

PROGRESS NANAIMO 1998

Monitoring Achievement of *Plan Nanaimo* Goals



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ACKNOWLEDGEMENTS

Plan Nanaimo, the City's Official Community Plan, contains policies enabling the Plan Nanaimo Advisory Committee (PNAC) to initiate an audit or report assessing progress implementing Plan Nanaimo policies, every two years. PNAC selected a sub-committee to undertake the Progress Nanaimo 1998 review, with the following membership:

PNAC Members

Keith Brown
David Grey
Maura Walker

City Staff

Sharon Fletcher
Harriet Rueggeberg
Tanja McQueen
Dale Lindsay

The review resulted in three documents:

- Progress Nanaimo: Proposed Framework for the First Biannual Review of Progress Achieved under Plan Nanaimo by Tony Hodge Consultants Inc. (August 31, 1998)
- A Progress Nanaimo Technical Report: Description of Indicators, Data and Qualifiers (City staff used the framework to set up tables and organize data collection)
- Progress Nanaimo Report written by Sharon Fletcher and Harriet Rueggeberg, Strategic Planning Dept.

Westland Resource Group (David Harper, Robyn Wark, and Andrea Fajrajsl) reviewed the content for general audience clarity, provided suggestions for graphic displays and prepared the preliminary formatting for the final report.

Special thanks to Jeff Chow, Dave Mudge and Fran Grant for their endless search for data sources, creation of numerous data tables and re-formatting of the final report. Since this was the first audit of the Plan and data had not been gathered for this particular purpose, information often had to be drawn from obscure sources for a wide variety of indicators. This was a very time-consuming task and required a lot of reworking and double checking.

This report could not have been complete without ongoing review, often on short notice, from the following people who provided data and comments throughout the process.

City Staff

Gary Franssen
Wayne Hansen
Richard Harding
Sharon Hvozhdanski
Alison Millward
Dave Mudge
Ted Swabey

Outside Agencies

Jeff Chow (consultant)
Mike Donnelly (RDN)
Dennis Trudeau (RDN)
Warren McCormick (MELP)

SUMMARY

The City of Nanaimo has prepared this report to track the implementation of Plan Nanaimo. The following summarizes the results of the first Progress Nanaimo report.

1. GROWTH CENTRES: Are vibrant, mixed use Town Centres being created?

There is some mix of land uses, but more residential development and public open space are required in these Centres.

2. HERITAGE: Are Nanaimo's heritage resources being identified and protected?

An inventory of Nanaimo's significant heritage buildings and sites has been created, which will provide the focus for future protection.

3. NEIGHBOURHOODS: Is a variety of housing choices being developed while still preserving existing neighbourhood character?

While almost 90% of housing in Neighbourhood areas is single detached homes, there is space to build other housing forms to meet the diverse needs of Nanaimo's population.

4. PARKS AND OPEN SPACE: Is there sufficient, readily accessible public open space throughout the City?

Although the amount of parkland per capita has decreased slightly in the last two years, more than 80% of Nanaimo's residents appear to live within 500 metres (or walking distance) of a park or trailway.

5. THE WATERFRONT: Is public access along the marine waterfront improving?

Continuing development of the Waterfront Walkway offers more opportunities to enjoy Nanaimo's waterfront.

6. ENTERPRISE AREAS: Is the existing inventory of industrial lands adequate for supporting a diversifying economy?

Most Industrial areas are being used for the purpose intended under the Plan, but vacant land available for these purposes is limited.

7. AIR QUALITY: Does Nanaimo have good air quality?

Based on levels of fine particulates, air quality is generally good, but appears to drop during hot weather and during the backyard burning periods.

8. WATERCOURSES: Are Nanaimo's aquatic ecosystems healthy?

Many Nanaimo streams continue to support fish and other aquatic life, but programs to monitor their health on an ongoing basis are not in place.

9. ENVIRONMENTALLY SENSITIVE AREAS: Are these areas being protected from development?

One third of Nanaimo's currently identified ESAs are protected in parks and reserves. These may still be susceptible to damage by recreational uses. An additional third are partly protected, with the balance having no form of protection.

10. URBAN CONTAINMENT BOUNDARY (UCB): Is the UCB being maintained, so that new development can be focused in serviced urban areas?

Since being set in 1996, the UCB has been altered slightly to encompass an additional 1% of Nanaimo's land area deemed to have already been in urban use.

11. RURAL RESOURCE LANDS: Are farm, forest and rural lands being maintained?

Total area of Rural Resource lands designated under the Plan decreased by about 5% between 1996 and 1998, as a result of redefining existing land uses as "urban" rather than rural.

12. NANAIMO PARKWAY: Is the park-like character of the Parkway being maintained?

In 1996, 82% of the Parkway had an undeveloped buffer along it. Future aerial photography will allow this baseline to be reassessed.

13. TRANSPORTATION: Is car use being reduced and other forms of transportation increasing in Nanaimo?

While Nanaimo is a car dependent community, gradual improvements to transit, cycle paths, and sidewalks, along with more compact development, should provide more alternatives to the car over time.

14. SOLID WASTE MANAGEMENT: Is less refuse being generated in Nanaimo?

Nanaimo has significantly reduced per capita refuse and increased the amount of recycling over the last eight years.

15. PLAN IMPLEMENTATION: Are the major components of Plan Nanaimo being completed?

Nanaimo has made good progress on some Plan actions, but others still require attention. Public participation is being encouraged.

After a four-year public program that began with “Imagine Nanaimo,” *Plan Nanaimo*, the city’s new Official Community Plan, was adopted in 1996.

Plan Nanaimo provides a blueprint for future land use, development and servicing decisions in Nanaimo. The Plan is built around five main goals, each with a series of objectives and policies. Together, they strive to ensure that Nanaimo is becoming a sustainable community with well-managed growth, attractive neighbourhoods and urban centres, a diverse social and cultural background, a healthy natural environment, and a strong and vibrant economy.

THE GOALS OF *PLAN NANAIMO* ARE...

1. **Build complete, viable communities.**
2. **Protect the environment.**
3. **Manage urban growth.**
4. **Improve mobility and servicing efficiency.**
5. **Provide ongoing planning and community involvement.**

Why assess progress?

Progress Nanaimo is a review or audit of progress toward *Plan Nanaimo* goals and objectives. There are two basic reasons for conducting this review:

- to report to City Council, staff and the public on overall success in achieving the goals and objectives of the Plan; and
- to assess the effectiveness of specific policies in achieving the Plan’s goals and objectives. Some policies may need to be adjusted, or new policies added to reflect new municipal powers or changes in environmental, social, and economic circumstances since the Plan’s adoption.

How was Progress Nanaimo prepared?

Progress Nanaimo was compiled by City staff and consultants under the guidance of the Plan Nanaimo Advisory Committee.

Progress Nanaimo uses *indicators* to track progress in

achieving *Plan Nanaimo*’s goals and objectives.

Indicators are particular features of each goal that are representative, measurable, sensitive to change, easy to collect data for, and readily understood. Indicators were developed for 15 key topics based on how well they represented the Plan’s five goals and the availability of reliable data. Targets were identified for many of the indicators, either as measurable endpoints or as trends that show that the city is moving in the right direction to meet each intended goal.

The information gathered in this first progress report provides a baseline or *benchmark* against which future results can be compared. The baselines were set at 1996, the year of the Plan’s adoption as well as a census year for Statistics Canada. Where 1996 data were not available, data from the closest year were used. Comparisons to 1998 were made where possible.

This 1998 Progress Nanaimo report covers 27 indicators. A variety of other indicators were identified as part of the project. A separate “Progress Nanaimo Technical Report” summarizes the data on all indicators for which data collection was started, and copies are available for viewing at Nanaimo’s Strategic Planning Department at 200 Franklyn Street. Future Progress reports will be able to update existing indicators and use new ones as community interests and concerns change or as new data become available.

Plan Nanaimo was adopted just 3 years ago, so it is early to tell whether the Plan’s goals are being achieved. However, measuring all the indicators should paint a picture of the general direction that the city is heading and whether decisions are in tune with *Plan Nanaimo*.

How will the Report be used?

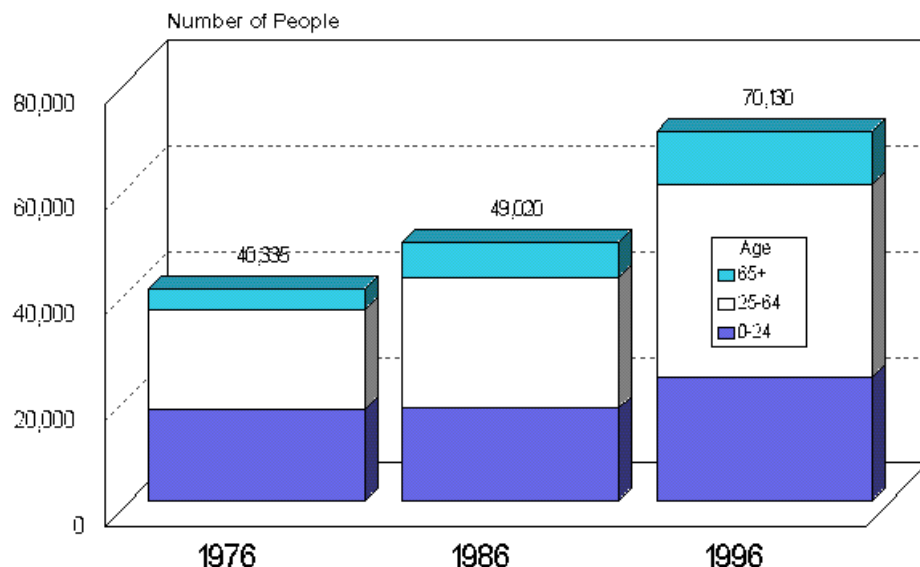
The City will use this Report to continue to improve its planning and management decisions. The City also encourages residents, businesses, schools, and community groups to use the Report to learn more about condition and trends in our community, and develop strategies to help achieve the community vision for a sustainable Nanaimo.



Before examining the indicators themselves, it is useful to provide some historical, economic and social context about Nanaimo.

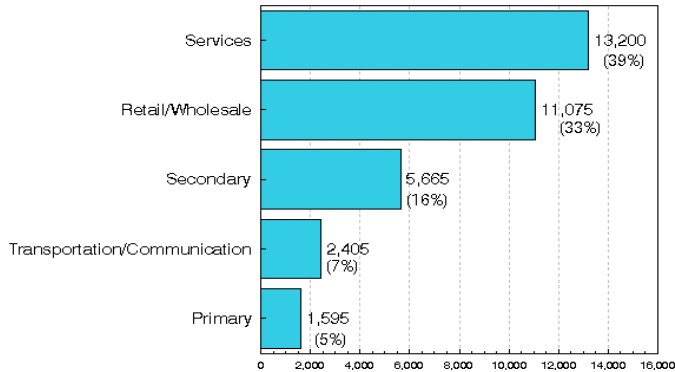
- Nanaimo was first settled thousands of years ago by Coast Salish natives who named the area “Snuneymuxw,” which means “meeting place”.
- The first settlers arrived in the early 1800’s and set up a trading post that established Nanaimo as an important hub of commerce, first for coal and then for forest products.
- Between 1991 and 1996 Nanaimo was one of the fastest growing communities in Canada, with population increasing 17% from 60,000 to 70,000 people (Figure 1). Forty percent of that growth has been through migration from other provinces. As the economy improved elsewhere in Canada, the rate of in-migration has declined.
- Most newcomers to the Nanaimo area are working-age families with children. Opportunities for employment, therefore, are important.
- The 1996 Census showed that Nanaimo’s median household income of \$19,804 was below the provincial median of \$21,451.
- In 1996, more than 12% of the Nanaimo workforce was unemployed. This proportion was higher than the average for Vancouver Island (9.2%), British Columbia (8.8%) and Canada (9.7%). Unemployment rates for 15-24 year olds exceeded 19% in 1996.
- Almost 56% of Nanaimo’s population had completed some post-secondary education or training (i.e., beyond high school) in 1996, which was above the national average of 40%.

Figure 1: Population Growth Trends, City of Nanaimo



Source: Statistics Canada Census 1976-1996

Figure 2: Labour Market, by Industry Sector, City of Nanaimo, 1996



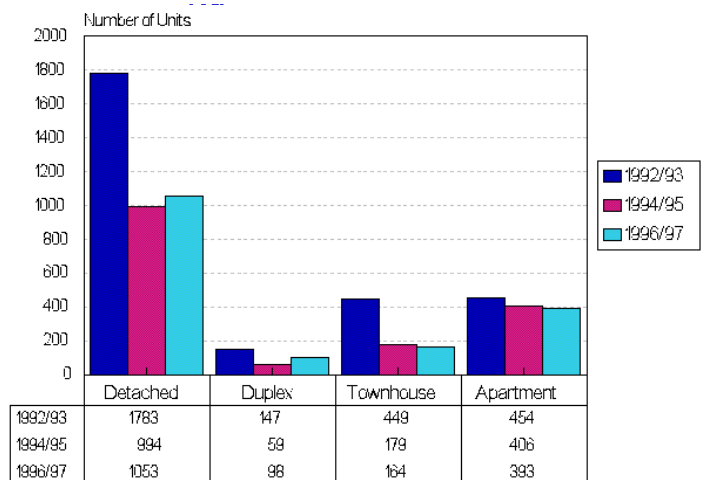
Source: 1996 Census, Statistics Canada
 Note: The total labour force, aged 15 and older, was 35,650 at the time of the 1996 Census

- Service and retail/wholesale industries accounted for the lion's share of the labour market, reflecting the city's role as a commercial hub for central Vancouver Island (Figure 2).
- Nanaimo's population growth has driven demand for new goods and services, and created opportunities to start new businesses. More than 80% of businesses describe themselves as locally owned and operated. In 1997, more than 2,700 home-based businesses operated in the city, contributing \$188 million dollars to the local economy in wages and purchases, and providing 2,644 full-time and 2,347 part-time jobs (City Spaces Consulting Group 1997).
- The vacancy rate for residential rental housing has risen from 0.2% in 1988 to a high of 15.6% in 1998.

- Housing starts have fallen over the last six years (Figure 3), reflecting an oversupply of housing stock and the slow economy that draws fewer people to the island.
- In terms of housing affordability, a common indicator is the proportion of households that spend 30% or more of their income on housing. In 1996, 11% of homeowners and 47% of renters spent more than 30% of their annual income on housing, which is similar to the provincial percentages.

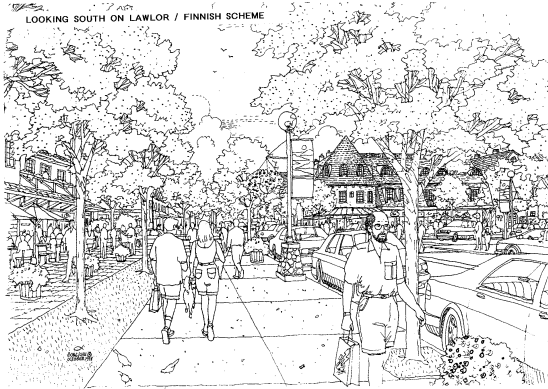
Having provided some background on the past and current status of Nanaimo, we now turn to assessing progress in meeting the goals and objectives of *Plan Nanaimo*.

Figure 3: Nanaimo Housing Starts



Source: CMHC Housing Market Report

1. GROWTH CENTRES: Are vibrant, mixed -use Growth Centres being created?



Town Centres should have a variety of housing types, public open space, and a range of services within walking, cycling or easy transit distance from homes.

Plan Nanaimo defines Growth Centres as high-density nodes characterized by a mix of land uses (residential, office, retail), a diversity of services, and presence of public spaces. The Plan identifies two scales of Growth Centres: Town Centres and Neighbourhood Villages. This indicator focuses on Town Centres.

Town Centres are focused around downtown, malls, and other commercial centres (Figure 4). Higher density residential development is encouraged in the Centres to provide the “critical

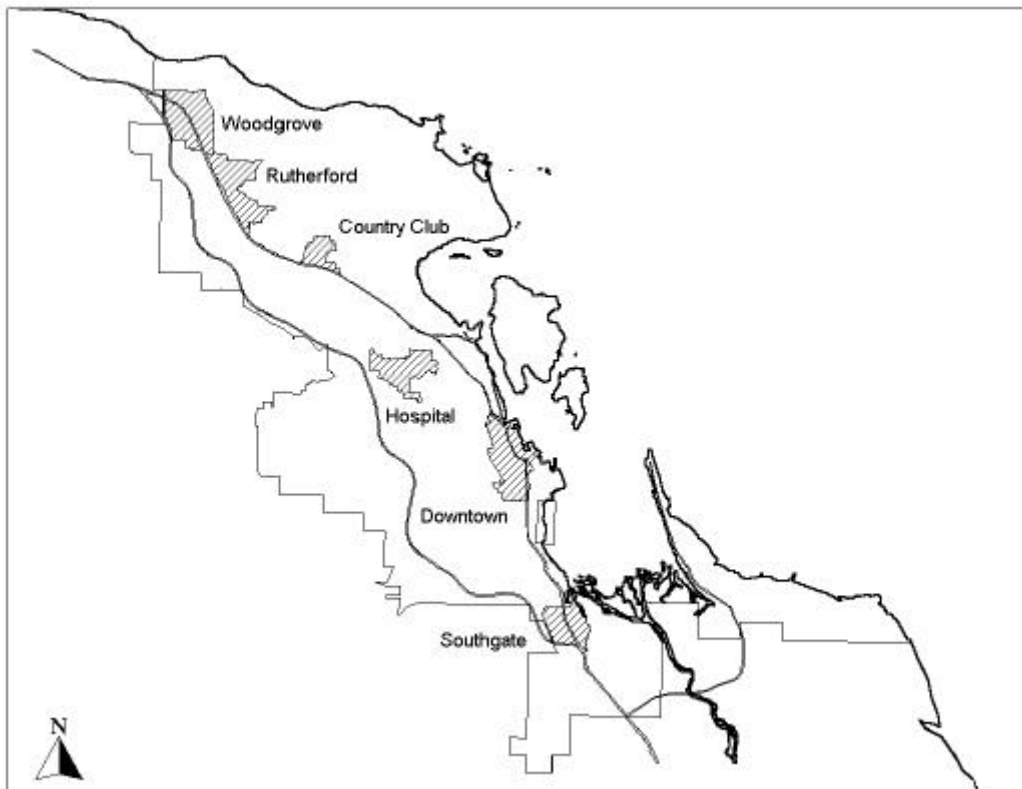
mass” needed to support retail, transit and social services, and to create efficiencies in fire, police, sewer, water and garbage services. Town Centres should have a variety of housing types, public open space, and a range of services within walking, cycling or easy transit distance from homes. Access to parks, plazas, and trails should improve livability in Town Centres.

What was measured?

Indicators measuring the development of Growth Centres are:

- a) *Number of residential units per hectare (uph) in Town Centres*, to determine if densities to support services in the Town Centres are being achieved and
- b) *Proportion of land in different uses* to determine if Town Centres contain a mix of uses.

Figure 4: The 6 Town Centres



Source: *Plan Nanaimo*

What was found?

a) Residential density averaged 5.8 units per hectare (uph) among the six Town Centres in 1996 (Table 1), well below the target density for Town Centres of 100-150 units per hectare set in *Plan Nanaimo*. This low density reflects the fact that most Town Centres are currently single-storey shopping malls, and little housing has been integrated into the developments. Some housing exists on the margins of the Town Centres.

b) Most of the Town Centres had some mix of uses in 1996 and 1998 (Table 2 and Figure 5). Most of the land is devoted to commercial and residential land uses, which is appropriate for Town Centres. The target for public open space in Town Centres is 20% of the land area, but in 1998, public open space averaged only 4% in all the Town Centres.

Residential densities in Town Centres are well below the target densities needed to support viable communities.

Table 1: Residential Densities in Town Centers

Town Centre	1996 Residential Density (units/ha)
Woodgrove	4.1
Rutherford	3.5
Country Club	8.5
Hospital	6.6
Downtown	8.9
Chase River	3.2
<i>Average</i>	<i>5.80</i>

Source: Statistics Canada Census 1996; City of Nanaimo GIS data

Table 2: Mix of land uses (actual) in Town Centres, 1998 (percent of total area)

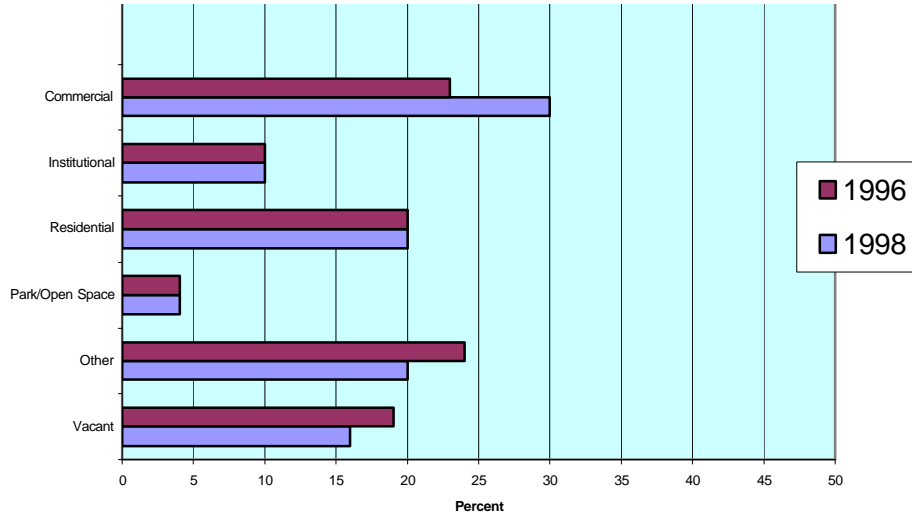
	Chase River	Country Club	Downtown	Hospital	Rutherford	Woodgrove	AVERAGE
Commercial	29%	39%	28%	16%	32%	37%	30%
Institutional	4%	15%	8%	24%	3%	6%	10%
Park/ Open Space	4%	1%	3%	6%	6%	2%	4%
Residential	23%	22%	24%	22%	23%	8%	20%
*Vacant	14%	4%	5%	21%	27%	26%	16%
**Other	26%	19%	32%	11%	9%	21%	20%

*Vacant land includes undeveloped and agricultural lands.

**Other includes uncoded land area, roads and industrial lands.

Source: B.C. Assessment Authority

Figure 5: Average land use percentages across all Town Centres, 1996 and 1998



Source: B.C. Assessment Authority

What does this tell us about achieving our goals?

Current low densities in Town Centres must rise if these centres are to grow into livable centres and fulfill their growth management functions under *Plan Nanaimo*. Vacant land is available within the Town Centres for additional development, and opportunities exist to increase densities through infill.

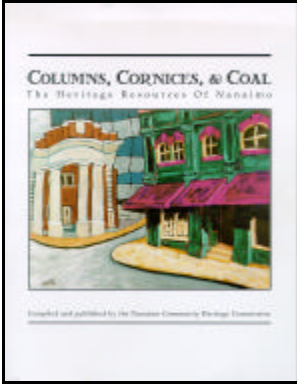
Providing public open space and connections to outlying parks should be emphasized to ensure that Town Centres become livable places. Upgrading and infilling Town Centres will take time, so future Progress Nanaimo reports should track whether growth is focusing in the Centres.

Town Centre boundaries and density

targets should be reviewed to determine whether they need adjustment. Are these Centres, as they are currently defined in *Plan Nanaimo*, too large to achieve the target densities? Are they large enough to accommodate future residential development and public open space? Should development be focused on fewer key Town Centres (such as Downtown)?

Providing public open space and connections to outlying parks should be emphasized to ensure that Town Centres become livable places.

2. HERITAGE: Are Nanaimo's heritage resources being identified and protected?



Plan Nanaimo recognizes that historically significant buildings, trees, sites and landscapes, and archaeological features play an important part in shaping the character of the city and its neighbourhoods. *Plan Nanaimo* recommends that the City adopt a comprehensive heritage management plan. That document, the *Heritage Action Plan*, is now complete and makes 15 recommendations on heritage protection in the city.

An inventory of significant heritage resources was also initiated in 1996 and completed in 1998. The Nanaimo Community Heritage Commission, City Council's advisory body on heritage matters, subsequently published *Columns, Cornices and Coal: the Heritage Resources of Nanaimo* based on the inventory. Having the inventory does not in itself legally protect the listed properties from significant alteration or demolition. The inventory is, however, an important tool used to strategically target conservation efforts.

What was measured?

Indicators for assessing awareness and protection of Nanaimo's heritage resources are:

- a) *The number of entries in the heritage resources inventory to track additions to and deletions from the inventory.*
- b) *The number of recommendations from the Heritage Action Plan that have been implemented.*

What was found?

- a) As of 1998, the inventory of heritage resources lists 125 houses and

commercial buildings, 5 heritage cemeteries, and 15 monuments. Further Progress reports will show whether resources have been added or removed as a consequence of significant alteration or demolition.

- b) By 1998, two of the Heritage Action Plan's recommendations had been implemented.
 - A bylaw was passed establishing Downtown as the City's first Heritage Conservation Area (HCA). A HCA is a district with special heritage character, identified for conservation purposes in an official community plan.
 - Council adopted a policy to support applications by owners of heritage buildings for time-limited exemption from property taxes. Such exemptions help owners to offset the additional costs of sensitive restoration of a heritage building. A permissive tax exemption was awarded to the owners of the Great National Land Building, one of Nanaimo's six municipally designated heritage buildings which has now completed a successful restoration. A maintenance agreement will help manage the quality of this valuable community resource while protecting the owner and municipality's investment.

The inventory of heritage resources lists 125 houses and commercial buildings, 5 heritage cemeteries, and 15 monuments.

The Heritage Action Plan makes 15 recommendations on heritage protection in the city.

What does this tell us about achieving our goals?

Nanaimo has made considerable progress in setting up a process for protecting its heritage resources. Recent provincial legislation gave municipalities the power to negotiate conservation contracts called Heritage Revitalization Agreements (HRAs) with owners of significant buildings to ensure that restorations are accomplished sensitively and to protect the building from alteration. No HRAs have been negotiated in Nanaimo to date, but in future Progress reports, HRAs may serve as an indicator of heritage protection.

3. NEIGHBOURHOODS: Is a variety of housing choices being developed while still preserving the existing neighbourhood character?



Average residential densities were 4 to 6 units per hectare in 1996.

Plan Nanaimo aims to maintain the single family detached housing character found in most neighbourhood areas of the city, while providing a variety of housing choices to meet the needs of Nanaimo’s residents. One way of providing a mix of housing types is by encouraging “infill” or redevelopment in the form of duplex, triplex, quadruplex, townhouse or small lot detached housing development where appropriate. Sufficient housing choice should be available for all lifestyles and income levels in the population.

In 1996, almost 90% of residential homes in neighbourhood areas were single detached houses.

The Plan also aims to encourage ready access to basic commercial and community services within neighbourhoods, in the form of local service centres and corner stores in suitable locations.

Two types of neighbourhoods are designated in the Plan: “neighbourhood” for most residential areas, and “suburban neighbourhood” for smaller, more rural areas located primarily west of the Parkway.

What was measured?

Indicators for measuring neighbourhood goals are:

- a) *Density in the neighbourhood area* to monitor the Plan’s target densities of 15 units per hectare (uph) in neighbourhoods

- and 8 uph in suburban neighbourhoods.
- b) *Mix of housing types* indicating the proportion of properties that are single detached, semi-detached (duplex, triplex, etc.), mobile homes, ground-oriented townhouses and non-ground-oriented attached units.
- c) *Accessibility to commercial services* showing the proportion of neighbourhood areas that are within 500 meters (considered to be average maximum walking distance) of commercial services.

What was found?

- a) The average residential densities in 1996 were about 6 uph in neighbourhood areas and 4 uph in suburban neighbourhood areas. These averages are half of the target densities defined in the Plan, indicating that there are considerable opportunities for infill and new development.
- b) In 1996, almost 90% of residential houses in neighbourhood areas were single detached, with mobile homes and various attached forms comprising the remaining 10% (Figure 6). Although no targets for detached and attached housing are defined in *Plan Nanaimo*, these 1996 proportions are heavily weighted toward detached housing, which is typically the most expensive form of housing.
- c) In 1996, 61% of all properties in neighbourhoods were within 500 metres of commercial services, providing residents with the opportunity to walk or cycle to basic services.

What does this tell us about achieving our goals?

The relatively low average density in neighbourhood areas means that there are significant opportunities for infill. New development could include a range of housing types. Continuing low-density development patterns in the future will perpetuate inefficient and expensive-to-service sprawl.

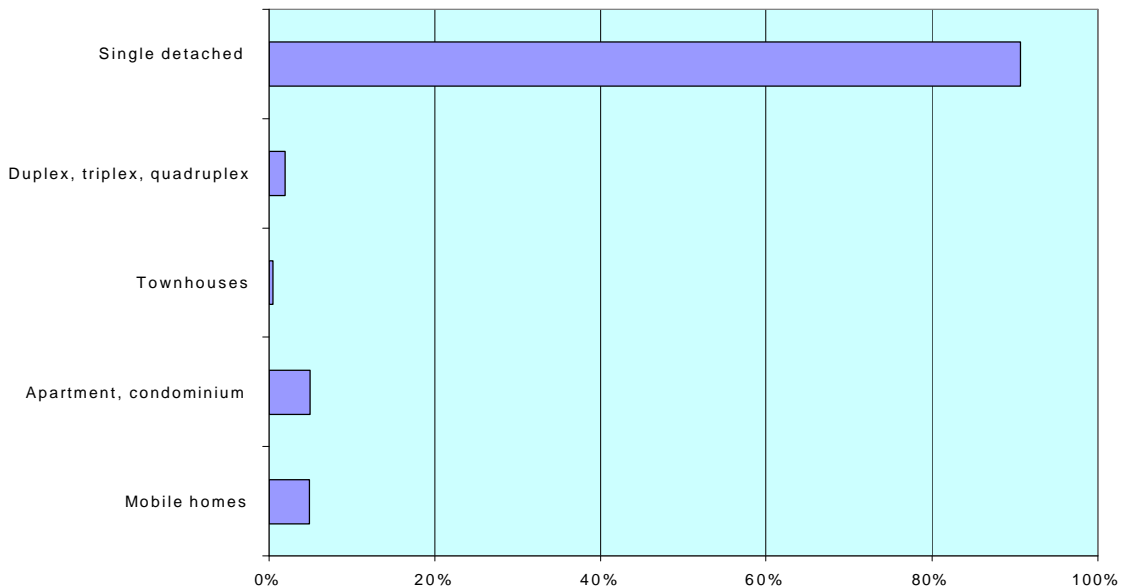
The dominance of detached housing suggests that there is a need to achieve a greater mix of housing types while still maintaining the character important to each neighbourhood. A Housing Study is currently underway that will shed more light on this subject in the next Progress report.

The fact that almost two-thirds of the population is within walking distance of commercial services is positive. Future planning should seek to ensure that communities are pedestrian-friendly, so that residents can obtain basic supplies and services without having to get into a car.



61% of all properties in neighbourhoods were within 500 metres of commercial services.

Figure 6: Housing types in neighbourhood areas in 1996



Source: BC Assessment Authority

4. PARKS AND OPEN SPACE: Is there sufficient, readily accessible public open space throughout the city?

Total park area increased by 2% from 1996 to 1998.



In 1996, the city purchased Neck Point Park, significantly increasing park area per capita in the Hammond Bay area.

Parks provide many vital functions in a community, including recreation, environmental preservation, support for tourism, green buffers and respite from urban pressures. Nanaimo’s park system encompasses a variety of community and neighbourhood parks, as well as a growing trail system to link people to these parks and other destinations in the city. Major objectives of *Plan Nanaimo*, in concert with the city’s *Parks, Recreation and Culture Master Plan*, are to provide adequate park and public open space for Nanaimo’s growing population and to ensure these parks are accessible throughout the city.

What was measured?

Indicators for the adequacy of the park system to meet the city’s needs are:

- a) Total park area and park area per capita in the city as a whole and in identifiable neighbourhoods.
- b) Proportion of neighbourhood areas that lie within 500 metres of a park or trail (500 m is considered a maximum walking distance for most people).

What was found?

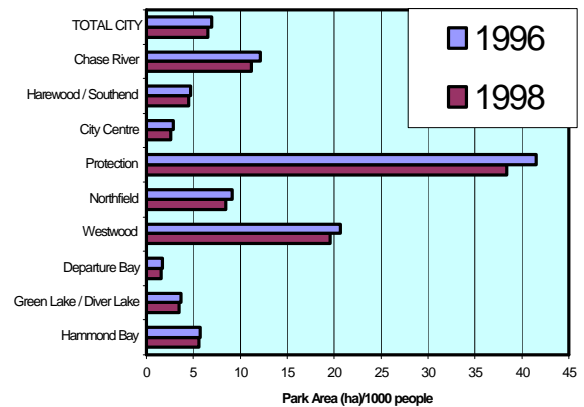
- a) Total park area increased by 2% from 488 ha in 1996 to 498 ha in 1998. Additional park areas were acquired, mostly as a result of subdivision, in the Hammond Bay and Westwood areas.

For the whole city, parkland per capita

declined slightly from 5.7 ha/1000 people in 1996 to 5.6 ha/1000 in 1998. Four neighbourhoods exceeded the citywide average and five have less parkland/capita than the city average. Overall, parkland/capita declined in all neighbourhoods between 1996 and 1998 due to population growth.

- b) In 1998, 84% of all neighbourhood areas were within 500 metres of a park or trail.

Figure 7: Park area (ha)/1000 people



Source: Statistics Canada 1996 Census; B.C. Statistics, Custom Tabulation October 1998, City of Nanaimo, GIS data.

What does this tell us about achieving our goals?

The City has a strong mandate for providing parks and trail systems. The high percentage of neighbourhood area within half a kilometer of a park or trail is a considerable achievement. However, maintaining or increasing the parkland/capita ratio will be a challenge as the city continues to grow in population but the availability of affordable land shrinks. Improving access in all parts of the city to parks and open space may be a higher priority than simply obtaining more parkland.

5. THE WATERFRONT: Is public access along the marine waterfront improving?



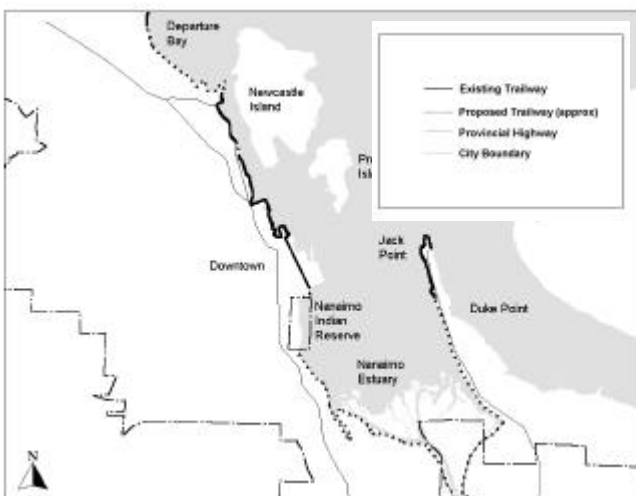
Waterfronts are highly valued resources in Nanaimo for their environmental significance, recreation and tourism opportunities, and as places to live and work. This limited resource needs to be protected for land uses that require waterfront access, and to allow the public to enjoy the waterfront amenity that makes Nanaimo a special place to live. This report focuses on *Plan Nanaimo*'s objective to increase public access to the city's marine waterfront, especially through continued development of the Waterfront Walkway along the ocean shoreline.

What was measured?

The length (in kilometres) of the Waterfront Walkway was used to indicate public access to the marine waterfront.

What was found?

Figure 8: Waterfront Walkway, existing and planned



Source: City of Nanaimo, Parks Department

In 1998, the Waterfront Walkway was 6.4 km in length (Figure 8). From the Departure Bay ferry terminal to Downtown, the Walkway is almost complete, with only short sections needed to complete the linkage. There are 36 accesses to the Walkway from adjacent roads and parks, mostly clustered in the Newcastle Channel area and downtown.

In 1998, the Marine Waterfront Walkway was 6.4 km in length.

Plans to extend the Waterfront Walkway include building a raised walkway from the ferry terminal north to Kinsmen Park in Departure Bay. Studies to avoid impacts to the foreshore environment are part of the planning process. As for the shoreline beyond Departure Bay, private property and topography will likely preclude a continuous corridor directly along the waterfront. However, there are continuing efforts to acquire inland links between existing and new shoreline accesses as the City's overall trail network grows.

In the southern part of the city, the Jack Point and Biggs Park trails are a significant feature of the waterfront trail system. A link from these trails through the Nanaimo River estuary to the Downtown is part of the long term plan.

Public access to the marine waterfront is gradually expanding.

What does this tell us about achieving our goals?

Public access to the marine waterfront is gradually expanding, particularly through the city core. Access in north and south ends of the city will be monitored in future Progress reports. Measuring *Plan Nanaimo*'s other objectives regarding the waterfront, particularly the protection of marine dependent land uses and their associated employment opportunities and access to freshwater shorelines, will need to be assessed in future Progress reports.

6. ENTERPRISE AREAS: Is the existing inventory of industrial lands adequate for supporting a diversifying economy?



also needs to be protected from potential conflicts with adjacent properties, conflicts that discourage existing and new businesses.

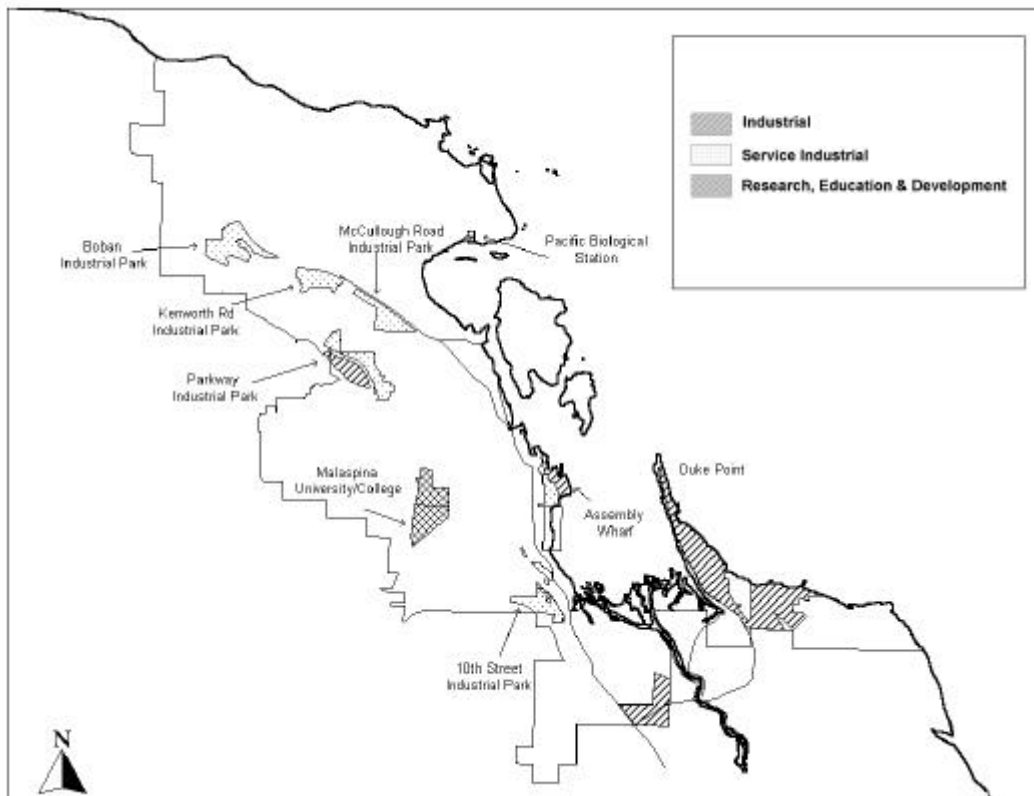
Recognizing these issues, *Plan Nanaimo* designates three types of “Enterprise Areas” (Figure 9):

- “Industrial” for processing, manufacturing, assembly operations, storage, warehousing and distribution.
- “Service industrial” for equipment sales and repairs, printing and reproduction, construction, wholesale, distribution, transportation and communications industries, etc.
- “Research, education and development” for technological and information industries, telecommunications and electronic industries, and training, research, and education facilities.

It is important to protect industrial areas from conversion to retail, office and residential uses.

Plan Nanaimo recognizes the need to accommodate new types of employment in industrial areas as the nature of the economy changes. Industrial and service commercial lands are limited in the city, so it is important to protect these lands from conversion to retail, office and residential uses. Industry

Figure 9: Enterprise Areas



Source: *Plan Nanaimo*

What was measured?

The proportion of enterprise areas being used for their designated purpose (Industrial, Service industrial, and Research/Education/Development) is used to assess the adequacy of enterprise areas in providing the land base for economic development in Nanaimo.

What was found?

The proportion of land in the Industrial Enterprise Areas being used for their designated purpose rose from 41% in 1996 to 51% in 1998 (Figure 10). Similarly, more lands in Service Industrial Enterprise Areas were being used for their designated purposes in 1998 (68%) compared to 1996 (61%).

Of the 93 hectares designated in *Plan Nanaimo* for research, education and development, 47% are occupied by Malaspina University-College and the Pacific Biological

Station, with the rest remaining vacant in 1996 and 1998.

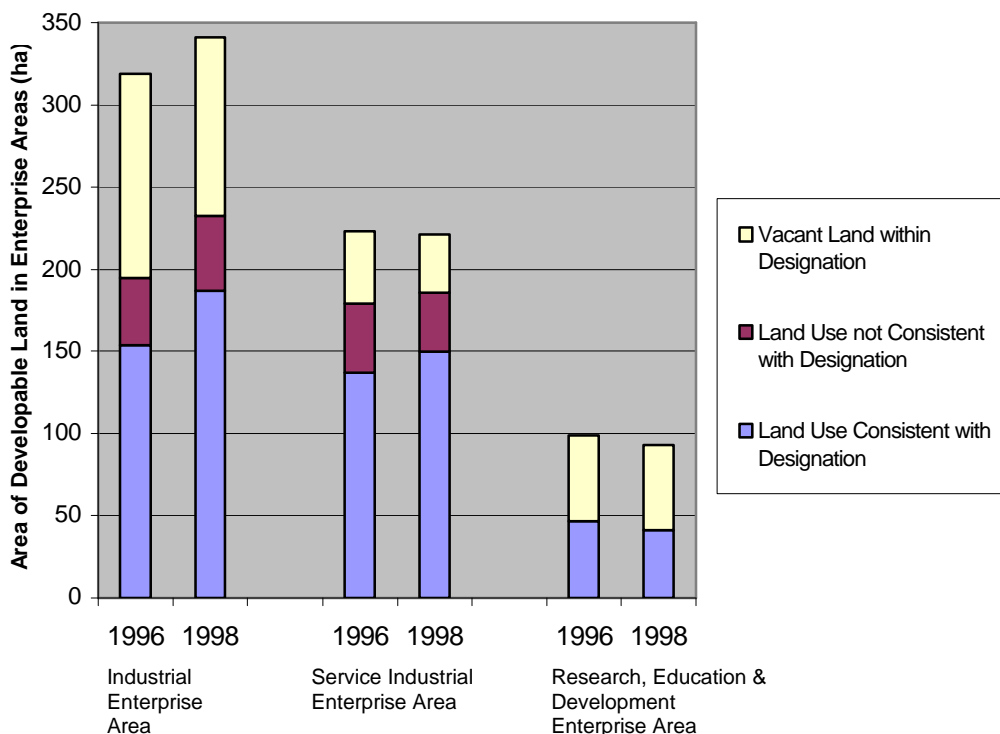
What does this tell us about achieving our goals?

In general, lands designated for Industrial and Service Industrial use are being used appropriately with vacant developable land being put into new industrial production even with the slow economy. While no indicator was available to link the increase in Service Industrial land to job creation, jobs may have resulted from the newly occupied industrial land. Also, since these lands were being used appropriately, there should be no negative affect on Service Industrial businesses on adjacent sites.

The City should seek ways to increase land available for industrial development, including mechanisms for shifting inappropriate uses away from industrial lands.

In general, lands designated for Industrial and Service Industrial use are being used appropriately.

Figure 10: Proportion of enterprise areas used for designated purpose



Source: BC Assessment Authority data.

7. AIR QUALITY: Does Nanaimo have good air quality?



Poor air quality is related to hot weather, backyard burning and car emissions.

Compared to large urban centres, air quality has not been considered a problem in Nanaimo. The exception has been emissions from the pulp mill operated by Harmac Pacific Ltd. in the south end of the city, but these pollutant levels have decreased over time as regulations have increased and technology improved. Odours occasionally emanate from the Pollution Control Centre on Hammond Bay Road, but these are also expected to be eliminated with future upgrades of that facility.

As the city's population increases, however, and with it the number of vehicles, how will air quality be affected? *Plan Nanaimo* encourages land use patterns that support bikes, pedestrians, and transit, in an attempt to reduce car use (see topic 13).

What was measured?

The concentration of air-borne fine particulates is used as the indicator of air quality in Nanaimo.

Fine particulates are tiny solid or liquid particles less than 10 micrometers in size (a micrometer, or mcm, is a millionth of a metre). Particles less than 2.5 mcm (referred to as PM2.5) are considered to pose the greatest risk to human health. They can penetrate deep into lungs, contributing to a variety of respiratory diseases, including bronchitis, asthma, pneumonia and emphysema. PM2.5 can also carry other harmful substances such as sulfates and cancer-causing chemicals. Considered by air quality experts as the most serious form of air pollution in British Columbia, these super fine particles can remain in the air from days to weeks. They are generated commonly by combustion processes such as vehicle exhaust and wood burning.

In Nanaimo, a PM2.5 analyzer was installed in late 1997 at the Regional Office of the Ministry of Environment, Lands and Parks (MELP) on Labieux Road. MELP defines GOOD, FAIR and POOR air quality based on particulate levels using the following criteria:

What was found?

Air Quality Level	PM2.5 levels (average over 24 hours)	What it means:
GOOD	0 - 15 micrograms/m ³	Desirable.
FAIR	15 - 30 micrograms/m ³	Affects sensitive people with chronic lung and heart problems.
POOR	> 30 micrograms/m ³	Affects people with mild lung or heart problems or who do vigorous outdoor exercise; may diminish visibility and scenic values.

Source: Ministry of Environment, Lands and Parks, Air Quality Meteorology – Environmental Section

Figure 11 shows the percentage of times each month that the PM2.5 levels fell into the GOOD, FAIR and POOR ranges in 1998. This information shows some interesting trends:

- There is an increase in particulate levels in the spring (late April and May) that may have been caused by a combination of open backyard burning and unseasonably hot weather. Hot, sunny weather causes photochemical reactions in the atmosphere that increase the production of particulates.
- The increase in particulate levels in summer (July and August) is a result of hot spells with hazy days, and is typical of this time of the year in most urban areas.
- The greatest increase in particulates, however, occurred in the fall (October)

which appears to coincide with backyard burning.

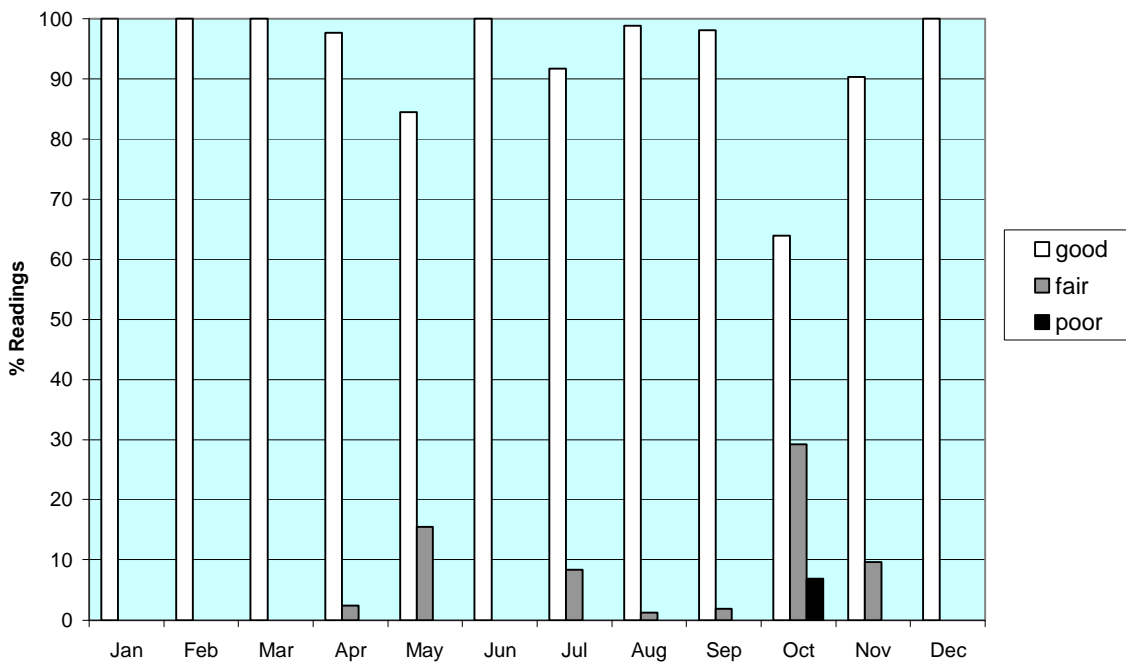
What does this tell us about achieving our goals?

Based on these measurements of fine particulates for one year, air quality in Nanaimo is generally good except for some times in the spring and fall. Decreasing the amount of vehicle use and reducing wood and backyard burning could mitigate this problem.

Other air pollutants, such as ground-level ozone, are also being monitored and may be included in future reports, to give a fuller picture of air quality in Nanaimo.

Air quality is generally rated as 'good', but may fall to 'poor' during spring and fall.

Figure 11: Air Quality in Nanaimo in 1998



Source: MELP, Vancouver Island Region, Air Quality Meteorology Environmental Section

8. WATERCOURSES : Are Nanaimo's aquatic ecosystems healthy?



Land use decisions can seriously affect the health of watercourses .

Nanaimo is blessed with a wealth of creeks, rivers, lakes, ponds and wetlands (Figure 12). The health of these aquatic systems is a major indicator of the health of the natural environment in our community.

Urban development is taking a toll on Nanaimo's aquatic systems. Some of our creeks still support fish and other aquatic life but others have been filled in, piped, diverted or degraded to the extent that fish and aquatic life can no longer survive. Wetlands are rich ecosystems that provide water storage, drainage and purifying systems, but many have been filled in to make way for housing, commercial and industrial sites, or agriculture. Lakes are being increasingly affected by boaters, lakeside residences, and urban drainage.

To address this problem, *Plan Nanaimo* defines a "leave strip" or buffer area along all watercourses as a Development Permit Area which places special protection requirements on all land uses in these areas.

What was measured?

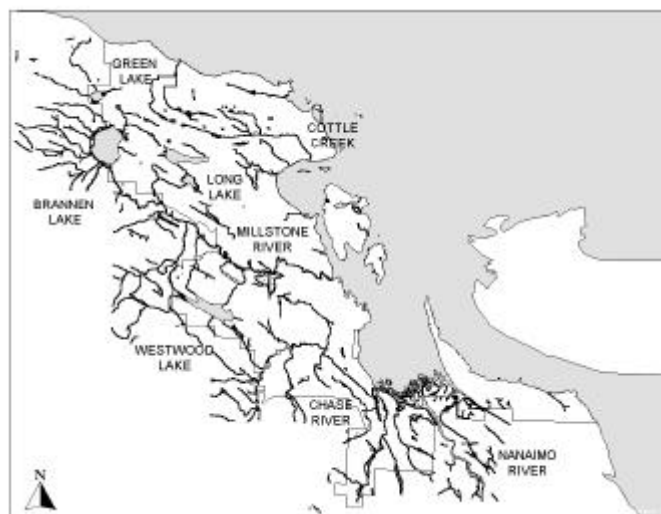
The occurrence of different species of fish is a key indicator of the health of watercourses. Salmon are the most sensitive to changes in water temperature and water quality, followed by trout species. Other types of fish such as Stickleback, Pumpkinseed, and Prickly sculpin can tolerate warmer water temperatures and poorer water quality, common impacts of urban development.

What was found?

An inventory of the creeks and streams in Nanaimo was conducted in 1993 and 1994 under a grant from the provincial Habitat Conservation Trust Fund. This inventory documented the occurrence of fish in Nanaimo's watercourses (Table 3).

A surprising number of Nanaimo's watercourses support Coho salmon, and even more are inhabited by Cutthroat trout. Some watercourses, such as Cottle Creek and the Millstone River, support very few or no Coho

Figure 12: Watercourses in Nanaimo



Source: City of Nanaimo GIS

because of natural barriers to their migration, but do support trout and other species that do not migrate to and from the ocean. However, the Coho populations in some creeks, such as Departure and Walley Creeks, have dwindled significantly from historic levels.

What does this tell us about achieving our goals?

Most of Nanaimo's watercourses still support fish, but land uses and other human activities need to be carefully planned to minimize further negative effects. The Watercourse Development Permit Area defined under *Plan Nanaimo* helps to maintain streamside areas, a first step in maintaining healthy aquatic systems. However, the impact of upland land

uses on aquatic systems needs to be evaluated. Toward this end, the City has embarked on a review of its policies and practices for managing urban runoff.

The 1993-94 inventories provided a snapshot of our creeks and streams. Unfortunately, there are no programs in place to update that information on a regular basis, or to monitor other key aquatic health characteristics such as water temperature, oxygen levels, or pollutants. Some of this information is gathered by volunteer groups, but results are not compiled or reported on a regular basis. Regular monitoring of aquatic systems is needed if Nanaimo's streams and lakes are to be effectively managed.

Many of Nanaimo's watercourses supported Coho salmon and Cutthroat trout in 1993-1994.

Table 3: Occurrence of fish in Nanaimo's creeks and rivers 1993-94

	Coho salmon	Cutthroat or Rainbow trout	*Other
Beaver Creek	✓	✓	✓
Beck Creek	★	★	★
Bloods Creek	✓	★	✓
Brannen Lake	✓	✓	✓
Cat Stream	✓	✓	✓
Chase River	★	✓	✓
Cottle Creek		★	
Departure Creek	✓	✓	
Divers Lake			✓
Green Lake	✓	✓	✓
Harewood Creek		✓	
Holden Creek	✓	✓	✓
Long Lake			✓
McGarrigle Creek		✓	✓
McNeil Creek		★	
Millstone River	Chum, Coho	★	✓
Northfield Creek			
Richard Creek	★	✓	✓
Wexford Creek	✓	★	✓
Walley Creek		✓	✓
Westwood Lake		✓	✓

✓ - indicates presence; ★ - indicates greater numbers relative to other watercourses in Nanaimo.

*Other - denotes stickleback, pumpkinseed, prickly sculpin, etc.

Source: *Nanaimo Urban Stream Enhancement Study 1993* (B. Murray, S. Toth, C. Thirkill-Hobson, A. McNaughton); *Nanaimo Urban Stream Enhancement Study 1994* (C. Thirkill-Hobson, A. McNaughton); anecdotal information

9. ENVIRONMENTALLY SENSITIVE AREAS: Are these areas being protected from development?



167 ESAs were defined in Plan Nanaimo, covering 8.7% of the City's land area.

Plan Nanaimo defines environmentally sensitive areas (ESAs) as “areas that provide productive fish or wildlife habitat; contain sensitive, rare or depleted ecosystems and land forms; and represent sites of Nanaimo’s natural diversity that are in danger of disappearing”. One of the Plan’s objectives is to ensure that human activities avoid or minimize disturbance to ESAs.

The Sensitive Ecosystem Inventory for East Vancouver Island and the Gulf Islands (SEI), a comprehensive inventory completed by federal and provincial environment agencies

in 1997, was the primary source of information for identifying ESAs in the city. The SEI was supplemented by local knowledge and checking by Council’s Advisory Committee on Environment. ESAs were placed into nine categories on the basis of their SEI ecosystem type (Table 4).

What was measured?

Two indicators are used to measure the protection of environmentally sensitive areas:

- a) Number and area of ESAs identified in Plan Nanaimo to reflect any losses resulting from new development and additions as our knowledge of the location, distribution, and significance of Nanaimo’s ecosystems grows.
- b) Proportion of ESA area protected to reveal the effectiveness of environmental protection efforts. ESA protection is defined as inclusion of the area in a park or nature reserve (city, regional, provincial or private).

What was found?

Table 4: Status of ESAs in 1998 (excludes Newcastle Island Provincial Park)

ESA Type	No. of sites	Area (ha)	% in parks or reserves
Coastal bluff	8	14.2	12%
Terrestrial herbaceous	23	36.6	26%
Sparsely vegetated	5	8.9	34%
Woodland	7	43.2	32%
Older forest	3	20.6	12%
Riparian*	28	110.8	34%
Wetland*	64	260.1	49%
SUBTOTAL	138	494.4	40%
Seasonally flooded**	12	67.6	0%
Second growth forest**	17	223.6	18%
TOTAL	167	785.6	30%

*Sites identified under the SEI only (see text). Results do not include all of the water courses and leave strips considered sensitive by the City.

**Considered environmentally important but not necessarily sensitive

Source: SEI; Plan Nanaimo

Table 4 shows the result of a review of ESA protection in the city.

- a) As of 1998, 167 sites were defined as ESAs in *Plan Nanaimo*, covering 786 ha or about 8.7% of the city's area (excluding Newcastle Island) (Table 4).
- b) Parks and nature reserves encompass all or part of 77 ESAs, covering about 235 ha or 30% of the total ESA area. This protected portion accounts for only 2.7% of the area of the city.

An additional 31% of the total ESA area, mostly ESAs defined as riparian habitat, wetland, or coastal bluffs, falls into Watercourse Development Permit Areas. This designation regulates development in these areas to avoid or minimize negative impacts on the environment, but does not offer the same long-term protection as a park or reserve status. About 39% of the ESA area defined to date is not protected in any way.

Defining ESAs in *Plan Nanaimo* was an important step in protecting environmentally important features in the City. Being part of a park or nature reserve is the strongest form of protection, but these areas are still subject to recreational pressures that can damage sensitive environmental features. Though recreation has traditionally been the primary mandate of the City's park system, environmental protection is becoming recognized as an important goal, and ESAs are increasingly being adopted as components of parks.

Being included in a Development Permit Area provides modest protection by requiring an environmental assessment of a development proposal, and requiring actions to minimize the impacts of development. Development permits, however, are not as secure as having ESAs defined as a park or natural reserve.

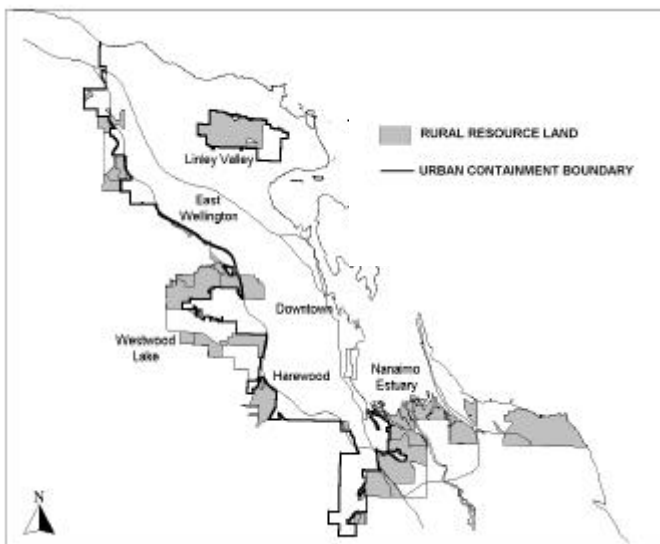
About 38% of ESAs are in parks or nature reserves, another 31% are included in Watercourse Development Permit Areas, but 39% are not protected in any way.

What does this tell us about achieving our goals?



10. URBAN CONTAINMENT BOUNDARY: Is the UCB being maintained so that new development can be focused in serviced urban areas?

Figure 13: UCB and rural resource lands (1998)



Source: Plan Nanaimo

The UCB is meant to focus growth where services are already available and to prevent urban sprawl into rural areas.

The continued spread of residential and commercial land uses into rural portions of the city raises concerns about the loss of rural and natural areas, and about the expensive extension of services to remote areas. *Plan Nanaimo* establishes an Urban Containment Boundary (UCB: Figure 13) as a means of focusing growth in areas where services are available and protecting rural lands from urban sprawl.

What was measured?

Two indicators are used to measure whether the UCB is containing growth:

- a) *Land area inside and outside the UCB.* This indicator will reveal adjustments to the UCB.

99% of Nanaimo's population lives inside the UCB.

- b) *Population inside and outside the UCB.* The target is to focus new population growth inside the UCB.

What was found?

- a) The UCB was adjusted between 1996 and 1998 to include new lands amalgamated in the north end of the city, and to include three recreational vehicle parks that were determined to be an urban use. These adjustments resulted in a 1% change in the proportional land areas (Table 5).
- b) In 1996, the population of Nanaimo was 70,130 people with 99% living inside the UCB and 1% outside (Table 5). The next census in 2000 will tell us if this proportion has changed.

What does this tell us about achieving our goals?

The city has a substantial inventory of serviced land inside the UCB that can accommodate growth for a very long time. The UCB is an important tool for re-focusing growth in ways that create more attractive, environmentally sound, and cost-effective communities. Retaining at least 29% of the total land area of the city outside the UCB not only controls sprawl but supports lifestyle choices, environmental protection, and a rural economy.

Table 5: Land and population inside and outside the UCB

	1996		1998	
	Inside UCB	Outside UCB	Inside UCB	Outside UCB
Area in ha (%)	6,193 (71%)	2,546 (29%)	6,223 (72%)	2,389 (28%)
Population	69,504 (99.1%)	626 (0.9%)	not available	not available

Source: City of Nanaimo GIS for area; Statistics Canada for population

11. NANAIMO PARKWAY : Is the park -like character and rural lands being maintained?



Plan Nanaimo recognizes the importance of retaining the largely rural and natural landscapes along the Parkway (new Island Highway), and does not support further development of commercial, retail or other intrusive uses along its length. In order to maintain this park-like quality, the Parkway was designated as a Development Permit Area with requirements to protect a linear buffer along the Parkway from urban development.

What was measured?

The percentage of the Parkway that has a buffer (minimum 15 meters in width) of undeveloped land on both sides is used as the indicator of maintaining the parklike character. “Undeveloped” means land that is basically in a natural state, free of buildings, parking lots, roads, signs, large fences, etc. The condition of the buffer was assessed from aerial photographs.

What was found?

Based on air photos taken in May 1996, 82% of the Parkway had a natural landscape buffer free of buildings and other forms of development. Most of the encroachment into this buffer area occurs at the north end around Woodgrove due to pre-existing development.

What does this tell us about achieving our goals?

The target is to at least maintain this baseline of 82% undeveloped buffer into the future. However, it will be a challenge to maintain the natural character of the Parkway as development, particularly commercial operations, locate on lands adjacent to it.

Future assessments of progress should include measuring improvements to the vegetative screen rather than just the width of the undeveloped buffer.

82% of the Parkway had an undeveloped buffer in 1996.

12. RURAL RESOURCE LANDS: Are farm, forest and rural lands being maintained?



Rural resource lands provide for important resource uses and scenic and green space value.

Plan Nanaimo recognizes that rural resource lands are an integral part of the long-term vision of the city. Rural Resource Lands are identified in the Plan (Figure 13) as lands not awaiting development, but instead providing important resource uses and scenic and green space qualities. Most, but not all, of these lands lie outside the UCB.

A significant portion of Rural Resource Lands are in the Agricultural Land Reserve (ALR) and Forest Land Reserve (FLR), which are designated and protected under provincial legislation for their respective resource uses.

What was measured?

Two indicators were used to monitor the status of Rural Resource Lands:

- a) *Total area of the Rural Resource Land designation* to indicate whether this area is being converted to other uses over time. Lands in the ALR and FLR are monitored

In 1996, 19% of the city was rural resource land.

as components of this total area.

- b) *Land uses in Rural Resource Lands* to assess whether or not the current uses are appropriate for the Rural Resource designation.

What was found?

- a) The total area of Rural Resource Lands decreased by about 5% between 1996 and 1998 (Table 6) when three recreational vehicle parks previously included in this designation were determined to be urban uses and redesignated as “suburban neighbourhood”. As well, the Provincial Forest Land Commission allowed 41 ha in the Cedar area to be removed from the FLR in recognition of the fact that the land was already being used for forestry-based storage. This property was then redesignated as Industrial land in *Plan Nanaimo*.

- b) Based on the land use categories defined by the B.C. Assessment Authority, there were some changes to the use of rural lands between 1996 and 1998 (Figure 14). “Vacant” (mostly forested) land decreased, and all other land uses increased slightly. Industrial land use increased most dramatically from 1.6% in 1996 to 8.5% in 1998.

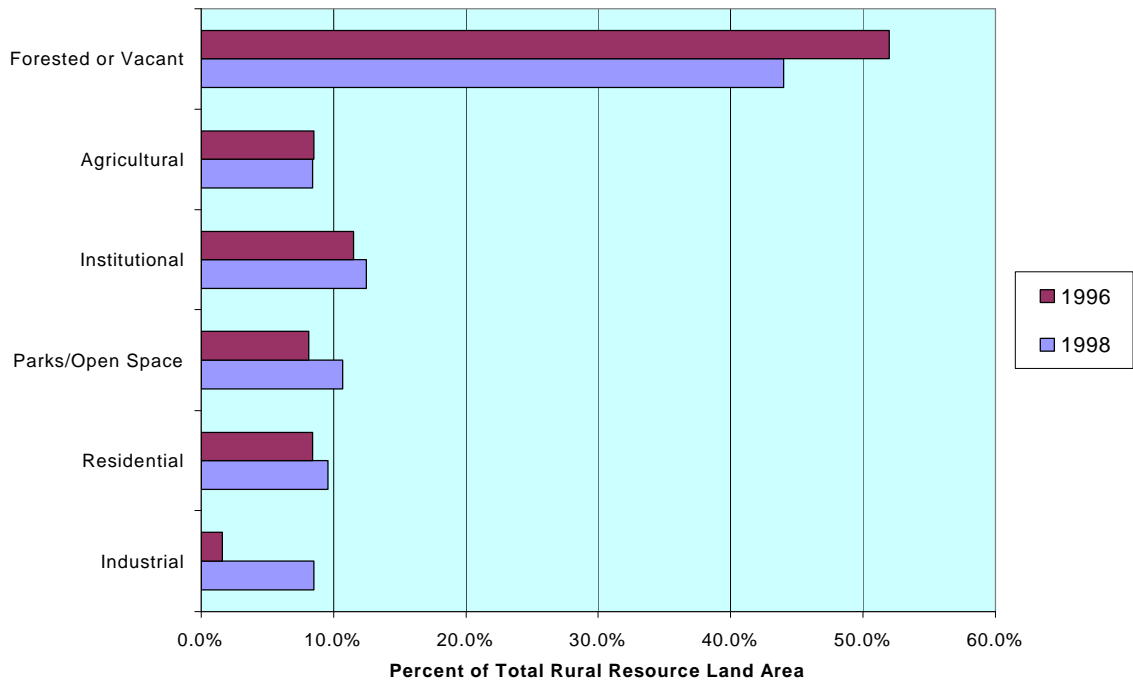
What does this tell us about achieving our goals?

Table 6: Area of Rural Resource Lands and percentages in ALR and FLR

	1996	1998
Rural Resource Lands (ha)	1,704	1,622
ALR (ha)	485 (28%)	485 (30%)
FLR (ha)	358 (21%)	317 (20%)

Source: City of Nanaimo GIS database

Figure 14: Land use in Rural Resource Lands



Source: City of Nanaimo GIS, BC Assessment Authority

The total area of Rural Resource Lands decreased by about 5% between 1996 and 1998.

In general, it is too early to tell whether rural lands are being protected. Most lands that were removed from the Rural Resource Lands designation since 1996 were already being used in “non-rural” ways. The changes therefore represent a correction in the Plan designation. Over time, however, the City’s ability to maintain Rural Resource Lands in appropriate land uses will be important.



13. TRANSPORTATION: Is car use being reduced and are other forms of transportation increasing in Nanaimo?



86% of Nanaimo's commuters used a car to travel to work in 1996.

Reliance on cars presents Nanaimo with a range of environmental, social and financial challenges. Reducing car use has many benefits, including decreasing energy consumption, reducing air pollutants, easing traffic congestion and reducing the need to spend more tax dollars on expanding the road system.

However, as *Plan Nanaimo* recognizes, residents need viable alternatives (eg. transit, bikeways, footpaths, carpools) if they are to move away from single-occupant vehicles (SOVs).

What was measured?

The following indicators are used to measure reliance on cars, and the availability and use of alternative transportation modes

- a) *Transportation mode used to commute to work*, based on data from the 1996 Census.

- b) *Use of public transit*; see if Nanaimo is moving toward the Regional District's transit target of 25 riders/hour by the year 2003.
- c) *Kilometers of roads in Town Centres with sidewalks*; the target is 100% sidewalk coverage on both sides of streets in all town centres.
- d) *Kilometers of signed or marked on-road cycle routes*; to see what proportion of *Plan Nanaimo's* designated Cycle Routes are marked.

What was found?

- a) 86% of Nanaimo residents used a car to commute to work, compared with the provincial average of 81% (Table 7). 90% of the Nanaimo car users were in single occupant vehicles.
- b) Ridership on public transit for 1998 was 17.3 riders/hour, which is 69% of the Regional District's 2003 target of 25 riders/hour (Regional District of Nanaimo Transit Authority).
- c) Altogether, there are almost 61.5 km of roads in the six Town Centres. In 1996, about 30% of those roads had sidewalks. This proportion increased slightly to 31.6% in 1998. The Downtown had the highest sidewalk coverage at 54.6% of all roads, while the Chase River Town Centre had the lowest at 2.3%.
- d) *Plan Nanaimo* designates 143 km or 28%

Table 7: Mode used to get to work in 1996

	Nanaimo (26,085 total commuters)	B.C.	Canada
Vehicle, single or shared	86%	81%	81%
Transit	3%	9%	10%
Bike	2%	2%	1%
Walk	7%	7%	7%
Motorcycle, taxi, other	2%	1%	1%

Source: Statistics Canada 1996 Census

of the city's roads as cycle routes (Figure 15). Of that network, 15% had been marked as cycle routes by 1998. Marking consists of a line and symbol on the road pavement marking a designated cycle lane, or signage indicating a road is a shared vehicle-cycle route. In addition, almost all of the City-operated stoplights have been adjusted, and a symbol marked on the intersection to enable cyclists to activate a light change.

What does this tell us about achieving our goals?

Nanaimo is a car-dependent community. This is in part a result of its dispersed, thinly populated nature, which makes transit service economically difficult. The long distances between destinations also act as a deterrent to walking and cycling.

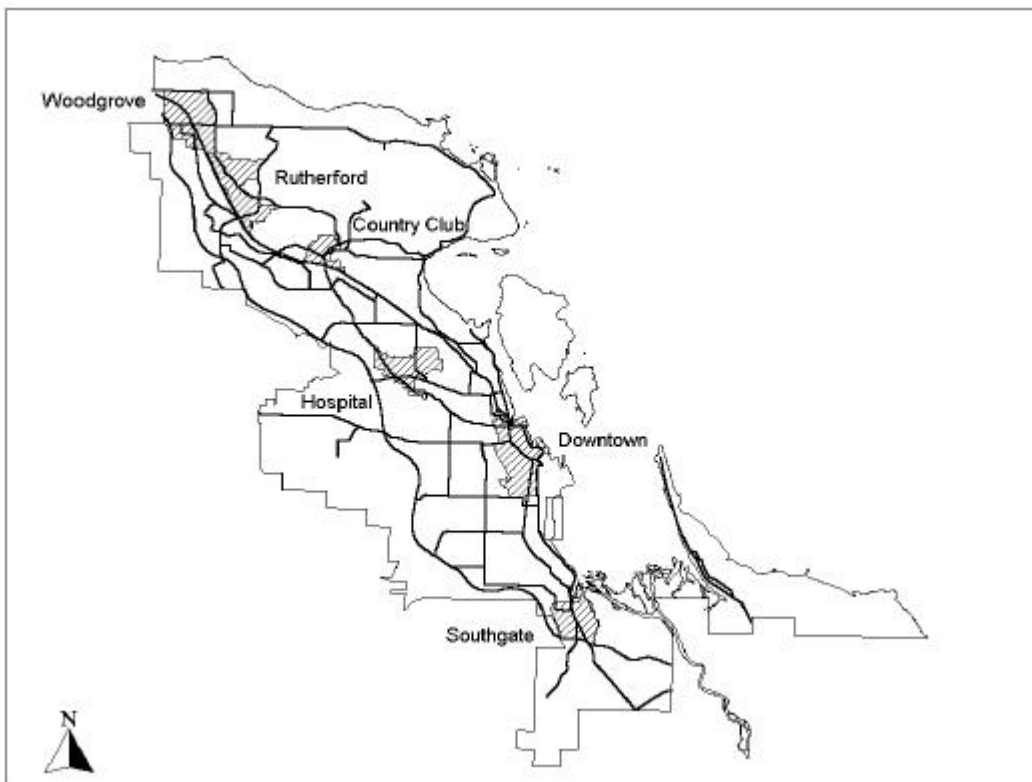
Local government is working to improve

accessibility to alternative modes of transportation. The Regional District is adjusting transit routes, stops and schedules to optimize better service and reduce the costs of running the system. Transit services will become more viable as population densities increase in Growth Centres and as more services are offered near residential areas.

Separate cycle lanes or road widening on shared vehicle-cycle routes are part of road rehabilitation projects wherever possible. The focus on multi-use trailways also encourages more people to use their bicycles for both commuting and recreation. More sidewalks are being installed in Town Centres to encourage people to leave their cars and walk to their destinations. Reducing car dependence will be an ongoing task not only through providing better infrastructure, but also by providing public information on the values of using alternatives.

Almost 32% of roads in Town Centres had sidewalks in 1998.

Figure 15: Cycle Routes in Plan Nanaimo



28% of city roads are designated as cycle routes, of which 15% were marked or signed as such by 1998.

Source: Plan Nanaimo

14. SOLID WASTE MANAGEMENT: Is less refuse being generated in Nanaimo?



Solid waste = refuse + recycling

Solid waste is, literally, becoming a mounting problem. The landfill site on Cedar Road, which handles all of the city’s garbage is nearing its limit. The Regional District of Nanaimo (RDN) is responsible for landfills throughout the region and is seeking a replacement site or alternative process. However, any potential new site will impact its local population and environment.

The City’s main role in solid waste management is to provide curbside refuse and recyclable collection to residential homes. In

1998, this program served 20,566 households, which represents about 70% of Nanaimo’s residents. The City also operates six drop-off facilities for recyclables, and along with the RDN and the Nanaimo Recycling Exchange, provides public education on the benefits of the “three Rs” – reduce, re-use, and recycle.

What was measured?

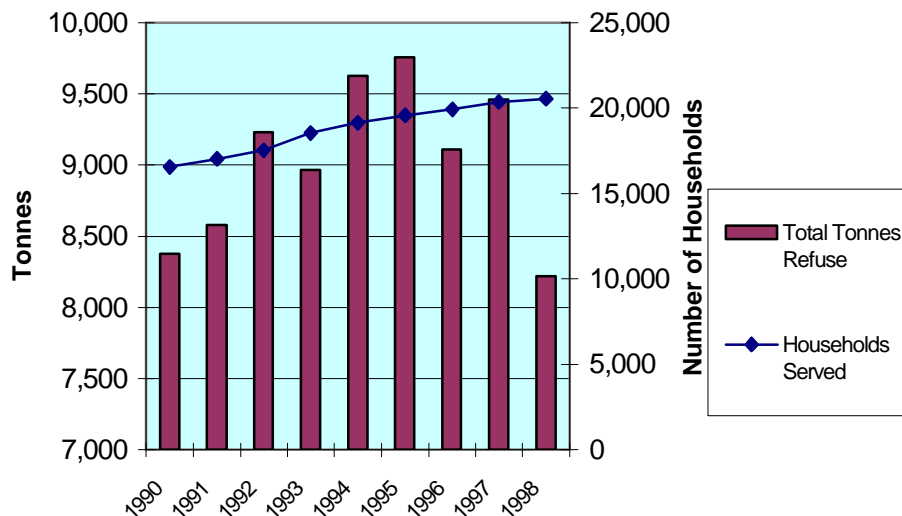
Two indicators are used to measure progress in solid waste reduction in Nanaimo:

- a) *Annual kilograms of refuse per household* based on the households served by the City’s curbside pickup program.
- b) *Annual kilograms of recyclables per household* based on the households served by the City’s curbside pickup program.

Unfortunately, these data only track waste from single family residential homeowners in the city. Data on waste from other sectors (multi-family and strata developments, commercial enterprises, industries, and institutions) are not currently available.

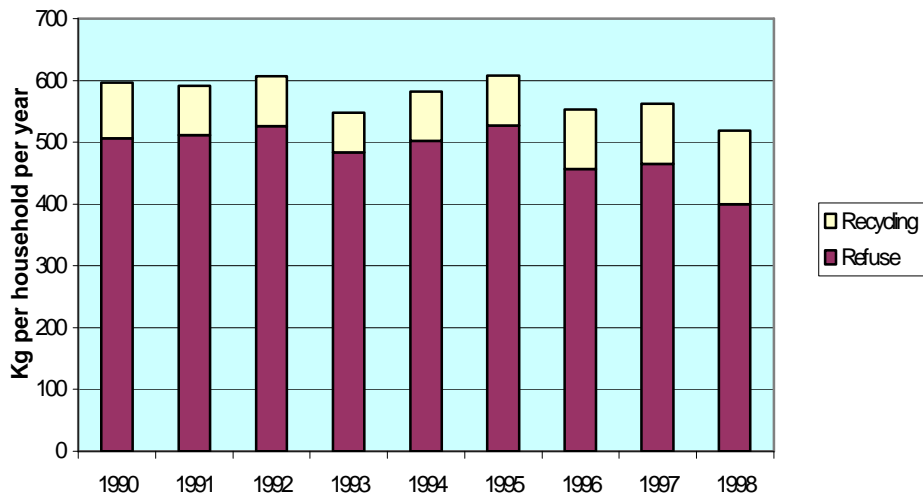
What was found?

Figure 16: Total refuse collected annually and number of households served by City collection service



Source: City of Nanaimo, Public Works Dept.

Figure 17: Household recycling and refuse trends



Source: City of Nanaimo, Public Works Dept.

- a) The city and its residents have been successful at controlling the amount of residential refuse sent to the landfill. Although the city population increased by almost 20%, total refuse generated in 1998 was below 1990 levels (Figure 16). The amount of refuse generated per household had fallen by 21%.

The most significant declines occurred in 1993, when the weekly pickup service was reduced from three to two bags per household; and in 1996, when the curbside recycling program was expanded from cardboard and newspapers to also include mixed paper, cans, and plastic milk jugs.

- b) Recycling is helping to divert refuse away from the landfill. Between 1990 and 1998, the amount of recycled material increased by 24%. By 1998, 23% of solid waste generated by a household was picked up as curbside recycling.

achieving our goals?

Incentives such as reducing refuse pickup from 3 to 2 containers and expanding the recyclable pickup appears to have helped to reduce garbage generation. In April 1999, the city further reduced refuse pickup to the equivalent of one container per household per week; additional containers require a \$2.00 tag. These changes were reflected in reductions to residents’ annual user fees for refuse and recycling services in 1999.

At a regional level, the RDN should meet the provincial target of 50% reduction in refuse over 1990 levels by the year 2000. The City’s programs have certainly helped. Reductions in waste generation bode well for reducing the pressure on our existing and any future landfill.

Average refuse per household fell by 21% between 1990 and 1998.

What does this tell us about

15. PLAN IMPLEMENTATION: Are the major components of *Plan Nanaimo* being completed?



16% of *Plan Nanaimo* initiatives had been completed by December 1998; another 21% were in progress.

Plan Nanaimo directs long-term decisions about land use. Implementation will occur continuously but incrementally. In most situations, the Plan is implemented through decisions made in response to development applications. Therefore, realizing the goals and objectives of the Plan through the land use decision-making process will take a long time.

The Plan presents 61 initiatives for revising existing policies or creating new policies and regulations to meet the Plan’s objectives. How these initiatives are progressing serves as one indicator of how well the Plan is being implemented.

What was measured?

The status of the 61 initiatives presented in *Plan Nanaimo* is the indicator used to assess progress in implementing the Plan.

What was found?

By December 1998, 10 projects or 16% of the 61 initiatives were completed and 13 or 21% were in progress (Table 8).

What does this tell us about achieving our goals?

As *Plan Nanaimo* states, the implementation of its policies is expected to occur over an extended period of time. The most urgent measures are to be implemented in the short term; some measures will be initiated immediately but require several years to complete; and other less urgent initiatives will be started as resources and time permit. The major factors limiting the completion of the 61 initiatives have been limited staff time, as well as City Council’s desire to introduce significant changes in a balanced and measured manner.

As circumstances change over time, so too will the community’s priorities regarding growth and land use. Some of the initiatives originally called for in *Plan Nanaimo* may no longer be needed, or should perhaps be replaced by other more pressing concerns. The list of initiatives will be reviewed in the next Plan review in 2001.

Table 8 Status of *Plan Nanaimo* initiatives as of December 98

Projects Completed	Projects in Progress
1. Chase River Neighbourhood Plan	1. Hammond Bay Neighbourhood Plan
2. Southgate Town Centre Plan	2. Woodgrove Regional Town Centre Plan
3. Mainstreet Review and Guidelines	3. Northfield/Bowen Road Neighbourhood Village Concept Plan
4. Heritage Management Plan	4. Waterfront railway design to Departure Bay
5. Guidelines for Municipal Works and Services in and around ESAs	5. Steep Slope Development Guidelines
6. Erosion Control Guidelines	6. Zoning Bylaw amendments for steep slopes
7. Landscape in City Streets policy	7. Millstone Greenway
8. <i>Plan Nanaimo</i> Advisory Committee established and operating	8. Cycle Route Signage Program
9. <i>Plan Nanaimo</i> progress process established	9. Environmental Impact Assessment Guidelines
10. <i>Plan Nanaimo</i> amendment procedure established	10. Stormwater Management Policy review
	11. Industrial Zoning review
	12. Cluster housing development– Zoning Bylaw review
	13. Amenity Package Guidelines

The 1998 Progress Nanaimo Report has identified baseline information on land use, heritage, and environmental conditions in Nanaimo. Future reports will track whether conditions are improving or deteriorating, so that the City and residents can adopt new actions and strategies where necessary.

Some conditions are encouraging, such as the large number of homes in walking distance of trailways and parks. Other conditions raise concerns, such as the number of times that air quality is poor, and the continued reliance on cars to travel from home to work, shops, and play.

Many trends will only be obvious after several years of reporting, such as the densities in neighbourhoods and town centres. Trends for some topics, however, are already evident, such as the good progress in reducing the amount of refuse sent to landfills.

This is the first Progress Nanaimo Report and we welcome your comments, both on the report's findings and on ways that we can work together to improve our community. Please send comments to the Strategic Planning Department, 200 Franklyn Street, Nanaimo, B.C., V9R 5J6; or phone (250) 755-4483.

B.C. Statistics, Custom Tabulation. 1998. Nanaimo Population forecast.

British Columbia Assessment Authority.

Canadian Mortgage and Housing Corporation. 1998. Housing Market Report.

City of Nanaimo, Community Heritage Commission. 1998. Heritage Action Plan.

City of Nanaimo, Geographical Information Systems (GIS) database.

City of Nanaimo, Plan Nanaimo: Official Community Plan Bylaw 1996 No 6000 (Consolidated as of April 1999).

City of Nanaimo, Public Works Dept. databases (roads, Solid Waste Information Tracking System).

Environment Canada, Habitat Conservation Trust Fund and Ministry of Environment, Lands and Parks. 1997. Sensitive Ecosystems Inventory of East Vancouver Island and Gulf Islands.

Ministry of Environment, Lands and Parks, Air Quality Meteorology (Environmental Section).

Murray, B., S. Toth, C. Thirkill-Hobson, A. McNaughton. 1994. Nanaimo Urban Streams Enhancement Study: Year 1, 1993.

Regional District of Nanaimo, Transit Authority.

Statistics Canada 1991 and 1996 Census.

Thirkill-Hobson, C., A. McNaughton. 1993. Nanaimo Urban Stream Enhancement Study: Year 2, 1994.