
A New Vision for the Old Industrial Area

Kingston, Ontario



FINAL REPORT

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TABLE OF CONTENTS

TABLE OF CONTENTS	2
EXECUTIVE SUMMARY	3
INTRODUCTION	5
Approach to Plan Development	5
DESIGN PLAN DEVELOPMENT	8
Site Analysis	8
SWOC Analysis	10
Ten Key Principles of Urban Design	11
Kingston Design Guidelines for Communities	14
Precedents	23
Train Station	23
Wellington Street Extension	24
Linear Park	26
Pedestrian-only connections	27
Built form – single family detached dwellings	28
Built form - Townhouses	29
Apartment buildings	30
DESIGN ALTERNATIVES	32
MASTER URBAN DESIGN PLAN	36
Design Brief	43
West Industrial Area	43
Wellington Street	45
John Counter Boulevard	48
Inner Residential Area	50
Montreal Street & Train Station	53
Hickson Avenue	55
Regulatory Changes	58
SUMMARY	60
POSTSCRIPT	62
Reflection on City of Kingston Design Guidelines	62
Lessons Learned	62
REFERENCES	64
APPENDIX A	66
APPENDIX B	69

EXECUTIVE SUMMARY

The purpose of this report is to present a new vision for the Old Industrial Area north of Kingston's historic downtown. Covering nearly 50 hectares, the site is primarily characterized by light industrial uses, interspersed with commercial and residential development. Until the 1970's, development on the site was focused around the CN railway station; heavy industrial buildings and nearby worker housing benefitted from the railway access. The former rail line has been abandoned and is now used as greenspace, acting as a spur of the K&P trail. Lacking economic investments, the area has seen little growth and land values are low. Accordingly, the neighbourhood has become low-income. The site is conveniently located close to both the historic downtown and Highway 401, and presents a great opportunity for new urban development.

The K&P Trail

"The K&P Trail is a multi-part trail. It has 15 km multi-use, semi-urban and rural trail extending from the Little Cataraqui Creek to Orser Road. The trail runs from the Town of Renfrew south through Calabogie and down to Dalhousie Lake, a good 30-40 kilometers of gorgeous lakes and fields"

Taken from ontariotrails.ca



Study area. Source: Google Maps

Building from core principles of urban design and with consideration of the City of Kingston Urban Design Guidelines, a new vision was created for the site. A key consideration in the development of the vision was the assumption that the proposed Wellington Street extension and third crossing of the Cataraqui River would be approved and constructed. The vision for the site was to create social, economic, and environmental prosperity while creating a vibrant new community in which to live, work, and play.

The plan development process began with both a macro- and micro-level site analysis. Precedents were researched and the site was divided into six character areas: 1) West Industrial Area; 2) Wellington Street; 3) John Counter Boulevard; 4) Inner Residential Area; 5) Montreal Street; and 6) Hickson Avenue.

Numerous design alternatives were developed for each character area, and a preferred option was chosen to reflect the vision. The master urban design plan incorporates the current industrial character of the area while creating extensive new residential and commercial spaces. Green space was maintained in the form of a new linear park, and new recreational spaces such as a soccer field and a baseball diamond have been included. Pedestrian and cyclist connectivity and circulation was emphasized throughout the site by

including numerous pedestrian paths, wide sidewalks, bike paths and cycle tracks, and streetscape elements to enhance the pedestrian realm.

Wellington Street has been designed to balance its function as an automobile thoroughfare and as a new main street for the area; it will accommodate traffic while providing a safe and pleasant environment for pedestrians and cyclists. New residential streets have been included to enhance circulation and connectivity.

While gentrification in the area is a possibility, the inclusion of 17% affordable housing and a variety of housing types and tenures should help to create a mixed income neighborhood. Critical services and key community assets were maintained including the John Howard Society and a new facility for the Bingo Hall. New opportunities for entrepreneurship are created with extensive commercial and industrial expansion. The new site plan reflects a collaborative interpretation of the vision to create a complete community.

INTRODUCTION

Located midway between Kingston's historic downtown and Highway 401, the *Old Industrial Area* is an urban transition area. Nestled adjacent to the banks of the Cataraqui River, the site is linked to major arterial and collector roads: Division Street, John Counter Boulevard, Montreal Street, and Hickson Avenue. Despite these access points, the site is currently underutilized and land value is low; its industrial history has left soil contamination and little development has occurred. However, with projects such as a third crossing of the Cataraqui River and an extension of Wellington Street anticipated in the coming years, the area is expected to face significant growth and change. With these changes in mind, this report aims to help inform an upcoming secondary plan to be undertaken by the City of Kingston. Building from core principles of urban design and the City of Kingston Urban Design Guidelines, the report outlines a vision and a master urban design plan for the site.

VISION

'To create social, economic, and environmental prosperity while creating a new and vibrant community in which to live, work, and play'

Approach to Plan Development

The direction taken in the development of the master plan was to emulate a developer seeking to maximize profit. With that in mind the plan also acknowledged the City of Kingston goal to become Canada's most sustainable city, accounting for four pillars of sustainability: cultural vitality, economic health, environmental responsibility, and social equity (Sustainable Kingston, 2010).

The master urban design plan assumes that the construction of both the Wellington Street extension and a third crossing of the Cataraqui River will occur. While these projects will be constructed to facilitate greater automobile access within and across Kingston, the plan takes steps to tame the auto-centric nature of the site; the design strikes a balance between the movement of automobiles and the movement of people. Due to its location on the fringe of the core urban area, the site is considered a transition area. Thus, the proposed design plan aims to incorporate elements of built form that reflect both urban and suburban areas.



Rendering of Third Crossing. Source: City of Kingston

The plan also considered the demographic makeup of the area, preserving or enhancing existing services and valued amenities. A particular focus was placed upon preserving local businesses that rely on cheap rent to succeed. The plan aims to maintain or increase, and diversify, the types of services that are located in the area. By improving walkability and connections to public transit, this will attract residents from adjacent neighborhoods. Finally, the master urban design plan incorporates elements of the site's heritage. An adaptive re-use of the old railway station ruins will create a new social hub for the community.

Methods

To achieve a cohesive and comprehensive plan, a variety of methods were employed at different stages throughout the plan development process. First, a site analysis was conducted to gain a better understanding of the current site context. A macro-level analysis was performed to situate the site in the broader setting of the City of Kingston. Precedents were reviewed to recognize successful approaches to similar projects and to determine if they could be replicated in Kingston. A micro-level analysis was then performed by dividing the area into subsections, or 'character areas'. Each character area was assessed for the features that made it unique, and multiple design alternatives were developed. Finally, design alternatives were evaluated and the preferred option was chosen. The preferred master urban design plan reflects core principles of urban design and strives to achieve the essence of the vision statement.

Design Team

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DESIGN PLAN DEVELOPMENT

Site Analysis

The *Old Industrial Area* in Kingston is a historically unique area characterized by former industries that were tied to the CN railway. In recent decades however, the site's industrial legacy has faded with the abandonment of the rail spur. Now, the site has been left largely vacant and scattered with a range of built forms and land uses. To better understand the site's history, features, and characteristics, four research reports were created. These reports included: history and current built form; land uses and business profile; demographic analysis; and policy analysis. A summary of the key findings from each report is presented below.



Former CN rail site

History and Current Built Form

The site has a rich industrial history. In the first half of the 20th century, the site housed substantial industry which encircled the CN railway tracks. The old rail right-of-way was routed further south than it is today, and a spur line connected to the station on-site. Additional spur lines connected to major industries such as the former tileworks. In the time since these spur lines were abandoned, vegetation has grown and they have been used as an extension of the K&P trail. Many of the former industries have moved elsewhere or discontinued operations, leaving a disconnected landscape with significant environmental contamination. Numerous light industrial uses have moved to the site, capitalizing on the cheaper land and proximity to both the highway and downtown. These include 1-2 storey buildings used for warehousing, trades, contractors, auto body shops, social services, and some associated retail shops. The K&P trail is a valued amenity in the area, providing pedestrian and cycling connectivity and public green space. Some residential space exists on the site in the form of single-family houses and apartment buildings. A strip mall at the corner of John Counter and Montreal provides the only significant commercial space on-site.

Land Uses and Business Profile

As discussed above, the area consists primarily of light industrial uses with some residential and limited commercial uses. Some notable businesses in the area include: a Bingo hall, Tim Hortons, and various industrial businesses such as Crown Collision Service and CFF Stainless Steels. There are also a number of social services in the area including the

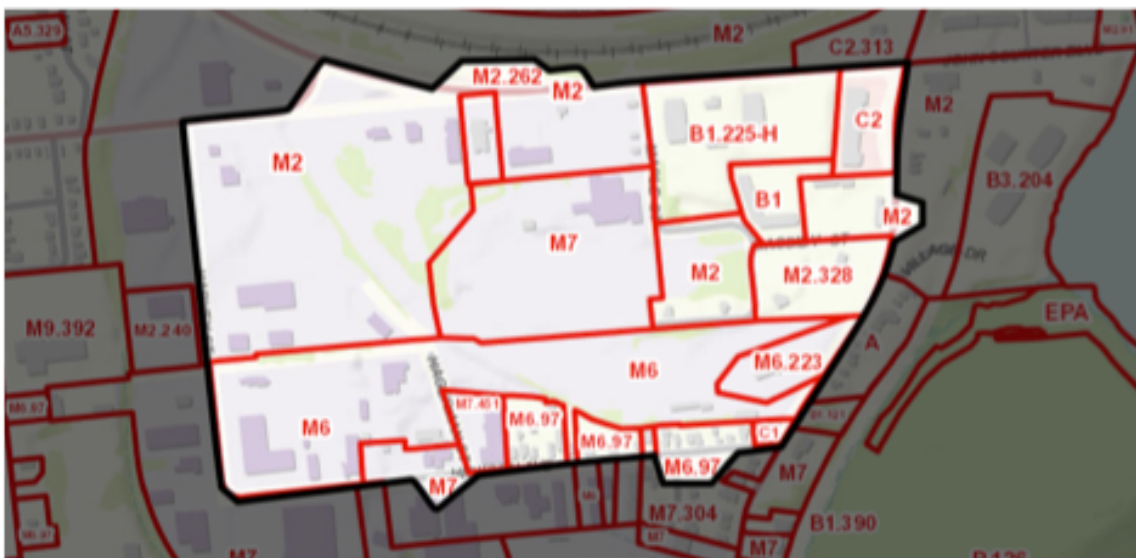
Partners in Mission Food Bank, the John Howard Society, and the Royal Canadian Legion Branch 560.

Demographic Analysis

The area is predominantly lower income, with a higher ethnic mix than in other parts of Kingston. The area has a reputation of being derelict, abandoned, unsafe and underused. There is a mix of housing tenures in the neighbourhood, including owned, rented, and subsidized. Currently the area is stable, and there is likely little development pressure for more residential space. However with the extension of Wellington Street and construction of a third crossing, the area is positioned to undergo significant change and investment.

Policy Analysis

The majority of the site is currently zoned and designated for industrial uses. The northeastern portion has residential and commercial uses permitted. Other important policy includes the Community Improvement Plan (CIP) which will subsidize a significant portion of the cost for soil remediation. This is critical in the implementation of the master urban design plan due to the inclusion of more sensitive land uses (i.e. residential). The Wellington Street Extension Environmental Assessment outlines the proposed location, type, and justification for the road. The proposed right-of-way from this document was incorporated into the final design plan, with some modifications. Official plan policies for the site include standard regulations and there is little long term vision for the site. The master urban design plan presented in this report will inform the upcoming secondary plan and help in developing a comprehensive vision for the site.



Site zoning overview. Source: City of Kingston

SWOC Analysis

A SWOC analysis is a broad analysis that considers social, cultural, geographical, environmental, economic, and many other components of a site. Preliminary identification of strengths, weaknesses, opportunities, and challenges helps guide and inform the design process. Table 1 contains details of the SWOC analysis performed for the site.

Table 1: SWOC analysis

S TRENGTHS	<ul style="list-style-type: none">▪ Heritage character buildings▪ Open space▪ John Howard Society▪ Bingo hall▪ Existing stormwater retention area/marsh▪ Unique form and green space of the K&P Trail▪ Viable industrial activity▪ Public transit access▪ Large lots▪ Proximity to Tim Hortons
W EAKNESSES	<ul style="list-style-type: none">▪ Social stigma (low-income)▪ Lack of connectivity▪ Contrasting built forms and uses▪ Low density▪ Low property value▪ Soil contamination▪ Commercial vacancy▪ Oversupply of surface parking▪ Poor pedestrian environment▪ Low perception of safety▪ Proximity to railway
O PPORTUNITIES	<ul style="list-style-type: none">▪ Train station▪ Proximity to 401▪ Proximity to downtown▪ Proximity to third crossing▪ Wellington St. extension (increased traffic)▪ Low property value▪ Availability of space▪ Demand for services
C HALLENGES	<ul style="list-style-type: none">▪ Car-dominance▪ Uncertainty over Wellington & third crossing▪ Community opposition▪ Difficulty (expense) of providing structured vs surface parking▪ Balancing automobile movement with pedestrian-friendly environment▪ Economic conditions (market demand)

Ten Key Principles of Urban Design

The ten key urban design principles, as suggested by von Hausen (2013, pg. 85-89), were incorporated into the design process. These principles provided a framework for the development and set the theoretical foundation of the site.

1. Context determines site form

There are three levels of context that needed to be considered for the development. Starting with the regional context, the team planned for land uses that would be appropriate for a medium-sized city such as Kingston. The design plan included six-storey residential buildings, mixed-use buildings along major arterial roads, and opportunity for light industrial land uses. Integrating the site plan in the community context led to physical elements of medium density supporting the overall residential patterns in the community. The local context of the site determined services being provided on the site. These services were tailored to fulfill needs identified by the community. Examples include: social service providers, health care facilities, and recreational space.

2. Design should save and celebrate the place

The essence of a place is collectively comprised of physical and psychological elements that influence urban design. The team carefully evaluated unique features valued by the community and incorporated them into the design process. Notably, the K&P Trail is a cherished feature of the site and was maintained in a manner that optimized its use by the community. The design plan preserves the light industrial zone currently on the site to support local entrepreneurship.

3. Design recognizes natural features as critical form-makers

As mentioned previously, the K&P trail spur is a highly valuable social and ecological feature of the site. A portion of the trail will be preserved and shaped into a future community gathering space. The team has carefully created a design plan that preserves community character while providing infrastructure and services for future growth.

4. Design needs to fit the scale and location

A site design should be of an appropriate scale for the location. This site was identified as a transition area between suburban and urban parts of the city. As such, a mix of both suburban and urban design influences were necessary to reflect the site's unique nature. Features such as mid-rise residential buildings, mixed-use commercial and residential buildings, and the construction of a new Wellington St. corridor all reflect elements of an urban fabric. By

contrast, features such as single family detached homes, recreational and green space, and quiet residential streets reflect elements of a quiet suburban neighbourhood.

5. Movement systems should move people, not cars

The design plan carefully considered movement of pedestrians, cyclists, automobiles, transit, and vehicles for the movement of goods. Pedestrian safety was prioritized through multiple measures including: wide sidewalks, calm neighborhood streets, pedestrian pathway connections, and separation of pedestrians and automobiles. Further, the design incorporated the concept of public surveillance and 'eyes on the street' by maximizing building orientation towards the street.

The design plan calls for an integrated network of cycling facilities to ease access within the site and to provide seamless connections to the greater Kingston cycling network. The new street network channels goods movement and industrial traffic away from the neighbourhood, connecting directly to Division St. and John Counter Blvd.

While the design plan prioritizes non-motorized forms of transport within the site, it is acknowledged that private automobiles are prevalent and must still be accommodated. As such, appropriate access was provided for private vehicles within and across the site. Notably, Wellington St. was designed to balance both local access and the through-movement of traffic. Wellington will have a 'main street' feel which includes a minimum road width and on-street parking.

6. Multiple, flex, and mixed uses are keystones to sustainability

Sustainability in urban design incorporates a balance of jobs and housing to encourage a place where individuals can truly live, work, and play. Recreational facilities and services should be provided within walking distance. Further, building and open space design should integrate flexibility for effective response to future market or demographic changes. The design plan allows for multiple commercial activities in a close proximity to residential spaces. The new street network enables pedestrian and cycling access within and across the site. Housing along Montreal St. can be changed from low to medium density if warranted by future demand. Light-industrial uses can also be intensified or commercial uses may be added in the future.

7. Diversity needs to be planned for

Projects should be designed for diverse populations that are changing and evolving. The design plan provides for a variety of housing types and tenures and a comprehensive range

of services. Housing types include: single detached, townhouses, apartments, rental and owned properties. Services include recreational facilities, health, and social services.

8. Public realm should be incorporated as a central component

Outdoor space can be a vital amenity that ties the community together, acting as a catalyst for mutual trust and social relationships within a neighbourhood. The project aims to maintain a portion of the K&P trail to facilitate community ties. Additionally, a social hub will be created using quasi-public space in the restored train station. This restored heritage building will provide a place where community members can gather for recreational purposes and to socialize.

9. Urban form should be compact and safe

Sustainable design interventions must balance efficient land use with preservation of valuable ecological elements. This design principle encourages cluster developments, where more compact, pedestrian-oriented communities form with multiple housing types. Cluster developments are desirable as they create a better sense of ownership and visual surveillance, also known as Crime Prevention Through Environmental Design (CPTED) (von Hausen, 2013). Multiple design elements in our project work collectively to encourage CPTED. Residential properties in the inner residential area are oriented to face towards the park to encourage eyes on the street. Similarly, all housing is designed with car garages towards the back of the lot to encourage a stronger connection between houses and the street. A new street grid pattern with pedestrian and cycling connections also reflects CPTED principles.

10. Community building is an integral part of the urban design process

People are the core of any community; they come together to create vibrant and dynamic spaces. Communities are developed by formal and informal partnerships, stewardship programs, and community gatherings. While community participation in the design process was not possible in this case, we focused on providing new community spaces to gather and connect. Elements encouraging social interactions can be observed in the K&P Trail, the restored train station, growth of new commercial hubs on major roads, and the preservation of local businesses on the site.

Kingston Design Guidelines for Communities

Application of the Kingston Design Guidelines for Communities

The proposed plan takes significant guidance from the Kingston Design Guidelines for Communities. Its seven principles can be found throughout the plan. The following is a section-by-section analysis showing how principles from the guidelines were applied to the master urban design plan.

Section 2 – Guiding Principles

- | | |
|----|-------------------------------------|
| 1. | Attractive communities |
| 2. | Compact, walkable, mixed-use |
| 3. | Variety of housing |
| 4. | Access/visibility to open spaces |
| 5. | Natural heritage open space systems |
| 6. | Active transportation |
| 7. | Cultural heritage |

Section 3 - The Natural Environment, Parks and Open Space

3.1 Environmentally Sensitive Areas and Natural Hazards

c. Design new communities with strong visual and, where appropriate, physical links to open spaces and natural areas.

Banana Park has been designed with consideration for strong visual links to the community. It is located on lower ground as compared to the surrounding community, allowing for views down onto the space. The park is framed by roads allowing for clear sightlines throughout. An important consideration was allowing for a vista from the old train station. The station is intended to be a community hub, complete with a café and a patio overlooking the park.

The existing park on the property of the existing residential apartments building would have view corridors and park space extending to both Montreal Rd. and Cassidy St.

e. Connect communities to adjacent natural areas, where appropriate.

Access to the natural areas within Banana Park and the existing park was paramount in the design considerations. This has been done through the previously mentioned road framing that has been planned. Additionally, a pedestrian only connections lead from the Banana Park to the Wellington corridor. On the other side of the park, a pedestrian crosswalk and path connects Banana Park with Belle Park, a significant local natural area.

f. Explore opportunities to develop appropriately designed higher density buildings near natural areas.

The design plan proposes higher density stacked townhouses around Banana Park.

3.2 Stormwater Management

a. Maintain natural drainage networks and preserve environmentally sensitive areas.

Banana Park is located in the lowest lying area of the site. Naturalized areas will feature in certain drainage sites, including the existing marsh that will be left as a stormwater retention pond.

b. Integrate stormwater management facilities as community features

The above mentioned stormwater management facilities will double as recreational park space.

3.3 Open Space

a. Create a linked network of open spaces

The design plan links the new linear park feature with the existing park north of Cassidy and with the Belle Park area.

e. Provide significant open frontage on public roads for all parks and open space.

Refer to 3.1 c and e.

f. Provide shade in resting areas, gathering spots and recreational areas, as well as along routes for active transportation.

All new and existing transportation corridors will include street trees. The new park will also include a significant area of trees.

3.4 Parks

b. Configure parkland to support the diverse amenity needs of the community

Both park areas contain a diversity of uses including areas for active recreation, passive use, and naturalized habitat.

d. Preserve and integrate, where appropriate, natural features such as woodlands and watercourses adjacent to parks

Natural features situated along the current K&P trail will be preserved, including the existing marsh.

e. Locate parks along major streets.

Both Banana Park and the existing park will connect to Montreal Street.

g. Design parks to provide a social focus

The location of the community center and café across from Banana Park will enable the park to be a place of social interaction. Another socially focused park area will be placed at the park entrance of the pedestrian only path from Wellington St.

k. Locate parks so they can be open to a minimum of two sides of the public street

Refer to 3.1 c and e.

3.5 Multi-use Pathways

c. Link paths to destinations

Pedestrian pathways will link between the Wellington Street corridor and other areas: two will link to the inner residential area, and one to the industrial area. Additional pedestrian paths link Banana Park to John Counter and Montreal.

g. Include adequate pathway amenities

All pathways within the design include benches, lighting and trash receptacles.

Section 4 - Community Design

4.1 Community Structure

c. Create a neighbourhood that is walkable from centre to edge.

Enabling pedestrian connection was a focus in all of our character areas. Sidewalks feature on all of our streets and pedestrian only connections and pathway amenities enhance walkability.

g. Use single-loaded streets to face the perimeter of and other public open spaces.

Refer to 3.1 c and e.

4.2 Block and Street Network Design

a. Create well-connected blocks and streets

The fused grid pattern of the street network with block sizes comparable to traditional neighbourhoods creates a highly connected street network. McKenna Ave. is extended to Montreal, and Hickson is extended to Division. These additional connections increase connectivity to the greater Kingston street network.

c. Base streets on a grid or modified grid pattern

The inner residential area exhibits a fused-grid street pattern.

e. Provide pedestrian connections at the end of streets or cul-de-sacs

Pedestrian connections have been provided at each of the three proposed dead-end streets.

f. Assign adequate space for the dedication of future roadway and pathway connections

Pedestrian connections at proposed dead-end streets will include an right-of-way to accommodate future roadway connections.

m. Orient buildings to face the road.

All new buildings are orientated to face the road.

4.3 Lot Sizes and Variety

d. Increase residential density for lots adjacent to appropriate locations

Properties facing park space will have stacked townhouses to increase density and maximize value from park views. Mid-rise apartment buildings are proposed along John Counter to take advantage of excellent road access.

e. Establish buildings with a compact built form

Single family dwellings have lot sizes which mirror the lot size of traditional neighbourhoods in Kingston. Significant infill development is proposed for the site. Higher density residential buildings and the buildings along Wellington exhibit a relatively low ratio of open to built space, fostering a compactly built community.

f. Provide a diversity of housing options

The design plan provides for a diversity of housing types and tenures. Single family dwellings, stacked townhouses, and mid-rise apartment buildings are proposed. 17% of these units will be affordable housing options, while the remaining units will be available at market rates.

4.5 Community Facilities and Non-Residential Uses

a. Incorporate community facilities as focal points

The old train station will become a community hub. Community services and public space will be created alongside park and café space with the aim of creating a vibrant public space hub.

d. Create opportunities for neighbourhood commercial and mixed use buildings

Montreal Street features several mixed use buildings. The area around Banana Park will be a particular focus for neighbourhood commercial activity with a relatively low amount of vehicular traffic and extensive pedestrian connectivity to the residential community. Opportunities include the train station and the building on the southwest side of the Cassidy/Montreal intersection.

h. Provide appropriate pedestrian-oriented lighting and clear views

All streets and pedestrian connections will include pedestrian-oriented lighting. The pedestrian only connections that extend to the Wellington St. corridor maintain the right of way width of the local street network allowing for safety through clear view lines.

Section 5 - Streets

5.1 General Form

b. Provide a streetscape design that best meets a high standard of functional and aesthetic considerations

Streets were designed to be aesthetically pleasing and to facilitate walking, biking, and car movement. Design elements include bump outs, street lighting, street trees, and differentiated paving materials at crossings.

c. Accommodate active transportation

In addition to the elements mentioned above, the proposed plan includes cycle tracks along Wellington St. to enable safer cycling. A fused grid system with intersections at approximately 90 meters facilitates walking. A path connection is also provided between the site and Belle Park.

5.2 Collector Roads

a. Design Collector Roads to reflect their role as community connectors and pedestrian destinations

The Wellington Street Corridor was designed with limited street connections to facilitate traffic flow. Additional pedestrian connections enhance pedestrian connectivity, linking the inner community to destinations along Wellington.

b. Permit on-street parking on both sides of collector roads

On-street parking has been designed on both sides of Wellington in off-peak periods, and on one side of each new residential street.

c. Place sidewalks on both sides of the street

Sidewalks are included on both side of all streets, except for John Counter. There are no destinations along the north side of John Counter, so a sidewalk is only necessary on the south side.

g. Reduce the number of curb cuts along the street.

Most of the blocks along Wellington, John Counter, and Montreal share one parking lot limiting curb cuts along these streets. Additionally, most entrance points are situated on local streets.

5.3 Local Roads

a. Design local roads to reflect their role as community streets and social gathering places.

To enable local roads to act as social gathering spaces the proposed plan calms traffic, creates intimate pedestrian scaled streetscapes, and create places for socialization. Traffic is calmed through bump outs and on-street parking. Street trees, small setbacks and lighting create pedestrian scale streetscapes. Porch areas and bump outs with street furniture provide places to linger and socialize.

b. Design local roads with a narrow pavement width to reduce traffic speeds. Ensure a sufficient width of asphalt for two traffic lanes and on on-street parking lane.

Local roads were designed using the recommended widths.

c. Place sidewalks on both sides of the street

Sidewalks have been placed on both sides of the street on all local roads.

e. Consider bicycle movement a normal part of local road traffic movement.

Streets are intended for car and bicycle traffic to share the same space.

f. Use pavement widths that are cycling-friendly

See b.

5.5 Driveways

a. Minimize curb cuts along the street

Shared driveways were designed for single family housing that limit curb cuts along the street.

b. Design driveway widths and driveway curb cuts to be no wider than the width of the garage.

Driveways are designed at garage width.

5.7 Traffic Calming

a. Streets in new communities should be designed so that traffic calming elements are built into the design of the roads.

See 5.3 a.

c. Install curb extensions at intersections

Curb extensions have been planned for intersections in the inner residential neighbourhood.

f. Use shortened block lengths

Block lengths are approximately 90 metres, shorter than the recommendation found in the guidelines.

5.8 Crosswalks

b. Clearly designate crosswalks for safety

Crosswalks will use brick to clearly delineate the crosswalk area.

5.9 Street Trees

- a. Plant street trees at regular intervals

Street trees have been planted at regular intervals on streets.

Section – 6 Parking

6.1 On-Street Parking

- a. Provide on-street parking wherever possible

On-street parking has been provided on all streets except John Counter.

- b. Integrate parallel on-street parking

All on-street parking is parallel.

6.3 Surface Parking

- a. Design parking areas to reduce their visibility.

Parking areas are behind buildings to reduce their visibility.

- d. Minimize the total amount of parking

Shared block parking or multi-building parking was used exclusively within the plan.

Precedents

Train Station

The Cheshire Cat Pub – Carp, ON

Located in Carp, Ontario (a rural community located in the northwestern portion of the City of Ottawa), The Cheshire Cat is a tremendously popular pub that operates out of a restored limestone schoolhouse that dates from 1820 (Eade, 2013).

Though it is located in a rural part of Ottawa with no homes in its immediate vicinity, the pub attracts many visitors, some of whom stop by on their way home from work for a drink and socializing. The pub gives off a cozy, authentically British feel, and also features a small outdoor terrace. In addition to its general popularity, the pub increases its liveliness by hosting local musicians and craft brewers. (Cheshire Cat Pub, n.d.)

Roughly 3 years ago, the Cheshire Cat Pub was devastated by a large fire, but restoration efforts were successful enough for the restaurant to remain in its current location. The building also features a more modern extension that increases its floor space.



Photos of the Cheshire Cat Pub (ThirstyBeachlover, 2015)

Implications for the new development plan

We determined that the best way to maximize the value of the train station is to expand it and repurpose it into a café. This café would become a meeting place for both residents of the area as well as tourists and other Kingston residents who will be attracted to its unique character. As such, it will be one of the major centres of activity in the redeveloped Swamp Ward District.

Wellington Street Extension

Bank Street – Ottawa, ON

Bank Street is a major north-south thoroughfare in the City of Ottawa. It stretches from downtown to the southern rural areas at the edge of the City, passing through numerous neighbourhoods and changing character multiple times. However, the most appropriate section of Bank that the Wellington Street extension could try to replicate is around the Glebe area; particularly between the Rideau River and the Rideau Canal. At this height of Bank, numerous little shops and restaurants line the street, which is composed of four lanes – two lanes going each way. During off-peak hours, the outer lanes become on-street parking, allowing visitors to easily access the businesses by automobile. Buildings are one or two stories high.

Implications for the new development plan

Our group sees a great opportunity in turning this portion of the Wellington Street extension into a commercial area that will draw people into the redeveloped district. While the retail market in Kingston does not appear to be especially promising, there will still be a demand for various services to cater to the local population. With this in mind, we hope to turn this section of Wellington into a well-travelled street with an abundance of car, foot, and cycling traffic. The amenities located on the ground floors of buildings along Wellington Street will cater to both the local population and outside visitors, and residential space on the second floors of most of these buildings will contribute to the mixed-use character of the new street.



Photo of Bank Street in the Glebe (Unknown, 2015)

Rijnstraat - Amsterdam, Netherlands

Rijnstraat is a two-lane street in Amsterdam that includes parallel parking on both sides of the street and a streetcar running down the middle. It also features building heights that are somewhat higher than what would be appropriate for Wellington Street. However, an interesting feature of Rijnstraat is the segregated bicycle lanes running along each side of the thoroughfare. The bicycle lanes are at the sidewalk level, yet painted a different color in order to differentiate the lanes from pedestrian spaces. By being at a sidewalk level and separated from the street by parked cars, cyclists can feel safe, while pedestrians still have ample space to walk around.

Implications for the new development

The Wellington Street extension will feature clearly marked bicycle lanes that run at the sidewalk level. This way, cyclists will have the opportunity to ride in peace without having to worry about parked cars or heavy traffic.



Google Street View image of Rijnstraat, Amsterdam, Netherlands (Google Maps, 2015).

Linear Park

William Hancox Avenue – Toronto, ON

William Hancox Avenue is a small residential road located in the Danforth area of Toronto. On one side of the road are three-story townhouses with small setbacks from the right-of-way. Across the avenue is a park with a sidewalk that runs along the road, right at the edge of the park.

Implications for the new development plan

The street on which the train station is located will also feature some similar townhouses. A major feature of the redevelopment, an east-west linear park will be located across the street from the train station and townhouses. A sidewalk similar to the one along William Hancox Avenue will be installed in order to improve pedestrian connectivity along and through the park.



Photo of William Hancox Avenue (Urban Strategies, 2015).

Pedestrian-only connections

Arbutus Walk, Vancouver

Located in the Arbutus Walk neighbourhood of Vancouver, the active transportation pathway featured below provides an abundance of tree cover and greenspace along its edges, yet still manages to accomplish CPTED principles by ensuring eyes on the pathway from adjoining buildings and including pathway lighting.

Implications for the new development plan

The newly redeveloped district will feature a number of new pedestrian paths that are meant to enhance the connectivity within the site. Some of these connections, such as the pathway linking the new Wellington Street to Harvey Street, will be designed with a wide right-of-way to allow for future road conversion if necessary.



Photo of a pedestrian pathway in Arbutus Walk, Vancouver, BC (Urban Strategies, 2015)

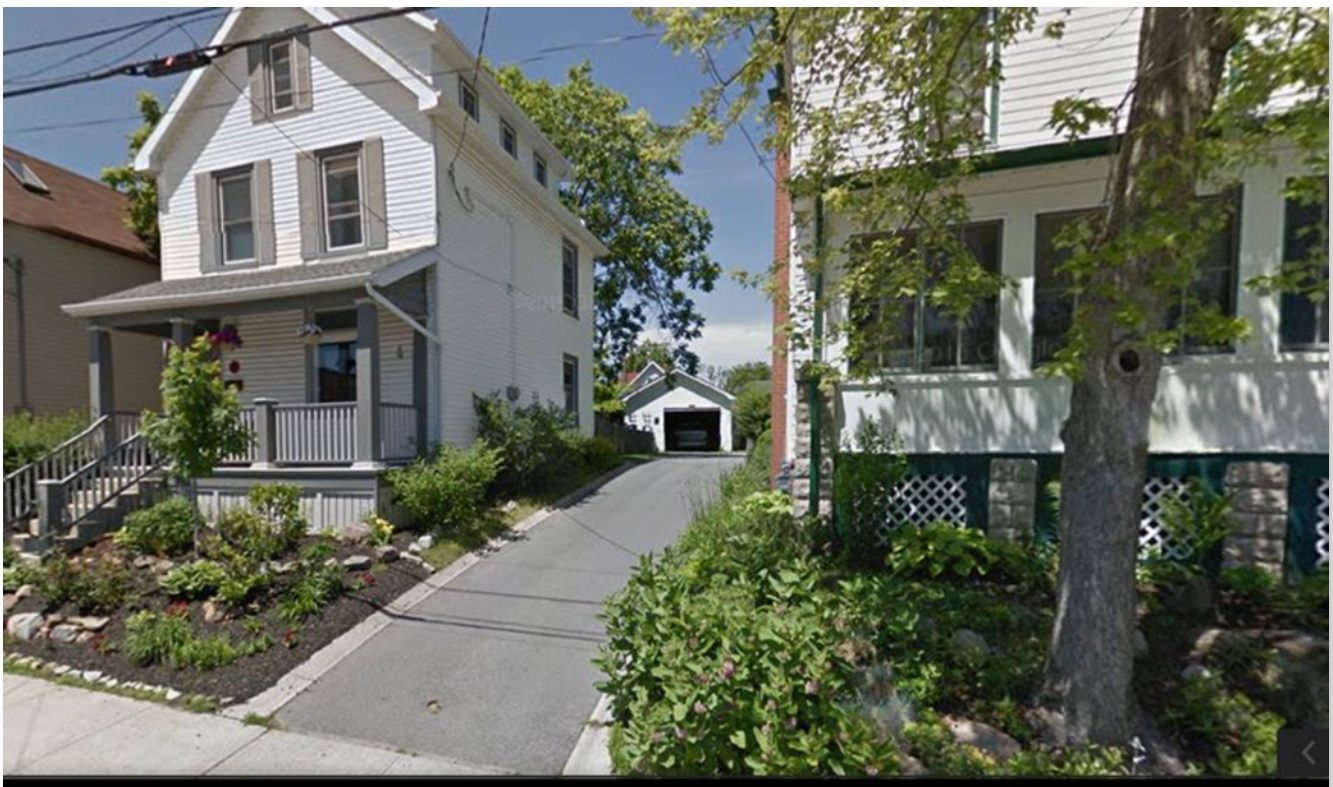
Built form – single family detached dwellings

Single family detached homes along Quebec Street – Kingston, ON

Traditional single family detached homes along Quebec Street in Kingston feature a number of attractive design considerations. For instance, front yard setbacks are relatively small at only about 5 metres. Most homes feature small porches looking out onto the street; the porches and short setbacks make for an abundance of “eyes on the street” and encourage street activity. Homes along the street also feature shared driveways that connect to garages and sheds behind the houses, hidden away from the street.

Implications for the new development

New single family detached homes in the redevelopment will incorporate many features that enhance neighbourhood interaction and safety, such as short setbacks, front porches, and locating garages and parking behind the homes.



Google Street View image of single family detached homes along Quebec Street in Kingston, ON
(Google Maps, 2015)

Built form - Townhouses

Springfield Towns - Ottawa, ON

Located in the Lindenlea neighbourhood of Ottawa, Springfield Towns are modern townhomes that take into consideration traditional massing and materials that are found in adjoining properties. Springfield Towns also feature front porches, which encourage and enhance street activity and security. Garages and driveways are located at the back, away from the street. These townhomes value environmental sustainability and are LEED Gold certified (Modbox, n.d.).

Implications for the new development

Townhouses in the redevelopment will be modern and sustainable, yet sensitive in massing, height, and materials to the surrounding neighbourhood character. Small front yard setbacks and garages along a laneway at the rear will strive to enhance activity along the street. Moreover, townhouses in the redevelopment will strive to achieve a LEED certification.



Springfield Towns, by Modbox, in Lindenlea, Ottawa (Modbox, n.d.).

Apartment buildings

Sail by Adera - University of British Columbia (UBC), Vancouver

Located at UBC, Sail is a six-story, 117-unit development that includes many environmentally and economically sustainable features such as sophisticated wastewater heat recovery system. This is a wood-frame building, which significantly reduces costs, enhances noise efficiency, and produces a smaller environmental footprint (Colenbrander, 2013). A six-storey complex, Sail still has the capacity to maintain a human scale on the site (Gehl, 2010).



Sail exterior photo (Grohne, n.d.)

Implications for the new development

New apartment buildings in the redeveloped lands will seek to achieve a maximum height of six storeys. This is the highest number of stories permitted for wood frame structures, which produce numerous economic and environmental benefits. At six storeys, these buildings should still maintain a human scale that will enhance street activity.

Berkshire Terminus - Atlanta, GA

Berkshire Terminus is a multi-building residential complex that features five-storey wood frame residential buildings constructed on top of concrete podiums that house three levels of parking. The wood framing allowed the project's developers to achieve a more reasonable budget. Balconies look out onto the street, and as the parking appears to be located underground, a human scale is also achieved with this new development (reThink Wood, 2015).



Implications for the new development

Apartment buildings will feature wood frame structures. While the presence of limestone in Kingston and relatively stagnant market demand in Kingston may not be able to justify the

construction of underground parking, new apartment buildings will take the location of parking into consideration in order to enhance street-level activity and achieve a desirable human scale.

DESIGN ALTERNATIVES

Industrial Area

The subject site has a long history of industrial use. Known colloquially as the *Old Industrial Area*, the site currently houses a broad range of both light and heavy industrial uses. This includes: a large proportion of construction and trade related businesses (plumbers, electricians, welders, roofers, etc.); auto service/repair; community and social services; and manufacturing/fabricating businesses (steel, machinery).

In discussing development alternatives, it was recognized that industrial land, light industrial in particular, is an important aspect of any city. Appropriate land must be available for light construction, contractor, trades, small warehousing, and auto service and repair businesses. Further, these types of businesses benefit from locating in accessible areas of the city, especially when in close proximity to downtown. As such, it was determined much of the existing industrial area should remain - in particular, the area west of the new Wellington St.

Wellington Street

The existence of a new corridor to accommodate the Wellington St. extension was a key assumption in the development of this design plan. Incorporating the recommended alignment from the 2006 environmental assessment (Morrison Hershfield, 2006), Wellington St. was designed as a new mid-block arterial bisecting the subject site.

According to the EA, the primary justification for the construction of the Wellington St. extension is to accommodate long-term north-south travel demand. With additional consideration for the 3rd crossing of the Cataraqui River (planned to connect to John Counter Blvd.), the Wellington St. corridor must clearly be able to accommodate through traffic. In support of our design vision, however, the corridor must also act as a new hub of commercial activity that is easily accessible by pedestrians and cyclists.

The key design consideration for Wellington St. was a balance of both vehicle and pedestrian/cyclist movement and access. Key factors included:

- Number of vehicle travel lanes (2 or 4);
- Presence, width, type of median;
- Presence, type of on-street parking;
- Type and location of cycling facilities (on-street, buffered lanes, cycle track);
- Presence, type, location of boulevard (vegetated or non-vegetated, width); and
- Location, type of sidewalks (standard ~2.0m, wide ~3.0m or more).

Several options were also considered for built form, including:

- Building form (big box vs. main street commercial);
- Building height (low, medium, high-rise); and
- Building setback (medium/large – parking in front, small/none – parking behind).

John Counter Boulevard

This corridor is currently treated as a traffic through-route and access road; buildings generally do not front on the road, and those that do have massive setbacks. Due to the introduction of Wellington St. as a major new arterial connecting through John Counter to the third crossing bridge, this section of John Counter will experience a great increase in vehicle access. This increased traffic will bring both benefits and drawbacks.

Firstly, the road will need to be widened to four lanes to accommodate increased traffic. This can be viewed as both a benefit and a drawback. While catering to car-culture is not ideal, it is a reality that must be faced and accommodated in many areas. Road widening does present opportunities, however, to improve pedestrian and cycling infrastructure. Considerations for the right-of-way include:

- Width and location of sidewalks;
- Providing connections to pathways into the neighbourhood; and
- Type of cycling facilities (improve existing on-street lanes, cycle track).

Secondly, this section of John Counter will experience improved vehicle access. Accordingly, adjacent land will become more valuable and will benefit from development. Acknowledging that two large apartment buildings exist along this section already, similar large format residential buildings could be appropriate along the rest of the roadway. Large format commercial buildings were also considered, however it was determined that the traffic draw may overwhelm the capacity of John Counter to act as a limited-access through-route for traffic.

Montreal Street

Due to the introduction of Wellington St. as a new major north-south route, Montreal St. will not be expected to accommodate increased traffic. Instead, our design envisioned a calmer, more residential corridor. As such, the right-of-way need not be altered. Sufficient space exists to maintain two vehicle travel lanes while incorporating cycling facilities and wide sidewalks. Considerations for this corridor included:

- Width of sidewalks (standard ~2.0m, wide ~3.0m or more); and
- Type of cycling facilities (improve existing on-street lanes, cycle track).

To complement existing built form on the east side of the street (and both sides north of the site), our initial design included single family detached housing along the west side between the train station and Cassidy St. Other options included mixed-use commercial/residential (similar to Wellington), townhouses, and affordable grow homes (see Box 1).

Box 1 - Grow Homes

The Grow Home concept was developed by Avi Friedman and Witold Rybczynski at McGill University in 1990. The purpose was to create a home that could be built to be affordable to low- and middle-income households.

A Grow Home begins as a narrow, three-storey townhouse with a floor plan of about 500 square feet. The first floor comes finished with a kitchen, bathroom, and living space, while 1 or more of the upper floors are unfinished. Due to the open-concept floor plan, interior spaces can be modified to serve multiple functions, supporting a range of occupancy over time. Homeowners can complete the unfinished spaces as their need for space increases or as their financial condition improves.

Grow Homes are affordable due to their design and modular construction. External financing or partnerships are generally not required to supplement the cost of purchasing a grow home; cost savings of at least 30 percent can be achieved as compared to conventional single-family homes.

Canada Mortgage and Housing Corporation
(2016)



CMHC, 2016



Rybczynski, 2012

Inner Residential Area

For this area it was important to keep in mind the site context. We envisioned the site as a transition zone between existing urban and suburban/rural development. Therefore the inner residential area needed to reflect aspects of each while ensuring a smooth transition. At the same time, we wanted to create a new, distinct neighbourhood.

In an early concept we considered creating a commercial hub in the centre of this area. Similar to a New Urbanist development this hub may have included a central square/park, and commercial/mixed-use buildings. However, due to the layout of existing arterial roads (Montreal, John Counter) and the inclusion of a new corridor for Wellington St., we determined that a commercial hub would be better suited along the neighbourhood edge.

A new street grid was integral in creating a new inner residential neighbourhood; existing roads do not provide adequate connectivity within or across the site. Cassidy St. is extended across the site, connecting with Wellington St. Using this as a new primary collector road, parallel local streets are within a 70-100m block. The southern parallel fronts directly on a portion of the existing greenspace. This space is preserved as a linear park, connecting the site eastward across Montreal St. to Belle Park.

When considering housing types we acknowledged that existing residents in the area tend to be lower income compared to residents in other parts of Kingston. To ensure that these residents could be accommodated after redevelopment, it was important to include a wide range of housing types and a mix of both owned and rental housing. As such, we considered including: single family detached houses, stacked townhouses, apartments buildings, and affordable “grow homes”. Key considerations for all housing types included setbacks and vehicle access. Different setbacks were considered for: their ability to frame the street (aesthetic); contribution to CPTED principles (eyes on the street); and ability to accommodate front porches (allowing for soft edge with social interaction). Important considerations for vehicle access included: single vs. shared driveways, rear lanes, townhouse parking lots, and amount of parking allotted for apartment buildings.

Hickson & McKenna Avenue Residential Area

Much of this area already consists of single family detached homes. We viewed this area as the beginning of a neighbourhood, something to build upon. Thus, only minor changes were considered. Firstly, we sought opportunities to upgrade the existing right-of-way on Hickson Avenue to be more pedestrian friendly. Similar to other areas of the site, this included considerations such as:

- Width and location of sidewalks;
- Providing connections to pathways within the neighbourhood and across Montreal St. to Belle Park; and
- Adding cycling facilities.

Existing light industrial uses along the south side of Hickson Avenue (between McKenna and the future Wellington St.) were viewed as inappropriate. To complement existing single family detached housing on the north side (and along McKenna), additional single family housing was considered as a replacement.

For Idea Gallery, see Appendix A