7

IMPLEMENTATION


DOWNTOWN
Gerrard St W

Implementation

The purpose of the financial forecast and strategy is to assess the implications of applying appropriate levels of service to Intensification Areas and Heritage Conservation Districts. The majority of the future growth and development in Vaughan will be focused in planned Intensification Areas and Heritage Conservation Districts. Although Vaughan's Official Plan identifies multiple Intensification Areas and Heritage Conservation Districts there are seven projects which form the basis of this financial forecast. These projects were chosen for the financial forecast since their master plan designs were complete or near completion and are as follows:

- Vaughan Metropolitan Centre
- Steeles West
- Carrville Centre
- South Yonge
- Concord West
- Centre Street
- Islington Avenue

Given that much of the new roads and development are developer driven, there is a high amount of uncertainty regarding completion times and phasing. The market, private interests and other factors will determine when specific portions of the project will be built. The projects themselves can also be expected to change over time as further work is undertaken and each project is reviewed, appraised and re-evaluated. As such, this forecast must be treated as an ever evolving document which should be revisited frequently to incorporate new information as it becomes available.

It is important to understand the context under which the levels of service and intensification projects will impact the City's future financial commitments. The very point of the Vaughan City-Wide Streetscape Manual is to service the forecasted future growth in Vaughan. As indicated in the 2013 City of Vaughan Development Charges Background Study, the residential population is forecasted to grow from 288,301 in 2011 to 400,871 as of 2031. Employment is also forecasted to grow from 188,640 as of 2011 to 266,098 as of 2031. This results in a requirement for streetscape development that caters to increased pedestrian traffic.

Increased Tax Base

The increase in capital and operations and maintenance costs for streetscapes is in relation to an increased tax base. While costs for higher levels of service streetscapes may seem daunting in the current financial outlook, the costs of the streetscapes will be phased in relation to population growth and available funding. Essentially, it should be remembered, that while the forecast looks at the cost of all the projects at a single moment in time, the implementation and context in the future will be ever changing. Therefore it is important to not judge the increase in costs solely on the current financial situation.

Suburban versus Urban

As Vaughan transforms from a suburban to urban form, each length of streetscape serves a greater number of people. In low density suburban neighbourhoods a small number of residential units front a large amount of streetscape. This form means that each unit pays for a large amount of streetscape. Urban areas, such as the intensification projects, project plan to have much higher densities resulting in a greater number of unit tax revenue for the same or even smaller length of streetscape than low density areas. While it is recognized that not all tax revenue will go to streetscape work, it is useful to understand that typical urban densities mean a lower % of streetscape length per residential unit and therefore a more efficient streetscape cost per unit.

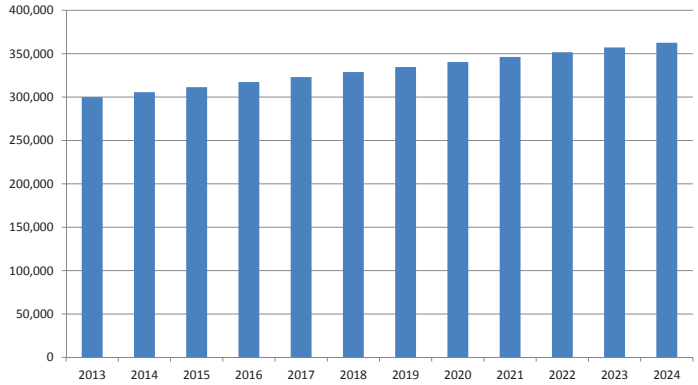


Figure 7.1: *Residential Population Forecast (According to the 2013 Vaughan Development Chart Study)*

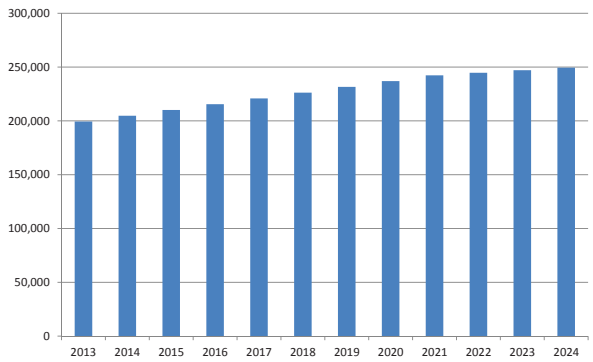


Figure 7.2: *Employment Population Forecast (According to the 2013 Vaughan Development Chart Study)*

Focused and Efficient

Growth is expected to be concentrated in the intensification project areas. The concentration of intensification means that the delivery of high quality streetscapes is efficiently focused in relatively small areas while serving a larger dense population. For example, upon full build-out, the intensification projects in total will represent approximately 8% of Vaughan's overall linear meters of streetscape. Furthermore, approximately 5 - 6% of Vaughan's overall linear meters of streetscape will be of the Standard Urban level of service. The Enhanced level of service will be approximately 2 - 3% of Vaughan's overall linear meters of streetscape and the Premium level of service will represent approximately 0.25%. Therefore, while the per linear meter cost increase for these levels of service may seem high, the costs will be applied efficiently to a relatively small area in Vaughan's overall streetscape system and will maximize its impact.

As there are other intensification projects yet to be included, the financial forecast and strategy will change and evolve as streetscape master plans are added.


COFFEE
BALZAC
ROASTERS

The Model

The financial model is an Excel based tool designed to take various inputs from master plan projects and output a financial forecast for decisions makers to make informed decisions. The model is a large part of the financial strategy and financial forecast.

Premise

The rationale for creating the streetscape financial model was to create more certainty around assumptions which are used in current decision making regarding urban streetscape master plan projects. The essential aim is to provide a usable framework of financial measures, layered onto design inputs for specific projects to address questions regarding:

- Appropriate Level of Service
- Capital Cost
- Funding by Source
- Phasing
- Operating Costs
- Infrastructure Reserve Requirements

The outputs of the model are intended to aid decision-making by applying a standardized set of assumptions regarding the above elements so that individual projects can be compared on a like for like basis, and the collective impacts of projects can be assessed in terms of their likely capital and operating funding requirements.

Master Plan Stream

In the Master Plan Stream, the financial model and financial strategy occur after the level of service of the streetscapes have been determined. The outputs of the financial model are used to inform Council on the potential future financial commitments to the City and guides decision making. All other stages of the Master Plan Stream provide information as inputs into the financial model. The inputs provide a basis for the model to make calculations on funding availability and phasing.

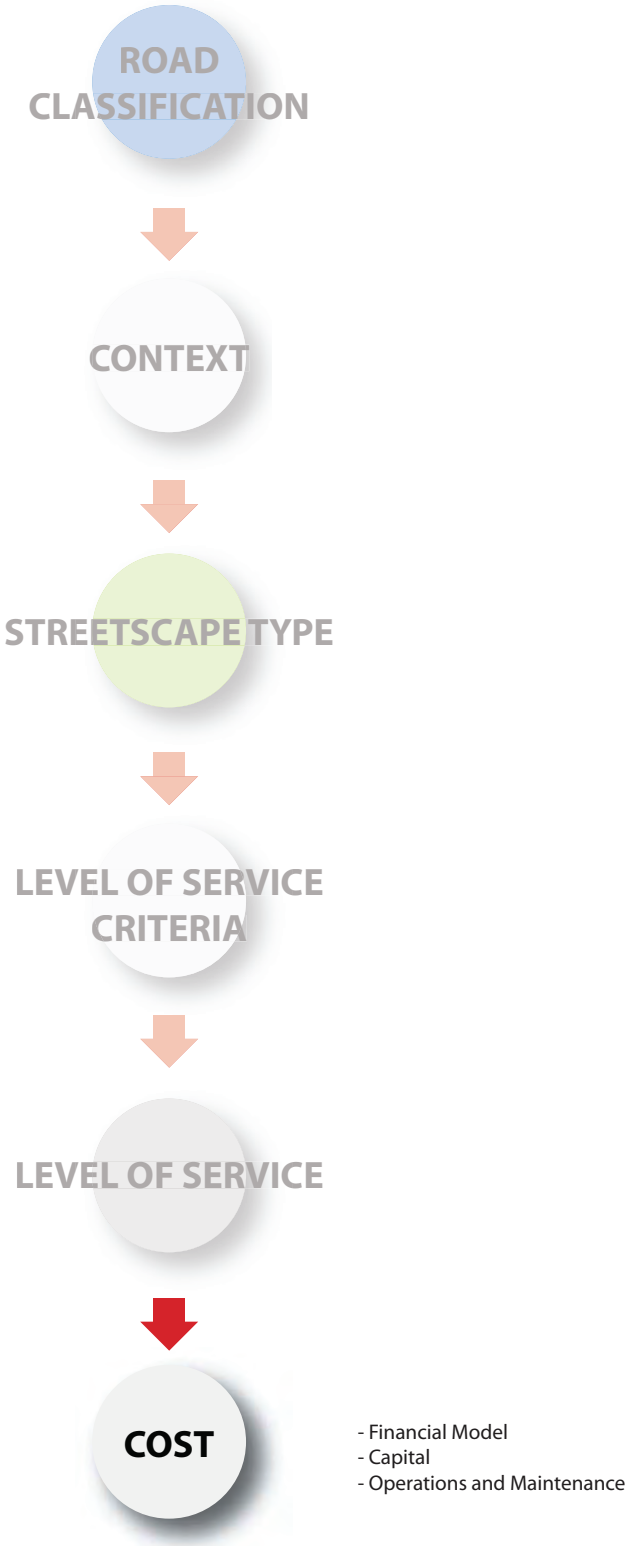


Figure 7.3: *Master Plan Stream*

Key Funding Sources

The model incorporates the following available funding sources.

1) Development Charges (DC) - subject to the existing cap on capital cost development charge eligibility as contained in the latest 2013 Vaughan Development Charge Background Study.

2) Developer contribution - based on 100% contribution to the cost of new local roads and a lower likelihood of contribution by developers for streetscape required in relation to newly developed areas/parcels. Although this funding source is uncertain and subject to negotiation, the model assumes set contribution percentages based on road hierarchy.

3) VivaNext Construction - Streetscapes along new Bus Rapid Transit routes will be built and paid for by the Region. Only enhancements to the VivaNext level of service will be at a cost to the City.

4) Regional Municipality of York Funding - for those projects identified by the Region as potentially coinciding with planned regional road infrastructure work (at a rate of 50%) and further, a lower rate of one third funding (33%) for projects which are located on regional roads but which do not have regional road infrastructure work planned.

5) Taxation - Unfunded amounts after all other funding sources identified above have been utilized, will be funded through a combination of taxation and further negotiated developer contributions. This will be determined on a project by project basis.

The approach to funding is conservative and the model utilizes percentages of contribution which account for the risk attached to obtaining funding from these sources in the future. The funding approach specifically excludes any reliance on grant funding from other levels of government (whether Gas Tax or other funding sources) as these are considered infrequent and unpredictable as it pertains to any given streetscape capital project.

Life Cycle

The initial work on the model created a functional life span for each material and component contained in the palette of materials. However, the fundamental premise of this model (of necessity as a replicable financial tool) is that the level of service represents the key driver of financial impacts.

While individual components of a streetscape have various life cycles, the model assumes a 20 year life span for the whole streetscape with the understanding that a more detailed life cycle analysis will be performed as projects are built. This 20 year life cycle is incorporated into the costing through capital.

Capital reserve contributions are set as 5% of original capital cost (unescalated). This is shown in the model as a separate item and is also combined with operating costs to demonstrate the outlay for operations and reserve needed in each year going forward.

In addition to separating out the unfunded capital amounts, operating requirements and capital reserve contributions, the model outputs identify the annual increase in taxation for operating and reserve.

Model Framework

The financial model was created as an Excel model designed to take various inputs of information typically known in a streetscape master plan and engineer outputs of cost. The model and financial forecast works upon the inputs of three different sources:

- Master Plan Project Inputs
- Phasing Project Inputs
- Cost Inputs

Master Plan Project Inputs

Master plan inputs are information found in the master plans of Intensification Areas and Heritage Conservation Districts. They combine elements of context, design and cost. These inputs also contribute to the level of service of the streetscape and provide an understanding of what is being costed and built.

Phasing Project Inputs

Phasing project inputs are information that is included in the master plan but also from other external sources. Phasing project inputs are elements of when the project may start and its duration. This type of information goes beyond the master plan and start to consider matters of implementation and coordination with other projects. Funding sources may also be considered with these inputs if there are time dependant factors.

Cost Inputs

Cost inputs are information derived from City financial procedures. How potential funding is distributed and how future financial commitments are calculated is programmed directly into the model so City Process users do not have to input this information. The cost inputs are information dependant upon the master plan project and phasing project inputs.

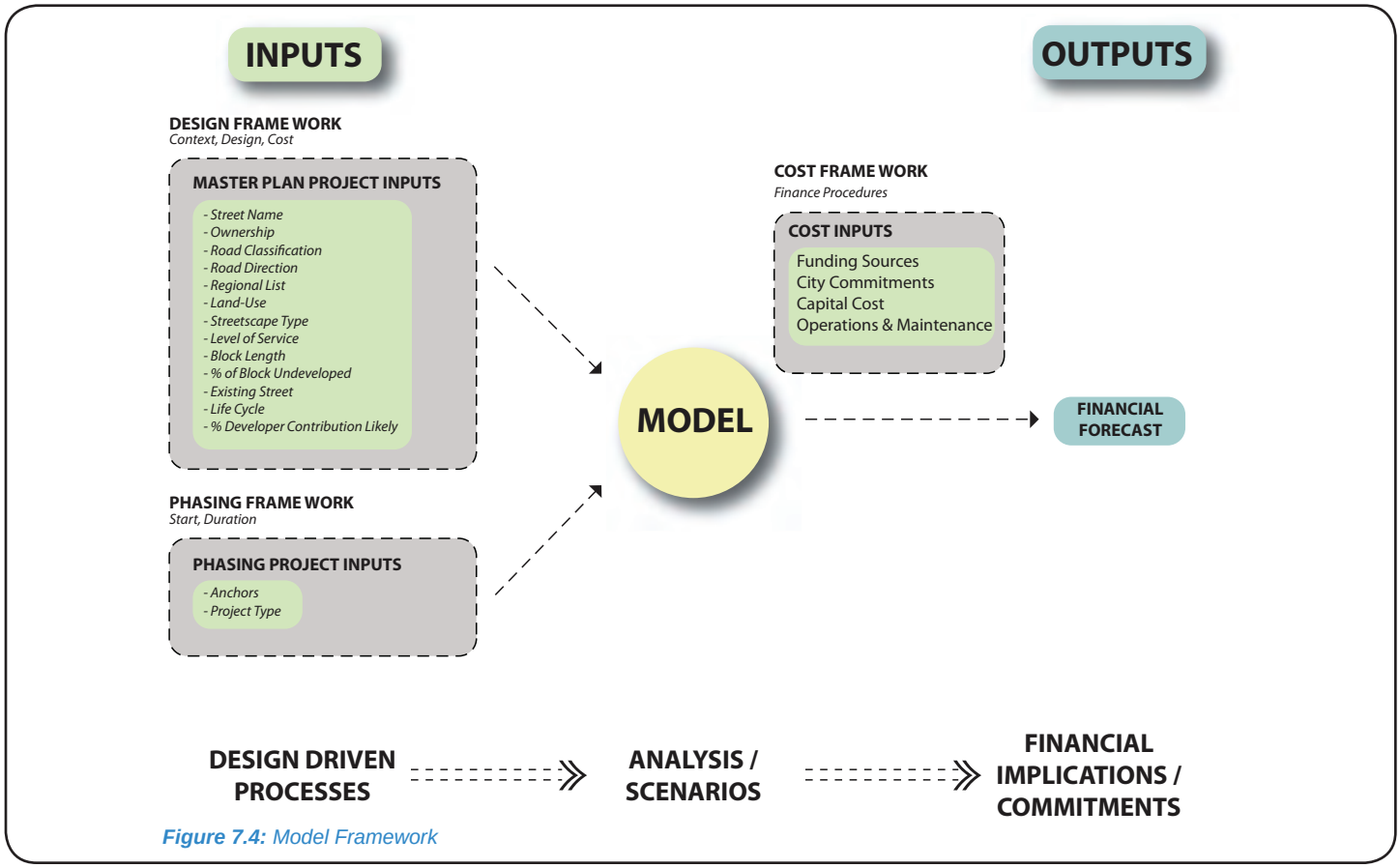


Figure 7.4: Model Framework

Level of Service and the Model

The level of service concept is important to the design and financial strategy as a bonding element between design and cost. The levels of service consider the context of an area, the resulting design solution and cost. The importance of the level of service concept to the model is the component of cost, both capital and operations and maintenance, which allows design to be reflected in the financial model.

To be used in the model, the level of service concept was simplified into the typical level of service cross sections explained in Section 6:

- Standard Urban
- Enhanced
- Premium

Capital Costs

For the prototype levels of service to be relevant and tied to cost, all the potential streetscape components were identified and assigned a typical cost. Component costs were identified from the Vaughan's Development Charge studies, Vaughan staff, and consultant team experience. Once all components and costs were agreed upon, each of the level of service prototypes was designed per the streetscape structure, found in Section 6, and to encompass typical elements found in the relevant level of service. The components available per their level of service were chosen from the Streetscape Component Selection Matrix (see Appendix G), and were then costed according to the Streetscape Component Breakdown Chart (see Appendix G). This ensured that each level of service prototype is a construction of the detailed aggregate of design.

Capital construction costs have an addition of 20% for soft costs typically applied in construction costing. While inflation in the model has been set to 0%, it is possible to add inflation to the outputs through the model.

Operations and Maintenance Costs

Each level of service prototype was also assigned an operations and maintenance cost. As with the capital cost, the operations and maintenance cost was determined at the aggregate level based upon the design components. The design components and how they are used in the structure of the pedestrian boulevard determined what operations and maintenance activities would occur. With confirmation from City of Vaughan staff, operations and maintenance activities were assigned to each level of service prototype based upon the design.

It is recognized that funding gaps may exist in the currently budgeted operations and maintenance activities. For example, currently budgeted dollars attributed to streetscape operations and maintenance may not fully reflect what may be required to maintain the City's current level of service on the City's existing streetscapes.

Infrastructure Reserve Calculation

The infrastructure reserve calculation is a separate calculation in the model. It is based upon an average 20 year life expectancy for all streetscape components, which equates to a contribution of 5% of the total capital cost to the infrastracture reserve fund each year over the life expectancy of the asset. The City of Vaughan reserve policy does not account for every component in the Streetscape Manual. Therefore, it is recommended that the current reserve policy in relation to streetscapes be revisited to address potential future funding gaps.

Pedestrian Corner Treatments and Bicycle Infrastructure

Bicycle infrastructure is mostly considered part of the roadway infrastructure and therefore was not included in the model costing. Pedestrian crosswalks were not included in the model costing. However, pedestrian corner treatments were factored into the level of service.

Capital costs and operations and maintenance costs are expressed as per linear meter unit costs to allow for calculations in the model and applied to the master plan projects. The following pages outline the recommended capital and operations and maintenance assumptions for each level of service prototype.

Basic Level of Service
Capital / Operating and Maintenance

CAPITAL ***$514.85 / lm***

Amenity Zone
- Trees and Planters
  - Tree Deciduous 60mm Caliper
  - Planting Soil
  - Compacted Mulch
- Softscape
  - Sod

Pedestrian Clearway Zone
- Main Field
  - Poured In Place Concrete

Frontage Zone
- Softscape
  - Sod
  - Planting Bed

Illumination Elements
- Standard
  - Street Lighting

OPERATING AND MAINTENANCE ***$14.72 / lm / yr***

Continuity Strip Zone
- Spring Cleanup
  - Salt Strip Sweeping
- Street Trees
  - Pruning
  - Mulching and Fertilization
  - Basic Root Pruning
- Softscape
  - Lawn Mowing

Pedestrian Clearway Zone
- Hardscape Concrete
  - Concrete Repairs
- Snow
  - Snow Removal

Frontage Zone
- Softscape
  - Shrub Bed Maintenance
  - Lawn Mowing

Illumination Elements
- Typical Lighting
  - Street Lighting

Standard Urban Level of Service
Capital / Operating and Maintenance

CAPITAL ***$974.25 / lm***

Continuity Strip Zone
- Hardscape
  - Poured In Place Concrete

Amenity Zone
- Hardscape
  - Poured In Place Concrete
- Trees and Planters
  - Tree Deciduous 60mm Caliper
  - Planting Soil
  - Raised Planter Curb
  - Perennials and Ornamental Grasses

Pedestrian Clearway Zone
- Main Field
  - Poured In Place Concrete

Illumination Elements
- Standard
  - Street Lighting

OPERATING AND MAINTENANCE ***$99.70 / lm / yr***

Continuity Strip Zone
- Hardscape
  - Concrete Repairs
- Spring Cleanup
  - Salt Strip Sweeping
- Snow
  - Snow Removal

Amenity Zone
- Hardscape Concrete
  - Concrete Repairs
- Hardscape Planter Curb
  - Concrete Repairs
- Snow
  - Snow Removal
- Street Trees
  - Pruning
  - Watering
  - Mulching
  - Standard Root Pruning
  - Infiltration / Irrigation / Flushing
- Softscape
  - Planter Watering / Maintenance
  - Ground Cover Trash Removal / Maintenance

Pedestrian Clearway Zone
- Hardscape Concrete
  - Concrete Repairs
- Snow
  - Snow Removal

Illumination Elements
- Typical Lighting
  - Street Lighting

Enhanced Level of Service
Capital / Operating and Maintenance

CAPITAL ***$1,855.98 / lm***

Continuity Strip Zone
- Hardscape
  - Poured In Place Concrete

Amenity Zone
- Hardscape
  - Pre-Cast Concrete Unit Pavers on Concrete Base
- Trees and Planters
  - Tree Deciduous 80mm Caliper
  - Raised Planter Curb
  - Planting Soil
  - Perennials and Ornamental Grasses
  - Soil Cells
- Furniture
  - Bench
  - Trash Receptacle
  - Bicycle Stand
  - Branding Signage

Pedestrian Clearway Zone
- Main Field
  - Poured In Place Concrete

Frontage Zone
- Hardscape
  - Poured In Place Concrete

Illumination Elements
- Standard
  - Pedestrian Lighting
  - Street and Pedestrian Lighting

OPERATING AND MAINTENANCE ***$152.28 / lm / yr***

Continuity Strip Zone
- Hardscape
  - Concrete Repairs
- Spring Cleanup
  - Salt Strip Sweeping
- Snow
  - Snow Removal

Amenity Zone
- Hardscape Unit Paving
  - Unit Paver Repairs
  - Concrete Base
- Hardscape Planter Curb
  - Concrete Planter Repairs
- Snow
  - Snow Removal
- Street Trees
  - Pruning
  - Watering
  - Mulching and Fertilization
  - Infiltration / Irrigation / Flushing
- Softscape
  - Planter Watering / Maintenance
  - Ground Cover Trash Removal / Maintenance
  - Trash Receptacle

Pedestrian Clearway Zone
- Hardscape Concrete
  - Concrete Repairs
- Snow
  - Snow Removal

Frontage Zone
- Hardscape Concrete
  - Concrete Repairs

Illumination Elements
- Typical Lighting
  - Pedestrian Lighting
  - Street / Pedestrian Combo Lighting

Premium Level of Service
Capital / Operating and Maintenance

CAPITAL ***$2,325.50 / lm***

Continuity Strip Zone
- Hardscape
  - Poured In Place Concrete

Amenity Zone
- Hardscape
  - Poured in Place Concrete
  - Natural Stone
- Trees and Planters
  - Tree Deciduous 100mm Caliper
  - Raised Planter Curb
  - Planting Soil
  - Perennials and Ornamental Grasses
  - Soil Cells
- Furniture
  - Bench
  - Trash Receptacle
  - Bicycle Stand
  - Branding Signage

Pedestrian Clearway Zone
- Main Field
  - Pre-Cast Concrete Unit Pavers on Concrete Base
- Paving Accent
  - Natural Stone

Frontage Zone
- Hardscape
  - Poured In Place Concrete

Illumination Elements
- Standard
  - Pedestrian Lighting
  - Street and Pedestrian Lighting

OPERATING AND MAINTENANCE ***$167.65 / lm / yr***

Continuity Strip Zone
- Hardscape
  - Concrete Repairs
- Spring Cleanup
  - Salt Strip Sweeping
- Snow
  - Snow Removal

Amenity Zone
- Hardscape Unit Paving
  - Unit Paver Repairs
  - Concrete Base
- Hardscape Planter Curb
  - Concrete Planter Repairs
- Snow
  - Snow Removal
- Street Trees
  - Pruning
  - Watering
  - Mulching and Fertilization
  - Infiltration / Irrigation / Flushing
- Softscape
  - Trash Receptacle

Pedestrian Clearway Zone
- Hardscape Unit Paving (Main Field)
  - Unit Paver Repairs
  - Concrete Base
- Hardscape Unit Paving (Accent Field)
  - Unit Paver Repairs
  - Concrete Base
- Snow
  - Snow Removal

Frontage Zone
- Hardscape Concrete
  - Concrete Repairs

Illumination Elements
- Typical Lighting
  - Pedestrian Lighting
  - Street / Pedestrian Combo Lighting

Master Plan Inputs

The financial model works upon the basis of a block by block level of detail. This means that information from the master plan needed to be understood and inputted into the model by the street, block number and block side. This level of detail ensured that the level of service can accurately respond to the needs of a streetscape. Given that streetscapes generally remain unified along the full length of a block and transitions are created at intersections, the per block level of detail was considered effective. To input the model information, a key plan was created for each intensification project to indicate the street, block number and block side. Inputs for the design framework are detailed below.

Street Name

The street name, in conjunction with the block number and block side, identifies the location of the streetscape treatments. It is important to have accurate identifiers to justify the level of service applied to the streetscape responding to the master plan design.

Ownership

Ownership of a street deals with jurisdiction and can affect funding. City of Vaughan streets are the responsibility of the City and potentially developers with regards to capital costs and Regional streets may have access to a percentage of Regional funding. However, the bulk of streetscapes are City-owned streets.

Road Classification

The road classification determines the streetscape's place in the overall street network and hierarchy. Major arterial streets are exclusively regionally owned streets. Road classification also gives indications of the street function and its character regarding volumes of vehicular traffic. The streetscape type needs to respond to these conditions.

Road Direction

The road direction refers to the orientation of the main cardinal direction of the street. The financial model works at a block level of detail and therefore the identification of which block along a streetscape and which side is important to know. The road direction helps to identify which block side the information pertains to. For example, a north-south street will have blocks with east and west identifiers. This information is used in conjunction with the street name and number of blocks.

Regional List

Potential regional funding is affected by the York Region Municipal Streetscape Partnership Program (MSPP). The funding percentage that York Region will contribute is affected by successful application and if a streetscape can be found to coincide with regional street infrastructure projects.

Number of Blocks

The number of blocks along a streetscape is used with the street name and road direction to identify locations of streetscape treatments. The number of blocks along a street is automatically broken down with the street name and block side so that inputs of land-use, streetscape type, level of service, block length, and percentage of block undeveloped can be accurately applied to the master plan design.

Land-Use

The adjacent land-use along a block indicates the uses that the streetscape design must respond to. This information is important to decide the streetscape type and how the streetscape design will respond to the adjacent uses. The adjacent land-use gives a sense of the character of the street based upon the type of pedestrian activity.

Streetscape Type

The streetscape type is a design response to the adjacent land-use. The streetscape type gives a sense of the physical character of the street based upon design responding to pedestrian activity.

Level of Service

The level of service is one of the most important inputs in the model. The level of service chosen for a block of streetscape determines the linear meter cost and what components and materials are available for detailed design. The level of service takes the elements of context, design and cost and allows the model to take those elements into account when formulating a future financial impact.

Block Length
The block length of a street is needed to determine the cost of a streetscape. Each block length along a streetscape in the project must be known to apply the per linear meter level of service costs.

Percentage of Block Undeveloped
The percentage of block undeveloped input refers to how much of a block is undeveloped or requires redevelopment to align with the new master plan streetscape block structure. How much undeveloped land is available along a block affects developer contributions to the new or upgraded streetscape. The more undeveloped land along a streetscape block the greater the possibility of developer contributions.

Existing Street
Existing streets have an existing operations and maintenance value associated with the street. If a street is indicated as existing, it affects the future operations and maintenance values since operations and maintenance were likely occurring prior to the streetscape upgrade.

Life Cycle
For the purposes of the reserve calculation, the life cycle for all levels of service was set at 20 years.

Percentage Developer Contribution Likely
The percentage of developer contribution likely is an automatic input / output based upon the road classification. Along major arterials (Regional roads) the Region has the potential to contribute 33 to 50% of funding through the MSPP. The developer is not likely to contribute the full remaining 50% and therefore the assumption of 25% was made. On local roads, developers are expected to contribute 100% of funding through their developments. On other municipal roads, it is possible that developers could contribute up to 75 to 100% of the streetscape funding, however it was felt a more conservative assumption would be 50%. The assumptions regarding percentage of developer contribution were derived for the purposes of the model and do not represent City policy. The City and the development community must work together to achieve the build-out of the streetscapes. The model assumptions provide a starting point for discussion and negotiation.

Phasing Inputs

Phasing inputs in the model are different from master plan inputs in that they may deal with external factors not found in the master plan. There is a great deal of uncertainty with phasing inputs and many assumptions must be made during the process. Never-the-less, phasing inputs are important as they have an impact on the potential funding sources and future financial commitments.

It is useful to think about phasing in the form of overall project phasing and specific project phasing. Overall project phasing is discussed as part of the financial strategy and accounts for the phasing of multiple intensification projects in relation to each other and deals with project start dates, project durations and potential funding sources. Specific project phasing makes assumptions and considerations of construction phasing for specific intensification projects. When a specific street will be constructed in relation to another street in an intensification project it affects the financial forecast on a year to year basis with greater detail than just knowing the overall project duration. Operations and maintenance costs are also affected by the phasing of specific streets.

The following phasing inputs are found in the model and are affected by overall project phasing and specific project phasing considerations.

Phasing by Street

As each street is included in the models "project" worksheet it must be assigned a phase. Phasing by street is specific to the individual intensification area project and is mainly related to construction matters. The individual inputting phasing by street information must have knowledge of which streets are important as catalysts for development, which streets will be developed as partnerships with other parties and the planning and construction issues of the particular project.

Year End of First Projected Year

The year end of first projected year input specifies the end of the starting year of the project and is based upon overall project phasing. This input, in conjunction with the first estimated month and year of phase start input determines how many months of construction can be completed in the first year of the intensification project. This is relevant to the start of operations and maintenance costs.

Length of Phase (in months)

Length of phase indicates how long each phase lasts in months. Depending on what streets are included in each phase and the complexity of streetscape construction the lengths of each phase may vary. The length of phase input further divides and details capital construction and operation and maintenance costs.

Estimated Month and Year of Phase Start

The estimated month and year of phase start indicates the start of the construction of each phase in the project. This input may be affected if phases are not continuous allowing for an overlap in phases.

Are Phases Continuous

If the phases are continuous there is no overlap and the start and end dates of the phases will show consecutively. However, if any of the phases are not continuous, the start date of the phase may be set to overlap with another phase. Non-continuous phases create implications for capital and operations and maintenance cost commitments.

Limiting Assumptions

There are a number of key assumptions which drive any approach to forecasting likely capital expenditures on the part of the City. As much as anything, the strategy is not one which is born of external factors which direct the City to undertake capital projects – but rather, a combination of external forces which, combined with active management by the City in its forward planning can result in a reasonable approach to financial forecasts. It is important to recognize that any forecast presented (this represents the first iteration of such forecast based on the output of the financial model) is speculative in nature and should be used as a basis for further discussion and decision making on the overall city-wide development priorities. Specifically, the assumptions which are the basis for the financial forecast are more important at this stage than the forecast itself. It is important that these assumptions, which will change over time and as further work is undertaken on each of the specific projects in question, are reviewed, appraised and re-evaluated as necessary to produce a reasonable financial forecast based, commonly agreed and relevant assumptions and principal priorities.

Specific limiting assumptions in providing this forecast are as follows:

Model Driven

The forecast represents an output of the financial model which provides the opportunity for the City to estimate the "order of magnitude" capital cost associated with the seven individual projects which comprise the study. Further, this model provides an estimate of both the operating costs and the capital reserve necessary to enable these projects to be undertaken and at the level of service chosen.

Financial Impact and Funding

Municipal fiscal impact considerations require an assessment of the revenue potential associated with the broader development to which the streetscape is part of. The relative contribution of public realm improvements and public sector development will determine this over time. As presented earlier in the project, in broad terms there are significant economic benefits associated with improved city infrastructure, public realm improvements and other measures which help create a quality of public gathering space, commercial environments, and institutional as well as residential spaces that are broadly considered to have resulted in significant economic gain for communities.

A key purpose of the model in estimating financial impact is the identification and qualification of the likely funding sources available to secure each of the projects in question. This qualification is always at a conceptual stage until sufficient detail exists for more precise estimates of costs and their allocation. This includes a range of funding sources including eligible funding from the City of Vaughan Development Charges, contributions by the private sector through development of lands along the streets in question, funding provided by Regional partners, and a resulting amount of funding which is due to the City of Vaughan's account and represents for purposes of this analysis as funding to be secured through the tax base.

Reliance on Development

In conceptualizing an approach to phasing of these projects, it is important to distinguish clear characteristics of each as follows:

- Those projects which are generational in scope (extending 25+ years);
- Those projects which are shorter term and lower cost;
- Those projects which are more likely to be in the control of the City by virtue of the responsibility falling on public agencies for funding as opposed to occurring alongside and as a direct result of private sector development; and
- Those projects which fall essentially into the category of being driven by land use development – and as such, the control of phasing is subject to the realities of the market place in terms of the pace of development over the coming years.

Financial Strategy

The financial strategy is a part of the overall City-Wide Strategy along with the design strategy. The design strategy, comprised of the streetscape types and level of service concept, is intended to tie into the financial strategy to bring together design and cost concerns. Connecting the design and financial strategies together is accomplished by combining the levels of service and the financial model.

A large part of the financial strategy is the financial model. The financial strategy and model are a combination of the elements of phasing, funding and design and ensures a holistic approach to streetscape implementation. As discussed earlier, the financial model is also a construct of the City of Vaughan's financial processes for streetscapes taking into account issues such as, but not limited to, capital costs, operation and maintenance costs, infrastructure replacement reserves, development charges, Regional funding and developer funding. The outputs of the financial model allow the financial strategy to evolve as new information becomes available. At present, the financial strategy includes seven intensification projects. The level of service concept was applied to these projects and inputted into the model. The model's outputs yielded results that allowed for analysis and subsequent adjustments to the levels of service. As more projects are added, the model outputs will inform how the strategy may be modified. While the financial strategy gives an overall forecast of financial commitment, projects will still be required to be evaluated through the City's budget approval process.

The financial strategy will be discussed per the elements of:

Phasing
- Anchors
- Project Type

Design
- Level of Service Distribution
- Level of Service Scenarios

Phasing

To ensure that the phasing input assumptions were objective, the phasing assumptions were determined upon the basis of two main factors:

- Anchors
- Project Type

Anchors

A series of existing funding schedules represented anchors by which the City could judge its intended initiation of each project and acted as a basis for a forecast for City expenditure. These anchors only apply to streets that are part of the existing network and not new streets. These anchors came from sources such as:

- VivaNext
- York Region Municipal Streetscape Partnership Program (MSPP)
- Vaughan Development Charges

These anchors represent existing planned construction in the intensification areas which are related to roadway and public infrastructure. By aligning streetscape intensification projects with these infrastructure projects, the City can take advantage of funding from these sources, ensure minimal disruption to traffic and busineses and make efficient use of timing and resources.

Anchors:
Development Charges Streetscape Specific Funding

The latest City of Vaughan Development Charge Background Study (2013) identifies the years when Development Charge (DC) funding is available for each individual project. When DC funding is available is a useful factor in determining when projects should start.

In relation to the seven intensification projects in the financial forecast, the funding schedule is shown graphically on the adjacent page.

Development charges funding is largely dependent upon streetscape enhancements coinciding with the engineering infrastructure construction making ideal anchors to start project construction.

Anchors:
VivaNext and York Region MSPP

An agreement between Vaughan and VivaNext outlines the upgrading of streetscapes along VivaNext's bus rapid transit network. Streetscape upgrades will occur according to a VivaNext schedule which is a reasonable time for other streetscape project work to occur.

The York Region MSPP program is another potential source of timing and funding. As with the other sources, York Region anticipates doing streetscape infrastructure work at various times in the future. In conjunction with this work, it offers a program in which the City can apply for additional funding along Regional roads where the Region is doing infrastructure work.

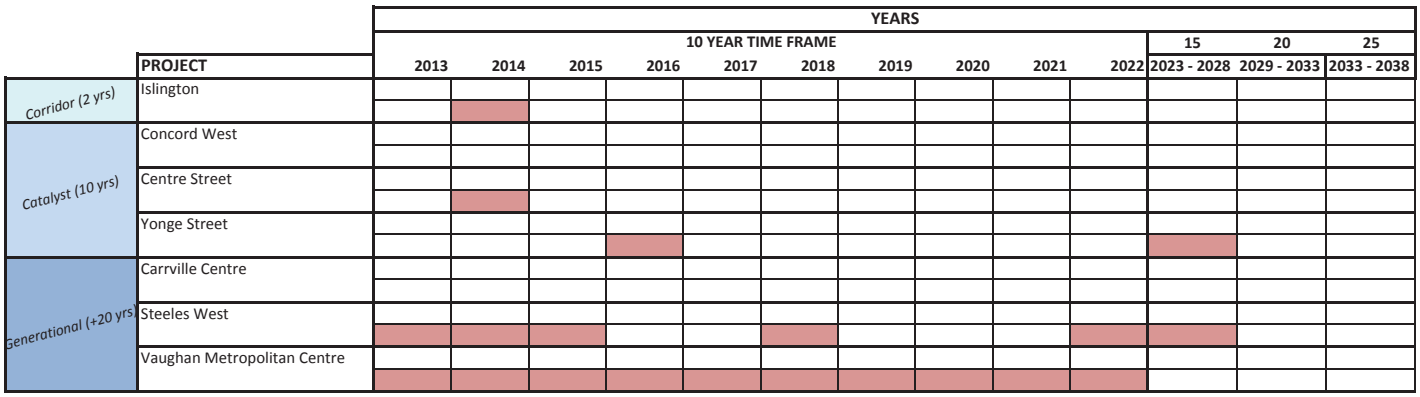


Figure 7.5: *Development Charges Streetscape Specific Funding*

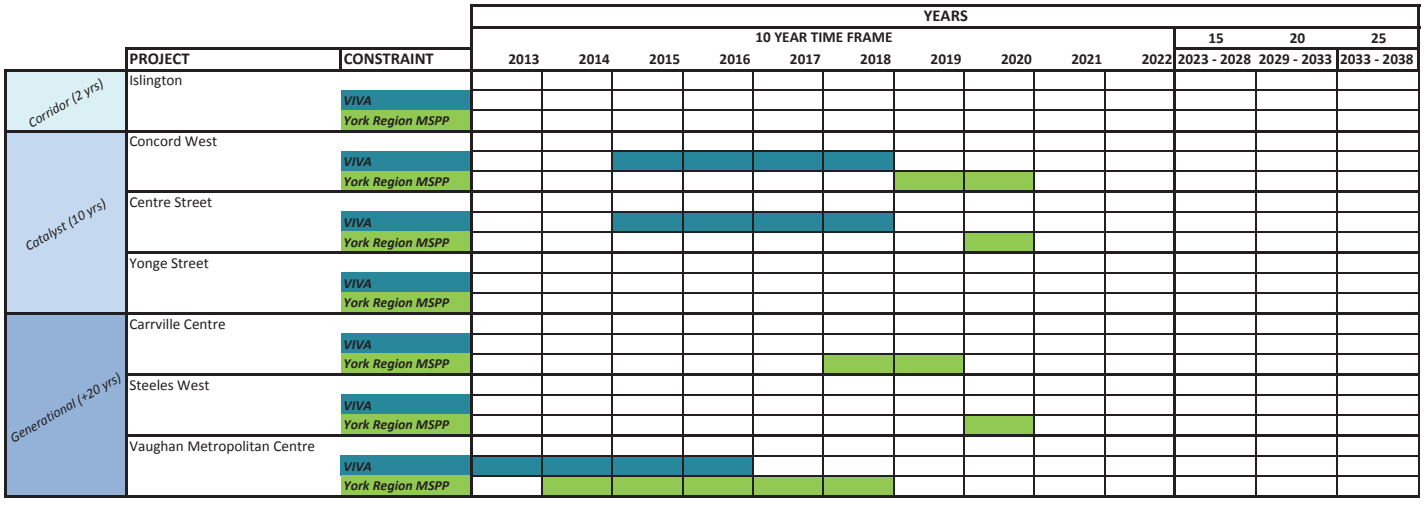


Figure 7.6: *VIVA and Regional Funding Availability*

Project Type

The project type largely determines the duration of the project but can also indicate when initiation is desirable. There are three project types:

- Generational Projects
- Catalyst Projects
- Corridor Projects

The projects types were developed around the consideration of certainty and priority.

Certainty

The project certainty is mainly determined by how much control a municipality has over the projects full build out. The full build out of large projects with a large amount of new local roads and undeveloped private lands are determined largely by developers. Developer interests and market influence when new development, and therefore new local roads, will be built. The greater concentration of undeveloped private developer lands means the municipality will have little control over the project construction. Collector roads offer more certainty since they can be built by the municipality regardless of development. The project's size and complexity also affect the certainty of the projects development.

Generally, projects with low certainty tend to have longer durations, while projects with high certainty have shorter durations.

Priority

The project priority is determined by its importance and intent. Projects which are intended to be catalysts or that which include catalysts for developement should have priority for construction. In large projects with a large amount of undeveloped private lands, it is important to construct the catalyst early in the process to encourage development and reduce the project duration. Catalysts for development include a major cultural node, urban centre, mobility hub, transit hub, regional urban square, etc.

Small projects with municipal control that can be finished easily have high priority for completion since they have a good certainty of completion.

Generational Projects

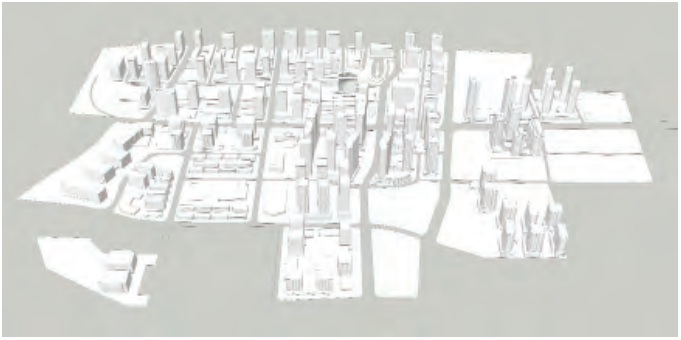
Generational projects create new roads and infrastructure while creating new employment and residential lands. Generational projects are ambitious long term projects which last longer than a generation (longer than 25 years) and dramatically change the overall character of an area. A large portion of generational projects are new local roads fronting undeveloped private lands meaning there is little municipal control over when development will occur. Generational projects have a great amount of uncertainty and need a strong catalyst to encourage development. The construction of the catalyst portion of generational projects is a priority.

The generational projects include:

- Vaughan Metropolitan Centre
- Steeles West
- Carrville Centre

Characteristics:

- > 25% new roads
- > 25% undeveloped developer lands
- Mix of new roads and existing road enhancements
- Little municipal control over full build out and project duration
- Mix of land-uses including medium to high density residential, employment, recreational and retail services
- Project anticipated to be constructed over a 25 + year period
- Project includes development of a major node or urban centre as a catalyst with regional significance (mobility hub, transit hub, cultural centre, institutional centre, regional urban square, etc.)



Catalyst Projects

Catalyst projects are meant to encourage enhancement and infill of adjacent land-uses. Catalyst projects may include a minor amount of new roads or development, but are only moderately dependent upon private development. The catalyst project is mainly an enhancement to existing roads and should be constructed over a 10 year period. Catalyst projects may include small nodes but are not dependant upon their construction. Catalyst projects do not typically have a high priority given their potential costs and may be delayed depending on the likelihood of private redevelopment.

The catalyst projects include:

- Concord West
- Centre Street
- South Yonge

Characteristics:

- < 25% new roads
- < 25% undeveloped developer lands
- Mostly enhancement of existing roads
- Private development mostly enhancement and infill
- Some municipal control over full build out and project duration
- Project anticipated to be constructed over approximately a 10 year period
- Project may include small nodes (including transit stations and small squares)

Corridor Projects

Corridor projects are generally smaller projects with little complexity which can be completed with a good deal of municipal control. Corridor projects are typically enhancements to existing roads with little anticipation of new development to adjacent lands. Corridor projects typically are completed over no longer than a two year period and do not require the development of a catalyst or node. The relative certainty of project completion, short construction timeline and relatively lower cost make corridor projects ideal to complete early with high priority.

The corridor projects include:

- Islington Avenue

Characteristics:

- Little to no new roads
- Little to no undeveloped developer lands
- Mostly enhancement of existing roads
- Project duration mostly under the control of the Municipality
- Project anticipated to be constructed in approximately a 2 year period
- Project funding to be handled largely as a single investment

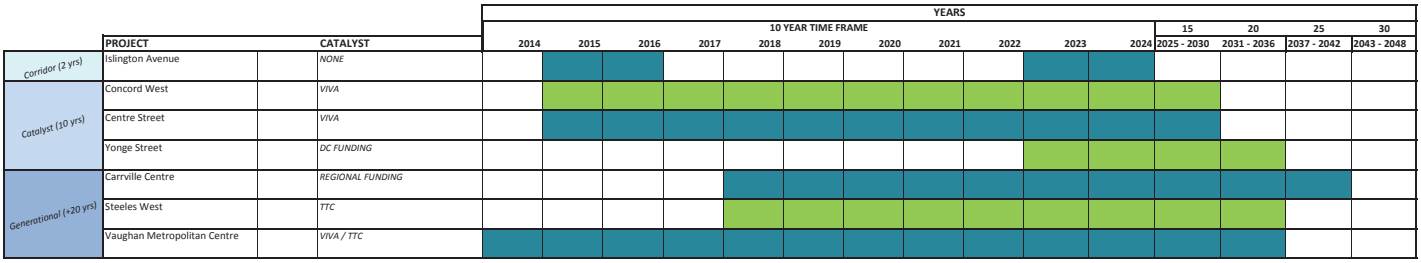


Figure 7.7: *Preliminary Project Phasing and Funding Strategy*

Consultant Phasing

Knowing the anchors associated with the projects and the project types, the intensification projects were assigned a phasing. For each project, the project type was determined (approximate duration), a potential catalyst was identified and potential anchors by funding sources were considered. Figure 7.7 illustrates the preliminary phasing for the seven projects.

Islington Avenue

Key Points

- Corridor Project (approximately 2 year duration).
- No identifiable catalyst.
- Access to potential DC funding starting in the year 2014.
- Access to potential regional funding pending application and acceptance.

With no catalyst or anchor available, Islington Avenue can potentially start construction at any time. However, the current York Region MSPP is scheduled through 2022. Potentially, this project could be placed on York Region's schedule in 2023 with access up to 50% funding pending successful negotiations with York Region. A portion of Islington is planned for 2015-16, with the bulk of the work planned for 2023-24.

Potential Project Phasing: Year 2015-2016, 2023-2024

Concord West

Key Points

- Catalyst Project (approximately 10 year duration).
- VivaNext construction along Highway 7 represents a catalyst for construction work in the year 2015.
- Access to York Region MSPP 50% funding for Highway 7 and Keele Street.

Construction by VivaNext presents the best opportunity to minimize disturbance and maximize resources for construction and funding. Given the 10 year approximate project duration, phasing the project to coincide with VivaNext construction allows Concord West to partner and coordinate with VivaNext while also accessing Regional funding in the years 2019 and 2020.

Potential Project Phasing: Year 2015 - 2025

Centre Street

Key Points

- Catalyst Project (approximately 10 year duration).
- VivaNext construction along Centre Street represents a catalyst for construction work in the year 2015.
- Access to DC funding starting in the year 2014.
- Access to York Region MSPP 33% funding in the year 2020.

VivaNext is slated for construction along Centre Street in the year 2015. With access to DC funding starting in 2014, access to Regional funding in 2020 and an approximate project duration of 10 years, phasing starting in 2015 to coincide with VivaNext construction would maximize potential resources and minimize construction disruption. Coordination between the Region and VivaNext is recommended.

Potential Project Phasing: Year 2015 - 2025

Yonge Street
Key Points
- Catalyst Project (approximately 10 year duration).
- Proposed Yonge Street Subway Extension stations are potential catalysts. Schedule currently unknown.
- Access to DC funding starting in the year 2016 and 2022 - 2025.
- Potential access to York Region MSPP funding pending application and negotiations.

Development Charge funding represent the only funding anchor in the year 2016 or between 2022 - 2025. Potential catalysts include the Proposed Yonge Street Subway Extension stations, however, these are not reliable. Therefore, potential construction could begin in 2023 to ensure access to the Growth Related DC funding. It is recommended that discussions with York Region and the TTC commence for coordination.

Potential Project Phasing: Year 2023 - 2033

Carrville Centre
Key Points
- Generational Project (approximately 20 year duration).
- Potential York Region funding.
- Potential access to York Region MSPP 50% funding for Rutherford Road in the year 2018. Dufferin Street is also eligible for Regional funding pending application to the Region and acceptance.

The Carrville Centre master plan represents a large amount of uncertainty due to its reliance on developer construction. Access to York Region funding in 2018 represents the only foreseeable anchor and start date. Additional discussions with the Region for funding for Dufferin Street may yield additional considerations.

Potential Project Phasing: Year 2018 - 2038

Steeles West
Key Points
- Generational Project (approximately 20 year duration).
- Catalyst identified as the Toronto-York Spadina Subway Extension station (Steeles).
- Potential access to York Region MSPP 50% funding for Keele Street in the year 2020. Steeles Avenue and Jane Street are eligible for Regional funding but are not scheduled.
- Access to DC funding starting in the year 2013, 2014, 2015, 2018, 2022 - 2025 and 2026 - 2031.

The Steeles TTC subway station is currently under construction and represents a catalyst for development in Steeles West. Given the project's long duration (potentially to the year 2033) it has the potential to access all DC and York Region funding. It is recommended that further discussions with York Region regarding Keele Street and Steeles Avenue be undertaken.

Potential Project Phasing: Year 2018 - 2034

Vaughan Metropolitan Centre
Key Points
- Generational Project (approximately 20 year duration).
- Multiple catalysts identified as the Toronto-York Spadina Subway Extension station (Vaughan Metropolitan Centre) and VivaNext construction along Highway 7 in the year 2013. The construction of these elements form a mobility hub.
- Access to York Region MSPP 50% funding for Highway 7 from years 2014 to 2018. Jane Street is eligible for funding with negotiations.
- Access to DC funding from the years 2013 through 2022.

The mobility hub elements (TTC station and VivaNext BRT station) are already under construction and therefore signify the start of the project (2013). The duration of the project is largely dependent upon developers and therefore the project has the potential to access many funding sources.

Potential Project Phasing: Year 2014 - 2034

Design

To further explore the potential to adjust the financial impact of the intensification projects, the design aspects of the intensification projects can be considered. There are two ways in which the design of the intensification projects have been altered:

- Level of Service Distribution
- Level of Service Scenarios

Level of Service Distribution

After assigning levels of service to streets and blocks of the intensification projects during the preliminary costing with the model the overall distribution of the levels of service for full build out of the intensification projects was considered. The distribution of the levels of service by length of streetscape showed that, as expected, Premium levels of service represented only a small portion of the total at 3%. However, Enhanced and Standard Urban levels of service were found to be 40% and 57% respectively. By cost, Premium levels of service represented 6% of the full construction cost, while Enhance and Standard Urban represented 64% and 30% respectively.

Premium levels of streets should be memorable and iconic streets which should stand the test of time and last many generations. Therefore, it was felt that the small percentage of Premium streets was reasonable. Enhanced level of service streetscapes are meant to be generational. As generations turn, styles change and given that enhanced levels of service have high visibility and located on streetscapes with high volume pedestrian traffic, may require updating to keep up to date to the styles of the time. Therefore, it was felt that enhanced levels of service should not be much more than approximately 1/3 of the total linear meter length of streetscapes.

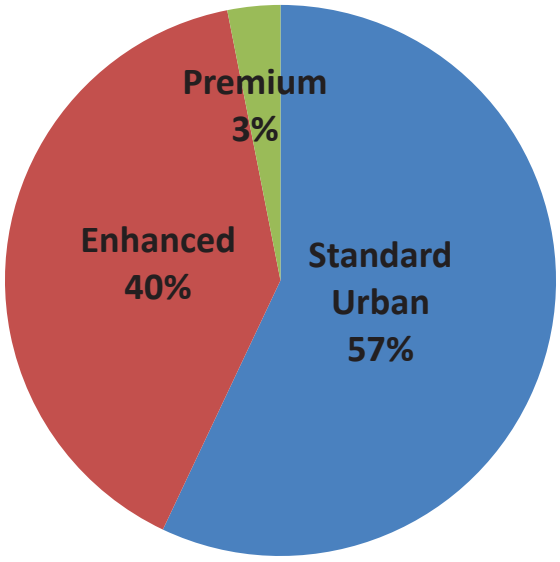


Figure 7.8: *Level of Service Distribution by Length for all Intensification Projects*

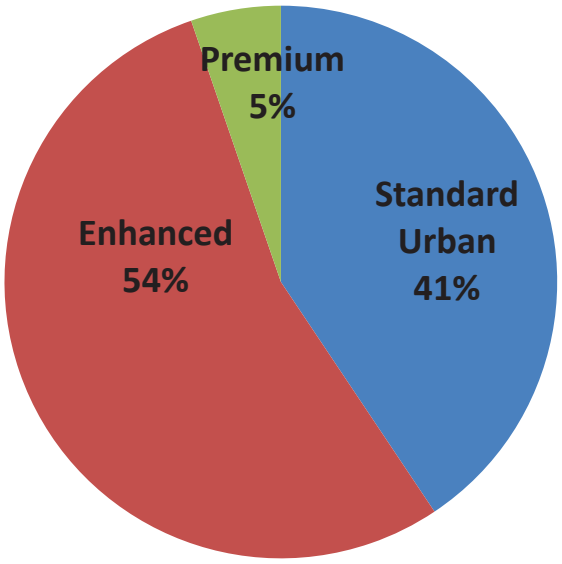


Figure 7.9: *Level of Service Distribution by Cost for all Intensification Projects*

In an effort to reduce the Enhanced level of Service for budgeting purposes, the master plans re-evaluated. It was found that within the Vaughan Metropolitan Centre there are two types of commercial streets: retail required and retail permitted. Streetscapes with retail permitted are not guaranteed to have retail which is one of the level of service criteria required for Enhanced levels of service. As a result, commercial streets with permitted retail were reassigned a Standard Urban level of service.

The reduction in level of service for the Vaughan Metropolitan Centre reduced the overall Enhanced level of service portion by 4% to 36% and increased the Standard Urban level of service portion by 4% to 61%. The revised distribution is 61% Standard Urban, 36% Enhanced and 3% Premium levels of service. In terms of cost, the redistribution of level of service decreased the Enhanced and increased the Standard Urban by 3%.

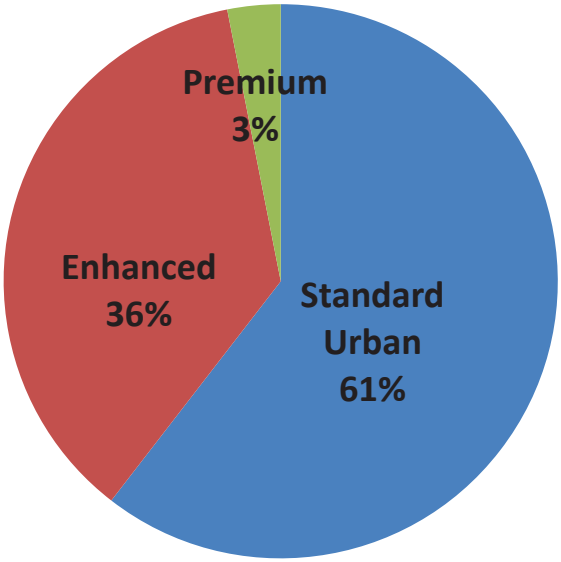


Figure 7.10: *Level of Service Distribution by Length for all Intensification Projects*

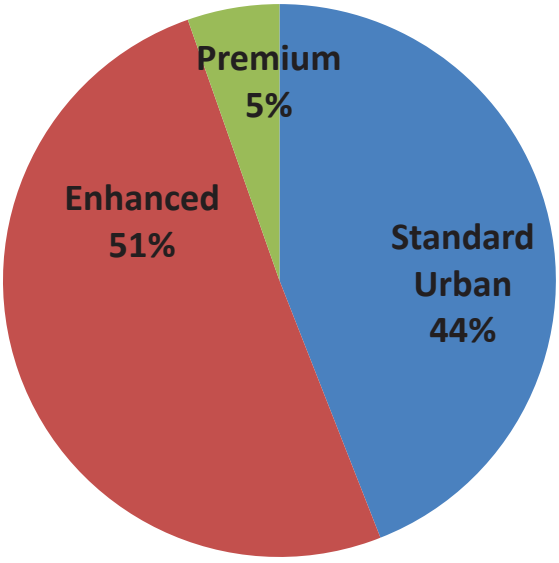


Figure 7.11: *Level of Service Distribution by Cost for all Intensification Projects*

Level of Service Scenarios

Using the available components per the Standard Urban level of service, three Standard Urban design options were constructed. A recommended, low and high cost option for the Standard Urban level of service were created and each was run through the model costing for the seven intensification projects to determine the financial impact.

The reason for three different Standard Urban cost scenarios is two-fold:

- The Standard Urban level of service will represent the urbanized character of Vaughan.
- The Standard Urban level of service will become the new baseline from which other streetscapes are subsequently designed which has cost implications.

The Standard Urban level of service represents the largest amount, by length, of streetscape for the intensification projects. Standard Urban levels of service are found mainly on residential neighbourhood streets in Vaughan. Enhanced and Premium level of service streets, by contrast, can be found in areas with a large amount of visitors. Therefore, the Standard Urban level of service represents the urbanized character that City of Vaughan residents will relate to and experience as home.

Vaughan's current engineering streetscape standard (Basic level of service) is not appropriate for urban streetscapes. The Basic level of service design does not address the needs for urban pedestrian traffic volumes or urban land-uses. The Basic $515 per linear meter capital construction and $15 per linear meter per year operations and maintenance costs addresses a suburban context with mainly softscape (sod), a minimal pedestrian clearway and minimal operations and maintenance (lawn mowing and basic pruning, etc.).

Over the course of determining the Basic level of service, Vaughan staff found that the City currently has approximately $5 per linear meter / year in the budget for operations and maintenance of Basic streetscapes. Therefore, a funding gap may potentially exist even for current streetscapes in the City.

For intensification projects pedestrian traffic volumes are expected to be higher with intensive urban land-uses. A hardscape design treatment for an urban context is required for intensification projects to adequately serve urban pedestrian and land-use needs. To meet the needs of urban streetscapes, the current engineering streetscape design standard needs to change. The majority of the change is replacing softscape to hardscape increasing the capital construction cost by approximately $450 to $540 per linear meter (depending on the cost scenario).

Similarly, operations and maintenance costs must change to meet the maintenance level of the urban standard level of service. In the urban context, street trees and hardscape areas require a wider array of maintenance activities, such as tree watering, planter maintenance and hardscape replacement to remain acceptable for high pedestrian traffic volumes. The urban condition requires an increase of approximately $70 to $100 per linear meter per year for operations and maintenance costs (depending on the cost scenario).

Since the Standard Urban level of service will become the new baseline from which other urban streetscapes are subsequently designed from to higher levels of service, establishing the initial cost implications between the suburban context and urban context serves as important context for the different circumstances that urban streetscapes are in comparison to suburban.

	Levels of Service		
	STANDARD	ENHANCED	PREMIUM
OPTION 1 - LOW	$966.25/lm Capital $84.53/lm O&M	$1,855.98/lm Capital $152.28/lm O&M	$2,325.50/lm Capital $167.65/lm O&M
OPTION 2 - RECOMMENDED	$974.25/lm Capital $99.70/lm O&M		
OPTION 3 - HIGH	$1,055.93/lm Capital $115.70/lm O&M		

Figure 7.12: *Level of Service Cost Options*

Figure 7.12 outlines the Standard Urban cost options. The low Standard Urban level of service cost option offers typical poured in place concrete hardscape, trees, tree grates and street lighting. This option accommodates urban pedestrian traffic volumes, however provides little in pedestrian amenities.

To add visual pedestrian amenity to the streetscape, the recommended Standard Urban level of service cost option replaces the tree grates with a raised planter curb and perennials and ornamental grasses planting. The addition of the planters and planting increases the operations and maintenance activities necessary but also creates a much more pleasant urban streetscape.

Further public amenities are added in the high Standard Urban level of service cost option with the introduction of benches and trash receptacles. Similar to the recommended Standard Urban cost option, this increases the operations and maintenance activities required to maintain the streetscape in the future. However, the addition of benches and trash receptacles help to make streetscapes more inviting spaces for pedestrians to stay.

Intensification Projects

The seven intensification projects identified for the purpose of this report were each originally designed through different means and employed different assumptions to achieve a final cost. As such, it would be difficult to effectively compare and understand the true cost implications of the projects. As part of the financial strategy, the level of service concept was applied to each of the projects per the design strategy. The master plans were studied and based upon the information provided such as land-use, street classification, context, streetscape materials and design, a streetscape type and level of service was assigned to the streetscape blocks. Given that each project was done separately, there was a varying degree of detail and information and therefore certain assumptions were made for each project. The projects were then costed using the financial model to create a financial forecast spanning the next 10 years.

The seven intensification projects included in this financial strategy were selected due to their importance and state of completion. As intensification continues, further master plan projects will evolve and the level of service concept will be applied to further projects adding to an ever evolving financial strategy.

Project Context

Before considering the projects and their costs, it is important to understand that the intensification projects make up a small amount of Vaughan's total amount of streetscapes. At present, Vaughan contains approximately 1,004,000 meters of streetscape. With the introduction of new roads in the seven intensification projects considered in this financial forecast, Vaughan will have approximately 1,043,853 meters of streetscape once the projects are complete.

At full build-out, the seven intensification projects, considered in the financial forecast will amount to approximately 8% (approximately 87,460 meters) of the total length of streetscapes in all of Vaughan (see Figure 7.13). Since higher levels of service are only being applied to intensification projects (including Heritage Conservation Districts), only 8% of Vaughan's streetscapes will have higher level of service applied. Therefore, the cost of upgrading streetscapes to a higher level of service is focused on a small amount of area. As other intensification projects are added, the ratio will change.

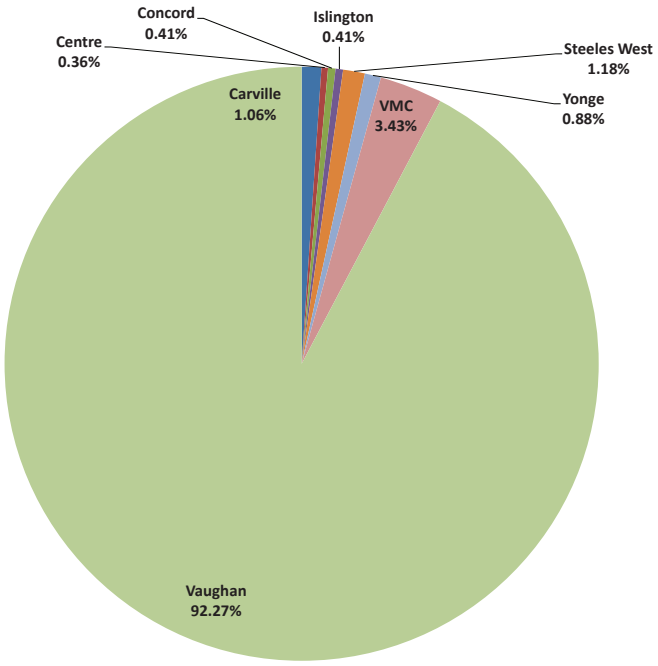


Figure 7.13: *Total Length of Intensification Area Streetscapes by Project in Vaughan*

Of the seven projects, the Vaughan Metropolitan Centre (VMC) represents the largest project in terms of linear meters of streetscape at over 3% (38,830 linear meters) of Vaughan's total length of streetscapes. The other projects each represent approximately 1% or less of Vaughan's total streetscape length. By project, the Vaughan Metropolitan Centre makes up almost half of the total considered streetscape construction for the seven intensification projects at 45%. Steeles, Carrville and Yonge Street represent less than 15%, while Centre, Concord and Islington represent 5% of the total streetscape construction as identified in Figure 7.14.

A large portion of the intensification projects is an upgrade of existing streetscapes. Of the total streetscape construction work found in the intensification areas considered, 46% of the streetscapes represent new streets. Existing streetscapes represent 54% of the streetscape.

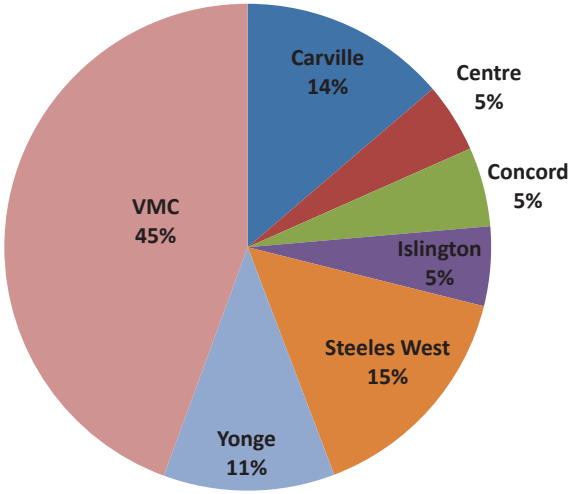


Figure 7.14: *Total Length of intensification Area Streetscapes by Project*

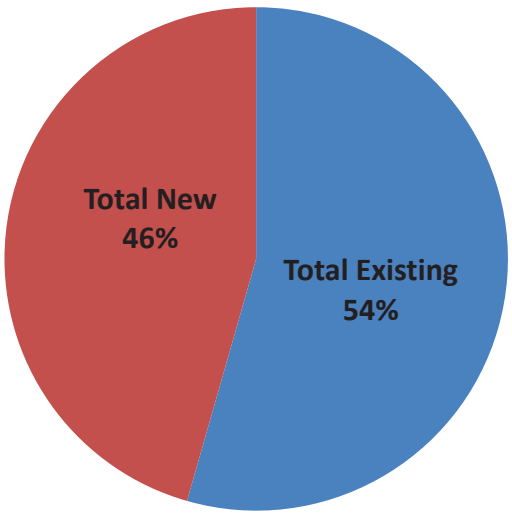


Figure 7.15: *Intensification Areas New vs. Existing Streets*

Vaughan Metropolitan Centre

Description

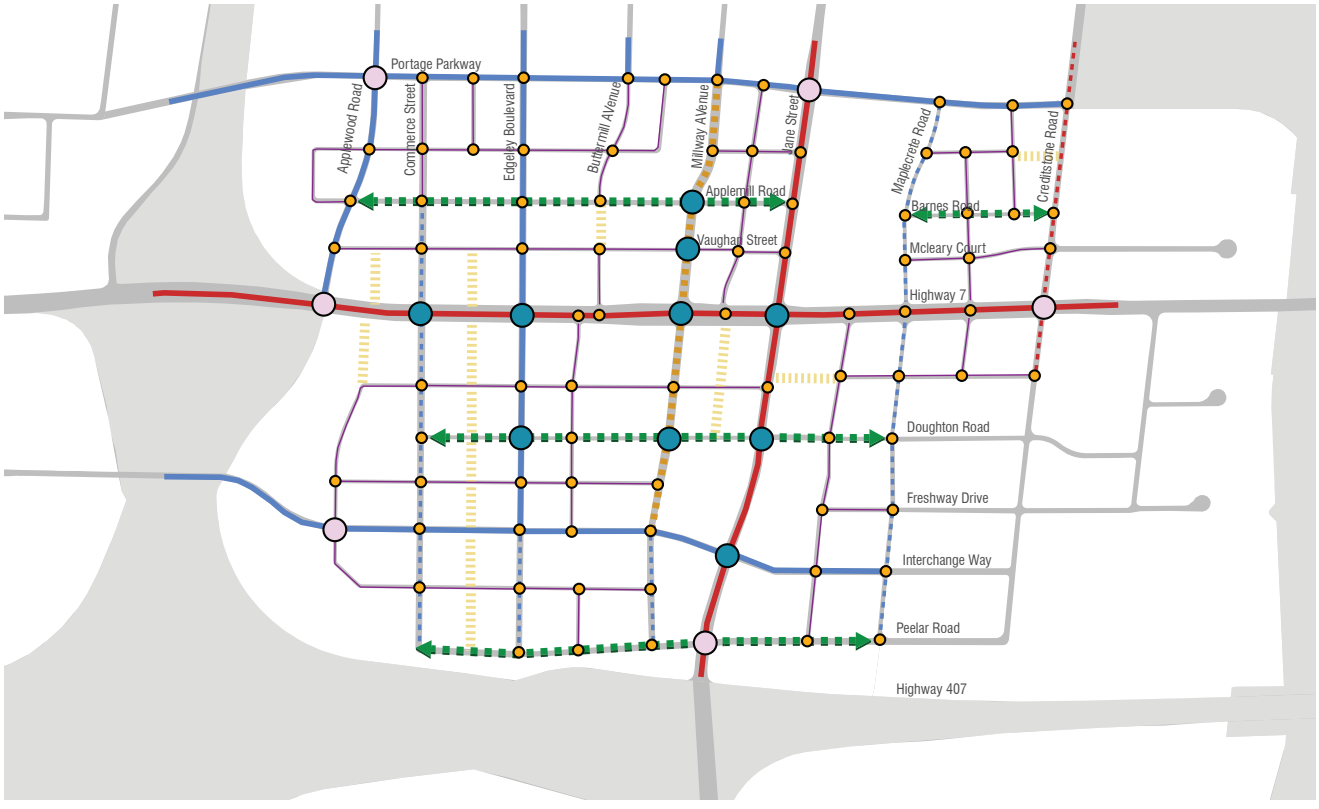
The Vaughan Metropolitan Centre (VMC) is a large complex downtown building project northeast of Highway 400 and Highway 407. Centred around a mobility hub with the interconnection of TTC, VivaNext and YRT transit services, the VMC is to be Vaughan's new downtown core. Being the last TTC subway stop along the Toronto-York Spadina Subway Extension, the VMC will have a cultural and regional transit significance. The VMC has a high degree of uncertainty due to the large amount of privately owned land and a large network of new roads planned. Full build-out of the VMC will likely take over 25 years.

Approximate Length of Streetscape of Development

38,830 linear meters

Full Build-Out (Year 2034)

Total Capital Construction:	$59.7 million
Development Charges:	$9.6 million
Developer Contribution Local Roads:	$18.2 million
Developer Contribution Arterial/Collector:	$8.7 million
York Region Funding:	$2.1 million
VivaNext Construction:	$4.1 million
Unfunded Capital:	$17.0 million



Steeles West

Description

The Steeles West project, along Steeles Avenue West between Keele and Jane Streets, is centred around the construction of the Steeles TTC subway station along the Toronto-York Spadina Subway Extension. With close proximity to York University, the Steeles West project is expected to be a transit hub. There is a large amount of undeveloped private lands and new streets which should be encouraged to develop with the addition of the subway station. There is a high degree of uncertainty and full project build-out is expected to take over 25 years.

Approximate Length of Streetscape of Development

13,390 linear meters

Full Build-Out (Year 2034)

Total Capital Construction:	$23.0 million
Development Charges:	$2.0 million
Developer Contribution Local Roads:	$8.2 million
Developer Contribution Arterial/Collector:	$5.2 million
York Region Funding:	$1.3 million
VivaNext Construction:	$0.0 million
Unfunded Capital:	$6.3 million

Carrville Centre

Description

Carrville Centre, located at Dufferin Street and Rutherford Road, acts as a new district centre node for the community. The project considers the development of a large amount of surrounding undeveloped private lands. A series of new roads will service the future development. Given the large amount of private lands there is a high degree of uncertainty in the duration of the project. The Carrville Centre will likely take more than 25 years to reach full build-out.

Approximate Length of Streetscape of Development

12,010 linear meters

Full Build-Out (Year 2038)

Total Capital Construction:	$17.0 million
Development Charges:	$1.8 million
Developer Contribution Local Roads:	$2.9 million
Developer Contribution Arterial/Collector:	$5.5 million
York Region Funding:	$1.2 million
VivaNext Construction:	$0.0 million
Unfunded Capital:	$5.6 million

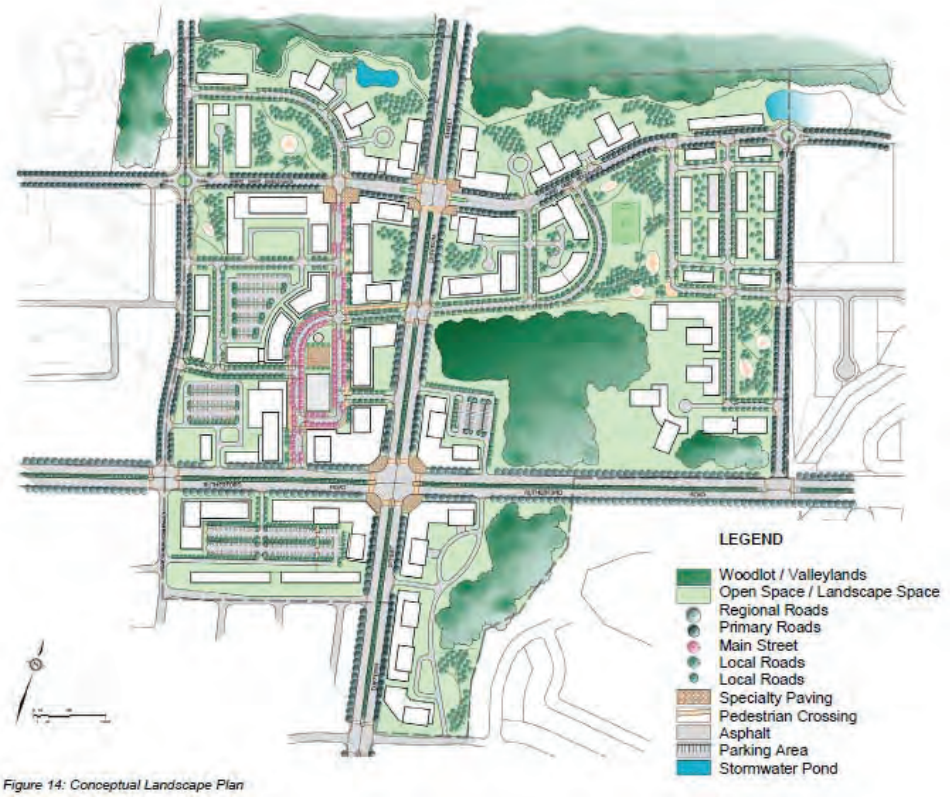


Figure 14: Conceptual Landscape Plan

Yonge Street

Description

The Yonge Street streetscape project is located along Yonge Street between Steeles Avenue and Bantry Avenue. It is a regional road and has significant cultural importance. The intent is that the streetscape enhancements could encourage infill, redevelopment and density of adjacent private land uses. Along Yonge Street, there are various potential nodes including stations for the proposed Yonge Street Subway Extension and CN Railway public space. There is a varying amount of uncertainty given the different stakeholders including TTC, private land developers and the City of Vaughan. The project is envisioned to be constructed over at least a 10 year period.

Approximate Length of Streetscape of Development

9,960 linear meters

Full Build-Out (Year 2033)

Total Capital Construction:	$18.8 million
Development Charges:	$1.0 million
Developer Contribution Local Roads:	$0.0 million
Developer Contribution Arterial/Collector:	$0.4 million
York Region Funding:	$6.3 million
VivaNext Construction:	$0.0 million
Unfunded Capital:	$11.2 million

Concord West

Description

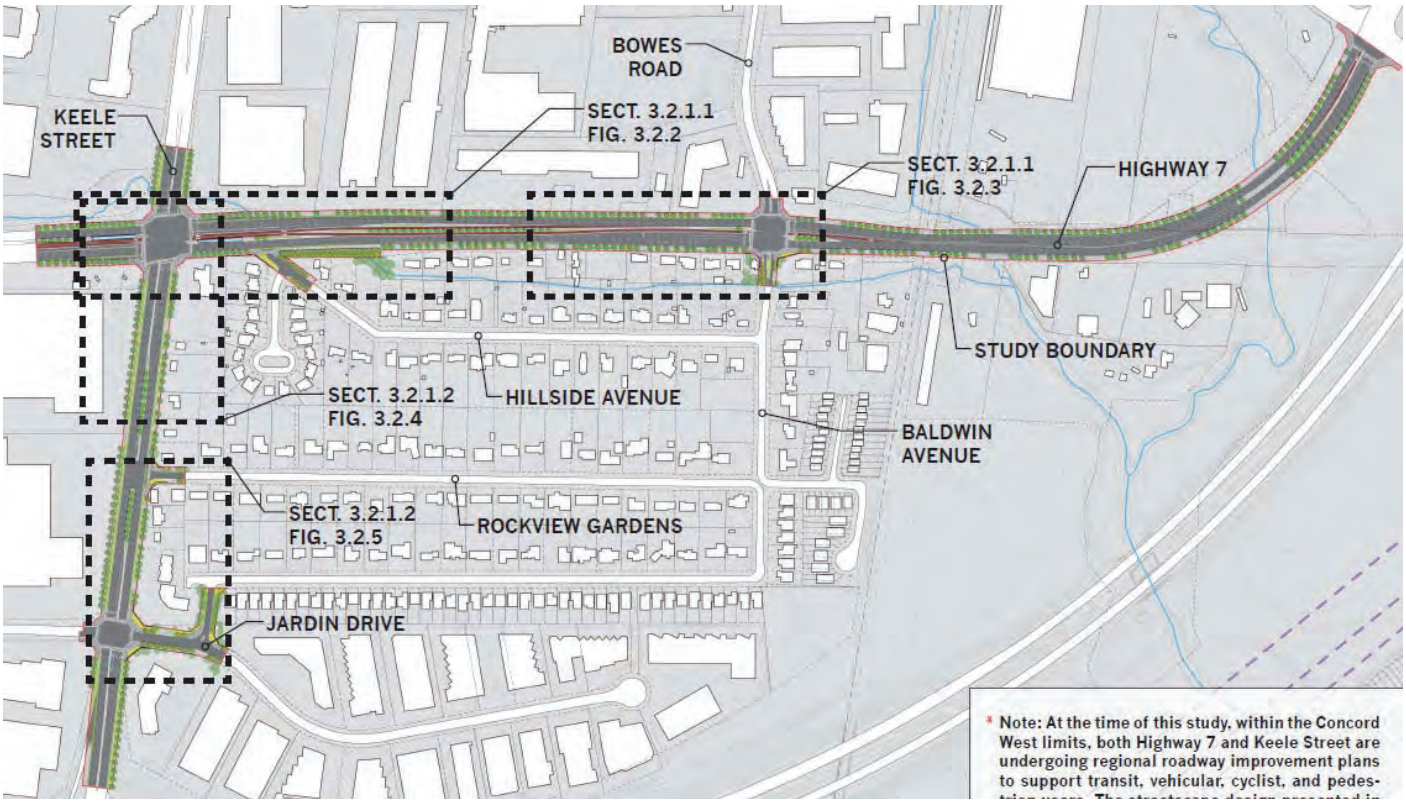
Concord West is part of the VivaNext bus rapid transit extension along Highway 7. The project consists of streetscape enhancements along Highway 7 and Keele Street. Adjacent land-uses are primarely mixed-use retail / commercial and low density residential. Much of the adjacent lands are built in a suburban context with the expectation of potential infill, enhancement and densification along the mixed-use retail / commercial lands. There are small gateway nodes and a nearby Go Transit station. Given the busy traffic on Highway 7 and Keele Street, both Regional roads, the project has a certain complexity as a transit intensification corridor.

Approximate Length of Streetscape of Development

4,600 linear meters

Full Build-Out (Year 2025)

Total Capital Construction:	$6.1 million
Development Charges:	$0.5 million
Developer Contribution Local Roads:	$0.0 million
Developer Contribution Arterial/Collector:	$0.0 million
York Region Funding:	$1.0 million
VivaNext Construction:	$3.3 million
Unfunded Capital:	$1.3 million



Centre Street

Description

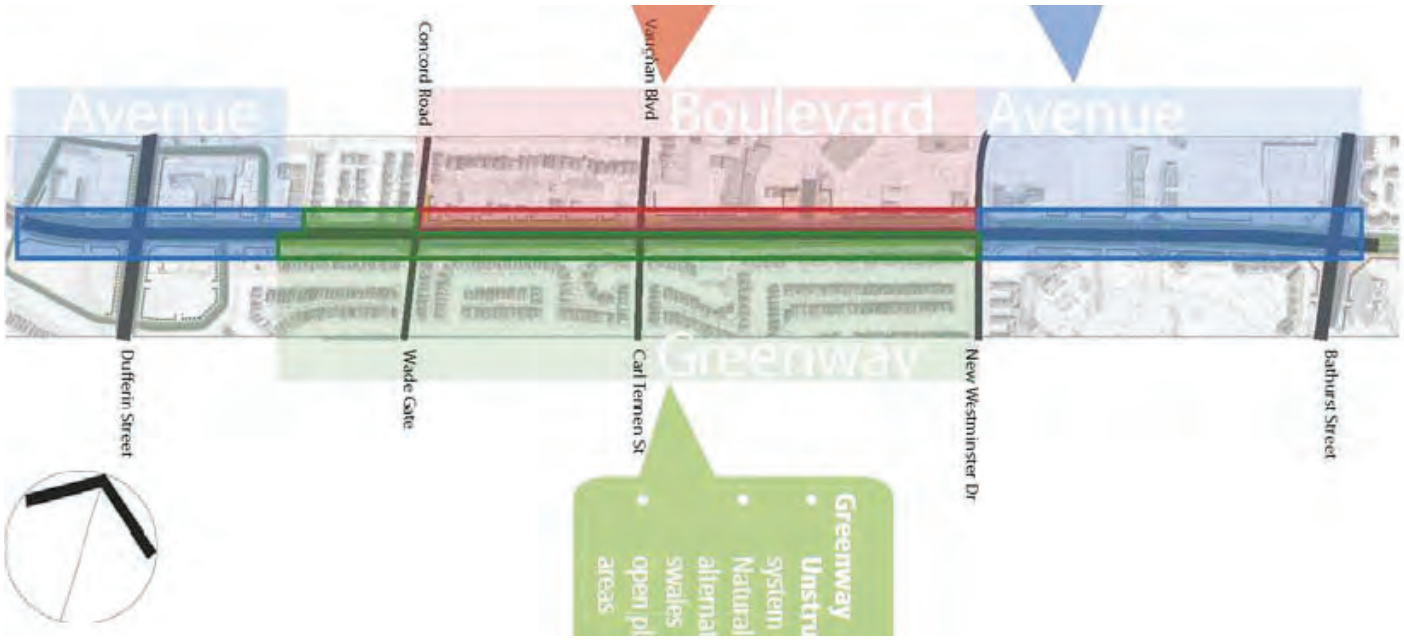
Centre Street is a major transportation corridor between Dufferin and Bathurst Streets. Currently, Centre Street is in a suburban form surrounded largely by low density residential and big box store formats. The intent is that streetscape enhancements could encourage infill and redevelopment of mixed-use retail / commercial lands to create a more urban space with pedestrian activity. The inclusion of a bus rapid transit route along Centre Street provides a catalyst for the development to take place. The Centre Street project will likely be developed over the course of 10 years or more.

Approximate Length of Streetscape of Development

4,050 linear meters

Full Build-Out (Year 2025)

Total Capital Construction:	$9.0 million
Development Charges:	$0.8 million
Developer Contribution Local Roads:	$0.0 million
Developer Contribution Arterial/Collector:	$0.0 million
York Region Funding:	$1.3 million
VivaNext Construction:	$5.5 million
Unfunded Capital:	$1.5 million



Islington Avenue

Description

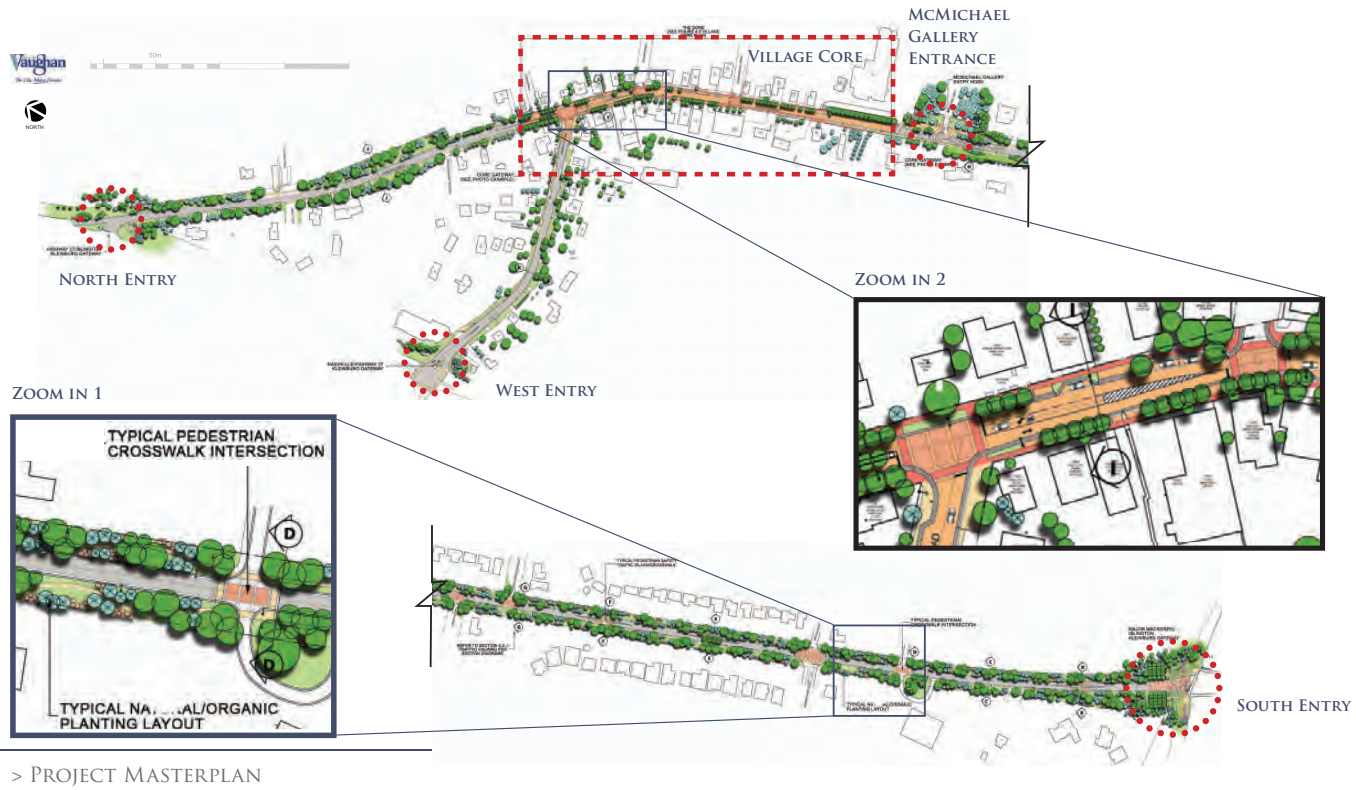
The Islington Avenue project is located in Kleinburg and is a special project since it is a Heritage Conservation District. The area is largely low density residential with a village core. The heritage significance of Kleinburg means that there will be little intensification development and keeping the character of the area is of the utmost importance. The streetscape enhancement of the existing streets is to support the Heritage Conservation District and can likely be constructed over a 2 year period.

Approximate Length of Streetscape of Development

4,620 linear meters

Full Build-Out (Year 2024)

Total Capital Construction:	$6.7 million
Development Charges:	$1.0 million
Developer Contribution Local Roads:	$0.0 million
Developer Contribution Arterial/Collector:	$0.2 million
York Region Funding:	$2.0 million
VivaNext Construction:	$0.0 million
Unfunded Capital:	$3.5 million



> Project Masterplan

Developer Impact

The road classification has implications regarding secured and potential funding in relation to developer contributions. For the purposes of the model, local roads are assumed to be the developer's responsibility and considered secured funding. However, on arterial and collector roads the assumed developer contributions are uncertain and not guaranteed. While the model makes a range of assumptions, developer contributions for arterial and collector roads are considered potential funding.

For the seven intensification projects, major arterial roads represent the largest amount of streetscape construction at 38%. Local streets represent the second largest amount of streetscape work at 27% with collectors and minor arterials each representing less than 16%. It is reasonable that the largest portion of streetscape work is along major arterials given that best practices would agree that development for density is ideally connected to major transportation corridors. Major arterials are Regionally owned and therefore have the potential for Regional funding.

Of particular interest to developers is the large amount of local streets. As the second largest amount of streetscape, developers will be responsible for at least approximately 1/3 of streetscape development. However, analysis of the road classification of the intensification projects by cost show that local streets only comprise of 18% of the total cost, at full build out, of the intensification projects.

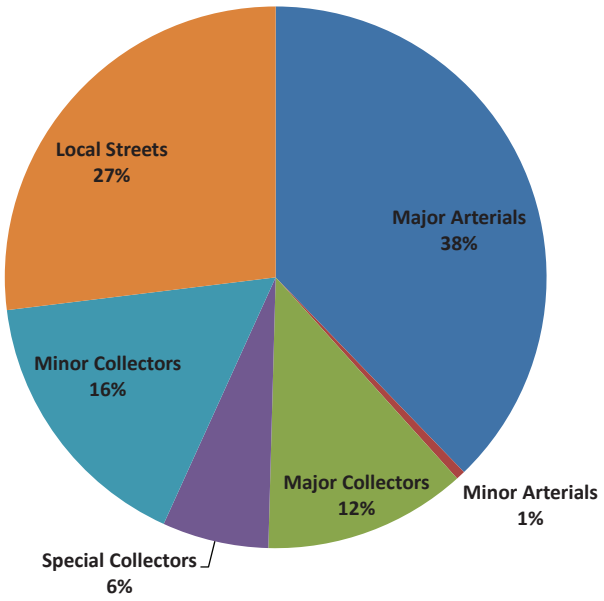


Figure 7.16: *Road Classification of Intensification Projects by Length*

The lower cost impact of the local streets in comparison to the length is due to the level of service distribution along local streets. The Standard Urban level of service represents 91% of the local streets in length while Enhanced makes up 8% and Premium 1%. Therefore, since the vast majority of the local streets are of the lowest level of service, the cost impact is less than the collectors and arterials with a comparatively higher level of service.

By cost, in the recommended cost scenario, the Standard Urban level of service represents 83% of the cost of local roads, whereas Enhanced equal 14% and Premium 3%. Therefore, developers, responsible for 100% of local road capital cost, are paying for primarily the Standard Urban level of service.

The low and high cost scenarios for the Standard Urban level of service show that there is a negligible difference between the low and recommended scenarios. The high cost scenario for the Standard Urban level of service increases the Standard Urban total cost by 1% in relation to Enhanced and Premium.

Upon full-build out, the total developer contribution potentially amounts to $49.3 million. Total developer contribution is uncertain and largely affected by the market. Local roads are expected to be fully funded by developers with a total contribution of approximately $29.3 million. The remaining $20.0 million for arterial and collector road construction may vary depending upon external factors.

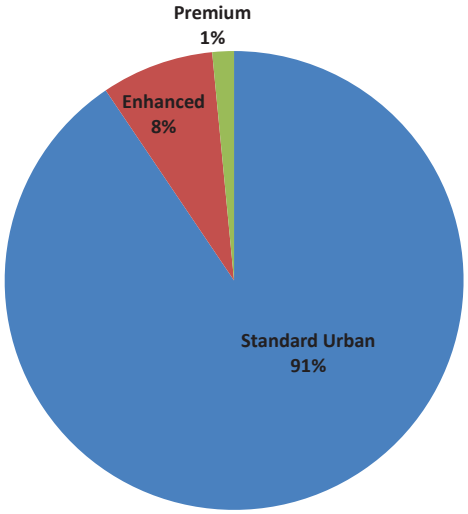


Figure 7.17: *Level of Service Distribution of Local Streets by Length*

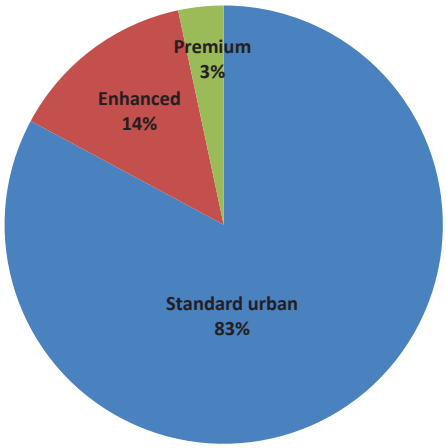


Figure 7.18: *Level of Service Distribution of Local Streets by Cost (Recommended Cost Standard Urban Scenario)*

Priority Implementation Streets

It is recognized that there are opportunities to take advantage of in the short term to implement various parts of the intensification area projects. The City of Vaughan has identified four projects with Priority Streets which can take advantage of resources from VIVA, TTC, York Region and private development in the near future. The projects identified include:

- Islington
- Concord West
- Centre Street
- Vaughan Metropolitan Centre

The priority streets represent 17,386 linear meters of streetscape, which amounts to approximately 20% of the total length of the full streetscape projects. By linear meters, 39% of the priority streets will be constructed with the Standard Urban level of service, 59% will be Enhanced and 2% Premium. Some components of the final level of service, even on these priority streets, will not be built in the initial phase, and is dependant on future development or redevelopment.

Phasing

To account for shifting priorities, the project phasing was adjusted according to the indicated projects and the specific priority streets. The project phasing for Concord West and Centre Street remain largely the same given they start and are closely related to the VIVA construction schedule starting in 2015. The Concord West phasing is reduced with the exclusion of Keele Street, which is not included in the VIVA construction plans. With the TTC station and VIVA BRT station slated to be completed around 2015, the private developments in the Vaughan Metropolitan Centre would have incentive to be completed soon after. While the construction is already underway as of 2014, the streetscape could potentially be completed by 2017. Islington Avenue is assumed to start in 2015, when DC funding for the project becomes available and could potentially be completed by the end of 2016. However, it should be noted again that construction logistics and the market will ultimately determine the span of the streetscape projects.

Capital Cost and Operations and Maintenance

The build out of the priority streets is projected to be complete in 2017. The total capital construction cost will be approximately $24.0 million. In comparison to the total capital construction cost $140.4 million for all the streetscape projects, the priority streets represent approximately 17% of total capital construction cost.

Of the $24.0 million in capital construction costs, $20.8 million has identified funding sources, while $3.2 million is currently unfunded.

The operations and maintenance cost for the priority streetscapes represent an average tax percentage increase of approximately 0.25% each year for the four year period of the construction.

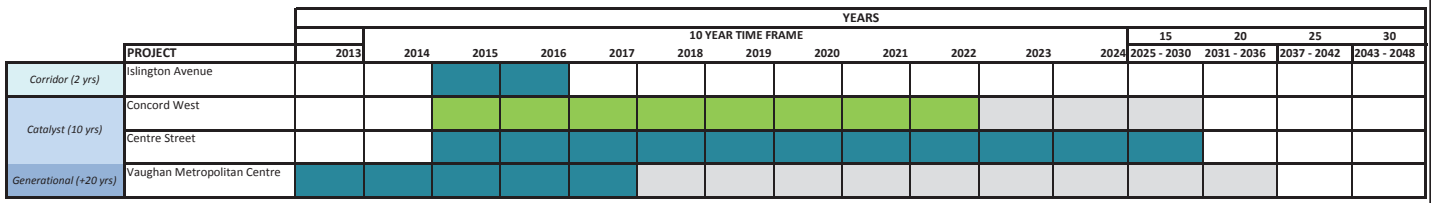


Figure 7.19: *Project Phasing for Priority Street Projects*

Total of All Priority Projects

Capital Budget Requirement ($ Mil)	Kleinburg/Islington Avenue	Concord West	Centre Street	Vaughan Metropolitan Centre
Total Capital Cost	**$ 1.9**	**$ 4.1**	**$ 6.4**	**$ 11.7**
Development Charges	0.3	0.05	0.2	2.7
Developer Contribution Local Roads	-	-	-	1.4
Developer Contribution Arterial/Collector Roads	0.1	-	-	1.2
York Region Funding	0.6	0.4	0.4	0.5
vivaNext Funding	-	3.3	5.5	4.1
Unfunded Capital	$ 0.9	$ 0.4	$ 0.3	$ 1.7

Figure 7.20: *Total of All Priority Projects*

Islington

Opportunities

Development charge funding for streetscape improvements on Islington Avenue is scheduled to be available in the year 2015. In conjunction with council motivation, there is an opportunity to take advantage of the available streetscape funding. Only a portion of the total Islington streetscape (between Pennon Road and Major Mackenzie Drive) is considered priority for this estimate.

Priority Streets

- Islington Avenue (between Pennon Road and Major Mackenzie Drive)

Relevant Levels of Service

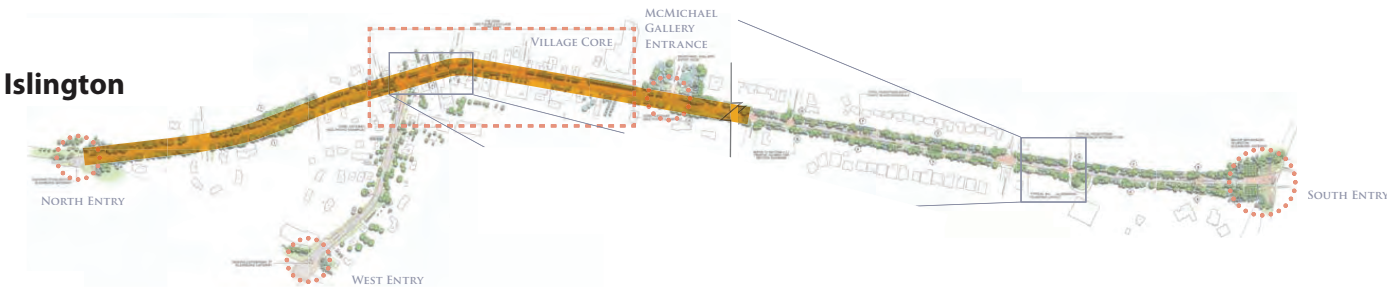
- Standard Urban

Approximate Length of Streetscape of Development

1,637 linear meters

Priority Streets

Total Capital Construction:	$1.9 million
Development Charges:	$0.3 million
Developer Contribution Local Roads:	$0.0 million
Developer Contribution Arterial/Collector:	$0.1 million
York Region Funding:	$0.6 million
VivaNext Construction:	$0.0 million
Unfunded Capital:	$0.9 million



Concord West

Opportunities

VIVA BRT construction is scheduled to begin on Highway 7 in the Concord West project area in the year 2015. The presence of roadway construction presents an opportunity for Vaughan to minimize future construction disturbance by constructing streetscape improvements when VIVA construction is scheduled. The Keele Street portion of the Concord West project would have to be done at a later date.

Priority Streets

- Highway 7

Relevant Levels of Service

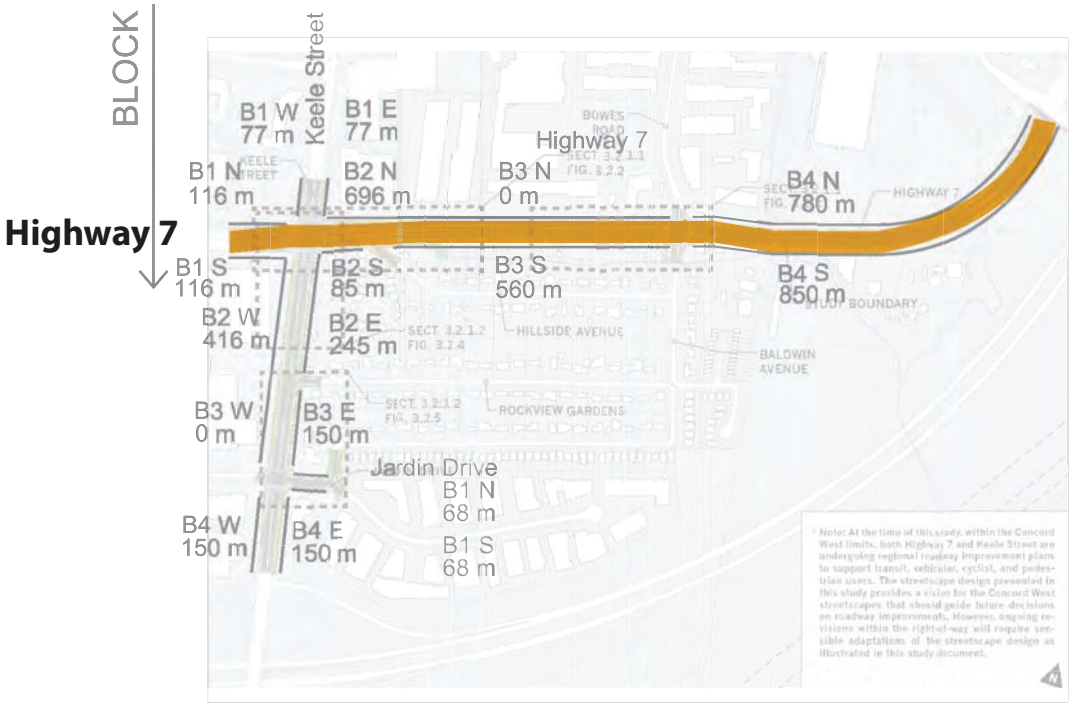
- Standard Urban
- Enhanced

Approximate Length of Streetscape of Development

3,203 linear meters

Priority Streets

Total Capital Construction:	$4.1 million
Development Charges:	$0.0 million
Developer Contribution Local Roads:	$0.0 million
Developer Contribution Arterial/Collector:	$0.0 million
York Region Funding:	$0.4 million
VivaNext Construction:	$3.3 million
Unfunded Capital:	$0.4 million



Centre Street

Opportunities

Similar to the Concord West Intensification Project, the VIVA BRT construction schedule provides an opportunity for Vaughan to minimize future construction disturbance. Centre Street is a unique opportunity as the entire project is a single street meaning that the priority street is the full master plan. Certain enhancements will be included along with the VivaNext construction and are included in the priority costing. Future capital spending will be contingent on development or redevelopment of Centre Street.

Priority Streets

- Centre Street

Relevant Levels of Service

- Enhanced

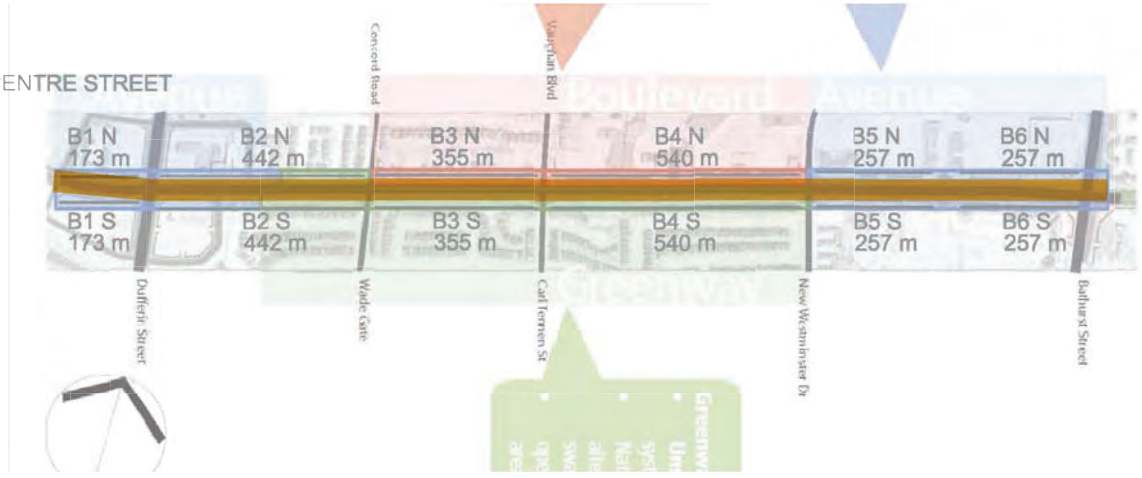
Approximate Length of Streetscape of Development

4,048 linear meters

Priority Streets

Total Capital Construction:	$6.4 million
Development Charges:	$0.2 million
Developer Contribution Local Roads:	$0.0 million
Developer Contribution Arterial/Collector:	$0.0 million
York Region Funding:	$0.4 million
VivaNext Construction:	$5.5 million
Unfunded Capital:	$0.3 million

Centre Street



Vaughan Metropolitan Centre

Opportunities

Several opportunities are available to take advantage of in regards to the implementation of the Vaughan Metropolitan Centre. The VIVA BRT construction on Highway 7, TTC subway construction at Millway and planned private development on various streets are opportunities for partnerships to share in funding and construction resources.

Priority Streets

- Highway 7
- Millway
- Applemill
- Vaughan
- Maplecrete

Relevant Levels of Service

- Standard Urban
- Enhanced
- Premium

Approximate Length of Streetscape of Development

6,184 linear meters

Priority Streets

Total Capital Construction:	$11.7 million
Development Charges:	$2.7 million
Developer Contribution Local Roads:	$1.4 million
Developer Contribution Arterial/Collector:	$1.2 million
York Region Funding:	$0.5 million
VivaNext Construction:	$4.1 million
Unfunded Capital:	$1.7 million