CENTRES & CORRIDORS FINANCIAL STRATEGY

Final Report

HEMSON Consulting Ltd.

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May 15, 2006

Mr. Warren Marshall
Manager, Capital and Development Financing
The Regional Municipality of York
17250 Yonge Street
Newmarket, ON L3Y 6Z1

Dear Mr. Marshall:

Re: Centres and Corridors Financial Strategy

Hemson Consulting is pleased to submit the attached report on potential financial strategies for the Region's Centres and Corridors Strategy. The Centres and Corridors Strategy is a key part of the Region's overall growth management strategy. The Region is exploring the use of financing strategies to support development goals for the designated Regional Centres and Corridors along Highway 7 and Yonge Street. The analysis indicates that there are potential cost savings in transportation capital costs for the Centres and Corridors over other parts of the Region which could potentially justify lower regional development charge rates.

We trust that our report will assist the Region in undertaking a full development charge rate analysis to determine the potential development charges discount for Centres and Corridors and the associated financial impacts.

Yours truly,

HEMSON CONSULTING LTD.

John W. Hughes, FRICS
Partner

EXECUTIVE SUMMARY

This report has assessed the potential to develop financial strategies to support the Region's Centres and Corridors Strategy. The financial strategies are to be based on identifiable net cost differences between the Centres and Corridors and development in other parts of the Region. The analysis considered both capital and operating costs at the Regional level.

1. In terms of capital costs, the analysis indicated that there are potential savings in transportation costs between the Centres and Corridors and other areas of the Region. There are very marginal cost differences for the other capital items, including Regional water and wastewater services.

2. For operating costs, there are potential limited savings for Regional roads and waste management services. However, these savings could potentially be offset by increased costs for other services associated with servicing the Centres and Corridors. Therefore, there is no clear operating cost savings from a Regional perspective for Centres and Corridors versus the rest of the Region.

The identified savings in transportation capital costs could potentially justify lower regional development charge rates for new development in the Centres and Corridors. However, in order to maintain overall DC revenue, the lower rate for Centres and Corridors would have to be balanced off by higher rates for the rest of the Region. A full development charge rate analysis is required to determine more accurately the amount that DC's could be reduced for the Centres and Corridors. In undertaking this analysis, the implications of the current legislation which prevent roads and transit from being treated as a total transportation system would need to be considered.

This analysis has considered capital and operating cost differences at the regional level only. There is the potential for significant cost savings at the local municipal level related to development in Centres and Corridors which should be explored further.

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I INTRODUCTION

The development of compact, well-designed communities that enable the protection of agricultural lands, sensitive environmental features and the rural countryside are key policy objectives of York Region. To achieve these objectives, a greater share of new development needs to be accommodated within existing developed areas in the Region. In this respect, the Centres and Corridors Strategy is a key component of the Region's growth management policies.

The Strategy involves the development of four Regional Centres linked by the Yonge Street and Highway 7 corridors. The Centres and Corridors are planned to be the Region's future downtowns containing well-designed high density, mixed-use development that are to be connected to each other by the Region's rapid transit service. The four Regional Centres are: the Vaughan Corporate Centre at Highway 7 and 400, Richmond Hill Centre at Yonge and Highway 7, Markham Centre near Warden and Highway 7 and Newmarket Centre near Yonge Street and Davis Drive (see map on next page). The Centres and Corridors are planned to accommodate a range of medium to high density residential and employment uses, consisting of office, retail and institutional uses.

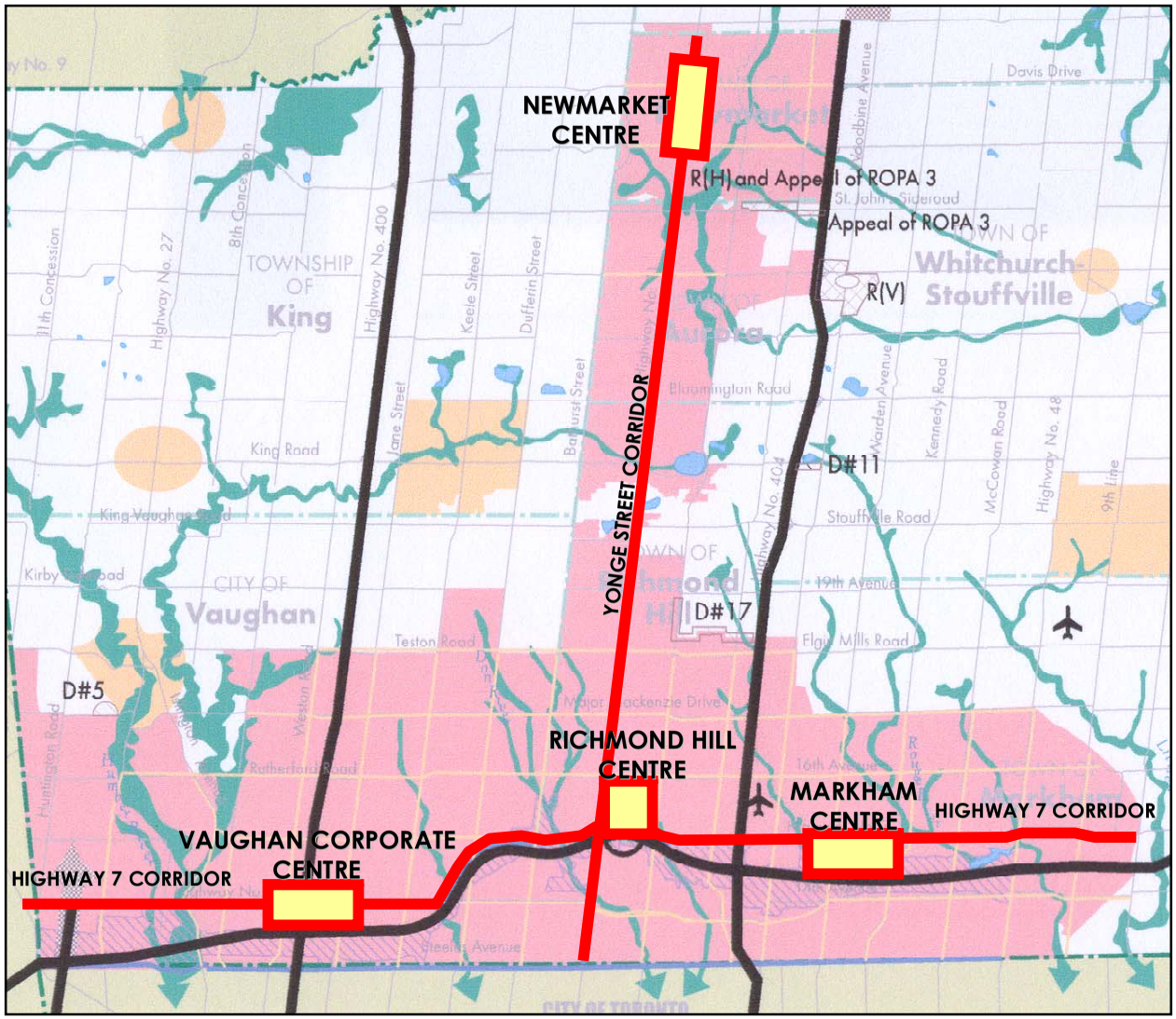
The Centres and Corridors Strategy is based on four key action areas:

- Policy;
- Financial policy and tools;
- Infrastructure Investment; and
- Supportive Programs.

The Strategy is designed to support a number of the Region's policy goals. These include the promotion of development forms that support public transit, help in the protection of regional greenlands, agricultural lands and rural areas, improved live/work relationships, improved air quality and increased housing choices. The Region's strategy compliments recent Provincial growth management initiatives encouraging intensification and compact development, including the policies in the recently adopted Provincial Policy Statement and the proposed policies in the *Places to Grow* initiative.

The Region has already taken significant steps towards the implementation of the Centres and Corridors Strategy including completion of the Master Transportation Plan and the Housing Supply Strategy which are now being updated by the Region. The provision of rapid transit service in the corridors is a key ingredient to achieving the Centres and Corridors Strategy. In September 2005, the Region launched the first phase of a new regional rapid transit service along Yonge Street and Highway 7 with connections to TTC service in Toronto and other York Region transit routes. Significant additional investment is planned for this system with contributions anticipated from all three levels of government.

YORK REGION CENTRES AND CORRIDORS



Source: Hemson Consulting Ltd. Based on Region of York Official Plan and ROPA 43

Not to Scale

However, much work needs to be done before the vision for the Region's Centres and Corridors can be realized. Among the challenges to be overcome are:

- The limited availability of greenfield sites in Centres and Corridors.

  The Highway 7 and Yonge Street corridors in the Region are largely developed but also contain vacant and underutilized land parcels. Markham Centre and Vaughan Corporate Centre have the most greenfield development opportunities. While redevelopment and intensification of developed sites in the Centres and Corridors will occur over time, it is often a slow process. In addition, redevelopment sites may require assembly of parcels.

- The high cost of providing the required parking to support development density objectives.

  High density development forms are envisioned for the Centres and Corridors. This type of development usually requires some form of structured parking which is a significant additional development cost. Currently, while some of the recently constructed apartment buildings in the Region have structured parking, most office buildings continue to be developed with surface parking. Office rents in York Region and in most suburban GTA municipalities cannot support structured parking in the existing economic climate.

- The need for a greater market acceptance of the type and form of development contemplated.

  The majority of new office development outside of the City of Toronto is being built in business parks with surface parking. For the Centres and Corridors to achieve their potential, there will need to be a shift in the market to a more urban form of office development. In terms of residential uses, there will need to be a shift in market preferences to higher density forms of living to achieve the Centres and Corridors vision.

In support of the Centres and Corridors central strategy objective to encourage development, the Region decided to assess the potential financial strategies that could address the challenges. Specifically, the study purpose is:

> *To assess financial strategies, including residential and non-residential development charge options and tax-based strategies to support and enhance development in Regional Centres and Corridors and determine the impact of these strategies on the balance of the Region.*

Generally, the financial strategies for the Centres and Corridors could take two forms:

- Financial strategies based on identifiable net capital or operating cost savings.

  Strategies of this type could include area specific development charge reductions and/or area-specific tax rates. The strategies would be built around achievable net capital or operating cost savings within Centres and Corridors as compared to locations elsewhere in the Region.

- Strategies which will accelerate the role of development in the Centres and Corridors in support of the Region's policy objective but which may require financial support by the Region - at least in the short term.

  Under this approach, financial strategies would not take the form of reduced fees, charges or taxes from identifiable cost savings but rather would be based on financial incentives paid for by the Region. The incentives could be delivered using a range of potential tools that are permitted under Community Improvement Plans. They can include reduced municipal fees and/or taxes and various forms of loans and grants to property owners.

During the course of this study, the Region, through the Study Steering Committee, expressed its intent to restrict consideration to those financial strategies that can be justified on the basis of identifiable net cost savings. The focus of the analysis was accordingly directed at assessing financial tools that relate to capital and/or operating cost savings.

The report comprises four chapters. Chapter 2 provides a growth and municipal finance outlook for the Centres and Corridors. Population, housing and employment forecasts for the Centres and Corridors are discussed along with the projection of potential net new assessment generation that would result from the growth. This is followed by a review of the capital and operating cost prospects from development of the Centres and Corridors. This review is done on a service by service basis on a comparative basis with development in other parts of the Region. In Chapter 3, based on the review results in Chapter 2, potential financial strategies for the Region are assessed. Chapter 4 provides a summary of the findings of the study.

II GROWTH & MUNICIPAL FINANCIAL OUTLOOK FOR THE CENTRES AND CORRIDORS

In this chapter, the population, housing and employment forecasts generated for the Centres and Corridors are described and estimates of the potential assessment and tax revenue generation from new growth in the Centres and Corridors are provided. This is followed by an assessment of the differences in municipal capital and operating costs between development in Centres and Corridors and developments elsewhere in the Region. The Corridors are defined to include areas within 500 metres of Yonge Street and Highway 7 excluding the section of Yonge Street within the Oak Ridges Moraine as well as a small section at the very east end of Highway 7 outside of the Region's urban area. The boundaries of the three of the four regional centres (the exception being Newmarket) have been established through approved local municipal secondary plans.

A. GROWTH FORECAST FOR CENTRES AND CORRIDORS

In order to assess potential financial strategies and their impacts on the Region, a projection of the potential amount and type of development in the Centres and Corridors is required.

The Region of York Planning and Development Services Department prepared population and employment forecasts from 2003 to 2031 for the Centres and Corridors based on two scenarios. The first scenario is based on a development pattern in which approximately 20% of the Region's population growth would be located within the Centres and Corridors. This scenario represents a reasonable development outcome from current and anticipated demographic and economic trends.[1] The second scenario incorporates the effects of a 40% intensification assumption, a level that is consistent with the proposed policies in the Province's draft *Places to Grow Plan*. The 40% scenario represents more of a departure from current development patterns than the 20% scenario and would require more significant shifts in market preferences. For the 40% scenario, a much greater share of the market would have to adopt row and apartment living and employment would need to be accommodated in more urban form office buildings.

[1] *The Region is currently accommodating about 17% of total growth within existing developed areas.*

Centres and Corridors Growth Forecast (2003-2031)				
	20% Intensification Scenario		40% Intensification Scenario	
	Population	Employment	Population	Employment
Newmarket	11,400	2,000	15,000	4,000
Aurora	3,800	800	7,100	2,000
Vaughan	19,900	26,300	61,300	43,600
Richmond Hill	24,900	12,900	47,400	29,000
Markham	49,200	28,800	77,100	47,800
Total	**109,200**	**70,800**	**207,900**	**126,400**

Source: Region of York Planning and Development Services Department

Based on the forecast scenarios, housing unit forecasts were then developed by type of employment as well as of non-residential space. The major assumptions used in the forecasts are as follows:

Residential Forecast

- The overall housing unit forecast is based on Hemson's forecast average household size by municipality taking into account declines in the average household size of the existing base.

- The housing forecast by type is based on an assessment of development potential by traffic zone. Because of the urban form policy objectives for the Corridors, the housing mix is set at 60% apartments and 40% row houses.

- For other areas including the regional centres and developing greenfield areas near the corridor (e.g. Cornell in Markham), the housing mix contained in the existing plans for these areas is used in the forecast.

Employment Forecast

- Employment growth in non-residential space excludes work-at-home employment (estimated to be 5% of population growth).

- Employment growth was allocated between office, retail, community, institutional and employment land uses. For most of the Corridors, an employment distribution of 60% office, 30% retail and 10% community and institutional uses was used in order to reflect the higher density form policy objective for the Corridors. For the Centres, employment distributions were used to reflect planned land use allocations. The only areas where employment land employment is forecast to occur is in the vicinity of Highway 7 near Highway 427 which is designated for this use and in a small section in Markham Centre which is likely to develop for business park uses.

- Typical floor space per employee ratios for each land use were used to generate the non-residential space growth forecast.

The growth forecasts resulting from the 20% and 40% intensification scenarios are summarized on the following two pages.

POPULATION, HOUSEHOLD AND EMPLOYMENT FORECASTS FOR CENTRES AND CORRIDORS

20 PERCENT INTENSIFICATION SCENARIO

A. Corridors and Centres Population and Housing Growth

	2003 Pop	2031 Pop	Pop Growth	Housing Growth
Newmarket	2,300	13,700	11,400	4,100
Aurora	12,700	16,500	3,800	1,800
Vaughan	23,100	43,000	19,900	7,200
Richmond Hill	55,300	80,200	24,900	10,800
Markham	58,800	108,000	49,200	17,700
Total	**152,200**	**261,400**	**109,200**	**41,600**

B. Corridors and Centres Housing Growth By Type

	Singles/Semis	Rows	Apts	Total
Newmarket	800	1,700	1,700	4,200
Aurora	0	700	1,100	1,800
Vaughan	0	1,900	5,300	7,200
Richmond Hill	100	3,600	7,100	10,800
Markham	2,200	6,200	9,300	17,700
Total	**3,100**	**14,100**	**24,500**	**41,700**

C. Corridors and Centres Employment Growth

	2003 Empl	2031 Empl	Empl Growth	In Non-Res Space
Newmarket	6,500	8,500	2,000	1,500
Aurora	6,200	7,000	800	600
Vaughan	30,000	56,300	26,300	25,400
Richmond Hill	21,900	34,800	12,900	11,800
Markham	38,000	66,800	28,800	27,100
Total	**102,600**	**173,400**	**70,800**	**66,400**

D. Employment Growth By Type

	Office	Retail	Comm/Inst	Empl Land	Total
Newmarket	900	400	100	0	1,400
Aurora	400	200	100	0	700
Vaughan	13,900	6,300	2,000	3,200	25,400
Richmond Hill	7,100	3,500	1,200	0	11,800
Markham	19,800	5,200	1,800	300	27,100
Total	**42,100**	**15,600**	**5,200**	**3,500**	**66,400**

E. Non-Residential Space Growth (m2)

	Office	Retail	Comm/Inst	Empl Land	Total
Newmarket	22,600	17,400	8,000	0	48,000
Aurora	9,700	7,400	3,400	0	20,500
Vaughan	360,300	251,100	111,900	240,500	963,800
Richmond Hill	183,800	141,300	64,800	0	389,900
Markham	513,900	206,900	101,200	26,200	848,200
Total	**1,090,300**	**624,100**	**289,300**	**266,700**	**2,270,400**

Source: Hemson estimates based on York Region forecast for Centres and Corridors

POPULATION, HOUSEHOLD AND EMPLOYMENT FORECASTS FOR CORRIDORS AND CENTRES

40 PERCENT INTENSIFICATION SCENARIO

A. Corridors and Centres Population and Housing Growth

	2003 Pop	2031 Pop	Pop Growth	Housing Growth
Newmarket	2,300	17,300	15,000	5,400
Aurora	12,700	19,800	7,100	3,000
Vaughan	23,100	84,400	61,300	20,300
Richmond Hill	55,300	102,700	47,400	18,000
Markham	58,800	135,900	77,100	26,600
Total	**152,200**	**360,100**	**207,900**	**73,300**

B. Corridors and Centres Housing Growth By Type

	Singles/Semis	Rows	Apts	Total
Newmarket	900	2,200	2,300	5,400
Aurora	0	1,200	1,800	3,000
Vaughan	0	5,600	14,800	20,400
Richmond Hill	200	6,100	11,700	18,000
Markham	2,700	9,500	14,300	26,500
Total	**3,800**	**24,600**	**44,900**	**73,300**

C. Corridors and Centres Employment Growth

	2003 Empl	2031 Empl	Empl Growth	In Non-Res Space
Newmarket	6,500	10,500	4,000	3,300
Aurora	6,200	8,200	2,000	1,600
Vaughan	30,000	73,600	43,600	40,400
Richmond Hill	21,900	50,900	29,000	26,800
Markham	38,000	85,700	47,800	44,900
Total	**102,600**	**228,900**	**126,400**	**117,000**

D. Employment Growth By Type

	Office	Retail	Comm/Inst	Empl Land	Total
Newmarket	2,000	1,000	300	0	3,300
Aurora	1,000	500	200	0	1,700
Vaughan	21,700	9,500	3,100	6,100	40,400
Richmond Hill	16,100	8,000	2,700	0	26,800
Markham	31,700	9,500	3,300	500	45,000
Total	**72,500**	**28,500**	**9,600**	**6,600**	**117,200**

E. Non-Residential Space Growth (m2)

	Office	Retail	Comm/Inst	Empl Land	Total
Newmarket	51,200	39,400	18,100	0	108,700
Aurora	25,700	19,700	9,000	0	54,400
Vaughan	564,300	381,900	169,200	455,400	1,570,800
Richmond Hill	417,400	321,100	147,200	0	885,700
Markham	822,900	379,800	182,700	35,200	1,420,600
Total	**1,881,500**	**1,141,900**	**526,200**	**490,600**	**4,040,200**

Source: Hemson estimates based on York Region forecast for Centres and Corridors

B. CENTRES AND CORRIDORS ASSESSMENT FORECAST

As a first step in the analysis of the Regional financial impact of the Centres and Corridors from a net expenditure perspective, an estimate was prepared of the assessment that would result from the forecast development. Using samples of assessment values for a range of property types, projected assessment values by housing unit and employment type were developed. Assessment estimates were also developed for both vacant land and potential redevelopment properties. These estimates were required in order to project the net increase in assessment in the Centres and Corridors from new development and redevelopment. The following table summarizes the assessment estimates that were used by unit and employment type.

Centres and Corridors Property Assessment Estimates	
Residential	
Unit Type	Per Unit
Singles and Semis Rows Apartments	$325,000 $250,000 $200,000
Non-Residential	
Employment Type	Per Square Foot
Office Retail Community / Institutional Industrial	$150 $175 $125 $75
Vacant Land and Redevelopment	
Type	Per Acre
Vacant Land Redevelopment Sites (Note 1)	$200,000 $750,000

Source: Based on Hemson analysis of assessment data provided by Region of York Planning and Development Services

Note 1: Assessment estimate for redevelopment sites developed from the assessment values of a small number of properties with potential for redevelopment. Actual assessment is likely to vary greatly among different types of redevelopment properties.

For a given type of housing, the per unit assessment for developments in the Centres and Corridors is likely to be somewhat higher than for units of similar size and quality in other parts of the Region. The difference would be due to the added value that buyers and residents would place on units located within the Centres and Corridors for the superior

access to the rapid transit system and the proximity to the high quality, mixed-use, pedestrian-oriented environments that the Centres and Corridors will provide. When developed, the Centres and Corridors will provide a range of retail, cultural, recreational and other community facilities, in addition to both housing and employment opportunities. The scale of premium property values and hence assessments is difficult to quantify since, at present, there are no existing comparable examples. Revenues from other fees and charges such as licences, user fees, etc., are likely to be similar for Centres and Corridors as for other areas in the Region.

Because of the anticipated higher density of development in Centres and Corridors, a higher proportion of units will be in the form of townhouses and apartments compared to other parts of the Region. As a result, the average per unit assessment would be lower than the average in greenfield locations since apartments tend to be worth less per unit than lower density forms of housing. Despite this, on a per capita basis, assessment generation in the Centres and Corridors would be similar and built because apartments have fewer persons per unit than lower density housing units. This is shown in the table below (for the detailed analysis, see Appendix 1). The assessment per capita under the 40% scenario is about 10% lower for the Centres and Corridors compared to the rest of the Region.

Comparison of Assessment Per Capita		
	Centres and Corridors	**Rest of Region**
20% Intensification Scenario	$86,500	$87,000
40% Intensification Scenario	$78,700	$86,700

In terms of non-residential development, assessed values per square foot for given types of development are also likely to be slightly higher in the Centres and Corridors for other parts of the Region, as long as the structured parking that will be required is able to generate net revenue. Higher values will also result if, as expected, building in the Centres and Corridors are of a higher than average design and built quality.

Based on the projections of development and the estimates of assessment discussed previously, the projected growth in assessment that would result under the two intensification scenarios was calculated. The results are shown below together with the resultant tax revenues that the assessment would generate based on current tax rates. The supporting detailed estimates are provided in Appendix 2.

Preliminary Assessment and Regional Tax Generation Estimates For Centres & Corridors 2003-2031		
	20% Scenario	**40% Scenario**
Residential		
Units	41,700	73,300
Assessment	$9.4 billion	$16.4 billion
Taxes	$46 million	$79.5 million
Non-Residential		
Space (Square Feet)	24 million	43.5 million
Assessment	$3.5 billion	$6.3 billion
Taxes (Regional)	$32.3 million	$58.2 million
Less Loss of Taxes From Vacant Land and Redevelopment	$2 million	$5 million
Total Net Tax Revenue	$76.3 million	$132.7 million

Note: Based on 2004 assessment estimates and development projections by Hemson

These amounts only represent the revenue side of the Region's finances. The table does not account for the added costs that the Region would incur to pay for the services required by the new development in the Centres and Corridors.

C. CAPITAL COST REVIEW

The objective of the capital cost review is to identify those elements of Regional infrastructure that could potentially vary according to the location and density of future development. Potential capital costs attributable to development in Centres and Corridors are compared with those attributable to development elsewhere in the Region. Since transit, roads, water and wastewater services account for nearly 95% of the Region's capital budget, the analysis focussed on these key services. Although no analysis was undertaken of the total regional capital budget to 2031, it is reasonable to assume that the percentage distribution between major regional services would be similar to the 10 year budget as shown below.

Region of York 10 Year Gross Capital Plan For 2006-2015		
Service Area	**(millions $)**	**%Share**
Transit (Rapid and Conventional Transit)	2,671.9	46%
Roads	1,239.4	21%
Water	828.8	14%
Sewer	778.9	13%
Police	139.2	2%
Other	224.5	4%
Total	5,882.7	100%

Source: Region of York 2006 Capital Budget

1. Centres and Corridors Provide Potential Significant Savings in Transportation Costs

The Infrastructure Planning and Long Range Strategic Planning Branch of the York Region Planning and Development Department, prepared an analysis of transportation costs per capita for Centres and Corridors and other areas in the Region. Together, transit and roads comprise over two thirds of the Region's total capital budget. The analysis was prepared separately for roads and transit and then aggregated for an overall transportation assessment. Detailed results of the assessment are provided in Appendix 3. Key assumptions used in the analysis are as follows:

- The total cost of the Region's rapid transit capital infrastructure will be two thirds financed by senior levels of government.

- Total capital costs for transit and roads are those used in the 2003 Development Charges study.

- The proportion of total costs allocated to population-based and employment-based trips is based on the allocation of costs in the development charges study. In the study, 60% of the costs are allocated to the residential sector and 40% to employment uses.

- The forecast was allocated to traffic zones and grouped according to four land use categories: centre, corridor, urban and rural.

For population and employment-based trips, total kilometres by place of origin and destination were estimated for Centres and Corridors and other areas in the Region. Costs were assigned based on the shares of the forecast total growth in trip kilometres from 2003 to 2031. Costs per capita were then estimated and aggregated to arrive at the total capital cost impacts for Centres and Corridors and other areas in the Region. The following table summarizes the results of the analysis.

York Region Transportation Capital Cost Analysis - Total Cost Per Capita						
	20% Intensification Scenario			**40% Intensification Scenario**		
	Roads	Transit	Total	Roads	Transit	Total
Centres and Corridors	$ 1,198	$ 1,263	$ 2,461	$1,333	$ 1,025	$ 2,357
Urban and Rural	$ 2,485	$ 744	$ 3,230	$2,750	$ 756	$ 3,506

Source: Infrastructure Planning Branch, Region of York Planning and Development Department

For roads capital costs, Urban and Rural areas are more costly to the Region because of the greater number of auto trips generated by these areas compared to the Centres and Corridors. The per capita savings of Centres and Corridors over Urban and Rural areas is about 52% for both the 20% and 40% intensification scenarios. For transit, because residents and employees in the Centres and Corridors are anticipated to use the transit system more than those in other areas of the Region, the associated per capita costs are higher, although not to the same extent in absolute terms as roads. Overall, from a total transportation perspective (incorporating transit and roads), the Centres and Corridors should provide about a 25% savings under the 20%

intensification scenario and approximately a 35% savings with the 40% intensification scenario. These savings, however, would not translate directly to equivalent discounts for development charges as transportation is one of many costs and factors that are involved in the DC calculation.

2. Limited Potential Savings in Water and Wastewater Capital Costs

The Region is responsible for water supply, wastewater treatment and the distribution and collection trunks within its boundaries. Local distribution and collection systems are the responsibility of the area municipalities. The Region's Transportation and Works Department undertook an assessment of capital cost implications for the regional water and sewer systems of development in the Centres and Corridors as compared with other areas in the Region. The purpose of this analysis was to determine whether there is any justification for differential charges between areas.

The most important influence on the future expansion of the Region's water and sewer infrastructure is the fact that both development scenario's will require the twinning of the existing system along Yonge Street and Highway 7. As a result, only marginal cost savings could be realized from increasing the amount and density of development in the Centres and Corridors. The existing system configuration and the locations of key regional system expansion projects are generally not sensitive to intensification and development in the Centres and Corridors. The following is a summary of the Region's assessment of the potential savings in wastewater and water.

a. Wastewater

The York Durham Sewerage System (YDSS) is a gravity flow system that conveys sewage from north to south along the Yonge Street corridor and west to east along the Highway 7 corridor terminating at Lake Ontario in Pickering. A new connection with the Peel system is scheduled to be in service in 2005 that will divert some of the flows from the Vaughan area.

The YDSS Master Plan identifies additional infrastructure requirements to service projected growth to 2036 which will involve virtually doubling the system capacity by adding a parallel system in the inverted "T" area (Yonge Street and Highway 7). The results of the analysis indicate that the change in the population distribution in the intensification scenarios does change the flow patterns. However, the cost savings to the Region are very marginal at less than one percent since the planned regional service expansion are parallel to the intensification corridors.

b. Water

The York Water System (YWS) is a regional water supply system integrated with area municipal systems in Vaughan, Markham, Richmond Hill and Aurora. Connection to the Peel System will provide Vaughan with additional supply. Similar to the wastewater system, the water distribution network is oriented along the Yonge Street and Highway 7 corridors. Future planned improvements will increase capacity along these main corridors. The intensification scenarios being considered have very minor cost impacts on the regional system.

In short, most of the costs of the regional water and sewer systems are associated with plants and trunk systems which are largely unaffected by the location of development within the Region. However, there would likely be more significant cost savings for local distribution and collection systems at the area municipal level for the Centres and Corridors.

3. Other Capital Cost Items

The capital requirements associated with other capital services represent a relatively small share of the Region's infrastructure budget (at about 6%). In general, the services in question are unaffected by the location or density of development. Instead, capital requirements are driven largely by increases in the population and employment base of the Region. For this reason and because the costs represent only a small component of the overall infrastructure budget, there would be no basis for differentiating this component of the charges according to the location of development.

For the municipal services that are delivered by the Region, transportation is the only one for which the capital costs for infrastructure to service development differ significantly between the Centres and Corridors and other parts of the Region. However, at the area municipal level, there will likely be considerable capital cost differences, especially in the case of linear type services such as water distribution, wastewater collection and local roads.

D. OPERATING COST EVALUATION

A service by service evaluation to identify where there would be net operating cost differences between the Centres and Corridors and other areas in the Region was undertaken. The evaluation was based on discussions with representatives from each Regional Department and the Region's Finance Department. It focussed on two key considerations: potential differences in services requirements and differences in the costs and revenues per unit of the services between the Centres and Corridors and other areas in the Region. The evaluation did not involve the preparation of specific dollar estimates since this would have required more resources than available for the study.

For the Region, the most significant budget items are Police, GTA Pooling, Transportation and Works, Transit and Community Services and Housing. This is evident from the following table.

2005 Regional Operating Budget		
Service	**Net Expenditure ($ 000s)**	**Share of Total**
Transit	57,849	10.2%
Transportation and Works (excl. Transit)	73,038	12.9%
Health Services	42,688	7.5%
Community Services and Housing	61,991	12.9%
Planning & Economic Development	4,306	0.8%
Emergency Services	1,393	0.2%
Administrative Support	44,692	7.9%
Chair & Council	1,661	0.3%
Financial / Administrative Items	992	0.2%
Recovery from T & W	(3,423)	-0.6%
Court Services	1,584	0.3%
Boards and Authorities	24,947	4.4%
GTA Pooling	86,695	15.3%
ODSP	19,016	3.3%
Police Services	150,686	26.5%
Total	**568,115**	**100.0%**

Source: Region of York 2006 Operating Budget - Financial Summary

The table on the following pages provides an service by service evaluation.

Operating Cost Impact Evaluation				
Service	**Service Cost Drivers**	**Level of Service Demand in Centres & Corridors**	**Cost and Revenue Implications**	**Other Factors**
Transit				
A. Conventional Transit	Location and amount of growth. Comment: Greater usage of service if growth is in closer proximity to transit routes.	Higher than other parts of Region.	Enables productivity improvements and a more efficient transit system because of higher usage. Marginal revenues would increase at a greater rate than marginal costs. Costs per rider for C & C less than rest of Region because of shorter trip distances.	Additional benefits from increased transit usage: 1. Reduced traffic congestion; 2. Lower levels of vehicle emissions; 3. Improvement of feasibility of transit system.
B. Rapid Transit	Location and amount of growth. Comment: System is fixed along the C & C. Higher levels of growth in the C & C would lead to higher usage of rapid transit system.	Higher than other parts of Region.	Lower costs per rider because of shorter trip distances. Allows productivity improvements through higher levels of transit usage.	
C. Specialized Transit	Location and amount of growth. Comment: If more dispersed population, than average trip distances will be longer.	Likely similar to other parts of Region.	Distance travelled per user likely to be less in C & C than rest of Region but could involve increased cost per trip if service area becomes more congested	

Service	Service Cost Drivers	Level of Service Demand in Centres & Corridors	Cost and Revenue Implications	Other Factors
Transportation and Works				
A. Roads	Linear service. Cost depends on the location of growth which in turn dictates the geographic extent of the road network and the size of roads required.	Lower road usage per capita for C & C - shorter and more frequent trips due to greater mixing and density of land uses.	Under C &C, less development in rural areas. Fewer lane km are required. Therefore, potential for lower road maintenance costs for C & C Scenario. Potential for productivity improvements in the regional road system for C & C areas from increased off-peak trips. Could also be additional costs for delivery higher service levels in C & C (e.g. snow removal, higher level of landscaping, etc.)	Rate of service level decline will slow with increased development in the C & C. Potential additional savings in local roads operating costs from increased development in the C & C.
B. Solid Waste Management	As Region only deals with disposal, cost largely depends on volume and types of waste produced.	C & C scenario would generate lower amounts of yard and hazardous waste.	Estimated potential savings of about 10% to 12% through reduced yard and household hazardous waste collection.	Diversion rate for recyclables is lower for apartments than for ground-related housing. Potentially reduced collection costs for area municipalities for C & C scenario.
C. Water and Wastewater	Operating costs relate to maintaining treatment and trunk distribution system, relates to total amount of growth.	Lower demand per capita for water services in C & C as a result of less outdoor water use	Operating costs are recovered through user rates.	Allows for more efficient use of existing infrastructure. Could be greater service disruption impacts in C & C

Service	Service Cost Drivers	Level of Service Demand in Centres & Corridors	Cost and Revenue Implications	Other Factors
Health Services				
A. Emergency Medical Services	Primarily, total amount of population and employment growth	Similar to average for the Region	Potential for slight additional costs from increased density and congestion in the C & C	
B. Long Term Care and Public Health	Population growth	Similar to average for the Region	Large share of costs are paid for by the Province	
Community Services and Housing				
A. Social Assistance	Population growth	Similar to average for the Region	No difference in costs, Province is source for nearly all revenues.	
B. Family and Children's Services	Population growth	Similar to average for the Region	No difference in costs, Province is source for nearly all revenues.	
C. Housing and Residential Services	Population growth	Similar to average for the Region	Potential for slight additional costs for the need to acquire sites for housing projects in the C & C	Region's existing policy favours locations in the C & C for human service facilities. Would provide greater accessibility for users of the services.
Planning & Economic Development	Population and employment growth	Similar to average for the Region	No difference	Potentially more complex development approvals
Emergency Services / 911	Population and employment growth	Similar to average for the Region	Potential for slightly higher costs in providing service in higher density, congested areas	

Service	Service Cost Drivers	Level of Service Demand in Centres & Corridors	Cost and Revenue Implications	Other Factors
Administrative Support Chair & Council Financial / Administrative Items	Population and employment	Similar to average for the Region	No difference	
Court Services	Population and employment	Similar to average for the Region	No difference	
Boards and Authorities, ODSP	Population and employment	Similar to average for the Region	No difference	
GTA Pooling	Population and employment	Similar to average for the Region	No difference	
Police	Population and employment	Increased density and mix of uses together with increased potential of traffic incidents could result in a higher demand per capita.	Potentially higher costs for responding to calls in Centres and Corridors (due to potential traffic congestion); potential need to alter service delivery method to include more foot patrols and "storefront" operations	More difficult for radio equipment to work in higher density environments. Centres and Corridors provide the potential to improve community accessibility programs.

Given the above assessment, there are likely some potential cost savings associated with Centres and Corridors compared to the rest of the Region. The services most susceptible to cost savings are roads and waste management. Balanced against this are other services where there could be slightly increased costs for Centres and Corridors (policing being one specific example).

The overall net budget implications of the combined potential savings and added costs would require a complex and detailed analysis. Such an exercise is beyond the scope of the work undertaken for this report.

This chapter has discussed the growth and assessment forecast for the Centres and Corridors and provided an assessment of the potential for differential fees and charges on the basis of potential capital and operating cost savings in the Centres and Corridors as compared to other parts of the Region. The analysis concludes that the largest differences are concentrated in transportation capital costs.

III IDENTIFICATION OF PREFERRED FINANCIAL STRATEGIES

The previous chapter established that there is potentially a justification for differential fees or charges for development in the Centres and Corridors based on the lower proportionate share of transportation capital costs. In this chapter, existing and potential financial strategies are discussed. While municipalities have access to a range of financial tools to encourage specific types and locations of development, the Region has decided to focus its intention on strategies which would not create a net cost to the Region.

A. EXISTING FINANCIAL STRATEGIES USED BY THE REGION

The Region currently does not use any specific financial strategy directed exclusively to the Centres and Corridors. However, it does use a number of financial tools which are beneficial to the type of development planned for the Centres and Corridors which are listed below.

- A new multi-residential tax class that results in lower property taxes for rental apartment buildings than under the basic tax rate structure.
- Conditional grants equal to development charges for the construction of affordable housing as part of the Region's Housing Supply Strategy.
- A regional development charges discount on non-residential development (but not specific to a particular location in the Region).
- Delayed payment for development charges for apartments. This is contingent on the provision of a Letter of Credit to be drawn 18 months after building permit issuance or condominium registration.

B. ASSESSMENT OF POTENTIAL FINANCIAL STRATEGIES

A range of financial tools are available at the municipal level that could be used to encourage private investment in the Centres and Corridors. Many of the incentive-related tools must be implemented through the Community Improvement Plans vehicle.

1. Development Charge Policies

Municipalities, both local and regional, can use their policy setting authority regarding development charges to help influence the location and type of development.

Municipalities can adopt area-specific rates which can benefit areas where the costs of new infrastructure are comparatively low. It can set rates according to development forms, again favouring those forms that warrant a lower share of capital costs. Since these policies only affect the distribution of costs, not the overall amount that can be collected, they do not shift any of the burden onto the existing tax base.

Municipalities may also provide any level of DC discount they choose up to full exemptions. These discounts/exemptions can be applied by location or by type entirely at the discretion of the municipality. However, the amount of any discounts or exemptions cannot be redistributed onto other new development but must be paid for through using revenue sources other than DC's.

Since there is a basis for differentiating transportation costs between the Centres and Corridors and other parts of the Region, area-specific charges could be justified for the Roads and Transit components of the Region's Development Charges. However, under the *Development Charges Act*, roads and transit cannot be grouped together for the purposes of calculating current service standards, the service standard for transit must be based on prior service levels. It is not permitted under the DC Act to transfer service level savings from roads to transit.

2. Financial Incentives Provided Under Community Improvement Plans

Through Section 28 of the *Planning Act*, municipalities can designate community improvement project areas and adopt community improvement plans (CIP) in order to facilitate the rehabilitation of a designated area. With Provincial approval, a CIP enables a municipality to provide a range of incentives including grants or loans to registered or assessed owners of lands and buildings within the designated area. It also allows exemptions from building permit and planning fees and reductions in parkland

dedication to be made. Under the recently proposed Provincial planning reforms, upper tier municipalities would be allowed to participate in lower tier community improvement grant or loan programs.

One of the most widely used forms of grant is the Tax Equivalent Increment Grant. Under this approach, developments are provided relief from municipal property taxes; normally on a reducing basis over a ten year period. In the first year only, taxes at the existing level would be paid. The amount is then increased in stages to the full amount over the term of the grant.

3. Tax Increment Financing

Tax Increment Financing (TIF) is a tool widely used in the US for revitalizing specific designated areas within a municipality. Under a TIF, increases in property taxes generated as a result of new development in the designated areas could be used to finance the required infrastructure and potentially, to provide incentives to private landowners in the form of grants or loans to attract new development. While not currently permitted in Ontario, the Province has announced that options for the development of potential legislation to implement Tax Increment Financing will be examined. The Region is currently exploring the potential use of TIFs for the Centres and Corridors.

4. Investment in Regional Facilities and Housing Projects in the Centres and Corridors

Municipal capital facilities including housing projects are part of the municipal infrastructure that can be developed in partnership with the private sector. Potential incentives include loans or grants; giving, selling or leasing land at less than market value; guaranteed borrowing and full or partial exemption from property taxes. The Region could also potentially partner with local municipalities to provide incentives.

5. Infrastructure Investment by the Region

Through investment in strategically important infrastructure that enhance an area's accessibility and market appeal, municipalities can encourage further private sector investment. The Region has already made a major commitment to the Centres and Corridors Strategy through the implementation of the first two phases of the rapid transit program. Further improvements to the plan are required and are contingent on funding from the provincial and federal levels of government.

Municipal parking facilities are another potential form of infrastructure that could be developed directly by municipalities or in partnership with private developers as a component within development. Parking is especially important to Centres and Corridors since the higher densities contemplated for development in the Centres and Corridors preclude extensive at-grade parking. Structured parking, especially underground parking is not economically feasible in most suburban office markets. The local municipalities and the Region could potentially explore the feasibility of developing municipal parking facilities and/or more flexible parking standards to address this issue. Streetscape improvement initiatives could also be undertaken by both the Region and the local municipalities which would enhance the physical environment of the Centres and Corridors.

Of the various financial strategies and tools that could be used to encourage development in the Centres and Corridors, some would have no net financial impact on the Region whereas others would require funding from the budget. During the course of this study, it was decided by the Region that only strategies that could be justified on the basis of clearly identified cost differences between the Centres and Corridors in comparison to other parts of the Region would be considered for evaluation.

C. ASSESSMENT OF POTENTIAL FINANCIAL STRATEGIES

As discussed in Chapter 2, the potential capital and operating cost differences between Centres and Corridors and other parts of the Region were assessed on a service by service basis. For capital costs, the most significant difference for Centres and Corridors is for roads and transit. For water and wastewater and the other services with large capital costs, there are only very marginal differences. Other service components of the Region's capital budget are largely driven to the amount of growth as opposed to the location and density of development and thus do not exhibit cost differentials either between different areas of the Region or different built forms.

On the operating side, the analysis indicated that there are potential savings in roads operating costs and smaller savings in waste management operating costs however, the quantum of the savings is not clear and would require a significant analytical process to pin down. There are also some services where potentially the net operating costs of development in the Centres and Corridors would be greater than in other parts of the Region. Implementation of a financial strategy based on area-specific tax rates for the Centres and Corridors could potentially also be difficult to implement.

Development Charges is the key mechanism used to finance growth-related capital costs and the use of area specific charges are an integral element of them. For this reason, an area-specific development charge rate specifically for the Region's Centres and Corridors would be the most straight forward financial strategy for reflecting capital cost differences between the Centres and Corridors and other parts of the Region. The capital cost analysis undertaken by the Region indicates transportation cost differences for development in the Centres and Corridors. The cost differences are the net result of savings in roads costs partially offset by increased costs associated with transit capital costs. Although there is an overall net difference because of the provisions of the *Development Charges Act*, it would be necessary to treat roads and transit separately.

If the Region were to adopt this financial strategy, implementation of area-specific rates for Centres and Corridors based on transportation capital cost savings would necessitate adding another element to the existing development charge rate structure. Lowering DC rates for development in the Centres and Corridors would necessitate raising the rate for development in other parts of the Region in order to maintain the same total development charge revenue. In order to provide an indication of the potential changes in the rate for Centres and Corridors and for rates for development elsewhere in the Region, a preliminary analysis was undertaken based on the Region's 2003 development charges. The following tables provide the results of the analysis. The key results are:

- For the residential charge, a 24% savings in overall transportation costs for the 20% intensification scenario and a 33% savings for the 40% scenario, would result in a DC rate about 15% lower per residential unit for the Centres and Corridors.

- For the non-residential charge, under the 20% intensification scenario, the re-allocation of transportation costs results in a charge about 7% higher for the Centres and Corridors for Industrial/Office and Institutional uses and a slightly lower charge for the Rest of the Region. For retail uses, the rate for the Centres and Corridors is about 10% lower than the existing rate.

- For the non-residential charge, under the 40% intensification scenario, there is a relatively small amount of savings for the Centres and Corridors for Industrial/Office and Institutional employment. The change in the retail charge is similar to the 20% intensification scenario as described above.

POTENTIAL DEVELOPMENT CHARGE WITH TRANSPORTATION COST REDISTRIBUTION

RESIDENTIAL CHARGE

A. 20% INTENSIFICATION SCENARIO

	Single and Semi-Detached		Multiple Unit Dwelling		Apartments			
					2 or more bdrm		Less than 2 bdrm	
	Existing	New	Existing	New	Existing	New	Existing	New
Centres and Corridors								
Roads	$3,859	$1,586	$3,308	$1,360	$2,426	$997	$1,544	$635
Transit	$2,335	$2,662	$1,894	$2,160	$1,389	$1,584	$884	$1,008
Charge for Other Services	$7,347	$7,347	$6,257	$6,257	$4,586	$4,586	$2,917	$2,917
Total Charge	**$13,541**	**$11,596**	**$11,459**	**$9,776**	**$8,401**	**$7,167**	**$5,345**	**$4,560**
Rest of Region								
Roads	$3,859	$4,483	$3,308	$3,843	$2,426	$2,818	$1,544	$1,794
Transit	$2,335	$2,245	$1,894	$1,821	$1,389	$1,336	$884	$850
Charge for Other Services	$7,347	$7,347	$6,257	$6,257	$4,586	$4,586	$2,917	$2,917
Total Charge	**$13,541**	**$14,075**	**$11,459**	**$11,921**	**$8,401**	**$8,740**	**$5,345**	**$5,561**

Note: Existing charge based on Residential Charge with Full Transit Phase-In

B. 40% INTENSIFICATION SCENARIO

	Single and Semi-Detached		Multiple Unit Dwelling		Apartments			
					2 or more bdrm		Less than 2 bdrm	
	Existing	New	Existing	New	Existing	New	Existing	New
Centres and Corridors								
Roads	$3,859	$1,980	$3,308	$1,697	$2,426	$1,245	$1,544	$792
Transit	$2,335	$2,381	$1,894	$1,932	$1,389	$1,417	$884	$902
Charge for Other Services	$7,347	$7,347	$6,257	$6,257	$4,586	$4,586	$2,917	$2,917
Total Charge	**$13,541**	**$11,708**	**$11,459**	**$9,886**	**$8,401**	**$7,247**	**$5,345**	**$4,611**
Rest of Region								
Roads	$3,859	$5,058	$3,308	$4,335	$2,426	$3,179	$1,544	$2,024
Transit	$2,335	$2,305	$1,894	$1,870	$1,389	$1,371	$884	$873
Charge for Other Services	$7,347	$7,347	$6,257	$6,257	$4,586	$4,586	$2,917	$2,917
Total Charge	**$13,541**	**$14,710**	**$11,459**	**$12,462**	**$8,401**	**$9,137**	**$5,345**	**$5,813**

Note: Existing charge based on Residential Charge with Full Transit Phase-In

POTENTIAL DEVELOPMENT CHARGE WITH TRANSPORTATION COST REDISTRIBUTION

NON-RESIDENTIAL CHARGE

A. 20% INTENSIFICATION SCENARIO

	Per Square Foot of GFA			
	Industrial/Office/ Institutional		Retail	
	Existing	New	Existing	New
Centres and Corridors				
Roads	$1.56	$1.13	$4.11	$2.97
Transit	$0.78	$1.48	$1.05	$1.99
Charge for Other Services	$1.16	$1.16	$2.89	$2.89
Total Charge	**$3.50**	**$3.77**	**$8.05**	**$7.86**
Rest of Region				
Roads	$1.56	$1.70	$4.11	$4.47
Transit	$0.78	$0.56	$1.05	$0.75
Charge for Other Services	$1.16	$1.16	$2.89	$2.89
Total Charge	**$3.50**	**$3.42**	**$8.05**	**$8.11**

Note: Existing charge based on Non-Residential Charge From June 2006 to June 2007 as stated in DC by-law

B. 40% INTENSIFICATION SCENARIO

	Per Square Foot of GFA			
	Industrial/Office/ Institutional		Retail	
	Existing	New	Existing	New
Centres and Corridors				
Roads	$1.56	$1.16	$4.11	$3.06
Transit	$0.78	$1.12	$1.05	$1.51
Charge for Other Services	$1.16	$1.16	$2.89	$2.89
Total Charge	**$3.50**	**$3.45**	**$8.05**	**$7.47**
Rest of Region				
Roads	$1.56	$1.82	$4.11	$4.79
Transit	$0.78	$0.56	$1.05	$0.75
Charge for Other Services	$1.16	$1.16	$2.89	$2.89
Total Charge	**$3.50**	**$3.53**	**$8.05**	**$8.43**

Note: Existing charge based on Non-Residential Charge From June 2006 to June 2007 as stated in DC by-law

It is very important to emphasise that the estimates of the adjusted charges are not based on the full scale review that would be required before implementation of such a strategy. The Region of York currently employs only a limited range of financial strategies to encourage development in the designated Centres and Corridors. An area-specific development charge for the Centres and Corridors that is based on identifiable transportation cost savings would be a straight forward way of providing financial support for development which the Region wishes to encourage for strategic reasons. A full development charge review is required to accurately quantify the potential cost savings and resulting rates.

A second but more complex financial strategy option for the Region to consider would be a Centres and Corridors specific tax rate that would capture any identifiable net operating cost differentials. However, before the Region could begin to consider the use of this strategy in principle, it would be essential to determine whether the preliminary assessments are borne by results of detailed analysis.

IV SUMMARY AND CONCLUSIONS

The Region of York's Centres and Corridors strategy proposes four mixed-use downtown areas linked by high density mixed-use corridors on Yonge Street and Highway 7. A key element in support of the strategy is a very large investment in rapid transit service. The Strategy has a number of policy goals including reduced development pressures on greenfield areas, greater use of public transit, more efficient development patterns, reduced emissions and improved live/work relationships. However, to achieve the development potential of the Centres and Corridors, a number of development challenges will have to be addressed. These include the need to achieve a greater market share for higher density development forms as well as to overcome challenges related to development economics especially in parking costs. Because of these challenges, the Region is exploring financial strategies that could help support development in the Centres and Corridors. The purpose of this study is to assess the potential of strategies that are based on identifiable cost differences between the Centres and Corridors and other areas in the Region.

In terms of capital costs, the analysis indicates that there are identifiable net cost differences for transportation services between Centres and Corridors and other areas in the Region. From an overall transportation perspective, incorporating both transit and roads, it is estimated that the Centres and Corridors could potentially provide about a 24% savings under the 20% intensification scenario and a 33% savings under the 40% intensification scenario. There are also differences, though very marginal, in terms of regional water and wastewater services. As for operating costs, there are projected to be limited potential for savings for Centres and Corridors. Specifically, there is potential for some small operating cost savings for roads and waste management. However, this could potentially be offset by increased costs for other services. The quantum of the operating cost savings are not clear and considerably more work would be required to determine an accurate answer.

The identified savings in transportation capital costs could potentially justify lower regional development charge rates for new development in the Centres and Corridors. For the residential charge, a preliminary analysis indicates that the 24% savings in overall transportation costs for the 20% intensification scenario and the 33% savings for the 40% scenario would result in a DC rate about 15% lower per residential unit for the Centres and Corridors. However, in order to maintain overall revenue requirements, reductions to Centres and Corridors would be balanced by higher rates for development elsewhere in

the Region. It should be emphasized that the above estimates are preliminary in nature and that a full development charge review would be needed to accurately determine the potential cost savings from development in the Centres and Corridors and the financial impacts on the Region of implementing new area-specific DC rates.

In closing, it is important to recognize that this analysis has only considered the capital and operating costs at the regional level. At the local municipal level, there are potentially significant cost differentials relating to development in the Centres and Corridors. These potential cost savings should be explored further to assess the full capital and operating cost impacts of the Centres and Corridors at both the local and regional level.

APPENDICES:

1. COMPARISON OF ASSESSMENT PER CAPITA

2. PRELIMINARY ASSESSMENT AND TAX GENERATION ESTIMATE

3. TRANSPORTATION CAPITAL COST ANALYSIS

4. DEVELOPMENT CHARGE RATE ANALYSIS

APPENDIX 1:

COMPARISON OF ASSESSMENT PER CAPITA

APPENDIX 1: COMPARISON OF ASSESSMENT PER CAPITA

A. 20% INTENSIFICATION SCENARIO

Centres and Corridors	Avg. Assessment	Units (20% scenario)	Total Assessment	Per Unit
Singles and Semis	$325,000	3,100	$1,007,500,000	
Rows	$250,000	14,100	$3,525,000,000	
Apts	$200,000	24,500	$4,900,000,000	
Total Units		**41,700**	**$9,432,500,000**	**$226,199**
Population Growth in Centres and Corridors	109,104			
Per Capita	**$86,454**			

Growth in Rest of Region

	Centres and Corridors Units
Singles and Semis	3,100
Rows	14,100
Apts	24,500
Total Units	**41,700**
Population Growth in Centres and Corriodors	109,104
Growth in Rest of Region	**410,542**
Growth in occupied households 2002-2026	186,000
Average per year (over 24 years)	7,750
From 2026 to 2031	38,750
Less one year for 2002	-7,750
Total estimated growth 2003-2031	**217,000**

Distribution of Units	DC Study	Total Units	Corridor Units	Units Elsewhere	Share
Singles and Semis	46%	99,820	3,100	96,720	55%
Rows	28%	60,760	14,100	46,660	27%
Apts	26%	56,420	24,500	31,920	18%
Total Units	100%	217,000	41,700	175,300	100%

Assessment For Areas Outside C & C's		Share Elsewhere	Weighted Assessment
Singles and Semis	$308,750	55%	$170,350
Rows	$237,500	27%	$63,216
Apts	$190,000	18%	$34,597
Total			$268,162

	PPU 2002-2026 DC	Share Elsewhere	Weighted PPU
Singles and Semis	3.5	55%	1.93
Rows	2.96	27%	0.79
Apts	2	18%	0.36
			3.08
Average Assessment Per Capita	**$86,977**		

APPENDIX 1: COMPARISON OF ASSESSMENT PER CAPITA

40% INTENSIFICATION SCENARIO

Centers and Corridors	Avg Assessment	Units (40% scenario)	Total Assessment	Per Unit
Singles and Semis	$325,000	3,800	$1,235,000,000	
Rows	$250,000	24,600	$6,150,000,000	
Apts	$200,000	44,900	$8,980,000,000	
Total Units		**73,300**	**$16,365,000,000**	**$223,261**
Population Growth in Centres and Corridors	207,859			
Per Capita	**$78,731**			

Growth in Rest of Region

	Centres and Corridors Units
Singles and Semis	3,800
Rows	24,600
Apts	44,900
Total Units	**73,300**
Population Growth in Centres and Corriodors	207,859
Growth in Rest of Region	**311,788**
Growth in occupied households 2002-2026	186,000
Average per year (over 24 years)	7,750
From 2026 to 2031	38,750
Less one year for 2002	-7,750
Total estimated growth 2003-2031	**217,000**

Distribution of Units	DC Study	Total Units	Corridor Units	Units Elsewhere	Share
Singles and Semis	46%	99,820	3,800	96,020	55%
Rows	28%	60,760	24,600	36,160	21%
Apts	26%	56,420	44,900	11,520	7%
Total Units	100%	217,000	73,300	143,700	82%

Assessment For Areas Outside C & C's		Share Elsewhere	Weighted Assessment
Singles and Semis	$308,750	55%	$169,117
Rows	$237,500	21%	$48,990
Apts	$190,000	7%	$12,486
Total			$230,593

	PPU 2002-2026 DC	Share Elsewhere	Weighted PPU
Singles and Semis	3.5	55%	1.92
Rows	2.96	21%	0.61
Apts	2	7%	0.13
			2.66
Average Assessment Per Capita	**$86,718**		

APPENDIX 2:

PRELIMINARY ASSESSMENT AND TAX GENERATION ESTIMATE

HEMSON

PRELIMINARY ESTIMATE OF ASSESSMENT AND TAX REVENUE GENERATION

20% INTENSIFICATION SCENARIO

Residential	Singles / Semis	Rows	Apts	Total
Units	3,100	14,100	24,500	41,700
Per Unit Assessment	$325,000	$250,000	$200,000	
Total Assessment	$1,007,500,000	$3,525,000,000	$4,900,000,000	$9,432,500,000
Tax Rate	0.00485732	0.00485732	0.00485732	
Tax Revenue	$4,893,750	$17,122,053	$23,800,868	$45,816,671

Non-Residential	Office	Retail	Comm/Inst	Empl Land	Total
Square Metres	1,090,300	624,100	289,300	266,700	2,270,400
Square Feet	11,731,600	6,715,300	3,112,900	2,869,700	24,429,500
Assessment Per Square Foot	$150	$175	$125	$75	
Total Assessment	$1,759,740,000	$1,175,177,500	$389,112,500	$215,227,500	$3,539,257,500
Taxable	100%	100%	75%	100%	
Taxable Assessment	$1,759,740,000	$1,175,177,500	$291,834,375	$215,227,500	
Occupied (95%)	$1,671,753,000	$1,116,418,625	$277,242,656	$204,466,125	$3,269,880,406
Vacant (5%)	$87,987,000	$58,758,875	$14,591,719	$10,761,375	$176,962,875
Tax Rate - Occupied	0.00586279	0.00586279	0.00586279	0.0667251	
Tax Rate - Vacant	0.00410395	0.00410395	0.00410395	0.00433713	
Taxes - Occupied	$9,801,137	$6,545,328	$1,625,415	$13,643,023	$31,614,903
Taxes - Vacant	$361,094	$241,143	$59,884	$46,673	$708,795
Total Taxes	$10,162,231	$6,786,471	$1,685,299	$13,689,696	$32,323,698

Total Tax Revenue	$78,140,369
Less Vacant Land	$1,956,277
Estimated Net Tax Revenue	**$76,184,092**

Loss of Tax Revenue From Vacant Land Preliminary Estimate		
Estimate of Land Required	965	ha
For Development	2,383	acres
Available land in C and C	1,411	ha
(Based on data from York Region)		
20% Scenario can all be accommodated on vacant land		
Assessment Per Acre	$200,000	per acre
Total Assessment	$476,681,381	
Tax Rate	0.00410395	Commercial Rate for vacant land
Taxes	$1,956,276.55	

PRELIMINARY ESTIMATE OF ASSESSMENT AND TAX REVENUE GENERATION

40% INTENSIFICATION SCENARIO

Residential	Singles / Semis	Rows	Apts	Total
Units	3,800	24,600	44,900	73,300
Per Unit Assessment	$325,000	$250,000	$200,000	
Total Assessment	$1,235,000,000	$6,150,000,000	$8,980,000,000	$16,365,000,000
Tax Rate	0.00485732	0.00485732	0.00485732	
Tax Revenue	$5,998,790	$29,872,518	$43,618,734	$79,490,042

Non-Residential	Office	Retail	Comm/Inst	Empl Land	Total
Square Metres	1,881,500	1,141,900	526,200	490,600	4,040,200
Square Feet	20,244,900	12,286,800	5,661,900	5,278,900	43,472,500
Assessment Per Square Foot	$150	$175	$125	$75	
Total Assessment	$3,036,735,000	$2,150,190,000	$707,737,500	$395,917,500	$6,290,580,000
Taxable	100%	100%	75%	100%	
Taxable Assessment	$3,036,735,000	$2,150,190,000	$530,803,125	$395,917,500	
Occupied (95%)	$2,884,898,250	$2,042,680,500	$504,262,969	$376,121,625	$5,807,963,344
Vacant (5%)	$151,836,750	$107,509,500	$26,540,156	$19,795,875	$314,529,000
Tax Rate - Occupied	0.00586279	0.00586279	0.00586279	0.0667251	
Tax Rate - Vacant	0.00410395	0.00410395	0.00410395	0.00433713	
Taxes - Occupied	$16,913,553	$11,975,807	$2,956,388	$25,096,753	$56,942,500
Taxes - Vacant	$623,130	$441,214	$108,919	$85,857	$1,259,121
Total Taxes	$17,536,683	$12,417,020	$3,065,307	$25,182,610	$58,201,621

Total Tax Revenue	$137,691,663
Less Vacant & Redev	$4,587,844
Estimated Net Tax Revenue	**$133,103,819**

Loss of Tax Revenue From Vacant Land Preliminary Estimate		
Estimate of Land Required	1,638	ha
For Development	4,047	acres
Available Land in C and C	1,411	ha
(Based on data from York Region)	3,487	acres
Vacant Land		
Assessment Per Acre	$200,000	per acre
Total Assessment	$697,316,200	
Tax Rate	0.00410395	Commercial rate for vacant land
Taxes	$2,861,751	
Redevelopment		
Land required to be redeveloped	227	ha
	561	acres
Assessment per acre	$750,000	per acre
Total Assessment	$420,593,214	
Tax Rate	0.00410395	Commercial rate for vacant land
Taxes	$1,726,094	
Total Foregone Taxes	$4,587,844	

APPENDIX 3:

TRANSPORTATION CAPITAL COST ANALYSIS

Centres and Corridors Fiscal Analysis

Infrastructure Planning Branch, Planning and Development Services Department

Introduction

The purpose of this analysis is to determine the cost savings associated with more compact development concentrated in the Region's centres and corridors.

Model Inputs

Costs

- Assumption that Transit Capital infrastructure will be 2/3's financed by senior levels of government.
- Capital costs for roads and transit are consistent with 2003 Development Charges By-law.
- The proportion of the total cost allocated to population and employment based trips is determined by the existing DC rate. The current DC rates for residential (population) and employment development are 60% and 40% respectively.

Population and Employment

- York Region's population and employment forecast to 2031 was used as the basis for the modelling work.
- The forecast was distributed into traffic zones and grouped according to 4 land use categories (centre, corridor, urban, rural) for the base year (2003) and two growth scenarios:
    - 2031 – 20% Intensification
    - 2031 – 40% Intensification
- Intensification is defined as growth occurring within a 500 metre corridor width of the Yonge Street and Highway 7.
- The 500 metre corridor width was used as the basis for determining which zones were grouped into a center and corridor classification. In the majority of cases traffic zones classified as being within a centre or corridor fell within an approximate 500 metre width. 19 zones that extended beyond the 500 metre boundary were assigned to a centres or corridors land use category if the centre and corridor portion of the zone exceeded 50% of the zone total.

Methodology

Transportation Model

- York Region – YRTP Model v. 1.11 was used.
- Analysis based on YRTP Traffic Zones (5000 series).
- Generated 2031 road and transit trip distribution matrices based on full model run.
- Both road and transit trip matrices were assigned separately to the road network.
- Analysis was conducted under an unconstrained free flow assignment to calculate the shortest trip distance between origin and destination pairs.

Calculating Travel Time

1. Traffic Zones were categorised into 4 land use categories, Urban, Rural, Corridor and Centres as identified in Land Use Categories worksheet.

2. Total travel distance (person trip KM's) originating / destined to a traffic zone was derived from the transportation model for auto vehicle and transit trips. A trip starts from an origin traffic zone (O) and ends at a destination traffic zone (D). Through the transportation model, each O-D trip is assigned a path or route. For each of the land use category, a sub-matrix of the total auto or transit trip matrices were created and assigned separately to the road network. Total trip kilometres for each origin / destination pair is then calculated from the network and aggregated by each land use category

   The summarized trip table can be found in the Modeling Output worksheet (*Attachment 1)* for both auto and transit trips. This process was repeated for 2003 and 2031 for both 20% and 40% intensification scenarios.

3. To represent both residential and employment trips, the analysis was further grouped into two categories, Residential (origin) generated, or all trips originating from traffic zone X, and Employment (destination) generated trip distances, all trips destined to traffic zone X.

Distribution of Costs

4. The portion of the Total DC that is assigned to each Land Use Category is calculated by the proportion of the total growth in the region that is attributed to each land use category.

   a) The total growth in travel distance for Residential Trips is calculated as the difference between column O1 (Base KM) and column O2 (2031 KM) resulting in Growth (KM) in travel (column O3).

      This same formula is used to calculate the Employment Trips (columns D1, D2, and D3). The total Growth in KM is summed for both Residential and Employment trips.

   b) The percentage of total growth (columns O4 & D4), for each land use category, is calculated as a ratio of the total growth in all land use categories for both Residential and Employment trips.

5. The ratio calculated in 4(b) for each land use category is applied to the total capital costs for the residential and employment generated trips.

   The total capital costs for roads and transit assigned to the residential and employment components is split according to existing DC rates of 60% Residential and 40% employment.

   The net capital costs for each land use category are represented in column O5 & D5.

6. Costs per capita are calculated for each land use category (column O7 & D7) based on the total capital costs from column O5 or D5 and each category's population and employment growth from 2003 to 2031 (column O6 or D6).

7. Costs per capita for the residential and employments trips for each land use category are combined for comparing centre and corridor costs relative to urban and rural costs.

8. Steps 1 through 8 are repeated for both auto and transit trips.

Model Methodology / Instructions

Capital Costs	
30 Year Roads Capital Costs:	1,829,861,752

DC Bylaw Division	
Population (60% Allocation)	1,097,917,051
Employment (40% Allocation)	731,944,701
	1,829,861,752

Residential (Origin)

	O1	O2	O3	O4	O5	O6	O7
	Base (KM)	2031 (km)	Growth (km)	% of Total Growth	Cost($)	2031 Growth (Pop)	Cost$/capita
Centre	15,481	69,131	53,650	6.22%	68,331,017	62,095	1,100
Corridor	230,482	349,039	118,557	13.75%	150,999,448	140,230	1,077
Urban	783,149	1,242,947	459,798	53.34%	585,619,103	226,638	2,584
Rural	264,466	494,489	230,023	26.68%	292,967,484	90,609	3,233
Total	1,293,578	2,155,606	862,028	100.00%	1,097,917,051	519,572	2,113

Centres + Corridors	219,330,464	202,325	1,084
Urban and Rural	878,586,587	317,247	2,769

Employment (Destination)

	D1	D2	D3	D4	D5	D6	D7
	Base (KM)	2031 (km)	Growth (km)	% of Total Growth	Cost($)	2031 Growth (Emp)	Cost$/capita
Centre	78,145	231,238	153,093	16.82%	123,122,203	72,493	1,698
Corridor	250,503	364,737	114,234	12.55%	91,870,574	51,077	1,799
Urban	724,634	1,210,869	486,235	53.43%	391,045,472	140,715	2,779
Rural	151,029	307,584	156,555	17.20%	125,906,452	49,432	2,547
Total	1,204,311	2,114,428	910,117	100.00%	731,944,701	313,717	2,333

Centres + Corridors	214,992,777	123,570	1,740
Urban and Rural	516,951,924	190,147	2,719

Total cost per capita (Residential + Employment)

	Cost(1000$)	2031 Growth (Pop+Emp)	Cost$/capita
Centre	191,453	134,588	1,423
Corridor	242,870	191,307	1,270
Urban	976,665	367,353	2,659
Rural	418,874	140,041	2,991
Total	1,829,862	833,289	2,196

Centres + Co	434,323	325,895	1,333
Urban and Ru	1,395,539	507,394	2,750

52% Savings

DC Rate - 20% Intensification - Free Flow Assignment (Person Trip KM)

Auto Assignment (person trips*kilometers)

30 Year Roads Capital Costs:	1,829,861,752

Residential (Origin)

DC Rate: 60%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	% of Total Growth	Cost($)	2031 Growth (Pop)	Cost$/capita	
Centre	15,481	55,174	39,693	4.32%	47,422,762	41,686	1,138	111,963
Corridor	230,482	272,196	41,714	4.54%	49,837,329	70,277	709	22%
Urban	783,149	1,368,986	585,837	63.75%	699,922,120	302,224	2,316	407,603
Rural	264,466	516,182	251,716	27.39%	300,734,840	105,379	2,854	78%
Total	1,293,578	2,212,538	918,960	100.00%	1,097,917,051	519,566	2,113	
Centres + Corridors				8.86%	97,260,091	111,963	869	65%
Urban and Rural				91.14%	1,000,656,960	407,603	2,455	

Employment (Destination)

DC Rate: 40%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	% of Total Growth	Cost($)	2031 Growth (Emp)	Cost$/capita	
Centre	78,145	190,565	112,420	11.90%	87,106,019	49,193	1,771	75,276
Corridor	250,503	302,013	51,510	5.45%	39,911,324	26,083	1,530	24%
Urban	724,634	1,259,799	535,165	56.65%	414,660,136	163,133	2,542	238,441
Rural	151,029	396,590	245,561	25.99%	190,267,222	75,308	2,527	76%
Total	1,204,311	2,148,967	944,656	100.00%	731,944,701	313,717	2,333	
Centres + Corridors				17.35%	127,017,343	75,276	1,687	33%
Urban and Rural				82.65%	604,927,358	238,441	2,537	

Total cost per capita (Residential + Employment)

	Cost (1000$)	2031 Growth (Pop+Emp)	Cost$/capita
Centre	134,528,781	90,879	1,480
Corridor	89,748,653	96,360	931
Urban	1,114,582,257	465,357	2,395
Rural	491,002,062	180,687	2,717
Total	1,829,861,752	833,283	2,196
Centres + Corridors	224,277,434	187,239	1,198
Urban and Rural	1,605,584,318	646,044	2,485

52% Savings C+C vs Urban / Rural

Notes:
The proportion of Roads Capital cost allocated to population based and employment based on rational identified in the DC-Bylaw Background Study. Current DC Rate is 60% Residential, 40% Employment. Full trip table (all modes) assigned to auto network. Network included 400 series highways, regional and local roads.

DC Rate - 20% Intensification - Free Flow Assignment (Person Trip KM)

Transit Assignment (person trips*kilometers)

Full 2031 Transit Plan	$	2,152,046,000	Assume 2/3 Financing	717,348,667

Residential (Origin)

DC Rate: 60%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	% of Total Growth	Cost($)	2031 Growth (Pop)	Cost$/capita	
Centre	3,308	20,253	16,945	9.39%	40,426,162	41,686	970	111,963
Corridor	44,594	71,976	27,382	15.18%	65,326,006	70,277	930	22%
Urban	102,922	221,388	118,466	65.66%	282,627,661	302,224	935	407,603
Rural	11,071	28,688	17,617	9.76%	42,029,371	105,379	399	78%
Total	161,895	342,305	180,410	100.00%	430,409,200	519,566	828	
Centres + Corridors				24.57%	105,752,168	111,963	945	-19%
Urban and Rural				75.43%	324,657,032	407,603	797	

Employment (Destination)

DC Rate: 40%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	% of Total Growth	Cost($)	2031 Growth (Emp)	Cost$/capita	
Centre	5,355	21,483	16,128	28.40%	81,493,295	49,193	1,657	75,276
Corridor	15,451	25,192	9,741	17.15%	49,220,373	26,083	1,887	24%
Urban	28,388	57,719	29,331	51.65%	148,206,834	163,133	909	238,441
Rural	1,280	2,867	1,587	2.79%	8,018,964	75,308	106	76%
Total	50,474	107,261	56,787	100.00%	286,939,467	313,717	915	
Centres + Corridors				45.55%	130,713,668	75,276	1,736	-165%
Urban and Rural				54.45%	156,225,799	238,441	655	

Total cost per capita (Residential + Employment)

	Cost (1000$)	2031 Growth (Pop+Emp)	Cost$/capita		
Centre	121,919,457	90,879	1,342		
Corridor	114,546,379	96,360	1,189		
Urban	430,834,495	465,357	926		
Rural	50,048,336	180,687	277		
Total	717,348,667	833,283	861		
Centres + Corridors	236,465,836	187,239	1,263	-70%	Savings
Urban and Rural	480,882,831	646,044	744		C+C vs Urban / Rural

Notes:
The proportion of Roads Capital cost allocated to population based and employment based on rational identified in the DC-Bylaw Background Study. Current DC Rate is 60% Residential, 40% Employment. Full trip table (all modes) assigned to auto network. Network included 400 series highways, regional and local roads.

DC Rate - 20% Intensification - Free Flow Assignment (Person Trip KM)

Total Auto + Transit Trip Assignment (person trips*kilometers)

			30 Year Roads Capital Costs:	1,829,861,752
Full 2031 Transit Plan	$	2,152,046,000	Assume 2/3 Financing	717,348,667
				2,547,210,419

Residential (Origin)

DC Rate: 60%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	Cost($)	2031 Growth (Pop)	Cost$/capita	
Centre	18,789	75,427	56,638	87,848,924	41,686	2,107	111,963
Corridor	275,076	344,172	69,096	115,163,335	70,277	1,639	22%
Urban	886,071	1,590,374	704,303	982,549,781	302,224	3,251	407,603
Rural	275,537	544,870	269,333	342,764,211	105,379	3,253	78%
Total	1,455,473	2,554,843	1,099,370	1,528,326,251	519,566	2,942	

Centres + Corridors	203,012,259	111,963	1,813	44%
Urban and Rural	1,325,313,992	407,603	3,251	

Employment (Destination)

DC Rate: 40%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	Cost($)	2031 Growth (Emp)	Cost$/capita	
Centre	83,500	212,048	128,548	168,599,313	49,193	3,427	75,276
Corridor	265,954	327,205	61,251	89,131,697	26,083	3,417	24%
Urban	753,022	1,317,518	564,496	562,866,971	163,133	3,450	238,441
Rural	152,309	399,457	247,148	198,286,186	75,308	2,633	76%
Total	1,254,785	2,256,228	1,001,443	1,018,884,167	313,717	3,248	

Centres + Corridors	257,731,011	75,276	3,424	-7%
Urban and Rural	761,153,157	238,441	3,192	

Total cost per capita (Residential + Employment)

	Cost (1000$)	2031 Growth (Pop+Emp)	Cost$/capita
Centre	256,448,238	90,879	2,822
Corridor	204,295,032	96,360	2,120
Urban	1,545,416,752	465,357	3,321
Rural	541,050,397	180,687	2,994
Total	2,547,210,419	833,283	3,057

Centres + Corridors	460,743,270	187,239	2,461	24%	Savings
Urban and Rural	2,086,467,149	646,044	3,230		C+C vs Urban / Rural

Notes:
This table represents to NET TOTAL COSTS of the Auto and Transit Trip worksheets.

DC Rate - 40% Intensification - Free Flow Assignment (Person Trip KM)

Auto Assignment (person trips*kilometers)

30 Year Roads Capital Costs: 1,829,861,752

Residential (Origin)

DC Rate: 60%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	% of Total Growth	Cost($)	2031 Growth (Pop)	Cost$/capita	
Centre	15,481	69,131	53,650	6.22%	68,331,017	62,095	1,100	202,325
Corridor	230,482	349,039	118,557	13.75%	150,999,448	140,230	1,077	39%
Urban	783,149	1,242,947	459,798	53.34%	585,619,103	226,638	2,584	317,247
Rural	264,466	494,489	230,023	26.68%	292,967,484	90,609	3,233	61%
Total	1,293,578	2,155,606	862,028	100.00%	1,097,917,051	519,572	2,113	

Centres + Corridors	19.98%	219,330,464	202,325	1,084	61%
Urban and Rural	80.02%	878,586,587	317,247	2,769	

Employment (Destination)

DC Rate: 40%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	% of Total Growth	Cost($)	2031 Growth (Emp)	Cost$/capita	
Centre	78,145	231,238	153,093	16.82%	123,122,203	72,493	1,698	123,570
Corridor	250,503	364,737	114,234	12.55%	91,870,574	51,077	1,799	39%
Urban	724,634	1,210,869	486,235	53.43%	391,045,472	140,715	2,779	190,147
Rural	151,029	307,584	156,555	17.20%	125,906,452	49,432	2,547	61%
Total	1,204,311	2,114,428	910,117	100.00%	731,944,701	313,717	2,333	

Centres + Corridors	29.37%	214,992,777	123,570	1,740	36%
Urban and Rural	70.63%	516,951,924	190,147	2,719	

Total cost per capita (Residential + Employment)

	Cost (1000$)	2031 Growth (Pop+Emp)	Cost$/capita
Centre	191,453,220	134,588	1,423
Corridor	242,870,021	191,307	1,270
Urban	976,664,575	367,353	2,659
Rural	418,873,936	140,041	2,991
Total	1,829,861,752	833,289	2,196

Centres + Corridors	434,323,241	325,895	1,333	52%	Savings
Urban and Rural	1,395,538,511	507,394	2,750		C+C vs Urban / Rural

Notes:
The proportion of Roads Capital cost allocated to population based and employment based on rational identified in the DC-Bylaw Background Study. Current DC Rate is 60% Residential, 40% Employment. Full trip table (all modes) assigned to auto network. Network included 400 series highways, regional and local roads.

DC Rate - 40% Intensification - Free Flow Assignment (Person Trip KM)

Transit Assignment (person trips*kilometers)

Full 2031 Transit Plan	$	2,152,046,000	Assume 2/3 Financing	717,348,667

Residential (Origin)

DC Rate: 60%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	% of Total Growth	Cost($)	2031 Growth (Pop)	Cost$/capita	
Centre	3,308	29,006	25,698	13.69%	58,919,774	62,095	949	202,325
Corridor	44,594	93,446	48,852	26.02%	112,006,724	140,230	799	39%
Urban	102,922	201,305	98,383	52.41%	225,570,243	226,638	995	317,247
Rural	11,071	25,862	14,791	7.88%	33,912,459	90,609	374	61%
Total	161,895	349,619	187,724	100.00%	430,409,200	519,572	828	
Centres + Corridors				39.71%	170,926,498	202,325	845	-3%
Urban and Rural				60.29%	259,482,702	317,247	818	

Employment (Destination)

DC Rate: 40%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	% of Total Growth	Cost($)	2031 Growth (Emp)	Cost$/capita	
Centre	5,355	29,007	23,652	33.71%	96,730,267	72,493	1,334	123,570
Corridor	15,451	31,644	16,193	23.08%	66,224,979	51,077	1,297	39%
Urban	28,388	57,163	28,775	41.01%	117,681,948	140,715	836	190,147
Rural	1,280	2,821	1,541	2.20%	6,302,272	49,432	127	61%
Total	50,474	120,635	70,161	100.00%	286,939,467	313,717	915	
Centres + Corridors				56.79%	162,955,246	123,570	1,319	-102%
Urban and Rural				43.21%	123,984,220	190,147	652	

Total cost per capita (Residential + Employment)

	Cost (1000$)	2031 Growth (Pop+Emp)	Cost$/capita		
Centre	155,650,041	134,588	1,156		
Corridor	178,231,703	191,307	932		
Urban	343,252,191	367,353	934		
Rural	40,214,731	140,041	287		
Total	717,348,667	833,289	861		
Centres + Corridors	333,881,744	325,895	1,025	-36%	Savings
Urban and Rural	383,466,922	507,394	756		C+C vs Urban / Rural

Notes:
The proportion of Roads Capital cost allocated to population based and employment based on rational identified in the DC-Bylaw Background Study. Current DC Rate is 60% Residential, 40% Employment. Full trip table (all modes) assigned to auto network. Network included 400 series highways, regional and local roads.

DC Rate - 40% Intensification - Free Flow Assignment (Person Trip KM)

Total Auto + Transit Trip Assignment (person trips*kilometers)

			30 Year Roads Capital Costs:	1,829,861,752
Full 2031 Transit Plan	$	2,152,046,000	Assume 2/3 Financing	717,348,667
				2,547,210,419

Residential (Origin)

DC Rate: 60%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	Auto + Transit Costs ($)	2031 Growth (Pop)	Cost$/capita	
Centre	18,789	98,137	79,348	127,250,791	62,095	2,049	202,325
Corridor	275,076	442,485	167,409	263,006,172	140,230	1,876	39%
Urban	886,071	1,444,252	558,181	811,189,346	226,638	3,579	317,247
Rural	275,537	520,351	244,814	326,879,943	90,609	3,608	61%
Total	1,455,473	2,505,225	1,049,752	1,528,326,251	519,572	2,942	
Centres + Corridors				390,256,962	202,325	1,929	46%
Urban and Rural				1,138,069,289	317,247	3,587	

Employment (Destination)

DC Rate: 40%

	Base (KM)	2031 (KM)	Growth in Travel (KM)	Auto + Transit Costs ($)	2031 Growth (Emp)	Cost$/capita	
Centre	83,500	260,245	176,745	219,852,470	72,493	3,033	123,570
Corridor	265,954	396,381	130,427	158,095,553	51,077	3,095	39%
Urban	753,022	1,268,032	515,010	508,727,420	140,715	3,615	190,147
Rural	152,309	310,405	158,096	132,208,724	49,432	2,675	61%
Total	1,254,785	2,235,063	980,278	1,018,884,167	313,717	3,248	
Centres + Corridors				377,948,023	123,570	3,059	9%
Urban and Rural				640,936,144	190,147	3,371	

Total cost per capita (Residential + Employment)

	Auto + Transit Costs ($)	2031 Growth (Pop+Emp)	Cost$/capita
Centre	347,103,261	134,588	2,579
Corridor	421,101,725	191,307	2,201
Urban	1,319,916,766	367,353	3,593
Rural	459,088,667	140,041	3,278
Total	2,547,210,419	833,289	3,057
Centres + Corridors	768,204,985	325,895	2,357
Urban and Rural	1,779,005,433	507,394	3,506

33%

Savings
C+C vs Urban / Rural

Notes:
This table represents to NET TOTAL COSTS of the Auto and Transit Trip worksheets.

APPENDIX 4:

DEVELOPMENT CHARGE RATE ANALYSIS

YORK REGION TRANSPORTATION COST ANALYSIS

A. 20% INTENSIFICATION SCENARIO

ROADS

RESIDENTIAL

Region	Cost $	Pop Growth 2003-31	Cost Per Capita
Total	$1,097,917,051	519,566	**$2,113**
Centres and Corridors	**Cost $**	**Pop Growth 2003-31**	**Cost Per Capita**
Centres	$47,422,762	41,686	
Corridors	$49,837,329	70,277	
Total	**$97,260,091**	**111,963**	**$869**
Rest of Region	**Cost $**	**Pop Growth 2003-31**	**Cost Per Capita**
Urban	$699,922,120	302,224	
Rural	$300,734,840	105,379	
Total	**$1,000,656,960**	**407,603**	**$2,455**

Percentage Shares of Total Cost Per Capita	
Centres and Corridors	41.1%
Rest of Region	116.2%

Calculation of New Roads Charge	Single and Semi-Detached	Multiple Unit Dwelling	Apartments 2 or more bdrm	Apartments Less than 2 bdrm
Existing Roads	$3,859	$3,308	$2,426	$1,544
Centres and Corridors	$1,586	$1,360	$997	$635
Rest of Region	$4,483	$3,843	$2,818	$1,794

B. 40% INTENSIFICATION SCENARIO

ROADS

RESIDENTIAL

Region	Cost $	Pop Growth 2003-31	Cost Per Capita
Total	$1,097,917,051	519,572	**$2,113**
Centres & Corridors	**Cost $**	**Pop Growth 2003-31**	**Cost Per Capita**
Centres	$68,331,017	62,095	
Corridors	$150,999,448	140,230	
Total	**$219,330,465**	**202,325**	**$1,084**
Rest of Region	**Cost $**	**Pop Growth 2003-31**	**Cost Per Capita**
Urban	$585,619,103	226,638	
Rural	$292,967,484	90,609	
Total	**$878,586,587**	**317,247**	**$2,769**

Percentage Shares of Total Cost Per Capita	
Centres and Corridors	51.3%
Rest of Region	131.1%

Calculation of New Roads Charge	Single and Semi-Detached	Multiple Unit Dwelling	Apartments 2 or more bdrm	Apartments Less than 2 bdrm
Existing Roads	$3,859	$3,308	$2,426	$1,544
Centres and Corridors	$1,980	$1,697	$1,245	$792
Rest of Region	$5,058	$4,335	$3,179	$2,024

YORK REGION TRANSPORTATION COST ANALYSIS

A. 20% INTENSIFICATION SCENARIO

ROADS

EMPLOYMENT

Region	Cost $	Empl Growth 2003-31	Cost Per Capita
Total	$731,944,701	313,717	**$2,333**
Centres and Corridors	**Cost $**	**Empl Growth 2003-31**	**Cost Per Capita**
Centres	$87,106,019	49,193	
Corridors	$39,911,324	26,083	
Total	**$127,017,343**	**75,276**	**$1,687**
Rest of Region	**Cost $**	**Empl Growth 2003-31**	**Cost Per Capita**
Urban	$414,660,136	163,133	
Rural	$190,267,222	75,308	
Total	**$604,927,358**	**238,441**	**$2,537**

Percentage Shares of Total Cost Per Capita	
Centres and Corridors	72.3%
Rest of Region	108.7%

Calculation of New Roads Charge		
	Industrial/Office/ Institutional	**Retail**
Existing Roads Charge	$1.56	$4.11
Centres and Corridors	$1.13	$2.97
Rest of Region	$1.70	$4.47

B. 40% INTENSIFICATION SCENARIO

ROADS

EMPLOYMENT

Region	Cost $	Empl Growth 2003-31	Cost Per Capita
Total	$731,944,701	313,717	$2,333
Centres and Corridors	**Cost $**	**Empl Growth 2003-31**	**Cost Per Capita**
Centres	$123,122,203	72,493	
Corridors	$91,870,574	51,077	
Total	**$214,992,777**	**123,570**	**$1,740**
Rest of Region	**Cost $**	**Empl Growth 2003-31**	**Cost Per Capita**
Urban	$391,045,472	140,715	
Rural	$125,906,452	49,432	
Total	**$516,951,924**	**190,147**	**$2,719**

Percentage Shares of Total Cost Per Capita	
Centres and Corridors	74.6%
Rest of Region	116.5%

Calculation of New Roads Charge		
	Industrial/Office/ Institutional	**Retail**
Existing Roads	$1.56	$4.11
Centres and Corridors	$1.16	$3.06
Rest of Region	$1.82	$4.79

YORK REGION TRANSPORTATION COST ANALYSIS

A. 20% INTENSIFICATION SCENARIO

TRANSIT

RESIDENTIAL

Region	Cost $	Pop Growth 2003-31	Cost Per Capita
Total	$430,409,200	519,566	**$828**
Centres and Corridors	**Cost $**	**Pop Growth 2003-31**	**Cost Per Capita**
Centres	$40,426,162	41,686	
Corridors	$65,326,006	70,277	
Total	**$105,752,168**	**111,963**	**$945**
Rest of Region	**Cost $**	**Pop Growth 2003-31**	**Cost Per Capita**
Urban	$282,627,661	302,224	
Rural	$42,029,371	105,379	
Total	**$324,657,032**	**407,603**	**$797**

Percentage Shares of Total Cost Per Capita	
Centres and Corridors	114.0%
Rest of Region	96.1%

Calculation of New Transit Charge	Single and Semi-Detached	Multiple Unit Dwelling	Apartments	
			2 or more bdrm	Less than 2 bdrm
Existing Transit	$2,335	$1,894	$1,389	$884
Centres and Corridors	$2,662	$2,160	$1,584	$1,008
Rest of Region	$2,245	$1,821	$1,336	$850

B. 40% INTENSIFICATION SCENARIO

TRANSIT

RESIDENTIAL

Region	Cost $	Pop Growth 2003-31	Cost Per Capita
Total Region	$430,409,200	519,572	**$828**
	Cost $	**Pop Growth 2003-31**	**Cost Per Capita**
Centres	$58,919,774	62,095	
Corridors	$112,006,724	140,230	
Total Centres & Corridors	**$170,926,498**	**202,325**	**$845**
	Cost $	**Pop Growth 2003-31**	**Cost Per Capita**
Urban	$225,570,243	226,638	
Rural	$33,912,459	90,609	
Total Rest of Region	**$259,482,702**	**317,247**	**$818**

Percentage Shares of Total Cost Per Capita	
Centres and Corridors	102.0%
Rest of Region	98.7%

Calculation of New Transit Charge	Single and Semi-Detached	Multiple Unit Dwelling	Apartments	
			2 or more bdrm	Less than 2 bdrm
Existing Transit	$2,335	$1,894	$1,389	$884
Centres and Corridors	$2,381	$1,932	$1,417	$902
Rest of Region	$2,305	$1,870	$1,371	$873

YORK REGION TRANSPORTATION COST ANALYSIS

A. 20% INTENSIFICATION SCENARIO

TRANSIT

EMPLOYMENT

Region	Cost $	Empl Growth 2003-31	Cost Per Capita
Total	$286,939,467	313,717	**$915**
Centres and Corridors	**Cost $**	**Empl Growth 2003-31**	**Cost Per Capita**
Centres	$81,493,295	49,193	
Corridors	$49,220,373	26,083	
Total	**$130,713,668**	**75,276**	**$1,736**
Rest of Region	**Cost $**	**Empl Growth 2003-31**	**Cost Per Capita**
Urban	$148,206,834	163,133	
Rural	$8,018,964	75,308	
Total	**$156,225,798**	**238,441**	**$655**

Percentage Shares of Total Cost Per Capita	
Centres and Corridors	189.9%
Rest of Region	71.6%

Calcuation of New Transit Charge		
	Industrial/Office/ Institutional	**Retail**
Existing Transit Charge	$0.78	$1.05
Centres and Corridors	$1.48	$1.99
Rest of Region	$0.56	$0.75

B. 40% INTENSIFICATION SCENARIO

TRANSIT

EMPLOYMENT

Region	Cost $	Empl Growth 2003-31	Cost Per Capita
Total	$286,939,467	313,717	**$915**
Centres & Corridors	**Cost $**	**Empl Growth 2003-31**	**Cost Per Capita**
Centres	$96,730,267	72,493	
Corridors	$66,224,979	51,077	
Total	**$162,955,246**	**123,570**	**$1,319**
Rest of Region	**Cost $**	**Empl Growth 2003-31**	**Cost Per Capita**
Urban	$117,681,948	140,715	
Rural	$6,302,272	49,432	
Total	**$123,984,220**	**190,147**	**$652**

Percentage Shares of Total Cost Per Capita	
Centres and Corridors	144.2%
Rest of Region	71.3%

Calcuation of New Transit Charge		
	Industrial/Office/ Institutional	**Retail**
Existing Transit	$0.78	$1.05
Centres and Corridors	$1.12	$1.51
Rest of Region	$0.56	$0.75