

FINANCE COMMITTEE AGENDA

to be held on
Wednesday, March 3, 2004
at
5:30 p.m.

**Councillor
Ted Callaghan
Chair**



**Councillor
Eldon Gainer
Vice-Chair**



 **Greater | Grand
Sudbury**TM
www.greatersudbury.ca



Finance Committee AGENDA

***FOURTH MEETING OF THE FINANCE COMMITTEE
TO BE HELD ON WEDNESDAY, MARCH 3, 2004 AT 5:30 P.M.
IN THE COUNCIL CHAMBER, TOM DAVIES SQUARE***

(DINNER WILL BE SERVED AT 5:00 P.M. IN THE COUNCILLORS' LOUNGE)

(PLEASE ENSURE CELL PHONES AND PAGERS ARE TURNED OFF)

The Council Chamber of Tom Davies Square is wheelchair accessible. Please speak to the City Clerk prior to the meeting if you require a hearing amplification device. Persons requiring assistance are requested to contact the City Clerk's Office at least 24 hours in advance of the meeting if special arrangements are required. Please call (705) 671-2489, extension 2475. Telecommunications Device for the Deaf (TTY) (705) 688-3919. Copies of Agendas can be viewed on the City's web site at www.greatersudbury.ca.

COUNCILLOR CALLAGHAN, CHAIR

1. Declarations of Pecuniary Interest

2. Presentation from Oracle Survey regarding 2004 Citizen and Business Survey.
(ELECTRONIC PRESENTATION)

- Mr. Paul Seccaspina, President & CEO, Oraclepoll Research Limited
- Dr. Robert Sinclair, Ph.D., Oraclepoll Research Limited

[COMMITTEE MEMBERS ARE REQUIRED TO BRING THEIR COPY OF THE BOUND REPORT (2004 CITIZEN AND BUSINESS SURVEY) WHICH WAS PREVIOUSLY DISTRIBUTED UNDER SEPARATE COVER.]

CORRESPONDENCE - INFORMATION ONLY

3. Report dated 2004-02-27 from the Chief Administrative Officer regarding Budget 2004 - Council Survey - Budget Issues and Priorities. 1 - 5
(FOR INFORMATION ONLY)

(As part of the 2004 budget process, a survey of individual Councillors was undertaken to assist Council in defining priorities prior to beginning the review of the operating and capital budgets. The Council Survey is intended to complement the OraclePoll Community Survey and the twelve public meetings that have taken place as part of the budget process.

The results were compiled and summarized to reflect the various comments from Councillors. A total of 12 Councillors replied to the survey. The comments were grouped into themes and are presented here not in order of priority. The summary reflects all the comments, not the number of Councillors making the same comment.)

4. Report dated 2004-02-27 from the Chief Administrative Officer regarding Budget 2004 - Council Survey - Budget Options. 6 - 9
(FOR INFORMATION ONLY)

(As part of the 2004 budget process, a survey of individual Councillors was undertaken to assist Council in defining priorities prior to beginning the review of the operating and capital budgets. The Council Survey is intended to complement the OraclePoll Community Survey and the twelve public meetings that have taken place as part of the budget process.

The results were compiled and summarized to reflect the various comments from Councillors. A total of 12 Councillors replied to the survey. The comments were grouped into themes and are presented here not in order of priority. The summary reflects all the comments, not the number of Councillors making the same comment.)

5. Report dated 2004-02-27 from the General Manager of Corporate Services regarding the Current Budget - 2004 Public Input Session 2 Wards 1-4. 10 - 12
(FOR INFORMATION ONLY)

(At the second round of public consultation, Council obtained comments relating to the budget document and direction on four specific questions. This report provides a preliminary summary of both the input regarding the four questions and the specific suggestions received.)

6. Report dated 2004-02-06 from the General Manager of Economic Development & Planning Services regarding Estimating the Economic Impact of Public Infrastructure Expenditures: Roads Improvements. 13 - 19
(FOR INFORMATION ONLY)

(At the Finance Committee meeting of 2004-01-24, Councillor Gasparini requested that the General Manager of Economic Development & Planning Services provide this report.)

MANAGERS' REPORTS

7. Debate - Setting of Council Priorities 2004.

RECOMMENDATION:

(A recommendation to follow debate.)

2004 BUDGET REVIEW

8. The Director of Finance will review the Budget process, contents of the Budget document and the voting process.
- ▶ Sandra Jonasson, Director of Finance/City Treasurer
9. The Chair of the Finance Committee will review the Base Budget commencing on Page 1 of the 2004 Budget document.
- ▶ Councillor Ted Callaghan, Chair, Finance Committee

ADJOURNMENT (10:00 P.M.)

(RESOLUTION PREPARED)

NEXT FINANCE COMMITTEE MEETING

DATE: MONDAY, MARCH 8, 2004
TIME: 5:30 P.M.
PLACE: COUNCIL CHAMBER

2004-02-27

COUNCILLOR TED CALLAGHAN
CHAIR, 2004 FINANCE COMMITTEE

CORRIE-JO CAPORALE
COUNCIL SECRETARY

Correspondence For Information Only

Request for Recommendation Finance Committee



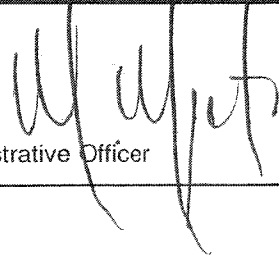
Type of Decision									
Meeting Date	March 3, 2004				Report Date	February 27, 2004			
Decision Requested		Yes	<input checked="" type="checkbox"/>	No	Priority	<input checked="" type="checkbox"/>	High		Low
	Direction Only				Type of Meeting	<input checked="" type="checkbox"/>	Open		Closed

Report Title
BUDGET 2004 - COUNCIL SURVEY - BUDGET ISSUES AND PRIORITIES

Policy Implication + Budget Impact	
	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified.
	Background Attached

Recommendation	
FOR INFORMATION ONLY	
Summary of results for questions 1 and 2:	
Q1. What are the three most important budget issues that we face?	
Q2. What are the three most important results/outcomes that the Corporation should focus on in 2004 (e.g. imagine you are reporting to your constituents in January 2005 on what the City accomplished in 2004)?	
	Recommendation Continued

Recommended by the General Manager
N/A
Name and Title

Recommended by the C.A.O.
 Mark Miato Chief Administrative Officer

Date: February 27, 2004

Report Prepared By

Carlos Salazar
Manager Corporate Strategy and Policy

Division Review

N/A

Name
and Title

As part of the 2004 budget process, a survey of individual Councillors was undertaken to assist Council in defining priorities prior to beginning the review of the operating and capital budgets. The Council Survey is intended to complement the OraclePoll Community Survey and the twelve public meetings that have taken place as part of the budget process.

The results were compiled and summarized to reflect the various comments from Councillors. A total of 12 Councillors replied to the survey. The comments were grouped into themes and are presented here not in order of priority. The summary reflects all the comments, not the number of Councillors making the same comment.

The questions in the Council Survey were:

- Q1. What are the three most important budget issues that we face?
- Q2. What are the three most important results/outcomes that the Corporation should focus on in 2004 (e.g. imagine you are reporting to your constituents in January 2005 on what the City accomplished in 2004)?
- Q3. What specific budget options would you as a Councillor like to suggest for the 2004 Budget (e.g. options for user fees, reductions, efficiencies, capital)?

The following summary deals only with Councillors' answers to questions one and two. Questions one and two were designed to identify Council's expected results/priorities for the year. Answers to question three is dealt with in a separate report to assist Council in selecting budget options.

Date: February 27, 2004

BUDGET ISSUES

Q1. What are the three most important budget issues that we face?

CITY INFRASTRUCTURE

- Aging rapidly
- Repair from savings - do not borrow

CITY FINANCES

- Escalating operating budget
- Borrowing - clearly identify the need, purpose (e.g. roads), and amount
- Efficiencies - need for employee involvement and for demonstrating results
- Budget must reflect community needs
- Reduce tax increase - keep tax increase reasonable 5-8%
- Get more from the Federal and Provincial Governments (e.g. downloaded services)
- Lack of assessment growth - Assess the Economic Development Department initiatives
- Provide excellence in service delivery without more cuts to service levels
- Distribute Capital Budget fairly among all the wards - all wards have similar number of residents
- Council needs to identify core services and put a plan in place to support them

COMMUNITY FACILITIES

- Reopen closed leisure facilities

GENERAL ISSUES

- Employee morale - employees need to be part of the team
- An attrition program and Continuous Improvement Program - CIP- that citizens can appreciate and understand
- Inability of staff in finding options to impact positively our quality of life
- Need for options that do not cut at the grassroots - they should be at the top
- Accountability for budget variances
- Council's inability to take ownership of the budget process (e.g. time, presentation format)

Date: February 27, 2004

PRIORITIES

Q2. What are the three most important results/outcomes that the Corporation should focus on in 2004 (e.g. imagine you are reporting to your constituents in January 2005 on what the City accomplished in 2004)?

INFRASTRUCTURE

- Rebuild our roads - design and embark on a long- term plan for road improvements without debt
 - well-managed plan for summer/fall road construction that does not disrupt businesses and normal flow of traffic, that is of the highest quality, using the best materials for a longer life
- Improve the quality of infrastructure

FINANCIAL

- Cut budget by reducing consultants and contracting out, city vehicles, employee numbers (by attrition only)
- Contain operating costs to inflation rate
- Have a proven track record of finding internal efficiencies i.e. here are three ways that we are doing things differently and how much money we are saving
- Have raised taxes but are able to show improvements in service delivery
- Reduce the operation without reducing services
- Utilize attrition to reduce costs
- Keep the tax increase lower than what was predicted
- Start the 2005 Budget as soon the 2004 Budget is finalized
- No more area rating - One City, One Budget, One Citizen - treat all citizens equally

COMMUNITY'S FUTURE/ ECONOMIC DEVELOPMENT

- Confidence that we can create economic opportunities once the infrastructure and quality of life objectives are reached using a combination of cost efficiencies and a dedicated road renewal levy
- Economic development in ward 2 - job creation
- Improvement in local economy, e.g. mining cluster designation, well-paying, long-term jobs
- Establish national mining centre for research and innovation
- Focus on assessment growth
- Eco-industrial park development
- Solutions to the congestion on Lasalle/Notre Dame and Barrydowne, and to the safety issues in McCrea Heights

Date: February 27, 2004

COMMUNITY SERVICES

- Transit service for Dowling, Onaping, and Levack
- The re-opening of recreational facilities OR the announcement of the construction of a new multi-plex facility

Request for Recommendation Finance Committee



Type of Decision									
Meeting Date	March 3, 2004				Report Date	February 27, 2004			
Decision Requested		Yes	<input checked="" type="checkbox"/>	No	Priority	<input checked="" type="checkbox"/>	High		Low
	Direction Only				Type of Meeting	<input checked="" type="checkbox"/>	Open		Closed

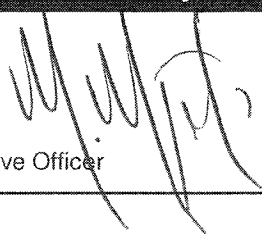
Report Title

BUDGET 2004 - COUNCIL SURVEY - BUDGET OPTIONS

Policy Implication + Budget Impact	
<input type="checkbox"/>	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified.
<input type="checkbox"/>	Background Attached

Recommendation	
<p align="center">FOR INFORMATION ONLY</p> <p>Summary of results for question 3:</p> <p>Q3. What specific budget options would you as a Councillor like to suggest for the 2004 Budget (e.g. options for user fees, reductions, efficiencies, capital)?</p>	
<input type="checkbox"/>	Recommendation Continued

Recommended by the General Manager
N/A
Name and Title

Recommended by the C.A.O.
 Mark Mieto Chief Administrative Officer

Date: February 27, 2004

Report Prepared By

Carlos Salazar
Manager Corporate Strategy and Policy Analysis

Division Review

N/A

Name
and Title

As part of the 2004 budget process, a survey of individual councillors was undertaken to assist Council in defining priorities prior to beginning the review of the operating and capital budgets. The Council Survey is intended to complement the OraclePoll Community Survey and the twelve public meetings that have taken place as part of the budget process.

The results were compiled and summarized to reflect the various comments from Councillors. A total of 12 Councillors replied to the survey. The comments were grouped into themes and are presented here not in order of priority. The summary reflects all the comments, not the number of Councillors making the same comment.

The questions in the Council Survey were:

- Q1. What are the three most important budget issues that we face?
- Q2. What are the three most important results/outcomes that the Corporation should focus on in 2004 (e.g. imagine you are reporting to your constituents in January 2005 on what the City accomplished in 2004)?
- Q3. What specific budget options would you as a Councillor like to suggest for the 2004 Budget (e.g. options for user fees, reductions, efficiencies, capital)?

The following summary deals only with Councillors' answers to question three. Questions one and two are dealt with in a separate report to assist Council in defining priorities.

Date: February 27, 2004

BUDGET OPTIONS

Q3. What specific budget options would you as a Councillor like to suggest for the 2004 Budget (e.g. options for user fees, reductions, efficiencies, capital)?

REDUCTIONS/EFFICIENCIES

- Decrease supplies budget by at least 10%
- Hire consultants only with the approval of Council - review use of consultants for past three years and develop policy
- Reduce legal department use of outside consultants by 25% - All legal work for HR labour relations to be done in-house
- Reduce legal fees for consultants from \$1.6 million to \$600,000. Find better ways to interact with our union
- Reduce 10% of the operating budget through efficiencies (no layoffs) - put savings to capital
- Staffing at management levels
- Examine the use of staff time through participation at meetings - many high-paid staff attend the same meetings
- Freeze hiring immediately
 - managed attrition program with retirement incentives
 - no more bodies - explore out-sourcing
- Overspending of any budget to require approval of Council
- Reduce top management
- Conduct a ' declining order of value" assessment of city operations
- Rock tunnel construction to stop at Algonquin Rd. (no report on savings to date from PW)
- Convergence of utilities
- Grow our assessment base through a creative and imaginative plan for sale of surplus properties
Goal \$1 million in 2004
- Reduction of overtime hours through better scheduling (particularly Leisure Services and Corporate Services
- A Planned Maintenance Program (i.e. preventative maintenance)
- Collect fines and back taxes. Do not hire these positions, but contract out to a new local company
- Partner with community groups to create new synergies, cost-savings, and more productivity instead of competing with them i.e. Mayor's Roundtable for Seniors vs. Senior Friendly Sudbury GSDC vs. New Economy Sudbury
- Strategic use of OMEIFA funds
- New Deal for Northern Ontario

USER FEES

- Equitable user fees
- Maximum user fee increase 5%
- No increase in user fees

Date: February 27, 2004

IMPROVEMENTS

- A 2 % - 5% road renewal levy for the term of Council
- An additional \$4.5 million **strictly** for road construction
 - 2.5M from operating savings (cut operations budget increase by half)
 - \$2 million from reserves
- Concentrate 75% of the capital budget on roads - no more capital envelopes
- Set aside \$300,000 for a comprehensive employee training plan - multitasking teams
- Design a rebate program for low-income seniors (and others) to protect them from the tax increase
- Develop a plan to reopen some recreational facilities (Adanac, Falconbridge & Dow Pool) through reserve funds and the use of community groups to govern/fundraise and marketing
- Improve residential roads
- Reduce to \$ 6.00 the bus fares for seniors and students from Levack to Chelmsford
- Build turning lane in front First Baptist Church in Garson
- Eliminate tipping fees completely for citizens bringing household garbage to landfill sites
- Provide sewer/water services to Falconbridge Highway (10 homes) across road from Cedar Green
- Traffic lights and turning lanes to solve the safety issues at McCrea Heights
- Initiate analysis of transportation alternatives (e.g. Barrydowne Road and Maley Drive extensions) to the congestion of Barrydowne, Lasalle Boulevard and Notre Dame Avenue

Request for Recommendation Finance Committee




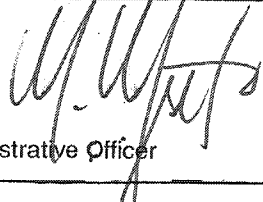
Type of Decision									
Meeting Date	March 3, 2004				Report Date	February 27, 2004			
Decision Requested		Yes	<input checked="" type="checkbox"/>	No	Priority	<input checked="" type="checkbox"/>	High		Low
	Direction Only				Type of Meeting	<input checked="" type="checkbox"/>	Open		Closed

Report Title
Current Budget - 2004 Public Input Session 2 Wards 1 - 4


Policy Implication + Budget Impact	
<input checked="" type="checkbox"/>	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified.
<input checked="" type="checkbox"/>	Background Attached


Recommendation
For Information only.
Recommendation Continued

Recommended by the General Manager
 D. Wuksrad General Manager of Corporate Services

Recommended by the C.A.O.
 Mark Mieto Chief Administrative Officer

Date: February 27, 2004

Report Prepared By
 E. Stankiewicz Co-ordinator of Current Budget

Division Review
 S. Jonasson Director of Finance/City Treasurer

BACKGROUND

The intention of the second round of public consultation was to obtain comments relating to the budget document and direction on four specific questions. This report provides a preliminary summary of both the input regarding the four questions and the specific suggestions received. Workbooks which contained a list of all the options that would be reviewed by Council during budget deliberations were provided to all participants.

As of Monday, February 23, 2004 Wards 1 through 4 meetings have been held and all have been very well attended with an average of approximately 80 members of the public at each meeting.

The round table discussions revolved around four questions:

1. What level of municipal service do you expect? Should any services be reduced or eliminated?
2. Should those who use a service pay for the service (user fees) and/or should everyone share in the cost (taxes)?
3. What services would you like to see improved or added?
4. Should the City borrow money and/or implement a special levy to fix roads, repair arenas, replace fire trucks, maintain police communications, etc?

The comments for all tables were recorded and are identified in the minutes from each ward meeting. These minutes have previously been circulated to Council.

After comments were made from the tables relating to the four specific questions, the groups were asked to rank the priorities. The following chart reflects the results of the rankings:

	Ward						
	1	2	3	4	5	6	
Services should be improved or added.	23	31	31	54			139
City Taxes should be increased to maintain services.	31	28	33	47			139
Those who use a service should pay for the service.	16	29	31	35			111
The City should borrow money and/or implement a special levy to fix roads, etc.	27	26	30	26			109
Services should be eliminated or reduced.	8	21	20	15			64

This chart will be updated after the Wards 5 and 6 public meetings for the Wednesday March 3, 2004 Budget meeting.

Date: February 27, 2004

Specific Suggestions Emanating From the Public Input Sessions

This list is made up of specific new suggestions that were not identified in the first round of public input sessions and where no current option exists.

They are as follows in no specific order:

- Recreation user fees to be increased in increments
- Blue box collection every second week
- Garbage collection every second week in winter
- Use volunteers more effectively
- Promote Sudbury as a retirement community
- Harmonize service levels throughout the City
- Increased policing especially in the outlining area
- Privatize facilities
- Convert Pioneer Manor to a not for profit long term care facility
- Build additional mausoleums to generate more revenue
- Introduce photo radar to generate revenue
- Approach MTO for funding of Highway 144 and adding walkways
- Introduce a by-law to have property owners maintain their sidewalks in front of their home during the winter
- Do not provide winter maintenance services to seasonal roads
- Provide funding for a trail system at High Falls and for the Tom Morley Mine project
- Increase library hours

In summary, this list reflects the new issues addressed by the public in Wards 1 through 4. On Wednesday, March 3, 2004 Finance Committee will receive an updated list and rank tally sheet which will include Wards 5 and 6.

Request for Recommendation Finance Committee




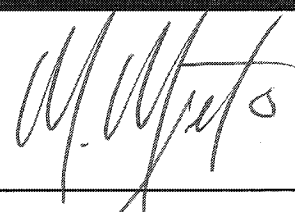
Type of Decision									
Meeting Date	March 3, 2004				Report Date	February 6, 2004			
Decision Requested		Yes	<input checked="" type="checkbox"/>	No	Priority		High		Low
	Direction Only				Type of Meeting		Open		Closed

Report Title
Estimating the Economic Impact of Public Infrastructure Expenditures: Road Improvements

Policy Implication + Budget Impact
<p>This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified.</p> <p>Not applicable.</p>
Background Attached

Recommendation
For information only.
Recommendation Continued

Recommended by the General Manager
 Doug Nadorozny General Manager, Economic Development and Planning

Recommended by the C.A.O.
 Mark Mieta C.A.O.

Date: February 6, 2004

Report Prepared By

Mauro Manzon
Senior Planning Technician

Division Review

Name
and Title

Executive Summary:

Based on Statistics Canada data, more than half of Canada's public capital stock is owned by municipalities, compared to 40.8% for provincial governments and 6.8% for the federal government. Roads and highways represent 69% of provincial infrastructure capital, compared to 50% for local governments.

Expenditures on public infrastructure such as roads and highways have a significant economic impact on the local economy which can be measured in three components: a) direct impact of the initial expenditure and the indirect spending that occurs; b) an expansionary process created through the induced (multiplier) effects; and, c) extended cost-savings to the business sector.

The direct effect can be measured by the amount of annual expenditures on road improvements. Assuming that the work is contracted out locally, the total annual expenditure for road improvements represents a 100% input into the local economy. Contracted firms hire employees and purchase raw materials from other firms (indirect effect). The additional spending by these companies and their employees results in a type of expansionary process that is referred to as the induced (multiplier) effect. For the purpose of this exercise, a multiplier is constructed using local income and taxation data. Using 2004 expenditures on road improvements as the comparative base, it is estimated that an annual expenditure of \$4.6 million has a total economic impact of over \$5.68 million and can create up to 108 person-years of employment.

It has also been demonstrated that investment in public infrastructure, including roads and highways, provides direct cost-savings to the business sector. Based on a recent Statistics Canada study, it was found that for every \$1 increase in net capital stock, there are 17 cents in cost-savings extended to the business sector as a whole. The amount of cost-savings varied by sector, with those industries that utilize public infrastructure more intensively benefitting the most.

Based on Statistics Canada data, more than half of Canada's public capital stock is owned by municipalities, compared to 40.8% for provincial governments and 6.8% for the federal government. Roads and highways represent 69% of provincial infrastructure capital, compared to 50% for local governments. Sewer facilities are the second largest asset type for municipalities, representing almost one-third of the total value of municipal capital infrastructure. Given the extent and value of public capital stock, expenditures on infrastructure represent significant direct and indirect impacts on local economies. It can be shown that improvements to public infrastructure capital also extend beneficial cost-savings to the business sector.

Road Improvement Program

The City currently has a schedule of Roads & Drainage Capital Budget Projects for years 2004 through 2006. The expenditure level for road improvements is fairly consistent over the next three years, representing 45% of the total roads and drainage capital projects budget:

Date: February 6, 2004

Source: Public Works Division, City of Greater Sudbury. Other expenditures include structures such as bridges, storm drainage improvements, sidewalks, new streetlights and other miscellaneous road and drainage improvements.

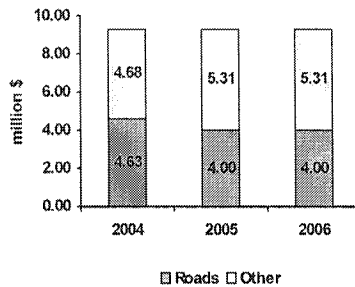
Capital projects subject to budget approval.

The City's Long Term Financial Plan (Hemson Consulting Limited 2002) provides an estimate of the scope of infrastructure investment required over the next ten years. The ten-year net tax-supported capital requirement for road reconstruction and resurfacing is estimated at \$23 million per year. This represents a ten-year total of \$230 million in required road improvements.

Economic Impact Analysis

The purpose of this analysis is to estimate the economic impact of the road improvement program in Greater Sudbury. The total economic impact can be broken down into three components:

- a. Direct impact of the initial expenditure and the indirect spending that occurs;
- b. An expansionary process created through the induced (multiplier) effects; and,
- c. Extended cost savings to the business sector.



a. Direct and Indirect Effects

The direct effect is estimated as the proportion of the City's capital projects budget that is spent locally in the form of expenditures for road improvements. Firstly, the analysis must consider that some local firms import materials, products and services from outside the region and that the gross amount of capital expenditures will possibly over-estimate the true local value-added component. A second difficulty arises in determining the actual percentage of the capital budget that is spent locally. Capital project expenditures are not itemized on a locational basis. To determine the most accurate estimate, a detailed survey of spending would have to be conducted. Time and resources prevent such a complex audit. Based on input supplied by the Public Works Department, however, it was indicated that almost all road improvement work is contracted locally. Therefore, this analysis assumes that the total annual expenditure for road improvements represents a 100% input into the local economy.

For the purpose of this analysis, 2004 expenditures on road improvements serve as the comparative base:

Total direct income effect: \$4,625,000

Based on the 2001 Census, the average annual labour cost for Greater Sudbury CMA is \$31,084. Assuming that approximately half of the expenditures are allocated to labour, the direct employment effect created through annual expenditures on roads is:

Date: February 6, 2004

$$\text{Total direct employment effect: } (\$4,625,000 * .50) / \$31,084 = \underline{74 \text{ person-years of employment}}$$

It is important to note that expenditure on raw materials also creates income and employment for the local firms supplying these inputs into the road construction process (indirect effect). It is difficult to estimate, however, the proportion of the budget allocated to materials as well as the propensity to import these inputs. Therefore, the above figure likely underestimates the employment effect of the initial expenditure.

b. Induced (Multiplier) Effects

The induced or multiplier effect is based on the concept that every dollar of expenditure injected into the local economy represents income for other individuals or firms who in turn spend and hire within the community. The result is a type of expansionary process that involves several rounds of expenditure until a convergence is reached. The actual size of the multiplier is directly related to the various leakages that occur, such as direct taxation (federal and provincial income taxes), indirect taxation (sales taxes), consumption and savings patterns, and the importation of goods and services.

Multipliers are often subject to optimistic assumptions that tend to inflate the economic impact of expenditures on the local economy. As such, it is necessary to provide a conservative estimate that reflects the reality of our Northern economy. Alternatively, one could provide a range of impact estimates by adjusting different parameters.

The income multiplier k is represented by the following equation:

$$k = 1 / [1 - (1 - t)(c - m)]$$

where

t = the tax rate

c = the marginal propensity to consume as disposable income increases or decreases

m = the marginal propensity to import

For the purpose of this exercise, the marginal rates of direct and indirect taxation are simplified as a single tax rate that is calculated using income and taxation data. For the derivation of the multiplier, please refer to the Appendix.

Results:

This analysis uses a fairly conservative multiplier of **1.229** based on the assumption that Greater Sudbury has a high propensity to import goods and services i.e., a high value for the m coefficient. It is consistent with multipliers developed by Davis (1986) for the Province of British Columbia that range from **1.19** for Northern British Columbia to **1.49** for the Lower BC Mainland.

Using the estimate of the direct income effect developed in the previous section, estimates of the induced effects can be made using the income multiplier (k) = 1.229:

$$\text{Total induced income effect: } \$4,625,000 * 0.229 = \underline{\$1,059,125}$$

$$\text{Total induced employment effect: } \$1,059,125 / \$31,084 = \underline{34 \text{ person-years of employment}}$$

The following table summarizes the total direct and induced (multiplier) effects of annual road improvement expenditures based on the 2004 schedule of capital projects:

Type of Effect	Income (\$)	Person-Years of Employment
Direct	Mining 0.08	74
	Construction 0.20	
	Transportation 0.42	
	Retail 0.34	
	All business sectors 0.17	
	4,625,000	
Induced	1,059,125	34
Total direct and induced effects	5,684,125	108

C. Extended Cost Savings

Investments in public capital stock, including roads and highways, represent direct benefits to the business sector in the form of cost-savings. A recently published study by Statistics Canada concludes that investments in publicly-owned infrastructure have a measurable impact on the productivity and economic performance of the Canadian business sector.

In the analysis conducted by Harchaoui and Tarkhani (2003), the marginal benefit of public capital is quantified as the private cost reduction associated with the use of an additional unit of public capital. Expenditures on roads, which are viewed as investments, represent a direct increase in gross capital stock. Net capital stock is defined as gross capital stock less depreciation.

The study found that within the business sector as a whole, *each \$1 dollar increase in net capital stock generates on average about 17 cents of cost-savings per year.* Those industries that utilize public infrastructure more intensively benefitted the most, particularly the transportation sector:

Source: Harchaoui, Tarkhani and Warren 2003

Based on 2004 road expenditures of \$4.6 million, it is estimated that these investments could produce up to \$786,250 in cost-savings to the business sector.

Summary

This three-part analysis represents a quick overview of the economic impact of expenditures on public infrastructure. Beyond the direct and induced income effects that these expenditures generate within the local economy, it has also been demonstrated that these investments represent direct cost-savings to the business sector. The infrastructure-funding gap that has evolved in recent years suggests that the competitiveness of the Canadian business sector has been negatively impacted by an overall decline in public capital investment that has occurred at all levels of government.

References

Davis, H. Craig (1986) "Income and employment multipliers for seven British Columbia Regions." Canadian Journal of Regional Science 9, 103-115.

Harchaoui, T.M. and F. Tarkhani (2003) Public Capital and Its Contribution to the Productivity

Date: February 6, 2004

Performance of the Canadian Business Sector; Economic Analysis Paper Series 11F0027MIE2003017
(Ottawa: Statistics Canada, Analytical Studies Branch)

Harchaoui, T.M., F. Tarkhani and P. Warren (2003) Public Infrastructure in Canada: Where do we stand?
Economic Analysis Paper Series 11-624-MIE2003005 (Ottawa: Statistics Canada, Analytical Studies Branch)

Hemson Consulting Limited (2002) Long Term Financial Plan: Final Report & Recommendations
(Toronto: Hemson Consulting Ltd.)

Steele, D.B. (1972) "A numbers game or the return of regional multipliers." Regional Studies 6, 115-130

Appendix:

Derivation of the Income Multiplier

a. Marginal Propensity to Consume

The marginal propensity to consume (c) is derived by calculating average household expenditures (less taxes) as a proportion of average household disposable income.

Average household expenditures excluding taxes:	40,108
Average household disposable income:	45,451
Marginal Propensity to Consume (c):	0.88

b. Tax rate

For the purpose of this exercise, the marginal rates of direct and indirect taxation are simplified as a single tax rate that is calculated using income and taxation data. Disposable income Y_d is that income left after income taxes are paid at rate t:

$$Y_d = Y - Yt \text{ where}$$

Y_d = average household disposable income
 Y = average household income
 t = tax rate

Solve for t:

$$Y_d = Y - Yt$$

$$45,451 = 56,188 - 56,188 (t)$$

$$56,188 (t) = 56,188 - 45,451$$

$$t = 10,737 / 56,188$$

$$t = 0.19$$

Tax rate:	0.19
-----------	-------------

Date: February 6, 2004

c. Marginal propensity to import

The marginal propensity to import is perhaps the most difficult parameter to estimate. Given the difficulty and expense of estimating this parameter, there is justification for using borrowed coefficients if possible. In a study on British regions, Steele (1972) estimated coefficients of $m = 0.65$ for a region and $m = 0.90$ for an urban area. Davis's (1986) work on regional multipliers for British Columbia yielded coefficients that ranged from $m = 0.35$ (Lower Mainland) to $m = 0.80$ (Northern B.C.).

Given the degree of leakages that occur in the form of import substitution in Greater Sudbury CMA, it is necessary to use a conservative estimate of the marginal propensity to import. For the purposes of

developing a multiplier, a value of $m = 0.65$ is utilized following the examples of Steele (1972) and Davis (1986).

d. Calculate the income expenditure multiplier

The income multiplier is inversely dependent on leakage rates i.e., the tax rate (t), and the marginal propensities to import (m) and to save ($1 - c$). The multiplier (k) is represented by the following equation:

$$\begin{aligned} &= 1 / [1 - (1 - t)(c - m)] \\ &= 1 / [1 - (1 - .19)(.88 - .65)] \\ &= 1 / [1 - 0.1863] \\ &= 1.229 \end{aligned}$$

Therefore the income multiplier is estimated at $k = 1.229$

Note: Income and taxation data are sourced from *FP Markets Canadian Demographics*, 2003 edition.

Prepared by the Community & Strategic Planning Section, City of Greater Sudbury.
February 6, 2004