES

6.1 Truck Access

Delivery / truck access to the development is proposed via two dedicated delivery locations. A right-in only access off Kenaston Boulevard south of Lowson Crescent is proposed to service the south side development, while a right-in / right-out access off Sterling Lyon Parkway is proposed to service the north side development. The internal site layout has been configured to allow heavy vehicles to access the retail developments behind the buildings without mixing with the passenger vehicle traffic on site. However, all internal roadways have been designed to allow trucks to manoeuvre throughout the site.

6.2 Transit Service

Transit Route 78 (Crosstown West) currently travels down Kenaston Boulevard between Polo Park and the University of Manitoba during the weekday rush hour (approximately 6:30 – 9:30 a.m. and 3:30 – 7:30 p.m.) adjacent to the development site. Bus stops are located on Kenaston Boulevard at Sterling Lyon Parkway for both northbound and southbound transit service. Transit Route 86 travels down Sterling Lyon Parkway east of the development but does not actually reach Kenaston Boulevard. Winnipeg Transit was contacted regarding the proposed development and indicated that existing routes in the area may be altered to access the proposed development. They also noted that they would likely want to have stops within the development site. Provisions to allow transit buses within the site will be made and the final routing and stop locations as well as appropriate pedestrian connections will be confirmed with Winnipeg Transit at a later stage when the details of the site plan are finalized.

6.3 Pedestrian and Cyclist Facilities

There is an existing multi-use pathway located on the south side of Sterling Lyon Parkway adjacent to the proposed development site. The pathway crosses from the west side to the east side of Kenaston Boulevard at the intersection, and connects to existing pathways on the south side of Sterling Lyon Parkway and the east side of Kenaston Boulevard north of Sterling Lyon Parkway. As part of the proposed development, the multi-use pathway will be extended down the west side of Kenaston Boulevard from Sterling Lyon Parkway to the south limit of the development property. The multi-use pathways on Kenaston Boulevard and Sterling Lyon Parkway will connect to appropriate multi-use pathways within the development that will allow pedestrians and cyclists to safely connect from the street to the individual stores within the site.

The final layout of pedestrian and cyclist facilities within the development site will be confirmed at a later stage when the details of the site plan are finalized.

Winnipeg Zoning By-law 200/2006 identifies a requirement for one lockable bicycle space for every 10 required automobile spaces. Therefore, a total of 752 bicycle spaces are required for the proposed commercial development (based on the parking requirement identified in Section 3.2 – this may be subject to revision as changes to the proposed development mix occur). The developer has indicated that bicycle parking facilities will be provided on-site to accommodate cyclists. The final number and location of bicycle parking spaces within the development site will be confirmed at a later stage when the details of the site plan are finalized.

7.0 CONCLUSIONS

The following conclusions are made:

- A mixed-use development is proposed for approximately 195 acres of land in the northwest and southwest quadrants at the intersection of Kenaston Boulevard and Sterling Lyon Parkway in southwest Winnipeg. The development is planned to consist of a combination of retail, restaurant, gas bar, hotel, movie theatre, office park and multi-family residential development.

- The development is planned to be built out over several years beginning in 2011 with the opening of the first retail store and completed by 2018 with the construction of the multi-family residential units.

- Winnipeg Zoning By-law 200/2006 requires a total of 7,517 parking spaces for the proposed development. The site plan will provide parking in excess of the minimum by-law requirement. All parking spaces for the development will be provided through at-grade parking lots.

- Multiple vehicular access points are proposed for the mixed-use development. A major access to the development is proposed on Kenaston Boulevard opposite Lowson Crescent and there is an existing right-in to the site located on Kenaston Boulevard north of Sterling Lyon Parkway. Three additional access points (two all-directional signalized locations and one right-in/right-out location) are proposed along Sterling Lyon Parkway.

- Two dedicated truck / delivery access locations are also proposed for the development. A right-in only is proposed at the south end of the development off Kenaston Boulevard at an existing access location to serve the south side development, and a right-in/right-out is proposed on Sterling Lyon Parkway at the west end of the site to serve the north side development.

- Kenaston Boulevard and Sterling Lyon Parkway are both listed on Schedule "A" of the City of Winnipeg Private Access By-law 49/2008 and any private approach on either road will require approval by the City of Winnipeg Standing Policy Committee on Infrastructure Renewal and Public Works.

- The proposed mixed-use development is anticipated to generate a total of 2,950 new trips (1,365 entering and 1,585 exiting) plus an additional 620 drop-in trips (300 entering and 320 exiting) during the weekday p.m. peak hour at full build-out.
- The proposed mixed-use development is anticipated to generate a total of 4,330 new trips (2,280 entering and 2,050 exiting) plus an additional 860 drop-in trips (440 entering and 420 exiting) during the Saturday peak hour at full build-out.
- The proposed mixed-use development is anticipated to generate a total of 29,000 new trips (14,500 entering and 14,500 exiting) plus an additional 5,600 drop-in trips (2,800 entering and 2,800 exiting) on a typical weekday at full build-out.
- The proposed mixed-use development is anticipated to generate a total of 36,600 new trips (18,300 entering and 18,300 exiting) plus an additional 6,700 drop-in trips (3,350 entering and 3,350 exiting) on a typical Saturday at full build-out.

8.0 RECOMMENDATIONS

The following recommendations are made:

- ***Kenaston Boulevard:*** Kenaston Boulevard adjacent to the site (from Taylor Avenue to south of Lowson Crescent) should be widened to six lanes (three northbound and three southbound lanes) before opening of the first retail store.

- ***Sterling Lyon Parkway:*** Sterling Lyon Parkway between Kenaston Boulevard and the Sterling Lyon Parkway East Access should consist of three westbound lanes and three eastbound lanes before opening of the first retail store. This widening should include construction of the ultimate intersection configuration at Kenaston Boulevard and at the Sterling Lyon Parkway East Access (all intersection approaches).

  Sterling Lyon Parkway from west of the Sterling Lyon Parkway East Access to the intersection with Shaftesbury Boulevard / McCreary Road should be widened to a four-lane divided roadway (two eastbound and two westbound lanes) in conjunction with the completion of the first phase of retail development (350,000 square foot home furnishing store plus 400,000 square feet of additional retail).

- ***Kenaston Boulevard & Sterling Lyon Parkway Intersection:*** Prior to the opening of the first retail store, the intersection of Kenaston Boulevard and Sterling Lyon Parkway should be modified to include three northbound left-turn lanes (120 metres storage length) and three eastbound left-turn lanes (90 metres storage length). To facilitate these intersection upgrades, the southbound right-turn cut-off lane and the westbound right-turn cut-off lane will need to be signalized to separate conflicting movements.

  Following completion of the first phase of retail development (350,000 square foot home furnishing store plus 400,000 square feet of additional retail) and prior to full build-out, a second southbound right-turn cut-off lane, a second eastbound right-turn cut-off lane, and a second westbound right-turn cut-off lane should be added to the intersection. The eastbound right-turn cut-off lane will need to be signalized (the southbound and westbound right-turn movements will have been signalized as part of the initial intersection upgrades).

- ***Kenaston Boulevard & Lowson Crescent Intersection:*** Prior to the opening of the first retail store, the intersection of Kenaston Boulevard and Lowson Crescent should be

modified to become a four-legged signalized intersection, with the access to the home furnishing store forming the fourth leg of the intersection on the west side of Kenaston Boulevard. A northbound left-turn lane (50 metres storage length) and a southbound right-turn lane should be added on Kenaston Boulevard. The eastbound approach exiting the home furnishing store should include a left-turn lane, a shared left-turn/through lane and a right-turn lane.

- ***Sterling Lyon Parkway / Wilkes Avenue & Shaftesbury Boulevard / McCreary Road Intersection:*** Prior to the opening of the first retail store, the southbound approach at the intersection of Sterling Lyon Parkway / Wilkes Avenue and Shaftesbury Boulevard / McCreary Road should be modified to consist of a left-turn lane (150 metres) and a shared through/right-turn lane. This will involve re-designation of the two existing southbound lanes and modification of the intersection geometry to properly align the approaches north and south of Sterling Lyon Parkway / Wilkes Avenue.

  Following completion of the first phase of retail development (350,000 square foot home furnishing store plus 400,000 square feet of additional retail) and prior to full build-out, a second southbound left-turn lane (100 metres) should be added to the intersection.

- ***Sterling Lyon East Access:*** Prior to the opening of the first retail store, the existing access on Sterling Lyon Parkway should be modified to become a four-legged signalized intersection, with the access to the south side development forming the fourth leg of the intersection on the south side of Sterling Lyon Parkway. It is recommended to construct the ultimate intersection configuration before opening of the first retail store.

  The westbound approach on Sterling Lyon Parkway will consist of two left-turn lanes (40 metres storage length), two through lanes and a shared through/right-turn cut-off lane, while the eastbound approach will consist of a left-turn lane (100 metres storage length), two through lanes, and a right-turn cut-off lane (30 metres storage length). The northbound approach exiting the south side development will consist of a left-turn lane (40 metres storage length), a through lane and a right-turn cut-off lane (30 metres storage length), while the southbound approach exiting the north side development will consist of two left-turn lanes (130 metres storage length), a through lane and a right-turn cut-off lane (30 metres storage length).

- ***Sterling Lyon Right-In/Right-Out:*** Following completion of the first phase of retail development (350,000 square foot home furnishing store plus 400,000 square feet of additional retail) and prior to full build-out, a right-in/right-out access to both the north side and south side developments should be constructed approximately 290 metres west of the Sterling Lyon East Access. An eastbound right-turn lane (30 metres storage length) on Sterling Lyon Parkway should be constructed and the northbound and southbound approaches exiting the development should consist of a single right-turn lane. The westbound right-turn turn lane is a continuous through lane from the Sterling Lyon Parkway East Access that will be required to turn right at the Sterling Lyon Parkway Right-In/Right-Out.

- ***Sterling Lyon West Access:*** Following completion of the first phase of retail development (350,000 square foot home furnishing store plus 400,000 square feet of additional retail) and prior to full build-out, a four-legged signalized access should be constructed approximately 250 metres west of the Sterling Lyon Parkway Right-In/Right-Out. Eastbound and westbound left-turn lanes (60 metres storage length) on Sterling Lyon Parkway should be constructed and the northbound and southbound approaches exiting the development should consist of a shared left-turn/through lane and a right-turn lane (30 metres storage length).