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# AN ANALYSIS AND FORECAST OF THE CITY OF THUNDER BAY'S MUNICIPAL FINANCES

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## EXECUTIVE SUMMARY

The Thunder Bay Chamber of Commerce (TBCC) has identified that municipal finances and property taxes are a major area of concern for local businesses. Accordingly, the TBCC commissioned this study in order to analyze the City of Thunder Bay's municipal finances relative to other cities in Ontario and to provide a forecast of future tax rates.

This study is organized around four main sections:

- I. Thunder Bay's performance relative to comparable Ontario cities;
- II. Analysis of Thunder Bay's historical financial statements;
- III. Historical analysis of Thunder Bay's tax base and tax rates; and
- IV. Forecast of Thunder Bay's tax base and rates.

The following is a summary of the key findings from each of the four sections.

### THUNDER BAY'S PERFORMANCE RELATIVE TO COMPARABLE ONTARIO CITIES

The main source of information for the comparative analysis is the BMA Consulting Report (2012). A Composite Performance Score (CPS) was developed to rank Thunder Bay relative to its comparator cities across all metrics in the BMA Report. The CPS reveals that Thunder Bay ranked last against its eight comparator cities (five Northern Ontario cities and three larger cities in Ontario). Performance was further measured across the five sub-categories. The results reveal that Thunder Bay is lagging other comparative cities in four of the five categories (socio-economic factors, revenue and expenditure analysis, tax policies, and water and wastewater). Thunder Bay receives its highest ranking in the municipal financial indicators category.

Further analysis was conducted on the revenue and expenditure analysis category. The results reveal that Thunder Bay's costs are above the average in most of the services provided (20 of the 27 categories are above average). Thunder Bay is least efficient in the following services: storm sewer, general assistance, fire, paved roads, and transit. Thunder Bay is most efficient in the following services: winter control, child care, bridges and culverts, and disposal.

### ANALYSIS OF THUNDER BAY'S HISTORICAL FINANCIAL STATEMENTS

The City's total revenue has increased annually by an average of 4.8%. A significant portion of the revenue growth has come from the operations of TBayTel and Thunder Bay Hydro. The municipal taxation revenue has also increased annually by an average of 4.0%. In regards to expenses, total operating expenditures have increased annually by an average of 3.8%. Virtually every single expense line item has increased over the 11-year period. The three largest increases in expenses are from the planning and development division, the operations of TBayTel, and general government. The general government expenses have almost doubled over the 11-year period (6.6% average annual increase).

The increase in general government expenditures is significant even after controlling for increases due to inflation, with an inflation-adjusted average annual increase of 4.8%.

Overall, the financial statement analysis reveals that the City’s financial position has been improving over the 11-year period from 2002 to 2012. The results reveals that the City has been able to structurally change the pattern of continued operating deficits by increasing revenues (average of 4.8% annually) at a greater rate than the increase in expenses (average of 3.8% annually). Operating deficits were common from 2002 to 2007; however, from 2008 to 2012 the City ran only one deficit.

The City’s strong operating performance (generation of operating surpluses) and financial position (strong accumulated surplus to financial liability ratio), combined with a positive future outlook, has resulted in the City’s municipal debenture rating being revised upward from A+ to AA- by Standard and Poor’s Credit Rating Agency (S&P, 2013).

**HISTORICAL ANALYSIS OF THUNDER BAY’S TAX BASE AND TAX RATES**

Thunder Bay has some of the highest property taxes in the province with tax rates for the residential, commercial and industrial property classes all well above the provincial average. However, Thunder Bay’s current value assessment is below average.

	Residential	Multi - Residential	Comm. Residual	Industrial Regular
Ontario Average	1.29	2.25	3.00	3.78
Northern Cities Average	1.79	3.33	4.29	4.86
Thunder Bay	1.97	5.04	4.69	5.53

The City has been working to reduce the property tax rates over the past decade. From 2000 to 2013, both the commercial and industrial property tax rates have declined. The declines across these two property classes range from 5% to 25%. However, the residential tax rates have increased over the same periods. Over the 14-year period, residential taxes have increased in the range of 25% to 32%. This suggests a shifting property tax burden from the commercial and industrial classes to the residential classes as mandated by the Province of Ontario’s 1998 tax reform that established the range of fairness for all property tax classes. The shifting property tax burden to the residential classes from the non-residential classes is also consistent with the economic literature and theory.

**FORECAST OF THUNDER BAY’S TAX BASE AND RATES**

Property taxes were forecasted under two scenarios: 1) the City continues on with the status quo; and 2) the City raises taxes in order to fund its infrastructure wish list.

The following table summarizes the forecasted increases in current assessment value (CVA) and the Current Annual Growth Rate (CAGR) and tax rates for various property classes under the status-quo scenario:

2012 to 2017	CVA		Tax Rates				Combined CAGR for CVA and Rates
	% Change	CAGR	2013 Tax Rate	% Change	CAGR	2017 Tax Rate	
Residential	37.9%	6.6%	1.90%	6.59%	1.3%	2.03%	7.93%
Multi-Residential	44.2%	7.6%	4.79%	5.65%	1.1%	5.06%	8.70%
Commercial	17.2%	3.2%	4.61%	10.12%	1.9%	5.08%	5.17%
Industrial	42.8%	7.4%	5.58%	5.86%	1.1%	5.91%	8.53%
Large Industrial	15.3%	2.9%	5.65%	10.48%	2.0%	6.24%	4.90%
Pipelines	8.1%	1.6%	5.10%	11.92%	2.3%	5.71%	3.84%
Farmland	-1.0%	-0.2%	0.48%	13.89%	2.6%	0.55%	2.44%
Managed Forest	-2.6%	-0.5%	0.48%	14.28%	2.7%	0.55%	2.17%

The tax rates were also forecasted assuming the City undertakes its infrastructure wish list. The result is further increase to the property tax rates in each property category.

In regards to the dollar impact of the tax rate and assessment value increases, the average residential property owner (current value assessment of \$138,502) can expect their property taxes to increase annually by approximately \$210 to \$260 if the City continues with the status quo, and tax increases of approximately \$230 to \$300 annually if 30% of the City's infrastructure wish list is financed through increases in property taxes. The average commercial property owner can expect their property taxes to increase by approximately \$435 to \$500 per year if the City continues with the status quo, and tax increases of approximately \$520 to \$620 per year if 30% of the City's infrastructure wish list is financed through increases in property taxes.

The following tables summarize the annual property tax increases for various values of residential and commercial properties:

#### Residential Properties

Property Value	Annual Tax Increase				4-Year Total
	2014	2015	2016	2017	
\$100,000	\$151	\$163	\$176	\$190	\$679
\$138,502	\$209	\$226	\$243	\$263	\$941
\$200,000	\$302	\$326	\$351	\$379	\$1,358
\$300,000	\$453	\$489	\$527	\$569	\$2,037
\$400,000	\$604	\$651	\$703	\$758	\$2,716
\$500,000	\$755	\$814	\$879	\$948	\$3,395
\$600,000	\$906	\$977	\$1,054	\$1,138	\$4,074

### Commercial Properties

Property Value	Annual Tax Increase				4-Year Total
	2014	2015	2016	2017	
\$185,000	\$435	\$457	\$480	\$505	\$1,877
\$200,000	\$470	\$494	\$519	\$546	\$2,030
\$400,000	\$940	\$988	\$1,039	\$1,092	\$4,059
\$600,000	\$1,411	\$1,483	\$1,558	\$1,638	\$6,089
\$800,000	\$1,881	\$1,977	\$2,078	\$2,184	\$8,119
\$1,000,000	\$2,351	\$2,471	\$2,597	\$2,729	\$10,149

It is important to note that forecasts and any future oriented-information is subject to forecasting risks. Rarely do actual results exactly match the forecasted expectation. However, the purpose of this forecast is not to determine the exact tax rate for any particular property class, but instead provides a general idea of the direction of property taxes for residential, commercial and industrial property classes. The results reveal that property taxes are certainly on the rise – the increase is due to the combined effect of increasing assessed property values (outside of Council control) and increasing tax rates to pay for rising costs (within Council control).

The increasing trend is concerning for residents and businesses alike considering that Thunder Bay already has some of the highest property tax rates in the province and business sentiment is already negative towards the current property tax levels. The City should look for alternative sources of revenue or reduce expenditures (as discussed, many of the City’s operating costs are above the Provincial average) in order to maintain the operating surplus and finance infrastructure spending. However, this may be difficult as trends in municipal finance over the last 16 years show that municipal spending has been increasing steadily but that the revenue-raising tools available to municipal governments have not changed (Slack, 2006).

## ABOUT THE AUTHORS



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## PART I

### THUNDER BAY'S PERFORMANCE RELATIVE TO OTHER ONTARIO CITIES: AN ANALYSIS OF THE 2012 BMA MUNICIPAL REPORT

# THUNDER BAY'S PERFORMANCE RELATIVE TO OTHER ONTARIO CITIES: AN ANALYSIS OF THE 2012 BMA MUNICIPAL REPORT

## 1.1 - INTRODUCTION

Recently, BMA Management Consulting Inc. issued a report entitled "Municipal Study – 2012" (referred to as the "BMA Report"). The report presents statistical and demographic information for 86 municipalities in Ontario relating to socio-economic factors, financial indicators, expenditure analysis, and tax bases.

Thunder Bay is one of the cities covered in the BMA Report. The purpose of this section of the report is to analyze the BMA Report with respect to Thunder Bay's performance relative to the other Ontario cities. This section revolves around two main analyses, as follows:

1. The first analysis involves the development of a composite performance score (CPS) that is based on the aggregation of each BMA Report indicator after conversion into a standard metric. The CPS is calculated for Thunder Bay and comparative cities in order to determine Thunder Bay's overall performance. The CPS is also calculated for each of the BMA Report sub-groupings (i.e., socio-economic factors, financial indicators, expenditure analysis, and tax bases).
2. The second analysis involves a review of the BMA Report in order to identify Thunder Bay's key areas of over-performance and under-performance. The definition of over-performance and under-performance is based on Thunder Bay's performance relative to the Ontario average and Northern Cities average. Specifically, best (worst) performances are identified as key metrics where Thunder Bay significantly overperforms (underperforms) the average. Key areas of over-performance and under-performance from each of the four BMA Report categories are identified.

Overall, this two-prong analysis provides insights specific to Thunder Bay's performance across the four categories covered in the BMA Report (i.e., socio-economic factors, financial indicators, expenditure analysis, and tax bases).

## 1.2 - COMPOSITE PERFORMANCE SCORE ANALYSIS

The BMA Report presents a large number of metrics on the City of Thunder Bay, along with 85 other Ontario cities. However, the BMA report does not provide any insights on how any single city has performed relative to its peers at the aggregate level. Therefore, a Composite Performance Score (CPS) methodology has been developed and employed to determine how Thunder Bay has performed at the aggregate level relative to its peers, and also, to provide insights on how Thunder Bay has performed relative to its peers across five categories:

- Socio-economic factors;
- Municipal Financial indicators;
- Revenue and Expenditure Analysis;
- Tax Policies; and
- Water/Wastewater

Thunder Bay is evaluated against a total of nine different comparative cities. Thunder Bay is compared to all of the cities in the BMA Report that are identified as part of Northern Ontario except for Seguin<sup>1</sup>. In addition to the Northern Ontario cities, Thunder Bay is compared to three other large cities in Ontario: Kingston, Windsor, and Hamilton. These three cities were selected because they are similar in population to Thunder Bay (i.e., approximately 100,000) and are somewhat removed from the Greater Toronto Area (GTA). Identifying a group of Northern Ontario cities and cities of similar size allows for the calculation of a reasonable comparative average to assess the performance of Thunder Bay.

The CPS methodology involves converting each BMA Report metric into a ranking score from highest to lowest, whereby 1 is the best city score and 9 is the worst city score. Each city is assigned a score from 1 to 9 based on their relative performance in each individual metric. The CPS is developed by aggregating the individual scores across all metrics for each of the cities in the analysis. The CPS allows for the ranking of each city based on the un-weighted average across all variables (i.e., all variables are assumed to be of equal importance). More details on the methodology can be found in Appendix 1.

The results from the CPS analysis are summarized in Table 1. Note that the cities are grouped into three tiers to account for the fact that any single city can move up or down a ranking based on the sensitivity of the results due to the BMA Report metrics estimation error.

**Table 1 – Results from CPS Analysis at the Aggregate Level**

		Average Ranking	Aggregate Ranking
<b>Tier 1</b>			
	Kingston	4.21	1
	Hamilton	4.27	2
	North Bay	4.38	3
<b>Tier 2</b>			
	Kenora	4.59	4
	Greater Sudbury	4.80	5
	Timmins	4.99	6
<b>Tier 3</b>			
	Sault Ste. Marie	5.10	7
	Windsor	5.50	8
	Thunder Bay	6.09	9

<sup>1</sup> Seguin is eliminated as it does not fit the traditional definition of Northern Ontario, and its statistics skew the BMA Report averages for Northern Ontario.

Table 1 reveals that the tier 1 cities include Kingston, Hamilton and North Bay. The tier 2 cities include Kenora, Sudbury and Timmins, with the tier 3 grouping including Sault Ste. Marie, Windsor, and Thunder Bay. Thunder Bay ranks ninth (last) out of the nine cities in regards to the aggregate CPS analysis. Thunder Bay is the only city with average rankings of 6 or greater, meaning that Thunder Bay is consistently ranked in the bottom half of the BMA metrics.

In order to drill down into the aggregate CPS analysis, the CPS is calculated across five BMA report categories. Table 2 presents the results from the CPS analysis across the five categories.

**Table 2 – Results from the CPS Analysis at the Category Level**

	Socio-Economic	Municipal Financial Indicators	Revenue and Expenditure Analysis	Tax Policies	Water / Wastewater
Greater Sudbury	2	2	4	7	8
Hamilton	1	3	1	4	4
Kenora	5	1	6	3	7
Kingston	4	4	2	2	1
North Bay	7	9	3	1	2
Sault Ste. Marie	9	6	5	6	6
Thunder Bay	8	5	9	9	9
Timmins	6	7	7	4	3
Windsor	3	8	8	8	5

Table 2 reveals that Thunder Bay is ranked last or second last in four of the five categories. Thunder Bay receives its highest ranking in the Municipal Financial Indicators category. However, Thunder Bay ranks last in three categories: Revenue and Expense Analysis, Tax Policies and Water / Wastewater.

The following section drills into the five categories by identifying over-performance and under-performance in each category.

### 1.3 – OVER-PERFORMANCE AND UNDER-PERFORMANCE ANALYSIS

This section of analysis identifies Thunder Bay’s key areas of over-performance and under-performance in each of the five BMA Report categories based on the BMA Report metrics. The over-performance and under-performance areas are defined as follows:

- **Over-performance:** The metrics whereby Thunder Bay’s performance displays the largest difference above the average of all cities. Over-performance is defined statistically as follows:  $Maximum\{(Thunder\ Bay\ performance - Ontario\ average) / Ontario\ average\}$
- **Under-performances:** The metrics whereby Thunder Bay’s performance displays the largest difference below the average of all cities. Under-performance is defined statistically as follows:  $Minimum\{(Thunder\ Bay\ performance - Ontario\ average) / Ontario\ average\}$



Professional judgment was utilized to select the areas of over- and under-performance in situations where the data exhibited extreme values (outliers) or in situations where the resulting area was in a minor category.

Based on the above noted methodology, Table 3 presents Thunder Bay’s top five areas of over- and under-performance. It is important to note that since the BMA Report is relying solely on the 2012 figures, some of the performances identified may be the result of one-time events that occurred in the previous year.

**Table 3 – Thunder Bay’s Areas of Over- and Under-performance**

	<b>Over-Performance</b>	<b>Under-Performance</b>
<b>Socio-Economic</b>	Residential Building Permit Activity	Population Growth Change
<b>Municipal Financial Indicators</b>	Operating Surplus & Operating Surplus Ratio	Asset Consumption Ratio
<b>Revenue and Expenditure Analysis</b>	Transportation - Winter Control except sidewalks, parking lots (Total Costs per lane km including amortization)	Storm Sewer (total cost urban sewer per km drainage system)
<b>Tax Policies</b>	Property Taxes as a % of Household Income	Multi Residential Tax Rate
<b>Water / Wastewater</b>	Total Costs Integrated System per Megalitre	WW Operating Surplus Ratio

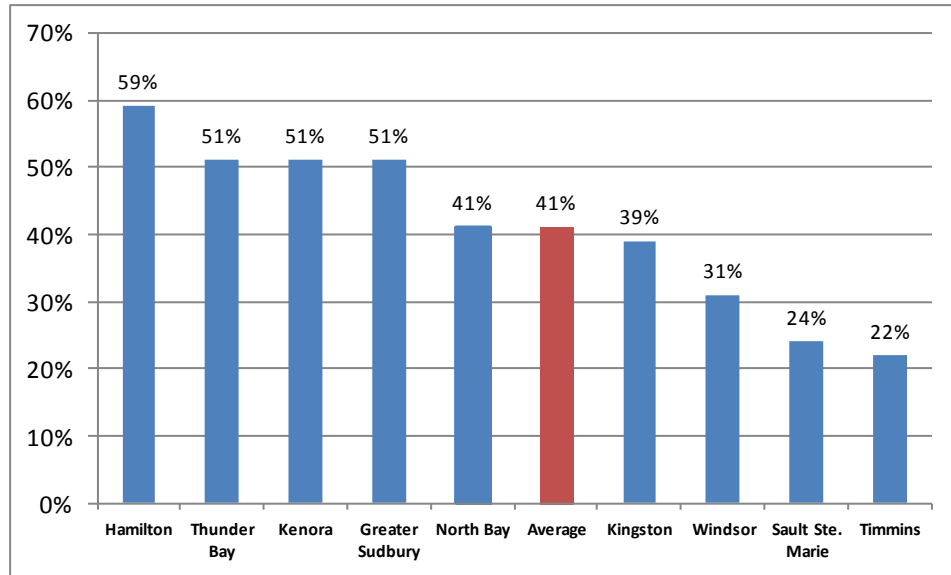
The following is a discussion of the performance in each category.

***SOCIO-ECONOMIC PERFORMANCE***

Table 3 reveals that Thunder Bay’s socio-economic over-performance is the amount of residential building permit activity. The City is experiencing higher than average building permit activity for residential properties. Residential properties comprised 51% of the total building permit activity for Thunder Bay during 2011.

Figure 1 presents the residential building permits as a percentage of the total building permits for Thunder Bay and its Northern Ontario comparative cities.

**Figure 1 – Residential Building Permits as a % of Total (2011)**



The main socio-economic under-performance is the City’s population growth. The BMA report reveals that Thunder Bay’s population experienced a decline of 0.70% from 2006 to 2011. Figure 2 presents the population growth for Thunder Bay from 2006 to 2011 relative to its Northern Ontario comparative cities.

**Figure 2 – Population Growth from 2006 to 2011**

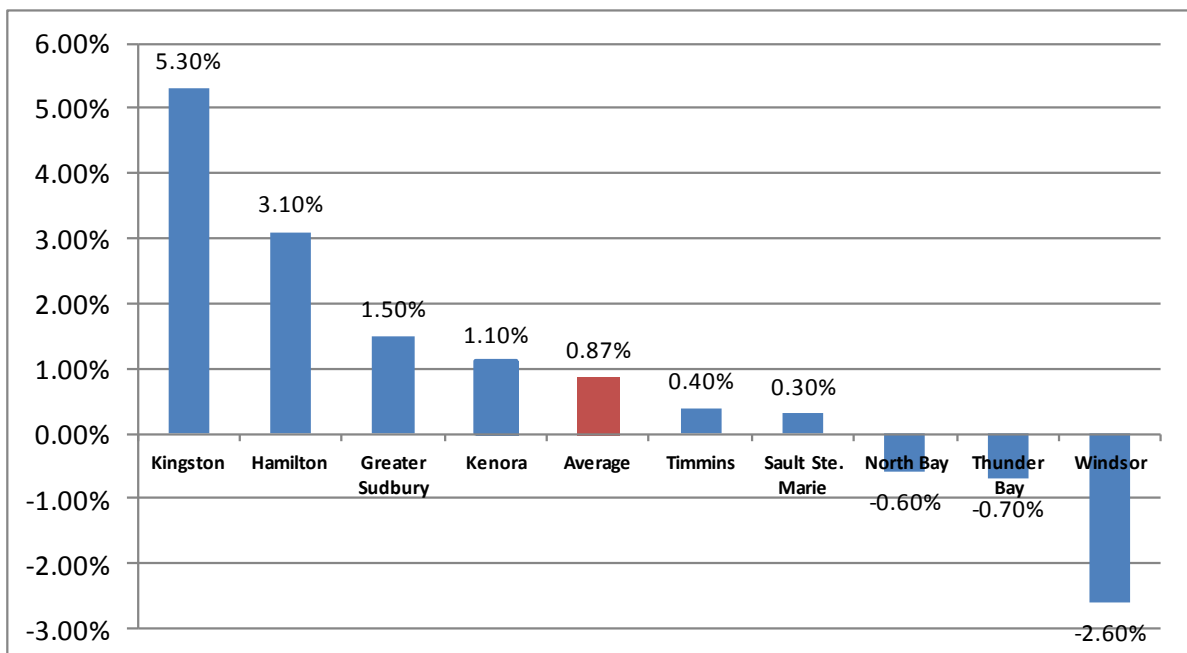


Figure 2 reveals Thunder Bay and North Bay experienced population declines, whereas the other Northern Ontario cities all experienced increases in population. Sudbury and Kenora experienced the most significant population increases.

**MUNICIPAL FINANCIAL INDICATORS PERFORMANCE**

Thunder Bay’s over-performance in the municipal financial indicator category is in regards to its operating surplus ratio. The BMA Report defined the operating surplus ratio as follows:

*“The operating surplus ratio is the operating surplus (deficit) expressed as a percentage of Own Source Revenues. A negative ratio indicates the percentage increase that would be required to achieve a breakeven operating result. A positive ratio indicates the percentage of total revenues to help fund capital expenditures. Municipalities consistently achieving operating surpluses, having regard to asset management and meeting service level needs, are a good indication of financial sustainability.” (BMA Report, pg 49).*

Figure 3 presents the operating surplus ratio for Thunder Bay and its Northern Ontario comparative cities.

**Figure 3 – Operating Surplus Ratio (2011)**

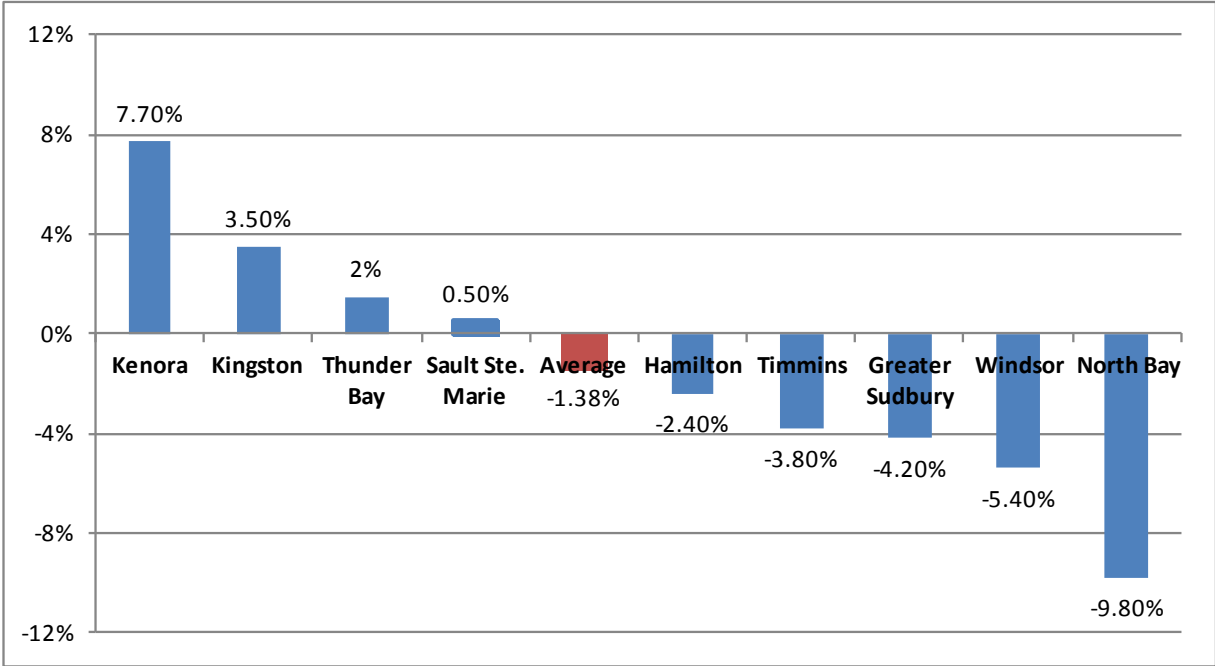
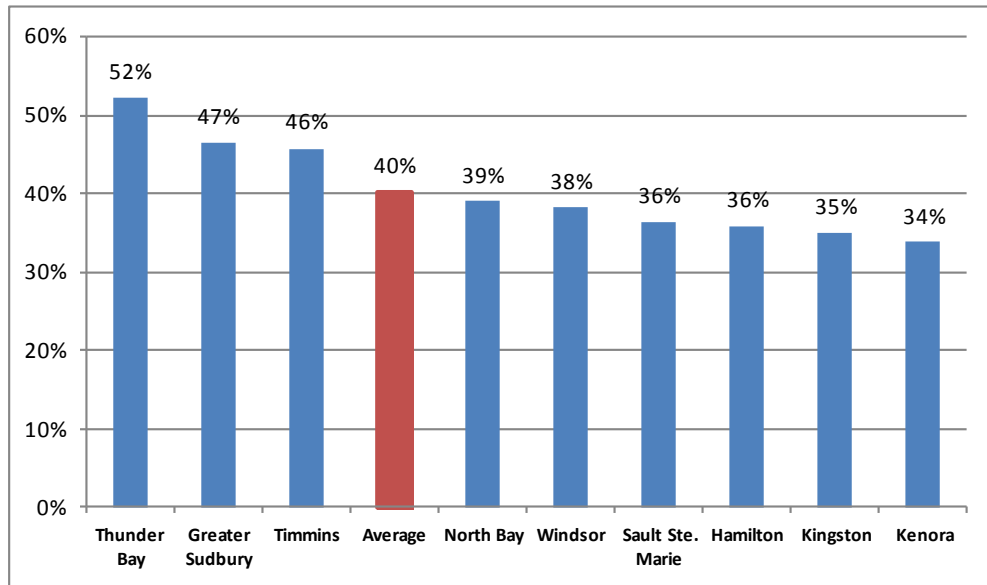


Figure 3 reveals that Thunder Bay’s operating surplus ratio is positive, which is an indication of financial sustainability. After Kenora, Thunder Bay has the strongest operating surplus ratio in Northern Ontario.

Thunder Bay’s under-performance is the age of the capital assets as revealed by the asset consumption ratio. Figure 4 presents the asset consumption ratio for Thunder Bay relative to its Northern Ontario comparative cities.

**Figure 4 – Asset consumption ratio (2011)**



The asset consumption ratio is defined in the BMA Report as follows:

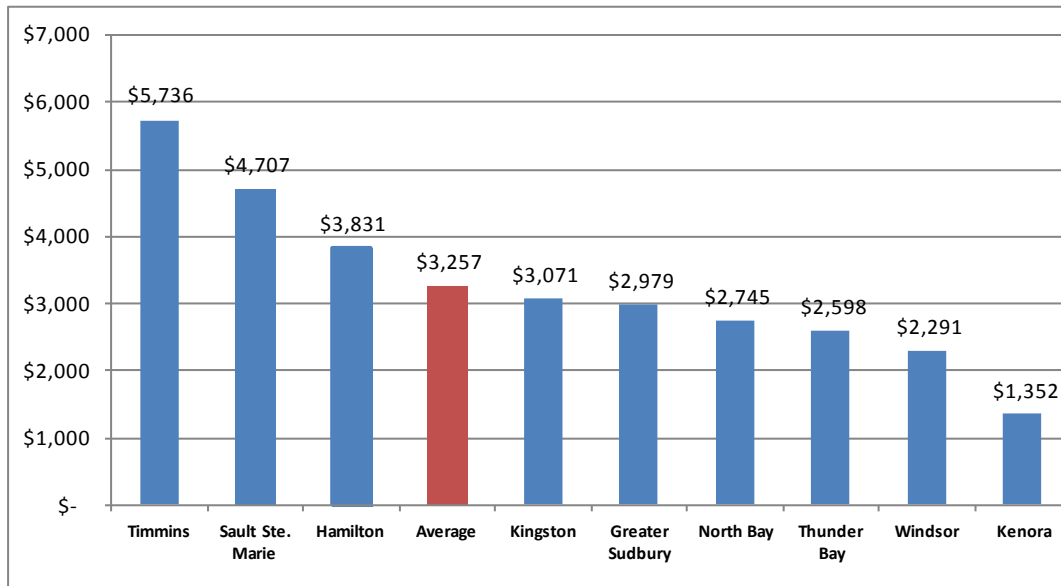
*“The written down value of the tangible capital assets relative to their historical costs. This ratio seeks to highlight the aged condition of the assets and the potential asset replacement needs. A higher ratio may indicate significant replacement needs” (BMA Report, pg. 51).*

Figure 4 reveals that Thunder Bay’s asset consumption ratio is the largest in Northern Ontario, suggesting that Thunder Bay’s capital assets are aged and will require replacing more quickly than other cities.

## REVENUE AND EXPENDITURE PERFORMANCE

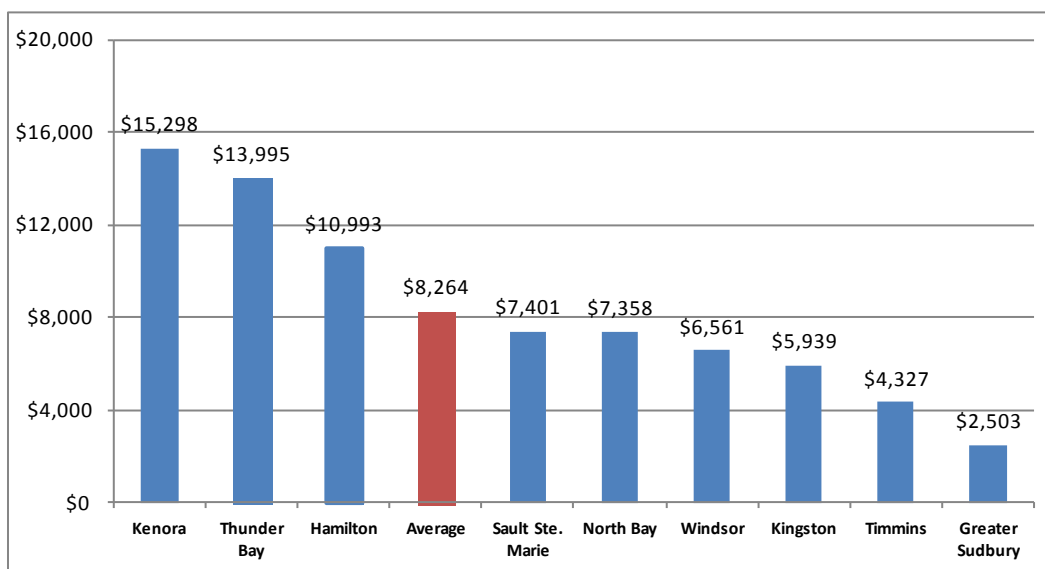
Thunder Bay's over-performance in the revenue and expenditure category is the transportation winter control total cost. Thunder Bay's total costs for winter control are below the Northern Ontario average. Figure 5 presents Thunder Bay's total winter control costs against other Northern Ontario cities.

**Figure 5 – Transportation: Winter Control total costs per lane km including amortization**



Thunder Bay's under-performance in the revenue and expenditure category is the storm sewer total cost. Thunder Bay's total cost of urban sewer per kilometer drainage system is well above the average and the second largest in all of Northern Ontario (only Kenora has a higher cost for this service).

**Figure 6 - Storm Sewer: total cost urban sewer per km drainage system**



The BMA Report reveals that Thunder Bay's operating costs for various services are above the average of both the Province and Northern Ontario cities. Table 4 presents the expenditures by service for the City of Thunder Bay versus the average for the eight comparator cities. Table 4 includes all the BMA metrics that had data available for all cities in the CPS analysis (note, only one cost measure per service was selected for the analysis).

**Table 4 – 2012 Expenditures by service for Thunder Bay vs. Comparator City average**

Category	Thunder Bay	Comparator Average	Difference
General government as a % of total mun costs	4.9%	3.4%	1.5%
Storm Sewer (total cost urban sewer per km drainage system)	13,995.00	7,547.50	6,447.50
General Assistance(Net costs per \$100,000 including amortization)	270.00	99.75	170.25
Fire (Total Costs per \$100,000 Assessment)	363.00	222.75	140.25
Roads - Paved (Net costs per \$100,000 including amortization)	286.00	193.50	92.50
Transit Conventional (Net costs per \$100,000 including amortization)	154.00	95.13	58.88
Ambulance(Net costs per \$100,000 including amortization)	101.00	54.75	46.25
Library	87.00	54.13	32.88
Parks (2011 MPMP Parks total cost per person)	98.00	65.50	32.50
Waste Collection (Net costs per \$100,000 including amortization)	53.00	25.88	27.13
Cultural Services(Net costs per \$100,000 including amortization)	47.00	24.38	22.63
Street Lighting(Net costs per \$100,000 including amortization)	42.00	22.50	19.50
Conservation Authority (Net costs per \$100,000 including amortization)	31.00	11.75	19.25
Planning and Zoning(Net costs per \$100,000 including amortization)	41.00	23.63	17.38
Protective Inspection(Net costs per \$100,000 including amortization)	33.00	18.75	14.25
Parking (Net costs per \$100,000 including amortization)	12.00	1.88	10.13
Recreation and Programs (MPMP Total Costs including amortization per person)	29.87	22.73	7.14
POA(Net costs per \$100,000 including amortization)	22.00	17.00	5.00
Traffic Operations(Net costs per \$100,000 including amortization)	85.00	82.88	2.13
Police - Operating cost per person	336.00	334.88	1.13
Public Health (Net costs per \$100,000 including amortization)	31.00	33.38	(2.38)
Assistance to the Aged(Net costs per \$100,000 including amortization)	81.00	88.38	(7.38)
Diversion(Net costs per \$100,000 including amortization)	14.00	24.00	(10.00)
Disposal(Net costs per \$100,000 including amortization)	(5.00)	8.75	(13.75)
Bridges & Culverts(Total Costs per M2 Surface Area)	66.00	81.50	(15.50)
Child Care(Net costs per \$100,000 including amortization)	5.00	20.88	(15.88)
Winter Control except side walks, parking lots (Total Costs per lane km including amortization)	2,598.00	3,339.00	(741.00)

Table 4 reveals that Thunder Bay's costs are above the average in most of the services provided. Overall, Thunder Bay is above average in 20 of the 27 categories<sup>2</sup>. Thunder Bay's general government costs are 4.90% of the total municipal costs whereas the comparator city average is 3.40%. The BMA report reveals that Thunder Bay's net cost per capita (including amortization) for general government is \$188. This is well above the Ontario average of \$94 per capita and the comparator average of \$103 per capita.

<sup>2</sup> Note, if this analysis was conducted with only the Northern Ontario city averages, Thunder Bay is still under-performing in 18 of 27 categories.

Table 4 reveals that Thunder Bay is least efficient in the following services: storm sewer, general assistance, fire, paved roads, and transit. Thunder Bay is most efficient in the following services: winter control, child care, bridges and culverts, and disposal<sup>3</sup>.

**TAX POLICY PERFORMANCE**

The data in the BMA Report reveals that Thunder Bay’s tax policies result in some of the highest property taxes in the province. Accordingly, it is very difficult to find an over-performance for Thunder Bay in this category.

Thunder Bay’s over-performance in the tax policy category is the fact that Thunder Bay’s residential property taxes as a percentage of household income is near the average for the comparator cities. Figure 7 presents Thunder Bay’s residential property taxes as a percentage of household income relative to its Northern Ontario comparative cities.

**Figure 7 – Residential property taxes (2012) as a percentage of household income**

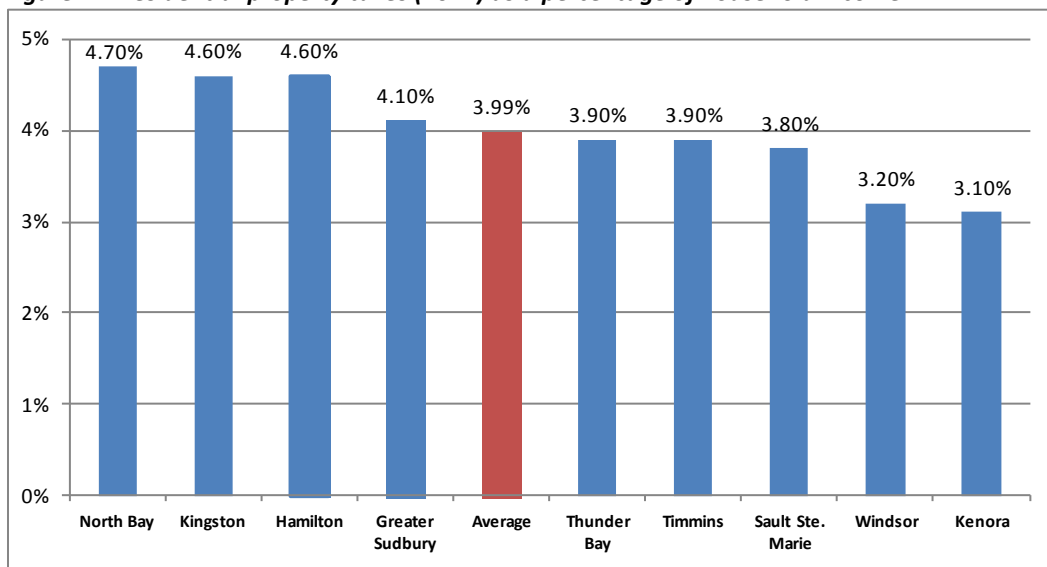


Figure 7 reveals that Thunder Bay is just below the average, however, all cities are near the average (i.e., there is a small dispersion around the average).

Thunder Bay’s property tax rates are above average in all categories and amongst the highest in the Province. Accordingly, all property tax categories can be seen as an under-performance. A further discussion of the property tax rates for each category is presented in Part 3: Analysis of Thunder Bay’s Tax Base and Tax Rates.

<sup>3</sup> Note – this analysis relies solely upon the 2012 figures, as such, some categories may be impacted by one time abnormalities (e.g., the 2012 flood).

When identifying a single property tax category, the BMA report reveals that multi-residential tax rate is well above the average.

Figure 8 presents Thunder Bay's multi-residential tax rate against its eight city comparatives.

**Figure 8 – Multi-residential tax rates (2012)**

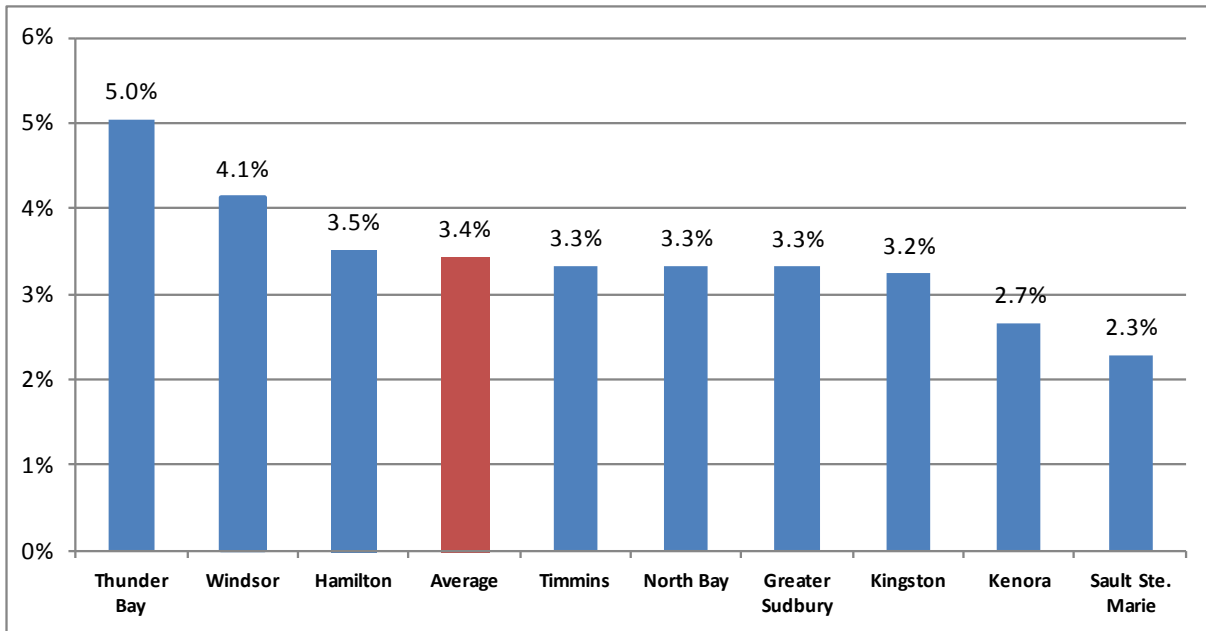


Figure 8 reveals that Thunder Bay is the only city in Northern Ontario with a multi-residential tax rate above the average of the comparator cities. Thunder Bay's multi-residential property tax rate is much larger than any of the other cities in Northern Ontario, and essentially twice as high as the multi-residential tax rates in Kenora and Sault Ste. Marie.



## WATER & WASTEWATER PERFORMANCE

Thunder Bay's over-performance in the water and wastewater category is the total costs integrated system per megalitre. That is, the costs to run the system are below average. Figure 9 presents the total costs for an integrated system per megalitre for Thunder Bay relative to its eight comparative cities.

**Figure 9 - Total Costs Integrated System per Megalitre**

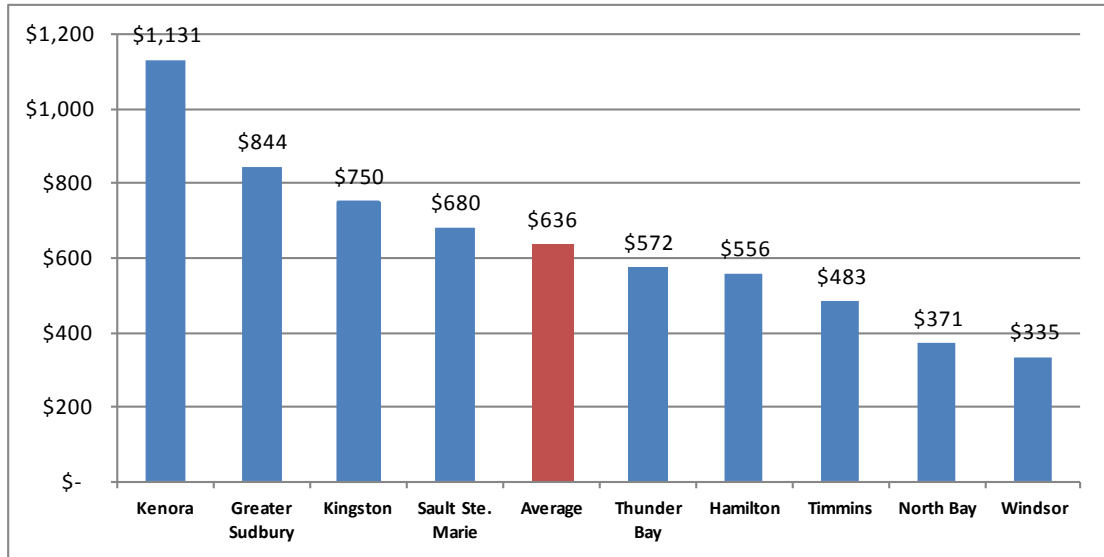


Figure 9 reveals that Thunder Bay is below the average for eight comparative cities, suggesting that Thunder Bay is operating the integrated system efficiently.

Thunder Bay’s under-performance in the water and wastewater category is the operation surplus ratio. That is, Thunder Bay’s operating surplus ratio is below the average in both the water and wastewater categories. Figure 10 presents Thunder Bay’s water and wastewater ratio in relation to its comparative cities.

**Figure 10 – Water and Wastewater Operating Surplus Ratios**

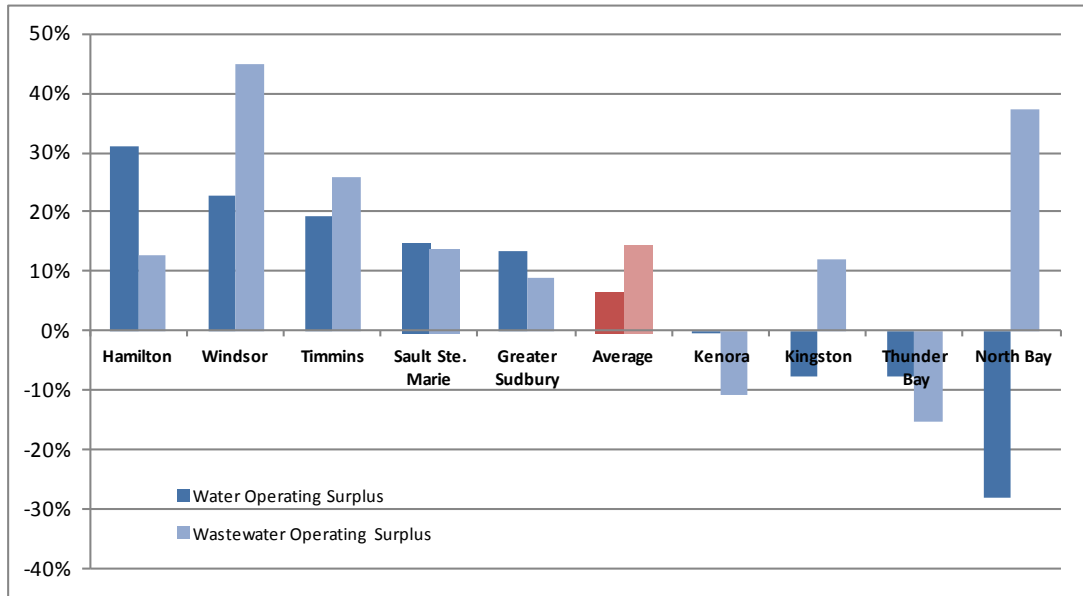


Figure 10 reveals that Thunder Bay has a negative operating surplus ratio in both the water and wastewater categories. The average operating surplus ratio is positive for both the water and wastewater categories.

#### 1.4 - SUMMARY AND CONCLUSION

This section analyzes the 2012 BMA Report in order to assess the City of Thunder Bay’s performance relative to other cities in Ontario. A Composite Performance Score (CPS) was developed to rank Thunder Bay relative to its comparator cities. The CPS essentially converts all metrics in the BMA Report into ordinal data and ranks each city across each metric. The rankings across all metrics are averaged to develop the CPS. The CPS reveals that Thunder Bay ranked last of its eight comparator cities (five Northern Ontario cities and three larger cities in Ontario).

Performance was further measured across the following five categories:

- Socio-economic factors;
- Municipal Financial indicators;
- Revenue and Expenditure Analysis;
- Tax Policies; and
- Water/Wastewater

The results of the analysis reveal that Thunder Bay is lagging other comparative cities in four of the five categories (socio-economic factors, revenue and expenditure analysis, tax policies, and water and wastewater). Thunder Bay receives its highest ranking in the municipal financial indicators category.

An over-performance and under-performance in each category was identified. The over-performance and under-performance were defined based on Thunder Bay's performance relative to the provincial average, with the best (worst) performance in each category being an over-performance (under-performance). The over-performance and under-performance identified are summarized as follows:

#### Socio-Economic Factors

- *Over-performance:* Residential Building Permit Activity
- *Under-performance:* Population Growth Change

#### Municipal Financial Indicators

- *Over-performance:* Operating Surplus Ratio
- *Under-performance:* Asset Consumption Ratio

#### Revenue and Expenditure Analysis

- *Over-performance:* Winter Control Costs
- *Under-performance:* Storm Sewer Costs

#### Tax Policies

- *Over-performance:* Property Taxes as a % of Household Income
- *Under-performance:* Multi Residential Tax Rate

#### Water and Wastewater

- *Over-performance:* Total Costs Integrated System
- *Under-performance:* WW Operating Surplus Ratio

Further analysis was conducted on the revenue and expenditure analysis category. The results reveal that Thunder Bay's costs are above the average in most of the services provided (20 of the 27 categories are above average). Thunder Bay is least efficient in the following services: storm sewer, general assistance, fire, paved roads, and transit. Thunder Bay is most efficient in the following services: winter control, child care, bridges and culverts, and disposal.



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**PART 2**

**ANALYSIS OF THE CITY'S FINANCIAL STATEMENTS**

# ANALYSIS OF THUNDER BAY'S FINANCIAL STATEMENTS

## 2.1 - INTRODUCTION

The purpose of this section of the report is to present a historical analysis of the City of Thunder Bay's financial statements. The analysis of the historical financial statements is conducted in order to identify trends and structural shifts in the revenues and expenses of the City. It is important to identify and understand these trends and shifts in the City's municipal finances in order to forecast the City's future financial situation (see Part 4).

The City of Thunder Bay's website makes available 11 years of financial statement data (2002 to 2012). Accordingly, all 11 years of data are included in the analysis in order to provide a sufficient time period to allow for the identification of any structural changes and/or trends. However, it is important to note that the comparability of some elements of the financial statements are impacted by a significant accounting standard change in 2009. The following two significant changes were adopted, effective January 1, 2009:

*Effective January 1, 2009, the Corporation of the City of Thunder Bay adopted Canadian Institute of Chartered Accountants ("CICA") Public Sector Accounting Board ("PSAB") Handbook Section 1200 – Financial Statement Presentation and Section 3150 – Tangible Capital Assets. As a result of these changes, the City has recorded tangible capital assets for 2009 with prior year information restated to conform with the current year presentation. In addition, the statements reflect the new Consolidated Statement of Change in Net Financial Assets and no longer reflect the Statements of Operating, Capital and Reserves and Reserve Funds.*

*On January 1, 2009, the City changed its accounting policy for joint local boards. Joint local boards that were previously accounted for as government partnerships and proportionately consolidated in the financial statements are no longer proportionately consolidated in the City's financial statements. This policy change has been applied retroactively in the financial statements. Management believes that this policy provides more relevant and reliable information.*

In addition to the above noted accounting policy changes, various discretionary presentation and disclosure changes impact the historical comparability. However, both the standard change and disclosure changes can be isolated and therefore factored into the analysis.

## 2.2 - ANALYSIS OF THE HISTORICAL STATEMENT OF OPERATIONS AND ACCUMULATED SURPLUS

Figure 11 presents the historical statement of operations and accumulated surplus from 2002 to 2012, along with the cumulative annual growth rate (CAGR) over the 11-year period adjusted for the core

inflation over the same period<sup>4</sup>. The statement of operations shows only the revenues and operating expenses, and excludes all of the items below the annual surplus line item (these items are omitted because of the impact of the PSAB accounting policy change in 2009). In addition, Figure 12 presents the common-sized financial statements (revenue and expenditures as bases).

### *ANALYSIS OF THE CITY'S REVENUE*

Figure 11 reveals that the City's total revenue has increased annually by an average of 4.8%, suggesting that the City has done well to increase revenues in light of rising expenses. This is a laudable achievement considering that the combined Federal and Provincial grants have not increased over the past 11 years. Specifically, the Federal and Provincial grants have experienced an average decline of -1.7% annually after adjusting for inflation. This suggests that the annual increases in the governments grants has not been sufficient to keep up with annual price increases. Considering the lack of growth in government grants combined with the continued downloading of programs to the municipalities (Siegel, 2006), the City has been forced to look for alternative sources of revenue to offset the additional costs due to downloaded programs and inflation.

In regards to the individual components of revenue, a significant portion of the revenue growth has come from the operations of TBayTel. The TBayTel revenue line item has increased by just over \$93 million over the past 11 years. Although it is not presented in the operating revenues, the Thunder Bay Hydro contribution to the City has also grown by just over \$1.2 million, or an average of 8.6% annually.

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<sup>4</sup> Core inflation is measured as the annual change in the Consumer Price Index. Data obtained from the Bank of Canada's website: <http://www.bankofcanada.ca/rates/price-indexes/cpi/>

**Figure 11 – Historical Statement of Operations and Accumulated Surplus (2002 to 2012)**

For the year ended December 31	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	CAGR	Inflation Adjusted
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		
<b>Revenues</b>													
Taxation, net	106,261,416	108,965,992	120,691,840	127,752,366	131,102,523	134,234,230	137,625,787	144,038,983	145,825,721	151,102,299	157,237,901	4.0%	2.2%
Fees and service charges	56,207,823	54,814,359	59,495,155	65,254,279	67,107,547	70,775,689	72,491,898	70,115,245	77,747,596	82,638,804	87,272,230	4.5%	2.7%
Federal and Province of Grants	83,993,862	90,900,487	92,337,414	107,172,530	106,698,461	105,042,317	122,273,582	80,444,957	93,617,441	93,918,010	84,818,202	0.1%	-1.7%
Contributed tangible capital assets										1,359,823	3,882,328	n/a	n/a
Investment income	5,147,642	4,817,247	5,842,176	4,495,141	8,170,596	8,310,895	7,685,695	5,159,021	5,507,215	7,723,913	6,182,368	1.8%	0.0%
Other	5,599,928	8,289,120	6,988,124	14,942,294	7,341,591	8,777,108	10,769,328	10,527,507	11,197,966	18,694,760	22,668,467	15.0%	13.2%
Telephone	71,644,174	76,106,192	85,058,005	86,155,525	94,506,823	113,155,703	137,533,342	126,628,000	131,155,000	162,202,000	165,057,000	8.7%	6.9%
	<b>328,854,845</b>	<b>343,893,397</b>	<b>370,412,714</b>	<b>405,772,135</b>	<b>414,927,541</b>	<b>440,295,942</b>	<b>488,379,632</b>	<b>436,913,713</b>	<b>465,050,939</b>	<b>517,639,609</b>	<b>527,118,496</b>	4.8%	3.0%
<b>Expenses</b>													
General government	14,381,361	16,294,995	13,529,588	17,709,240	23,882,815	21,947,842	23,702,896	22,553,765	20,087,086	24,464,510	27,370,790	6.6%	4.8%
Protection services	40,379,800	48,491,560	50,513,359	53,770,519	55,437,529	56,719,125	65,618,783	60,905,350	66,078,473	74,603,599	72,124,687	6.0%	4.2%
Transportation services	39,802,937	42,702,445	46,141,756	42,087,028	40,873,798	48,037,443	55,140,567	56,327,003	56,721,695	57,156,292	61,926,965	4.5%	2.7%
Environmental services	39,791,358	58,188,476	77,303,525	79,455,432	54,058,850	48,724,138	52,515,609	54,158,636	53,020,930	56,561,901	61,812,167	4.5%	2.7%
Health services	34,874,710	28,907,919	27,702,071	25,505,058	28,085,856	30,107,773	30,873,890	20,053,477	22,808,651	22,669,331	23,892,585	-3.7%	-5.5%
Social and family services	83,337,983	86,664,524	93,374,135	94,307,004	99,918,998	98,885,080	103,606,388	70,115,105	65,184,833	62,242,403	64,431,204	-2.5%	-4.4%
Recreation and cultural services	27,917,618	28,064,873	32,262,716	33,329,298	31,973,640	35,792,242	38,216,944	37,535,443	45,645,197	41,628,192	43,376,570	4.5%	2.7%
Planning and development	4,002,773	4,670,115	5,016,532	5,031,236	8,394,692	7,720,796	7,814,049	9,154,129	7,141,784	10,016,589	9,209,159	8.7%	6.9%
Telephone	61,958,044	52,511,667	65,960,885	71,534,517	104,272,937	93,777,987	96,020,830	96,377,187	148,544,927	133,220,000	141,283,000	8.6%	6.8%
	<b>346,446,584</b>	<b>366,496,574</b>	<b>411,804,567</b>	<b>422,729,332</b>	<b>446,899,115</b>	<b>441,712,426</b>	<b>473,509,956</b>	<b>427,180,095</b>	<b>485,233,576</b>	<b>482,562,817</b>	<b>505,427,127</b>	3.8%	2.0%
<b>Net Revenues (expenses) before the following</b>	<b>-17,591,739</b>	<b>-22,603,177</b>	<b>-41,391,853</b>	<b>-16,957,197</b>	<b>-31,971,574</b>	<b>-1,416,484</b>	<b>14,869,676</b>	<b>9,733,618</b>	<b>-20,182,637</b>	<b>35,076,792</b>	<b>21,691,369</b>		
Loss on tangible assets	0	0	0	0	0	0	0	-1,017,634	-538,473	-1,881,999	-4,445,935		
Earnings from Thunder Bay Hydro	<b>954,182</b>	478,417	417,935	1,848,337	868,246	689,043	3,058,225	4,935,065	1,233,044	2,660,423	2,168,444	8.6%	6.7%
<b>Annual Surplus</b>	<b>-16,637,557</b>	<b>-22,124,760</b>	<b>-40,973,918</b>	<b>-15,108,860</b>	<b>-31,103,328</b>	<b>-727,441</b>	<b>17,927,901</b>	<b>13,651,049</b>	<b>-19,488,066</b>	<b>35,855,216</b>	<b>19,413,878</b>		
<b>Surplus without TBayTel</b>	-26,323,687	-45,719,285	-60,071,038	-29,729,868	-21,337,214	-20,105,157	-23,584,611	-16,599,764	-2,098,139	6,873,216	-4,360,122		
<b>Surplus without TBayTel &amp; TB Hydro</b>	-27,277,869	-46,197,702	-60,488,973	-31,578,205	-22,205,460	-20,794,200	-26,642,836	-21,534,829	-3,331,183	4,212,793	-6,528,566		
<b>Inflation Index (2001 = 98)</b>	<b>100.7</b>	<b>102.8</b>	<b>104.6</b>	<b>106.2</b>	<b>108.4</b>	<b>110</b>	<b>112.6</b>	<b>114.3</b>	<b>116</b>	<b>118.2</b>	<b>119.5</b>		
<b>Change in Inflation</b>	2.7%	2.0%	1.7%	1.5%	2.0%	1.5%	2.3%	1.5%	1.5%	1.9%	1.1%	1.8%	



**Figure 12 – Common-sized Historical Statement of Operations and Accumulated Surplus (2002 to 2012)**

For the year ended December 31	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>Revenues</b>											
Taxation, net	32.3%	31.7%	32.6%	31.5%	31.6%	30.5%	28.2%	33.0%	31.4%	29.2%	29.8%
Fees and service charges	17.1%	15.9%	16.1%	16.1%	16.2%	16.1%	14.8%	16.0%	16.7%	16.0%	16.6%
Federal and Province of Grants	25.5%	26.4%	24.9%	26.4%	25.7%	23.9%	25.0%	18.4%	20.1%	18.1%	16.1%
Contributed tangible capital asse	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.7%
Investment income	1.6%	1.4%	1.6%	1.1%	2.0%	1.9%	1.6%	1.2%	1.2%	1.5%	1.2%
Other	1.7%	2.4%	1.9%	3.7%	1.8%	2.0%	2.2%	2.4%	2.4%	3.6%	4.3%
Telephone	21.8%	22.1%	23.0%	21.2%	22.8%	25.7%	28.2%	29.0%	28.2%	31.3%	31.3%
	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Expenses</b>											
General government	4.2%	4.4%	3.3%	4.2%	5.3%	5.0%	5.0%	5.3%	4.1%	5.1%	5.4%
Protection services	11.7%	13.2%	12.3%	12.7%	12.4%	12.8%	13.9%	14.3%	13.6%	15.5%	14.3%
Transportation services	11.5%	11.7%	11.2%	10.0%	9.1%	10.9%	11.6%	13.2%	11.7%	11.8%	12.3%
Environmental services	11.5%	15.9%	18.8%	18.8%	12.1%	11.0%	11.1%	12.7%	10.9%	11.7%	12.2%
Health services	10.1%	7.9%	6.7%	6.0%	6.3%	6.8%	6.5%	4.7%	4.7%	4.7%	4.7%
Social and family services	24.1%	23.6%	22.7%	22.3%	22.4%	22.4%	21.9%	16.4%	13.4%	12.9%	12.7%
Recreation and cultural services	8.1%	7.7%	7.8%	7.9%	7.2%	8.1%	8.1%	8.8%	9.4%	8.6%	8.6%
Planning and development	1.2%	1.3%	1.2%	1.2%	1.9%	1.7%	1.7%	2.1%	1.5%	2.1%	1.8%
Telephone	17.9%	14.3%	16.0%	16.9%	23.3%	21.2%	20.3%	22.6%	30.6%	27.6%	28.0%
	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Municipal taxation revenue increased from \$106 million in 2002 to \$157 million in 2012. This represents an average annual increase of 4.0% which is a function of increases to the property tax assessment bases (property values) and changes to the property tax rates. Table 5 presents the mix of property tax revenue across two main groupings (Note: these are the only groupings that were available in the financial statements – also, it is possible that there have been changes in the groupings over the years). Table 5 reveals that the total taxation revenue across these two broad categories has remained relatively stable over the 11-year period; however, there is a trend toward having residential properties bear a larger share of the property taxes than commercial and industrial properties. In 1998, the Province of Ontario legislated tax reform that established a range of fairness for all property tax classes which required the City of Thunder Bay to shift the tax burden towards resident property classes.

**Table 5 – Breakdown of property tax revenue**

	2002		2012	
Residential and farm taxation	63,476,498	63%	93,644,351	64%
Commercial and industrial	37,085,593	37%	53,230,617	36%
	100,562,091		146,874,968	

Further detail on the breakdown can be found in Table 6 which presents the 2012 taxation revenue across each individual property class (Note: this level of detail is not presented in the City' financial statements – rather, this information was obtained from a separate report prepared by the Finance and Corporate Service department).

**Table 6 – Property tax revenue broken-down into individual classes**

	Taxes (\$)	% Share
<b>Residential</b>	96,111,942	60.9%
<b>Multi-Residential</b>	12,620,909	8.0%
<b>Commercial</b>	39,199,580	24.8%
<b>Industrial</b>	1,729,949	1.1%
<b>Large Industrial</b>	7,001,252	4.4%
<b>Pipelines</b>	1,131,346	0.7%
<b>Farmland</b>	11,881	0.0%
<b>Managed Forest</b>	2,431	0.0%
	157,809,290	

Source: COTB, 2013b

Table 6 reveals that 61% of the City's total taxation revenue comes from residential properties, with the second largest share being borne by the commercial property class.

The common-sized financial statements reveal that the City's reliance on property tax revenue has decreased as it comprised 32.3% of revenues in 2002 and 29.8% in 2012. Reliance on the Federal and Provincial grants has also declined from 25.5% to 16.1% of revenues. TBayTel's operation now comprises 31.3% of revenues, up from 21.8% in 2002.

### *ANALYSIS OF THE CITY'S OPERATING EXPENDITURES*

Overall, the City's total operating expenditures have increased by an average of 3.8% per year. Over the 11-year period, operating expenses have increased from approximately \$346 million to approximately \$505 million.

Figure 11 reveals that almost every single expense line item has increased over the 11-year period even after accounting for the general price level increases due to inflation. The only two line items that did not increase are the Health Services line item and the Social and Family Service line item. These two line items declined annually by an average of 3.7% and 2.5% respectively<sup>5</sup>.

The largest increases in the expense line items arise from the planning and development and telephone (TBayTel) line items which increased annually by an average of 8.7% and 8.6%, respectively. As discussed previously, the TBayTel revenue line item has increased by an average of 8.7% annually, therefore, the increased costs have been offset by the increased revenue which has resulted in a consistent gross margin percentage.

The third largest increase in expenses is found in the general government line item which has increased by an average of 6.6% annually from \$14.3 million in 2002 to \$27.3 million in 2012. Over the 11-year period the general government line item has almost doubled, increasing \$12.9 million. After adjusting for inflation, the general government line item has increases by an average of 4.8% annually.

### *ANALYSIS OF THE CITY'S OPERATING SURPLUS (DEFICIT)*

The historical financial statements reveal that the City has done a good job over the past 11-years in structurally changing the nature of revenues and expenses in order to generate operating surpluses. Operating deficits were common from 2002 to 2007; however, from 2008 to 2012 the City ran only one deficit. The financial statement analysis reveals that the City has been able to structurally change the pattern of continued operating deficits by increasing revenues (average of 4.8% annually) at a greater rate than the increase in expenses (average of 3.8% annually). The pattern of continued operating surpluses has been lauded by external analysts of the City's finances (S&P, 2013).

Figure 11 also presents what the City's operating surplus (deficit) would be without the contributions of TBayTel and Thunder Bay Hydro. Figure 11 reveals that the City would have generated a surplus in only one (2011) of the past eleven years if not for the contributions of TBayTel. This reveals the significant positive contribution that TBayTel has on the City's overall finances and sustainability. Thunder Bay Hydro also provides a positive and significant impact contributing an average of approximately \$1.75 million annually to the City's operating surplus.

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<sup>5</sup> It is important to note that the significant decline occurred in 2009, which is also the year of the PSAB standard change. Therefore, the declines in the historical financial statements may be the result of comparability issues due to changes in the standards and/or groupings as opposed to real declines in costs.

### 2.3 - ANALYSIS OF THE HISTORICAL STATEMENT OF FINANCIAL POSITION

Figure 13 presents the historical statements of financial position from 2002 to 2012. It is important to note that the 2009 PSAB standards change resulted in the non-financial assets being reported on the balance sheet and the amounts to be recovered removed. Therefore, comparability of these line items is limited. However, the financial assets and financial liabilities (and, resulting net debt) are still comparable across the 11-year period.

Figure 13 reveals that the City's financial position has been strengthening over the past 11-years. The accumulated surplus to financial liabilities ratio has displayed strength as it is generally greater than 1:1. However, the net debt (financial assets – financial liabilities), which is more commensurate with a measure of liquidity<sup>6</sup>, has changed from a positive balance (more assets than liabilities from 2002 to 2004) to a negative balance (more liabilities than assets from 2005 to 2012). This is not an ideal trend as municipalities should strive to strengthen their net debt position.

The City's taxes receivable balance has been declining over the 11-year period, which is a positive, suggesting that the City is collecting property taxes at a more accelerated rate and/or property owners are paying their balances in a more timely manner.

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<sup>6</sup> Note that a true measure of liquidity would exclude the long-term liabilities from the calculation.

**Figure 13 – Historical Statements of Financial Position (2002 to 2012)**

As at December 31	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Financial Assets</b>											
Cash and Investments	103,762,305	145,219,977	137,056,814	182,217,792	178,833,167	175,738,581	176,255,436	136,390,672	131,274,899	114,699,895	116,766,294
Taxes Receivable	12,270,131	11,231,807	11,369,406	11,300,113	9,502,534	10,170,238	13,698,039	13,399,889	8,480,201	6,891,772	6,277,040
Accounts Receivable	33,017,208	42,357,525	24,376,287	28,573,833	26,363,824	26,321,515	38,211,254	32,883,701	36,769,479	55,140,658	74,926,427
User Charges Receivable	4,758,587	4,798,256	4,797,018	4,821,616	9,419,309	6,787,231	6,542,673	7,927,219	9,742,575	10,318,607	10,625,015
Other Assets	1,217,727	1,142,593	1,175,870	1,136,096	1,001,680	1,668,179	2,420,649	3,164,670	3,761,939	2,517,523	1,891,895
Investment in Non-Profit Housing Corporation	40,000	40,000	40,000	0	0	0	0	0	0	0	0
Other Receivables	839,088	697,025	262,556	0	0	0	0	0	0	570,272	400,000
Investment in bonds and own debentures	3,870,526	2,533,123	2,066,924	1,598,581	466,650	613,748	96,744	81,051	64,496	47,030	28,603
Investment in Thunder Bay Hydro Corporatin	70,702,230	71,180,647	71,598,582	73,446,919	74,315,165	75,004,208	78,062,433	82,997,498	84,230,542	86,890,965	89,059,409
	230,477,802	279,200,953	252,743,457	303,094,950	299,902,329	296,303,700	315,287,228	276,844,700	274,324,131	277,076,722	299,974,683
<b>Non-Financial Assets</b>	0	0	0	0	0	0	0	875,708,674	917,241,939	960,391,111	966,880,368
<b>Total Assets</b>	230,477,802	279,200,953	252,743,457	303,094,950	299,902,329	296,303,700	315,287,228	1,152,553,374	1,191,566,070	1,237,467,833	1,266,855,051
<b>Financial Liabilities</b>											
Bank Indebtedness	0	0	0	0	0	0	0	0	8,905,000	0	6,412,000
Accounts payable and accrued liabilities	45,924,406	53,229,928	45,179,028	52,256,264	55,427,323	48,476,418	58,150,405	48,748,759	52,864,079	58,348,785	54,907,178
Tbaytel long term payable	0	0	0	0	0	0	0	0	46,247,000	42,232,000	37,991,000
Deferred Revenue	6,060,381	6,022,894	4,981,677	5,724,074	10,121,427	8,224,136	9,057,881	6,753,626	7,148,394	6,601,901	7,509,893
Employee Future Benefits	54,281,946	57,658,862	70,140,559	74,032,884	77,573,378	73,235,214	74,901,368	74,408,475	85,219,824	86,978,227	88,740,782
Other Liabilities	3,654,061	5,304,410	4,141,109	0	0	0	0	0	0	0	0
Municipal Debenture Debt	0	0	0	202,627,402	220,203,203	229,998,571	218,687,312	182,154,370	169,976,695	169,215,646	177,572,046
Net long-term liabilities	36,405,286	94,957,897	107,248,040	0	0	0	0	0	0	0	0
Landfill Closure and post-closure liability	11,809,728	11,809,728	11,809,728	7,011,000	6,237,000	6,424,000	6,617,000	6,815,000	7,020,000	7,230,000	7,447,000
	158,135,808	228,983,719	243,500,141	341,651,624	369,562,331	366,358,339	367,413,966	318,880,230	377,380,992	370,606,559	380,579,899
<b>Accumulated Surplus</b>	176,572,741	216,506,511	199,791,487	247,451,709	237,742,681	244,441,747	252,562,408	833,673,144	814,185,078	866,861,274	886,275,152
<b>Ammounts to be Recovered</b>	(104,230,747)	(166,289,277)	(190,548,171)	(286,008,383)	(307,402,683)	(314,496,386)	(304,689,146)	0	0	0	0
<b>Total Debt and Surplus</b>	230,477,802	279,200,953	252,743,457	303,094,950	299,902,329	296,303,700	315,287,228	1,152,553,374	1,191,566,070	1,237,467,833	1,266,855,051
<b>Net Debt (Financial Assets - Financial Liabilities)</b>	72,341,994	50,217,234	9,243,316	(38,556,674)	(69,660,002)	(70,054,639)	(52,126,738)	(42,035,530)	(103,056,861)	(93,529,837)	(80,605,216)
<b>Accumulated surplus to Financial liabilities</b>	112%	95%	82%	72%	64%	67%	69%	261%	216%	234%	233%

The City's municipal debenture debt has been declining steadily each year as it is being repaid. The lack of increase in the municipal debenture reveals that the City has not been accumulating more long-term debt financing. The City's strong operating performance (generation of operating surpluses) and financial position (strong accumulated surplus to financial liability ratio), combined with a positive future outlook, has result in the City's municipal debenture rating to be revised upward from A+ to AA- by Standard and Poor's Credit Rating Agency (S&P, 2013).

## 2.4 - SUMMARY AND CONCLUSIONS

Overall, the financial statement analysis reveals that the City's financial position and operations have been improving over the 11-year period of 2002 to 2012. The City's total revenue has increased annually by an average of 4.8%. A significant portion of the revenue growth has come from the operations of TBayTel and Thunder Bay Hydro. Municipal taxation revenue has also increased from \$106 million in 2002 to \$157 million in 2012, representing an average annual increase of 4.0%. Government grants have essentially remained unchanged over the 11-year period (n.b., the increases in government grants have not been large enough to keep up with inflation).

Overall, the City's total operating expenditures have increased from approximately \$346 million to approximately \$505 million, representing an average annual increase of 3.8% per year. Virtually every single expense line item has increased over the 11-year period. The three largest increases in expenses are from the planning and development division, the operations of TBayTel, and general government. The general government expenses have almost doubled over the 11-year period from \$14.3 million in 2002 to \$27.3 million in 2012, representing an average annual increase of 6.6% (4.8% after adjusting for inflation).

In regards to operating surplus (deficits), the City has done a good job over the past 11-years in structurally changing the nature of revenue and expenses in order to generate operating surpluses. Operating deficits were common from 2002 to 2007; however, from 2008 to 2012 the City ran only one deficit. The financial statement analysis reveals that the City has been able to structurally change the pattern of continued operating deficits by increasing revenues (average of 4.8% annually) at a greater rate than the increase in expenses (average of 3.8% annually).

The City's financial position has been strengthening over the past 11-years. The accumulated surplus to financial liabilities ratio has displayed strength as it is generally greater than 1:1. However, the net debt (financial assets – financial liabilities) calculation has changed from a positive balance (more assets than liabilities from 2002 to 2004) to a negative balance (more liabilities than assets from 2005 to 2012).

The City's strong operating performance (generation of operating surpluses) and financial position (strong accumulated surplus to financial liability ratio), combined with a positive future outlook, has resulted in the City's municipal debenture rating to be revised upward from A+ to AA- by Standard and Poor's Credit Rating Agency (S&P, 2013).

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## PART 3

### ANALYSIS OF THUNDER BAY'S TAX BASE AND TAX RATES

# ANALYSIS OF THUNDER BAY’S TAX BASE AND TAX RATES

## 3.1 - INTRODUCTION

The purpose of this section of the report is to analyze the property tax rate base and tax rate ratios for the City of Thunder Bay. This section begins with a discussion of the theoretical and economical background on property taxes. The theoretical discussion focuses on the economic justification for property taxes and the differing perspectives on residential and non-residential property taxes.

Next, this section presents a cross-section and time-series analysis of the tax base and tax rates in Thunder Bay. The cross-sectional analysis relied upon the BMA Report (2012) in order to compare Thunder Bay to various other Northern Ontario cities and the Province as a whole. The time-series analysis utilized data from 2000 to 2013 in order to identify any historical trends in the tax rates. The cross-sectional and time-series analyses are followed by a brief review of small and large business opinions of the property tax rates in Thunder Bay.

## 3.2 - THEORETICAL BACKGROUND

Property tax is calculated by current value assessment (CVA) of a property by its respective tax rate (TR). The CVA is determined by the Municipal Property Assessment Corporation (MPAC) and the TR is determined by a local government<sup>7</sup>.

In Ontario, properties are divided into seven mandatory classes as outlined in the Ontario Assessment Act. Some of these mandatory classes may be subdivided at the option of a municipality. The seven classes are residential, multi-residential, commercial, industrial, farm pipeline and managed forest. Therefore, a municipality’s total property tax revenue can be calculated as follows:

$$\Sigma(CVA_{pc} \times TR_{pc})$$

Whereby,

$CVA_{pc}$  = the CVA of each property class

$TR_{pc}$  = the tax rate of each property class

Accordingly, a municipality’s total tax revenue is a function of the mix of property asset classes, the tax rate levied, and the market values of the properties in the municipality. For example, in order to maintain tax revenue, all else equal, if property values decline, tax rates must increase. Also, as one CVA class shrinks, another must grow (either tax rate or market value).

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<sup>7</sup> Note that the education portion of the property tax is determined by the province).



There are many perspectives on the impacts of business property taxes on a local economy. Almost all municipalities in the world rely, to some extent, on property taxes to pay for services (Slack, 2010). In today's economic times, municipalities require property taxes levied on commercial and industrial properties in order to maintain financial independence and governance autonomy (Oates, 2010) considering the provincial downloading of various services. Property tax levies are now being used by many municipalities to pay for services that were not traditionally considered to be within the scope of municipal services (e.g., social housing, prisoner transportation, etc.) (Windsor-Essex Regional Chamber of Commerce, 2013).

In general, there has been a consensus amongst economists that property tax assessment is an effective tax for local government. It has been argued that property tax is fair, as the taxes collected can be linked to local services, it is difficult to evade, and it promotes local autonomy and accountability (Bird R. M., 2001).

The economic literature generally speaks about property tax, without differentiating between residential, commercial, and industrial property taxes. Recently, academics have begun to differentiate between the various classes of property taxes (Slack, 2010). The results of the prior literature on the different classes of property tax suggest that there is strong support for the residential property tax and little support for the non-residential (commercial and industrial) type of property tax.

The literature that differentiates between residential and non-residential (i.e. commercial and industrial) property taxes suggests that residential property tax is the most appropriate source of revenue for local governments (Slack, 2010). Residential property taxes are seen to be the most appropriate because of improved transparency in terms of linking collections to services provided (e.g., the tax services received, in the form of landfill, fire, police, etc., are seen by citizens on a daily basis). The transparent link between taxes and services leads to increased accountability efficiency as residents can more easily hold government accountable (Oates, 2010).

The following is an excerpt from Dr. Slack, a leading authority on municipal taxation:

*“visibility is clearly desirable from a decision-making perspective because it makes taxpayers aware of the costs of local public services. This awareness enhances accountability, which is obviously a good thing from both an economic (hard budget constraint) and political (democratic) perspective. At the same time, visibility restricts the ability of local governments to raise or reform the tax. (Slack, 2010, pg. 3)”*

In addition to transparency, residential property taxes are also optimal because there is a link between the assessment base (property tax value) and benefits derived (services provided). That is, both the benefits derived from the taxes (local services) and the taxes paid are capitalized into the property value. When a taxpayer is willing to pay more for better services, better services can lead to higher property values (Note: property values are a function of many variables and not solely local services).

Non-residential property taxes are not well supported in the economic literature. Non-residential properties include many different properties across three general categories: (1) commercial properties

(offices, restaurants, retail outlets); (2) industrial properties (mines, mills, shipyards); and (3) special properties (pipelines and railway right-of-ways). A review of the prior literature suggests that non-residential properties are not considered to be appropriate sources of revenue for local governments for three main reasons:

1. There is a larger disconnect between the taxes levied and services provided and the fact that businesses often pay additional taxes for certain services (e.g., security, waste disposal, etc.).
2. Businesses are more highly mobile than residents, and therefore businesses are more likely to move (from the city, province or even country) if they perceive their taxes as being unfairly high.
3. Businesses must recover their expenses through their revenue in order to break-even and/or generate a profit. Therefore, fixed costs, such as property taxes, must be recovered through revenue. All else equal, as property taxes rise so must the selling price. Therefore, the property taxes are being paid by consumers as opposed to the businesses. In addition, businesses that export outside of their region shift their property tax burden to consumers in other regions. This phenomenon is known as tax-exporting (See Burns, 1992, for more discussion of the use of corporation tax exporting).

However, the practice and the theory are not consistent in that countries that traditionally levy property taxes often set the tax rates lower for residential properties than for non-residential properties (Bird and Slack, 2004). In addition, studies in both Canada (Kitchen and Slack, 1993) and the US (Oakland and Testa, 1995) suggest that the property taxes levied on the non-residential properties exceed the services provided to this tax base.

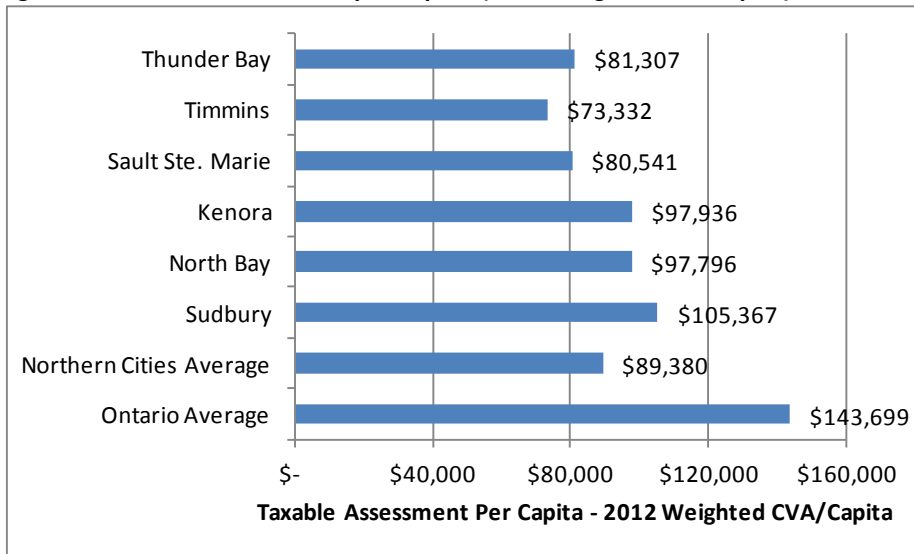
A review of property taxes across the globe reveals that property taxes are not widely levied in OECD countries. A detailed study by Slack (2010) reveals that “property taxes relative to GDP are over 3% in the UK, close to 3% in the US and Canada, and just over 2% in France, Japan, and New Zealand” (Slack, 2010, pg. 9). Property taxes may not be used extensively because they are deemed to be unpopular ((Brunori, 2003) and inelastic (Slack, 2010). In addition, the erosion of the property tax base is occurring through various exemptions and incentives to attract business (Bird & Slack, 2004).

### 3.3 - CROSS-SECTIONAL ANALYSIS OF PROPERTY TAXES IN THUNDER BAY

As discussed in the previous section, a municipality’s property tax revenue is a function of the CVA and the TR. Both the CVA and TR in Thunder Bay relative to other cities in Northern Ontario are discussed in this section (i.e., cross-sectional analysis).

Figure 14 presents the taxable assessment per capita for Thunder Bay, along with the comparatives for other Northern Ontario cities. Note that the weighted assessment is presented which reflects the basis upon which property taxes are levied after applying the tax ratio to the various property classes to the unweighted assessment (BMA, 2012).

**Figure 14 – Taxable Assessment per Capital (2012 Weighed CVA/Capita)**



Source: BMA, 2012

Assessment is important because municipalities depend largely on the property tax base for a substantial portion of their revenue. Figure 14 reveals that Thunder Bay’s assessment base is not rich, and lags both the Ontario average and Northern cities average.

Table 7 presents the tax rates for residential, commercial, and industrial properties in Thunder Bay, along with other Northern Ontario comparative cities. Note that these tax rates are based on the comparative analysis conducted in the BMA Report (2012), and are subject to estimation error. Although any single figure can contain bias, trends identified based on a large number of metrics will result in significantly reduced estimation bias.

**Table 7 – Tax Rates for residential, commercial, and industrial (percentages)**

	Residential	Multi - Residential	Comm. Residual	Industrial Regular
Ontario Average	1.29	2.25	3.00	3.78
Northern Cities Average	1.79	3.33	4.29	4.86
Sudbury	1.56	3.32	4.18	5.44
North Bay	1.63	3.32	3.97	3.29
Kenora	1.65	2.66	4.01	4.18
Sault Ste. Marie	1.87	2.29	4.40	5.45
Timmins	2.06	3.32	4.49	5.28
Thunder Bay	1.97	5.04	4.69	5.53

Source: BMA, 2012

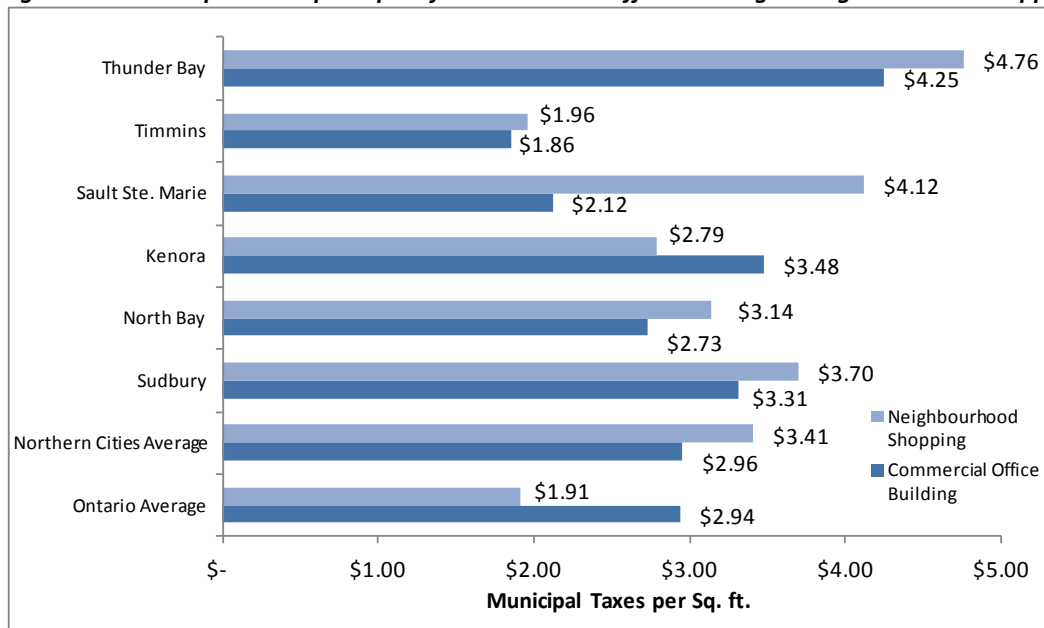
Table 7 reveals that Thunder Bay is above both the Northern Ontario and Provincial averages in all categories. In addition, Thunder Bay has the highest multi-residential and industrial regular tax rates in

Northern Ontario, the second highest residential and commercial taxes. The BMA report provides a caveat in regards to potential measurement errors, and advises readers that only trends (as opposed to absolutes) should be interpreted from the data. Therefore, the results from Table 7 can be interpreted to suggest that Thunder Bay has relatively high municipal tax rates in all three categories.

A more detailed breakdown of the commercial and industrial asset classes is conducted in order to better understand tax rates in Thunder Bay relative to the same Northern Ontario city comparatives.

Figure 15 presents the municipal taxes per square foot for commercial office building<sup>8</sup> and neighbourhood shopping centers<sup>9</sup>.

**Figure 15 – Municipal Taxes per Sq. Ft. for Commercial Office Building & Neighbourhood Shopping**



Source: BMA, 2012

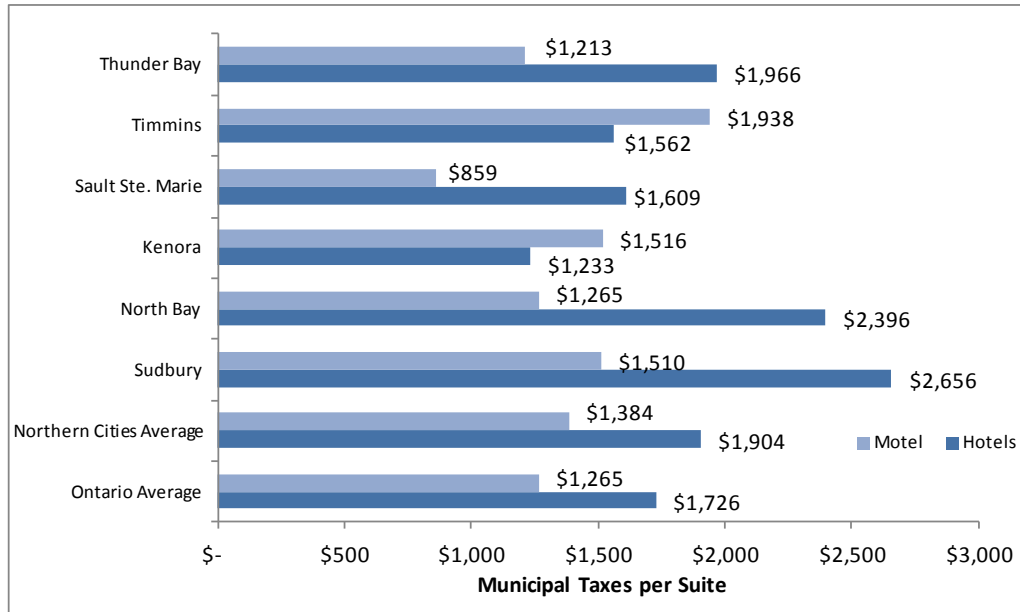
Figure 15 reveals that Thunder Bay’s taxes are the highest in all of Northern Ontario and well above the Ontario average in both commercial classes.

<sup>8</sup> Selection was focused on buildings in prime locations within the municipality. Comparison of taxes on a per square foot of gross leasable area basis.

<sup>9</sup> A neighbourhood shopping centre is typically the smallest type of center comprised of retail tenants that cater to everyday needs such as drugstores, convenience stores and hardware stores. Size varies from 4,000 to 100,000 square feet. Comparison of taxes on a per square foot of floor area.

Figure 16 presents the municipal taxes per suite for hotels<sup>10</sup> and motels<sup>11</sup>.

**Figure 16 - Municipal Taxes per Suite for Hotels and Motels**



Source: BMA, 2012

In regards to hotels and motels, Thunder Bay is comparable to other Northern Ontario cities and the Ontario average.

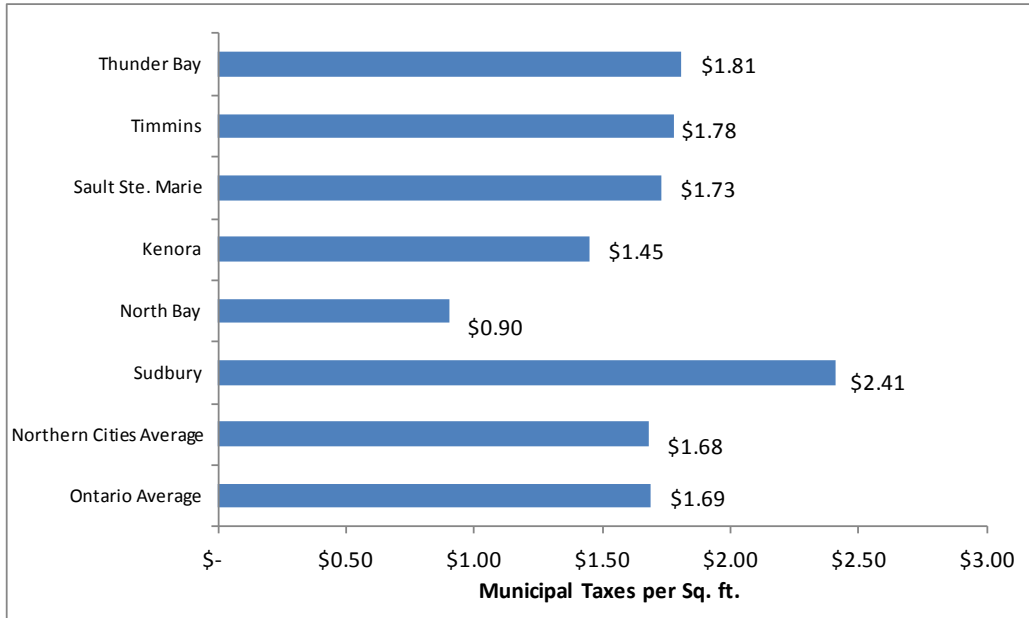
Overall, the above analysis of the commercial tax rate categories provides support to the results from Table 7 in that the commercial tax rates in Thunder Bay are on the higher end relative to other cities in Northern Ontario and the Ontario average.

<sup>10</sup> Typically over 100 rooms.

<sup>11</sup> Typically newer construction, franchised.

The following is a discussion of the industrial tax rates. Figure 17 presents the municipal taxes per square foot for standard industrial property<sup>12</sup>.

**Figure 17 – Municipal taxes per sq. ft. for Standard Industrial**



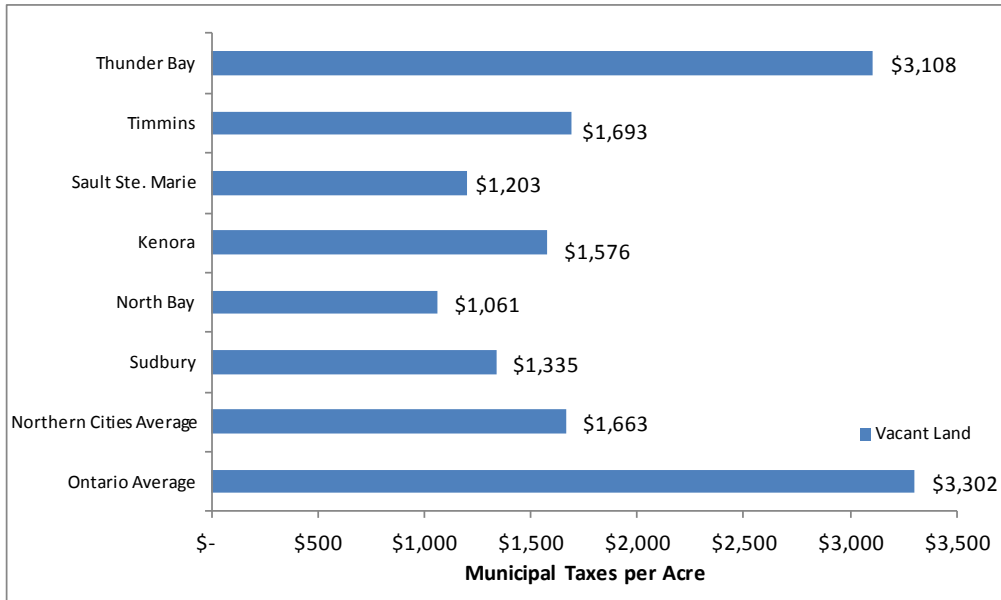
Source: BMA, 2012

Figure 17 reveals that Thunder Bay is above both the Northern Ontario average and average of the Province. After Sudbury, Thunder Bay has the highest industrial taxes per square foot in Northern Ontario.

<sup>12</sup> Under 125,000 sq. ft. in size typically characterized by newer construction and flexible design.

Figure 18 presents the municipal taxes per acre of vacant industrial land<sup>13</sup>.

**Figure 18 - Municipal taxes per acre of vacant industrial land**



Source: BMA, 2012

Figure 18 reveals Thunder Bay’s property taxes per acre of vacant industrial land are the highest in Northern Ontario; however, they are comparable to Ontario as a whole. This analysis of industrial property taxes provides support to the results from Table 7 in that the industrial tax rates in Thunder Bay are on the higher end relative to other cities in Northern Ontario.

Overall, the above analysis reveals that the residential, commercial and industrial property taxes are on the high end of the spectrum relative to other cities in Northern Ontario and the Province as a whole.

### 3.4 - TIME-SERIES ANALYSIS OF PROPERTY TAXES IN THUNDER BAY

This section analyzes the historical trend in tax rates for the City of Thunder Bay (i.e., time-series analysis). Table 8 reveals the current CVA across different property classes for 2012 and the City’s projection for 2016.

<sup>13</sup> Selection of properties were based on serviced land under 5 acres.

**Table 8 – Current Value Assessment across property classes (2012 and Forecasted 2016)**

	<b>CVA 2012</b>	<b>Forecasted CVA 2016</b>	<b>Forecast % Change</b>	<b>Forecasted Annual CAGR</b>
<b>Residential</b>	5,383,901,885	6,963,322,340	29.3%	6.6%
<b>Multi-Residential</b>	254,193,530	340,604,300	34.0%	7.6%
<b>Commercial</b>	1,158,237,239	1,314,988,990	13.5%	3.2%
<b>Industrial</b>	43,254,229	57,510,684	33.0%	7.4%
<b>Large Industrial</b>	159,149,340	178,342,575	12.1%	2.9%
<b>Pipelines</b>	29,012,000	30,869,000	6.4%	1.6%
<b>Farmland</b>	3,227,000	3,202,000	-0.8%	-0.2%
<b>Managed Forest</b>	689,200	674,600	-2.1%	-0.5%
<b>Total</b>	7,031,664,423	8,889,514,489	26.4%	

Source: COTB (2013b)

Table 8 reveals that the City is anticipating significant increases in the CVA for essentially every asset class. The most significant property value increases are anticipated for the industrial and multi-residential properties. Declines in value are expected for the farmland and managed forest properties.

Table 9 presents Thunder Bay’s municipal tax rates from 2000 to 2013 along with the absolute change and the cumulative annual growth rate (Note: all rates are for occupied properties unless otherwise specified). The data obtained for Table 9 was obtained from the City of Thunder Bay’s website (COTB, 2013).

**Table 9 – Thunder Bay’s Municipal Tax Rates (2000 to 2013)**

	<b>2000</b>	<b>2013</b>	<b>Absolute Change</b>	<b>Percentage Change</b>	<b>14-YR CAGR</b>
<b>Residential</b>	1.51%	1.90%	0.39%	25.59%	0.03%
<b>Multi-Residential</b>	3.61%	4.79%	1.18%	32.69%	0.08%
<b>Commercial</b>	5.53%	4.61%	-0.93%	-16.76%	-0.07%
<b>Vacant Land</b>	3.38%	3.22%	-0.16%	-4.63%	-0.01%
<b>Industrial</b>	7.07%	5.58%	-1.48%	-20.98%	-0.11%
<b>Large Industrial</b>	7.60%	5.65%	-1.95%	-25.66%	-0.14%
<b>Pipelines</b>	4.97%	5.10%	0.13%	2.56%	0.01%
<b>Farmland</b>	0.38%	0.48%	0.10%	25.59%	0.01%
<b>Managed Forest</b>	0.38%	0.48%	0.10%	25.59%	0.01%

Source: COTB, 2013a

Table 9 reveals that the residential property tax rates (both residential and multi-residential) have increased over the past 14 years, whereas, the commercial and industrial property tax rates have declined. As indicated previously, this is at least in part a result of the range of fairness established by the Province of Ontario tax reforms in 1998. The special property classes (i.e., pipelines, farmland, and managed forest) all experienced increases as well.



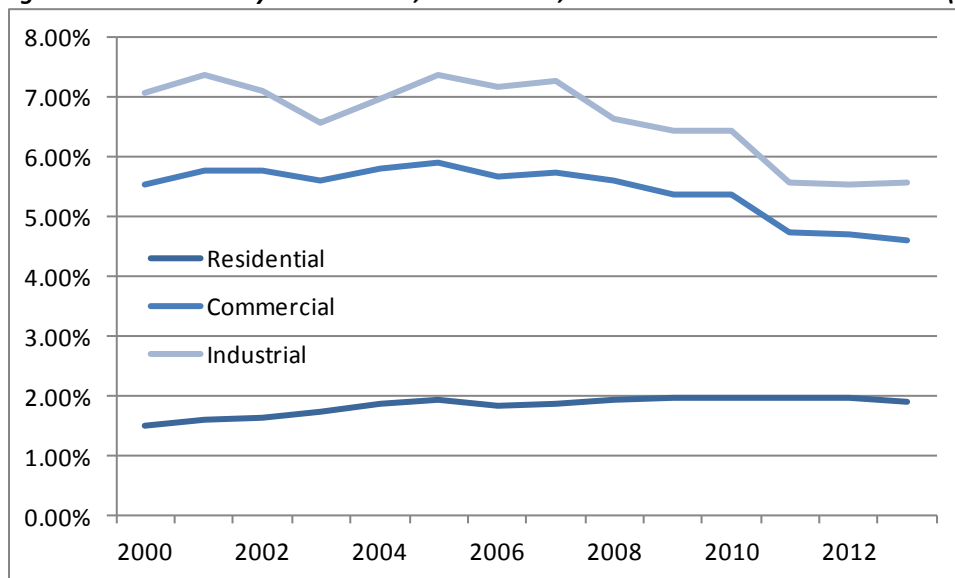
In regards to the percentage changes (calculated as the absolute change divided by the 2000 beginning tax rate), Table 9 reveals the significant increases in residential and multi-residential property taxes, increasing by 25.59% and 32.69%, respectively, over the past 14 years.

Conversely, the commercial and industrial property tax rates have declined by 16.76% and 20.98%, respectively, over the 14-year period. The large industrial property class experienced the largest decline of any asset class with a 25.66% reduction.

In regards to the special classes, the farmland and managed forest experienced the largest increases with a 25.59% increase in each class over the 14-year period. The pipelines experienced a smaller increase (2.56%).

Figure 19 presents a line graph of Thunder Bay’s Residential, Commercial, and Industrial tax rates from 2000 to 2013.

**Figure 19 – Thunder Bay’s Residential, Commercial, and Industrial tax rates over time (line graph)**



Source: COTB, 2013a

Figure 19 presents a steady increase in the residential tax rates over time. The commercial and industrial tax rates experienced their most significant decline over the period of 2007 to 2011. The tax rates in the past two years (2012 to 2013) have experienced little change.

### 3.5 - BUSINESS OPINIONS OF PROPERTY TAXES IN THUNDER BAY

Business property taxes are a significant component of a business’ fixed operating costs. There is a host of information from different sources that suggest that businesses in Thunder Bay are concerned about the business property taxes. For example, the 2012 Thunder Bay Ventures Small Business Opinions

Survey reveals that small businesses are concerned with the municipal tax rate<sup>14</sup>. The survey results for the property tax question is 2.28 on a 5-point likert scale suggesting that small businesses do not believe the City is doing well in regards to the property tax rate (page 14). In addition, open-ended survey response questions also suggest that small business owners would like the property taxes reduced (page 25). The 2013 Small Business Opinion Survey reveals that business property taxes have become more and more of an issue for small business over the past seven years. Figure 20 below presents the survey responses from 2007 to 2013 (note that 5 is very positive and 1 is very negative), along with the linear trend line.

**Figure 20 – Small Business Opinion of municipal business taxes (2007 to 2013)**

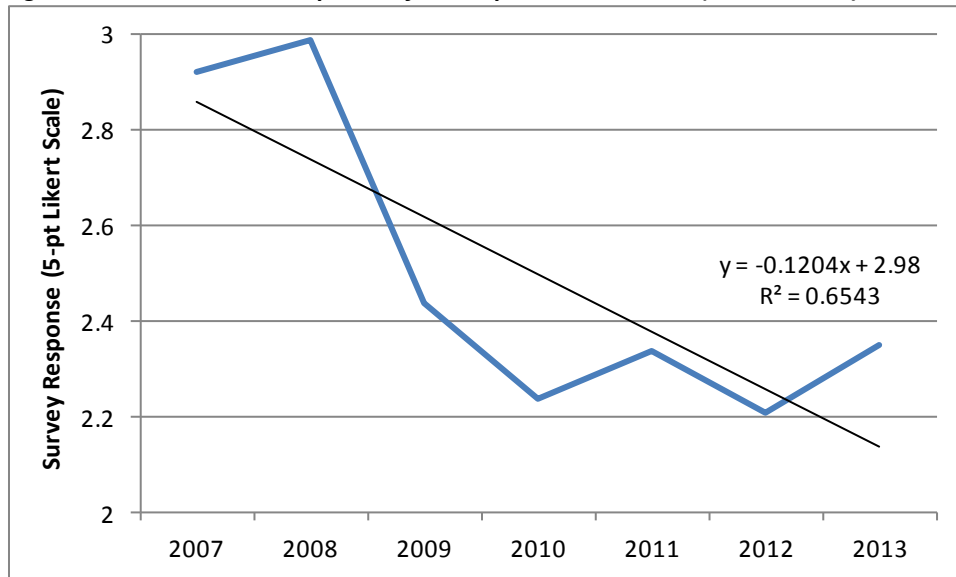


Figure 20 reveals that small business opinion of municipal property taxes has decreased significantly over the past six years, with the steepest decline coming in 2009 and 2010. Overall, the trend is declining as represented by the negative slope on the linear trend line.

Municipal property taxes have also been in focus with larger businesses in the community. Recently, Resolute Forest Products (Resolute) requested a 60% reduction in the tax assessment of their Thunder Bay mill to \$29 million, retroactive to 2009. The mill had been once worth more than \$100 million, and was last assessed at \$72 million. If Resolute is granted the reduction, the City could see \$1.8 million less in property taxes from the mill, annually (CBC, 2013a).

<sup>14</sup> Note that the results from the prior year's Thunder Bay Ventures Small Business Surveys are all publicly available on the Thunder Bay Ventures website [www.thunderbayventures.com](http://www.thunderbayventures.com)

Thunder Bay is not unique in this regard as there are many other cities in Ontario facing similar challenges. For example, the City of Windsor has been facing a shrinking tax base from industrial businesses and higher than average property tax rates (Windsor-Essex Regional Chamber of Commerce, 2013).

### 3.6 - SUMMARY AND CONCLUSION

This section of the report presented a cross-sectional and time-series analysis of the property tax rates in the City of Thunder Bay. The property tax rate analysis focused mainly on three categories of property taxes: residential, commercial, and industrial.

The cross-sectional analysis reveals that Thunder Bay has some of the highest property tax rates in the province. The property tax rates for the residential, commercial and industrial property classes are all well above the provincial average. The cross-sectional analysis also reveals that Thunder Bay's current value assessment is below average.

The time-series analysis reveals that that City has been working to reduce the property tax rates over the past decade. From 2000 to 2013, both the commercial and industrial property tax rates have declined. The declines across these two property classes range from 5% to 25%. However, the residential tax rates have increased over the same periods. Over the 14-year period, residential taxes have increase in range of 25% to 32%. This suggests a shifting property tax burden from the commercial and industrial classes to the residential classes. The shifting property tax burden to the residential classes from the non-residential classes is consistent with the economic literature and theory.

This section concluded with a brief summary of secondary literature on the business community's sentiment towards the City's property tax policies. The literature review reveals that both small and large businesses are not satisfied with the property tax levels in the City.



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**PART 4**

**FORECAST OF THUNDER BAY'S TAX BASE AND TAX RATES**

## FORECAST OF THUNDER BAY'S TAX BASE AND TAX RATES

### 4.1 - INTRODUCTION

The previous sections of this report have shown that Thunder Bay has some of the highest property tax rates in the Province. Although the City has made tremendous efforts to reduce the tax rates for the commercial and industrial properties, the residential property tax rate has experienced a steady increase. In addition to tax rate increases, the assessed value of residential properties has continued to increase. With both an increasing tax rate and increasing assessment value, residential property owners have experienced significant increases in municipal taxes.

The purpose of this section of the report is to forecast the City's future tax base and tax rates based on the assumption that the City continues to operate at the status-quo. The purpose of the forecast is to provide local residents, businesses, and city planners with information needed to determine if tax rates in the future will be feasible for businesses and residents to bear, and if not, to provide city planners with sufficient time to make any necessary changes to ensure appropriate tax rates will be in place.

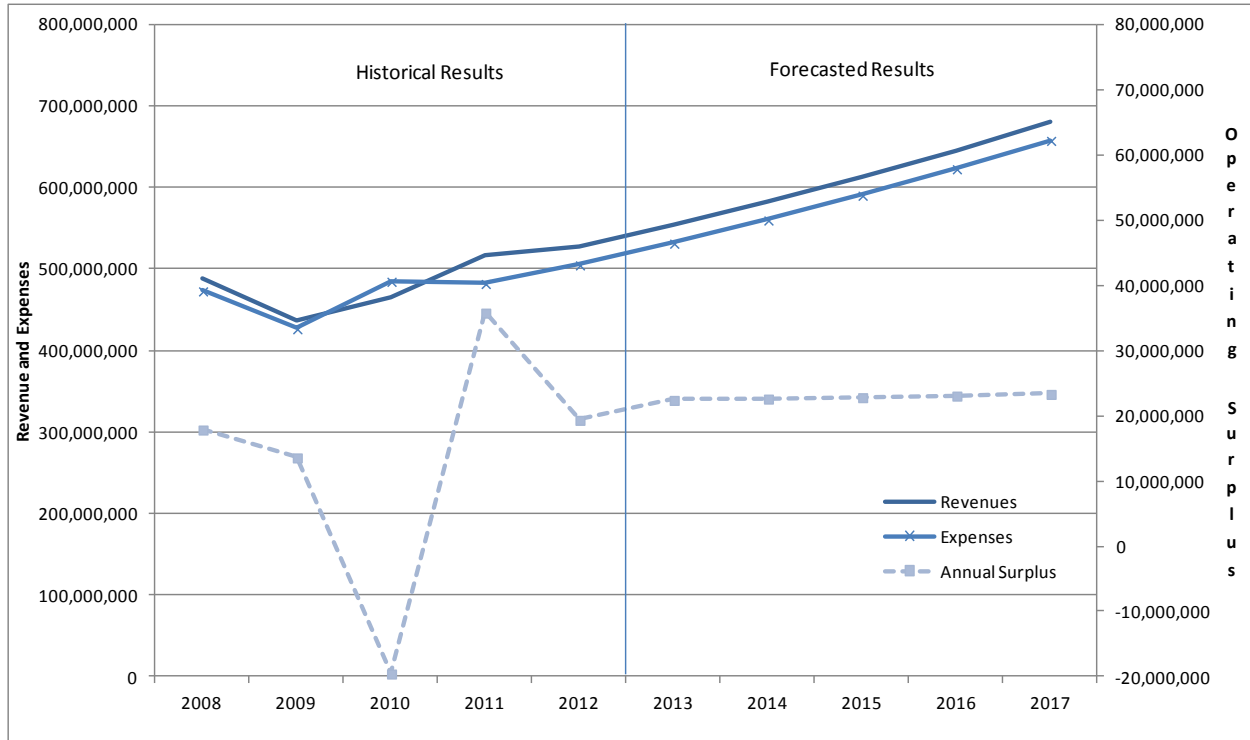
### 4.2 - FORECASTING PROPERTY TAXES IN THUNDER BAY – THE STATUS QUO

The forecasting methodology is based on the City's historical financial statements and is similar to prior studies on municipal finances (e.g., Toronto Board of Trade, 2010). Details on the forecasting methodology and assumptions can be found in Appendix II.

Figure 21 presents a line graph of the City's five year historical revenue, expense and surplus along with a five-year forecast under the baseline (status-quo) assumptions laid out in Appendix II.

Figure 21 reveals moderate growth in revenue and expenses, resulting in a steady growth in the operating surplus. However, it is important to note that the revenue from property taxes is forecasted to increase from \$157 million in 2012 to \$178 million in 2017. This increase in property taxes will be required to pay for the increase in expenses in order to maintain a steady and/or growing operating surplus.

**Figure 21 – Historical (2008 to 2012) and Forecasted (2013 to 2017) Revenue, Expenses and Surplus**



Much of the growth in revenue and operating surplus hinges on a continued growth in the operations of TBayTel. Figure 22 presents a line graph of revenue, expense and surplus based on all of the assumptions in Appendix II with the exception that TBayTel operations are assumed to experience no growth (that is, 2012 revenue and expense will persist into the next five years).

**Figure 22 – Forecasted Revenue, Expenses and Surplus assuming no growth in TBayTel’s Operations**

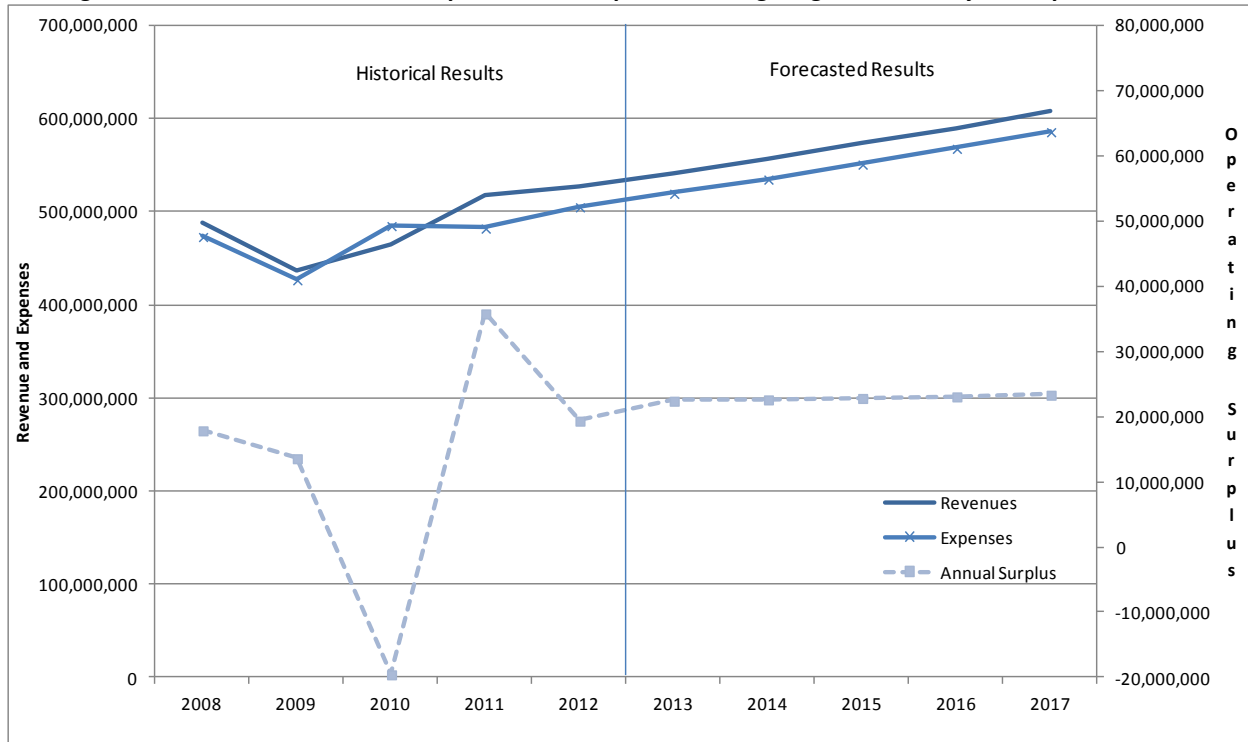


Figure 22 reveals just how important the operations of TBayTel are to the overall financial sustainability of the City. Assuming zero growth in the operating margin of TBayTel, and continued growth in the other expense line items, the City’s surplus will start to decline in the 2014 fiscal year. This is because many of the City’s revenue sources are fixed (e.g., Federal and Provincial grants) or out of the control of council (e.g., investment income depends on the whims of the financial markets).

Assuming that the City continues with the status quo, Figure 21 reveals that property tax revenue will increase from \$157 million in 2012 to \$179 million in 2017. The total increase in tax revenue is approximately \$22.1 million. The purpose of this section of the report is to analyze how this increase in the City’s taxation revenue will impact the property taxes payable by residents and businesses in Thunder Bay.



Table 10 reveals that both the CVA and the tax rates are expected to increase in order to generate the additional \$22.1 million in tax revenue. Note that the CVA growth rates are based on the City of Thunder Bay's forecast (COTB, 2013). The tax rates have been inputted based on the forecasting model.

**Table 10 – Forecasted annual increases in CVA and Tax Rates (Five-Years) assuming the Status Quo**

2013 to 2017	CVA		Tax Rates				Combined CAGR for CVA and Rates
	% Change	CAGR	2013 Tax Rate	% Change	CAGR	2017 Tax Rate	
Residential	37.9%	6.6%	1.90%	6.59%	1.3%	2.03%	7.93%
Multi-Residential	44.2%	7.6%	4.79%	5.65%	1.1%	5.06%	8.70%
Commercial	17.2%	3.2%	4.61%	10.12%	1.9%	5.08%	5.17%
Industrial	42.8%	7.4%	5.58%	5.86%	1.1%	5.91%	8.53%
Large Industrial	15.3%	2.9%	5.65%	10.48%	2.0%	6.24%	4.90%
Pipelines	8.1%	1.6%	5.10%	11.92%	2.3%	5.71%	3.84%
Farmland	-1.0%	-0.2%	0.48%	13.89%	2.6%	0.55%	2.44%
Managed Forest	-2.6%	-0.5%	0.48%	14.28%	2.7%	0.55%	2.17%

Recall that property owners municipal taxes are calculated as the CVA of their property multiplied by the tax rate on the property class. Therefore, the City's total taxation revenue is equal to the total CVA times the appropriate property tax rate. The City's total CVA is a function of the number of properties within the City's limits multiplied by the assessed property value. Therefore, the increase in the City's CVA can be a result of new properties being developed in the City and/or an increase in the assessed value of the properties that already exist within the City. It is important to note that increases in the CVA due to new properties do not result in increased taxes for existing property owners whereas increases in assessed values do cause increases in property owner's taxes payable. Although the data is not available to breakout the increase between new properties and increasing values of existing properties, it is reasonable to assume that the vast majority of the increase in the CVA is due to increases in the value of existing properties.

The increase in the assessed property values are outside of the City's control and is handled by the Municipal Property Assessment Corporation (MPAC), an independent body established by the *Ontario Property Assessment Corporation Act, 1997*. MPAC assesses the properties within the municipalities of Ontario and recommends values that are used for the calculation of property taxes. MPAC has announced that property values in Thunder Bay are expected to rise (MPAC, 2013).

Table 10 shows that property owners can expect their taxes to increase by 4% to 9% annually as a result of increasing property value assessments combined with an increasing property tax rate.

#### 4.3 - FORECASTING PROPERTY TAXES IN THUNDER BAY – THE INFRASTRUCTURE WISH LIST

The City's total wish list of infrastructure projects over the next five years would cost about \$137 million in additional expenditures (CBC, 2013b). Assuming these costs are incurred evenly over the next five years, the City's expenditures would increase by \$27.4 million annually. This closely resembles the

average surplus from 2011 and 2012 of \$28.3 million (\$35 million in 2011 and \$21.6 million in 2012). Accordingly, the City would be required to further raise taxes to finance the infrastructure wish list (CBC, 2013b), along with using funds from long-term debt financing.

Table 11 presents the forecasted tax rates assuming the City continues to maintain its current level of operating surplus and that 30% of the \$137 million infrastructure spending will be financed through tax rate increase, respectively. The other 70% is assumed to be financed through long-term debt and other sources. Table 12 presents the forecast assuming that 50% of the spending will be financed through an increase in municipal taxes.

**Table 11– Forecasted annual increases in CVA and Tax Rates (Five-Years) assuming Infrastructure Wish List is Financed 30% by Municipal Taxes**

2012 to 2017	CVA		Tax Rates				Combined CAGR for CVA and Rates
	% Change	CAGR	2013 Tax Rate	% Change	CAGR	2017 Tax Rate	
Residential	37.9%	6.6%	1.90%	11.47%	2.2%	2.12%	8.84%
Multi-Residential	44.2%	7.6%	4.79%	10.49%	2.0%	5.29%	9.61%
Commercial	17.2%	3.2%	4.61%	15.17%	2.9%	5.31%	6.09%
Industrial	42.8%	7.4%	5.58%	10.71%	2.1%	6.18%	9.44%
Large Industrial	15.3%	2.9%	5.65%	15.54%	2.9%	6.53%	5.82%
Pipelines	8.1%	1.6%	5.10%	17.05%	3.2%	5.97%	4.76%
Farmland	-1.0%	-0.2%	0.48%	19.11%	3.6%	0.57%	3.37%
Managed Forest	-2.6%	-0.5%	0.48%	19.52%	3.6%	0.57%	3.10%

**Table 12 – Forecasted annual increases in CVA and Tax Rates (Five-Years) assuming Infrastructure Wish List is Financed 50% by Municipal Taxes**

2012 to 2017	CVA		Tax Rates				Combined CAGR for CVA and Rates
	% Change	CAGR	2013 Tax Rate	% Change	CAGR	2017 Tax Rate	
Residential	37.9%	6.6%	1.90%	14.73%	2.8%	2.18%	9.43%
Multi-Residential	44.2%	7.6%	4.79%	13.72%	2.6%	5.45%	10.19%
Commercial	17.2%	3.2%	4.61%	18.53%	3.5%	5.46%	6.68%
Industrial	42.8%	7.4%	5.58%	13.94%	2.6%	6.36%	10.03%
Large Industrial	15.3%	2.9%	5.65%	18.92%	3.5%	6.72%	6.41%
Pipelines	8.1%	1.6%	5.10%	20.47%	3.8%	6.14%	5.36%
Farmland	-1.0%	-0.2%	0.48%	22.59%	4.2%	0.59%	3.96%
Managed Forest	-2.6%	-0.5%	0.48%	23.01%	4.2%	0.59%	3.69%

Table 11 and Table 12 reveal much more significant increases in the property taxes (combined assessment value increase and rate increases).

#### 4.4 – FORECASTING PROPERTY TAXES IN THUNDER BAY – SENSITIVITY ANALYSIS

A sensitivity analysis is conducted in order to assess the sensitivity of resulting tax rate forecasts to input variables and assumptions. The sensitivity analysis is conducted by changing the following assumptions:

- Revenue growth by an additional 1% and 2% over historical averages while expenses grow at historical averages;
- Expenses grow by an additional 1% and 2% over historical averages while revenues grow at historical averages; and
- Both revenue and expenses grow by an additional 1% and 2% over historical averages.

Table 13 presents the resulting tax rates from the sensitivity analysis.

**Table 13 – Sensitivity Analysis surrounding the tax rate forecast (status quo scenario)**

	Revenue Growth by additional 1%	Revenue Growth by additional 2%	Expense Growth by additional 1%	Expense Growth by additional 2%	Revenue and Expense grows by additional 1%	Revenue and Expense grows by additional 2%
Residential	5.14%	2.27%	10.26%	12.75%	8.04%	8.47%
Multi-Residential	5.92%	3.05%	11.02%	13.51%	8.81%	9.24%
Commercial	2.37%	-0.52%	7.52%	10.02%	5.28%	5.72%
Industrial	5.75%	2.88%	10.86%	13.34%	8.64%	9.07%
Large Industrial	2.10%	-0.79%	7.25%	9.75%	5.01%	5.45%
Pipelines	1.03%	-1.87%	6.20%	8.71%	3.96%	4.39%
Farmland	-0.38%	-3.29%	4.81%	7.32%	2.56%	2.99%
Managed Forest	-0.65%	-3.56%	4.54%	7.06%	2.29%	2.72%

The results reveal that tax rate increases may be tempered if the City can grow other sources of revenues by 1% to 2% over historical averages while controlling costs. This may be difficult to do in today’s municipal landscape (Slack, 2011); however, it is possible.

The sensitivity analysis also reveals the significantly negative impacts that further expense increases will have on tax rates. This suggests that the City should focus on cost control, especially if other revenue sources cannot be grown.

#### 4.5 – THE DOLLAR IMPACT OF FUTURE RESIDENTIAL PROPERTY TAX INCREASES

This section of the report calculates the increased property taxes in terms of total dollars that will result from the forecasted increases in the tax rates and assessment values. Assuming the increase from the status quo scenario (Table 10), Table 14 presents the dollar increases in property taxes for the average residential property owner.

**Table 14 – Dollar increases in property taxes under the status quo scenario for average residential**

	2014	2015	2016	2017
Property Taxes (Assuming a 2013 Assessed value - \$138,502)	\$2,646	\$2,855	\$3,081	\$3,324
I) Under City Council Control:				
Municipal tax rate change (1.3% annual increase)	\$34	\$37	\$40	\$43
II) Under Provincial Control – MPAC Assessment:				
Increased assessed property value (6.6% annual increase)	\$175	\$188	\$203	\$219
2014 Property Taxes	\$2,855	\$3,081	\$3,324	\$3,587
<b>Total increase in property taxes</b>	<b>\$ 209</b>	<b>\$ 226</b>	<b>\$ 243</b>	<b>\$ 263</b>

Table 14 includes only the property tax impacts from the tax rates and assessment value and does not make an attempt to include any forecasted impacts from changes to education tax rates or other factors. Table 14 reveals that the average resident will experience annual increases in their property taxes of approximately \$210 to \$260.

Table 15 presents the dollar increase to the average resident assuming the infrastructure wish list scenario (30% financed by tax increases). Table 15 reveals that the average resident will experience annual increases in their property taxes of approximately \$230 to \$300 under the infrastructure wish list scenario.

**Table 15- Dollar increases in property taxes under the infrastructure wish list scenario for average residential**

	2014	2015	2016	2017
Property Taxes (Assuming a 2013 Assessed value - \$138,502)	\$2,646	\$2,879	\$3,132	\$3,408
I) Under City Council Control:				
Municipal tax rate change (2.7% annual increase)	\$58	\$63	\$69	\$75
II) Under Provincial Control – MPAC Assessment:				
Increased assessed property value (6.6% annual increase)	\$175	\$190	\$207	\$225
2014 Property Taxes	\$2,879	\$3,132	\$3,408	\$3,708
<b>Total increase in property taxes</b>	<b>\$ 233</b>	<b>\$ 253</b>	<b>\$ 276</b>	<b>\$ 300</b>

Considering that the average MPAC assessment value for a residential property in Thunder Bay is \$138,502, Table 14 and Table 15 may not indicate the tax increases for individuals owning larger or more expensive properties. Accordingly, Table 16 present the tax increases for various residential property values based on the status quo methodology.

**Table 16 – Property tax increases for various residential property values**

Property Value	Annual Tax Increase				4-Year Total
	2014	2015	2016	2017	
\$100,000	\$151	\$163	\$176	\$190	\$679
\$138,502	\$209	\$226	\$243	\$263	\$941
\$200,000	\$302	\$326	\$351	\$379	\$1,358
\$300,000	\$453	\$489	\$527	\$569	\$2,037
\$400,000	\$604	\$651	\$703	\$758	\$2,716
\$500,000	\$755	\$814	\$879	\$948	\$3,395
\$600,000	\$906	\$977	\$1,054	\$1,138	\$4,074

#### 4.6 – THE DOLLAR IMPACT OF FUTURE COMMERCIAL PROPERTY TAX INCREASES

The same dollar impact analysis has been conducted on the commercial properties. The baseline property taxes are based on an average commercial assessment value of \$185,000. Table 17 presents the dollar increases under the status quo scenario while Table 18 presents the results under the infrastructure wish list (30%) scenario.

**Table 17 - Dollar increases in property taxes under the status quo scenario for average commercial**

	2014	2015	2016	2017
Property Taxes (Assuming a 2013 Assessed value - \$185,000)	\$8,529	\$8,963	\$9,421	\$9,901
I) Under the City Council Control:				
Municipal tax rate change (1.9% annual increase)	\$162	\$170	\$179	\$188
II) Under Provincial Control – MPAC Assessment:				
Increased assessed property value (3.2% annual increase)	\$273	\$287	\$301	\$317
2014 Property Taxes	\$8,963	\$9,421	\$9,901	\$10,406
<b>Total increase in property taxes</b>	<b>\$435</b>	<b>\$457</b>	<b>\$480</b>	<b>\$505</b>

**Table 18 - Dollar increases in property taxes under the infrastructure wish list scenario for average commercial**

	2014	2015	2016	2017
Property Taxes (Assuming a 2013 Assessed value - \$185,000)	\$8,529	\$9,049	\$9,601	\$10,186
I) Under the City Council Control:				
Municipal tax rate change (2.9% annual increase)	\$247	\$262	\$278	\$295
II) Under Provincial Control – MPAC Assessment:				
Increased assessed property value (3.2% annual increase)	\$273	\$290	\$307	\$326
2014 Property Taxes	\$9,049	\$9,601	\$10,186	\$10,808
<b>Total increase in property taxes</b>	<b>\$520</b>	<b>\$552</b>	<b>\$586</b>	<b>\$621</b>

Table 17 and Table 18 reveal the significant increases in business operating costs as a result of the property tax increases. For example, the average business will experience annual increases in their property taxes of approximately \$435 to \$621.

Table 19 present the tax increases for various commercial property values based on the status quo methodology. This analysis is conducted since there are many commercial properties that are valued at a much greater amount than the average of \$185,000. For example, Table 19 reveals that property taxes may increase annually by \$940 to \$1,092 for a business with a property worth \$400,000 for a total property tax increase of \$4,059 over four year period.

**Table 19 – Property tax increases for various commercial property values**

Property Value	Annual Tax Increase				4-Year Total
	2014	2015	2016	2017	
\$185,000	\$435	\$457	\$480	\$505	\$1,877
\$200,000	\$470	\$494	\$519	\$546	\$2,030
\$400,000	\$940	\$988	\$1,039	\$1,092	\$4,059
\$600,000	\$1,411	\$1,483	\$1,558	\$1,638	\$6,089
\$800,000	\$1,881	\$1,977	\$2,078	\$2,184	\$8,119
\$1,000,000	\$2,351	\$2,471	\$2,597	\$2,729	\$10,149

#### 4.7 – SUMMARY AND CONCLUSIONS

It is important to note that forecasts and any future oriented-information is subject to forecasting risks. Rarely do actual results exactly match the forecasted expectation. However, the purpose of this forecast is not to determine the exact tax rate for any particular property class, but to provide a general idea of the direction of property taxes for residential, commercial and industrial property classes. The results reveal that property taxes are certainly on the rise – the increase is due to the combined effect of increasing assessed property values (outside of the control of Council) and increasing tax rates (within the control of Council).

The increasing trend is concerning for residents and businesses alike considering that Thunder Bay already has some of the highest property tax rates in the province and business sentiment is already negative towards the current property tax levels. Certainly, the forecasted increase (either under the status-quo or infrastructure wish list scenarios) in tax rates will not be well received by residents and businesses in the City. The City can look for alternative sources of revenue or reduce expenditures (as discussed, many of the City’s operating costs are above the Provincial average) in order to maintain the operating surplus and finance the infrastructure spending. However, this may be difficult as trends in municipal finance over the last 16 years show that municipal spending has been increasing steadily but that the revenue-raising tools available to municipal governments have not changed (Slack, 2006).

In regards to the dollar impact of the tax rate and assessment value increases, the average residential property owner can expect their property taxes to increase by approximately \$210 to \$260 if the City continues with the status quo, and tax increases of approximately \$230 to \$300 if 30% of the City’s infrastructure wish list is financed through increases in property taxes. The average commercial property owner can expect their property taxes to increase by approximately \$435 to \$505 if the City continues with the status quo, and tax increases of approximately \$520 to \$620 if 30% of the City’s infrastructure wish list is financed through increases in property taxes.

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## APPENDIX I - CPS METHODOLOGY

The Composite Performance Score (CPS) is a composite measure of the BMA Report (2012) metrics. The CPS methodology is summarized as follows:

- Each BMA metric was attempted to be converted into a ranking score from highest to lowest, whereby 1 is the best city score and 9 is the worst city score;
- The metric was not included in the analysis if data was not available for all cities in the analysis. For example, there were some metrics where the data was not available for the City of Thunder Bay or its comparator cities. These metrics were omitted;
- All of the metrics in the analysis were un-weighted (i.e., all have an equal weight in the aggregate CPS);
- The CPS score is calculated based on each city's average ranking (sum of all metric rankings divided by the total number of metrics in the analysis);
- The CPS results are presented across different tiers as opposed to the individual ranking of each city. The tiers group the nine cities into three categories. The purpose of tiers is to account for any estimation errors or data collection errors in the BMA Report;
- The same approach to the aggregate CPS is employed at the category level in order to determine each city's ranking across the five categories.

## APPENDIX II - FORECAST METHODOLOGY AND ASSUMPTIONS

The following assumptions underlie the forecast of the status-quo scenario:

- All revenue sources, with the exception of two line items listed below, are expected to increase annually by their 2002 to 2012 CAGRs, which are summarized as follows:

Taxation, net	4.0%
Fees and service charges	4.5%
Federal and Provincial of Grants	0.1%
Other	15%
Telephone	8.7%
Thunder Bay Hydro	8.6%

- The investment income is forecasted to equal its arithmetic average from 2002 to 2012;
- The contribution of capital assets revenue is expected to equal its 2012 balance;
- All expenses, with the exception of two line items listed below, are expected to increase annually by their 2002 to 2012 CAGRs, which are summarized as follows:

General government	6.6%
Protection services	6.0%
Transportation services	4.5%
Environmental services	4.5%
Recreation and cultural services	4.5%
Planning and development	8.7%
Telephone	8.6%

- The health services and social and family services expenditures are expected to remain at their 2012 levels across the forecast period.
- The mix of taxation revenue across the property classes is expected to remain consistent across the forecast period.
- Tax rate increases are estimated based on the implied tax rate (taxes by class divided by CVA by class) and extrapolated to the actual tax rates by class.

In regards to the infrastructure wish list scenario, the following assumptions differ from the status quo scenario:

- Infrastructure spending is expected to increase by \$137 million over the five year forecast period or \$27.4 million annually.
- The operating surplus ratio is expected to remain constant to the status quo scenario.
- The infrastructure spending is assumed to be financed 30% (50%) through increases in property taxes.