



VILLAGE OF KLEINBURG

ISLINGTON AVENUE STREETSCAPE MASTER PLAN STUDY

Final Draft Report - June 2011



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1. INTRODUCTION

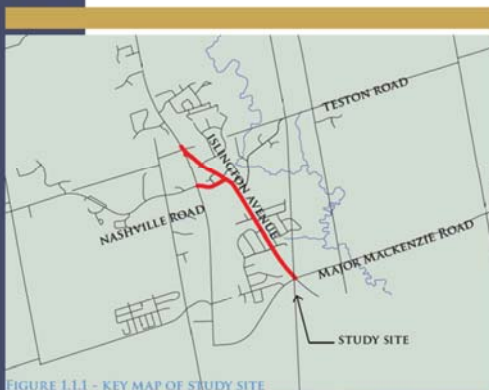
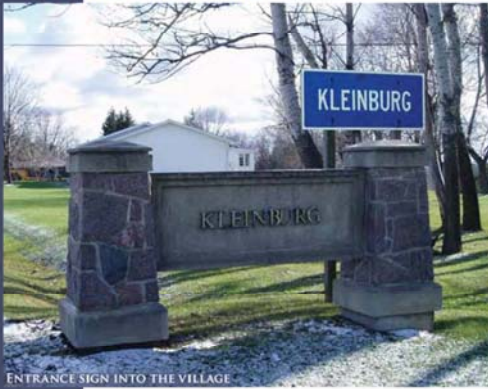


FIGURE 1.1.1 - KEY MAP OF STUDY SITE



ENTRANCE SIGN INTO THE VILLAGE

1.1 STUDY SITE AND SCOPE

The proposed Islington Avenue Streetscape Master Plan Study is located within the Village of Kleinburg. The study area is approximately 2.5 km in length and extends along Islington Avenue, in the public Right-of-Way, from Major Mackenzie Drive, north to Regional Road 27, and also along Nashville Road from Regional Road 27 to Islington Avenue (Refer to Figure 1.1.1 beside). Islington Avenue is a significant route as it serves as the main entrance to the Village of Kleinburg and expands through the Village core.

The Islington Avenue Streetscape Study was commissioned to address the streetscape and urban design objectives of the Kleinburg-Nashville Community Plan OPA 601. This amendment contains multiple policies and references related to the need for a comprehensive streetscape study.

" [T]he achievement of the vision of this Islington Avenue corridor requires a modification to the streetscape image and function of this corridor in the Village of Kleinburg, from primarily vehicle oriented route to a multi-purpose urban street with pedestrian-scale elements in the public realm."

- Terms of Reference, RFP07-297

1.2 APPROACH

The Islington Streetscape Master Plan study adopts a comprehensive and integrated approach toward the design of public space. This streetscape study is a coordinated effort that combines the recommendations of the public opinion with existing and potential site conditions. It is based on the conviction that urban spaces play an important role in the strengthening of community's social and economic life. The general approach to the Islington Streetscape Master Plan Study is as follows:

- Perform a comprehensive inventory and analysis of the study site, including contextual investigations and base information verification;
- Analyze background streetscape policies outlined in the Kleinburg-Nashville Community Plan OPA 601, Kleinburg-Nashville Heritage Conservation Plan, and additional relevant policy documents;
- Collect and analyze public opinion through public meetings, Stakeholder Consultation Groups (SCG), and public surveying; and
- Formulate conceptual and detailed designs based on this analysis.

This study will identify issues and formulate a plan that will provide the Village of Kleinburg with a unified and active public streetscape.



1.3 STUDY GOALS AND OBJECTIVES

It is the purpose and scope of this study to prepare a conceptual master plan and detailed schematic designs to support the Kleinburg-Nashville Community Plan.

OPA No. 601- Kleinburg-Nashville Community Plan contains multiple policies and references related to the need for a comprehensive streetscape study for Islington Avenue in the Village of Kleinburg. Specifically, Section 4.7.6.3 Islington Avenue states:

In recognition of Islington Avenue as the primary entrance into Kleinburg and its importance as a public amenity area, a comprehensive streetscape design shall be developed for the public right-of-way along Islington Avenue and the McMichael Gallery, that incorporates the following features:

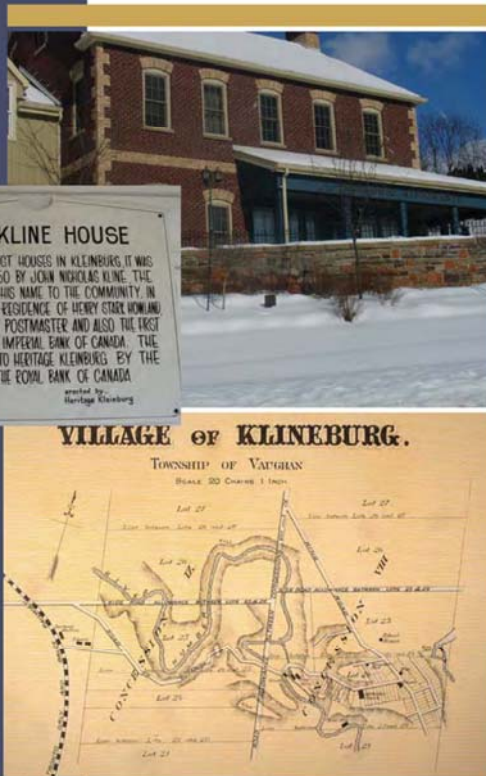
- Traffic calming measures with particular attention at the intersection of Islington Avenue and Bindertwine Boulevard;
- A consistent landscaping treatment that effectively screens the rear yards of existing residential properties backing onto Islington Avenue;
- Landscaped boulevards on both sides of the street that incorporate public sidewalks, landscaping and pedestrian-scaled lighting and other street elements; and
- Well-marked pedestrian crossing areas at identified locations.

The goals and objectives of this project are informed by the Kleinburg-Nashville Community Plan, Kleinburg-Nashville Heritage Conservation District Study and Plan, and additional relevant documents and opinions. Specifically, the Islington Avenue Streetscape Study will address the following goals and objectives:

- Promote high quality streetscape design in order to create a comfortable, sustainable and memorable Village;
- Create a strong community image by enhancing the character of the built environment including building design and massing, signage, planting and streetscapes;
- Develop attractive streetscapes through attention to the design of pedestrian spaces, built form, and the relationship between buildings, streetscapes and other public spaces based on the following principles:
 - Encourage pedestrian travel throughout the Kleinburg-Nashville community by establishing creation of a comfortable, safe and attractive walking environment, and connectivity to the Village of Kleinburg Core;
 - Provide a consistent level of streetscape design, lighting, planting, signage, street furniture and other amenities;
 - Ensure that all public and private spaces are designed in a manner which is safe, secure, and subject to informal surveillance, including walkways, building entries and parking areas;
 - To provide a set of performance measures that assist in achieving an environmentally sustainable streetscape design along Islington Avenue in the Village of Kleinburg, including energy efficiency, planting, improved air quality, stormwater retention, temperature regulation, u/v protection, habitat creation.

Source: Terms of reference RFP07-297

2. PROJECT INVESTIGATION



The Islington Streetscape Master Plan Study provides a comprehensive investigation into the social, historical, physical, and environmental features of the Village of Kleinburg.

2.1 SITE CONTEXT AND HISTORY

Kleinburg is a small but lively historic village located in the City of Vaughan, Ontario. As Figure 2.1.1 illustrates, it occupies a narrow section of hilly landscape located between two branches of the Humber River. The main streets in Kleinburg are Islington Avenue and Nashville Road (the focus of this study).

Historically, Kleinburg was settled by John Kline in 1848 as a small farming community. Once settlement arrived in the Kleinburg area, transportation between trade communities was difficult and required local production of many essential goods. The establishment of 2 mills to cut timber for construction and to grind flour for food was crucial to early settlement. The Village's location near the Humber River (Figure 2.1.1) allowed the early settlers to harness water power for the development of mills which provided the community with economic opportunity. These mills established the small community and attracted others to settle in the area.

By the mid 1800s the early settlers required improvements to the transportation network in Ontario. In 1850, the Vaughan Road Company was established to improve and maintain the Old Carrying Place Indian Trail (Islington Avenue), which moved people and goods through Kleinburg to Toronto. Its location on this route held much significance as it further established economic growth and an increasing population. By the 1900s the small farming community was considered the place to stop on the long journey. It had 3 hotels and various restaurant facilities to cater to this growing transportation need.

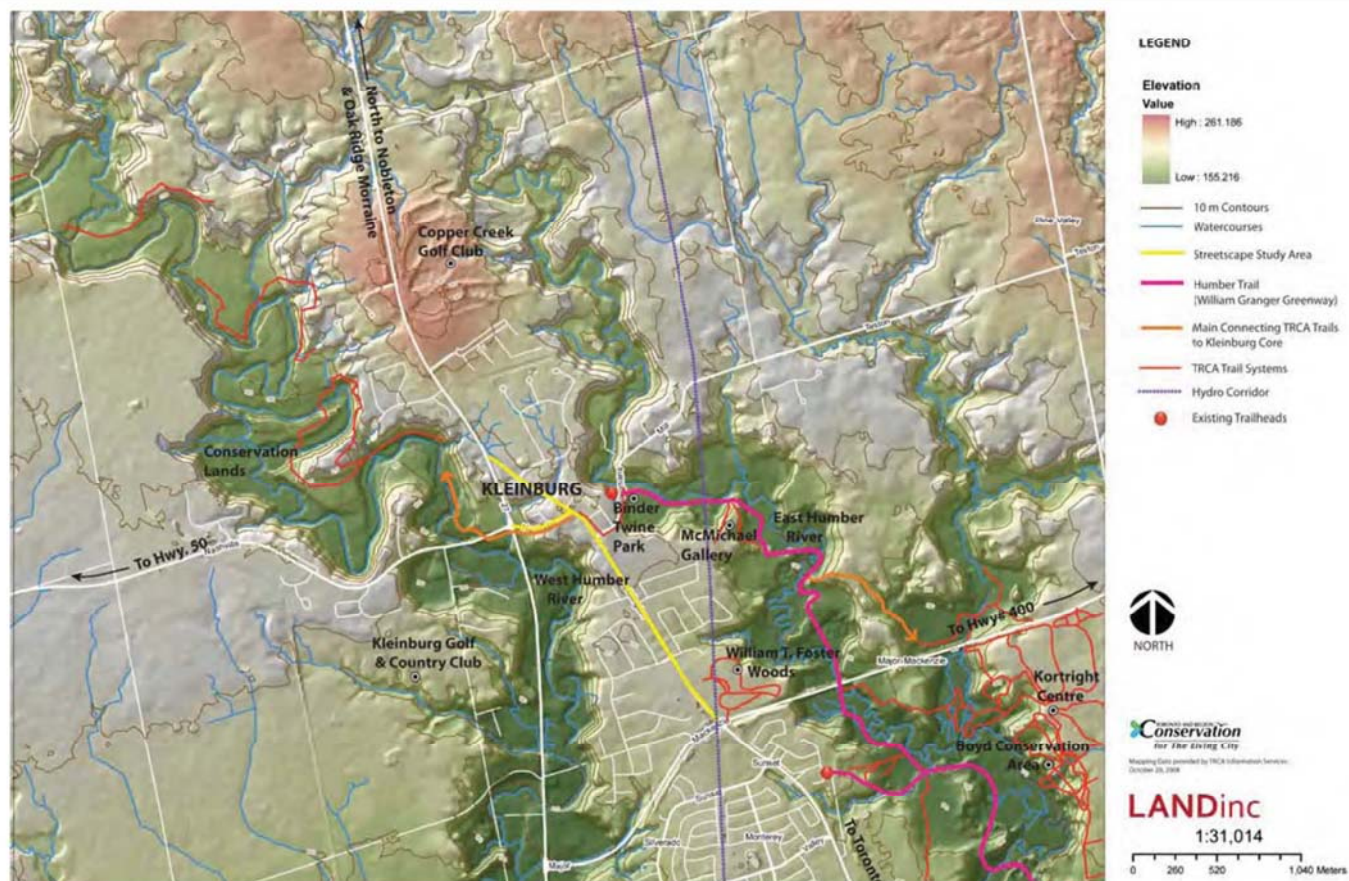
As with many Ontario farming communities, Kleinburg saw a decline during the mid 1900s with the presence of new technologies and the depleting natural resources. Readily available electricity abolished the need for the mill and the automobile eliminated the need to stop in Kleinburg on the trek to Toronto. Today the community serves primarily as a heritage destination.

2.2 ENVIRONMENTAL SIGNIFICANCE

The Humber River has contributed to both the economic and agricultural success of the Village of Kleinburg. Historically river valleys were sought as prime development areas due to the presence of fertile soils, opportunity for water powered energy and water for daily functions.

Kleinburg is situated on a narrow plateau in the river valley of the Humber River. The rugged nature of the Humber River Valley resisted development and left the area in a 'natural' state. Limited space for growth allowed only minimal development of a town plan centered around the Islington Street corridor. According to the Kleinburg-Nashville Heritage Study, 60% of the community is considered valley lands (below top of bank) and of that percentage 38% is conservation area that belongs to the Toronto Conservation Authority (TRCA).

Surrounding the Village of Kleinburg there are extensive trail systems and parks that travel through pristine natural areas. The Kortright Conservation Center is located just minutes south of the Kleinburg Core and offers great year round hiking, cross country skiing and other recreational activities. The center hosts 135,000 visitors annually to view its demonstrations of sustainable technology. These programs are anchored around The Power Trip Trail, a 1.6 kilometer trail which links a variety of demonstrations on renewable energy, energy efficiency, waste water treatment and sustainable building design.



2.1.1 CONTEXT PLAN



MCMICHAEL GALLERY



BINDER TWINE FESTIVAL



HUMBER RIVER

2.3 FEATURES OF KLEINBURG

MCMICHAEL GALLERY

Located in the heart of Kleinburg's Village Core, the McMichael Gallery is a regional destination.

Historically, The Gallery was the original vision of Robert and Signe McMichael in 1952. To the McMichaels, Kleinburg accurately represented the Canadian natural environment, a country retreat and a perfect settling area for their family. 10 acres of land were purchased in the heart of Kleinburg for the family's pioneer-style home.

Moved by the beautiful surroundings the McMichael's began collecting works of art that illustrated the raw Canadian landscape. The first artwork purchased by the McMichael's was 'Montreal River' by Lauren Harris in 1955, and the next was 'Pine Island' by Tom Thompson. By 1960, the McMichael's collection was a significant assortment of Canadian art and was visited by hundreds of people each year. In 1966, the private collection, as well as the home, were sold to the Canadian Government and converted into a public art gallery. Today the gallery offers a uniquely Canadian experience to its 120,000 visitors annually.

The McMichael Gallery is the only major public art gallery dedicated to the work of Canadian artists. Group of Seven, First Nations and other artists that have made contributions to Canadian art are all housed in the 13 exhibition halls and 85,000 square foot facility. The gallery is still set in a historic woodland setting and draws connections to the 100 acres of serene conservation area adjacent to the site. Through a network of trails and paths, visitors can experience the inspiration of many Canadian artists as well as wander the cemetery where 6 Group of Seven artists and the McMichaels are laid to rest.

BINDER TWINE FESTIVAL

The Binder Twine festival that takes place in the Fall is a regional attraction. Historically, the festival began in 1890 when Charles Shaw Jr. solved a major problem in his binder business. Each fall during the local harvest of wheat, Shaw manufactured and sold binder twine to the local farmers which was used to tie up wheat sheaves. During this time he noticed that much of his binder twine inventory was being consumed by mice before it could be sold. In order to prevent this, he aggressively advertised the arrival of his binder twine. The date of delivery was announced in advance of the sale and he held a dinner in appreciation of his customers. The binder twine sale grew immensely into a community festival that lasted well into the 1930s.

This event was revived in 1967. In Canada's centennial year the country was asked to remember its history. For this, the community of Kleinburg chose to revive the festival in commemoration of its past. Under the leadership of Vic Ryder celebrations took the form of its old Binder Twine Festival. It was so successful that it has been retained as an annual labour day event ever since.

CONSERVATION AREAS AND OPEN SPACES

The Toronto Carrying-Place Trail, also known as the Humber Portage, was a major portage route in Ontario, linking Lake Ontario with Lake Simcoe and the northern Great Lakes. Today this trail still passes through the Village and offers opportunities to link to conservation areas. The section of trail that passes through Kleinburg is known as the William Granger Greenway, named after a former TRCA chair. This section links the McMichael Gallery, Binder Twine Park and Foster Woods with Boyd Conservation Area and the Kortright Conservation Center. Many significant habitats, cultural and heritage resources and educational facilities are connected through this route.

The Kortright Conservation Center is located just minutes south of the Kleinburg Core and offers great year round hiking, cross country skiing and other recreational activities. The programming at the center is anchored around The Power Trip Trail, a 1.6 kilometer trail which links interpretive demonstration about sustainable energy.

HERITAGE

The Village of Kleinburg is in an area that is designated by the provincial government as a Heritage Conservation District. A Heritage Conservation District is a collection of streets, homes and open spaces that are of special historical or architectural significance to the community. One building with great significance to the community is Kline House. The original residence of Signe and John Kline is a regional tourist attraction. It is a city-owned designated heritage building that houses the Kleinburg Nashville Heritage Collection. The museum contains photographs and artifacts from Kleinburg's rich past.



2.3 BASE PLAN PREPARATION

In order to analyze the physical features of the study site, base information was collected. This information was obtained from high resolution aerial photographs and a series of field reconnaissance visits. Site visits were conducted in all four seasons in order to verify and expand on the mapped information and also observe seasonal changes and functions of the landscape.

SITE OBSERVATION DATES:

May 30, 2008 - initial photo documentation of site conditions

June 10, 2008 - site walk with steering committee

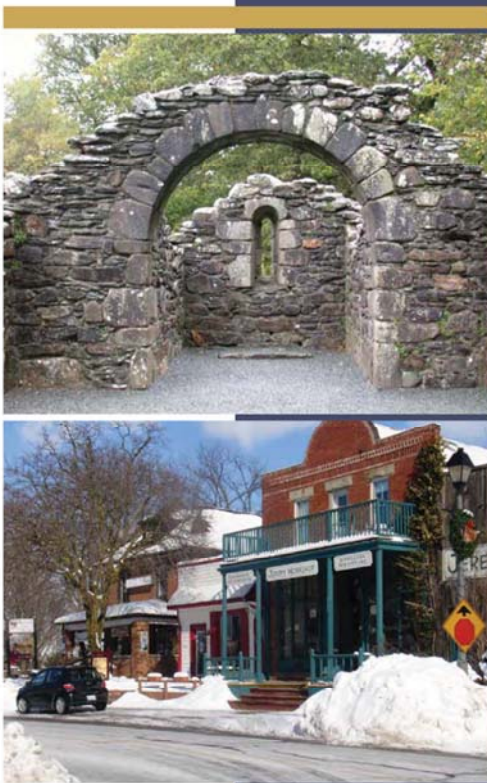
November 7, 2008 - base data verification

November 18, 2008 base data verification

November 28, 2008 - existing plant material verification

LANDinc staff also attended the Bindertwine Festival to understand the importance of the festival and any required facilities.

The study site, a public right-of-way that extends along Islington Avenue and Nashville Road in the Village of Kleinburg, has considerable opportunities to become a public gathering area. Features were observed during site reconnaissance visits, including key landmarks like McMichael Gallery, trail systems and mature vegetation. Unfortunately, many of these features seemed undervalued in the surrounding landscape. In the street and public spaces, the uncoordinated and poor quality or degraded materials often masked the site's potential character. In addition, many issues relating to pedestrian safety, user conflict and functionality were also observed.



2.4 BACKGROUND DOCUMENTATION

Several background studies informed the results of the Islington Streetscape Master Plan. The topical issues relevant to this study are summarized below.

KLEINBURG-NASHVILLE HERITAGE DISTRICT STUDY

Completed in 2003, the study looked at the Kleinburg-Nashville Community and its unique heritage and cultural significance. A thorough consultation process took place to establish policies and guidelines for the preservation and enhancement of heritage resources and character in the district. The Kleinburg-Nashville Community has been identified as a critical area in the heritage of Ontario.

A primary outcome determined by the study was the retention of the character of Kleinburg. The need to preserve the heritage culture coincides with the redevelopment in the Village Core and the desire to promote Kleinburg as a destination. The study includes establishing a sense of continuity in the heritage district, incorporating the quality of gateways, connecting beyond the Village core to establish links to rural and valley lands and also to enhance the heritage character. The Kleinburg-Nashville Heritage District Study and Plan serves as an important document in the design of the streetscape along Islington Avenue.

VAUGHAN GUIDELINES FOR CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

CPTED promotes the objective that by strategically manipulating urban space with the placement and use of natural elements, crime reduction can occur. The guidelines call for design tools to be implemented in the physical environment to reduce opportunity for crime. These include creating surveillance, access management, attractive quality environments, and a sense of ownership in the community. Most criminal behaviour studies show that the decision to offend is based on the perceived risk of being captured or of being rewarded. The strategies involved in this guideline focus on deterrence, rather than punishment.

REGION OF YORK TRANSIT ORIENTED DESIGN GUIDELINES

The Region of York Transit-Oriented Design Guidelines, endorsed by Regional Council in September 2006, propose that providing alternatives to the private automobile has a number of tangible benefits including a healthier community, more economic vitality, and environmental benefits. A transit oriented design provides environmental benefits such as reduction of air and noise pollution, more efficient land use, more 'eyes' on the street (increasing safety), and thus creates a more liveable community.

In order to fully function, the transit oriented design must allow all users to easily access the 'routes' of the network to their final destination.

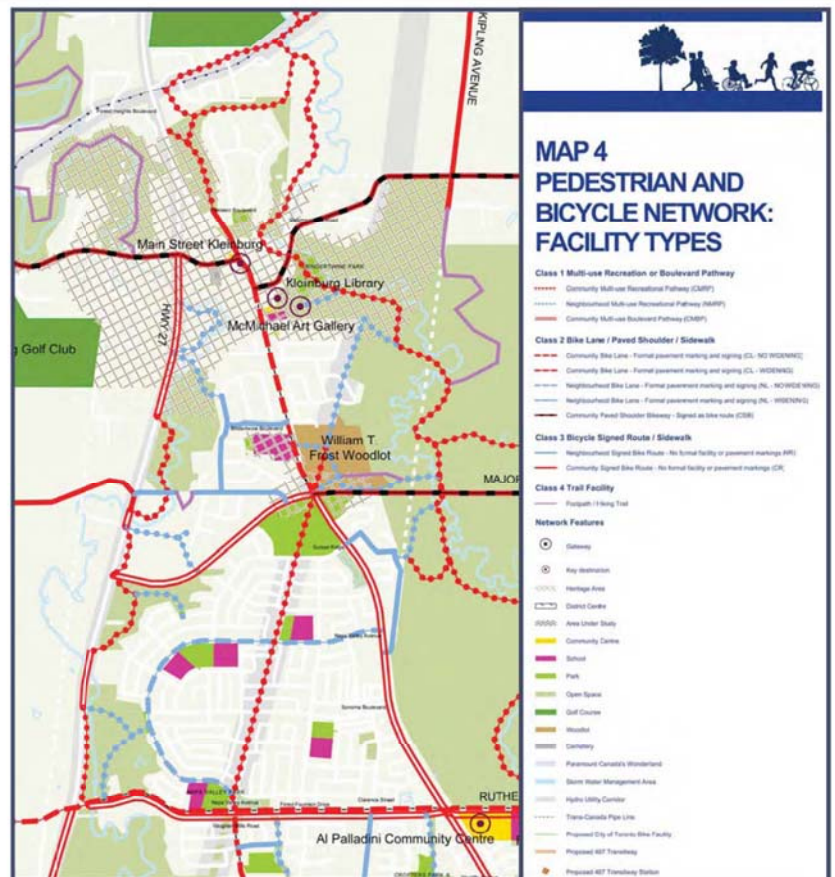
"Transit oriented design is an approach to planning and design that recognizes the relationship of how we grow and our ability to provide efficient and effective transportation systems" (TOD Guidelines).

The goal of this system is to provide alternative methods of transportation and make them viable options in the community. The plans to implement the transit-oriented community include creating well-designed, pedestrian friendly and transit supportive development that reflects and supports existing systems and initiatives.

VAUGHAN BIKE & PEDESTRIAN MASTER PLAN STUDY

The Vaughan Pedestrian and Bicycle Master Plan, adopted in 2006, is the overarching guide for future improvements to pedestrian and bicycle circulation. It seeks to improve and expand the network of on and off-road facilities in the Vaughan area. The plan consists of a number of key components that include: a recommended set of pedestrian and cycling routes, policy program suggestions and an implementation strategy.

In order to encourage the use of the pedestrian and cyclist network the network must be a visible component of the transportation system, connected to the overall network, accessible to and from all major areas and destinations, scenic, diverse, flexible, and integrated. The plan identifies the Islington Street Corridor as a perfect location for marked bike lanes and shared bike routes.



2.4.1 EXERPT FROM VAUGHAN BIKE AND PEDESTRIAN MASTER PLAN STUDY

3. PROJECT ANALYSIS



PROJECT SITE WALK WITH STEERING COMMITTEE



PROJECT SITE WALK WITH STEERING COMMITTEE

3.1 PUBLIC PARTICIPATION

Comprehensive and contextually sensitive design requires effective public participation at its core. For the Islington Master Plan Study a public engagement program was developed in order to:

- Understand the community's perception of their streetscape and neighbourhood;
- Identify and prioritize opportunities and constraints; and
- Foster community ownership of the emerging plan.

The engagement process included public design workshops, unstructured interviews, online surveys and a public presentation of design ideas.

PHASE 1 - PUBLIC MEETINGS / WORKSHOPS

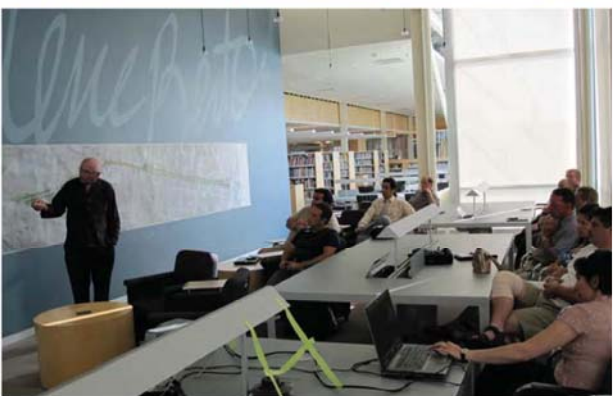
The first component of the public consultation process was a public workshop held in June 2008. Members of the public and a formal Steering Committee (as identified by the City of Vaughan) were invited to attend. At this meeting initial comments, concerns and ideas were recorded and used to develop a S.W.O.T (Strengths, Weaknesses, Opportunities, Threats) analysis (Figure 3.1.1). Significant themes and elements that emerged from this meeting and additional public meetings include:

- A common goal of celebrating Kleinburg's unique heritage;
- Importance of balance between urban and rural character;
- Vehicular transportation is too significant; there is a need for better pedestrian circulation;
- A Village gathering space is needed for markets, festivals and events;
- Sustainable design is important; and
- A design that gives consistent treatment to all elements is necessary.

All of the workshop's participants identified the need and desire to redesign the streetscape to be more functional, safe and aesthetically pleasing.

In addition to public and Steering Committee meetings, business owners, senior staff of the McMichael Gallery, and TRCA staff (Toronto Region Conservation Area) were consulted. Recognizing the parking and drop-off implications of the proposed Ecole Elementaire La Fontaine the City of Vaughan also extended an invitation to the Principal of the school to attend the Master Plan presentation.

The City of Vaughan hosted a preliminary design workshop in September 2008 to the general public, Steering Committee members and city employees to gather opinions and ideas. The final design was presented to the general public in June 2009.



PHASE 2 - ON-LINE SURVEY AND INTERVIEWS

The second phase of the public participation program was an online survey. The survey was made available from October 2008 until mid January, 2009 through the City of Vaughan's website. This survey sought to determine public opinion through 28 diverse questions. The full survey results are included in Appendix 6.1 of this report.

The typical respondent was a middle to late aged male, living within walking distance of the Village Core. Interestingly 68% of respondents were able to walk to the Village Core, however 76% of respondents chose to drive instead.

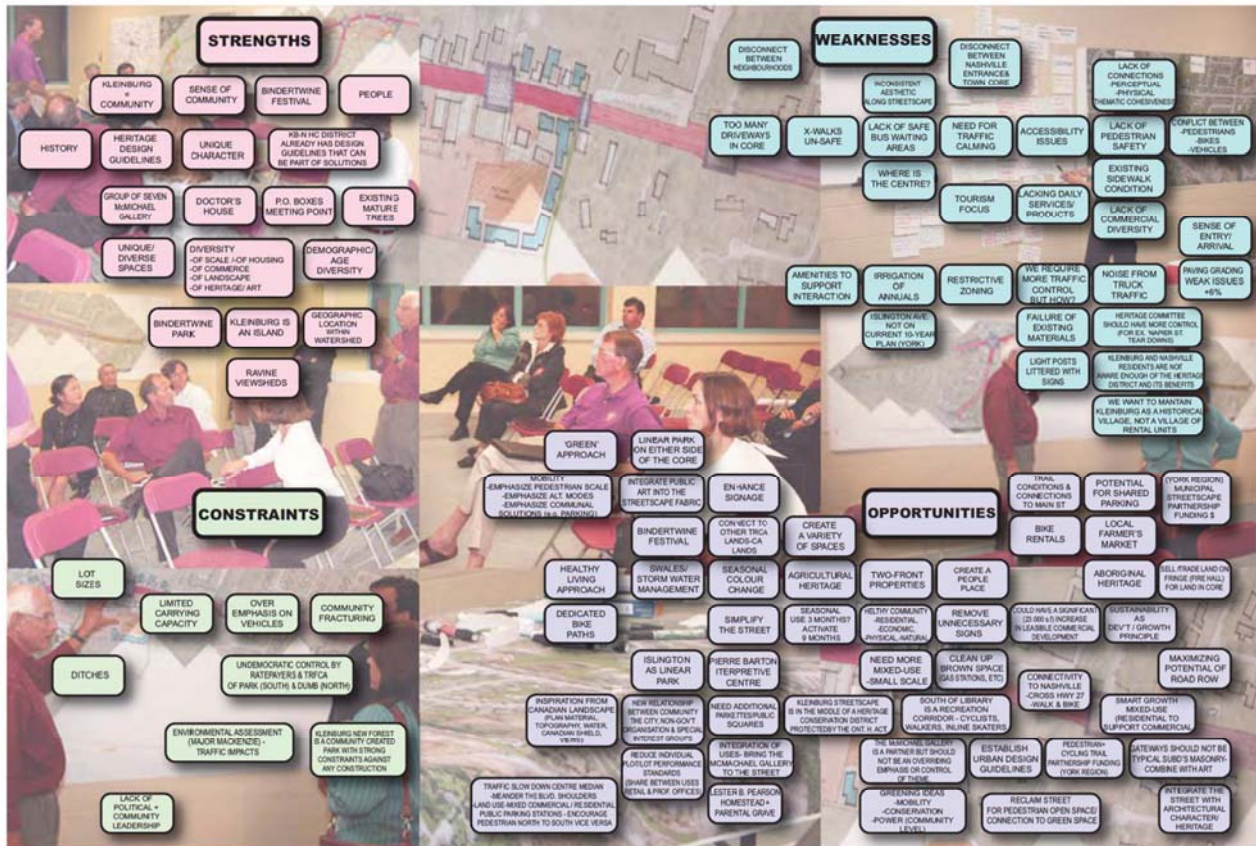
When respondents were asked about the image of the town many responded (87%) that the McMichael Gallery was a significant contributor to the image and spirit of Kleinburg. When asked what could be added to improve the quality of life in the Village many responded that more benches and open green space were needed to relax and enjoy the amenities and features.

To further expand on this information, LANDinc conducted unstructured interviews allowing members of the community an opportunity to inform the design and comment on their survey. These unstructured interviews were conducted on September 10, 2008. Seven residents from the Village met with the Consultant at their homes for the 1 hour interview. It should be noted that the interviewee names were suggested by one member of the Steering Committee and are therefore, not considered a representative sample.

Community members surveyed and interviewed were very supportive of a revival of the Village Core and the Streetscape Master Plan study. People felt that Kleinburg had a strong heritage and many unique and identifiable features. A high quality design that emphasized sustainable, pedestrian-oriented and aesthetically pleasing features was required by most community members.

S.W.O.T ANALYSIS

A S.W.O.T. Analysis is a strategic planning tool that helps analyze Strengths, Weaknesses, Opportunities, and Threats in a project (Figure 3.1.1). It involves specifying the internal and external factors that are desirable and undesirable. This type of analysis groups internal factors (strength and weaknesses) and external factors (opportunities and threats) depending on the impact that they will have. For this project the S.W.O.T analysis identified many positive attributes in the Kleinburg community and a few common improvements to be made. The following diagram summarizes these into a chart. Both the public input and site investigation phases of this project informed this chart.



The first workshop for the project took place on September 10, 2008. The workshop was open to both members of the Steering Committee and the Public. The purpose of the meeting was to identify and prioritize the issues - both positive and negative in a collaborative and cooperative setting.

The image shown here provides an illustrative summary of the issues identified during the meeting. Strengths are shown in pink, weaknesses in turquoise, constraints in green and opportunities in mauve. Issues are prioritized with the highest importance given to those that appear closest to their respective category heading.

3.1.1 SWOT ANALYSIS

PUBLIC WORKSHOP: IDENTIFYING AND PRIORITIZING ISSUES



3.2 SUMMARY OF OPPORTUNITIES AND CONSTRAINTS

The study area presents a series of opportunities and constraints that influence the outcome of the plan and must be taken into consideration.

3.2.1 OPPORTUNITIES

Cultural and Heritage Character

The Village of Kleinburg is already recognized as a protected heritage district. This plan builds on the existing character and the community's desire to preserve its historic treasures.

Connectivity

There are many adjacent features to the study area including conservation lands, key gathering spaces and destinations. It is important to ensure that these are connected to the site. A long term goal of the Municipality of Vaughan is to provide for active transportation systems (biking and walking routes) through the study site. The development of this area will enhance the current connections and provide a significant circulation system.

Active Streetscape

The Village Core of Kleinburg serves as an important economic feature for the town. Many residents spend time in town for postal service, banking, dining, shopping and personal enjoyment. The proposed configuration allows for more 'gathering areas' within the village core.

Pedestrian Oriented Development

In addition to the opportunity for trail connections, the redesigned streetscape can accommodate for an enjoyable pedestrian experience allowing the residents to further use this space for recreational walking, as well as accessing the town amenities on foot or bicycle rather than by car.

3.2.2 CONSTRAINTS

Continuity

In keeping with the outcome of the public consultation process, there is a strong desire for a consistent landscape treatment. Currently the streetscape does not have uniform or harmonious styles in paving, site furnishings, signage, trail connections, and planting. A new plan must ensure that the heritage character is enhanced while providing visual continuity.

Infrastructure

Many infrastructure features are particularly obvious and unsightly.

Along Islington Avenue there are large utility lines outside the Core and many transformer boxes within the Village Core. These features detract from the the heritage character and visual appeal of the town. In addition, many open ditches occupy a significant amount of space, detract from the 'streetscape' and are difficult to landscape. An alternative roadway design should ensure proper surface water drainage, ground water recharge and an aesthetically pleasing landscape treatment. TRCA staff should be consulted prior to any finalization of road design.

Traffic

As with many small towns, controlling traffic speeds is an issue. Many residents feel that speed through the Village Core is too fast and unsafe for pedestrian circulation. In order to create a better system traffic calming mechanisms are required to ease traffic circulation.

Connectivity

Through the public consultation process, many residents felt that different neighborhoods and areas were not connected properly. Signage and thematic cohesiveness were identified as areas to improve the connectivity of regions, parks, trails and neighborhoods.



3.3 VISION

From the preceding research, analysis and public process a vision statement, goals and objectives, and design recommendations emerged to guide the transformation of Islington Avenue and the Kleinburg Village Core into a welcoming, visually cohesive, sustainable, safe and engaging place.

LANDinc, in the development of design recognizes the unique natural and cultural history of Kleinburg. The synergy created by these conditions allows for important opportunities to create a meaningful place and identity for visitors and residents.

The distinctive environmental qualities emanating from the Town's landform, topography, vegetation and wildlife were the basis for early settlement. The cultural heritage that evolved from aboriginal trails and settlements to European colonization and the introduction of agriculture and industry, have created experiential qualities that should directly inform the planning and design process. LANDinc believes that the creative fusion of the natural and cultural qualities of Kleinburg will result in a unique and meaningful sense of place.

The evolution of the Town has reached a new level of growth with the introduction of the McMichael Gallery and its focus on Canadian art. The distinctive manner of Canadian artists to capture the integration of aboriginal, community settlement, agricultural and industrial landscapes is important and exceptional. The philosophy inherent in this notion will guide the design and planning development of the study. As Kleinburg enters a new phase of community building and economic development the reconstitution of its cultural and natural roots will provide a revitalized basis for community participation, economic growth and townscape design.

Design objectives should be respectful of the past while recognizing the principles of sustainable design, pedestrian oriented community growth and locally based economic stimuli.

3.4 GOALS AND OBJECTIVES

CREATE A UNIQUE AND MEMORABLE STREETSCAPE

- Create gateways to demarcate each distinct neighborhood in the study area;
- Identify and highlight points of interest along the study area;
- Use distinctive street furnishings and lighting;
- Identify and protect important viewsheds;
- Place emphasis on the pedestrian experience along the streetscape.

INTEGRATE SUSTAINABLE PRINCIPLES AND IDEALS

- Encourage the use of renewable energies such as solar and wind power;
- Effectively manage surface water, encouraging groundwater recharge and preventing erosion;
- Increase biological habitat through the use of native vegetation and by strengthening connections between existing habitat fragments;
- Encourage and enhance pedestrian and bicycle accessibility between the Village Core and adjacent open spaces and land uses;
- Encourage the use of renewable, local and durable materials;
- Minimize light pollution;
- Encourage and support recycling within the waste management system through the use of suitable receptacles and their appropriate location and frequency;
- Create open space connections and corridors for recreational purposes.

INCREASE SAFETY AND ACCESSIBILITY ALONG THE STREETSCAPE

- Identify and eliminate pedestrian / cyclist / vehicle conflict points and transition appropriately between them;
- Integrate traffic calming elements;
- Encourage offstreet parking and consolidated driveways;
- Create continuous circulation flows that minimize points of conflict between pedestrians and vehicles;
- Utilize Crime Prevention Through Environmental Design (CPTED) principles;
- Provide adequate lighting along the entire streetscape;
- Use materials that will perform in four season conditions;
- Integrate barrier-free elements.

ADVOCATE PLACE-MAKING

- Provide opportunities for shelter from rain, wind and sun;
- Provide seating and amenities along the streetscape to promote the use of the space as a place - not just a travel conduit;
- Create an interactive environment - a place of engagement and community building;
- Provide for flexibility in the location and nature of streetscape elements so that they can change and remain relevant as the community changes.

ENHANCE CONNECTIVITY

- Recognize Kleinburg as a distinct Village, connected to a larger landscape and community context;
- Identify and enhance connections between the streetscape and adjacent or near points of cultural and recreational interest;

BALANCE UNITY AND DIVERSITY ALONG THE STREETSCAPE

- Provide for a range of users and opportunities including cultural, commercial, educational and recreational;
- Integrate common elements along the streetscape to create a unified streetscape while reducing visual clutter (overhead wires, signage, utility poles, etc.);
- Use planting and consistent landscape treatments to visually unify the street.

It is through these goals and objectives that the Design and Master Plan will be formulated. In the end, the Islington Streetscape Master Plan will create a community oriented plan with a distinct and identifiable character.



The following diagram illustrates the public consultation process and it's relationship to the design solutions captured in the Master Plan

3.3.1 DESIGN PROCESS





3.5.1 ANALYSIS PLAN

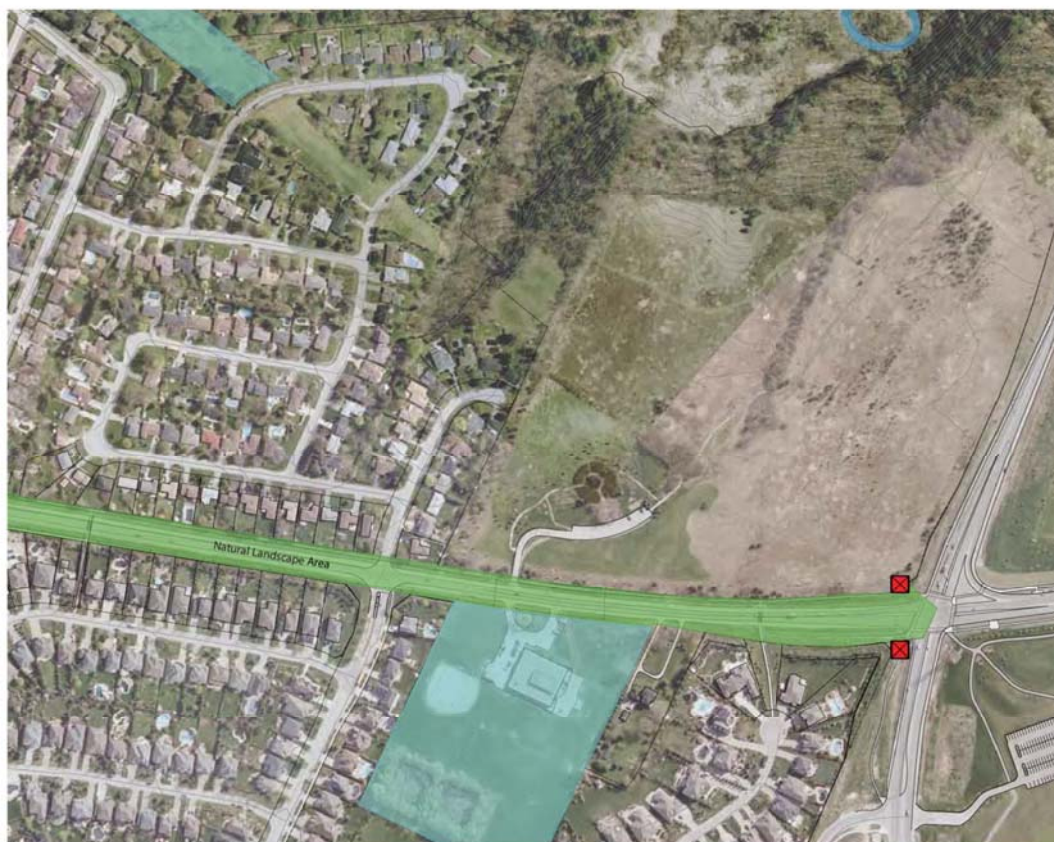
The Landscape Analysis Plan spatially illustrates issues of aesthetic inconsistency, pedestrian safety, traffic calming, lack of connections to trails and amenities, insufficient signage, a lack of identifiable and memorable gateways, and the lack of a distinct civic place. It also identifies strengths of the site such as the location of buildings of historical and cultural significance and the location of adjacent trails and conservation lands. This plan summarizes the results of site reconnaissance and the public consultation process.

SCALE 1:1000 JANUARY 2009
0m 50m 100m 150m 200m 250m

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3.5.2 CHARACTER AREAS

The Streetscape Character Area Plan builds upon OPA 601 and the Kleinburg-Nashville Heritage Conservation Plan to identify distinct character areas along the Islington Avenue and Nashville Road corridors, based on function and visual aesthetics that will inform the design and development of the Master Plan.

The study site is comprised of two distinct streetscape characters: the Natural Landscape Area and the Village Core Area. The Natural Landscape Character Area captures the transition from the entry points at Major Mackenzie Drive and Highway 27 towards the centre of the Village. In these areas, the study site is predominantly residential in character with few exceptions. Due to a wide shoulder and lack of street trees, the street is perceived as relatively wide and free-flowing. The residential properties along Islington Avenue, north of Major Mackenzie Drive, do not front onto the street and requires reinforcing of the sense of place.

The Village Core Area is characterized by the prominence of residential historic buildings and some commercial properties. The buildings front onto the street, and have a relatively short setback from the Right of Way, creating a unified street presence. Many of these buildings are used for commercial purposes. The perception of the streetscape is further strengthened by the presence of mature trees – both deciduous and coniferous.

McMichael Art Gallery and the historic Kline House are major destinations or 'nodes' highlighted on this plan. The streetscape surrounding these points of interest intersects the flows of pedestrian and vehicular traffic and provides opportunities to develop wayfinding strategies and civic spaces. An example would be to incorporate signage along Islington Ave, indicating the trail at Binder twine Park. They are highlighted on this plan to ensure connectivity through the design phase.

The gateway symbols identify entry points into the Village of Kleinburg and also the character area boundaries. The relative size of the gateway symbol communicates its prominence and /or significance. The most important gateways are those marking the entry into the Village of Kleinburg, thereby distinguishing and celebrating its presence in the surrounding landscape. In the experience of a streetscape, gateways not only function to aid navigation but they are also an opportunity to reinforce identity and character.

SCALE 1:1000

JANUARY 2009

0m 50m 100m 150m 200m 250m

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4. PROJECT MASTER PLAN

The Islington Streetscape Master Plan describes the components required to achieve the project's goals and objectives. The design decisions arose from a combination of factors: the visioning process and the public consultation component; the opportunities and constraints identified for the site; as well as other economic development, aesthetic, and environmental considerations.

The intent of the plan is to create a functional streetscape that preserves the distinct historical character of the Village as well as creating an enjoyable public place for residents and visitors. Through the design process, three key narratives have been identified as important to the Village of Kleinburg:

- Water powered energy
- Agriculture and commerce
- Art and nature

The final plan depicts a vibrant streetscape that supports and encourages a high quality of life for its residents, by transforming the street into a pedestrian-oriented place. The plan is described in terms of three component character areas: Gateways, Greenways and Village Core.



GATEWAYS

In the Kleinburg-Nashville Historic District Study, gateways were identified as important features in demarcating the entrance to culturally significant areas. They were suggested as a way to provide a sense of enclosure and to delineate a specific space as well as a traffic calming mechanism.

In the Islington Streetscape Master Plan major and minor gateways are proposed at several nodes on the route. At the three primary entrances into the town, (1) the south entry at Major Mackenzie Drive; (2) the west entry at Highway 27 and Nashville Road; and (3) the north entry at Highway 27 and Islington Avenue, the three cultural themes are embodied through the design. These spaces allow for pedestrian circulation, public gathering space, cultural expression through site furnishings and a physical connection to the Village Core.

In addition, many minor gateways have been identified through the village core to further distinguish between the different areas.

GREENWAY

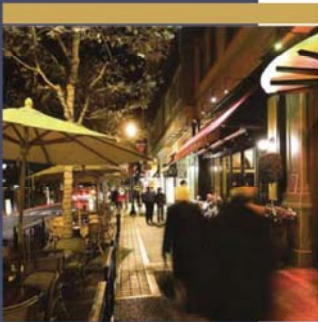
The greenway is the area within the public-right-of-way located outside the Village Core (see character area plan figure 3.5.2). The overall goal for the improvement of this area is to introduce natural elements, traffic calming mechanisms, various transportation modes (vehicle, bike, pedestrian) and elements that coincide with unique Kleinburg elements. This streetscape was inspired by the artworks housed in the McMichael Gallery, specifically the Group of Seven.

The greenway includes continuous walkways, bike routes and roadways that travel through planted areas reminiscent of the Group of Seven paintings. Along the route, conveniently located seating areas and elements have been situated to create a pedestrian scaled, traffic calmed environment.

VILLAGE CORE

The main idea for the Village Core is the transformation of the street into a public place. In doing so, the Master Plan aims to lay the foundation for a revitalization of commerce by encouraging Kleinburg as a destination for both residents and visitors. It involves the re-engagement of the McMichael Gallery within the community and the creation of publicly accessible, private spaces. The vision is a safe and interactive street that functions as a place, year round, supported by amenities and made distinct by its cultural references and high quality design details.





4.1 LIVELY STREETSCAPE

4.1 GENERAL DESIGN GUIDELINES

The following design guidelines have been assembled to direct the form of development for the study area. For this development the focus is to create and define appropriately scaled, attractive, and functional spaces that link to adjacent features.

GENERAL STREETSCAPE STANDARDS

1. The streetscape should be considered high quality public space, and should be designed as such, maximizing pedestrian comfort through the provision of art, street furnishings, plant material, and interactive elements.

2. The streetscape should be appropriately scaled for a comfortable pedestrian experience.

- Walkways should be a minimum of 1.5m wide and clear of obstructions.
- The amenity strip, a space between pedestrian and vehicular circulation that houses streetscape features, should be 0.6m wide to separate the road curb from walkway.
- Crosswalks are 2.5m wide and located 1.0m behind stop bar.

3. The streetscape should maximize public safety. Research has shown that the proper design and effective use of the built environment can lead to a reduction in both the opportunity for crime and fear of crime. The principles of Crime Prevention Through Environmental Design (CPTED) should be incorporated:

- Territoriality - fostering residents' interaction, vigilance, and control over their neighbourhood
- Surveillance - maximizing the ability to spot suspicious people and activities
- Activity support - encouraging the intended use of public space by residents
- Hierarchy of space - identifying ownership by delineating private space from public space through real or symbolic boundaries
- Access control/target hardening - using physical barriers, security devices and tamper-resistant materials to restrict entrance
- Environment - a design or location decision that takes into account the surrounding environment and minimizes the use of space by conflicting groups
- Image/Maintenance - ensuring that a building or area is clean, well-maintained, and graffiti-free

4. The roadway should be designed to calm traffic through the study site, have appropriate visual scale, positive aesthetic characteristics and be planted with street trees. The features of the roadway include:

- A road alignment that primarily follows the existing centreline of the road. All three intersections (gateways) into the study site remain unchanged in the proposed plan. The taper lengths for the turning lanes at the gateway intersections also remain unchanged.
- Travel lanes have one direction of travel.

• Travel lane widths should be designed as efficiently as possible to reduce excess or unnecessary road surface. These widths are:

- Village Core: 4.0m minimum (measured from centreline)
- Outside Core: 3.25m minimum (measured from centreline)
- Median/Island: 4.0m minimum (measured from centreline)
- Centerline indicated with single solid yellow line, 100mm wide
- Note: outside the Village Core the bikeline is directly adjacent to the vehicle lane, therefore emergency vehicles can utilize the space of both lanes for proper access.
- Left turn lane: 3.0m wide minimum
- Turning radii: As per City of Vaughan standards
- Stop bars: 450mm wide
- Taper 600mm: 1.8m from Edge of Pavement (EOP)

• Curb and gutter is proposed along the entire length of study site.

• Within the sight triangle (14m from centerline of road) there should be no obstructions from 500mm to 2500mm off the ground.

• On-street parking should follow these standards:

- Stall lengths: 6.7m for terminal stalls
- 7.3m for interior stalls
- All stalls 2.5m width (measured from Edge of Pavement)
- 7.0m long (varies slightly depending on condition)

5. The streetscape should be a lively, interconnected pedestrian network. Major destinations will be linked by sidewalks, trails, signage and landscape treatment.

VISUAL QUALITY

The streetscape should:

1. Utilize mixed planting strategies to reduce or eliminate views of the continuous back yard fence along Islington Avenue and south of the Village Core.
2. Create a landscape typology to define the street corridor as a pedestrian environment. Provide appropriate points of visual connection and clearly identify entry points to important nodes, trail access points, and vehicular / pedestrian routes.
3. Utilize a coherent and consistent streetscape treatment including hardscape, planting and site furnishings.
4. Allocate space for a wide range of activities and programs such as outlet and street closures for festivals and events.
5. Create a high quality, coherent streetscape image for Kleinburg Village Core.
6. Provide unobstructed visibility and access for public safety day and night throughout the year.

SUSTAINABLE PRINCIPLES

1. Streets, pathways and softscape areas should include surfaces that absorb run-off and encourage natural percolation where possible. An infiltration system should be incorporated to increase soil moisture and reduce stress on stormwater management systems.
2. Native and adapted tree and shrub species should be used where appropriate.
3. Up-lighting should not be permitted except during the month of December for holiday decorations. Architectural lighting that is Dark Sky Compliant is encouraged.
4. The planting scheme should reflect a four-season approach for year-round interest.
5. Existing significant trees, tree stands, and vegetation should be protected and incorporated into site design and landscaping.
6. Landscape should incorporate a wide range of strategies to minimize water consumption, including the use of native and adapted species, use of mulches and compost, alternatives to lawn and rainwater collection systems.
7. All free standing light standards in commercial developments should be fitted for hanging flower baskets. Each light must have no less than 2 sq.ft. of planting area. Baskets must be maintained with good quality plants from May 20 to September 20th each year.
8. Naturalized meadows are preferred over maintained turf areas. A suitable native meadow mix must be used in this case with appropriate guidelines for establishment and maintenance.
9. Stormwater Management - Downspouts at the rear of buildings should be directed to covered cisterns designed to hold the 2-year-1 hour storm volume. Downspouts at the front of buildings should not drain directly across the sidewalk.

PHYSICAL DESIGN OBJECTIVES

1. Private courtyards should be integrated into the street ROW, where feasible.
2. Walkways should maintain unobstructed pedestrian routes with consistent visual simplicity. Benches, streetscape lighting, street trees, planters, and other site features should be placed within the amenity strip.
3. Pedestrians should be given priority in terms of the amount of space they are given and in the quality of the environment which they can expect.
4. Durable materials should be used to reduce long-term maintenance liabilities.
5. Existing pedestrian links to surrounding areas, particularly residential zones, should be retained and enhanced and new links created where appropriate.
7. The streetscape system should provide appropriate points of visual connection and clearly identified entry points and gateways.
8. Placement of trees, light standards and furnishings should consider snow clearing and maintenance.
9. 100% accessibility and safety should be prioritized for year-round usability of the street.

PROGRAMMING AND THEME

1. Integration of Public Art into the streetscape and open spaces should be considered.
2. The streetscape should consider its physical, natural and cultural context.
3. Infrastructure for banners, temporary signs and structures for events should be incorporated into the programming and theming in the Village Core.
4. At major access points to the street gateways should use effective landscape and signage

techniques.

5. A high quality Village Core destination should be created with year-round interest.

SITE-SPECIFIC GUIDELINES FOR PRIVATE PROPERTY

Fences

The classic white picket fence should be the appropriate choice for property delineation. While overall consistency is desirable, individual creativity in fence design is encouraged. For residences located within the commercial areas white picket fences can be used to identify individual properties, however wrought iron should be also encouraged.

Commercial Areas

The commercial areas have many front yards and landscaped spaces along the street frontage. Where landowners wish to separate these spaces from the sidewalk the use of decorative wrought iron fences is encouraged. To reinforce the community's heritage, it would be ideal to re-use or re-create iron fencing as produced by Neff foundries. Low stone field walls, under 0.5 metres in height, may be used as free standing garden / landscape walls, as retaining walls, or as a base for wrought iron fencing. The finish for walls and pillars should be consistent with existing stone walls and should be constructed from rough cut stone or cobble. Such walls are most appropriate in the context of buildings featuring stone masonry or foundations.

Amenities

Bike racks should be provided for all commercial developments with one bike space per 200 sq.m. of commercial space. Street furniture, benches, and garbage/recycling receptacles should be placed in areas of high pedestrian traffic, where necessary.

Parking

Rear lot parking should be further investigated with the development of infill housing opportunities. Currently, businesses and residents access their property from front driveways. These driveways cross the sidewalk, compromising safe pedestrian circulation. A more efficient approach is to consolidate parking into rear lots and laneways. The benefits to this approach are that it allows for increased parking and a safer route for pedestrians as there are fewer driveways crossing circulation.

- The parking areas should be arranged such that central wayfinding and ticket stations are central.
- Each lane should have a 1.5m minimum sidewalk to Islington Avenue.
- Access lanes should be encouraged where they do not exceed 30% of the lot frontage.

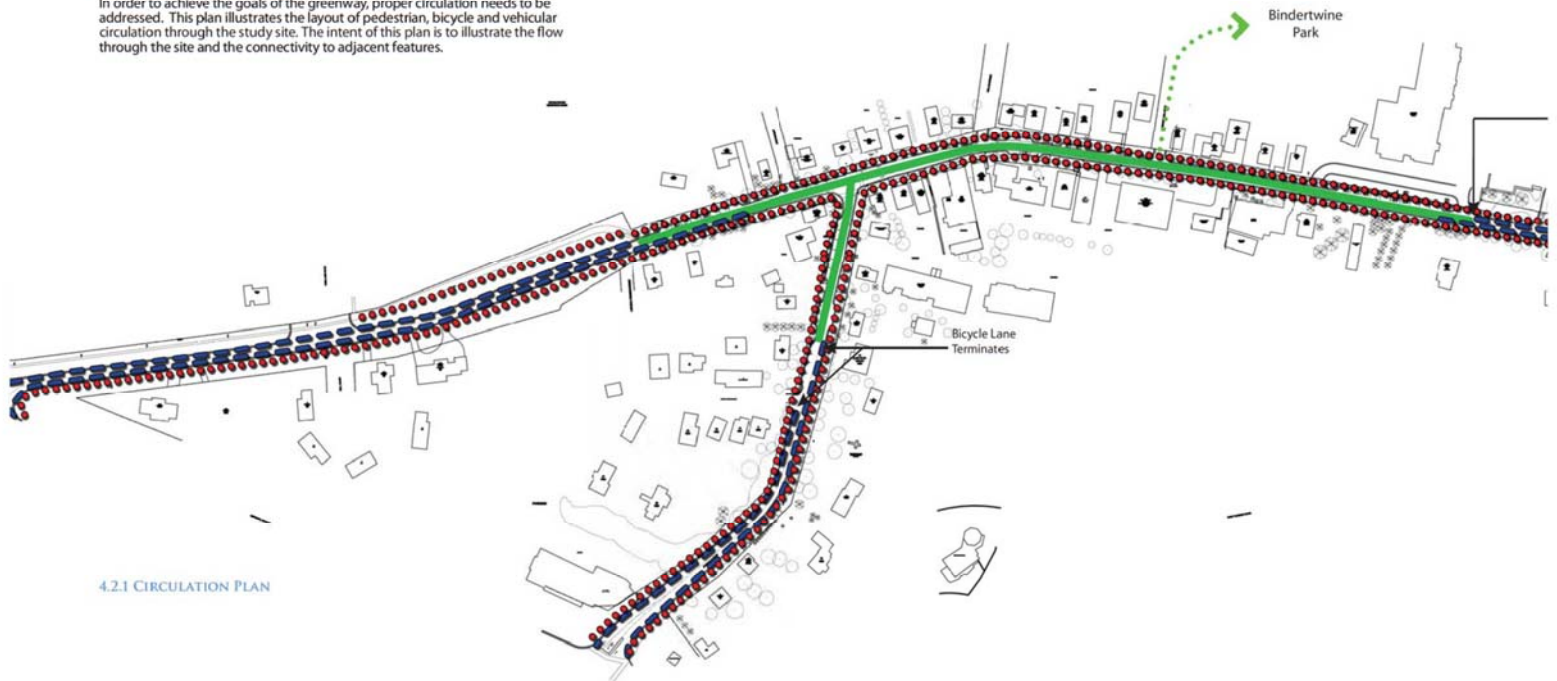
Side-yard parking should be permitted where it does not exceed 20% of the lot frontage (including the lane to access the parking). For underground parking, access should be from the interior or rear of the lot. There should be no access directly off Islington Avenue. High quality landscaping treatments should be used to define site boundaries, provide buffers between adjoining developments, and screen storage and utility areas. The property setback of all parking areas should provide a landscaped area a minimum of 2.0 meters wide.

4.2 GENERAL DESIGN CONCEPT FOR STREETSCAPE AND GREENWAYS

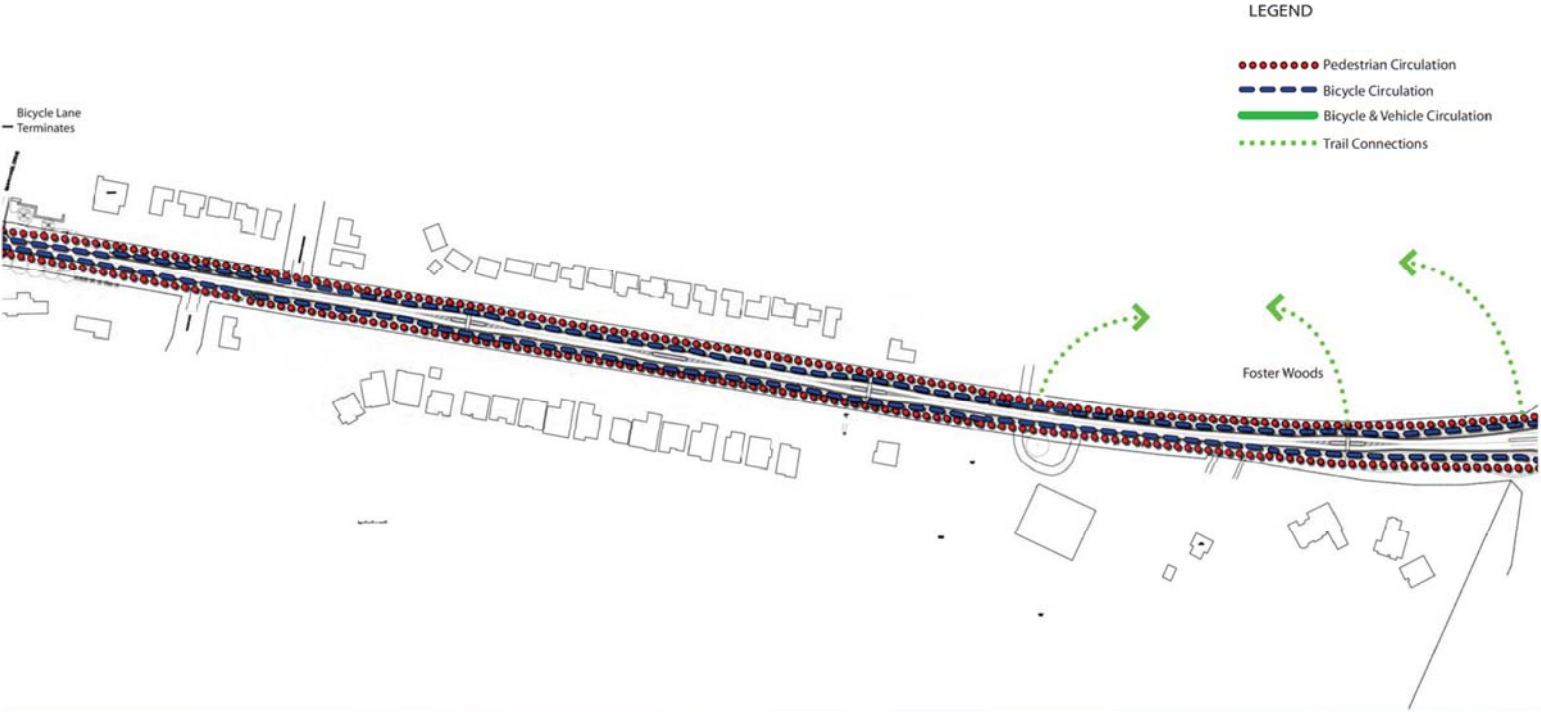
The overall goal for this area is to reintroduce natural elements, provide a pleasant and safe route for pedestrian and cyclist transportation, calm vehicular traffic and to enhance visual consistency with the adjacent greenspace. The primary concept to the Greenway is based on parkway feeling - a roadway within a park.

CIRCULATION DESIGN

In order to achieve the goals of the greenway, proper circulation needs to be addressed. This plan illustrates the layout of pedestrian, bicycle and vehicular circulation through the study site. The intent of this plan is to illustrate the flow through the site and the connectivity to adjacent features.



4.2.1 CIRCULATION PLAN





4.2.1 TRAFFIC CALMING

Heavy vehicular circulation is one of the most common complaints of small urban areas including the Kleinburg residents. Vehicles that drive too fast or carelessly create an unsafe pedestrian or cyclist experience and discourages pedestrian use of the quality streetscape. Increasingly, urban centers are developing ways to calm traffic in high pedestrian or cyclist areas.

"Traffic Calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users".

- Institute of Transportation Engineers

The purpose of traffic calming is to put less dominance on vehicular circulation and more focus on creating effective, functional and quality pedestrian environments that encourage active transportation and transit-oriented transportation. This study uses a variety of methods to reduce the speed of vehicle traveling through Kleinburg.

- The travel lanes are designed to use only the width necessary for transportation. Outside the Core the lanes are 3.25m wide and within the Core the lane widths are 4.0m wide. (Refer to design standards)
- Feature planting along roadsides makes the driving and pedestrian environments more enjoyable, creates a more comfortable pedestrian environment and visually narrow the street, resulting in lower traffic speeds.
- Pedestrian scaled features and gateways provide the driver with visual cues that the driving environment has changed and that there is an increased risk of non-motorized circulation.
- Medians and bump-outs are used to narrow the lane with and add quality pedestrian features.

LANE NARROWING

The purpose of lane narrowing is to use the physical parameters of the roadway to heighten driver response and develop the desired behavior pattern of travelling at a slower speed. Drivers tend to drive at a speed for which they feel comfortable. Narrower lanes contribute to the perception of a more difficult driving environment and may contribute to the lowering of vehicle operating speeds.

Lane narrowing in the context of the Islington Avenue Streetscape Master Plan can be accomplished outside the Village Core by providing a marked lane width of 3.25m. For emergency vehicle needs, the bike lane (1.5m wide) has been located directly adjacent to the vehicle lane. An emergency vehicle can utilize the space of the bike lane as necessary. This solution accommodates the emergency vehicle while addressing traffic calming through a narrower roadway. In addition, the use of curb and gutter at the pavement edge will also provide a perceived narrowing of the lane width.

Lane widths adjacent to median islands should be a minimum of 4m in width. This will facilitate ease of access through these areas for emergency vehicles and also provide adequate space for large vehicles to maneuver.

Through the Village Core it will be necessary to provide wider lanes of 4m to facilitate shared use by vehicles and bicycles. The perception of narrow lanes will be accomplished by adding parallel parking spaces along Islington Avenue.

LANDSCAPE BUFFERS AND NON-MOTORIZED CIRCULATION

Landscape buffers serve several different purposes: they enhance residents' sense of place, provide opportunity to create community image and can contribute to the perception of narrow lanes for traffic calming purposes. Streets with landscaping and narrowed lanes have a relaxed, pedestrian atmosphere and communicate a message to the driver that it is a shared space.

The Greenway uses these principles to develop enjoyable pedestrian and cyclist routes. A marked 1.5m bike lane adjacent to vehicle travel and a buffered 1.5m walkway are proposed in the Greenway. This provides a safer environment for both cyclists and pedestrians by physically separating them from the vehicular traffic.

GATEWAYS AND MEDIAN ISLANDS

The use of gateway features and median islands to redefine the driving environment has been proven effective in precedent case studies. Gateways and Median islands help to achieve speed reductions through the use of horizontal movements or by blocking long views of the roadway ahead. In addition, the use of gateways and median islands are often used to define a change in the driving environment such as entry to a community or an area where pedestrians may be expected and lower speeds required.

A median island is an elevated median constructed on the center line of a two-way street in order to reduce the overall width of the adjacent travel lanes. Typically employed on urban roadways, median islands have the primary benefit of reducing speeds while providing a refuge for pedestrians when utilized at crosswalk locations.

Within the context of the Islington Avenue Streetscape two forms of median islands are proposed. One features trees or other plantings and the other creates refuge areas for pedestrians crossing the roadway. Islands should be constructed at a minimum width of 3m and in the form of raised planters to allow for sufficient width and soil volume to develop planting beds for landscape treatments. These raised planting medians will also require irrigation and proper drainage easier maintenance and functionality. Where pedestrian refuges are proposed the plantings should be low height plantings in order to ensure that visibility for both the driver and pedestrian are not compromised.

CHANGES TO ROADSIDE USES AND SEPARATION OF USES

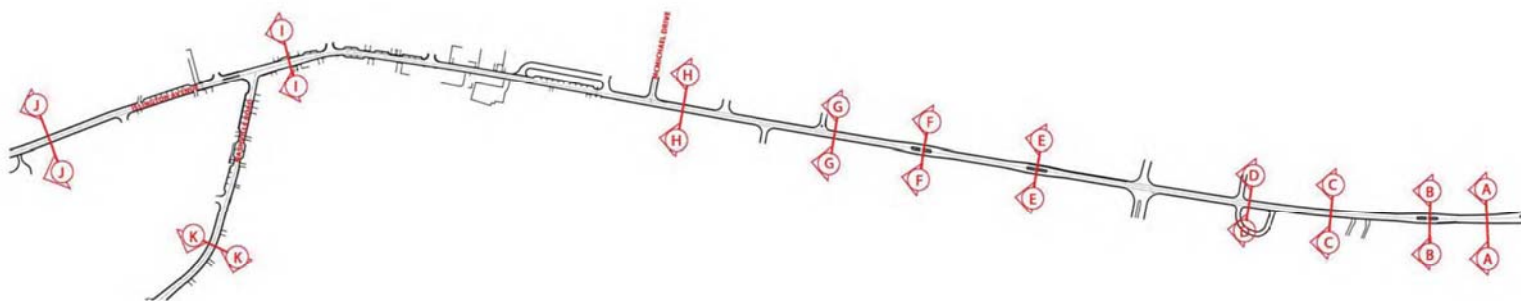
The Islington Streetscape Master Plan implements continuous pedestrian and bicycle ways. Outside the Village Core walkways and bike lanes are separate and distinct. Within the Village Core separate sidewalks are provided while shared routes for cyclists and vehicles are adjacent.

There is a significant pedestrian-vehicular conflict at the proposed Ecole Elementaire La Fontaine located along Islington Avenue. During the school year, significant levels of traffic impact the pedestrian circulation of students arriving at school, especially during the morning period when vehicles park to drop-off students. In order to ensure safe pedestrian actions, while providing facilities for parents and students arriving by vehicle, it is recommended that the school create an area on their property for a drop

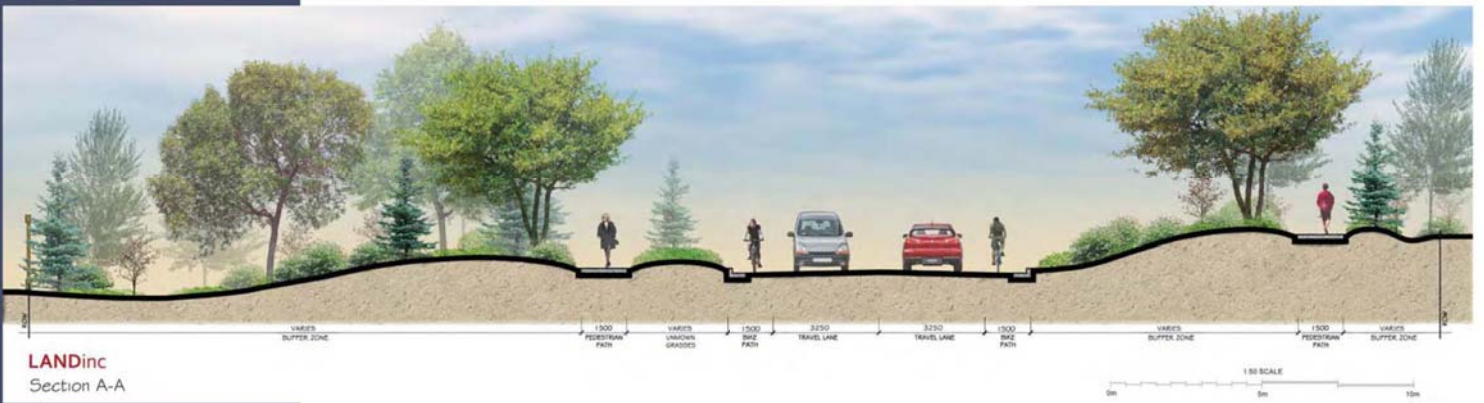
off zone. This will remove vehicles from Islington Avenue, reducing the conflict resulting from vehicles slowing and stopping adjacent to the travelled lane and allow for safer area for those students using drop-off and pickup.

By clearly defining the pedestrian and vehicular circulation the functions of the community are not disrupted and a "destination 7" greenway" atmosphere can be developed.

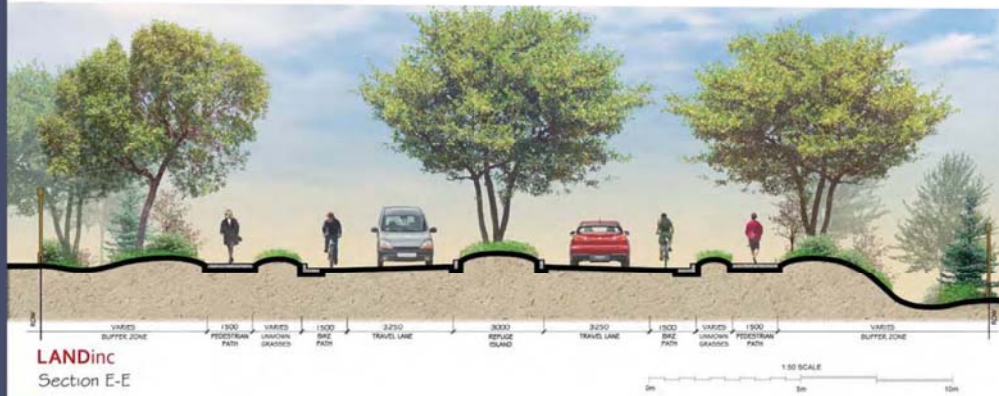
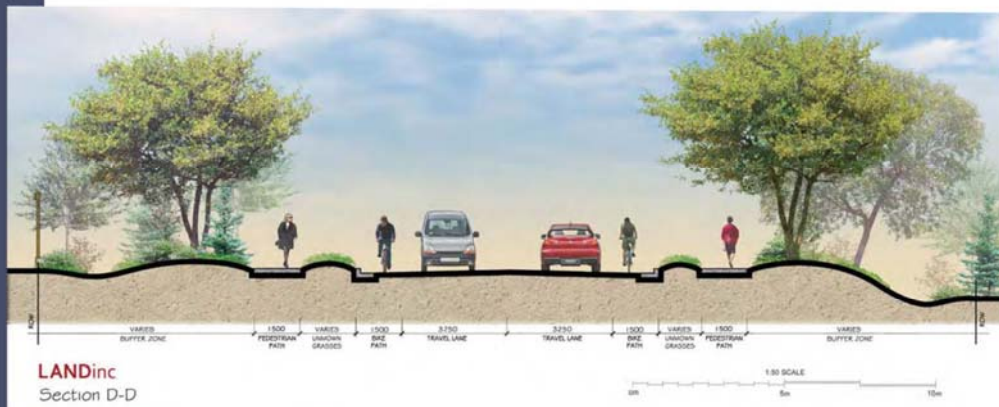
The following sections illustrate these traffic calming mechanisms within the context of the Streetscape Master Plan.

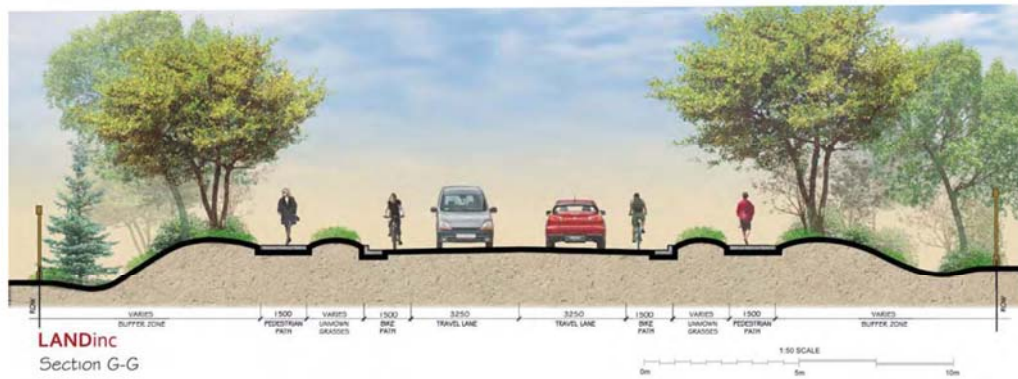
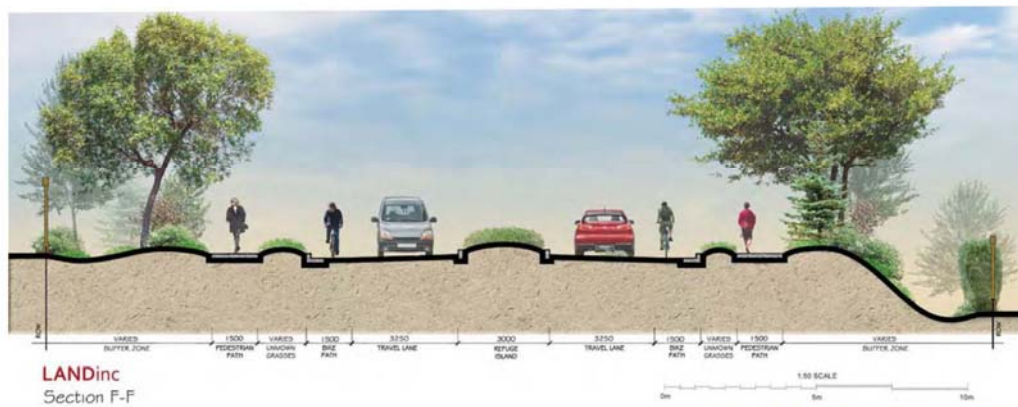


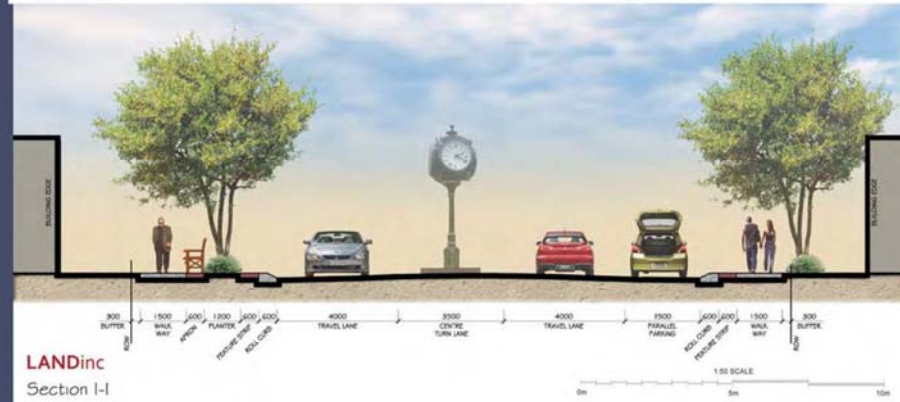
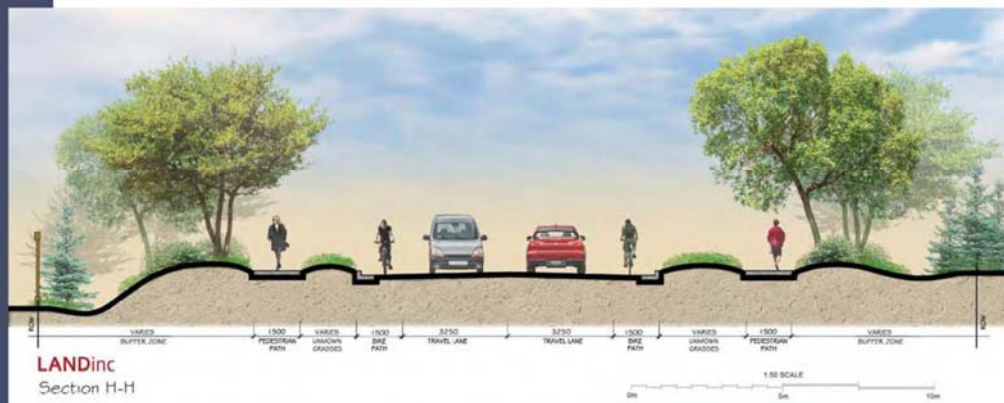
4.2.1 SECTION KEY

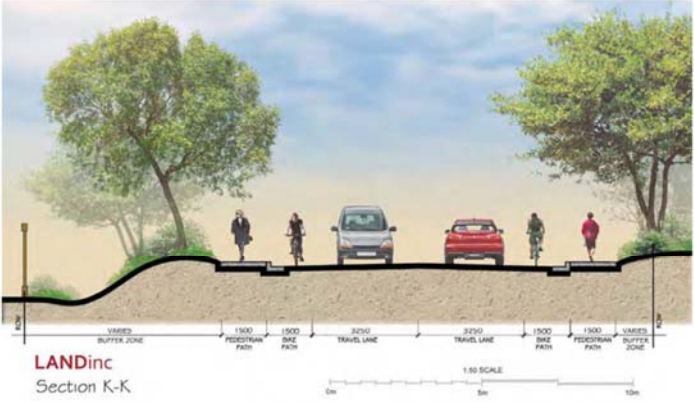
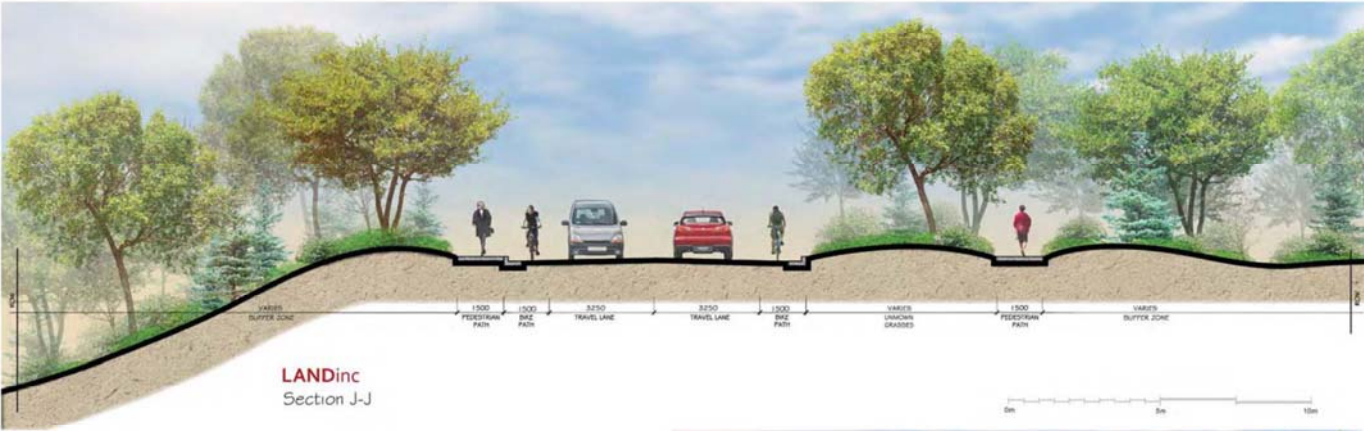












4.2.2 SIGNAGE AND WAYFINDING

Another component of circulation is wayfinding and navigation. To improve wayfinding and awareness of Village amenities/features, new signage should be designed and located at strategic points along the streetscape for both pedestrian and vehicle scale. There is tremendous opportunity to brand Kleinburg as a special place using a coordinated signage strategy. As a part of the Islington Streetscape master plan, the consultant team has developed a signage strategy that indicates key locations and sign typologies for signage in Kleinburg. (Fig. 4.2.2) The wayfinding and signage system must:

- assist the successful movement of people through the community to a desired location;

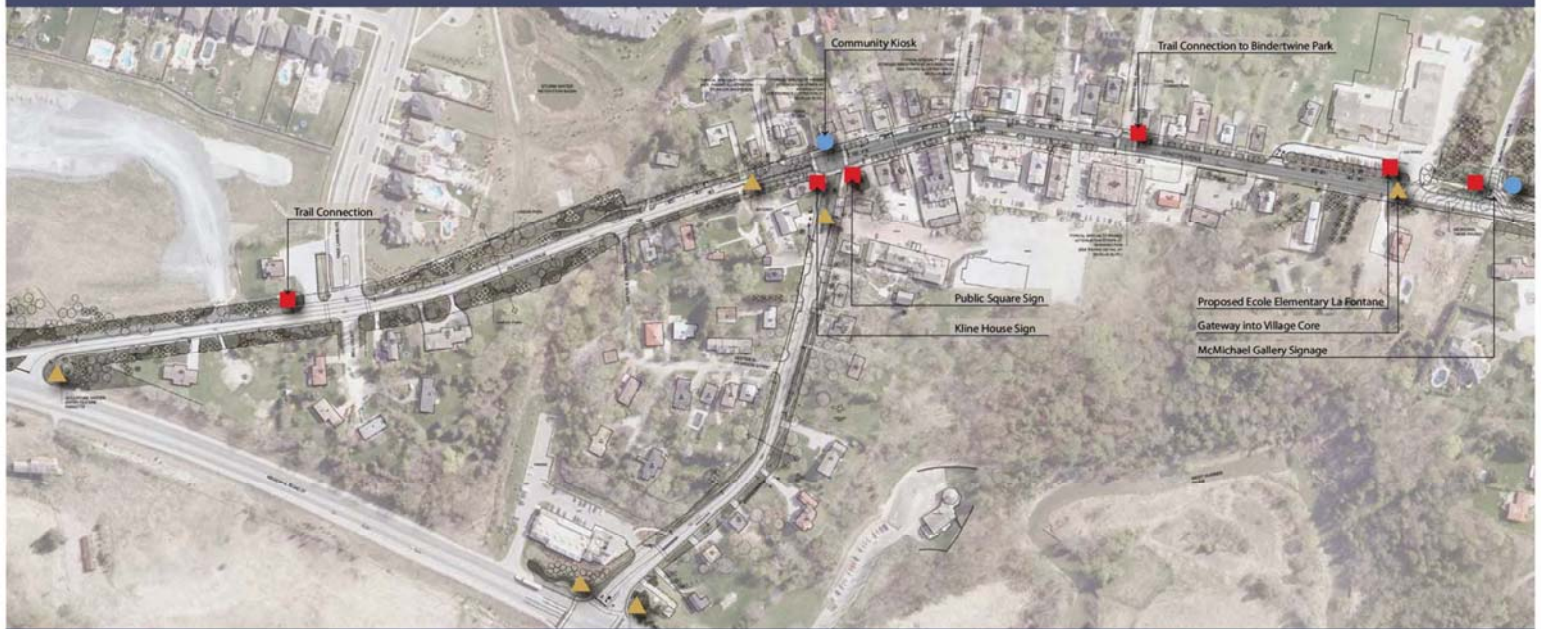
- create a unique sense of place that reflects the site;
- enhance user safety and security;
- address future operational needs through sustainable designs that can be repaired and maintained locally and/or by community operational staff;
- and provide clear directional signage at both a pedestrian and vehicular level.

The following list describes the different types of signs that would be a part of this program: identification/directional, informational/interpretation and gateway signage.

Directional Signage: is used to direct or identify key features, place or routes.

Informational/Interpretive: is used to identify and explain the significance of key features, elements, places or routes. It provides additional educational and cultural information to users.

Gateway signage: is used to signify and demarcate an entrance to a different character area and the entrance into the Village of Kleinburg.



The conceptual signage designs are intended to provide an initial aesthetic direction for the Village's identity and wayfinding signage program. To ensure that the definitive signage plan is designed in a rationale manner, it is important that the subsequent schematic and final design steps are completed. This will ensure that the final system, i.e., signage hierarchy, fonts, colours, icons, address the anticipated wayfinding and user needs of visitors and tourists. Additionally it is critical to understand these concepts require refinement to a tender-level that address the AODA guidelines, CEPTED principles (Crime Prevention Through Environmental Design) and fabrication recommendations that will mitigate vandalism and operational parameters.

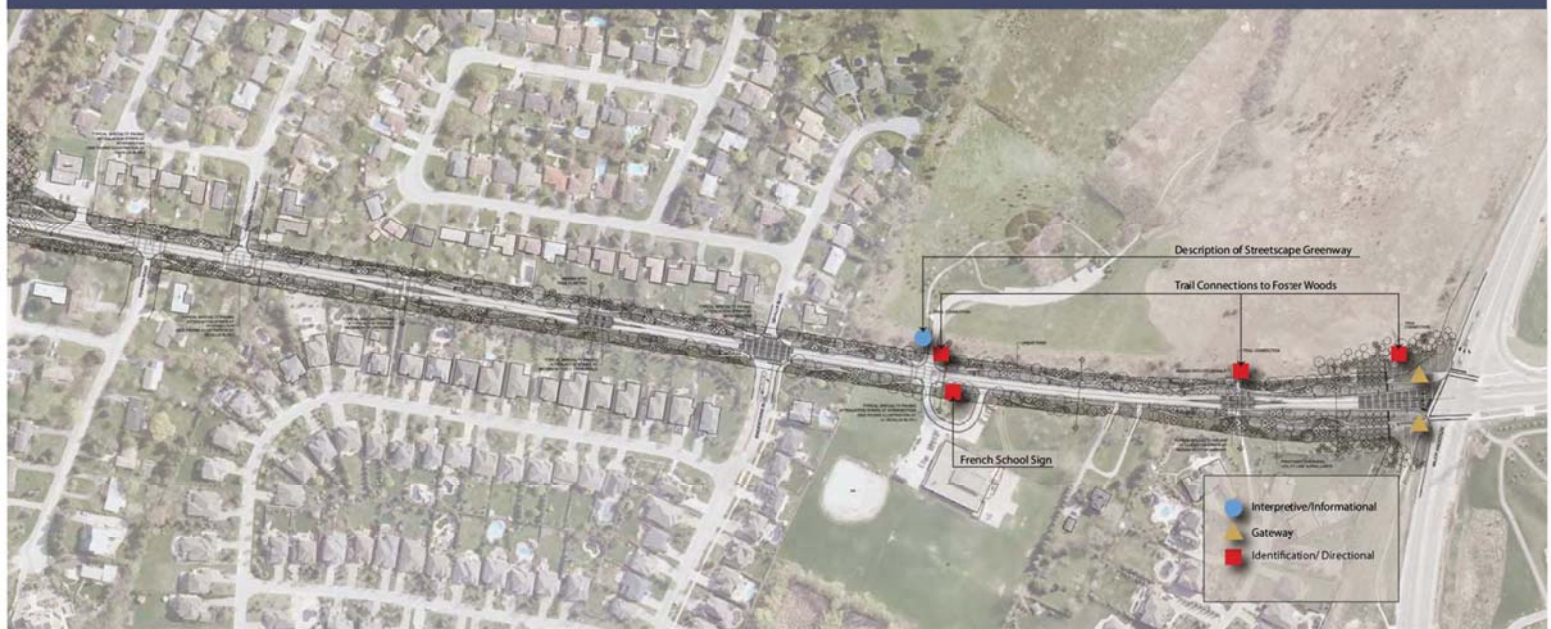




FIGURE 4.2.2.1 - EXAMPLE OF GATEWAY SIGNAGE

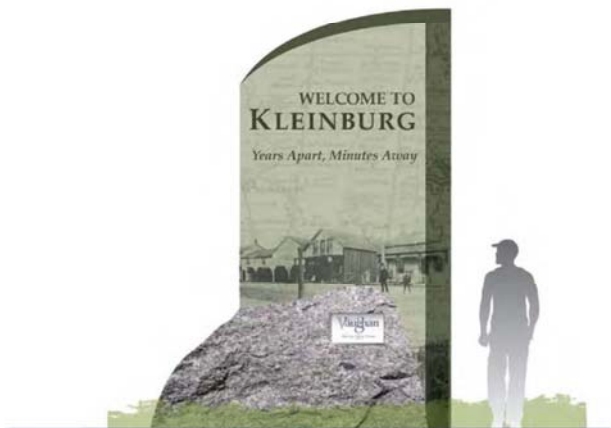


FIGURE 4.2.2.2 - EXAMPLE OF GATEWAY SIGNAGE

4.2.2 SIGNAGE AND WAYFINDING DESIGN GUIDELINES

OVERALL CHARACTER

It is important that signage be consistent with the same design vocabulary and symbols that are used throughout the study site. Since Kleinburg is well known for its association with the Group of Seven artists and well known for its agricultural history, the signage draws its inspiration from these aspects. In addition to reflecting the heritage of Kleinburg, the signage elements must embody the unique qualities of the study area itself. A combination of local natural materials, i.e. wood, granite, will tie the signage components to the surrounding environment. Additionally, the use of high quality panel materials will ensure flexibility and durability in the design execution. The use of these primary natural and man-made construction elements will also provide operational sustainability to the installed signage system from a long term perspective.

GATEWAY SIGNAGE

As the first image of the Village of Kleinburg to visitors and residents the Gateway signage elements should be visually significant and respond to the character, theme and site characteristics. The placement of the gateway signs establishes a sense of arrival and demarcates the Village of Kleinburg as a distinct place. These signs also provide the visitor with an introduction to the signage aesthetic and character of the Village.

The respective gateway signs should be designed at a scale appropriate for all entry points. Attention to the scale of the gateway sign elements will be required to address both the available installation space and to reflect the hierarchy of the respective entry gate.

DIRECTIONAL AND WAYFINDING SIGNAGE

Through the use of consistent colours and design aesthetics, the Village of Kleinburg Wayfinding Strategy provides a highly visible, cohesive signage hierarchy at both the vehicular and pedestrian levels. (Fig 4.2.2.2) For the pedestrian, the placement of immediately recognizable wayfinding kiosks and street blades at highly visible locations will be critical to ensure that directions to available amenities are easily obtained and understood.

Within the Village Core there is little space in the ROW to incorporate public green space, therefore it is important to indicate a connection to the surrounding amenities and features. Currently there is very little indication of adjacent amenities like trail systems in the study area. The opportunity to connect to adjacent features can be improved by formalizing wayfinding signage on Islington Avenue and Nashville Road as per the examples provided. The wayfinding directional panels and kiosks (Fig. 4.2.2.3) are to be positioned in anticipation of visitors' travel patterns into and through the Village of Kleinburg at a pedestrian level. To effectively meet wayfinding needs, the proposed installation sites anticipate concentrated visitor activity areas; such as district entry points, locations existing the parking areas, and open spaces/ seating nodes.

INFORMATIONAL AND INTERPRETIVE SIGNAGE

The inclusion of interpretive panels are often overlooked during the development of a wayfinding/ identification system. Although a relatively minor item, these elements greatly enhance the users memorable experience of a site. Following are some of the opportunities for the development of an interpretive system in the Village of Kleinburg:

- Klein House
- Greenway Description and Trail System
- McMichael Gallery
- Community Gathering Center



FIGURE 4.2.2.4 - EXAMPLE OF DIRECTIONAL/INFORMATIONAL/INTERPRETIVE SIGNAGE

Reference to Group of Seven and natural materials inspired this signage design. Information kiosks are recognizable iconic structures that satisfies a number of requirements. Foremost, the kiosk provides a venue for a map directory panel. Given the pedestrian nature of the Village Core and greenway areas, the kiosk elements must be developed in concert with well defined landscape architectural



FIGURE 4.2.2.3 - EXAMPLE OF DIRECTIONAL SIGNAGE



Banners – Culture and History Theme



Banners – Group of Seven Theme (Artist + Artwork)



Banners – Group of Seven Theme



The use of banners and street blades through the Village Core will provide further emphasis on the area's specific boundary and identity. It is proposed that the banners would be located on alternating street light poles. At the implementation phase of this component, it is important that the finalized sign designs be resistant to minor vandalism, i.e. graffiti, and be easily and inexpensively amended in the event of tenant change or addition.





CREATING A ROAD WITHIN A PARK



4.2.3- PLANTING INSPIRED BY GROUP OF SEVEN

4.2.3 PLANTING FEATURES

The greenway includes continuous walkways, bike routes and roadways that travel through planted areas that are reminiscent of the Group of Seven paintings. Creating this experience requires effective and substantial planting within the ROW. The Group of Seven captured primarily natural, native, and raw Canadian landscapes in their paintings. Implementing a native planting regime not only can produce richly textured and interesting landscapes, but can also support a greater ecological function. The benefits of using native plants include:

- Lower maintenance costs because native plants are adaptable to local conditions and will grow to a predictable size.
- Public health benefits due to less intensive maintenance practices. Native plants require less fertilizers, pesticides and mechanical care, so there are less toxins in the environment.
- Water conservation, as native plants are adapted to the climate of the site, and won't require much watering after establishment.
- Native plants will attract butterflies, other pollinators, and song birds, thus increasing the ecological and aesthetic value of the space.

It is the goal of the greenway to provide continuity through the site, increase public greenspace and also to provide visual interest. In order to achieve this the Islington Streetscape Master Plan requires:

- ROW to be landscaped using native plant material, including grasses, wildflowers, trees and shrubs. Locally grown native species will have better establishment success than imported vegetation and the transportation impacts and costs of locally grown vegetation are exponentially less than imported plants.
- Plant material be located to screen undesirable views (fences) and provide buffers between adjacent land uses.
- Street tree planting be maximized to augment the existing mature canopy. Trees are proposed in beds (rather than grates) to maximize growth and planting opportunities.
- Plant material be tolerant of salt, urban conditions, hardy and provide year round interest. Monocultures should be avoided. Deciduous shrubs can also buffer conifers if they are planted in front of them.
- Be inspired by the works of the Group of Seven and include repetition of species, massing, the use of evergreens and fall colour, and reference native landscapes.
- Trees, shrubs, grasses and perennials will all be used in a foreground - middle ground - background technique to create depth perception in the landscape.
- Some areas to be comprised of mowed lawn, providing additional recreational opportunities, while others will be left unmowed to create a series of small, inter-related meadows.
- Plant species reference the agriculture theme such as Lilac, Hydrangea, Daylilies, Asters and Ornamental Pear and Apple trees. Group of Seven landscape inspired species includes White Pine, Cedar, native Mountain Ash, Larch, Birch, and Spruce. As with the trees, shrubs should also be native, where possible. Possible shrubs could include: Serviceberry, Raspberry, Sumac, Viburnum, Dogwood, Honeysuckle and Rose.



Flowering crab apple "orchard" located on both sides of the Major gateway.



Naturalized planting outside the Core follows typology of unmowed, fields.



Staghorn sumac to be component species of ROW naturalized plantings.



White pine to be component species of ROW naturalized plantings.



Larch to be component species of ROW naturalized plantings.



Grove of Serviceberry.



Clump Paper Birch to be component species of ROW naturalized plantings and McMichael Gallery entrance.



Street trees to be maple species within the Village Core.

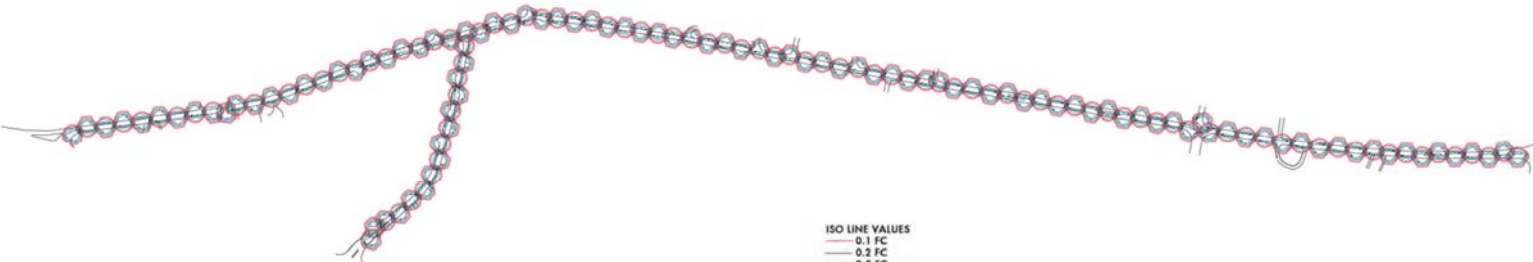


Cedar hedge row planted along ROW limit on both sides of Islington Ave.

4.2.3- PROPOSED TYPES OF PLANTS SUITABLE

4.2.4 LIGHTING PLAN

The placement of light poles along the streetscape, including the study of photometrics, has been professionally determined. The criteria for light placement is primarily to ensure sufficient light quality and coverage through the study area. Please refer to the following Lighting Plan for light pole placement. Note that within the Core, light poles are to be centred within the amenity strip adjacent to the street curb.



ISO LINE VALUES
0.1 FC
0.2 FC
0.5 FC
1.0 FC

Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Lumens	LLF Description
.....	104	C9626P	SINGLE	16000	0.800 K800 SERIES-HQSA-II-150W

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
GLIVINGTON AVE	Illuminance	Fc	1.62	10.2	0.4	4.55	25.53
NASHVILLE RD	Illuminance	Fc	1.85	9.2	0.4	4.70	23.02



4.2.4 PROPOSED PHOTOMETRICS



4.2.5 STREET FURNISHINGS

Street furnishings and streetscape elements should be selected based on suitability as well as form. Elements will be appropriately scaled for a comfortable and quality pedestrian experience. Street furnishings should be durable, have low maintenance requirements, and ideally be produced in a sustainable manner.

BENCHES AND WASTE RECEPTACLES

The design of street furnishings reflect the strong heritage of Kleinburg. These elements must be selected based on suitability, durability and form.

1. Benches and waste receptacles are to be located throughout the study area, in support of gathering places, adjacent to planting beds, in proximity to transit nodes and in appropriate areas for rest and contemplation. Seating should be placed for effective views of natural areas, public gathering and recreation.

2. The proposed bench should be similar to the example provided and reflect the agricultural theme expressed throughout the town.

3. The garbage receptacle example provided is black metal with wheat images laser cut to create a unique agricultural theme. Additionally, three receptacles should be placed in each garbage location to accommodate the three stream waste programs. As illustrated, the materials used in the waste receptacles should be chosen to match the bench and other site furnishings.



PAVING

Within the Greenway there are two different types of paving specified. Each type contributes to the principles of traffic calming, quality pedestrian environment and thematic design.

1. Asphalt should be used for the driving surface throughout the greenway. In the Village Core this is changed to stamped integral coloured concrete.
2. Walkways through the greenway should be constructed from stamped integral coloured concrete.
3. Crosswalks and intersections should be prominent and constructed from stamped integral coloured concrete.

The rationale to use stamped concrete is to capture the properties and qualities of heritage pedestrian spaces. This type of paving has been successful in many cities as a traffic calming mechanism and has created a more enjoyable pedestrian environment.



LIGHT STANDARDS

New light standards are proposed for the streetscape. Through the design process, the reuse of the existing light poles was explored. At a height of 16 ft, the existing poles were deemed too tall to install pendant style luminaires (Figure 4.2.4). The pendant style luminaire was chosen to minimize light pollution and to be compliant with Dark Sky criteria. The height of the pole in combination with the arm and sag lens creates a scale that is appropriate for the entire length of the study area. No additional pedestrian street lighting is necessary.

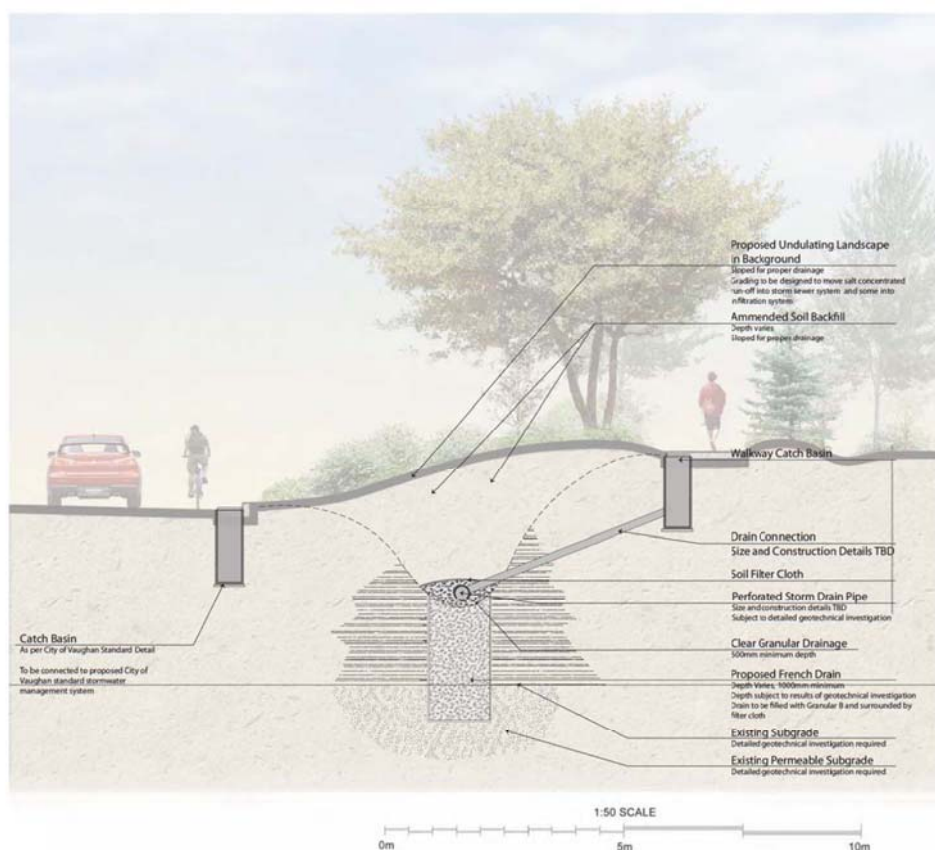
The manufacturer of the light standard as described here is King Luminaire, of the StressCrete - Group (www.stresscrete.com)

LIGHT STANDARD DETAILS

- K806 Sr. Sag lens
- Non-tapered round steel pole, 18ft. Ht, walnut brown colour
- "Blue Mountain Base"
- Mirrored Marina arm with custom integrated banner arm / flower basket bracket

The Master Plan specifies that banners and flower baskets should be hung off the marina arm, opposite to the pendant light. Banners and flower baskets should alternate throughout the Village Core.

The placement of light poles along the streetscape, including the study of photometrics, has been professionally determined. The criteria for light placement is primarily to ensure sufficient light quality and coverage through the study area. Please refer to the following Lighting Plan for light pole placement. Note that within the Core, light poles are to be centred within the amenity strip adjacent to the street curb.



4.2.6 STORM WATER MANAGEMENT

Traditional stormwater management deals primarily with collection and convergence of stormwater with little regard for infiltration or stormwater treatment onsite. Excessive hard surfaces, like concrete, asphalt and many types of pavers, may result in increased run-off which can add strain to existing stormwater management systems and possible introduction of contaminants into fresh water systems. New strategies attempt to reduce impervious materials and focus on infiltration of surface run-off. In the Greenway, an infiltration strategy is used to increase plantable areas, create a more pleasing atmosphere, encourage groundwater recharge, increase soil moisture for proposed plantings, decrease absorption of salt concentrated run-off and promote sustainable principles.

The current stormwater system in the Greenway uses large and deep open channels to convey stormwater. The large ditches take up a lot of useable space that could be used to increase the aesthetic appeal of the Greenway by creating planting and recreation areas. These open channels are difficult to plant as they are filled with run-off with high concentrations of de-icing salts and do not infiltrate as much water as possible. The proposed system changes this open channel system to a closed hybrid infiltration system that considers new stormwater management strategies and existing conditions in the Greenway. By closing the channels a number of issues become important to address: how to manage concentrations of de-icing salts and how to manage stormwater from roads and walkways.

A main concern for any stormwater management system along the Greenway is the high concentration of de-icing salts from winter maintenance. De-icing salts can prove toxic to plantings near roadways, sidewalks, at the bottom of slopes. Salt weakened plants are more susceptible to insects, pathogens, and environmental stresses of drought, wind and ice. Damage can occur to plants located 15m away from a heavily salted area by damaging dormant buds with salt spray, increasing pH of the soil and also adding toxic minerals to the soil surrounding plantings. It is important to prevent as much salt from absorbing into the proposed greenway system as possible in order to create a healthy, green, and sustainable system. By proposing closed channels and a series of swales in an undulating landscape salt concentrated run-off can be redirected to a new City of Vaughan storm sewer system at the roadway and an infiltration system where the existing ditches are located.

The infiltration channel manages some run-off using sustainable stormwater management practices. A hybrid french drain and large perforated pipe are proposed to encourage infiltration where the existing open channel is located. In this system, infiltrated water is removed from the surface flow, is filter by natural ecological systems and it eventually enters into the groundwater to discharge later as part of long-term base flow. The advantage to this type of system is that it recharges groundwater, reduces strain on existing stormwater systems, replenishes soil moisture, allows some salt concentrated water to be filtered and does not use space better allocated for green plantings and recreation areas.

4.3 GATEWAYS

Gateway features signify to visitors and residents that they are entering the Village of Kleinburg. References to history, community and a natural setting are all important components of the three main gateways into Kleinburg. Each entry gateway references one of the three themes for the Village of Kleinburg.

- Agriculture
- Water-powered energy
- Art and nature

The Islington Streetscape Master Plan identifies the major entrances or gateways into the town as, (1) the south entry at Major Mackenzie Drive; (2) the west entry at Highway 27 and Nashville Road; and (3) the north entry at Highway 27 and Islington Avenue. These gateways allow for pedestrian circulation, public gathering space, cultural expression through site furnishings and a physical connection to the Village Core.

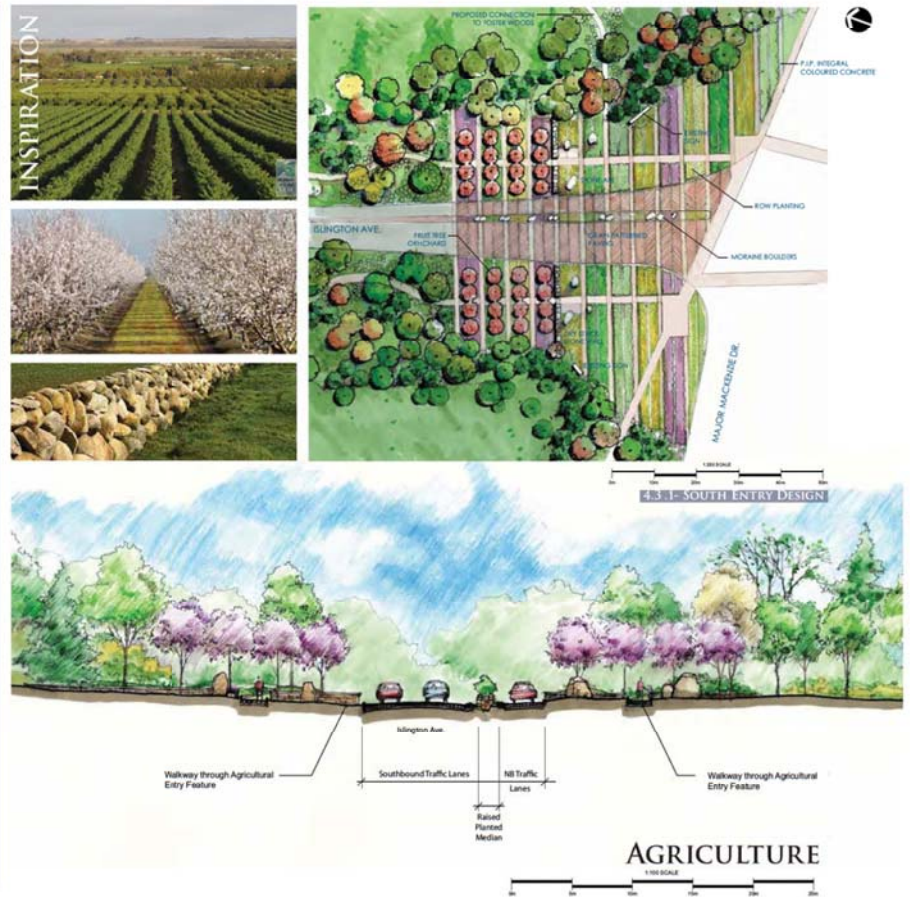
SOUTH ENTRY: AGRICULTURE

A pioneer-style stone wall, a detailed paving pattern and feature fruit tree planting indicate the entrance into Kleinburg from the south at Major Mackenzie Drive. This gateway embodies the significant agricultural history of Kleinburg (Figure 4.2.1).

The entry feature has been designed with the picture of agricultural fields, old farmland fencing and fruit tree orchards in mind. Rolling fields of predominantly grasses (salt tolerant) are organized in a pattern that recalls farm fields and crop rows. This geometric pattern is further emphasized by the bosque of flowering trees, paving patterns that are consistent across the R.O.W., and historically styled stone walls. The proposed stone walls running perpendicular to the roadway give reference not only to agricultural fields, but also to the walls at the entrance of the McMichael Gallery. The walkways are rectilinear, transitional and extend beyond the gateway into the meandering paths of the Greenway.

The transition into the study site is made through the naturalistic clumping of tree and shrub species at the edges of the gateway area - a reference to agricultural woodlots or shade trees often associated with fields. This planting treatment allows for a continuous visual image into Islington Avenue and the adjacent Foster Woods property. With this gateway's close proximity to Foster Woods, its implementation should be coordinated with the TRCA.

The gateway design also proposes to relocate the traffic control box at this intersection along with the burial of hydro lines (in this area only).



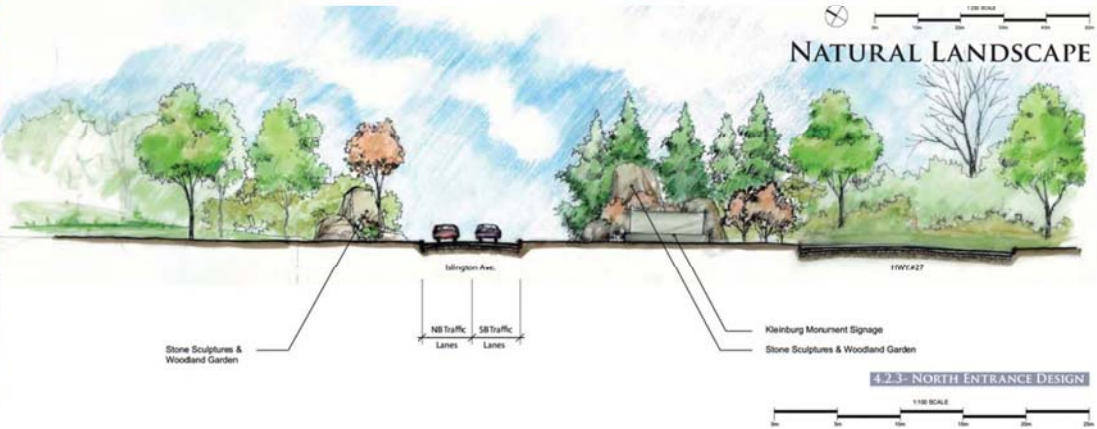
WEST ENTRY: NASHVILLE ROAD

The design concept for this gateway is to create an identifiable entry feature, of appropriate scale, that celebrates Kleinburg's historical origin as a place of water power utilization (Figure 4.2.2).

This gateway design is inspired by the theme of water powered energy that celebrates the numerous mills located historically in the area. A proposed water wheel monument and entry feature located around its base are proposed to reference this heritage culture. This is intended as an open public green space to be used for passive recreation. This gateway treatment extends eastward to include a median island and a pedestrian connection to the business plaza. It is also recommended that a cross-walk be installed across Hwy 27, at the north end of the intersection.

Note: This gateway is located within the Regulated Area of the Humber River Watershed. Based on the works required to facilitate the construction of this gateway, a permit under Ontario Regulation 166/06 will be required from TRCA.

**WATER POWERED ENERGY**



NORTH ENTRY: LANDSCAPE

The Humber River Valley is the inspiration for this entry feature (Figure 4.2.3). Inspired by the relationship between arts and community in Kleinburg (past and present) this gateway's theme incorporates the area's natural heritage and community through artistic expression and grand signage.

In addition, the roadways adjacent to this entry receive the same naturalized planting, which completely unifies it with the rest of the study area. A sense of place is achieved through the consistency of materials, atmosphere and planting. Proposed walkways further unify this space by physically connecting to the Village Core so that the entry feature is accessible. The entry feature itself includes spiral walkways, sculptural rocks and seating opportunities.

MCMICHAEL GALLERY ENTRANCE

The entrance of the McMichael Gallery is extended to the area in front of the Public Library (Figure 4.2.4). By expanding its spatial extent, it becomes more than an entrance, it provides the opportunity to create a place. This extension emphasizes the importance of the McMichael Gallery to the community of Kleinburg.

At the intersection of Islington Avenue flowing pavement lines unite the street with the entrance. The gallery form is inspired by aboriginal art and reminds viewers that Islington Avenue was once the Carrying Place Trail. The existing conifer trees located on the Gallery's property are celebrated and incorporated into the streetscape by the addition of more trees and vegetation. The space includes amenities such as benches, an interactive kiosk providing information regarding exhibits and artist showcases. There is potential to showcase student artwork and further strengthen the sense of community.



4.3.4- MCMICHAEL GALLERY ENTRANCE DESIGN

ART AND NATURE



4.4 VILLAGE CORE PLAN

As per Vaughan Official Plan Amendment No. 633,

"The City of Vaughan recognizes the unique character of the Village of Kleinburg and is committed to preserving and enhancing the landscape features that make it a special place."

This Master Plan transforms the Core into an attractive, accessible, people-place of appropriate scale, specifically for pedestrians, but also supportive of cycling and vehicular traffic.



CREATING A VILLAGE GATHERING SPACE

At the heart of Kleinburg is a Village Core that is lively, functional, aesthetically pleasing and rich in culture. The Islington Streetscape Master Plan aims to enhance the streetscape experience through new and improved features.

The Village Core is delineated by secondary gateways (Section 4.4.3), extending north from the area adjacent to the McMichael property to just north of the Nashville-Islington intersection, within the ROW limits.

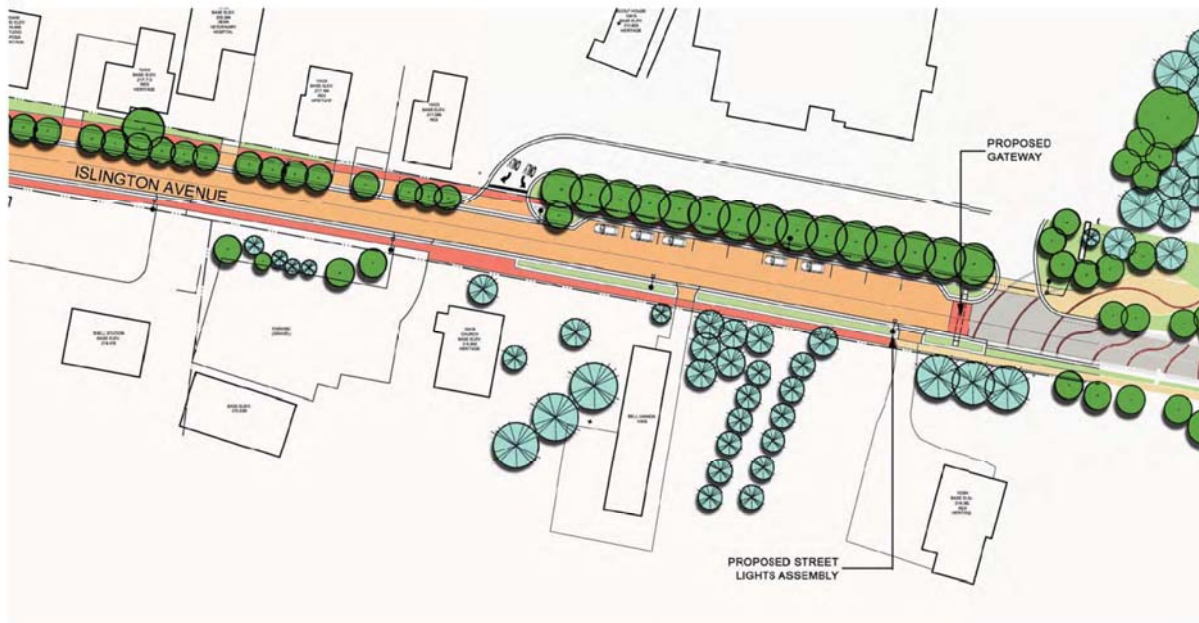
In recognizing the planning policies of the City of Vaughan that identify Kleinburg as a distinct and unique place, this Master Plan maintains the need for high quality materials and details, relating to unique cultural Kleinburg themes.

At the intersection of Nashville Road and Islington Avenue an urban plaza is created within the Right of Way. The Plaza will incorporate the entire

area between ROW limits through the use of distinctive and themed paving materials. This area then can be used for social gathering, community events and pedestrian activities.

- Use consistent treatments and materials across both Right of Way and adjacent private commercial land to create accessible public open space opportunities.
- Relocated transformer units and switch boxes outside of Right of Way. City should obtain easements for maintenance. Logistics requires further study.

- Reinforce historic feel by adding town square features including a community kiosk for advertising community events, a town clock, and unique mosaic paving pattern that represents the culture of Kleinburg.
- A master plan of all trails in the vicinity of the Village is proposed to be posted in the Village Center.



SCALE 1:750

0m 10m 50m

Vaughan
The City of Vaughan

SEPTEMBER 2009



4.4.2 - IDEAL STREETSCAPE



4.4.2 - MOSAIC PAVING

4.4.2 VILLAGE CORE DESIGN GUIDELINES

The following design guidelines have been assembled to direct the appropriate form of development for the study area. For this development the focus is to create and define appropriately scaled, attractive, and functional spaces and the linkages to adjacent features.

FEATURES UNIQUE TO THE VILLAGE CORE

A series of diverse, flexible spaces have been created for community programming, relaxation, and enjoyment. These spaces have been created through the following features:

INTEGRATION OF BUMPOUTS, CURBS AND AMENITY STRIP

Bumpouts have been incorporated as a traffic calming mechanism and safety feature. They create a recessed effect for on-street parking, reduce the roadway crossing distance for pedestrians, and increase the space dedicated for pedestrian use. The increase in pedestrian space allows for the placement of benches and planting beds.

Implementation of bumpouts at driveways and intersections results in decreased opportunities for on-street parallel parking. Development of future off-street public parking solutions is recommended. There is currently the opportunity for approximately 45 on-street parking stalls in the Village Core in contrast to the proposed 22 formalized stalls proposed. A reduction in on-street parking has been supported by many members of the community as a safe and quality streetscape.

In addition, a curb, gutter and amenity strip are proposed in the Village Core. By incorporating these features pedestrians are further separated from the street, eliminating the need for bollards. The amenity strip functions as a space for the placement of street furnishings, lighting and other obstacles to the walkway. Improvement of the existing bus stop including implementation of a shelter and seating amenities can also be included in the amenity strip.

STREET TREE PLANTING

The planting design for the Village Core is relatively urban in its expression - captured through the use of street trees, arranged in planting beds using a regular spacing pattern. Street tree planting has been maximized to augment the existing mature canopy. Trees are proposed in beds (rather than grates) to maximize growth and planting opportunities. Planting principles are the same as those outlined in section 4.2.3.

The planting beds are to be planted with shade and salt tolerant grasses and perennials as massings. Species should be chosen for hardiness, high branching form, and year-round visual interest.

There is opportunity for the local horticultural society to be involved and take a leadership role in the maintenance of the beds. The planting beds in the Village Core are also an opportunity for involvement in the Communities in Bloom program.

UNIQUE PAVING

A typical section of roadway within the Village Core will include:

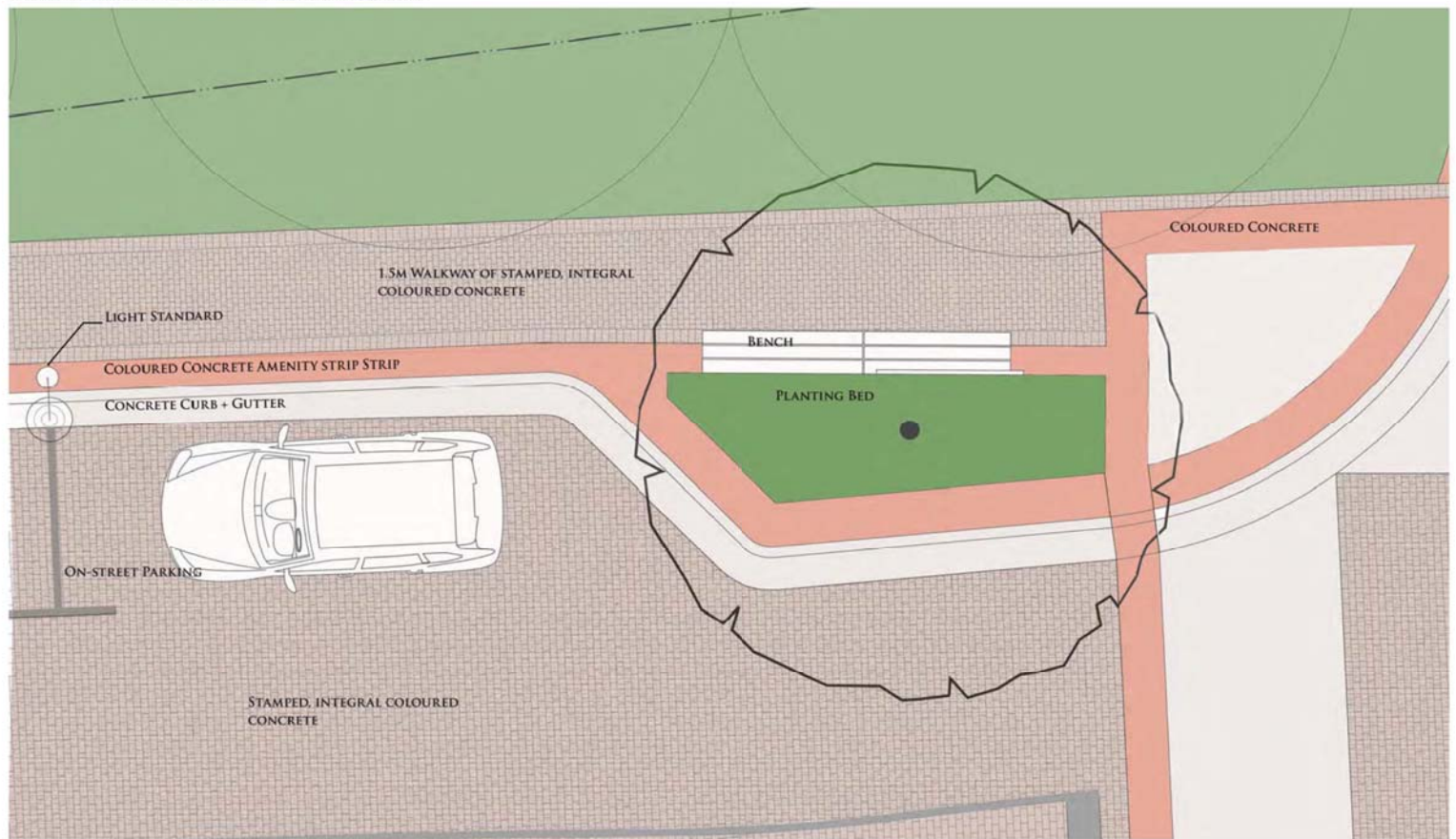
- 4.0m wide shared bicycle and vehicle route composed of distinctive, stamped, integral coloured concrete;
- pronounced concrete curb and gutter;
- 0.6m integral coloured concrete amenity strip;
- 1.5m (minimum) wide sidewalk composed of integral coloured stamped concrete.

The rationale to use stamped concrete is to capture the properties and qualities of heritage pedestrian spaces. Using stamped concrete as a traffic calming technique has been effective in many major urban centers. The texture and colour variation of stamping creates a visually interesting surface. Please refer to the Enlargement Plan (4.4.2) showing a typical intersection treatment.

The intersections within the Village Core are to have unique, themed designs located within the driving surface pavement, captured within the form of a circle. There is an opportunity to involve local artists to design the themed intersections and mosaic patterns. An example of this is illustrated in figure 4.4.2.

4.4.2 VILLAGE CORE ROADWAY ENLARGEMENT 1:50

TYPICAL VILLAGE CORE INTERSECTION - ROADWAY TREATMENT





4.4.3 - SIMULATION OF CLOCK IN VILLAGE CORE



4.4.3 - EXAMPLE OF COMMUNITY KIOSK



4.4.3 - EXAMPLE OF VILLAGE CORE GATEWAY

4.4.3 VILLAGE CORE SITE FEATURES

The Village Core includes the following elements and structures that are aligned with the general principles of sustainability and pedestrian friendly environments.

KIOSK

The intent of installing an information kiosk is to provide information on Village events and a serve as a gathering space. It is to be located in the Village Core, on Islington Avenue, opposite Nashville Road (refer to figure 4.4.1).

The design is inspired by the form of a silo, making reference to the agriculture heritage of Kleinburg. It should be metal, coloured ochre, golden wheat or black, and match the proposed site furnishings along the street. A custom designed structure is recommended as it can better embody the agricultural themes and sustainability principles outlined in this study's goals and objectives. In order to light the kiosk, solar panels should be incorporated. The kiosk is to be lock-able (vandal-proof) but accessible to City staff for information updating.

CLOCK

This Master Plan includes the installation of a pedestrian scaled, historically styled clock in the median on Islington Avenue, at the intersection with Nashville Rd. The clock will be an important distinguishing feature of the Village Core and will contribute to the overall feel and atmosphere created. In conjunction with the themed and consistent paving, this clock will function at the pedestrian scale to continue to aid in traffic calming measures and unify the Village Core spaces.

An example of this clock is illustrated in figure 4.4.3. The example is manufactured by Verdin Clocks (www.verdin.com) as a Howard Replica / Seth Thomas Clock (Model 4M / ST), 16 ft. height.

VILLAGE CORE GATEWAY FEATURES

In addition to the main entrance gateways there are also minor gateways proposed for the Village Core. The purpose of these features are to demarcate the entry/exit points into the retail and commercial area of the Village. The secondary gateways contribute to traffic calming mechanisms and reinforce the perception that this is the threshold of a unique place.

The theme / style of the Core gateways is inspired by the agricultural heritage of Kleinburg. The Binder twine Festival and visual references will greatly influence the form, nature and properties of these structures. In addition, local materials, artisans and manufacturers will be used where possible. The example presented illustrates the style of the gateways that can be used to achieve the goals of this gateway. It is a representation of Hess's Village in Hamilton, Ontario.



4.5 DESIGN MATRIX

This design matrix provides a synopsis for considered design parameters for the 3 character areas, Gateways, Greenways, and Village Core. It summarizes the different character areas and the themes that are embodied in them.

Typology	1 Greenway Islington Avenue between Nashville Road, Regional Road 25 and Major Mackenzie	2 South Entry Major Mackenzie Drive at Islington Avenue	3 West Entry Nashville Road at Regional Road 25	4 North Entry Regional Road 25 at Islington Avenue	5 Village Core Islington Avenue Commercial Core
ROW	ROW Varies, Minimum 30m	ROW Varies, 45-60m width	ROW Varies, Minimum 30m width	ROW Varies, Minimum 30m width	ROW Varies, 16m-23m width
Location	Islington Avenue between Nashville Road, Regional Road 25 and Major Mackenzie	At the intersection of Islington Avenue and Major Mackenzie Drive	At the intersection of Nashville Road and Regional Road 25	At the intersection of Islington Avenue and Regional Road 25	Existing primary road that is central to the Village of Kleinburg between Nashville Road and McMichael Gallery
Function	Naturalized roadway that includes multi-modal transportation (bike, vehicle, and pedestrian), traffic calming mechanisms and enhanced streetscape and landscape buffers	Outer limit of the Village, serves as an entrance gateway to the West	Outer limit of the Village, serves as an entrance gateway to the West	Outer limit of the Village, serves as an entrance gateway to the North	Kleinburg's main commercial corridor and pedestrian gathering area
Location Criteria	Access to development within the commercial and pedestrian core	Access to development within the commercial and pedestrian core	Access to development within the commercial and pedestrian core	Access to development within the commercial and pedestrian core	Commercial and pedestrian gathering area
Potential Features and Facilities	Pedestrian scaled, traffic calmed circulation route that accommodates bikes, pedestrians and vehicles; undulating landscape, pedestrian scaled streetscape lighting; connections to adjacent trail systems	Pedestrian scaled entrance; dedicated pedestrian, vehicle and bike routes; themed entry feature; pedestrian walkways; seating areas; naturalized planting	Pedestrian scaled entrance; dedicated pedestrian, vehicle and bike routes; themed entry feature; pedestrian walkways; seating areas; naturalized planting	Pedestrian scaled entrance; dedicated pedestrian, vehicle and bike routes; themed entry feature; pedestrian walkways; seating areas; naturalized planting	Pedestrian scale on street, bump-outs for parking, street tree planting, unique paving, new streetscape furnishings community kiosk, heritage clock
Landscape Themes and Character	Pedestrian scaled design with landscape reminiscent of the Group of Seven artwork; areas for seating, sculpture and unique Kleinburg features	Agriculturally themed open space entrance; specialty paving, planting and entrance sign; seating and gathering area for passive recreation; accessible to Village Core through a paved walkway	Water power themed open space entrance; specialty paving, planting and entrance sign; seating and gathering area for passive recreation; accessible to Village Core through a paved walkway	Natural Landscape themed open space entrance; specialty paving, planting and entrance sign; seating and gathering area for passive recreation; accessible to Village Core through a paved walkway	Pedestrian scaled streetscape; site furnishings reflect heritage culture of Kleinburg; specialty paving at intersections indicated public gathering areas

5. IMPLEMENTATION

5.1 PRE-CONSTRUCTION RECONNAISSANCE

The following outlines the requirements for a thorough pre-construction geotechnical investigation and testing. The scope of work includes the reconstruction of Nashville Road from Highway 27 to Islington Avenue, through the Village of Kleinburg.

The construction consists of, but is not limited to: removal of existing asphalt pavement including granular base materials, removal of concrete curbs and sidewalks, relocation of existing underground utility services, installation of new underground utility services, realignment of existing roads, fine grading and proof rolling of subgrade, installation and compaction of granular base materials, installation of concrete curbs, installation of concrete sidewalks, installation of specialty paving systems, installation of bituminous pavement, installation of pavement markings, installation light poles and installation of traffic signage.

The purpose of the geotechnical investigation and testing is to ensure proper road design for structural integrity of the pavement systems and field quality control during construction operations. The quality control shall consist of, but is not limited to, the following work, and shall be in accordance with the quality control testing as stipulated in the standards and specifications of the City of Vaughan and Province of Ontario:

PERFORMANCE MEASURES FOR A PRE CONSTRUCTION GEOTECHNICAL INVESTIGATION REPORT

The following outlines the scope of work and a description of the deliverables required for a pre construction geotechnical investigation for road reconstruction of Islington Avenue and Nashville Road.

1. Prior to the commencement of fieldwork, the Geotechnical Engineer is to have utility companies locate the existing on-site underground utility lines. Any necessary permits for working in the right-of-way must be obtained from the appropriate government agencies. All traffic control will be conducted as approved by the City of Vaughan and in general accordance with the Ontario Traffic Manual. Considering that there is one lane of traffic in each direction for the majority of the roadway section, it is assumed that a full lane closure will be necessary and therefore a flagging crew will be required. It is assumed that all of the field work can be performed at the same time without the requirement for additional equipment mobilizations or time restrictions.
2. The subsurface soil investigation will sample to a depth of 2m below existing pavement, by boring core and soil samples every 30 linear meters randomly within the street.
3. The borings will be located within the existing pavement, at locations selected by the Consultant and marked in the field by the Geotechnical Engineering personnel. The borings will be backfilled and patched upon completion.

4. Laboratory tests will be performed on representative soil samples in sufficient numbers to provide adequate data for the required analysis. The laboratory testing program will include visual engineering classification of all samples. The recovered soil samples shall be logged and classified for their texture, consistency, SPT 'N' value and moisture content.

5. Undertake the following suite of geotechnical soil tests to better characterize the soil properties: moisture content determinations for all samples, grain size analyses and Atterberg consistency.

6. For the assessment of the environmental soil quality with respect to onsite reuse or off site disposal, the following environmental tests shall be undertaken: MOE Decommissioning Guidelines shall be adhered to, general and inorganic parameters (3 tests), O. Reg. 558 leachate test, inorganic and PCBs (2 samples), petroleum hydrocarbons, BTEX and F1 to F4 (2 tests).

7. Prepare a borehole location plan showing the borehole locations and a set of borehole log sheets documenting the subsurface soil and groundwater conditions.

8. Following the completion of the field work and laboratory testing, a comprehensive geotechnical report shall be prepared by an experienced and licensed engineer, which will include the following items:

- A. A description of the general subsurface (soil and groundwater) conditions at the boring locations.
- B. A general evaluation of subgrade conditions for support of pavement structures, including recommendations regarding subgrade stabilization, drainage and undercutting, if necessary.
- C. A summary table of the soil boring results, which will include the pavement type and thickness, aggregate base thickness and description, a description of the subgrade soils including N-values and estimated Soil Support Value (SSV).
- D. Anticipation of and management of groundwater.
- E. Soil boring logs, including pavement core information.
- F. Summary of laboratory test data.
- G. Provide recommended design profiles of all proposed vehicular and pedestrian pavement systems. Profiles to include the following:
 - proof rolling methods,
 - depths, lifts, types of material and compaction rates of granular bases,
 - depths, lifts, types of materials and compaction rates of bituminous pavement,
 - recommended cross fall slopes of subgrade, bases and finish grade materials, setting bed material and compaction rates for vehicular and pedestrian paver systems.
9. Three copies of report to be provided. Reports to be bound and signed for consistency, completeness and accuracy by a Professional Engineer.

PERFORMANCE MEASURES FOR GEOTECHNICAL ON SITE INSPECTION AND TESTING DURING CONSTRUCTION OPERATIONS

The following outlines the scope of work required for the onsite geotechnical testing for road reconstruction of Islington Avenue and Nashville Road in the location limits described above.

1. Work shall be done on an on-call basis, with a minimum of 24 hours notice.
2. Verification of soil bearing capacities and compaction per the requirements and specifications.
3. Preparation of concrete test cylinders for curbs and sidewalks, per the requirements of the specifications.
4. Inspection of proof rolling of subgrade in proposed vehicular pavement and pedestrian pavement areas prior to placement of base material.
5. Adequate compaction testing of fill aggregate base (and sufficient proctors and field cones accordingly) to ensure that compaction requirements are met on the job in general. Compaction tests to be taken at a minimum of 100 sq/m of area and 10 linear meters.
6. Trench compaction testing every 15 linear meters of trench in proposed pavement areas, each lift. Trench compaction testing should also be performed in proposed planting areas sufficient to ensure that specified compaction is being achieved. Testing in planting areas should be at 10 square meters every other lift.
7. One Marshal Mix per day of new asphalt. Tester shall be present during placement of all asphalt pavement.
8. Concrete testing (4 cylinders, slump, air entrainment, etc.) every 50 cubic meters of concrete placed. Compression testing shall take place on the 7th, 14th and 28th day following casting of cylinder.
9. Tester should have adequate equipment at all times that he is on site to adequately perform the testing duties. Equipment includes, but is not limited to, nuclear densometer, Ontario sand cone apparatus (to field confirm proctor), concrete testing materials and equipment (cylinders, pressure type air meter, scale, thermometer, slump testing apparatus, etc.) tape measure, ruler and measuring wheel.
10. Test mortar mixes for all masonry work.

Testing Investigation Reports

All written reports indicating results of all tests shall be provided. Compaction tests shall be provided no later than three (3) days following tests. Concrete tests shall be provided no later than three days following scheduled compression test. Notification of failed test to be immediate.

PERFORMANCE MEASURES FOR GEOTECHNICAL INVESTIGATED MATERIALS

Bituminous Pavement

Type of Pavement Markings: Traffic Paint Reflecting Glass Bead

Type of Bituminous Surface Course: Hot Laid Asphalt – HL3

Type of Bituminous Binder Course (if necessary): Hot Laid Asphalt – HL4

Type of Bituminous Base Course: Hot Laid Asphalt – HL4

Concrete Pavement

Concrete for Curbs and Sidewalks: 28 day 30MPa, Air Entrainment 7% plus/minus 1.5%, Slump 70mm plus/minus 20mm

Granular Material

Type of Base Materials: Granular A

Type of Sub Base Material: Granular B

Performance Measures for Evaluating Geotechnical Proposals

Qualifications and Experience

- Demonstrated Experience of Firm,
- Demonstrated Experience of Key Personnel,
- References

Submission/ Quality of Proposal

- Provide a brief work plan,
- Provide proposed borehole/core locations

Project Deliverables/ Technical Response

- Demonstrated understanding of the requirements,
- Ability to meet time estimates and deadlines.

Pricing

- Provide hourly rates and a Not To Exceed price for each testing item,
- Recommended allowance for inspection and testing during construction,
- Typical hourly billing rates for personnel to be involved,
- Unit billing rates for testing services during construction.

5.2 IMPLEMENTATION PLAN

Construction is broken down into 4 phases based on areas of construction. The Implementation Plan outlines the areas to be constructed and the stage that each area is constructed. Please refer to following descriptions for further details.



5.2 IMPLEMENTATION PLAN

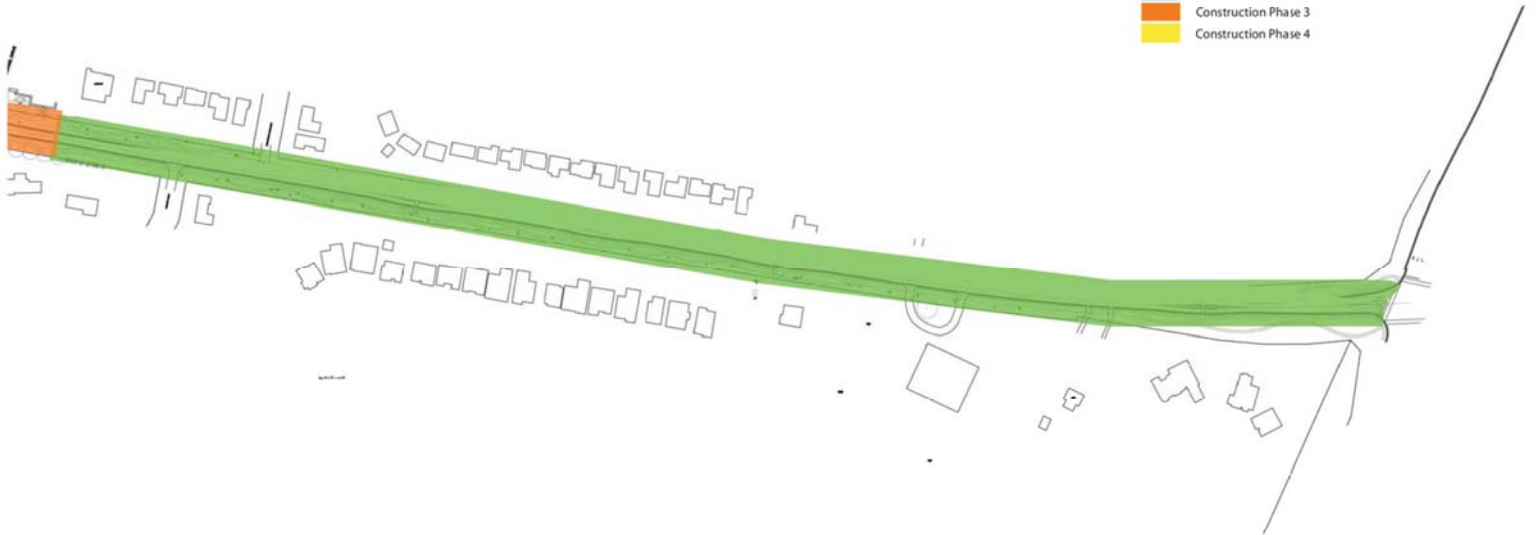
NTS

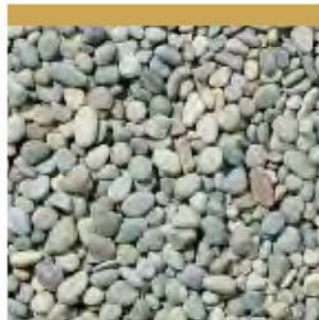
Vaughan
The City Along Toronto

NORTH
SEPTEMBER 2009

LEGEND

- Construction Phase 1
- Construction Phase 2
- Construction Phase 3
- Construction Phase 4





5.2 CONSTRUCTION IMPLEMENTATION AND COSTING

PHASE 1 OF CONSTRUCTION

Islington Avenue from Major Mackenzie to South Driveway of Kleinburg Public School

Construction of this phase will incorporate center medians, creating safer circulation routes for pedestrians and cyclists. Greenways on both sides of the roadway will be constructed. These parks will include pathway systems which link to all adjoining trail networks. The parks should have an abundance and diverse palette of native plant material which will buffer the adjacent houses from the roadway and establish an environmentally enhancing 'greenway'. Construction components of this phase will include:

- Removal of the existing road;
- Installation of a new curbed roadway with one travel lane in each direction and a designated bike lane in each direction and curbs;
- Specialty attenuation strips at intersections, for additional traffic calming measures, will be installed;
- Three medians will be constructed. Two of the medians will have cross walks;
- Thirty five (35) new lights, staggered on each side of the roadway will be installed;
- Landscape plaza area at McMichael Drive with specialty paving in roadway will be constructed;
- Site furnishings along pedestrian routes will be incorporated;
- Gateway Entry Feature at Major Mackenzie and Islington will be constructed;
- All necessary connections to adjacent roadways will be implemented;
- Approximate roadway length of construction is 1000 meters.

PHASE 2 OF CONSTRUCTION

Islington Avenue from Highway 27 to south limit of Lester B. Pearson Street

Construction of this phase will incorporate traffic calming measures, creating safer circulation routes for pedestrians and cyclists. Greenways on both sides of the roadway will be constructed. These parks will include pathway systems which link to all adjoining trail networks. The parks will have an abundant and diverse palette of native plant material which will buffer the adjacent houses from the roadway and establish an environmentally enhancing 'greenway'. Construction components of this phase will include:

- Removal of the existing road;
- Installation of a new curbed roadway and a designated bike lane in each direction;
- Specialty attenuation strips at intersections as additional traffic calming measures will be installed;
- Sculptured Rock Garden Entry Feature at 27/Islington intersection will be constructed;

- Eighteen (18) new lights, staggered on each side of the roadway will be installed;
- Landscape plaza area at McMichael Drive with specialty paving theme in roadway will be constructed;
- Site furnishings along pedestrian routes will be incorporated;
- Gateway Entry Feature at Major Mackenzie and Islington will be constructed;
- All necessary connections to adjacent roadways will be implemented;
- Approximate roadway length of construction is 500 meters.

PHASE 3 OF CONSTRUCTION

Islington Avenue from to South Driveway of Kleinburg Public School to Lester B. Pearson Street and Nashville Avenue from Islington to Doctor's House Driveway

Construction of this phase will revitalize the Village Core. Distinctive and safe separations between pedestrians, traveling vehicles and parked vehicles will be created. Construction components of this phase include:

- Removal of the existing road;
- Installation of a new curbed roadway with one travel lane in each direction and a left turn only lanes;
- Specialty attenuation paving will be installed as a traffic calming measure;
- Gateways spanning over the roadway will be installed at the north and south limits of the Core;
- Village clock will be installed at the Islington/Nashville intersection;
- The kiosk in the Village Core will be installed;
- Thirty (30) new lights, staggered on each side of the roadway will be installed;
- Landscape plaza at McMichael Drive with specialty paving them in roadway will be constructed;
- Site furnishings along pedestrian routes will be incorporated;
- All necessary connections to adjacent roadways will be implemented;
- Approximate roadway length of construction is 610 meters.

PHASE 4 OF CONSTRUCTION

Nashville Avenue from Islington to Highway 27

Construction of this phase will incorporate traffic calming measures and a safer circulation route for pedestrians and cyclists. Walkways on both sides of the roadway will be installed. Construction components of this phase will include:

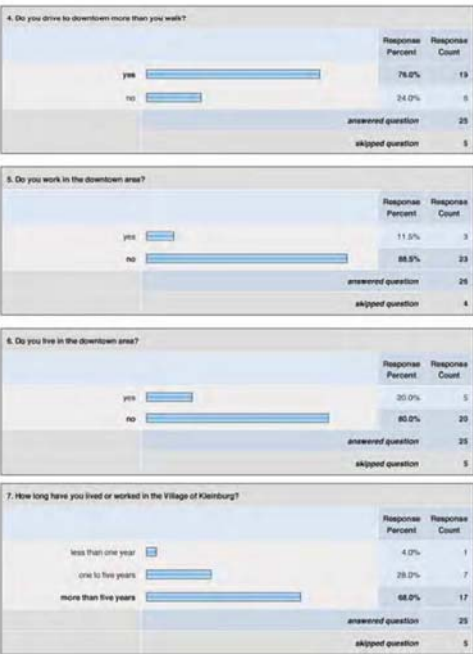
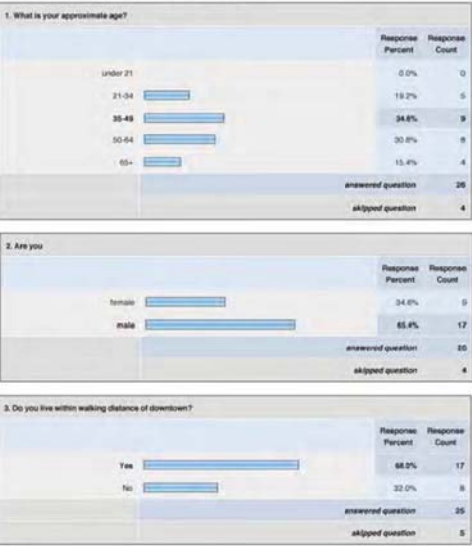
- Removal of the existing road;
- Installation of a new curbed roadway;
- Specialty attenuation strips at intersections will be installed;
- Water Wheel Garden Entry Feature at northeast corner of Hwy 27/Nashville intersection will be constructed;
- Plaza Entry Feature at southeast corner of Hwy 27/Nashville intersection will be constructed;
- Eleven (11) new lights, staggered on each side of the roadway will be installed;
- All necessary connections to adjacent roadways will be implemented;
- Approximate roadway length of construction is 370 meters.

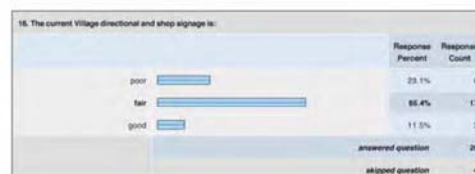
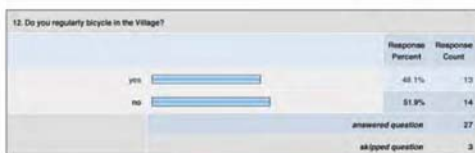
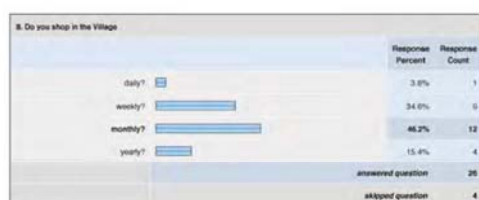
Refer to Implementation Plan for work limits of each phase.

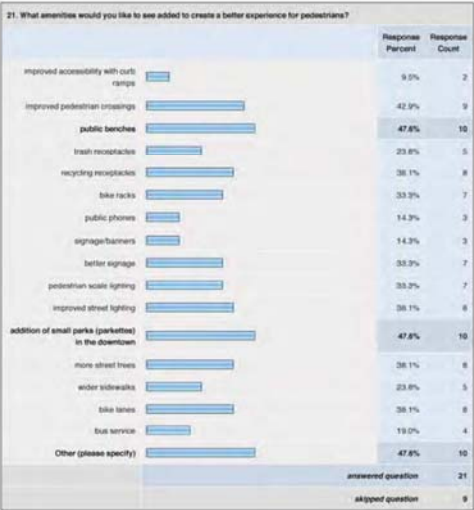
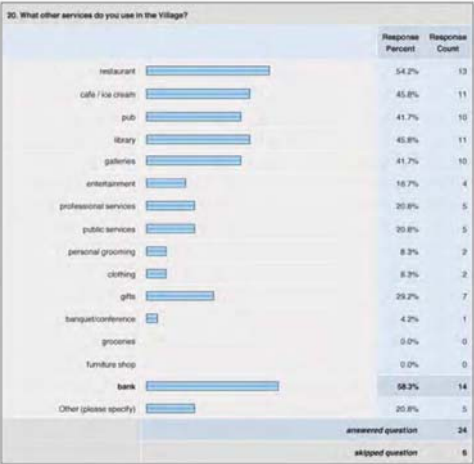
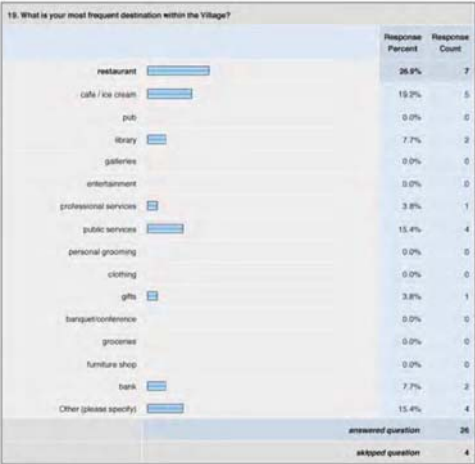
6. APPENDIX

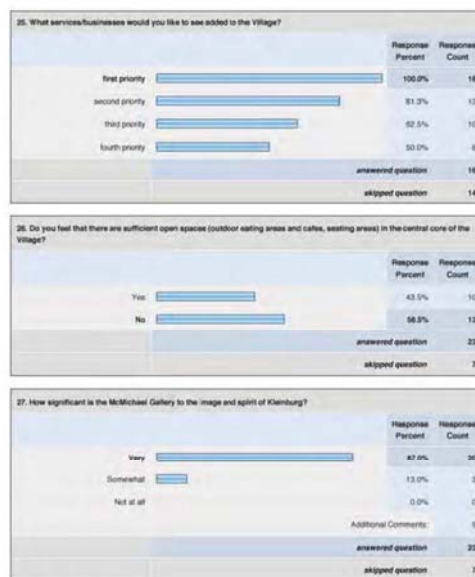
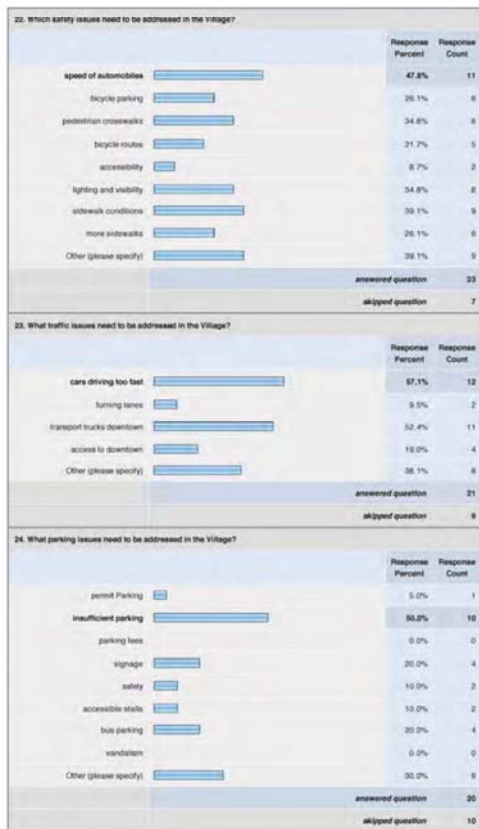
6.1 SURVEY RESULTS

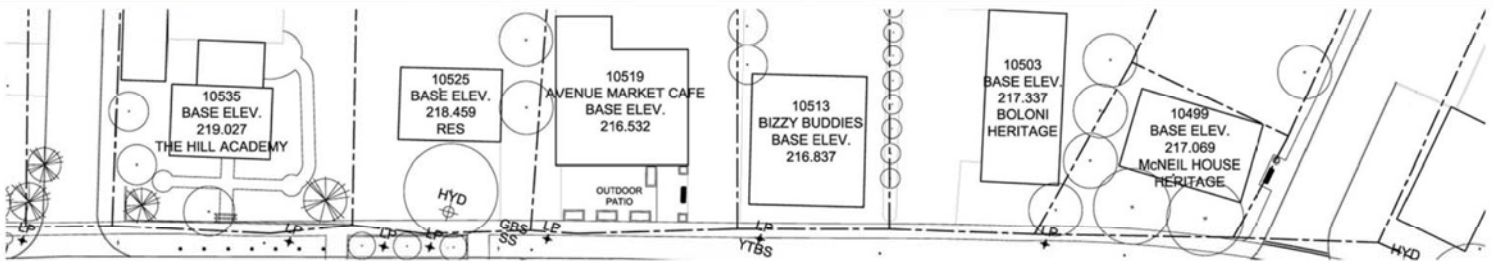
Kleinburg Streetscape Master Plan Survey











6.2 INFILL OPPORTUNITIES

Within the Village Core, there is currently significant opportunity to intensify the retail and commercial properties while strengthening the heritage of the Village. The block along the eastern side of Islington Avenue from Kellam Street to John Street illustrates this potential well. Several buildings should be preserved, while others hold potential for side/rear yard additions, second storey additions, or new infill construction. In all cases, the existing street tree canopy should be maintained and enhanced.

Lots 10499, 10503 and 10535 Islington Avenue are traditional buildings that contribute to the character of the streetscape. These buildings should be preserved.

Between 10503 and 10513 Islington Avenue there is significant space for infill development. A significant portion of the space is comprised of asphalt driveways that can be consolidated in the back through the addition of rear

parking lots. Through the removal of driveways there is potential for infill development. At lot 10503, there is sufficient space to accommodate infill development on the north side yard. Such a development would require a formal land severance. Any proposed addition to 10503 or 10513 Islington Avenue should be similar in scale and detail to the existing building, in accordance with the Heritage Conservation District's Design Guidelines. A new addition should be set back from the primary facade, creating an opportunity for a street front garden or courtyard.

10519 Islington Avenue contains a single storey building which makes a minimal contribution to the heritage character of the Village Core, where 1 ½ to 2 ½ storey buildings predominate. The building width is consistent with the street pattern, but the height is not. There is opportunity to add a second storey to the building. The roof form and massing should be consistent with the traditional street pattern, using a full 2 storey pitched roof or a 1 ½ storey roof with dormers.

10525 Islington Avenue does not currently have any development and therefore has the potential for creating a new, public green space at the crossroads of Islington Avenue and Nashville Road. The front portion of the site should be developed as a 'Village Square', retaining existing mature trees, where possible. The rear of this property should be developed with a 2 ½ storey infill building, separating the square from the proposed rear parking. It is greater in height than adjacent properties to compensate for its generous set back from the street and consequent lower visual profile. A neo-Georgian structure is illustrated in order to maintain consistency with the current design guidelines and with some of the Village buildings.

As this analysis illustrates, there is great diversity along the streetscape of the Village Core. This diversity is supported and reconciled by the presence of consistent elements. There exists great opportunity to strengthen these elements through the integration of appropriate infill. The resulting vibrant and character-rich streetscape has the potential to serve as a catalyst in the strengthening of Kleinburg's economic and cultural revitalization.

6.3 ROUNDABOUT OPTION

EXCEPT FROM AECOM MEMO TO LANDING, MARCH 17, 2009

A roundabout was considered as it was a suggestion of the public. The suggestion requested that the roundabout be located at Binder twine Boulevard as it was felt that making a left hand turn from the Islington north-bound lane is difficult for residents during high volume periods. The study summary presented by AECOM Engineering below indicates why this is not recommended.

The use of roundabouts versus traffic signals at intersections is becoming more widespread with a number of Ontario municipalities undertaking new intersection designs based on the use of roundabouts, notably Waterloo Region and Hamilton. Generally roundabouts are safer than other types of intersection treatments for the motoring public due to a reduction in the number of potential conflicts, the type of accidents and the severity of accidents.

However, the results for cyclists and pedestrians are somewhat mixed.

Typically roundabouts enhance traffic movements by reducing delays on intersecting roadways. As a result, from a traffic movement standpoint, they are generally an improvement over stop controlled intersections and in some cases can provide for better traffic movement than signalized intersections.

Roundabouts do, however, present challenges for cyclists and pedestrians. Advantages of the use of roundabouts from a pedestrian and cyclist standpoint are:

- Reduced vehicle speeds – vehicles must slow in order to navigate the roundabout;
- Fewer conflict points – conventional intersections typically have up to 4 points of conflict between pedestrians and vehicles per intersection leg whereas a roundabout will have 2 per leg;
- Use of splitter islands as refuge areas – this allows pedestrians to focus on one direction of traffic movement at a time; and
- Generally the crossing movement can be accomplished with less time than at a conventional intersection.

Disadvantages include:

- Vehicle traffic is yield controlled and as such does not necessarily stop. This may cause some pedestrians to hesitate at crossings;
- Pedestrians who are not confident in judging gaps in traffic may experience anxiety in crossing;
- Crossing locations are set further back from the yield line which often results in a longer distance to travel for pedestrians; and
- Roundabouts are still relatively new in Ontario and as such they present significant challenges to the visually impaired and other vulnerable road users.

Cyclists will experience several advantages and disadvantages similar to those above, however, cyclists using roundabout present additional safety

concerns that must be accounted for in the design of the roundabout. Typically cyclists will negotiate a roundabout in 2 ways, either as a vehicle or as a pedestrian, dependent upon the skill and experience of the cyclist. The design of the roundabout must provide for the opportunities for both types of cyclist movements to exist. The following link takes you to the Region of Waterloo's roundabout page which has an interactive "How to use a roundabout" section in which you can see and hear how pedestrians and cyclists should use a roundabout.

http://www.region.waterloo.on.ca/web/region.nsf/roundabouts_how_to_use2.html

With respect to locations a better location might actually be Islington Avenue at Major Mackenzie Drive. This could be used as a gateway feature to identify to motorists traveling north that the driving environment has changed.

If the purpose for the roundabouts is to slow traffic, then more than one should be used. Roundabouts do occupy a larger footprint than typical signalized or stop controlled intersections which will present a problem for many of the intersections in Kleinburg. As you know intersections especially at Nashville Road and other intersections in the built up area of Kleinburg have very restricted space which will prevent the construction of roundabouts without serious property impacts. This would then result in the use of roundabouts on the fringes of the area, so the likelihood of getting any significant traffic movement and calming benefit in the built up areas is limited.

Based on the above, a roundabout at this time is not recommended.

