MMK CONSULTING

CONSUMPTION OF TAX-SUPPORTED MUNICIPAL SERVICES IN THE DISTRICT OF NORTH VANCOUVER FOR THE 2003 TAX YEAR

Prepared for:

North Shore Waterfront Industrial Association

Prepared by:

MMK Consulting Inc.
Stuart MacKay
James Pammenter

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Contents

1. Summary

1.1. Study objectives and scope

The objective of this study is to compare the property taxes and grants in lieu of taxes ("GIL") paid for different property classes in the District of North Vancouver ("the District"), relative to the consumption of tax-supported services by each of these property classes. The study distinguishes among the residential, business and industrial property classes.

This assignment was commissioned by the North Shore Waterfront Industrial Association ("the NSWIA"), and was performed by MMK Consulting. The NSWIA represents all the major industry and many of the light industry taxpayers in the District and City of North Vancouver ("the City"). The scope of the study covers all services provided by the District that are supported by property taxes. This report is a companion document to a parallel analysis of tax consumption patterns in the City.

In submitting this report, MMK Consulting would like to thank the District for its assistance in providing the information underlying this analysis. All analyses and conclusions are those of MMK Consulting.

1.2. Background – Trends in property tax rates

From 1984 British Columbia municipalities were authorized to charge differential tax rates in respect of different property classes. Since then the industrial group's share of taxes has increased by 37% while its share of total assessed values dropped 70%. In 2003 fewer than one percent of property owners paid over 12 cents of every tax dollar levied by the District, as the following data illustrates:

		1984 % of Total		2003 % of Total		
Property Class		Value	Taxes	Value	Taxes	Properties
	Non-business group					
1	Residential	84.4	78.8	91.8	70.9	92.04
8	Recreational/non-profit	0.1	0.1	0.2	0.2	2.73
		84.5	78.9	92.0	71.1	94.77
	Industrial Group					
2	Utilities	1.0	1.7	0.2	1.9	0.84
4	Major Industry	4.3	7.2	1.0	8.7	0.04
5	Light Industry			0.4	1.6	0.09
	Sub total	5.4	8.9	1.6	12.2	0.98
6	Business/Other	10.1	12.2	6.4	16.7	4.25
		100.0	100.0	100.0	100.0	100.00

In 1984 industry and utilities combined represented 5.4% of total assessed values and 8.9% of municipal property taxes paid. By 2003, the industrial property classes accounted for fewer than 1% of the number of properties, only 1.6% of total assessed values in the District (a 70% decline), but paid 12.2% of property taxes paid (a 37% increase).

Tax burdens on industrial properties grew because their tax rates rose at the same time as residential tax rates fell. The following table summarizes tax relationships in 1984 and 2003:

	Tax Rates ($/$1,000)		Tax Rate Ratios	
	1984	2003	1984	2003
Residential	5.93	3.58	1.00	1.00
Industrial				
• Utilities	10.51	40.00	1.77	11.16
• Major industry	10.51	40.38	1.77	11.26
• Light industry		21.00		5.86
Business	7.69	12.09	1.30	3.37

"Tax rate ratio" is the relationship between tax rates for non-residential and residential properties. The analysis illustrates that, in 2003, the property tax rates per $1,000 of assessed value applied to industrial property classes ranged from 5.9 to 11.3 times the rate paid by residential property owners), and were also much higher than the rates applied to the business property class.

The analysis also illustrates how these relationships have changed over the 20 years. In 1984 industry represented a single property class. Since that year, the degree of discrimination against non-residential properties (measured by the "tax rate ratio") has increased by an order of magnitude, relative to residential properties. Major industry and utilities property owners suffered by far the greatest increase in tax burden.

1.3. Overview of District expenses and revenues

The District has 16 operating departments. Its 2003 budgeted operating expenses and revenues were:

	$ million
Total District expenses	$78.345
Less: Revenues and fees	26.999
Net expenses supported by property taxes	51.346

Of the revenues and fees, $3.618 million represented Federal and Provincial GIL for government-owned properties that can easily be identified with one of the three taxpayer groups. In subsequent analysis we group these GIL together with the relevant municipal taxes.

In addition to the operating budget, the District has two utility operations, (1) water and (2) sewer and drainage. These utilities are self-financing and are not included in the analysis as a review of their costs and revenues indicates that payments reasonably reflect the cost of services.

1.4. Basis for assigning expenses and revenues among property classes

To assign District revenues and expenditures among property classes, we examined each of the sixteen departments individually, analyzing cost and revenue drivers for each department, and assigning costs and revenues among the residential, business, and industrial property groups. Specific assumptions and methodologies are detailed in the main report and detailed appendices.

1.5. Results of the consumption analysis

In 2003 industrial GIL payers and taxpayers in the District subsidized residential taxpayers to the extent of $5.394 million.

Appendices A to P describe the details of the analysis of consumption patterns of tax-supported services, between residential, industrial and business groups. Appendix Q summarizes gross consumption, revenues attributed, and net consumption of costs, by department. Results are summarized in the following exhibit.

Services consumed versus property tax paid, by property class groups

	Residential	Industrial	Business	Total
A. Consumption of tax-supported services				
- Gross services consumed ($mill)	53.741	5.709	18.895	78.345
	69.9 %	7.9 %	22.3 %	100.0 %
- Less: Revenues attributed ($mill)	(12.131)	(2.448)	(8.802)	(23.381)
- Net to be covered by property taxes ($mill)	42.621	3.710	8.634	54.964
	77.5%	6.7%	15.7%	100.0%

B. Property taxes and grants in lieu ($mill)

- Municipal taxes		36.496[1]	6.281	8.605	51.382[2]
- Grants in lieu of taxes		0.135	2.823	0.661	3.618
- Total		36.631	9.104	9.266	55.000
	%	66.6 %	16.6 %	16.8 %	100.0 %

C. Comparison of tax-supported consumption to property taxes

- Excess/(Deficit) of consumption over taxes ($mill)	5.990	(5.394)	(0.632)	(37)[2]
- Payment per dollar of net services consumed	$0.86	$2.45	$1.07	$1.00
- "Consumption payment ratio" (see text)	1.00	2.85	1.24	

Totals may not balance exactly because of rounding

The "consumption payment ratio" is the cost of a dollar's worth of services to business and industrial taxpayers, relative to the cost of a dollar's worth of service to residential taxpayers.

In summary, industrial properties pay $2.45 in property taxes for each dollar of net services they consume, while residential taxpayers pay $0.86 and business taxpayers pay $1.07. Owners of industrial property pay 185% more than residents for an equivalent value of services.

1.6. Sensitivity of results

For most of the sixteen departments analyzed in detail, the overall study findings are not particularly sensitive to the methodology employed in assigning revenues and expenses among property classes. The notable exceptions to this general rule are (1) Fire and Rescue Services and (2) RCMP. Each of these cost categories is significant, and differences in assignment methodologies can lead to significant variations in results. Unfortunately, our depth of analysis for these two key Departments has been constrained by the limited availability of detailed information (see Appendices for details).

Based on the methodologies employed, we have attributed approximately 14% of Fire and Rescue Services costs and 7% of RCMP costs to the industrial property classes, even though these property classes constitute only 1.7% of the value of improvements (buildings and other structures) in the District. Our expectation is that, if information were available, the

[1] Includes $120,000 taxes for Recreation/Non-profit properties.
[2] Taxes calculated from assessed values and tax rates differ slightly from budgeted taxes.

estimated share of consumption by the industrial property classes would likely be reduced.

1.7. Conclusion

Based on the detailed analysis as described, we conclude that:

- Residential property owners represent 71% of the property tax base (67% when government properties are included) and consume 77% of tax-supported services. They pay approximately $0.86 for each dollar of property-tax-supported services consumed.

- Business property owners represent 17% of the property tax base (17% when government properties are included) and consume 16% of tax-supported services. They pay approximately $1.07 for each dollar of property-tax-supported services consumed.

- Industrial property owners represent 12% of the property tax base (17% when government properties are included) and consume 7% of tax-supported services. Thus they pay approximately $2.45 for each dollar of property-tax-supported services consumed.

2. Objectives, Scope and Methodology

2.1. Objectives

For several years the NSWIA has suspected that industrial property owners in the District pay more in property taxes than they consume in tax-supported municipal services.

Accordingly, the NSWIA asked MMK Consulting Inc to conduct a study, similar in scope to the one KPMG carried out for the City of Vancouver in 1995. The MMK professionals conducting this study also completed the Vancouver study while they were with KPMG.

The objective of the study is to compare the taxes and fees paid by different classes of taxpayers with the consumption of services funded by the taxes and fees.

2.2. Scope of the study

The study includes all District municipal departments that are supported by property tax dollars. It does not include two self-financing utilities – Water, and Sewer and Drainage. A review of the costs and revenues of the utilities indicated that they appeared to be reasonably related, with the possible exception of storm water drainage.

2.3. Methodology

Our work program included the following key steps;

(1) We held an initial meeting with the NSWIA and District representatives, to establish working relationships and begin the study.

(2) We reviewed the methodology used in the City of Vancouver study, and determine which adjustments are required for North Vancouver. Whereas the Vancouver study distinguished between two property classes (residential and non-residential), in this study we analyzed the results for three groups (residential, business and industrial). The industrial group includes utilities, major industry and light industry.

(3) We met individual managers and staff to gather the necessary information.

(4) We analyzed consumption patterns and fee-payment patterns for tax-supported municipal services, within the various District departments, in terms of the major property classes.

(5) We compared, for each property class, how the share of consumption of tax-supported services compares with the property tax revenues received.

(6) We wrote up the results in a draft report, with full documentation in supporting Appendices.

(7) We reviewed this draft report with the NSWIA.

(8) We sent a copy of the draft report to District Management for their information.

(9) We finalized and issued the report.

3. The District's Tax Environment

In 1983 the provincial government allowed municipalities to set different tax rates by class of property. Exhibit 3a describes the various property classes as listed on BC Assessment's web-site, grouping them into "commercially oriented" and "non-commercially oriented" categories.

Exhibit 3a
Property class descriptions

Residential (non-commercially oriented)

Class 1 – Residential

Includes single-family residences, duplexes, multi-family residences, duplexes, apartments, condominiums, nursing homes, seasonal dwellings, manufactured homes, recreational property, some vacant land, farm buildings and daycare facilities.

Class 8 – Recreational Property and Non-Profit Organizations

Includes land, but not improvements on that land, used solely as an outdoor recreation facility for activities such as golf, skiing, tennis, public swimming pools, waterslides, amusement parks, marinas and hang gliding. Improvements on the land (such as a clubhouse) fall into Class 6. Also includes property used for at least 150 days per year by a non-profit organization for a meeting hall or place of public worship.

Class 9 – Farm

Farm land must produce primary agricultural products for sale such as a crop of livestock.

Non-Residential (commercially oriented)

Class 2 – Utilities

Includes structures and land of railways, pipelines, telegraph/telephone systems, electrical systems and closed circuit TV systems, but does not include offices or sales outlets. Examples include: Telus, Terasen, BC Rail, CN Rail and Shaw Cable.

Class 4 – Major Industry

Includes land and improvements (buildings) of major industrial properties. Improvements include buildings used for lumber mills, pulp mills, heavy manufacturing, mining, smelting, shipbuilding and loading terminals (including associated storage). Examples include Allied Shipbuilders, Dow Chemical Terminals and Erco Worldwide.

Class 5 –Light Industry

Property used or held for extracting, manufacturing, or transporting products, including ancillary storage. A scrap metal yard, winery or boat building operation all fall within this category. Exceptions include properties used for the production of food and non-alcoholic beverages, which fall into Class 6. Lafarge Canada is an example.

Class 6 – Business and Other

Includes everything not included in another class. Property used for offices, retail, warehousing, hotels and motels all fall within this category.

3.1. Taxes in the District of North Vancouver

Municipal taxes are intended to fund the cost of municipal services to property owners within the municipality. In 1984 British Columbian municipalities were given more discretion to levy differential municipal tax than any other province except Newfoundland enjoys. In most other provinces there are requirements to treat all non-residential property classes equally, or to maintain fixed or maximum relationships between residential and non-residential tax rates. In some US jurisdictions utilities and industry are taxed at lower rates than commercial properties, because it is recognized that they consume proportionately fewer services. Even though subsidies lead to the economic misallocation of resources, most British Columbia municipalities have increasingly discriminated against non-residential property owners, requiring them to pay significantly higher tax rates than residential property owners.

Appendix R shows the details of property assessments, tax rates and taxes paid from 1984 to 2003 in the District. Until 1988 there was no distinction between major and light industry. Exhibit 3b summarises the shares of assessments and shares of taxes by property class at the beginning and end of the 20 years.

Exhibit 3b
Comparison of taxable values and taxes paid – 1984 and 2003

		1984 % of Total		2003 % of Total		
Property Class		Value	Taxes	Value	Taxes	Properties
	Non-business group					
1	Residential	84.4	78.8	91.8	70.9	92.04
8	Recreational/non-profit	0.1	0.1	0.2	0.2	2.73
		84.5	78.9	92.0	71.1	94.77
	Industrial Group					
2	Utilities	1.0	1.7	0.2	1.9	0.84
4	Major Industry	4.3	7.2	1.0	8.7	0.04
5	Light Industry			0.4	1.6	0.09
	Sub total	5.4	8.9	1.6	12.2	0.98
6	Business/Other	10.1	12.2	6.4	16.7	4.25
		100.0	100.0	100.0	100.0	100.00

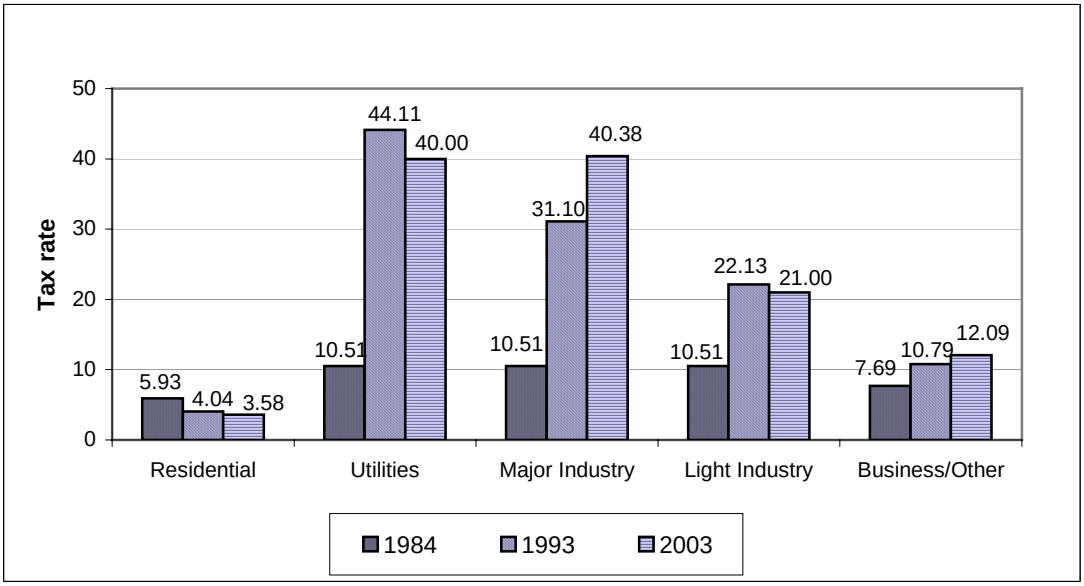
Totals may not add due to rounding

The relative changes in assessments and tax rates since 1984 produced different results for the different property classes. Assessments are, of course, the responsibility of the B.C. Assessment Authority. Changes in assessments have left non-business properties with a rising percentage of

total assessed values (85% to 92%). In spite of this, their share of taxes fell from 79% to 71%. Industrial property classes, which represented 5.4% of assessed value in 1984, now account for only 1.6% (a decline of 70%). Nevertheless, their share of taxes has jumped from 8.9% to 12.2% (an increase of 37%). In other words, in 2003 fewer than one percent of property owners paid more than 12 cents of every tax dollar levied by the District.

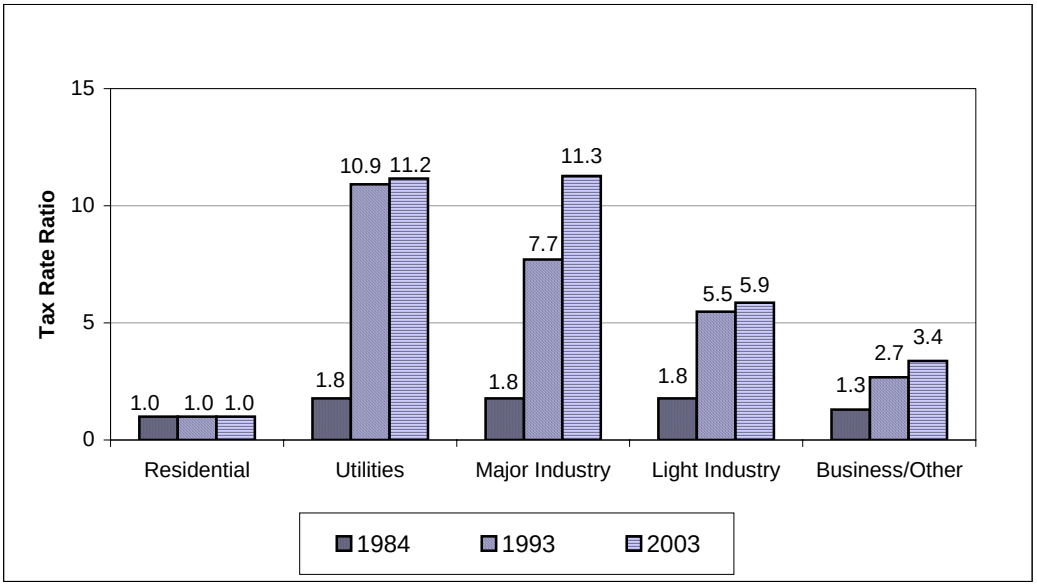
All non-residential tax rates increased between 1984 and 2003. Between 1993 and 2003 tax rates for different property classes have moved in different directions, as Exhibit 3c illustrates. Rates for residences, utilities and light industry have fallen, while rates on major industry and business have increased.

Exhibit 3c
District of North Vancouver tax rate comparison



Absolute tax rates are only one measure of the relative burden on different property classes. A "tax rate ratio" relates tax rates per $1,000 of assessed value for non-residential property, to the tax rate for the residential property classes. Exhibit 3d summarizes the change in tax rate ratios for non-residential property classes.

Exhibit 3d
District of North Vancouver tax rate ratio comparison



In every case the tax rate ratios for non-residential properties increased over the period. The ratio for major industry rose from 1.77 in 1984 to 7.70 in1993 and to 11.27 in 2003. In other words, in 2003 the major industry tax (per $1,000 of assessed value) was 11 times as high as the tax rate on residential properties (compared to less than 2 times 20 years ago). For light industry the ratio increased from 1.77 to 5.48 to 5.86. The business ratios were 1.30, 2,67 and 3.37. It is obvious that major industry has suffered the greatest increase in tax burden.

3.2. Comparisons with other jurisdictions

In a recent report[1] Professor Bish of the School of Public Administration at the University of Victoria compared property tax rates in all of the province's 153 municipalities. All charged higher rates for business (classes 2 to 6), than for the residential class. Exhibit 3e summarises tax ratios for major industry and light industry property classes:

[1] Property Taxes on Business and Industrial Property in British Columbia: Comparisons and Business Climate Observations. Robert L. Bish. October 23, 2003.

Exhibit 3e
2003 industrial tax ratios in British Columbia (for 153 municipalities)

		Major Industry	Light Industry
Provincial	1st Quartile	3.40	2.75
	2nd Quartile	4.86	3.40
	3rdQuartile	8.12	4.31
	4thQuartile	19.55	13.63
District ratios		11.26	5.86
District rank in Province		9th highest	16th highest

The industrial tax ratios in the District are among the highest in the province. In other words, the District discriminates more highly against major industry taxpayers than all but eight of 153 British Columbia municipalities. In the Lower Mainland, only Burnaby and Coquitlam have higher ratios.

For light industry the District ranks 16th. The only Lower Mainland municipalities with higher ratios are Burnaby, Coquitlam, Port Moody, the City and Maple Ridge.

4. Structure of the District Budget

4.1. Overall structure

The District prepares a draft financial plan towards the end of each calendar year for the forthcoming fiscal year (April to March). After deliberation by council a "final" budget is issued. Throughout the year budgeted funds may be transferred from account to account, so individual budgeted figures at the end of a fiscal year may differ from those at the beginning of the year. We have used the final budget prepared for the 2003 fiscal year for this consumption analysis. We were advised that redistribution of budgets was not material. Exhibit 4a summarizes the budgeted costs and revenues of the services being analyzed.

Exhibit 4a
District of North Vancouver's 2003 tax-financed services – ($million)

Appendix		Expenses	Revenues	Net
A	Corporate Services	2.716	0.109	2.607
B	Financial Services	2.046	0.428	1.618
C	Executive Services	1.495	0.007	1.488
D	General Government	12.667	11.219	1.448
E	Emergency Management Office	0.177		0.177
F	Library	3.655		3.655
G	Museum and Archives	0.287		0.287
H	Recreation Commission	4.928		4.928
I	Fire and Rescue Services	12.630	0.379	12.251
J	RCMP	12.102	0.082	12.020
K	Administration Services	2.267	1.723	0.544
L	Engineering Operations	7.413	4.870	2.543
M	Parks and Environment	4.621	0.361	4.260
N	Planning	3.995	0.993	3.002
O	Regulatory Services	4.281	3.673	0.608
P	Visitor Attractions	3.064	3.154	(0.090)
	Subtotal	78.344	26.998	51.346
	Financed by Property Taxes		51.346	(51.346)
Total Operating Budget		78.344	78.344	0

Municipalities are precluded by Provincial legislation from budgeting for a loss. Revenues and expenses must be equal. However, this does not preclude municipalities from transferring funds to and from reserves as required to achieve the necessary balance. These transfers are found in

many areas of the budget. We deal with them in the analyses described in the appendices.

4.2. Treatment of utilities

The District operates two utilities – the Water Utility and the Sewer and Drainage Utility. Both operations break even. This is not by itself a reason to exclude them from analysis, because the property classes responsible for the revenues may not be the same as those consuming the services. However, our review of costs and revenues and discussions with responsible management indicate that costs and revenues appear to be reasonably consistently distributed among the different property classes.

Water is charged at a flat rate to single family dwellings and to some multiple family residences. Consumption is metered and charged for industrial, commercial and other large users. Un-metered consumption represents 63% of total volume and 66% of total billed revenue, so we believe that no significant cross-subsidization occurs between property classes.

Sewer charges are also levied on a flat fee basis for most residential properties, and are based on water consumption for other users. However, charges are adjusted if users demonstrate that sewer volumes are less than water consumption. The resulting revenues are paid 73% by un-metered consumers who consume only 63% of water. On the basis of information at our disposal, we conclude that there is no obvious cross-subsidization of sewer and drainage charges.

4.3. "Direct" and "support" services

Most District units provide services directly to taxpayers. Some provide internal support services. The support services may be District wide (e.g. Human Resources) or to individual parts of the organization (e.g. Administration Services within the Planning, Engineering, Parks, Regulatory Services Department). The treatment of the two types of service is described in the next chapter, and in the relevant appendices.

5. Distribution Methodology

This chapter outlines the general principles in distributing costs, and then describes the specific approaches in analyzing different types of agencies.

5.1. General principles of distribution

We have developed the following general principles in distributing costs based on consumption patterns, and revenues based on attribution patterns:

- We distinguished between three groups of taxpayers:
  - Residential
  - Industrial (utilities, major industry and light industry)
  - Business/other.

  We treated Recreational/non-profit as being insignificant.
- We assigned consumption costs and attributed revenues to the three groups based on ratios developed for each cost driver.
- We focused on the direct consumers of the service rather than attempting to analyze the ultimate beneficiaries of a service.
- We performed stand-alone analyses of each major department, to reflect the different nature of cost drivers among departments.

5.2. Methodology for different types of service

In Chapter IV we described two types of service; direct and support. For purposes of describing the distribution methodology, we have five categories:

- Direct services and revenues
- Support services
- Debt charges
- Transfers to and from reserves
- Services provided to, and revenues derived from, non-taxpayer groups.

The following sections summarize the principles adopted in each case.

5.2.1. Direct services and revenues

We followed these steps in distributing costs and revenues of direct services to the three taxpayer groups:

- **Determine possible cost drivers.** Cost drivers are cost/consumption relationships, and may be simple or complex. For example, a simple driver could be a manager's estimate of time spent serving the various groups. Some services may be 100% residential or non-residential. In other cases more complex drivers are appropriate. We describe the most significant drivers below.
- **Group costs and revenues into cost pools.** The costs and revenues of services within departments are grouped into totals for which a single cost driver is appropriate.
- **Distribute costs and attribute revenues to taxpayer groups.** The ratio of each driver that relates to each taxpayer group is used to distribute the total cost and attribute the total revenue pool over the three groups.

5.2.2. Support services

The cost and revenues of support services may be classified according to whether the support service net costs can be identified with:

- Specific direct service units
- General administrative support for the District as a whole.

The following methodology is adopted in each case:

- **Support service to specific support and direct service departments.** These portions of support service costs are distributed to the taxpayer groups according to the final cost consumption percentages determined for the support direct service agencies that are served. The distribution is based on "cost" consumption only. For this purpose revenues are not netted out, as this would cause distortions in the distribution if, for a department as a whole, cost and revenue ratios are different.
- **General District-wide support.** General support or overhead costs are distributed to the taxpayer groups according to the weighted average of the District-wide ratio of total costs consumed.

5.2.3. Debt charges

Debt charges are incurred to acquire assets that are generally used for direct service delivery. The charges are distributed according to the service or cost pool provided by the asset.

5.2.4. Transfers to and from reserves

Over the medium term transfers to and from reserves should balance out. The result of a transfer from reserves is to reduce the amount of taxes than must be levied in the current year. The result of a transfer to reserves is the

opposite. We distribute these transfers in the same proportion as taxes paid. This may seem unreasonable, but the following example illustrates the validity of the principle.

Assume that the District has reserves equal to one full year's taxes and transfers an amount equal to the current year's expenses (which are analyzed as to consumption by taxpayer groups). The District continues to levy taxes but transfers the full amount to reserves replacing the original transfer from reserves. The two transfers, distributed in the same ratio as taxes, cancel each other out, and we are left with annual taxes as revenue. The task of analyzing consumption of services financed by the taxes is unchanged.

5.2.5. Services provided to, and revenues derived from, non-taxpayer groups

Some departments such as Library, Recreation Commission, and Museum and Archives provide services to, and may derive revenue from, people who live outside the District. We treat these costs and revenues in the same manner as transfers to and from reserves. Revenue from non-taxpayer groups reduces the money that would be required from taxes to provide the same overall level of service. Conversely, the cost of providing such services is borne by the taxpayer groups in proportion to their taxes. The amounts involved are not large, but we have established a consistent way to deal with them.

5.3. Frequently-used cost drivers

We established four cost drivers that are used in more than one case:

5.3.1. Tax share of taxpayer groups

Appendix R shows the detail of tax payments in 2003. Appendix D General Government describes the attribution of GIL to the property groups. We combine them to develop a cost driver to use for general revenues and transfers. The relative shares are:

	Taxes $ million	GIL $ million	Combined $ million	%
Residential	36.496	0.135	36.631	66.6%
Industrial	6.281	2.823	9.104	16.6%
Business/other	8.605	.0661	9.266	16.8%
	51.382	3.618	55.000	100.0%

This excludes the negligible 0.2% of taxes paid by Recreation/Non-profit organizations.

5.3.2. Value of improvements

Improvements are the buildings and other structures added to land. We believe that the value of improvements is a more direct measure of investment and economic activity than the value of land. Consequently we use the value of improvements as surrogate for the level of activity by the taxpayer groups. The relative values are:

	$ million	%
Residential	2,577	90.8
Industrial	48	1.7
Business/other	213	7.5
		100.0

5.3.3. Distribution of social vs. working time

The social vs. working time driver is used for some services relating to the protection of residents and employees.

The population of the District according to the 2001 census was 86,000. Of these, 43,500 were employed.

The estimated split of social vs. working time per year is:

		Million hrs	%
Total time	86,000 x 8,760 hours	753	100.0
Working time	43,500 x 230 days x 8 hrs	80	10.6
Social time	Difference	673	89.4

No data on employment *within* the District is available, so we are required to assume that the number of employed District residents is the same as the number of people employed in the District. As well, the above drivers assume that residents spend the same proportion of time socializing in the District as working in the District. This may not be the case. However, we are unable to quantify the impact of differences.

Working time must be split between industrial and business taxpayer groups. A significant portion of the total represents estimated employment in government sectors (School Board 1,500; Municipality 900; Capilano College 800; GVRD; Provincial Health Care; Federal Government). However, the total is unknown, and we assume that all employees fall within the industrial and business groups. Other than the staffing of members of the NSWIA (1,643) nothing is known of employment numbers. We use the relative value of improvements (1.7%/7.5%) to split employment. This ratio is almost identical to the ratio of tax accounts (314/1369). The resulting distribution of time is:

Residential	89.4%
Industrial	2.0%
Business/other	8.6%

5.3.4. Use of streets

The District has no data on the relative use of street by different vehicles for different purposes, so we use the GVRD 1999 Trip Diary Surveys and the 1999 Truck Freight Study. These are the most recent data available, and we assume that the District trip patterns mirror those of the GVRD as a whole. These studies reported the number of daily trips by persons and trucks. The survey combined work trips with trips to post-secondary institutions. Translink staff stated that 10% of the combined total referred to Post Secondary Institutions. We have made the adjustment in the figures summarized below:

	Trips per year ('000)	
	Residential	Non-residential
To/from work		1,726
During work		157
Grade school and PSI	767	
Social/rec/personal	2,827	
Light trucks		127
Heavy trucks		60
	3,594	2,070
	63 %	37 %

Non-residential trips must be distributed between industrial and business groups on the basis of estimated employment (say 20/80). The resulting cost drivers are:

Residential	63%
Industrial	8%
Business/other	29%

We are aware that trucks place an order of magnitude more wear on roads than do automobiles. However, road wear represents only a small portion of the cost pools for which we use this driver. In some cases (traffic fines, traffic management) we see no reason to discriminate. For other pools (street lighting maintenance and hydro) it is likely that trucks make less use of the service than do automobiles. Furthermore, the major volume of commodities handled by NSWIA members is moved by rail. Accordingly we believe it is equitable to treat trucks and automobiles equally.

6. Results of the Consumption Analysis

Appendices A to P describe the details of the analysis of consumption patterns of tax-supported services, between residential, industrial and business taxpayer groups. The analysis has been carried out on an integrated model. The relevant pages for each department and/or division are included after the text for each appendix. We have built an iterative model (100 iterations) to enable cross distribution of support services.

Appendix Q summarises gross consumption, revenues attributed, and net consumption of costs, by department. Exhibit 6a compares municipal taxes paid with services consumed. Exhibit 6b summarizes the net consumption results.

Exhibit 6a
Taxes paid compared with net consumption of tax-financed services and attribution of revenues – 2003 budget

	Residential	Industrial	Business	Total
Taxes paid - $ million	36.496[1]	6.281	8.605	51.382[2]
Grants in lieu of taxes - $ million	0.135	2.823	0.661	3.618
	36.631	9.104	9.266	55.000
%	66.6 %	16.6 %	16.8 %	100.0 %
Gross services consumed - $mill	54.751	6.158	17.436	78.345
%	69.9 %	7.9 %	22.3 %	100.0 %
Revenues attributed $million	(12.131)	(2.448)	(8.802)	(23.381)
%	51.9 %	10.5 %	37.6 %	100.0 %
Net services consumed $million	42.621	3.710	8.634	54.964
%	77.5 %	6.7 %	15.7 %	100.0 %
Subsidy $million	5.990	(5.384)	(0.632)	(0.036)[2]
Payment per $ of net services consumed	$0.86	$2.45	$1.07	$1.00
"Consumption payment ratio"	1.00	2.86	1.25	

Totals may not balance because of rounding

[1] Includes $120,000 taxes for Recreation/Non-profit properties.
[2] Taxes calculated from assessed values and tax rates differ slightly from budgeted taxes.

The "consumption payment ratio" is the relationship between the cost of a dollar's worth of service to residential taxpayers, and the cost of a dollar's worth of services to other taxpayers.

The implication of the analysis is that industrial taxpayers pay $2.45 for each $1 of net services they consume, while residential taxpayers pay $0.86 and business taxpayer pay $1.07. In other words, the industrial group pays 186% more than residents for the equivalent value of services.

Overall, the industrial group consumes 7.9% of the gross cost of services. A review of the revenue page of Appendix Q reveals that the largest revenue items are in General Government - Appendix D (transfers from reserves, investment income and other contributions, in Engineering Operations – Appendix L (solid waste utility revenues, balanced by expenses), and Regulatory Services – Appendix L (permits, licences and property operations). The industrial group is attributed with 10.5% of these revenues – a lower proportion that it pays of total taxes and GIL. The final result is that the industrial group pays 16.6% of taxes and GIL and consumes 6.7% of net service costs. The difference means that utilities, major industry and light industry in the District subsidized residential and business taxpayers to the extent of $5.394 million in 2003.

Exhibit 6a
Summary of consumption patterns of costs and revenues of tax supported services – 2003 budget

App.	Department	Percentage Distribution			Consumption $'000			
		Residential	Industrial	Business	Residential	Industrial	Business	Total
A	Corporate Services	68	8	25	1,762	202	643	2,607
B	Financial Services	71	9	20	1,144	146	328	1,618
C	Executive Services	62	5	33	920	70	498	1,488
D	General Government	89	4	7	4,491	201	374	5,066
E	Emergency Management Office	81	2	18	143	3	31	177
F	Library	93	1	5	3,412	49	195	3,655
G	Museum and Archives	88	6	6	252	17	17	287
H	Recreation Commission	98	1	1	4,827	50	51	4,928
I	Fire and Rescue Services	70	14	16	8,546	1,734	1,970	12,251
J	R C M P	65	7	28	7,813	841	3,366	12,020
K	PEPR Administration Services	62	-20	58	338	(111)	317	544
L	PEPR Engineering Operations	68	9	24	1,718	225	601	2,543
M	PEPR Parks and Environment	92	3	6	3,900	117	243	4,260
N	PEPR Planning	81	3	16	2,437	98	467	3,002
O	PEPR Regulatory services	161	13	-74	978	82	(451)	608
P	PEPR Visitor Attractions	67	17	17	(60)	(15)	(15)	(90)
	Total District tax consumption	85.7	3.6	10.7	42,621	3,710	8,634	54,964

Note: Totals may not balance because of rounding.

APPENDICES

Appendix A – Corporate Services

A.1 Cost pools

The Corporate Services department has two cost pools:

1 Administration (basically the director and his staff).
2 Support services to District staff (Human Resources and Infotech).

A.2 Key principles and assumptions

1 Administration is distributed to taxpayer classes on the basis of the total District-wide consumption.

2 Human Resources division costs and revenues have a primary distribution to departments in proportion to FTEs. Library, RCMP and Museum and Archives are excluded, as the division does not serve these units. Although the unit does service the Recreation Commission, we exclude their FTEs because the Commission pays a fee for this service. The fee is assumed to cover cost of serving the Commission.

3 Infotech division costs and revenues also distributed on the basis of FTEs, with the same exclusion. A further adjustment reduces the FTEs in Fire and Rescue to administration and management staff only. We assume that firefighters do not have individual computers.

4 After the primary distribution, Human Resources and Infotech costs are driven to departments and PEPR divisions according to the final distribution of costs to taxpayers in each of the departments and divisions.

A.3 Summary of analysis

The result of the analysis is the following consumption pattern:

	Costs	Revenues	Net
Values $'000	$2,716	($109)	$2,607
Residential	68 %	67 %	68 %
Industrial	8 %	8 %	8 %
Business/other	25 %	25 %	25 %

Totals may not balance because of rounding.

A.4 Details of analysis

Step 1 - Initial Cost Pools ($'000)

	Expenses	Revenue	Net	Cost Drivers
Cost Pool 1 - Administration				
DCS 1150 Administration	559		559	District direct service consumption
Total Cost Pool 1	559	0	559	
Cost Pool 2 - Staff support service				
DCS 1151 Human resources	641	55	586	
Total Cost Pool 2	641	55	586	Primary, per dept/div staff. Secondary per taxpayer consumption.
Cost Pool 2 - Staff support service				
DCS 1152 Infotech service	1,516	54	1,462	
Total Cost Pool 3	1,516	54	1,462	
Total Corporate Services	2,716	109	2,607	

Step 2 - Primary Distribution

	FTEs served		Expense		Revenue	
Cost Pool - Staff support services	HR	Infotech	HR	Infotech	HR	Infotech
2a Corporate Services	22	22	30	97	3	3
2b Financial Services	34	34	47	150	4	5
2c Executive Services	16	16	22	71	2	3
2d Fire & Rescue Services	141	18	195	79	17	3
2e PEPR Administration Services	24	24	34	108	3	4
2f PEPR Engineering Operations	47	47	65	210	6	7
2g PEPR Parks and Environment	55	55	76	245	7	9
2h PEPR Planning	38	38	53	169	5	6
2i PEPR Regulatory Services	46	46	63	204	5	7
2j PEPR Visitor Attractions	41	41	57	182	5	6
	464	341	641	1,516	55	54

Step 3 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	District service consumption %	70%	8%	22%	391	44	124	559
2a	Corporate Services consumption %	68%	8%	25%	86	10	31	127
2b	Financial Services consumption %	68%	9%	23%	134	18	45	197
2c	Executive Services consumption %	62%	5%	34%	58	4	31	93
2d	Fire and Rescue consumption %	70%	14%	16%	191	39	44	274
2e	PEPR Admin consumption %	65%	8%	27%	93	11	38	142
2f	PEPR Eng Ops consumption %	26%	3%	71%	71	9	195	275
2g	PEPR Parks & Env consumption %	91%	3%	6%	291	10	20	321
2h	PEPR Planning consumption %	71%	3%	27%	157	6	59	222
2i	PEPR Reg Servs consumption %	77%	8%	15%	206	21	41	268
2j	PEPR Visitor Attr consumption %	67%	17%	17%	159	40	40	239
	Subtotal gross consumption	68%	8%	25%	1,835	211	670	2,716
Attribution of department revenues								
2a	Corporate Services consumption %	68%	8%	25%	-4	-0	-1	-6
2b	Financial Services consumption %	68%	9%	23%	-6	-1	-2	-9
2c	Executive Services consumption %	62%	5%	34%	-3	-0	-1	-4
2d	Fire and Rescue consumption %	70%	14%	16%	-14	-3	-3	-20
2e	PEPR Admin consumption %	65%	8%	27%	-4	-1	-2	-7
2f	PEPR Eng Ops consumption %	26%	3%	71%	-3	-0	-9	-13
2g	PEPR Parks & Env consumption %	91%	3%	6%	-14	-0	-1	-15
2h	PEPR Planning consumption %	71%	3%	27%	-7	-0	-3	-11
2i	PEPR Reg Servs consumption %	77%	8%	15%	-10	-1	-2	-13
2j	PEPR Visitor Attr consumption %	67%	17%	17%	-8	-2	-2	-11
	Subtotal revenues	67%	8%	25%	-73	-9	-27	-109
Corporate Services net consumption		68%	8%	25%	1,762	202	643	2,607

Note: Totals may not balance due to rounding

Appendix B – Financial Services

B.1 Cost pools

The Financial Services Department has six pools:

1 Financial administration and accounting
2 The financial results of a revenue-earning wharfing operation
3 Payroll services
4 Taxes and revenue collection activities.
5 Faxback (business revenues)
6 Sundry revenues

B.2 Key principles and assumptions

1 Financial administration and accounting costs and revenues are assumed to be consumed and paid by taxpayer groups in proportion to their consumption of total District services.

2 Revenues from the wharfage operation are distributed to taxpayers in proportion to taxes paid. They reduce taxes that would otherwise be required for municipal operations.

3 The costs of the payroll unit have a distribution to departments and PEPR divisions based on FTEs (excluding Library, RCMP, Museum and Archives and Recreation Commission). The secondary distribution allocates costs to departments and divisions served according to the final distribution of costs to taxpayers in each of the departments and divisions.

4 Taxes and revenue collections costs have a primary distribution into sub-pools according to the responsibilities of the direct service staff. Costs are subsequently distributed on the basis of the estimated consumers of the services.

5 Faxback revenues are paid by business for the faxing of legal documents.

6 Sundry revenues are attributed to taxpayer groups in proportion to taxes paid.

B.3 Summary of analysis

The result of the analysis is the following. Totals may not balance because of rounding.

	Costs	Revenues	Net
Values $'000	$2,046	($428)	$1,618
Residential	68 %	57 %	71 %
Industrial	9 %	10 %	9 %
Business/other	23 %	33 %	20 %

B.4 Details of analysis

Step 1 - Initial Cost Pools

			Expenses	Revenue	Net	Cost Drivers
Cost Pool 1 - City-wide support service						
DOF	1200	Finance administration	384	12	372	District direct service consumption
DOF	1201	Budget	121		121	
DOF	1206	Financial systems support	154		154	
DOF	1202	Accounting services	270	40	230	
DOF	1211	Purchasing	450	128	322	
		Total Cost Pool 1	1,379	180	1,199	
Cost Pool 2 - External revenues						
DOF	1215	Riverside operation	81	125	(44)	Tax shares of taxpayer groups
		Total Cost Pool 2	81	125	(44)	
Cost Pool 3 - Staff support service						Primary, per dept/div staff.
DOF	1203	Payroll services	172		172	Secondary per taxpayer
		Total Cost Pool 3	172	-	172	consumption.
Cost Pool 4 - Support service						
DOF	1204	Taxes and revenues collection	414		414	Primary, staff responsibilities
		Total Cost Pool 4	414	-	414	Secondary, see below
Cost Pool 5 - direct service						
DOF	1204	Fax back revenues collected		72	(72)	Payers (business)
		Total Cost Pool 5	-	72	(72)	
Cost Pool 6- direct service						
DOF	1204	Sundry revenues collected		51	(51)	Tax shares of taxpayer groups
.		Total Cost Pool 6	-	51	(51)	
Total Financial Services			2,046	428	1,618	

Step 2 - Primary Distribution

	Cost Pool 3 - Payroll services	FTEs served	Expense
3a	Corporate Services	21.8	8
3b	Financial Services	33.8	13
3c	Executive Services	16.0	6
3d	Fire & Rescue Services	140.8	52
3e	PEPR Administration Services	24.3	9
3f	PEPR Engineering Operations	47.1	17
3g	PEPR Parks and Environment	55.0	20
3h	PEPR Planning	38.1	14
3i	PEPR Regulatory Services	45.9	17
3j	PEPR Visitor Attractions	41.0	15
		463.8	172

Cost Pool 4 - Taxes and Revenue Collection

The section has 4 telephone and cashier clerks, and the following 6 with specific responsibilities

	2 Tax Clerks (tax prepayments and deferrals, and Home Owner Grants			
4a			138	Per number of tax accounts
	1 Utilities clerk (billing metered water and sewer customers)			
4b	80 monthly bills (960 per year)	37.5%	26	Industrial
4c	400 quarterly bills (1600 per year)	62.5%	43	50/50 industrial/business
	I Traffic violation clerk (traffic & environmental bylaw offences)			
4d	Traffic	75.0%	52	Per streets/traffic
4e	Environmental	25.0%	17	50/50 industrial/business
	1 Commercial sanitation clerk (sanitation billing)			
4f	Solid waste	50.0%	35	Per business/industrial taxpayers
4g	Animal licences & false alarms	50.0%	35	Residential
	1 Miscellaneous AR clerk			
4h	Recoverable work orders	50.0%	35	Tax shares of taxpayer groups
4i	Land sales	10.0%	7	Residential
4j	Leases	40.0%	28	25/135 residential/business
	Total Taxes and Revenue Collection		414	

Step 3 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	District service consumption %	70%	8%	22%	964	108	307	1,379
2	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	54	13	14	81
3a	Corporate Services consumption %	68%	8%	25%	5	1	2	8
3b	Financial Services consumption %	68%	9%	23%	8	1	3	13
3c	Executive Services consumption %	62%	5%	34%	4	0	2	6
3d	Fire and Rescue consumption %	70%	14%	16%	36	7	8	52
3e	PEPR Admin consumption %	65%	8%	27%	6	1	2	9
3f	PEPR Eng Ops consumption %	26%	3%	71%	4	1	12	17
3g	PEPR Parks & Env consumption %	91%	3%	6%	18	1	1	20
3h	PEPR Planning consumption %	71%	3%	27%	10	0	4	14
3i	PEPR Reg Servs consumption %	77%	8%	15%	13	1	3	17
3j	PEPR Visitor Attr consumption %	67%	17%	17%	10	3	3	15
4a	Tax accounts	29,629	314	1,369	131	1	6	138
4b	Monthly bill recipients		960		-	26	-	26
4c	Quarterly bill recipients	800		800	22	-	22	43
4d	Daily trips %	63%	8%	29%	33	4	15	52
4e	Estimated citations issued %		50%	50%	-	9	9	17
4f	Number of taxpayers		314	1,369	-	6	28	35
4g	Bill recipients %	100%			35	-	-	35
4h	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	23	6	6	35
4i	Parties involved %	100%			7	-	-	7
4j	Parties involved	25		135	4	-	23	28
	Subtotal gross consumption	68%	9%	23%	1,387	190	469	2,046
Attribution of department revenues								
1	District service consumption %	70%	8%	22%	(126)	(14)	(40)	(180)
2	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	(83)	(21)	(21)	(125)
5	Payers (business) %	0.0%	0.0%	100.0%	-	-	(72)	(72)
6	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	(34)	(8)	(9)	(51)
	Subtotal revenues	57%	10%	33%	(243)	(43)	(142)	(428)
Financial Services net consumption		71%	9%	20%	1,144	146	328	1,618

Note: Totals may not balance due to rounding

Appendix C – Executive Services

C.1 Cost pools

The Executive Services department has two cost pools:

1 Mayor, Council and Clerk's Office
2 Municipal Manager

C.2 Key principles and assumptions

1 Costs of Mayor, Council and Clerk's office are distributed according to the estimated time involvement of Mayor and Council. This was initially 60% residential, 40% non-residential. The latter was further split according to the number of industrial and business taxpayers (43 vs. 1369). This is 3%/97%, but considering that the issues that industrial raised are generally larger and more time consuming than business issues, we split the 40% non-residential time in the ratio 10/90). The resulting overall ratios are 60/4/36. Minor revenues are attributed on the same basis.

2 Costs of the municipal manager are allocated to taxpayer groups according to overall District-wide consumption of services.

C.3 Summary of analysis

The result of the analysis is:

	Costs	Revenues	Net
Values $'000	$1,495	($7)	$1,488
Residential	62 %	60 %	62 %
Industrial	5 %	4 %	5 %
Business/other	34 %	36 %	33 %

Totals may not balance because of rounding.

C.4 Details of analysis

Step 1 - Initial Cost Pools

			Expenses	Revenue	Net	Cost Drivers
Cost Pool I - direct service						
Mayor and Council						
MAC	1000	Mayor and Council	436		436	
MAC	10054	NLGC review committee	2		2	
MAC	10055	Operation red nose 2003	1		1	
Clerk's Office						
CLK	1100	Clerk's office	725	2	723	District estimate
CLK	1102	Public hearings	30		30	
CLK	1900	Committee council costs	20		20	
CLK	1959	Corporate meeting costs	5		5	
CLK	10702	Elections	5	5	0	
		Total Cost Pool 1	1,224	7	1,217	
Cost Pool 2 - district-wide support service						
Municipal Manager						
MMA	1050	Municipal manager	266		266	District direct services consumption
MMA	10049	DNV history study	5		5	
		Total Cost Pool 2	271		271	
Total Executive Services			1,495	7	1,488	

Step 2 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	
Consumption of department services								
1	District estimate %	60%	4%	36%	734	49	441	1,224
2	District service consumption %	70%	8%	22%	189	21	60	271
	Subtotal gross consumption	62%	5%	34%	924	70	501	1,495
Attribution of department revenues								
2	District estimate %	60%	4%	36%	(4)	(0)	(3)	(7)
	Subtotal revenues	60%	4%	36%	(4)	(0)	(3)	(7)
Executive Services net consumption		62%	5%	33%	920	70	498	1,488

Note: Totals may not balance due to rounding

Appendix D – General Government

D.1 Cost pools

General Government is a Department without staff that is used to combine a large number of financial activities and transactions. We identified eight cost and revenue pools:

1. Various transfers, revenues and insurance costs, including minor grants in lieu of taxes
2. Income from traffic fines
3. Grants to community groups
4. Various small unclassified items ($27,000 net)
5. Provisions for wage increases and fringe benefits
6. Debt service costs
7. Legal costs
8. Grants in lieu of taxes

D.2 Key principles and assumptions

1 Transfers, revenues from outside sources, and insurance costs have been distributed on the basis of tax shares of the three taxpayer groups.

2 Traffic fine revenues are recovered according to the number of daily trips for each group.

3 Grants to community groups are treated as a residential cost.

4 Various small-unclassified items are allocated based on total District services consumption.

5 Provision for wage increases and fringe benefits are distributed to departments and PEPR divisions according to FTEs. They are subsequently allocated to taxpayer groups according to the total consumption of the relevant department or division services.

6 Debt service costs have a primary distribution to the departments for which the assets were acquired, according to the debt bylaws. Costs are subsequently allocated to taxpayer groups according to the consumption of the relevant department.

7 Legal costs are first distributed to departments on the basis of legal expenses per department. The subsequent distribution is according to the overall consumption of departmental costs.

8 Grants in lieu of taxes are treated as tax revenues for the property class of the government owned properties to which the grants relate. They

include residential, industrial and business properties. In subsequent analyses they are grouped with taxes.

D.3 Summary of analysis

The result of the analysis of net consumption is:

	Costs	Revenues	Net
Values $'000	$12,667	($7,823)	$4,844
Residential	75 %	67 %	89 %
Industrial	11 %	16 %	4 %
Business/other	13 %	17 %	7 %

The result of the analysis of Grants in lieu of taxes (to be treated as taxes) is:

	Net
Values $'000	$3,618
Residential	4 %
Industry	78 %
Business/other	18 %

Because government owned properties are taxed at the same rate as regular properties, their values can be calculated. The following are the calculations:

	Taxes $'000	Tax rate $/$'000	Value $ million
Residential	135	3.58	37.709
Utilities	684	40.00	17.088
Major industry	2,133	40.38	52.823
Light industry	6	21.00	0.286
Business	661	12.00	54.632
Total	3,618		162.538

These values will affect, very slightly, the percentage of total value represented by each taxpayer group.

Totals may not balance because of rounding.

D.4 Details of analysis

Step 1 - Initial Cost Pools

				Expense	Revenue	Net	Cost Drivers
Cost Pool 1 - direct service							
Service charges							
DOF	1950	5941/2	Band service fees		650	(650)	
DOF	1952	5751	Sewer utility overhead recovery		617	(617)	
DOF	1952	5761	Water utility overhead recovery		644	(644)	
DOF	1952	8633	Solid Waste gen overhead expe	(216)		(216)	
Tax penalties and interest							
DOF	1950	5361	Penalties on taxes		400	(400)	
DOF	1950	5365	Interest on taxes		140	(140)	
DOF	1950	8583	Interest on tax instalments	145		145	
DOF	1952	5315	Investment income		1,200	(1,200)	
1% taxes							
DOF	1950	5012/41	1% taxes		679	(679)	
Transfers							Tax shares of taxpayer groups
DOF	1952	6946	From general fund		850	(850)	
DOF	1952	9705	To capital fund	4,672		4,672	
DOF	10600	6815	From deferred income		187	(187)	
DOF	10600	6961	From reserve for future expenses		1,944	(1,944)	
DOF	10600	8395	Expenditure from reserves	2,131		2,131	
DOF	10001	Gge council reserve unallocated		21		21	
Insurance and damage claims							
DOF	1955	8535	Claims costs	165		165	
DOF	1955	8581	Insurance general	552		552	
DOF	1952	8395	Unallocated cost reduction	128		128	
Total Cost Pool 1				7,598	7,311	287	
Cost Pool 2 - direct service							
Provincial grants							
DOF	1950	5243	Provincial grant traffic fines		200	(200)	Daily trips
Total Cost Pool 2				-	200	(200)	

Cost Pool 3 - direct service					
Community support grants					
DCP	1958	9211	Csac community	209	209
DCP	1958	9215	Csac youth outreach	374	374
DCP	1958	9221	Accs childcare	30	30
DCP	1958	9225	Siver Harbour manor	88	88
DCP	1958	9231	Family services	30	30
DCP	1958	9235	Cultural arts assistance	105	105
DCP	1958	9236	Seymour Art Gallery	25	25
DCP	1958	9238	Community investment progra	59	59
DCP	1958	9239	North Shore Arts Commission	141	141
DCP	1958	9241	North Vancouver community a	88	88
DCP	1958	9245	Presentation House	38	38
DCP	1958	9251	Presentation House Gallery	45	45
DCP	1958	9265	Restorative Justice Society	15	15
Total Cost Pool 3				1,247	- 1,247
Cost Pool 4- support service					
DCP	10697		Community investment program	17	17 -
DCP	10700		Community heritage	14	14 -
DCP	10704		Pln outside tech assistance	9	9 -
DOF	1212		Printshop	-	-
DOF	1213		Stores	-	-
DOF	1950	8395	Miscellaneous	9	9
DOF	1950	8525	Bad debt provision	2	2
DOF	1950	8637	Sewer frontage tax munic prop	1	1
DOF	1952	7115	Salaries	6	6
DOF	1952	9099	Crimestoppers	9	9
DOF	10705		Dof Intenal control review	50	50 -
Total Cost Pool 4				117	90 27
Cost Pool 5 - support service					
Provision for wage adjustments and other costs					
DOF	10000		Gge council reserve allocated	875	875
DOF	1951		Corporate fringe benefits	124	124
DOF	1952	7581	Hydro & gas	138	138
Total Cost Pool 5				1,137	- 1,137
Cost Pool 6 direct service					
Debt service					
DOF	1952	9400	Debt principal and interest	2,261	2,261
Total Cost Pool 6				2,261	- 2,261
Cost Pool 7					
Legal					
DCS	1960		Corporate legal costs	307	307
Total Cost Pool 7				307	- 307
Subtotal Net Consumption				12,667	7,601 5,066

Users (residential)	
Unknown - use district direct services consumption	
Primary, per dept/div staff. Secondary per taxpayer consumption.	
Primary, per capital projects Secondary, per taxpayer consumption	
Primary, per departmental use Secondary per taxpayer consumption	

Revenue Pool 8 - Grants in Lieu of Taxes (treat as taxex)							
DOF	1950	5015	Misc taxes in lieu		32	(32)	Mostly class 1 - Residential
DOF	1950	5111	Federal Govt GIL (Van Port)		133	(133)	Class 5 - Light industry
DOF	1950	5115	CBUT GIL		2	(2)	Class 6 - Business
DOF	1950	5121	Pac Env Centre GIL		158	(158)	Classes 1/6/8 (say 50/50)
DOF	1950	5125	Capilano Fishery GIL		6	(6)	Class 6 - Light industry
DOF	1950	5151	Province of BC GIL		24	(24)	Class 1 - Residential
DOF	1950	5153	Vancouver Wharves GIL		2,000	(2,000)	Class 4 - Major industry
DOF	1950	5155	BC Hydro GIL		1,017	(1,017)	Classes 2/6 - say 50/50
DOF	1950	5157	ICBC GIL		71	(71)	Class 6 - Business
DOF	1950	5159	BC Rail GIL		175	(175)	Class 2 - Utility
Total Revenue Pool 8				-	3,618	(3,618)	
Subtotal, Tax Grants (include with taxes)				-	3,618	(3,618)	
Total Finance Department				12,667	11,219	1,448	

Step 2 - Primary Distribution

Cost Pool 5 - staff related costs		FTEs served	Expense
5a	Corporate Services	22	53
5b	Financial Services	34	83
5c	Executive Services	16	39
5d	Fire & Rescue Services	141	345
5e	PEPR Administration Services	24	60
5f	PEPR Engineering Operations	47	115
5g	PEPR Parks and Environment	55	135
5h	PEPR Planning	38	93
5i	PEPR Regulatory Services	46	113
5j	PEPR Visitor Attractions	41	101
		464	1,137

Cost Pool 6 - Debt service		% Project value	Expense
6a	Recreation Commission	70%	1,583
6b	Library	23%	520
6c	Archives	6%	136
6d	Parks	1%	23
		100%	2,261

Cost Pool 7 - Legal costs (per analysis)		Historical analysis	Expense (proportioned)
7a	Corporate Services	5	5
7b	Financial Services	2	2
7c	Executive Services	33	30
7d	Library	14	13
7e	PEPR Parks	1	1
7f	PEPR Environment	3	3
7g	PEPR Community Planning	55	50
7h	PEPR Building (permits)	1	1
7i	PEPR (bylaw, licences)	13	12
7j	PEPR Land	129	118
7k	General litigation	80	73
		336	307

Step 3 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	5,060	1,261	1,276	7,598
3	Users (residents) %	100			1,247	-	-	1,247
4	District service consumption %	70%	8%	22%	82	9	26	117
5a	Corporate Services consumption %	68%	8%	25%	36	4	13	53
5b	Financial Services consumption %	68%	9%	23%	56	8	19	83
5c	Executive Services consumption %	62%	5%	34%	24	2	13	39
5d	Fire and Rescue consumption %	70%	14%	16%	241	49	56	345
5e	PEPR Admin consumption %	65%	8%	27%	39	4	16	60
5f	PEPR Eng Ops consumption %	26%	3%	71%	30	4	82	115
5g	PEPR Parks & Env consumption %	91%	3%	6%	122	4	9	135
5h	PEPR Planning consumption %	71%	3%	27%	66	3	25	93
5i	PEPR Reg Servs consumption %	77%	8%	15%	87	9	17	113
5j	PEPR Visitor Attr consumption %	67%	17%	17%	67	17	17	101
6a	Rec Com consumption %	98%	1%	1%	1,550	16	16	1,583
6b	Library consumption %	93%	1%	5%	485	7	28	520
6c	Archives consumption %	88%	6%	6%	119	8	8	136
6d	PEPR Parks - consumption %	67%	17%	17%	15	4	4	23
7a	Corporate Services consumption %	68%	8%	25%	3	0	1	5
7b	Financial Services consumption %	68%	9%	23%	1	0	0	2
7c	Executive Services - consumption %	62%	5%	34%	19	1	10	30
7d	Library - consumption %	93%	1%	5%	12	0	1	13
7e	PEPR Parks - consumption %	67%	17%	17%	1	0	0	1
7f	PEPR Environment - consumption %	30%	20%	50%	1	1	1	3
7g	PEPR Community Planning cons. %	91%	2%	8%	46	1	4	50
7h	PEPR Building (permits) cons %	91%	2%	8%	1	0	0	1
7i	PEPR Regulatory Services cons %	77%	8%	15%	9	1	2	12
7j	PEPR Land consumption %	67%	17%	17%	78	20	20	118
7k	District service consumption %	70%	8%	22%	51	6	16	73
	Subtotal gross consumption	75%	11%	13%	9,549	1,438	1,681	12,667
Attribution of department revenues								
1	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	(4,869)	(1,214)	(1,228)	(7,311)
2	Daily trips %	63%	8%	29%	(126)	(16)	(58)	(200)
4	District service consumption %	70%	8%	22%	(63)	(7)	(20)	(90)
	Subtotal revenues	67%	16%	17%	(5,058)	(1,237)	(1,306)	(7,601)
General Government net consumption		89%	4%	7%	4,491	201	374	5,066

Grants in Lieu of Taxes								
8	Misc taxes in lieu	100%	0%	0%	(32)	-	-	(32)
8	Federal Govt GIL (Van Port)	0%	100%	0%	-	(133)	-	(133)
8	CBUT GIL	0%	0%	100%	-	-	(2)	(2)
8	Pac Env Centre GIL	50%	0%	50%	(79)	-	(79)	(158)
8	Capilano Fishery GIL	0%	100%	0%	-	(6)	-	(6)
8	Province of BC GIL	100%	0%	0%	(24)	-	-	(24)
8	Vancouver Wharves GIL	0%	100%	0%	-	(2,000)	-	(2,000)
8	BC Hydro GIL	0%	50%	50%	-	(509)	(509)	(1,017)
8	ICBC GIL	0%	0%	100%	-	-	(71)	(71)
7	BC Rail GIL	0%	100%	0%	-	(175)	-	(175)
		4%	78%	18%	(135)	(2,823)	(661)	(3,618)
Total Finance Departments		301%	-181%	-20%	4,356	(2,621)	(286)	1,448

Note: Totals may not balance due to rounding

Appendix E – Emergency Management Office

E.1 Cost pools

The Emergency Management office has a single cost pool.

E.2 Key principles and assumptions

The cost pool is split into three sub-pools in a primary distribution.

1 The first sub-pool reflects the fact that an estimated 10% of the office's time is spent preparing for man-made disasters. These are assumed to be industrial in nature.

2 The second sub-pool reflects the primacy of protection of life over protection of property. For working purposes we take the life/property ratio to be 80/20, but no objective data is available to establish a more appropriate ratio. The "life protection" sub-pool is distributed to taxpayer groups on the basis of their social vs. working time. Protection while at work is assumed to be an industrial or business cost.

3 The "property protection" sub-pool is distributed on the basis of the value of improvements.

E.3 Summary of analysis

The result of the analysis is:

	Net
Values $'000	$177
Residential	81 %
Industrial	2 %
Business/other	18 %

Totals may not balance because of rounding.

E.4 Details of analysis

Step 1 - Initial Cost Pools

		Net	Cost Drivers
Cost Pool 1 - direct service			
FIR	1965 North and West Van emergency	177	EMO estimate
	Total Cost Pool 1	177	
Total North/West Vancouver EMO		177	

Step 2 - Primary Distribution

Cost Pool 1		Ratio	Net	
1a	Planning for man-made disaster	10.0%	18	Responsibility
1b	Protection of life	72.0%	127	Social vs working time
1c	Protection of property	18.0%	32	Value of improvements
		100%	177	

Step 3 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1a	Responsibility %			100%	0	0	18	18
1b	Social vs working time %	89.4%	2.0%	8.6%	114	3	11	127
1c	Value of improvements $mill	90.8%	1.7%	7.5%	29	1	2	32
	Subtotal gross consumption	81%	2%	18%	143	3	31	177
Emergency Management Office consumption					143	3	31	177

Note: Totals may not balance due to rounding

Appendix F – Library

F.1 Cost pools

The Library has a single cost pool. Internal support services are distributed to direct services on the basis of direct service costs.

F.2 Key principles and assumptions

The Circulation and Community outreach service is distributed to the Adult and Children's services according to total circulation. Adult services are further split according to the domicile of adult members.

1 Cost share for adult non-residents of the District is treated as an employment expense. The costs are allocated in proportion to assumed employment (2.0 vs. 8.6).

2 The remaining costs for adult members are allocated to residents.

3 Children's and young adult's costs are allocated to residents.

F.3 Summary of analysis

The result of the analysis is:

	Net
Values $'000	$3,655
Residential	93 %
Industrial	1 %
Business/other	5 %

Totals may not balance because of rounding.

F.4 Details of analysis

Step 1 - Initial Cost Pools

	Net	Cost Drivers
DOF 1952 9051 Library subsidy		
Circulation and community outreach	1,158	
Adult collections and services	1,111	
Children's and young adult services	474	
Technical services	346	
Systems development and support	281	
Administration	285	
	3,655	
Reallocate support services		
Circulation and community outreach	1,540	
Adult collections and services	1,468	Primary, per circulation
Children's and young adult services	647	Secondary per users
	3,655	

Step 2 - Primary Distribution

Reallocate circulation and community outreach per circulation

Cost Pool 1 - Adult collections	Circulation '000		Exp.
Adult Collections and services	585		1,468
Circulation/outreach share			559
Total Cost Pool 1			2,027
1a Non-District residents (employed in the District)		12%	243
1b District residents		88%	1,784
			2,027
Cost Pool 2 - Children's and Young Adult's services			
Children's and young adult's services	1,026		647
Circulation/outreach share			981
Total Cost Pool 2			1,628
Total Library Subsidy			3,655

Step 3 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1a	Employment %		20%	80%	-	49	195	243
1b	Users (residents) %	100%			1,784	-	-	1,784
2	Users (residents) %	100%			1,628	-	-	1,628
	Subtotal gross consumption	93%	1%	5%	3,412	49	195	3,655
Library net consumption		93%	1%	5%	3,412	49	195	3,655

Note: Totals may not balance due to rounding

Appendix G – Museum and Archives

G.1 Cost pools

Museum and Archives has a single cost pool.

G.2 Key principles and assumptions

Two pools are created in a primary distribution, according to the source of visitors. The average distribution of visitors to the Archives, Presentation House and the PGE Station is 64% District/City and 36% other.

1 The cost share of local visitors is treated as residential consumption.

2 The cost of other visitors is distributed according to the tax shares of taxpayer groups.

G.3 Summary of analysis

The result of the analysis is:

	Net
Values $'000	$287
Residential	88 %
Industrial	6 %
Business/other	6 %

Totals may not balance because of rounding.

G.4 Details of analysis

Step 1 - Initial Cost Pools

		Net	Cost Drivers
Cost Pool 1 - direct service			
1952	9011 Museum and Archives	287	Primary per source of visitors Secondary per taxes paid
	Total Cost Pool 1	287	
Total Museum and Archives		287	

Step 2 - Primary Distribution

Cost Pool 1		Source of Visitors	Net
1a	City & District of North Vancouver	64%	184
1b	Other places	36%	103
			287

Step 3 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1a	Visitors (residents)%	100%			184	-	-	184
1b	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	69	17	17	103
	Subtotal gross consumption	88%	6%	6%	252	17	17	287
Museum and Archives consumption		88%	6%	6%	252	17	17	287

Note: Totals may not balance due to rounding

Appendix H – Recreation Commission

H.1 Cost pools

The North Vancouver Recreation Commission serves both District and City, and costs are shared between the two municipalities. Step 1 of the appendix spreadsheet summarises the District's share of each service.

We have established three cost pools:

1 Recreation programs
2 Centennial Theatre
3 Room rentals

H.2 Key principles and assumptions

1 Recreation programs are offered to non-residents of the City and District, but at a higher fee. Non-subsidized users are 4.78% of the total. We used a share of 5%. The consumption represented by these outsiders is shared between taxpayer groups in proportion to their tax payments.

2 The Recreation Commission reports that 15% of Centennial Theatre rentals are by commercial/industrial users. The balance is allocated to residents.

3 The Recreation Commission reports that 5% of room rental revenues come from commercial groups. The balance is allocated to residents.

H.3 Summary of analysis

The result of the analysis is:

	Net
Values $'000	$4,928
Residential	98 %
Industrial	1 %
Business/other	1 %

Totals may not balance because of rounding.

H.4 Details of analysis

Step 1 - Initial Cost Pools

			Net	Cost Drivers
DOF	1952	9045 Recreation Commission subsidy		
Cost Pool 1 - direct service				
Fitness and wellness			108	
Aquatics			754	
Sport			203	
Personal & social development			640	
Arena			684	Primary, District/City vs Other users Secondary direct & per tax shares
Admin and IT services			1,368	
Spec. needs, volunteers & financial.assistantce			147	
Program in the park			81	
New funding not approved			(133)	
Total Cost Pool 1			3,852	
Cost Pool 2 - direct service				
Centennial theatre centre			560	Primary, District/City vs Other users Secondary, direct & per tax shares
Total Cost Pool 2			560	
Cost Pool 3 - direct service				
Resale/room service/comm cons.			516	Primary, District/City vs Other users Secondary, direct & per tax shares
Total Cost Pool 3			516	
Total Recreation Commission Subsidy			4,928	

Step 2 - Primary Distribution

Cost Pool 1 - recreation services		%	Net	Cost Driver
1a	District/City users	95%	3,659	Residential
1b	Other users	5%	193	Tax shares of taxpayer groups
		100%	3,852	

Cost Pool 2 - Centennial Theatre		%	Net	
2a	District/City users	85%	476	Residential
2b	Other users	15%	84	Tax shares of taxpayer groups
		100%	560	

3 - Room rentals			Net	
3a	District/City users	95%	490	Residential
3b	Other users	5%	26	Tax shares of taxpayer groups
		100%	516	

Step 3 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1a	Users (residential)	100%			3,659	-	-	3,659
1a	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	128	32	32	193
2a	Users (residential)	100%			476	-	-	476
2b	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	56	14	14	84
3a	Users (residential)	100%			490	-	-	490
3b	Tax shares of taxpayer groups %	66.6%	16.6%	16.8%	17	4	4	26
	Subtotal gross consumption	98%	1%	1%	4,827	50	51	4,928
Recreation Commission net consumption		98%	1%	1%	4,827	50	51	4,928

Note: Totals may not balance due to rounding

Appendix I – Fire and Rescue Services

I.1 Cost pools

We were limited in the amount of time we were allowed to spend working with the department, and were not able to extract any details on usage and workloads. The Fire and Rescue Services budget is treated as a single cost pool and a single revenue pool.

I.2 Key principles and assumptions

Fire and Rescue Services responds to fire, accident and hazardous material emergencies. The department also has units providing fire education and safety inspections. The Fire and Rescue budget does not indicate the overall costs of these services.

The consumption of services is a function of the probability of demand, the intensity of demand (how many officers for how long), and the cost of equipment used.

By the nature of its activities, industrial places high demand on services. The fireboat, used primarily for protection of industrial is an expensive piece of equipment. Of serving officers, 18% are trained on the fireboat and they spend an estimated 12% of their time on training and operations. Hazardous material equipment is also expensive, and is maintained to meet industrial accidents. Twenty-one officers, or 17.5% of the total spend 10% of their time on hazmat training and operations. Some of the North Shore industries work around the clock. Others maintain normal business hours.

A business is also likely to place a higher demand on the service than a residence, because of the size of many businesses and the number of people involved.

In the absence of hard data, we developed consumption ratios on a logical basis. For the purposes of this analysis we assume that, compared to the average residence:

- The average major industry consumes 500 times as much service,
- The average light industry consumes 50 times as much service, and
- The average business consumes 5 times as much service.

We have not included utilities that have no employees and insignificant improvements ($819,000 in total), and Recreation/Non- profits with $319,000 in improvements).

Major industries have multiple property accounts for different parcels of contiguous land used for a single purpose. We suspect that the same may be true for larger light industry and business, but we have hard data only

for major business. The District has 9 major industries with 13 tax accounts:

Allied Shipbuilders Ltd
ERCO Worldwide
Western Stevedoring
Dow Chemical Terminals
Seaspan International
Fibreco Export Inc
BCR Marine
Nexalta
Nexen Chemicals

These assumptions generate the following consumption ratios:

	Properties/ Accounts	Demand Ratio	Weighted Factors	Consum Ratio
Residential	29,629	1	29,629	69.8 %
Industrial				
Major	9	500	4,500	
Light	30	50	1,500	
Total	39		6,000	14.1 %
Business/other	1,369	5	6,845	16.1 %
Total	31,041		42,474	100.0 %

The numbers above are intuitive, but would require a more detailed analysis than we were able to carry out to confirm or amend. However, they are a genuine attempt to reflect the varying demands of the different property classes. MMK and the NSWIA would welcome the opportunity to establish the consumption relationships from objective data.

The Fire and Rescue Service's revenue is derived from outside parties who pay for services such as training, a subsidy for a fire safety education program, payment for maintenance service on other parties' equipment, and sick pay reimbursement from the union and WCB. We treat these as outside receipts that reduce the funding that would otherwise be provided from taxes. The ratio used is tax shares of taxpayer groups.

I.3 Summary of analysis

	Costs	Revenues	Net
Value $'000	$12,630	($379)	$12,251
Residential	70 %	71 %	70 %
Industrial	14 %	12 %	14 %
Business/other	16 %	17 %	16 %

Totals may not balance because of rounding.

I.4 Details of analysis

Step 1 - Initial Cost Pools

			Expense	Revenue	Net	Cost Drivers
Cost Pool 1 - Direct Fire and Rescus services						
FIR	1300	Administration	2,638	60	2,578	
FIR	1309	Fireboat operations	52		52	
FIR	1311	Fire station 1 bldg maint	46		46	
FIR	1301	Fire operations	7,618	75	7,543	
FIR	1302	Community safety	365		365	
FIR	1303	Despatch & communications	323	160	163	
FIR	1304	Telecommunications	94		94	
FIR	1305	Training	188	23	165	
FIR	1306	Public education	103	11	92	
FIR	1307	Equipment maintenance	553		553	Estimate of need
FIR	1308	Logistics	404		404	
FIR	1312	Fire station 2 bldg maint	17		17	
FIR	1313	Fire station 3 bldg maint	16		16	
FIR	1314	Fire station 4 bldg maint	28		28	
FIR	1315	Fire station 5 bldg maint	16		16	
FIR	1316	Training center bldg maint	30		30	
FIR	1317	Building major maintenance..	89		89	
FIR	1319	Warranty operations	50	50	-	
			12,630	379	12,251	
Total Fire and Rescue Services			12,630	379	12,251	

Step 2 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	Estimate of need %	69.8%	14.1%	16.1%	8,816	1,781	2,033	12,630
	Subtotal gross consumption	70%	14%	16%	8,816	1,781	2,033	12,630
Attribution of department revenues								
2	Estimate of need %	70.9%	12.2%	16.7%	(269)	(46)	(63)	(379)
	Subtotal revenues	71%	12%	17%	(269)	(46)	(63)	(379)
Fire and Rescue Servs net consumption		70%	14%	16%	8,546	1,734	1,970	12,251

Note: Totals may not balance due to rounding

Appendix J – R C M P

J.1 Cost pools

Although the RCMP has a large number of specialized units, the superintendent responsible for the North Vancouver detachment informed us that cost breakdowns and case statistics were unavailable.

Accordingly we have kept all RCMP costs in a single pool.

J.2 Key principles and assumptions

The consumption of services by taxpayer groups is a function of the nature of the crime or potential crime, time devoted to it, and the cost of the units attending. Since this information has not been made available to us, we have used consumption ratios developed for KPMG's City of Vancouver study. These were 65/35 for residential/non-residential. We split the non-residential 20/80 between industrial and business, the same ratio as estimated value of improvements.

J.3 Summary of analysis

The result of the analysis is:

	Costs	Revenues	Net
Value $'000	$12,102	($82)	$12,020
Residential	65 %	65 %	65 %
Industrial	7 %	7 %	7 %
Business/other	28 %	28 %	28 %

Totals may not balance because of rounding.

J.4 Details of analysis

Step 1 - Initial Cost Pools

			Expense	Revenue	Net	Cost Drivers
Cost Pool 1 - direct RCMP service						
POL	1250	RCMP contract	9,051		9,051	
POL	1251	City of NV agreement	2,857		2,857	
POL	1252	Lynn Valley storefront	100		100	Estimated use (per City of
POL	1253	Edgemont storefront	94		94	Vancouver study)
POL	1254	Revenue and expenditure		82	(82)	
		Total Cost Pool 1	12,102	82	12,020	
Total RCMP			12,102	82	12,020	

Step 2 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	Estimated use	65%	7%	28%	7,866	847	3,389	12,102
	Subtotal gross consumption	65%	7%	28%	7,866	847	3,389	12,102
Attribution of department revenues								
1	Estimated use	65%	7%	28%	(53)	(6)	(23)	(82)
	Subtotal revenues	65%	7%	28%	(53)	(6)	(23)	(82)
R C M P net consumption		65%	7%	28%	7,813	841	3,366	12,020

Note: Totals may not balance due to rounding

Appendix K – Planning, Engineering, Parks and Regulatory Services – Administration Services

K.1 Cost pools

PEPR Administration Services has 5 cost pools:

1. Administration
2. Design and drafting
3. GIS and mapping
4. Street lighting (hydro costs)
5. Capital recovery

K.2 Key principles and assumptions

1 The Administration pool is distributed to taxpayer groups in the same proportions as the consumption ratios for the PEPR department as a whole.

2 Major direct users of design and drafting are the utilities, Transportation division and properties division (for development applications). Costs are initially distributed to these units in proportion to the staff FTEs serving each unit. Subsequently the costs are allocated to taxpayer groups in the same proportion as the relevant direct service unit totals. Work for utilities is treated as work for outside entities and is distributes to taxpayer groups in proportion to their tax shares.

3 The GIS and mapping costs are initially distributed to departments and divisions on the basis of the frequency of calls on GIS. These costs are then allocated in proportion to consumption ratios of the user departments (utilities per tax shares). Some of the costs are used by small departments and by consultants to the District. We treated all these as general services and allocated them according to the District-wide consumption pattern. Revenue for sales of GIS maps has been credited to business.

4 Street lighting cost is distributed on the basis of daily trips for residential, industrial and business purposes. There is an argument that night-time trips would have a higher ratio of residential trips than for the day as a whole. However we had no basis for this adjustment. Revenues are from an outside body and are apportioned according to tax shares of taxpayer groups.

5 Capital cost recovery is a charge for engineering services to capital projects. The revenue is reflected in the Administration Services division and is distributed on the basis of the consumption of total PEPR department costs..

K.3 Summary of analysis

The result of the analysis is:

	Costs	Revenues	Net
Value $'000	$2,267	($1,723)	$544
Residential	65 %	67 %	62 %
Industrial	8 %	16 %	(20 %)
Business/other	27 %	17 %	58 %

Totals may not balance because of rounding.

K.4 Details of analysis

Step 1 - Initial Cost Pools

			Expense	Revenue	Net	Cost Drivers
Cost Pool 1 - departmental support service						
Administration and support						
DCP	1350	Administration	222		222	
PES	1400	Engineering management	131	13	118	
PES	10349	Engineering records improvemnet	23	23	-	
						Departmental direct service consumption.
Budgets, systems, front office						
PES	1401	Engineering front office	192		192	
PES	1402	Engineering budget administratior	227		227	
		Total Cost Pool 1	795	36	759	
Cost Pool 2 - district support service						
Design services						
PES	1406	Design and drafting	397	7	390	Primary, staff responsibilities
		Total Cost Pool 2	397	7	390	Secondary other cost drivers
Cost Pool 3 - GIS and mapping						
PES	1407	GIS and Mapping	560	6	554	Expenses primary, request frequency, Secondary, service consumption. Revenues business.
		Total Cost Pool 3	560	6	554	
Cost Pool 4 - direct service						
PES	1412	Street lighting	515	54	461	Expenses per daily trips. Revenues per taz shares of taxpayer groups.
		Total Cost Pool 4	515	54	461	
Cost Pool 5- revenue						
PES	1405	Capital recovery		1,620	(1,620)	Tax shares of taxpayer groups
		Total Cost Pool 5	-	1,620	(1,620)	
Total Administrative Services			2,267	1,723	544	

Step 2 - Primary Distribution

Cost Pool 2 - design and draft. support serv.		FTEs	Expense	Rev.	Cost Driver
2a	Water/Sewer Utilities	2	159	3	Tax share of taxpayer groups
2b	Transportation	2	159	3	Streets usage (daily trips)
2c	Development applications	1	79	1	Value of improvements
		5	397	7	

Cost Pool 3 - GIS and mapping		%	Expense	Rev.	
3a	Utilities	11	62		Tax share of taxpayer groups
3b	Transportation	11	62		Streets usage (daily trips)
3c	Parks	10	56		PEPR Parks and Environment cons
3d	Mayor	5	28		Mayor service consumption
3e	RCMP	3	17		RCMP service consumption
3f	Fire and Rescue	3	17		Fire and rescue service consumptio
3g	Planning	15	84		PEPR Planning consumption
3h	Other departments	16	90		
3h	Consultants	26	146		
3h		42	235		District services consumption
3				6	Consumers (business)
	Total Cost Pool 3	100	560	6	

Step 3 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	PEPR Dept service consumption %	61%	6%	33%	488	47	260	795
2a	Tax share of taxpayer groups %	66.6%	16.6%	16.8%	106	26	27	159
2b	Daily trips	63%	8%	29%	100	13	46	159
2c	Value of improvements %	90.8%	1.7%	7.5%	72	1	6	79
3a	Tax share of taxpayer groups %	66.6%	16.6%	16.8%	41	10	10	62
3b	Streets usage (daily trips)	63%	8%	29%	39	5	18	62
3c	PEPR Parks and Env cons %	91%	3%	6%	51	2	4	56
3d	Mayor service consumption %	60%	4%	36%	17	1	10	28
3e	RCMP service consumption %	65%	7%	28%	11	1	5	17
3f	Fire and rescue serv consumption %	70%	14%	16%	12	2	3	17
3g	PEPR Planning consumption %	71%	3%	27%	59	2	22	84
3h	District service consumption %	70%	8%	22%	164	18	52	235
4	Streets usage (daily trips)	63%	8%	29%	324	41	149	515
	Subtotal gross consumption	65%	8%	27%	1,484	170	612	2,267
Attribution of department revenues								
1	PEPR Dept service consumption %	61%	6%	33%	(22)	(2)	(12)	(36)
2a	Tax share of taxpayer groups %	66.6%	16.6%	16.8%	(2)	(0)	(0)	(3)
2b	Daily trips	63%	8%	29%	(2)	(0)	(1)	(3)
2c	Value of improvements %	90.8%	1.7%	7.5%	(1)	(0)	(0)	(1)
3	Tax share of taxpayer groups %	66.6%	16.6%	16.8%	(4)	(1)	(1)	(6)
4	Tax share of taxpayer groups %	66.6%	16.6%	16.8%	(36)	(9)	(9)	(54)
5	Tax share of taxpayer groups %	66.6%	16.6%	16.8%	(1,079)	(269)	(272)	(1,620)
	Subtotal revenues	67%	16%	17%	(1,146)	(282)	(295)	(1,723)
PEPR Admin Servicess net consumption		62%	-20%	58%	338	(111)	317	544

Note: Totals may not balance due to rounding

Appendix L – Planning, Engineering, Parks and Regulatory Services – Engineering Operations

L.1 Cost pools

The Engineering Operations of PEPR has five cost pools:

1 Streets
2 Construction and inspection
3 Survey
4 Fleet maintenance
5 Solid waste

L.2 Key principles and assumptions

1 Streets costs and revenues are distributed to taxpayer groups on the basis of daily trips.

2 Construction and inspection relates largely to private property. It is distributed on the basis of the value of improvements.

3 The Survey section costs are initially distributed to user units. Subsequently they are distributed according to taxpayer consumption of the costs of the user units.

4 The fleet management section shows a credit, arising from the fact that user charges exceed the costs of operating the fleet. The credit should be distributed in the same proportion as the charges, but this information is not available. Consequently we use the overall District consumption ratios to distribute the fleet maintenance surplus.

5 The Solid Waste section is self-financed. User charges cover 100% of the costs. The only services to industrial and business are made under voluntary contacts. Industrial and business are willing payers. We have distributed the offsetting costs and revenues to the residential tax group.

L.3 Summary of analysis

The result of the analysis is:

	Costs	Revenues	Net
Value $'000	$7,414	($4,871)	$2,543
Residential	26 %	4 %	68 %
Industrial	3 %	0 %	8 %
Business/other	71 %	96 %	24 %

Totals may not balance because of rounding.

L.4 Details of analysis

Step 1 - Initial Cost Pools

	Expense	Revenue	Net	Cost Drivers
Cost Pool 1 - direct service				
Streets, construction & survey				
PES 1581 MRN street maintenance		147	(147)	
PES 1590 Indian reserve street maintenance		24	(24)	
PES 1413 Minor maintenace projects	10		10	
PES 1416 Wharves	15		15	
PES 1514 Streets administration	291		291	
PES 1518 Streets supervision	197		197	
PES 1520 Inspection/maintenance supervision	187		187	
PES 1521 General maintenance activities	400		400	
PES 1524 Roadways	111		111	
PES 1525 Asphalt	106		106	Daily trips
PES 1526 Concrete (private works)	66	66	0	
PES 1527 Concrete	175		175	
PES 1528 Spoiled material handling	57		57	
PES 1530 Structures	22		22	
PES 1531 Barricade/fence maintenance	11		11	
PES 1533 Engineering operations management	199		199	
PES 1522 Snow and ice removal	257		257	
PES 1523 Snow and ice	141		141	
Total Cost Pool 1	2,245	237	2,008	
Cost Pool 2 - direct service				
PES 1404 Construction and inspection				
PES 1404 5865 Private subdivision fee		20	(20)	
PES 1404 5866 Constr insp fee private dev		10	(10)	Value of improvements
PES 1404 7000 Expenditures	372		372	
Total Cost Pool 2	372	30	342	
Cost Pool 3 - district support service				Primary, per staff responsibilities
PES 1408 Survey services	541		541	Secondary per service consumption
Total Cost Pool 3	541	0	541	
Cost Pool 4 - district support service				
Fleet maintenance				
PES 1534 Fleet use charges	(1,733)	23	(1,756)	
PES 1538 Fleet garage supervision	44		44	
PES 1539 Fleet safety and training	15		15	Departmental service
PES 1541 Fleet	743		743	consumption
PES 1542 Equipment/vehicle repair	564		564	
PES 1544 Small equipment	42		42	
Total Cost Pool 4	(325)	23	(348)	

Cost Pool 5 - direct service					
Recycling & Solid Waste					
PES	1547	Solid waste administration	306	306	
PES	1548	Solid waste management	83	83	
PES	1550	Solid waste safety	11	11	
PES	1552	SH residential garbage	1,911	2,205	(294)
PES	1554	Residential containers	32	40	(8)
PES	1555	SF residential yard trimmings	570	661	(91)
PES	1557	Commercial waste	732	875	(143) Consumers (residents)
PES	1559	Commercial containers	43	43	
PES	1561	Jitney service	33	33	
PES	1563	Bus stop collection	34	34	
PES	1565	Special events/charities	2	2	
PES	1567	Bear awarenes	24	24	
PES	1770	Recycling CDNV share	800	800	0
		Total Cost Pool 5	4,581	4,581	0
Total Engineering Operations			7,414	4,871	2,543

Step 2 - Primary Distribution

Cost Pool 3 - survey services	%	Expense	Rev.	
3a Construction	14	131	0	Streets usage (daily trips)
3b Utilities	14	131	0	Tax share of taxpayer groups
3c Parks	14	131	0	PEPR Parks section consumption
3d Land	16	149	0	PEPR Properties section consumpti
	58	541	0	

Step 3 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	Daily trips %	63%	8%	29%	1,414	180	651	2,245
2	Value of improvements %	90.8%	1.7%	7.5%	338	6	28	372
3a	Daily trips %	63%	8%	29%	82	10	38	131
3b	Tax share of taxpayer groups	70.9%	12.2%	16.7%	93	16	22	131
3c	PEPR Parks section consumption %	71%	12%	17%	93	16	22	131
3d	PEPR Properties section consumption	71%	12%	17%	106	18	25	149
4	PEPR Dept service consumption %	62%	5%	33%	(202)	(16)	(107)	(325)
5	None	0%	0%	100%	0	0	4,581	4,581
	Subtotal gross consumption	26%	3%	71%	1,924	231	5,260	7,414
Attribution of department revenues								
1	Daily trips %	63%	8%	29%	(149)	(19)	(69)	(237)
2	Value of improvements %	90.8%	1.7%	7.5%	(27)	(1)	(2)	(30)
4	PEPR Dept service consumption %	62%	5%	33%	(14)	(1)	(8)	(23)
5	None	0%	0%	100%	0	0	(4,581)	(4,581)
	Subtotal revenues	4%	0%	96%	(191)	(21)	(4,660)	(4,871)
PEPR Engineering Ops net consumption		68%	8%	24%	1,733	210	600	2,543

Note: Totals may not balance due to rounding

Appendix M – Planning, Engineering, Parks and Regulatory Services – Parks and Environment

M.1 Cost pools

The Parks and Environment division of PEPR has three cost pools:

1 Administration
2 Parks operations
3 Environmental services

M.2 Key principles and assumptions

1 The administration cost pool is distributed according to the consumption pattern of the division as a whole.

2 A primary distribution splits park usage between local and outside residents. A 1998 survey of park use reported that 68% of visitors to Lynn Canyon and 56% of visitors to Cates Park lived outside the District. It is not identified in the budget, but division management states that the cost of these parks is only a small portion of the total. We assume that outside visitors consume 60% of 10% of the costs i.e. 6 % of the total. This cost is further distributed according to tax shares of taxpayer groups.

3 The work of Environmental Services relates to monitoring environmental issues. Division management estimates the relative workloads to be 30/20/50 for residential, industrial and business taxpayer groups.

M.3 Summary of analysis

The result of the analysis is:

	Costs	Revenues	Net
Value $'000	$4,621	($361)	$4,260
Residential	91 %	80 %	92 %
Industrial	3 %	6 %	3 %
Business/other	6 %	14 %	6 %

Totals may not balance because of rounding.

M.4 Details of analysis

Step 1 - Initial Cost Pools

			Expense	Revenue	Net	Cost Drivers
Cost Pool 1 divisional support service						
Admin, Technical & Construction						
PES	1600	Parks administration	235		235	
PES	1615	Parks construction/technical man	82		82	Division service consumption
PES	1627	Parks construction & technical ad	76		76	
	Total Cost Pool 1		393	0	393	
Cost Pool 2 - direct service						
Parks Operation						
PES	1582	MRN median maintenance		47	(47)	
PES	1607	Parks urban parkland supervsion	264		264	
PES	1611	Parks staff training	15		15	
PES	1612	Parks trees	184		184	
PES	1613	Parks vandalism repairs	60		60	
PES	1619	Tree contract work	120		120	
PES	1621	Parks trails/pathways	33		33	
PES	1626	Parks wild bird trus	9		9	
PES	1628	Parks natural parkland admin	98		98	
PES	1631	Parks trails & habitat coord	77		77	
PES	1632	Parks advisory committee	4		4	
PES	1634	Parks vehicle rest time	48		48	
PES	1638	Parks graffiti removal	23		23	
PES	1639	Parks school playground grant an	66		66	
PES	1641	Parks school field maintenance	60		60	
PES	1650	Parks general maintenance	343	24	319	
PES	1651	Parks leaf/litte control	239		239	
PES	1652	Parks ball diamond field	129		129	
PES	1653	Parks irrigation system maintenan	98		98	
PES	1654	Parks tree/shrub planting	23		23	Estimated origin of visitors
PES	1655	Parks flower bed maintenance	102		102	
PES	1656	Horticulture	262		262	
PES	1657	Parks soil amendment stockpile	45		45	
PES	1658	Parks buildings/structures	311	(1)	312	
PES	1659	Parks memorial structures	27	27	0	
PES	1660	Playgrounds/waterparks	58		58	
PES	1662	Parks buildings & fields operating	148		148	
PES	1663	Parks sign carving/painting	78		78	
PES	1664	Parks drainage maintenance	55		55	
PES	1665	Parks roads/parking lot surfacing	81		81	
PES	1666	Parks urban pathways	83		83	
PES	1667	Parks public event support	21		21	
PES	1668	Parks caretaking operations	214		214	
PES	1669	Parks sportsfields	287	82	205	
PES	1672	Parks small equipments	30		30	
PES	1680	Parks Cates Park boat launch	4	34	(30)	
PES	10051	Trans-Canada trail pavillion	1		1	
PES	10052	Upper Lynn Valley parking	28		28	
PES	10694	School playground	50	50	0	
	Total Cost Pool 2		3,778	263	3,515	

Cost Pool 3 - direct service						
Environment Services						
DCP	1374	Environment department				
DCP	1374	7000 Expenditures	394		394	
DCP	1374	5465 Aquatic permits		12	(12)	
DCP	1374	5481 Soil permits		24	(24)	
DCP	1374	5491 Tree permits		12	(12)	
DCP	1374	5531 Environment fines/penalties		3	(3)	Estimate of cause of management
DCP	1374	6241 Tree quotations		1	(1)	involvement
DCP	10050	West Nile virus education	10		10	
DCP	10686	Urban salmon habitat	30	30	0	
DCP	10687	Yolko habitat restoration	3	3	0	
DCP	10688	Habitat restoration	13	13	0	
	Cost Pool 3		450	98	352	
Parks & Environment			4,621	361	4,260	

Step 2 - Primary Distribution

Cost Pool 2 - Parks operation		%	Expense	Rev.	Cost Driver
2a	Outside visitors	6%	227	16	Tax share of taxpayer groups
2c	District visitors	94%	3,551	247	Users
		100%	3,778	263	

Step 2 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	Division direct serv consumption %	89%	3%	8%	350	12	31	393
2a	Tax share of tazpayer groups %	70.9%	12.2%	16.7%	161	28	38	227
2b	Users (residents) %	100%	0%	0%	3,551	0	0	3,551
3	Estimated ratio of calls %	30%	20%	50%	135	90	225	450
	Subtotal gross consumption	91%	3%	6%	4,197	130	294	4,621
Attribution of department revenues								
2a	Tax share of tazpayer groups %	70.9%	12.2%	16.7%	(11)	(2)	(3)	(16)
2b	Users (residents) %	100%	0%	0%	(247)	0	0	(247)
3	Estimated ratio of calls %	30%	20%	50%	(29)	(20)	(49)	(98)
	Subtotal revenues	80%	6%	14%	(288)	(22)	(52)	(361)
PEPR Parks & Environ. Net consumption		92%	3%	6%	3,909	108	243	4,260

Note: Totals may not balance due to rounding

Appendix N – Planning, Engineering, Parks and Regulatory Services – Planning

N.1 Cost pools

The Planning division of the PEPR Department has five cost pools:

1 Community planning
2 Social planning
3 Tourism, arts and culture
4 Transportation planning
5 Parks planning
6 Planning advisory committees

N.2 Key principles and assumptions

1 Community planning relates to the development and redevelopment of residential, industrial and business areas. We have used the value of improvements as a driver.

2 Social planning serves residents.

3 The Tourism arts and culture section serves business interests.

4 Taxpayer groups consume transportation planning in the ratio of daily trips.

5 Parks planning costs are allocated according to the consumption of the Parks and Environment division.

6 Special advisory committees are a service to residents.

N.3 Summary of analysis

The result of the analysis is:

	Costs	Revenues	Net
Value $'000	$3,995	($993)	$3,002
Residential	71 %	39 %	81 %
Industrial	3 %	1 %	3 %
Business/other	27 %	60 %	16 %

Totals may not balance because of rounding.

N.4 Details of analysis

Step 1 - Initial Cost Pools

	Expense	Revenue	Net	Cost Drivers
Cost Pool 1 - direct service				
Community Planning				
DCP 1351 Planning administration				
DCP 1351 6231 Rezoning, dev permit fee		79	(79)	
DCP 1351 7000 Expenditure	1,387		1,387	
DCP 1369 Engineering services administration	205		205	Value of improvements
DCP 10344 Dcp process review Ph 2	65	65	0	
DCP 10320 Zoning bylaw rewrite	40	40	0	
Total Cost Pool 1	1,697	184	1,513	
Cost Pool 2 - direct service				
Social Planning				
DCP 1352 Social planning administration	221		221	
DCP 1356 Special youth worker shared	50		50	
DCP 1357 Spl North Shore Childcare Society	39		39	Consumers (residents)
DCP 10699 Violence prevention	2	2	0	
Total Cost Pool 2	312	2	310	
Cost Pool 3 - direct service				
Tourism, Arts, Culture				
DCP 1377 Economic Cultural development	445	283	162	
PES 1505 Movie filming	109	172	(63)	
DCP 10692 Tourism art cult	22	22	0	
DCP 10667 Dcp unalloc arts funding	61	61	0	Consumers (business)
DCP 10667 Dcp unalloc arts funding	4	4	0	
DCP 10703 Dcp unalloc art NV cult pl	13	13	0	
Total Cost Pool 3	654	555	99	
Cost Pool 4 - direct service				
Transportation Planning				
PES 1500 Transportation planning	276		276	
PES 1501 Cmte transportation advisory	6		6	
PES 1502 Traffic operations	217	28	189	
PES 1504 Traffic counts and studies	17		17	
PES 1506 Traffic visibility	0	0	0	
PES 1508 Traffic signal maintenance	83		83	Daily trips
PES 1512 Traffic work orders	272	6	266	
PES 1513 Line painting	0	0	0	
PES 1566 Transportation grants	5	5	0	
PES 1583 MRN traffic sign, signal, markings	46	46	0	
Total Cost Pool 4	922	85	837	

Cost Pool 5 - direct service					
Parks Planning					
PES	1614	Parks planning and presentation	183	183	PEPR Parks consumption
		Total Cost Pool 5	183	0	183	
Cost Pool 6 - direct service					
Planning advisory committees					
DCP	1383	Pln Maplewood Charette	160	160	0	
DCP	1902	Pln cmte advisor design panel	10		10	
DCP	1903	Pln cmte advisory planning	9		9	
DCP	1904	Pln cmte community heritage	11		11	Consumers (residents)
DCP	1906	Spl cmte community service	5		5	
DCP	1907	Spl cmte family court	22		22	
DCP	1908	Spl cmte advisory disability	10	7	3	
		Total Cost Pool 6	227	167	60	
Total Planning			3,995	993	3,002	

Step 2 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	Value of improvements $ million	90.8%	1.7%	7.5%	1,541	29	127	1,697
2	Consumers (residents) %	100%	0%	0%	312	0	0	312
3	Consumers (business) %	0%	0%	100%	0	0	654	654
4	Daily trips %	63%	8%	29%	581	74	267	922
5	Parks/Env division consumption %	91%	3%	6%	166	5	12	183
6	Consumers (residents) %	100%	0%	0%	227	0	0	227
otal gross consumption		71%	3%	27%	2,827	108	1,060	3,995
Attribution of department revenues								
1	Value of improvements $ million	90.8%	1.7%	7.5%	(167)	(3)	(14)	(184)
2	Consumers (residents) %	100%	0%	0%	(2)	0	0	(2)
3	Consumers (business) %	0%	0%	100%	0	0	(555)	(555)
4	Daily trips %	63%	8%	29%	(54)	(7)	(25)	(85)
6	Consumers (residents) %	100%	0%	0%	(167)	0	0	(167)
	Subtotal revenues	39%	1%	60%	(390)	(10)	(593)	(993)
PEPR Planning net consumption		81%	3%	16%	2,437	98	467	3,002

Note: Totals may not balance due to rounding

Appendix O – Planning, Engineering, Parks and Regulatory Services – Regulatory Services

O.1 Cost pools

The Regulatory Services division of the PEPR department has eight cost pools:

1 Permits administration
2 Municipal hall operations
3 Land administration and operation of rented municipal properties.
4 Operations Center building operations and maintenance
5 Animal welfare
6 Business licences
7 Traffic enforcement
8 Sign permits
9 Park rangers

O.2 Key principles and assumptions

1 Permits administration deals with property development. The cost and revenue is distributed according to the value of improvements.

2 Municipal Hall serves all units of the municipality. The costs are distributed according to overall consumption of District costs.

3 Land administration yields a small surplus. Costs and revenues are distributed to taxpayer classes according to their shares of taxes paid.

4 The costs of the Operations Center building are incurred to served the PEPR department. They are distributed to taxpayer groups in proportion to the distribution of total PEPR costs.

5 Animal welfare (pound and licensing) is a service to residents.

6 Business licence revenues are credited to industrial and business groups in proportion to the number of tax accounts.

7 Traffic enforcement costs and revenues are distributed in proportion to daily trips.

8 Revenue from property use signs is credited to the business group.

9 The cost of Park rangers is distributed in the same ratio as the consumption of Parks section costs in the Parks and Environment division.

O.3 Summary of analysis

The result of the analysis is:

	Costs	Revenues	Net
Value $'000	$4,281	($3,673)	$608
Residential	77 %	63 %	161 %
Industrial	8 %	7 %	13 %
Business/other	15 %	30 %	(74 %)

Totals may not balance because of rounding.

The business group has a negative net consumption because its attributed revenues in this department exceed its share of costs.

O.4 Details of analysis

Step 1 - Initial Cost Pools

	Expense	Revenue	Net	Cost Drivers
Building department				
Cost Pool 1 - direct service				
DCP 1364 Permits administration	400	756	(356)	
DCP 1368 Plans review	306		306	
DCP 1365 Building	337		337	
DCP 1366 Electrical	173	259	(86)	Value of improvements
DCP 1367 Mechanical	246	238	8	
Total Cost Pool 1	1,462	1,253	209	
Properties Department				
Cost Pool 2 - direct service				
DCP 1358 Municipal hall operation	316		316	
DCP 1359 Municipal hall security	28		28	District direct service
DCP 1360 Municipal hall grounds maintenance	34		34	consumption
Total Cost Pool 2	378	0	378	
Cost Pool 3 - direct service				
DCP 1361 Municipal rental properties	191		191	
DCP 1371 Land administration				
DCP 1371 7000 Expenditure	499		499	
DCP 1371 8895 Riv Operating Exp NHB head l	358		358	
DCP 1371 8899 Other VPC leases	5		5	
DCP 1371 5611 Rents CDNV property		757	(757)	
DCP 1371 5621 Riv CNAG lease revenue		5	(5)	
DCP 1371 5623 Riv CNAG sublease revenue #1		223	(223)	Tax share of taxpayer groups
DCP 1371 5629 Riv BA blktp sublease revenue		130	(130)	
DCP 1371 6211 Conveyance fees		3	(3)	
DCP 1371 6221 Land title search fee recovery		5	(5)	
DCP 1381 Community buildings	48	15	33	
DCP 1382 Land Gallant Ave. wharf operation	25	25	0	
Total Cost Pool 3	1,126	1,163	(37)	
Cost Pool 4 - departmental support service				
PES 1411 OC building maintenance and operati	302		302	Departmental direct service
Total Cost Pool 4	302	0	302	consumption
Bylaw Services				
Cost Pool 5 - direct service				
DCP 1362 Animal welfare general operation	293	2	291	
DCP 1363 Animal placement program	36	324	(288)	User (residential)
Total Cost Pool 5	329	326	3	
Cost Pool 6 - business licences				
DCP 1370 Licence administration		798	(798)	
Total Cost Pool 6	0	798	(798)	Payer (industry and business)

Cost Pool 7 - direct service				
DCP 1373 Law enforcement (traffic)	496	123	373	Streets/traffic service
Total Cost Pool 7	496	123	373	consumption
Cost Pool 8 - direct service				
DCP 1372 Property use (sign permits)		10	-10	Payer (business)
Total Cost Pool 8	0	10	-10	
Cost Pool 9 - direct service				
PES 1620 Parks ranger program	114		114	
PES 1633 Parks senior ranger	74		74	PEPR Parks service consumption
Total Cost Pool 9	188	0	188	
Total Regulatory Services	4,281	3,673	608	

Step 2 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	Value of improvements $ million	90.8%	1.7%	7.5%	1,327	25	110	1,462
2	District service consumption %	70%	8%	22%	264	30	84	378
3	Tax share of taxpayer groups %	66.6%	16.6%	16.8%	750	187	189	1,126
4	PEPR Dept service consumption %	61%	6%	33%	185	18	99	302
5	Users (residential) %	100%	0%	0%	329	0	0	329
6	Number industry/business taxpayers		43	1,369	0	0	0	0
7	Daily trips %	63%	8%	29%	312	40	144	496
8	Payers (business) %	0%	0%	100%	0	0	0	0
9	PEPR Parks section consumption %	67%	17%	17%	125	31	32	188
	Subtotal gross consumption	77%	8%	15%	3,294	330	657	4,281
Attribution of department revenues								
1	Value of improvements $ million	90.8%	1.7%	7.5%	-1,138	-21	-94	-1,253
2	District service consumption %	70%	8%	22%	0	0	0	0
3	Tax share of taxpayer groups %	66.6%	16.6%	16.8%	-775	-193	-195	-1,163
4	PEPR Dept service consumption %	61%	6%	33%	0	0	0	0
5	Users (residential) %	100%	0%	0%	-326	0	0	-326
6	Number industry/business taxpayers		43	1,369	0	-24	-774	-798
7	Daily trips %	63%	8%	29%	-77	-10	-36	-123
8	Payers (business) %	0%	0%	100%	0	0	-10	-10
9	PEPR Parks section consumption %	67%	17%	17%	0	0	0	0
	Subtotal revenues	63%	7%	30%	-2,316	-249	-1,109	-3,673
PEPR Regulatory Services net consumption		161%	13%	-74%	978	82	-451	608

Note: Totals may not balance due to rounding

Appendix P – Planning, Engineering, Parks and Regulatory Services – Visitor Attractions

P.1 Cost pools

The Visitor Attractions department is treated as a single cost pool.

P.2 Key principles and assumptions

The attractions generate a small surplus. Costs and revenues are distributed to taxpayer groups in proportion to their shares of taxes.

P.3 Summary of analysis

The result of the analysis is:

	Costs	Revenues	Net
Value $'000	$3,064	($3,154)	($90)
Residential	67 %	67 %	67 %
Industrial	17 %	17 %	17 %
Business/other	17 %	17 %	17 %

Totals may not balance because of rounding.

P.4 Details of analysis

Step 1 - Initial Cost Pools

			Expense	Revenue	Net	Cost Drivers
Cost Pool 1 - direct service						
Northlands Golf Course						
PES	1700	Northlands administratior	439	4	435	
PES	1701	Northlands retail store	80	130	-50	
PES	1702	Northlands clubhouse ope	84		84	
PES	1703	Northlands golf play	323	28	295	
PES	1704	Northlands course mainte	875	3	872	
PES	1705	Northlands mechanical	108		108	
PES	1706	Northlands cart rentals	141	308	-167	
PES	1707	Northlands bar and grill	94	94	0	
PES	1708	Northlands green fees		2,116	-2,116	
PES	1709	Northlands turfcare/pum	56		56	
Murdo Fraser Pitch & Put						
PES	1710	Murdo golf course	140	140	0	
PES	1711	Murdo retail store	32	5	27	
Ecology Centre						
PES	1624	Ecology centre	215	31	184	
PES	1625	Ecology centre retail store	16	25	-9	
Lynn Canyon Visitor Centre						
PES	1623	Lynn Canyon visitor centr	18	18	0	
Maplewood Farm						
PES	1616	Parks Maplewood Farm ad	128	199	-71	
PES	1617	Parks Maplewood Farm op	305		305	
PES	1618	Parks Maplewood Farm re	10	53	-43	
		Total Cost Pool 1	3,064	3,154	-90	Tax share of taxpayer groups
Total Visitor Attractions			3,064	3,154	-90	

Step 2 - Drive Costs to Taxpayer Groups

Pool	Cost Driver	Taxpayer Ratios			Costs and Revenues			
		Res.	Ind.	Bus.	Res.	Ind.	Bus.	Total
Consumption of department services								
1	Tax share of taxpayer groups	66.6%	16.6%	16.8%	2,041	509	515	3,064
	Subtotal gross consumption	67%	17%	17%	2,041	509	515	3,064
Attribution of department revenues								
1	Tax share of taxpayer groups	66.6%	16.6%	16.8%	-2,101	-524	-530	-3,154
	Subtotal revenues	67%	17%	17%	-2,101	-524	-530	-3,154
Vistor Attractions net consumption		67%	17%	17%	-60	-15	-15	-90

Note: Totals may not balance due to rounding

Appendix Q – Summary of gross consumption, revenues attributed and net consumption, by department

The following pages list the calculated ratios of gross consumption, revenues attributed and net consumption for each department, and for the District as a whole. Gross consumption ratios have been used in the financial model to distribute the cost of support centers to taxpayer groups in the same ratios as the department being supported. Grants in Lieu of Taxes amounting to $3.618 million are added to tax revenues in subsequent analyses.

The result of the analysis is:

	Costs	Revenues	Net
Value $ million	$78.345	($23.381)	$54.964
Residential	69.9 %	51.6 %	77.5 %
Industrial	7.9 %	10.5 %	6.7 %
Business/other	22.3 %	3706 %	15.7 %

Totals may not balance because of rounding.

Gross Consumption

App.	Division/Department	Taxpayer ratios				Cost and Revenues $'000			
		Residential	Industry	Business	Total	Residential	Industry	Business	Total
A	Corporate Services	68%	8%	25%	100%	1,835	211	670	2,716
B	Financial Services	68%	9%	23%	100%	1,387	190	469	2,046
C	Executive Services	62%	5%	34%	100%	924	70	501	1,495
D	General Government	75%	11%	13%	100%	9,549	1,438	1,681	12,667
E	Emergency Management Office	81%	2%	18%	100%	143	3	31	177
F	Library	93%	1%	5%	100%	3,412	49	195	3,655
G	Museum and Archives	88%	6%	6%	100%	252	17	17	287
H	Recreation Commission	98%	1%	1%	100%	4,827	50	51	4,928
I	Fire and Rescue Services	70%	14%	16%	100%	8,816	1,781	2,033	12,630
J	R C M P	65%	7%	28%	100%	7,866	847	3,389	12,102
K	PEPR Administration Services	65%	8%	27%	100%	1,484	170	612	2,267
L	PEPR Engineering Operations	26%	3%	71%	100%	1,908	245	5,260	7,414
M	PEPR Parks and Environment	91%	3%	6%	100%	4,187	139	295	4,621
N	PEPR Planning	71%	3%	27%	100%	2,827	108	1,060	3,995
O	PEPR Regulatory services	77%	8%	15%	100%	3,294	330	657	4,281
P	PEPR Visitor Attractions	67%	17%	17%	100%	2,041	509	515	3,064
	District-wide gross consumpti	69.9%	7.9%	22.3%	100%	54,751	6,158	17,436	78,345

Note: Totals may not balance due to rounding

Revenues Attributed

App.	Division/Department	Taxpayer ratios				Cost and Revenues $'000			
		Residential	Industry	Business	Total	Residential	Industry	Business	Total
A	Corporate Services	67%	8%	25%	100%	(73)	(9)	(27)	(109)
B	Financial Services	57%	10%	33%	100%	(243)	(43)	(142)	(428)
C	Executive Services	60%	4%	36%	100%	(4)	(0)	(3)	(7)
D	General Government	67%	16%	17%	100%	(5,058)	(1,237)	(1,306)	(7,601)
E	Emergency Management Office								
F	Library								
G	Museum and Archives								
H	Recreation Commission								
I	Fire and Rescue Services	71%	12%	17%	100%	(269)	(46)	(63)	(379)
J	R C M P	65%	7%	28%	100%	(53)	(6)	(23)	(82)
K	PEPR Administration Services	67%	16%	17%	100%	(1,146)	(282)	(295)	(1,723)
L	PEPR Engineering Operations	4%	0%	96%	100%	(191)	(21)	(4,660)	(4,871)
M	PEPR Parks and Environment	80%	6%	14%	100%	(287)	(22)	(52)	(361)
N	PEPR Planning	39%	1%	60%	100%	(390)	(10)	(593)	(993)
O	PEPR Regulatory services	63%	7%	30%	100%	(2,316)	(249)	(1,109)	(3,673)
P	PEPR Visitor Attractions	67%	17%	17%	100%	(2,101)	(524)	(530)	(3,154)
	District-wide revenues	51.9%	10.5%	37.6%	100%	(12,131)	(2,448)	(8,802)	(23,381)

Note: Totals may not balance due to rounding

Net Consumption

App.	Division/Department	Taxpayer ratios				Cost and Revenues $'000			
		Residential	Industry	Business	Total	Residential	Industry	Business	Total
A	Corporate Services	68%	8%	25%	100%	1,762	202	643	2,607
B	Financial Services	71%	9%	20%	100%	1,144	146	328	1,618
C	Executive Services	62%	5%	33%	100%	920	70	498	1,488
D	General Government	89%	4%	7%	100%	4,491	201	374	5,066
E	Emergency Management Offic	81%	2%	18%	100%	143	3	31	177
F	Library	93%	1%	5%	100%	3,412	49	195	3,655
G	Museum and Archives	88%	6%	6%	100%	252	17	17	287
H	Recreation Commission	98%	1%	1%	100%	4,827	50	51	4,928
I	Fire and Rescue Services	70%	14%	16%	100%	8,546	1,734	1,970	12,251
J	R C M P	65%	7%	28%	100%	7,813	841	3,366	12,020
K	PEPR Administration Services	62%	-20%	58%	100%	338	(111)	317	544
L	PEPR Engineering Operations	68%	9%	24%	100%	1,718	225	601	2,543
M	PEPR Parks and Environment	92%	3%	6%	100%	3,900	117	243	4,260
N	PEPR Planning	81%	3%	16%	100%	2,437	98	467	3,002
O	PEPR Regulatory services	161%	13%	-74%	100%	978	82	(451)	608
P	PEPR Visitor Attractions	67%	17%	17%	100%	(60)	(15)	(15)	(90)
	District-wide net consumption	77.5%	6.7%	15.7%	100%	42,621	3,710	8,634	54,964

Note: Totals may not balance due to rounding

Appendix R – Comparison of taxes in 1993 and 2003

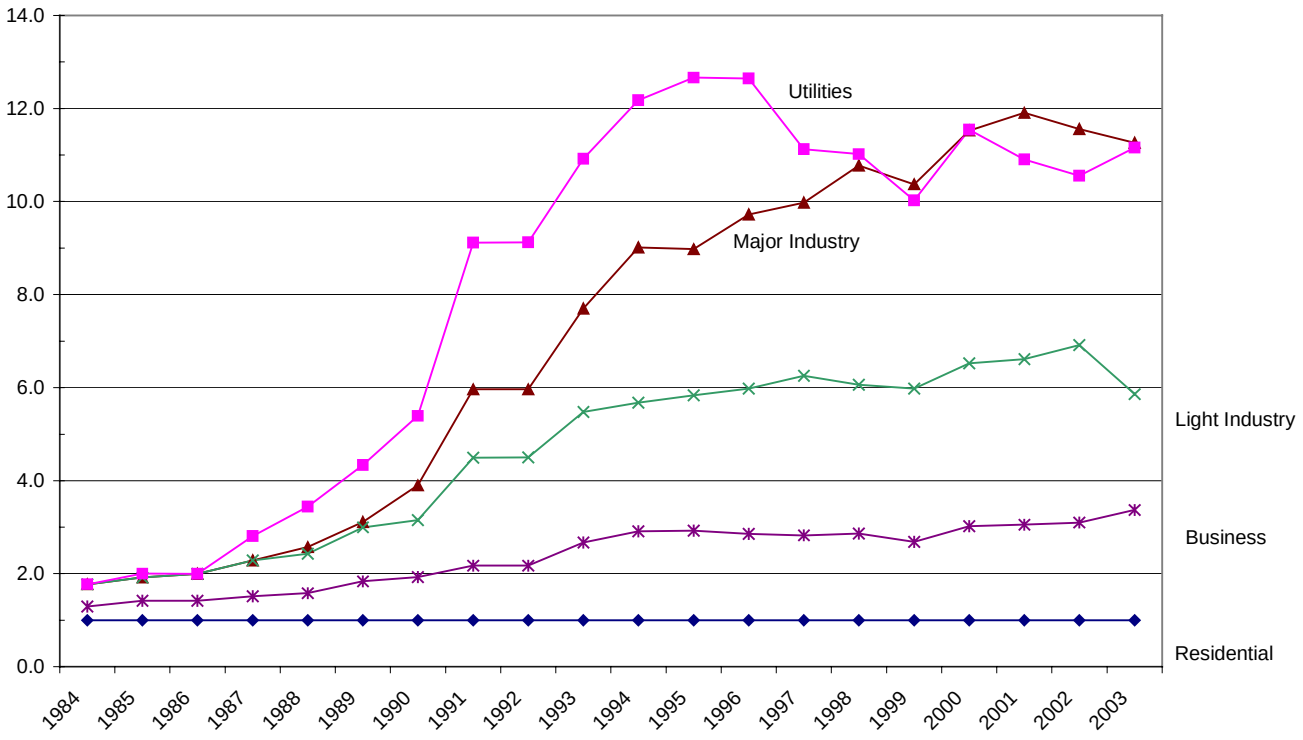
Property Class	General Taxable Values	Municipal Tax Mill Rates	Tax Rate Tatio	Total Municipal Taxes	% of Total Assessment		% of Total Taxes	
2003								
Residential	10,181,333,688	3.5846	1.00	36,495,601	91.84		70.86	
Recreation	18,302,500	6.5535	1.83	119,945	0.17	92.01	0.23	71.10
Utilities	25,153,741	40.0000	11.16	1,006,150	0.23		1.95	
Major Industry	110,992,200	40.3783	11.26	4,481,679	1.00		8.70	
Light Industry	37,756,900	21.0040	5.86	793,045	0.34	1.57	1.54	12.20
Business	712,078,809	12.0851	3.37	8,605,522		6.42		16.71
Totals	**11,085,617,838**	**-**	**-**	**51,501,942**		**100.0**		**100.0**
2002								
Residential	9,164,690,588	3.7901	1.00	34,735,460	91.39		70.88	
Recreation	17,168,000	6.6940	1.77	114,922	0.17	91.56	0.23	71.12
Utilities	20,805,519	40.0000	10.55	832,221	0.21		1.70	
Major Industry	100,028,300	43.8070	11.56	4,381,944	1.00		8.94	
Light Industry	27,872,700	26.2198	6.92	730,816	0.28	1.48	1.49	12.13
Business	697,837,108	11.7616	3.10	8,207,667		7.00		16.70
Totals	**10,028,402,215**	**-**	**-**	**49,003,030**		**100.0**		**100.0**
2001								
Residential	8,910,350,981	3.6675	1.00	32,678,801	91.45		70.63	
Recreation	17,836,600	6.2702	1.71	111,838	0.18	91.63	0.24	70.88
Utilities	15,947,359	40.0000	10.91	637,894	0.16		1.38	
Major Industry	111,538,100	43.6681	11.91	4,870,655	1.14		10.53	
Light Industry	20,331,600	24.2537	6.61	493,116	0.21	1.52	1.07	12.97
Business	667,471,908	11.1959	3.05	7,472,969		6.85		16.15
Totals	**9,743,476,548**	**-**	**-**	**46,265,273**		**100.0**		**100.0**
2000								
Residential	8,713,371,584	3.4909	1.00	30,417,422	91.51		70.81	
Recreation	17,614,100	5.8864	1.69	103,684	0.18	91.69	0.24	71.05
Utilities	17,611,197	40.2856	11.54	709,478	0.18		1.65	
Major Industry	110,571,100	40.2307	11.52	4,448,357	1.16		10.36	
Light Industry	23,520,600	22.7632	6.52	535,404	0.25	1.59	1.25	13.25
Business	639,349,265	10.5460	3.02	6,742,558		6.71		15.70
Totals	**9,522,037,846**	**-**	**-**	**42,956,903**		**100.0**		**100.0**
1999								
Residential	8,618,861,570	3.9879	1.00	34,371,244	91.68		73.58	
Recreation	18,255,400	5.6802	1.42	103,694	0.19	91.88	0.22	73.80
Utilities	18,655,632	40.0000	10.03	746,225	0.20		1.60	
Major Industry	107,514,200	41.3765	10.38	4,448,566	1.14		9.52	
Light Industry	16,225,500	23.8492	5.98	386,965	0.17	1.51	0.83	11.95
Business	621,248,815	10.7158	2.69	6,657,153		6.61		14.25
Totals	**9,400,761,117**	**-**	**-**	**46,713,847**		**100.0**		**100.0**
1998								
Residential	9,007,700,417	3.6282	1.00	32,681,649	92.23		73.60	
Recreation	18,141,700	5.5948	1.54	101,499	0.19	92.42	0.23	73.83
Utilities	22,729,390	40.0000	11.02	909,176	0.23		2.05	
Major Industry	106,779,200	39.1125	10.78	4,176,401	1.09		9.41	
Light Industry	16,315,200	22.0008	6.06	358,948	0.17	1.49	0.81	12.26
Business	594,632,208	10.3862	2.86	6,175,993		6.09		13.91
Totals	**9,766,298,115**	**-**	**-**	**44,403,666**		**100.0**		**100.0**

Property Class	General Taxable Values	Municipal Tax Mill Rates	Tax Rate Tatio	Total Municipal Taxes	% of Total Assessment		% of Total Taxes	
1997								
Residential	8,598,794,167	3.6535	1.00	31,415,437	92.05		73.08	
Recreation	18,157,200	5.4264	1.49	98,528	0.19	92.24	0.23	73.31
Utilities	26,385,953	40.5900	11.11	1,071,006	0.28		2.49	
Major Industry	115,094,700	36.4246	9.97	4,192,274	1.23		9.75	
Light Industry	15,020,500	22.8260	6.25	342,857	0.16	1.68	0.80	13.04
Business	568,474,069	10.3202	2.82	5,866,766		6.09		13.65
Totals	**9,341,926,589**	**-**	**-**	**42,986,868**		**100.0**		**100.0**
1996								
Residential	8,206,845,567	3.6584	1.00	30,024,170	92.08		72.88	
Recreation	19,905,500	4.7248	1.29	94,049	0.22	92.30	0.23	73.11
Utilities	25,010,331	46.2843	12.65	1,157,585	0.28		2.81	
Major Industry	111,262,700	35.5914	9.73	3,959,996	1.25		9.61	
Light Industry	18,349,700	21.8880	5.98	401,637	0.21	1.73	0.97	13.40
Business	531,509,338	10.4579	2.86	5,558,456		5.96		13.49
Totals	**8,912,883,136**	**-**	**-**	**41,195,893**		**100.0**		**100.0**
1995								
Residential	8,093,998,667	3.6526	1.00	29,564,301	91.99		72.50	
Recreation	20,283,500	4.6538	1.27	94,395	0.23	92.22	0.23	72.73
Utilities	24,716,852	46.2197	12.65	1,142,404	0.28		2.80	
Major Industry	123,057,700	32.7613	8.97	4,031,535	1.40		9.89	
Light Industry	20,604,700	21.2946	5.83	438,768	0.23	1.91	1.08	13.76
Business	515,703,900	10.6752	2.92	5,505,232		5.86		13.50
Totals	**8,798,365,319**	**-**	**-**	**40,776,635**		**100.0**		**100.0**
1994								
Residential	7,682,729,568	3.7541	1.00	28,841,505	91.68		71.12	
Recreation	19,073,100	4.9030	1.31	93,516	0.23	91.91	0.23	71.35
Utilities	24,780,777	45.6605	12.16	1,131,503	0.30		2.79	
Major Industry	137,170,700	33.7953	9.00	4,635,718	1.64		11.43	
Light Industry	20,546,700	21.2945	5.67	437,532	0.25	2.18	1.08	15.30
Business	495,203,900	10.9321	2.91	5,413,633		5.91		13.35
Totals	**8,379,504,745**	**-**	**-**	**40,553,407**		**100.0**		**100.0**
1993								
Residential	6,789,185,829	4.0393	1.00	27,423,219	90.82		70.92	
Recreation	17,706,100	4.8758	1.21	86,331	0.24	91.05	0.22	71.14
Utilities	24,758,259	44.1150	10.92	1,092,209	0.33		2.82	
Major Industry	142,916,700	31.1019	7.70	4,444,985	1.91		11.50	
Light Industry	18,984,700	22.1262	5.48	420,059	0.25	2.50	1.09	15.41
Business	482,155,750	10.7881	2.67	5,201,530		6.45		13.45
Totals	**7,475,707,338**	**-**	**-**	**38,668,333**		**100.0**		**100.0**
1992								
Residential	5,172,355,054	4.8994	1.00	25,341,333	88.79		70.58	
Recreation	7,918,100	4.7552	0.97	37,652	0.14	88.93	0.10	70.68
Utilities	23,128,312	44.6769	9.12	1,033,302	0.40		2.88	
Major Industry	143,402,331	29.2258	5.97	4,191,051	2.46		11.67	
Light Industry	18,068,500	22.0518	4.50	398,443	0.31	3.17	1.11	15.66
Business	460,388,483	10.6520	2.17	4,904,049		7.90		13.66
Totals	**5,825,260,780**	**-**	**-**	**35,905,830**		**100.0**		**100.0**

Property Class	General Taxable Values	Municipal Tax Mill Rates	Tax Rate Tatio	Total Municipal Taxes	% of Total Assessment		% of Total Taxes	
1991								
Residential	5,086,305,107	4.4174	1.00	22,468,295	89.23		72.02	
Recreation	7,836,100	4.2874	0.97	33,596	0.14	89.37	0.11	72.13
Utilities	23,080,749	40.2819	9.12	929,736	0.40		2.98	
Major Industry	118,045,458	26.3507	5.97	3,110,585	2.07		9.97	
Light Industry	18,382,500	19.8825	4.50	365,490	0.32	2.80	1.17	14.12
Business	446,672,832	9.6041	2.17	4,289,891		7.84		13.75
Totals	**5,700,322,746**	**-**	**-**	**31,197,593**		**100.0**		**100.0**
1990								
Residential	3,580,223,066	5.8000	1.00	20,765,294	88.20		74.35	
Recreation	4,111,300	7.2400	1.25	29,766	0.10	88.30	0.11	74.46
Utilities	22,722,104	31.2700	5.39	710,520	0.56		2.54	
Major Industry	108,206,826	22.6200	3.90	2,447,638	2.67		8.76	
Light Industry	16,976,950	18.3000	3.16	310,678	0.42	3.64	1.11	12.42
Business	327,179,051	11.2000	1.93	3,664,405		8.06		13.12
Totals	**4,059,419,297**	**-**	**-**	**27,928,302**		**100.0**		**100.0**
1989								
Residential	3,483,858,981	5.5500	1.00	19,335,417	88.02		76.36	
Recreation	4,101,100	6.9300	1.25	28,421	0.10	88.12	0.11	76.47
Utilities	22,856,313	24.0600	4.34	549,923	0.58		2.17	
Major Ind.	104,951,091	17.2800	3.11	1,813,555	2.65		7.16	
Light Ind.	16,830,300	16.6400	3.00	280,056	0.43	3.65	1.11	10.44
Bus. & Other	325,487,251	10.1800	1.83	3,313,460		8.22		13.09
Total	**3,958,085,036**	**-**	**-**	**25,320,832**		**100.0**		**100.0**
1988								
Residential	2,786,474,008	6.2900	1.00	17,526,922	86.56		76.87	
Recreation	3,372,050	6.2900	1.00	21,210	0.10	86.66	0.09	76.96
Utilities	22,911,262	21.6600	3.44	496,258	0.71		2.18	
Major Ind.	100,301,250	16.1800	2.57	1,622,874	3.12		7.12	
Light Ind.	15,772,600	15.3100	2.43	241,479	0.49	4.32	1.06	10.35
Bus. & Other	290,349,250	9.9600	1.58	2,891,879		9.02		12.68
Total	**3,219,180,420**	**-**	**-**	**22,800,621**		**100.0**		**100.0**
1987								
Residential	2,729,581,079	6.0000	1.00	16,377,486	86.29		77.91	
Seasonal	3,158,550	6.0000	1.00	18,951	0.10	86.39	0.09	78.00
Utilities	23,213,262	16.8600	2.81	391,376	0.73		1.86	
Industrial	114,925,850	13.7200	2.29	1,576,783	3.63	4.37	7.50	9.36
Bus. & Other	292,243,750	9.0900	1.52	2,656,496		9.24		12.64
Total	**3,163,122,491**			**21,021,092**		**100.00**		**100.00**
1986								
Residential	2,458,457,803	6.2900	1.00	15,463,700	85.26		78.22	
Seasonal	2,850,800	6.2900	1.00	17,932	0.10	85.36	0.09	78.32
Utilities	27,626,712	12.5700	2.00	347,268	0.96		1.76	
Industrial	114,087,900	12.5700	2.00	1,434,085	3.96	4.91	7.25	9.01
Bus. & Other	280,543,510	8.9300	1.42	2,505,254		9.73		12.67
Total	**2,883,566,725**			**19,768,237**		**100.00**		**100.00**

Property Class	General Taxable Values	Municipal Tax Mill Rates	Tax Rate Tatio	Total Municipal Taxes	% of Total Assessment		% of Total Taxes	
1985								
Residential	2,423,714,551	5.8400	1.00	14,154,493	85.25		78.31	
Seasonal	2,199,600	5.8400	1.00	12,846	0.08	85.33	0.07	78.38
Utilities	27,626,712	11.6800	2.00	322,680	0.97		1.79	
Industrial	119,984,600	11.2100	1.92	1,345,027	4.22	5.19	7.44	9.23
Bus. & Other	269,490,230	8.3100	1.42	2,239,464		9.48		12.39
Total	**2,843,015,693**			**18,074,510**		**100.00**		**100.00**
1984								
Residential	2,311,495,348	5.9300	1.00	13,707,167	84.46		78.83	
Seasonal	2,033,350	5.9300	1.00	12,058	0.07	84.53	0.07	78.90
Utilities	27,973,162	10.5100	1.77	293,998	1.02		1.69	
Industrial	118,653,600	10.5100	1.77	1,247,049	4.34	5.36	7.17	8.86
Bus. & Other	276,789,050	7.6900	1.30	2,128,508		10.11		12.24
Total	**2,736,944,510**			**17,388,780**		**100.00**		**100.00**

District of North Vancouver
Comparison of Tax Ratios by Class



Appendix S – The North Shore Waterfront Industrial Association and its Members

In 1999, major waterfront industrial users located in North Vancouver formed an industry association. **North Shore Waterfront Industrial Association** member companies play an important economic development role in the Port of Vancouver and in the City and District of North Vancouver.

NSWIA represents all major industrial waterfront infrastructures located on the North Shore of Vancouver Harbour. Deep-sea terminals handle a significant portion of Canada's resource based exports. Members include grain terminals, pulp and paper/lumber facilities, multi-product bulk terminals, chemical producers, full service stevedoring and terminal services, as well as shipyards, tug and barge operators, a wood chip handling facility and general services to the marine industry.

NSWIA's mandate is to improve both the economic viability and community understanding of the importance of waterfront industries on the North Shore. Thirteen member companies employ about 3,000 with a total payroll of about $200 million.

NSWIA's objectives:

- Create an awareness of the contribution of industry to the North Shore community
- Achieve an equitable and competitive tax position for industry
- Open communication channels with all levels of government

Waterfront Industries in Our Backyard School Program

Sponsored by NSWIA, *Waterfront Industries in Our Backyard*, is a three-part program for students in grades 4 to 6. Under the direction of NSWIA, the program is presented by the Vancouver Maritime Museum and includes an introductory in-class visit, a boat tour of the harbour and in class visit by a representative from a waterfront industry. This program meets the requirements of the BC Ministry of Education grade 4-6 Social Studies Integrated Resource Plan (IRP). Since the program began in 2001, more than 4000 students in elementary schools in North Vancouver have shared this unique educational experience.

Phone:	1 (866) 738-0188	Fax:	1 (866) 738-0199
Website	www.nswia.com	Email	info@nswia.com
Mailing Address	C/o 448 West Queens Road North Vancouver BC V7N 2K7		

NSWIA Member		**Class**	**Nature of Business**	**Staff**
Allied Shipbuilders	District	75% Major 25% light or business	Ship repair, refits, conversion, marine and general machinists and manufacturers of hydraulic tow pin units for tugboats	100
BCR Marine	District	Major	Multi-product terminal operators handling mineral concentrates, pulp and paper, liquids, sulphur and agriproducts.	195
Dow Chemical Terminals	District	Major	Stores and ships chemicals produced at their plant in Fort Saskatchewan, Alberta	12
Erco Worldwide	District	Major	Sodium chlorate supplier to world markets	31
Fibreco Export Inc	District	80% major 20% light	Consortium of interior BC sawmill companies. Wood chip handling facility exports member companies' wood chips to overseas pulp and paper manufacturing markets in Asia and Scandinavian countries and to the coastal pulpmills in BC	49
James Richardson	City	Major	Grain terminal/handler. Major exporter of canola and cereal grains to Pacific Rim	75
Lafarge Canada Inc	District	Light	Construction materials – cement, concrete and aggregates(crushed stone, sand and gravel) roofing, gypsum and specialty products	15

NSWIA Member		Class	Nature of Business	Staff
Neptune Bulk Terminals	City	Major	Multi-product bulk terminal, loading/unloading services and storage facilities for variety of bulk products such as coal, potash, fertilizer, grain products, canola oil, phosphate rock	210
Nexen Chemicals	District	Major	Global energy and chemicals company. Manufacturer of sodium chlorate, chlorine and caustic soda	165
Saskatchewan Wheat Pool	City	Major	Grain terminal/handler for distribution to worldwide markets. Wheat, canola, barley, flaxseed, feed barley, grain screening pellets and dried peas	128
Vancouver Pile Driving	City	Business other	Marine heavy construction, underwater drilling and blasting and dredging. Fleet of marine rigs, pile driving hammers	100
Washington Marine Group - Seaspan and VanShip - Vancouver Drydock - Cates Tugs - Manly Marine Closures	 District City City City	 35% business 65% major 34% business 66% major	 Marine transportation, ship repair, shipbuilding and component sales and services to the marine industry	 850 350
Western Stevedoring - Lynnterm - Eastgate - Westgate	 District City	72% major 24% light 4% business 89% major 9% light 2% business	Full service stevedoring and terminals services. Consolidation centre for forest products, steel and breakbulk, general cargo	 230 95

Appendix T – Map of the District and City of North Vancouver