NUNAVUT HOUSING REQUIREMENTS, NEEDS AND DEMAND TO 2016

Background Report for a
Ten-Year Nunavut Housing Strategy

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EXECUTIVE SUMMARY

Introduction

Since the spring of 2003, the Government of Nunavut and Nunavut Tunngavik Inc. have been working toward a comprehensive ten-year housing action plan for the Territory. A key building block in that plan is projections of future housing requirements, current social and physical needs, and anticipated market demand in Nunavut.

Such projections and related analysis can help to determine the likely capital costs of a reasonable program of construction, renovation and conversion over ten years. They can guide arrangements to offer appropriate mixes of dwellings by physical type and characteristics of intended occupants, e.g., for students, for families with children, for senior citizens, etc. They can also permit everyone concerned to assess the gap between numbers of dwellings required and what is currently produced annually. Moreover, they can help indicate the consequences of this gap for accumulating housing needs, population health, and the economy of Nunavut.

The projections and analysis presented in this report are based on published data supplied by Statistics Canada and Canada Mortgage and Housing Corporation. They have been checked through interviews with housing and statistics experts in Nunavut itself, and also directly through site visits by the author. They offer a statistical foundation for people in Nunavut to build on in the future. The report also identifies some data gaps to be addressed by Federal agencies in cooperation with local experts.

Housing Requirements

Demographic housing “requirements” are developed from future trends in population growth in different age groups. They focus on the likelihood that each age group will form "households", based on past patterns. “Families” are composed of people related by blood or marriage. "Non-family" households are composed of one person or of two or more unrelated persons. As a starting point for developing housing requirements for Nunavut, here are the three most likely population projections for 2016:

POPULATION PROJECTIONS FOR NUNAVUT, 2001 TO 2016

PROJECTION: YEAR:	LOW	MEDIUM	HIGH
2001	28,100	28,200	28,300
2016	33,900	35,500	38,800
Difference	+ 5,800	+ 7,300	+ 10,500

Source: Calculated from Statistics Canada, *Population Projections for Canada, Provinces and Territories 2000-2026,* Catalogue No. 91-520. The actual population was 28,121.

Among these population projections, Nunavut is currently on track with the "Medium" one, based on Statistics Canada estimates that come out every quarter. The latest estimate is that there were 29,644 residents as of July 1, 2004, an increase of 1,523 over the Census figure. On this basis, Nunavut's average annual population growth rate was about 1.8 percent over this period, compared to the Canadian average of just under 1 percent.* (Note that the year 2001 is used as a starting point throughout this report because it was the year of the most recent Census of Canada.)

Nunavut population figures are turned into long-term household and housing requirements projections here by combining Statistics Canada and Canada Mortgage and Housing Corporation data and methods. (By the end of 2005, CMHC is expected to produce new projections based on the latest trends.)

PROJECTED TOTAL NUMBERS OF NUNAVUT HOUSEHOLDS, 2001-2016

YEAR:	LOW	MEDIUM	HIGH
2001	7,195	7,210	7,285
2016	11,000	11,310	11,865
DIFFERENCE:	+ 3,805 OR 250-255 AVERAGE ANNUAL REQUIREMENT	+ 4,100 OR 270-275 AVERAGE ANNUAL REQUIREMENT	+ 4,580 OR 300-305 AVERAGE ANNUAL REQUIREMENT

Source: Calculated from Statistics Canada, *Population Projections for Canada, Provinces and Territories 2000-2026,* Catalogue No. 91-520, and from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*. The actual number of households counted in the Census was 7,175. The Statistics Canada projections were based mainly on1996 Census data and on data from between the Census years.

Without taking any other factor into account, it appears that Nunavut needs to produce at least 250 units a year just to avoid further crowding and doubling up of households in the existing stock of units. Based on current population increases, 270-275 units a year would be advisable to keep pace with growth. Within these units, homes for senior citizens will be of increasing importance.

Next it is important to consider the requirement for new housing or major renovation to replace those that become "worn out". Because occupancy rates in Nunavut are high, and the climate is very cold, the housing units available are used very intensively.

* Note that according to the most recent estimate, for January 1, 2005, the population had risen to 29,683, or at a somewhat slower annual rate than before, though still very close to the Medium projection. It will be essential to monitor Nunavut's population growth regularly in order to determine whether requirements projections need to be revised.

Relying on the Census survey, at least 1,360 units in Nunavut today are "in need of major repair". Over ten years, therefore, Nunavut would require 130 to 140 new dwellings or major renovations each year just to keep pace.

HOUSING IN NUNAVUT NEEDING MAJOR REPAIRS, 2001

PERIOD OF CONSTRUCTION	RENTED	OWNED	TOTAL
1946-1960	*25*	*10*	*35*
1961-1980	*655*	*100*	*755*
1981-1990	*280*	*85*	*365*
1991-2001	125	90	215
TOTAL	1,080	280	1,360

Source: Statistics Canada, *Census of Canada, 2001*, Catalogue No. 95F0325XCB01004.

In addition, it is safe to assume that the majority of *all of* the 7,200+ units in the Territory as of 2001 require some insulation, ventilation, and heating/lighting equipment upgrades to incorporate the latest technological advances. More units will likely fall below minimum standards over the next 10-15 years and need to be replaced or renovated.

Housing Needs

Housing “needs” are based on standards of accommodation considered basic for human health, safety and well-being. To simplify calculation of housing needs in Nunavut, several territorial planning documents have indicated that there is an immediate gap of about 3,000 units to be addressed that arises from “overcrowding”. Some analysts base this figure on the difference between the Canadian average number of persons per dwelling (2.6) and that in Nunavut (3.7). Dividing the population published in the 2001 Census (26,665) by 2.6 yields 10,255 units; dividing it by 3.7 yields 7,228.

Here, the aim is to offer *more specific numbers of those in need by each type of need* using both CMHC and Statistics Canada sources. There are three related perspectives: “core housing need”, “crowding” defined in terms of numbers of dwellings with more than one person per room, and physical standards of dwellings.

As it happens, applying the core housing need method produces a requirement for more than 3,000 units that meet adequate standards of size and quality, and that can be afforded by residents. This is composed of 2,740 households already in core need in 2001, plus an increment based on population growth since then.

The increment may amount to about 355 or more additional households, after factoring out those likely to have incomes above the core need threshold, and those likely to have been moved into newly-built social housing.

The "core need" concept was originally developed by CMHC in the 1980s. This relates objective measures of housing conditions to a household's ability to pay for alternative accommodation at 30 percent or less of income within the market where they live.

NUNAVUT HOUSEHOLDS IN CORE NEED, 2001

REGION	TOTAL BELOW INCOME THRES-HOLDS	AFFORDA-BILITY	SUITABILITY	ADEQUACY	MULTIPLE PROBLEMS
Total Urban	475	150	135	95	100
Total Rural	2,260	280	970	565	445
TOTAL	2,740	420	1,110	655	545

Source: John Engeland, *Households in Core Housing Need.* (This is a set of Microsoft Excel files available at http://www.nhrc-cnrl.ca/30/Posting.cfm?intPosting=67768. These estimates are based on the 2001 Census of Canada. Several additional CMHC publications expand on these results and are available at www.cmhc.ca.)

First, there are those who have adequate and suitable accommodation but do not have enough income to pay for it at the 30 percent threshold. CMHC calls this an "affordability" problem. Then, there are those who live in crowded dwellings, and also lack resources to make a change, said to have a "suitability" problem. Finally, there are those in physically substandard dwellings who have an "adequacy" problem if alternatives are beyond their means. In addition, a minority of households -- 545 in 2001 -- suffers from a combination of problems: living in substandard physical conditions; having too little space; *and* paying too much for shelter.

Nunavut households in core need amount to 38.7 percent of all households in the territory, compared to 15.8 percent Canada as a whole. Among Aboriginal people, the respective figures are 44.4 percent in Nunavut and 24.8 percent in all of Canada in core housing need.

As the table above shows, more Nunavut households in core need suffer from substandard physical conditions and too little space than from having to pay too much of their income for rent. Often, this is because they are receiving rental subsidies in social housing or elsewhere. They certainly could not afford the same unit at full-cost recovery rates of $1,500+ a month.

Furthermore, after paying for food, many households in Nunavut do not have very much left over each month. Statistics Canada household expenditure data for 2003 show that people in Nunavut devote almost twice as much for food, on average, ($12,380 per year) as do Canadian households in general ($6,790). Nunavut residents also pay significantly more for food than do residents of the other Northern territories

As noted, Nunavut policy-makers currently focus on "crowding" as the main housing problem to be solved. The table below assesses the occupancy of dwellings according to the 2001 Census, looking at all occupied units in the territory. This method differs from that based on a literal standard of dwellings with more than one person per room. The latter survey showed approximately 1,080 crowded units occupied by Aboriginal people.

CROWDING IN NUNAVUT BASED ON DETAILED ANALYSIS OF PERSONS AND ROOMS, 2001

SITUATION:	NUMBER:	% OF TOTAL STOCK
1-3 persons in 3 rooms or less	780	10.9
4 persons in 4 rooms or less	285	4.0
5 persons in 5 rooms or less	555	7.7
6+ persons in 6 rooms or less	945	13.2
TOTAL	2,565	35.7

Source: Calculated from Statistics Canada, *Census of Canada, 2001.*

It is important in this context to make the distinction between crowded dwellings and people living in crowded conditions. According to Statistics Canada data, some 54 percent of the Aboriginal *people* in Nunavut are living in crowded conditions, while 19.1 percent of *dwellings* occupied by Aboriginal people are crowded. This is so because the households that are most likely to be crowded tend to be larger ones, with as many as 13 or more individuals sharing a three-bedroom home.

People out hunting at Census time, etc., could also mean there were higher numbers per dwelling in reality. One person per room or less is a Spartan standard of space per occupant in smaller homes, since even basic bachelor apartments usually have two or three rooms. Thus, a minimum standard of three rooms – not counting bathrooms and hallways -- has been adopted for all households of three persons or fewer. Based on this standard, more than a third of all Nunavut homes currently lack adequate space.

Driving the tendency toward crowding in Nunavut is the rapid population growth already noted, by far *the highest annual rate in Canada*. Coupled with this is a long-term trend to supply fewer dwellings in relation to population growth than is typical in the rest of Canada.

For example, the Census data show that between July of 1991 and July of 2001, approximately 5,100 people were added to the districts composing the Territory. About 2,145 occupied dwellings were added over the same period, or about 2.4 new persons for every new home. In Canada as a whole, the figure was 1.7.

The final major aspect of housing need is physically substandard shelter… broken windows, inadequate insulation, inadequate provision for people with disabilities, etc. This has already been addressed above in relation to overall state of repair of the existing stock, and calculated at some19 percent of the total.

However, another factor in the quality of Nunavut housing should be flagged. In no other province or territory does long-distance transportation logistics loom so large in determining design, specifications, and maintenance of dwellings. Changing a single window can cost $1,700 or more. In most other geographic regions, residents have more options to use local materials and to improve their accommodation on their own initiative.

Turning to the question of meeting needs of those with disabilities, it would appear that up to 720 units should be adapted to assist those having mobility problems. It has not been a priority in the past to carry out such adaptations, but they are likely to become increasingly important as the numbers of elderly households in Nunavut increase.

According to the Census results, the current housing stock of Nunavut is valued at almost $1.1 billion, so it is a precious asset to be preserved and upgraded, despite the condition of some units today.

Housing Demand

Projections of housing demand based on households with enough income to afford the full cost of housing are difficult to make for Nunavut. Most migrants from other provinces and territories in Canada, as well as most international migrants, will express a demand for housing or not move into the territory at all. Based on recent data, this could amount to about 100 households annually, but it fluctuates substantially year by year as assured jobs in the government or private sector are created or lost.

In addition, the minority of the population with substantial incomes may “trade up” or exchange new for existing dwellings as their requirements change. This number is unlikely to be more than 50 or so units per year, and fits readily within the requirements figures as a whole.

Community Variations in Need

There are substantial variations across Nunavut Territory in both the extent of housing need, and the capacity to respond to that need. Careful analysis of projected population growth (and decline) in the 28 current settlements reveals four distinct groups of communities. These are: depopulating; small but still growing; medium and growing, often as a result of government decentralization initiatives; and the capital of Iqaluit, which is in a class by itself.

Each type of community will likely require somewhat different strategies in order to use available resources for housing most effectively. Close tracking of community population and household trends will be an essential support to sound decision-making, and to community allocations based on need.

In addition, there are some indications that while the quality of housing in Baffin region has improved somewhat, probably because of staff housing added in Iqaluit, there has been relative deterioration in Kitikmeot and Kivalliq (formerly Keewatin).

Current Housing Investment in Nunavut

Based on Statistics Canada data for investment in residential building, renovation and associated activities, a total of $278 million has been spent in Nunavut from the beginning of 1999 to the end of 2004. The available statistics do permit actual housing starts to be calculated with certainty. However, the investment data do reveal fairly wide year-to-year fluctuations. These reflect the lack of assured funding arrangements. Uncertainty about future levels of construction activity typically generates added costs for building materials, management and equipment; these are usually passed on in higher charges to clients.

Conclusions

Over a ten-year period, Nunavut requires annual production of more than 250-275 units just to keep pace with population increases. More than 140 units per year should be replaced or renovated in a major way. A further 110-190 or more units per year should have bedrooms added, or should be complemented by new housing targeted to household sizes and types in greatest need, e.g., youth, seniors. In brief, Nunavut requires annual housing production and renovation/addition in excess of 500-600 units a year to make real progress on its backlog of need and to accommodate future growth. Currently, it would appear that in the order of 100-150 units are being commissioned each year by private sector companies such as the Northern Property Real Estate Investment Trust, by the Nunavut Housing Corporation, and by individual buyers.

Looking at affordability of new homes, it is very unlikely that more than 150 households per year can rent or buy at "market" rates to the extent these actually exist in Nunavut. Therefore, it is likely that 350-450 new or renovated/expended units per year of subsidized housing will be required.

Recommendations

The following recommendations focus on data requirements to support sound decision-making and are intended as a launching point for building added capacity in the Territory:

1. The contents and conclusions of this report should be reviewed by experts from the Government of Nunavut, the Government of Canada, and the interested people of Nunavut to confirm their accuracy and to build a shared understanding of the information base that underlies housing requirements, needs and demand in the Territory.

2. The Government of Nunavut and Nunavut Tunngavik Inc. should consider publishing a combined annual report on housing conditions and progress in the Territory, focusing on how key trends are shaping the quantity, quality and affordability of accommodation there. (Both already publish precursors to such a report.)

3. Improvements should be made to housing data collection and reporting by Canada Mortgage and Housing Corporation and Statistics Canada so that comparable data series to those for other provinces and territories are published for Nunavut, e.g., housing starts in addition to residential investment and building permits. A specific feasibility study of how to make these improvements in a low-cost and rapid manner should be undertaken as a first step.

4. Nunavut should certainly be included as a distinct entity in a new set of CMHC housing requirements projections slated to come out late in 2005.

5. Sample surveys of housing conditions in a range of Nunavut communities should be undertaken each year to support regular reports on conditions and to facilitate close matching between housing production and needs. These surveys will be essential to progress reporting in relation to the Ten-Year Action Plan. Disability needs should be included in these surveys.

6. Housing officials in Nunavut should keep in regular contact with health ministry experts in order to be able to detect potential changes in fertility and birth rates as these may impact on future housing requirements.

CONTENTS

1. INTRODUCTION

1.1 Purpose

This report presents projected future housing requirements, current social and physical needs, and anticipated market housing demand in Nunavut. It is offered as an essential foundation document to support a Ten-Year Housing Action Plan for the Territory, and to facilitate improvements in housing data for the future.

Projections and related analysis in this report will help Nunavut planners to:

- Determine the likely capital costs of a reasonable program of construction, renovation and conversion over ten years.

- Arrange appropriate mixes of dwellings by physical type and characteristics of intended occupants, e.g., for students, for families with children, for senior citizens, etc.

- Forecast the gap between what is required and what is currently produced annually, and the consequences of this gap for accumulated housing needs.

- Consider ways in which to allocate differing amounts and types of housing activity to different communities based on their current conditions and future prospects relative to other communities.

- Assess the health, social, environmental and economic implications of the growing gap between the number of dwellings required and/or needed and the number actually produced and occupied each year.

1.2 Rationale

Reliable estimates of pressures for new housing construction and renovation make it feasible to undertake forward investment planning for Nunavut with reasonable confidence. Such estimates can also help to secure financing and funding for housing from the Federal government and from private investors, by making it clear that additional resources will be well targeted. Sound projections start to quantify the long-term consequences of inadequate housing supply and of underinvestment in repairing and renovating the Nunavut housing stock. Finally, they can help to indicate the appropriate mix of materials, building systems, and equipment to be purchased in advance for sealift. Related to this, they can assist in identifying future training and enterprise development opportunities.

The Nunavut Housing Corporation (NHC) and Nunavut Tunngavik Incorporated (NTI) commissioned this study pursuant to the recommendation of a Task Force on Housing for Nunavut.[2] The 2003 "Building Connections in Nunavut" strategic planning process, led by the Nunavut Housing Corporation, also called for a detailed needs analysis.

1.3 Scope

The focus here is on housing projections for *Nunavut as a whole*, from 2001 to 2016. Statistics Canada and Canada Mortgage and Housing Corporation data on which these projections are based offer a reasonable picture of territory-wide trends. The year 2001 is the starting point for projections because it is the time of the most recent Census, the first to provide comprehensive data for Nunavut. *Additional local data* are still required for detailed community-by-community planning and action.

In Nunavut, daily life occurs in settlements that are typically far from each other. They are also relatively isolated from market forces. Data on sales volumes, rentals and prices tend to be sparse. On the other hand, a major portion of the dwelling stock is captured via the social housing inventory data. As well, communities are small enough that most people are aware of what is happening within the privately owned units. Nonetheless, it will be important to repeat selected aspects of this study in individual communities.

For example, Nunavut Housing Corporation staff could develop or update community projections of future population and households by age groups using Statistics Canada data and projections already developed by the Nunavut Bureau of Statistics. With technical support, communities can prepare their own more detailed assessments of dwelling occupancy rates and of living conditions.[3]

Recognizing the growing importance of gearing housing investment closely to needs in specific settlements, this report does offer community indicators from the 2001 Census of Aboriginal People to guide future allocations. These numbers are going to require more debate before they are accepted as a fair and firm basis for allocating scarce housing dollars. Indeed, this is one of the most urgent issues to be addressed by the Government of Nunavut in formulating a successful Ten-Year Plan.

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[2] See Minister responsible for housing in Nunavut, *A Commitment to New Organizational Values*, (Nunavut: Government of Nunavut, 2000), Recommendation # 5. The latter focuses mainly on *community-scale* needs and allocation. Substantial progress toward a needs-based allocation model has made by Nunavut Housing Corporation. However, with very small numbers of new units made available, it is very difficult to apply in practice.

[3] In some, such as Clyde River, considerable work has already been done along these lines.

In the past, rather similar allocations of new social housing units have been made to each community in Nunavut, regardless of their relative situation. Small numbers available for distribution made this almost inevitable.[4] The hope underlying the Ten-Year Action Plan is that more units will become available to allocate in future, and on a sustained basis. Within such a context, the Government would be much better able to capture the financial, economic, social and technological benefits of concentrating activity in specific community locations, year by year.

1.4 Technical Limitations of Projections

It is important to caution the reader that population and household projections for less populous regions like Nunavut can be thrown off track by relatively small changes in key variables. For example, shifts in interprovincial migration patterns of a hundred or so individuals per year could cause major changes in Nunavut's housing requirements, up or down, over time. It is essential to monitor developments on the ground to ensure that plans are still relevant to evolving conditions.

1.5 Relationship to Previous Nunavut Housing Needs Statements

An important motive for developing this report was that past Nunavut planning and advocacy have focused mainly on "overcrowding" within the existing housing stock.[5] Some analysts proposed goal of achieving similar average occupancy patterns to those in the rest of Canada, that is, closer to 2.6 persons per dwelling compared to 3.7 as in Nunavut. It was calculated that building 3,000 new units would achieve this aim.[6] (Dividing the population in 2001 of 26,665 by 2.6 yields 10,255 units; dividing it by 3.7 yields 7,228.)

Crowded living conditions in Nunavut are, indeed, damaging to occupant health and safety and very important to address vigorously and effectively. Crowding is also a major indicator of a failing housing supply system. However, relieving crowding alone is not a sustainable basis for long-term government or private sector planning and action.

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[4] A recent CBC report indicates that each community is currently receiving the same number of units. See: "Housing starts won't begin to meet needs, says official" at North.CBC.ca, September 22, 2004. According to this report, "Each Nunavut community will get at least three units, except Resolute."

[5] "Crowding" is usually defined as having dwellings occupied by more than one person per room, not counting bathrooms and hallways as rooms. For calculation of core housing need, bedrooms available are also factored into calculations.

[6] See for example, Shannon Lutter, "Destination? North!" in *Building Excellence* (October, 2003), p. 16, which refers to this figure as one quoted at the Building Connections in Nunavut conference that year.

Other factors, including the age and condition of the stock, the ages of people in households, and overall patterns of stock utilization need to be considered carefully as well. These call for more specific, nuanced requirements, needs, and demand projections, leading to a range of government responses using a "toolbox" of different program instruments and levers. Critics of need numbers based on crowding alone could argue that extended families more typical among the Northern population are always going to be larger, on average, than are nuclear family households in the South. It is important to anticipate and respond in advance to this point.

1.6 Sources of Data for the Projections

This report drew on four main sources of trusted data to prepare projections of requirements, needs and demand. These included:

- The Statistics Canada *Census of Canada, 2001*. This is based on survey data collected from the whole population of Nunavut for some variables, and from a 20 percent sample for others, including housing conditions.[7]

- The Aboriginal Peoples Survey (APS) of 2001, which covered all communities in Nunavut with 250 people or more identifying themselves as Aboriginal. This survey was supplemented with data from the main Census for such variables as "crowding".

- The most recent available Statistics Canada population forecasts for Canada, including for Nunavut, to the year 2026. These are based on both past Census figures and annual demographic data on births, etc., developed from sample surveys and routine reports.[8]

- A Canada Mortgage and Housing Corporation report on household growth in Canada and the Provinces from 1991-2016.[9] This report uses Statistics Canada population data coupled with CMHC analysis of different "headship rates"... that is, how likely are people in different age groups to become heads of their own households?

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[7] See www.statcan.ca for major Census and APS results and to access detailed data files.

[8] M.V. George et. al., *Population Projections for Canada, Provinces and Territories: 2000-2026*, (Ottawa: Minister of Industry, 2001). Statistics Canada, Catalogue No. 91-520.

[9] Roger Lewis, *The Long Term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*, (Ottawa: Canada Mortgage and Housing Corporation, 1997). Note that personal contact with the author of this report determined that no more recent data have been prepared. However the long-term research plan of the Corporation does envisage an update based on 2001 Census data.

- A report prepared for CMHC by the Institute of Urban Studies at the University of Winnipeg on measuring housing need in northern and remote communities.[10] This is the result of independent research on different methods of calculating housing need. It also contains existing figures from CMHC and Statistics Canada sources on "core need" in the Northwest Territories, including data on key Nunavut regions prior to division.

In August of 2003, the author conducted direct interviews with selected housing, health, and other experts in Nunavut itself, focusing on Iqaluit and Clyde River. He visited a sample of crowded residences in both communities. These visits provided an important counterbalance to dry statistics and also made the human face of need very clear. More recently in 2004, the consultant conducted follow-up interviews by telephone, exchanged information on current conditions via e-mail, and took part in round table discussions on housing needs in Ottawa.

[10] The Institute of Urban Studies, *An Evaluation of the Measurement of Housing Need in Northern and Remote Communities*, (Ottawa: Canada Mortgage and Housing Corporation, 1999).

2. METHODS

2.1 Types of Projections Included Here

Three distinct but related major aspects of the anticipated housing situation in Nunavut are essential to sound planning for the future. These are summarized in Table 1 below.

TABLE 1: SOURCES OF PRESSURES FOR HOUSING CONSTRUCTION AND RENOVATION

CONCEPT:	MAIN PRESSURES:	CALCULATION METHODS:
Requirements	Population growth.	Births minus deaths plus immigrants minus emigrants.
	Loss of habitable dwelling space.	Numbers of units in dwelling stock reaching a given age
Needs	"Crowding" or "unsuitable" housing.	Numbers living with more than one person per room and/or with too few bedrooms. Gap between production and population growth from 1991-2001.
	"Inadequate" housing.	Numbers living in dwellings in need of major repair.
	"Unaffordable" housing.	Numbers paying over 30 percent of income for rent.
	"Core need" population.	Combinations of the above.
	Special needs population, e.g., people with disabilities.	Numbers of people requiring dwellings adapted to specific disabilities.
Demand	Willingness to pay for housing rents or ownership charges and to commission its construction.	Numbers with incomes able to afford full costs of dwelling charges and wishing to buy or rent.

Let us consider each in more detail, along with the most reliable basis upon which to project into the future.

Physical "requirements" are driven by *demographic changes and by the age of the existing housing stock*. New dwellings are required both to accommodate *future* households to be formed in the territory over the next ten to twelve years and also to replace normal losses from the current stock as dwellings wear out. In general, homes located in the harsh climatic conditions of Nunavut, and with heavy use by multiple occupants, can be expected to require more frequent renovation or replacement. For example, according to Environment Canada data, *all* communities in Nunavut have more than 10,000 heating degree days, compared with 4,688 in Ottawa. Many of the more northerly settlements are three times as cold as Ottawa according to the required heating load.

Demographic requirements are based on trends in population growth in different age groups, focusing on the propensity of each group to form "households". These may be families of people related by blood or marriage, or "non-family" households composed of one person or of two or more unrelated persons. This is known as the "headship" rate. It is low among youth, e.g., only 2.5 percent of those aged 15-19 are heads of households, since they tend to be living at home with their parents. The elderly population, on the other hand, typically has a headship rate of around 60 percent or more. Many seniors are living alone after passing through the stage of heading a family with children of their own.

Requirements for replacement of existing dwellings can be projected using current rates of need for major repairs, and applying them to the predictable number of dwellings reaching a certain age. This assumes little or no change in rates of maintenance, repair and renovation of dwellings, a reasonable assumption in the tight financial circumstances of Nunavut.

"Needs" are based on societal values about standards that should be achieved by public policy. As outlined above, typical standards include whether there is adequate space per person (called "suitability"), whether structures meet building codes (called "adequacy"), and whether rents are reasonable in to household incomes (called "affordability"). The policy goal is to accommodate in suitable, adequate and affordable housing, residents *currently living* in crowded, "substandard" and/or "unaffordable" conditions. Typically, such households would be unable to afford better accommodation at full market rates, or they would have moved already.

Housing needs can realistically be considered a *net addition* to housing requirements, because they require effort to "catch up" with past production shortfalls, which are also estimated here for the period 1991-2001. Sometimes analysts call this "meeting the backlog of need", and this phrase certainly applies in Nunavut. *Future* needs can be projected based on the extent to which volumes of new production and renovation are able to address the backlog. They can also be shaped by the extent to which average household incomes rise over time, enabling them to afford better housing.

As well as the various measures of housing needs already mentioned, waiting lists for social housing units are also a form of expressed need. Those on the lists compiled by Local Housing Authorities must provide details of their current situation to permit their eligibility to be assessed. Crowding and other factors are considered in determining eligibility. So may "special needs", such as a requirement for accessibility features in the dwelling to accommodate a disability. Family violence and the risk of it are also important factors in determining housing needs in Nunavut.

However, most of those knowledgeable about how waiting lists are determined and who is on them caution against using them as more than a rough indicator of need. For example, many people who could be on the list have given up. Others may face eligibility requirements unrelated to housing suitability, adequacy and affordability.[11]

"Demand" means the numbers of new ownership or rental dwellings that *people with sufficient income will want to and be able to buy or rent* at full market rates. The technical term used by economists is "effective demand". Costs of building, operating and maintaining new homes in Nunavut are very high, and resale is not assured in all communities. Incomes of many residents are modest to low. Thus, a relatively small number of them at any given time can express effective demand. Unless and until there are substantial natural resource developments in the territory, e.g., fully operational diamond or gold mines, this is likely to remain the case for some time to come.

Effective demand most often occurs among those *immigrating to Nunavut* to take up offers of employment.[12] For purposes of this study, no separate projections of future housing demand are presented. Instead, they are flagged as a likely proportion of overall requirements, recognizing that there are too many unknown factors to produce reliable projections at present. It is nevertheless rather easy to track effective demand in Nunavut. This can be assessed through local market rental vacancy rates and the rate at which available ownership units sell. It can also be anticipated by knowing of external job offers to non-residents by government agencies and private sector companies.

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[11] See, for example, a CBC interview with Susan Spring of the Iqaluit Housing Authority in January of 2004. "There are people who have arrears with the housing authority who still need housing but they don't qualify to be in our program," she said. "There are people who give up and just don't apply. There are people who come from settlements who are living here but they haven't done the residency period. And there are higher income people who still need housing who make too much money to be in this program." For the full interview report, go to: http://north.cbc.ca/regional/servlet/View?filename=16jan04housing.

[12] However, within Nunavut, as in the case of the rest of Canada, a portion of effective demand arises when people who are already adequately and suitably housed decide to "trade up", even though there are no changes in household size or other aspects of the basic situation.

In summary, *most housing requirements in Nunavut will arise from local population increase* within the Territory itself. As well, the vast majority of new Nunavut households will be looking for *subsidized* dwellings in one form or another, provided mainly through government initiative. They could not afford to build a house, even though they may objectively require one. The Government of Nunavut has recognized this reality by initiating subsidy programs to encourage people to buy homes, in the hope that they will at least take on routine operating and maintenance costs. However, such programs still face major challenges operating in the unique environment of Nunavut.

2.2 Dynamics of Housing Markets: "Vacancy Chains"

Especially because of the large public sector role in allocating housing to Nunavut residents -- either as social housing or as staff housing -- it is important to pay close attention to the operation of "vacancy chains".[13] "Vacancy chains" are created when new housing is added to an existing stock. Typically, those with the necessary funds, or priority eligibility to do so, *move up* into new housing first. Another household moves into *their* vacant unit, etc., and so on, until someone previously not housed or very inadequately housed receives a unit for the first time. In other fields, this is called the "trickle-down" effect. In housing markets, it is a normal way in which overall improvement in living conditions occurs, as illustrated by gradual improvement of the whole Canadian housing stock over decades.

In some markets, research shows that the shortest vacancy chains to produce more adequate housing for low-income people can be achieved by promoting new social housing production. In a perpetually tight "market" like Nunavut, vacancy chains could be expected to work reasonably well, at least in theory. Through "vacancy chains", some net improvement in the situation of those in need is likely to occur as overall demographic requirements are met. However, two cautions on applying this theory exist in Nunavut.

First, a major portion of the housing stock in Nunavut is *reserved for government employees*. It may thus stand vacant for a time while others are still waiting for housing. This certainly is sometimes the case in Iqaluit, if not elsewhere too. Second, housing owned by public sector authorities has a high potential for allowing households to "age in place". Occupants will not find another subsidy deal as good anywhere else, or there simply may be no alternative accommodation for them within their community.

[13] See *http://www.sunysb.edu/sociology/lab/pub/vaca_ars91.html* for a clear explanation of how vacancy chains work.

Thus, there are important obstacles to well-functioning vacancy chains in Nunavut. These have some potential to "waste" some scarce space resources. They could undermine the credibility of housing requirements and needs figures if they were to become significant in scale. Thus, accurate housing stock and population flow figures are especially important in a place like Nunavut, even though they may be difficult at times to obtain and double-check. To avoid having very expensive vacant or underutilized space amidst severe shortages, governments in Nunavut recognize the need for proactive policies that move dwellings rapidly into use, once built. They may also be called upon to encourage people to give up or share space they no longer require (or at least to pay a premium for it).

2.3 How Governments Shape Housing Requirements, Needs and Demand

In Nunavut, perhaps more than in any other jurisdiction in Canada, the numbers of new households formed are strongly influenced by Government policies and actions. This is so because:

- Territorial, municipal and Federal governments are by far the largest employers in the Territory now, and for the foreseeable future. In an economy valued at $1 billion or less, the Government of Nunavut alone usually accounts for over $700 million of annual expenditure. Further, much of the private sector activity in Nunavut is geared to services to government and/or to consumers spending government wages and salaries.

- Incomes of the vast majority of residents are set by government regulations and decisions on compensation for employees and by policies on income support, e.g., the Shelter Component of welfare. Incomes are also shaped by policies on educational support and support for population mobility. Are people are encouraged to move around in pursuit of higher incomes or not? Are Inuit from communities in the Territory supported in education to take on higher technical and managerial positions in government?

- Private sector development, whether of tourism, art, handicrafts, energy or minerals is either largely determined or guided by government policies.

- The vast majority of the dwellings in Nunavut are either directly owned by the government through the Nunavut Housing Corporation as social housing or as staff housing, or are leased by governments from private developers.

The traditional economy of Nunavut -- mainly in the form of country foods and crafts -- is very valuable in its own right as a counterweight to the dominance of government and as a supplement to cash wages. However, it reportedly accounts for only about 4-6 percent or so of the whole economy, e.g., $40-60 million a year.

At present, it is a key supplement to household nutrition and source of periodic cash for major purchases, but not a large factor in housing finance, which requires steady flows of income.[14]

In summary, the Government of Nunavut probably shapes more than any other jurisdiction in Canada both the demand for and the supply of housing. It is directly responsible for most if not all of the program and regulatory levers for devising solutions, except for external investment funds. At the same time, Nunavut relies heavily on Federal transfers for its revenues, and also for its attractiveness as a destination for private capital, since the regime under which natural resources are to be developed currently remains under ultimate Federal control.

Despite the large role of governments in Nunavut in shaping housing supply and key aspects of demand, the *main driver* of housing requirements and needs is still "natural increase" of the population (births minus deaths). Governments may be able to *influence* the birth rate, for example, by promoting family planning, but they obviously do not and cannot control this key driver of household growth.

RANKING OF NUNAVUT IN BIRTH RATE, 1997-98 AND 2001-02 (TOP TEN)
(Per 1,000 population)

JURISDICTION:	1997-1998*	2001-2002
1. Nunavut	28.1	26.8
2. Northwest Territories	16.4	15.7
3. Alberta	13.0	12.2
4. Manitoba	12.7	12.1
5. Saskatchewan	12.4	11.7
6. Yukon	13.2	11.6
7. Ontario	11.8	10.6
8. Prince Edward Island	11.2	10.2
9. British Columbia	11.0	9.7
9. Quebec	10.6	9.7
10. New Brunswick	10.5	9.5
Canada	11.5	10.5

Source: Statistics Canada, CANSIM, Tables 051-0001 and 051-0004.

[14] See Conference Board of Canada, *Nunavut Economic Outlook: An Examination of the Nunavut Economy*. (Ottawa: Conference Board, 2002).

2.4 Components of Population Growth

Even if the GN and Federal Government were to freeze all hiring of workers from outside the Territory, net natural increase would continue apace in Nunavut. It is therefore, the first factor to be considered in detail.

TABLE 2: COMPONENTS OF POPULATION GROWTH IN NUNAVUT, 2001-2002

COMPONENT:	PROJECTED:	ACTUAL:	DIFFERENCE:
Births	+ 700	+ 761	+ 61
Deaths	- 100	- 141	+ 41
Immigrants	0	+ 17	+ 17
Total emigrants	- 100	- 66	- 34
Net interprovincial migrants	+ 100	+ 23	- 77
Non-permanent residents	0	+ 6	+ 6
TOTAL GROWTH	+ 600	+ 600	0

Source: Statistics Canada, CANSIM, Table 051-0004.

Table 2 above confirms that natural increase currently accounts for virtually all net growth in the Territory, because immigrants, emigrants, and interprovincial migrants tend to cancel each other out, at least in this recent snapshot from Statistics Canada. Nunavut fertility and birth rates are currently the highest in Canada. (Fertility rates are the average numbers of children women are likely to have over their lifetimes.)[15]

Table 3 below presents the most recent Statistics Canada fertility-rate assumptions for Nunavut. It is likely that as economic conditions and the status of women in Nunavut improve, declines anticipated by Statistics Canada demographers will occur. However, the size or rate of drop they anticipate may not take place, meaning there will be more children to accommodate than anticipated, at least over the next ten years. This could result in a need for larger homes and also for additions to dwellings within the total requirements projected, as well as for more new housing units in the longer term as larger numbers of children grow up and take their place in Nunavut society.

[15] Note that the Canadian fertility rate observed in 1997 was 1.56 or less than half the Nunavut rate, and that the Canadian rate is expected to fall to as low as 1.36 by 2016. The "High" projection for Canada as a whole envisages a modest rise to 1.67 for Canada as a whole but still a decline in Nunavut to 2.81.

TABLE 3: ACTUAL AND PROJECTED FERTILITY RATES IN NUNAVUT ACCORDING TO DIFFERENT STATISTICS CANADA SCENARIOS, 1991-2016

FERTILITY RATE IN YEAR:	LOW	MEDIUM	HIGH
1991 (Actual)	3.59	3.59	3.59
1996 (Actual)	3.43	3.43	3.43
1997 (Actual)	3.39	3.39	3.39
2001 (Projected)	3.03	3.08	3.14
2006 (Projected)	2.81	2.92	3.03
2011 (Projected)	2.60	2.76	2.92
2016 (Projected)	2.39	2.60	2.81

Source: Statistics Canada, Catalogue No. 91-520, pp. 8 and 57.

Unfortunately, the population projections selected by Statistics Canada for preparation of detailed figures by age group, etc., do not consider this possibility. All assume that birth and fertility rates are going to decline significantly. It is clear that Nunavut authorities need to interact with both local health care authorities and Statistics Canada experts in the future to consider the unique factors that affect population growth, decline and mobility in the North.

2.5 Net Migration

Some unexpected net growth in the Territory may also be generated in the future by more people coming North to take jobs in both public and private sectors than leave the Territory, whether from abroad or from other parts of Canada (Table 4). It will be important for Nunavut housing and infrastructure planners to monitor the situation closely in order not to be "blindsided" in forecasting and preparing for adequate levels of new production.

There is obviously an important practical difference between natural increase and migration as a pressure on the existing housing stock. The former is gradual and results in more and more desperately crowded conditions over time. Migration generally means adults with money *immediately* ready to buy or rent, or eligible for staff housing. They are thus more likely to be expressing effective demand, in contrast with lower-income households already living in substandard conditions who have no means to change their situation for the better.

TABLE 4: PATTERN OF MIGRATION TO AND FROM NUNAVUT, 1999-2000

PROVINCE OR TERRITORY:	MOVING INTO NUNAVUT:	MOVING OUT OF NUNAVUT:	DIFFERENCE:
Newfoundland and Labrador	123	50	+ 73
Prince Edward Island	2	0	+ 2
Nova Scotia	94	55	+ 39
New Brunswick	38	19	+ 19
Quebec	81	53	+ 28
Ontario	229	170	+ 59
Manitoba	38	94	- 56
Saskatchewan	52	32	+ 20
Alberta	108	104	+ 4
British Columbia	68	47	+ 21
Yukon	22	14	+ 8
Northwest Territories	243	354	- 111
All provinces and territories	1,098	992	+ 106

Source: Statistics Canada, Catalogue No. 91-520.

To assume very limited or no net migration into Nunavut would not be a safe assumption for forward planning if natural resource development were to take off as it has in the Northwest Territories. The latter Territory is currently grappling with the fact that, long before resources bring in substantial tax revenues, they bring major infrastructure expenses, as well as major housing market pressures.[16]

If positive net migration patterns were to continue into the future, Nunavut could face three simultaneous difficulties in meeting its housing requirements:

- More effective demand for a small supply of new or vacant housing than anticipated in planning, pushing up prices of land, materials and construction services in the Territory.

[16] See for example, *www.nwtchamber.com/businesscoalition/businessCoalitionUploads/SummaryReport1Nov.4-7.pdf*.

- Less ability to address urgent needs of those suffering from gradual increases in population per household as a result of pressures on the housing supply system.

- A growing gap between those in the older social housing stock and those favoured by access to better quality staff or private sector rental housing.

In two of the three projections of housing requirements presented in subsequent pages of this report, Nunavut is assumed to *lose* people through internal migration at the rate of either 100 or 200 a year. This assumption is made simply because that is what Statistics Canada does in its baseline projections to 2026. However, the potential consequences of *positive* net migration of 100 a year along the lines of recent experience are also included in a "High" projection.

2.6 Choosing Among Different Population Growth Projections

The next step in developing Nunavut housing requirements forecasts is to select which are the most plausible among scenarios of future population growth. These are based on differing assumptions about how births, deaths, immigration and emigration may evolve in future.

The only certainty about such forecasts, especially in relation to a small, open territory like Nunavut, is that *they will be inaccurate in detail*. However, they can provide a useful range for planning purposes. They can also indicate the amount of government exposure to uncertainty, e.g., how large a housing shortfall there may conceivably be.

Statistics Canada projects a range of total populations for Nunavut in 2016 from just below 34,000 to around 39,000. These different estimates depend mainly on what happens to fertility and birth rates in the Territory, but are also affected at the margins by net migration.[17] The three projections set out below are all carried forward in the rest of this report and embedded in the final calculations of prospective household formations.[18]

[17] Note that the figures for 2001 are also estimates because the final 2001 Census results were not available for this report. The most recent firm figures used were from 1997.

[18] Another low scenario, "Projection 1", was rejected entirely as both too similar very similar to Projection 4, and also rather unlikely given the high birth rate in Nunavut. It would have yielded a population in 2016 of 34,300.

TABLE 5: POPULATION PROJECTIONS FOR NUNAVUT, 2001 TO 2016

PROJECTION: YEAR:	LOW[19]	MEDIUM[20]	HIGH[21]
2001[22]	28,100	28,200	28,300
2006	30,100	30,700	31,700
2011	32,000	33,200	35,200
2016	33,900	35,500	38,800
Difference	+ 5,800	+ 7,300	+ 10,500

Source: Calculated from Statistics Canada, Catalogue No. 91-520.

2.7 Projecting Numbers of Households Using "Headship Rates"

As noted above, the likelihood of people in different age groups forming new households of their own is called the "headship rate", i.e., the percentage of those in the whole population of a specific age group that will likely be heads of households.[23] For obvious reasons, younger households have a smaller likelihood of heading their own households.

By multiplying population projections by the different anticipated headship rates, it is possible to develop household projections for the future. In 1997, CMHC developed household projections for 1991 to 2016 using this method, and drawing upon Statistics Canada data from 1991 to 1996.

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[19] This is called "Projection 4" in the Statistics Canada study and assumes a net loss of 200 people a year through net migration, coupled with a more rapidly falling birth rate.

[20] This is "Projection 2", with a net loss of 100 people a year and higher numbers of births.

[21] This is "Projection 3", with a gain of 100 a year from migration and still higher numbers of births.

[22] Note that there are three different figures for 2001 in part because the projections were based on data from prior to the completion of the 2001 Census. The actual population figure from the Census was 26,745, of which 26,665 were living on private residences rather than institutions. However, Statistics Canada estimates for July 1 of 2001 put the total at 28,121. This higher estimate factors in the tendency of the Census to undercount the population, which Statistics Canada considered to be 4.5 percent for Nunavut, compared to 3.1 percent for Canada as a whole. See Statistics Canada *Daily*, September 25, 2003.

[23] Simply expressed, if the headship rate of a given age group is 30, then 30 of every hundred people in that age group are heads of households and the other 70 are members of households and do not have their own dwellings. A household usually equals an occupied dwelling in Canada, although there may also be multiple households sharing in a minority of cases.

CMHC analysts included projections for the *Northwest Territories* and for Yukon in their study. Nunavut was not yet created, and thus was not included. In order to deal with this situation, we use *NWT* headship rates coupled with the more recent Statistics Canada population projections for Nunavut. This approach may involve some modest distortion of the situation in Nunavut. However, it should not result in major errors because, as indicated in Table 6 below, headship rates do not differ dramatically across Canada, except among the elderly. This is to be expected because of the generally younger population in the North, and also because of the lower life expectancy, both of which are characteristics shared by Nunavut and NWT.

CMHC developed six alternative household-growth scenarios, involving combinations of interprovincial migration favouring either Central Canada or Western Canada, and according to Low, Medium, and High assumptions about household formation rates. These, in turn, were based on different observed patterns in various regions of the country over the periods from 1981-1986, 1986-1991, and 1981-1991 respectively.

In addition, long-term trends in headship rates among previous generations over a 20-year period were considered and factored into the CMHC calculations.

TABLE 6: ACTUAL HEADSHIP RATES FOR DIFFERENT AGE GROUPS IN NORTHWEST TERRITORIES AND CANADA, 1991

AGE GROUP:	NWT HEADSHIP RATE:	CANADIAN RATE:
15-24	11.7	12.3
25-34	45.7	45.6
35-44	54.5	54.3
45-54	56.5	56.2
55-64	60.0	57.5
65-74	70.0	61.6
75+	66.6	59.1
All Ages	27.7	36.6

Source: Calculated from CMHC, *The Long-Term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016.*

In order to simplify matters for this report, the Medium Central and Medium Western sets of headship rates for the Northwest Territories were both considered in some detail. Tables 7 and 8 below outline the rates for 2001 and for 2016, to show the extent of differences between the two different migration assumptions and also over time.

TABLE 7: HEADSHIP RATES FOR DIFFERENT AGE GROUPS IN NWT IN 2001

AGE GROUP:	CENTRAL MEDIUM:	WESTERN MEDIUM:	DIFFERENCE:
15-24	10.2	10.3	+ 0.1
25-34	42.5	42.3	- 0.2
35-44	54.1	54.1	0
45-54	58.1	58.5	+ 0.4
55-64	61.5	61.5	0
65-74	66.7	69.6	+ 2.9
75+	60.0	60.0	0

Source: Calculated from CMHC, *The Long-Term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016.*

TABLE 8: HEADSHIP RATES FOR DIFFERENT AGE GROUPS IN NWT IN 2016

AGE GROUP:	CENTRAL MEDIUM:	WESTERN MEDIUM:	DIFFERENCE:
15-24	11.4	11.3	- 0.1
25-34	41.7	42.2	+ 0.5
35-44	51.8	51.6	- 0.2
45-54	57.6	58.5	+ 0.9
55-64	64.1	64.0	- 0.1
65-74	71.1	70.6	- 0.5
75+	64.0	66.7	+ 2.7

Source: Calculated from CMHC, *The Long-Term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016.*

Based on these very modest differences, the decision was made to opt for the "Western Migration" assumption as the *only* one to be used in this report. The latter produces a somewhat higher total number of households over the whole period (32,900 compared to 30,200 in 2016). The Central Migration assumption involved a net annual loss of population through out-migration from the Northwest Territories, something that appears fairly unlikely given developments there. Moreover, if both population and headship rate projections used for Nunavut assumed losses through migration, this possibility might be accentuated and give rise to errors.

2.8 Assessing the Reliability of Different Types of Projections for Planning

An obvious question from those who will attempt to use the projections in this report for proactive planning is: "how much confidence I place in each type of projection?" What is the likelihood of them being wrong? Table 9 below offers an assessment of reliability for different types of forward projections, referring to the period 2001 to 2016.

TABLE 9: RELIABILITY OF DIFFERENT PROJECTIONS FOR PLANNING

TYPE OF PROJECTION:	DEGREE OF RELIABILITY FOR PLANNING:	BASIS FOR RELIABILITY:
Requirements to accommodate future households.	High reliability for population growth based on natural increase; medium reliability for immigrant population.	Majority of those who will be living in 2016 already born. Unless dramatic economic development or decline takes place, net migration is likely to be modest.
Requirements to replace aging dwelling stock.	High	All dwellings in question are already present in Nunavut and can be checked visually.
Backlog of conventional need: suitability, affordability, adequacy.	High	All living conditions included in definition of need are already present in Nunavut.
Special needs.	Medium to Low.	Social, health, and other problems giving rise to special housing needs are inherently less predictable.
Effective demand.	Medium to High.	The small number of employers offering high salaries can readily be identified. Their hiring requirements and resources are less predictable.

3. HOUSING REQUIREMENTS

3.1 Major Trends

Currently, three major demographic trends determine the main housing requirements in Nunavut:

- Quite a number of young people across the territory are turning 15-24. They will want to form their own households if local circumstances permit. Otherwise, they may be tempted to move away in search of better opportunities.

- There are growing numbers of elderly households in Nunavut. In many cases, all the children have left home or one spouse has passed away or gone into a care facility. A proxy for such newly formed households is the additional numbers of those turning 65 and older. Based on Statistics Canada projections, this age group is likely to increase in importance in the future.

- Households headed by those aged 25-65 are going to continue to increase because of in-migration of already-formed families from outside Nunavut, new marriages, marital breakdowns, and other factors.

3.2 Young People Wanting to Form Their Own Households

Let us consider first the growth of age groups within the population most likely to be forming their own households and/or wanting to change their living arrangements.

TABLE 10: PROJECTED POPULATION AGED 15-24, NUNAVUT, 2001 TO 2016

YEAR:	LOW PROJECTION	MEDIUM PROJECTION	HIGH PROJECTION
2001	5,000	5,000	5,000
2006	5,800	6,000	6,000
2011	6,200	6,500	6,900
2016	5,700	6,100	6,600
GROWTH, 2001-2016	+ 700	+ 1,100	+ 1,600

Source: Statistics Canada, Catalogue No. 91-520, pp. 8 and 57.

People turning 15 and older begin forming new households, if they can, depending on their circumstances. First, they may move into student residences, and then into rental housing for single persons or couples.

The headship rates used for this report range from 10.2 percent in 2001 to 11.6 percent in 2016.

Eventually, Nunavut will likely follow the demographic pattern already prevailing in the rest of Canada, which is that there will be fewer people aged 15-24 than in previous decades, accounting for fewer young households. Because of the age structure of Nunavut, however, this is very unlikely to happen during the coming 10 to 12 years, other than through accelerated out-migration of better educated youth.

TABLE 11: PROJECTED NUMBERS OF HOUSEHOLDS HEADED BY THOSE AGED 15-24 IN NUNAVUT, 2001-2016

YEAR:	LOW	MEDIUM	HIGH
2001	515	515	515
2006	615	640	640
2011	720	750	800
2016	640	690	750
DIFFERENCE:	+ 125	+ 175	+ 235

Source: Calculated from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*.

It is safest to plan on modest but continuing growth in the need for housing oriented to students, youth, and newly-formed couples wanting their own dwellings.

3.3 Elderly Households Needing Different Housing

Life expectancy in Nunavut is still lower than in Canada as a whole, at 69.8 compared to 78.3 in 1996. Nevertheless, the GN reported in 2002 that, since 1991, there has been a net increase in life expectancy by 1.1 years in the Territory.
This is similar to the net increase for Canadians in general.[24]

People living longer and other factors mean that there are going to be increasing numbers of elderly people in Nunavut, and that more of them are likely to want to live on their own or in care facilities. In the past, the elderly tended to live with their children, but patterns in Nunavut appear to be becoming more like those in the South.
Small seniors' projects have recently been built to reflect this change.

[24] See: http://www.statcan.ca/english/Pgdb/health38.htm for overall figures, and http://www.government.number.ca/Nunavut/English/news/2002/sept/backgrounder.shtml for Nunavut trend. (By 2001, the figures were 70.4 for Nunavut and 79.7 years for Canada as a whole.)

TABLE 12: PROJECTED POPULATION AGED 65 PLUS, NUNAVUT, 2001 TO 2016

YEAR:	LOW	MEDIUM	HIGH
2001	800	800	800
2006	1,100	1,100	1,100
2011	1,400	1,400	1,400
2016	2,300	2,300	2,400
TOTAL GROWTH	+ 1,500	+ 1,500	+ 1,600

Source: Statistics Canada, Catalogue No. 91-520, pp. 8 and 57.

Whatever population growth figures are used, the results are fairly similar: a rather dramatic increase in households headed by people over 65. Note that these households are going to be composed of only one or two persons, and that congregate living and other arrangements may be equally acceptable as individual dwellings.

TABLE 13: PROJECTED NUMBERS OF HOUSEHOLDS HEADED BY THOSE AGED 65+ IN NUNAVUT, 2001-2016

YEAR:	LOW	MEDIUM	HIGH
2001	540	540	540
2006	725	725	725
2011	965	965	965
2016	1,600	1,600	1,670
DIFFERENCE:	+ 1,060	+ 1,060	+ 1,130

Source: Calculated from Statistics Canada, Catalogue No. 91-520, and from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*.

3.4 Population and Household Growth among Those Aged 25-65

While detailed projections for all age groups are presented in Annex "A", Table 14 below presents the range of household projections from 2001 to 2016 for those in the adult and middle age ranges.

TABLE 14: PROJECTED NUMBERS OF HOUSEHOLDS WITH HEADS AGED 25-64, 2001-2016

YEAR:	LOW	MEDIUM	HIGH
2001	6,140	6,155	7,285
2006	7,075	8,630	8,710
2011	7,965	9,945	10,180
2016	8,760	11,310	11,865
DIFFERENCE:	+ 2,620	+ 4,100	+ 4,580

Source: Calculated from Statistics Canada, Catalogue No. 91-520, and from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*.

A key factor affecting the housing stock, and pressures for couples and families to move will be trends in the number of children. Table 15 below indicates that this is one of the more unpredictable elements of projecting Nunavut housing requirements. If the "High" population projection is realized, then there will be more children aged 0-14 than at present. If not, the numbers of children in Nunavut could actually decline, as they are tending to do in the rest of Canada, possibly reducing pressures on available living space somewhat.

TABLE 15: PROJECTED NUMBERS OF CHILDREN AGED 0-14, 2001 TO 2016

YEAR:	LOW	MEDIUM	HIGH
2001	10,200	10,300	10,400
2006	9,500	9,800	10,300
2011	9,100	9,500	10,600
2016	9,200	9,700	11,500
DIFFERENCE, 2001-2016	- 1,000	- 600	+ 1,100

Source: Calculated from Statistics Canada, Catalogue No. 91-520, and from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*.

Based on continuation of patterns to be found in 2001, here are illustrative tables on the household types and types of dwellings likely to be occupied by all ages of household heads over the period, based on the Medium population projections alone, because these start closest to the Census figure.[25]

We begin with a summary of all households.

TABLE 16: PROJECTED TOTAL NUMBERS OF HOUSEHOLDS, 2001-2016

YEAR:	LOW	MEDIUM	HIGH
2001	7,195	7,210	7,285
2006	8,415	8,630	8,710
2011	9,645	9,945	10,180
2016	11,000	11,310	11,865
DIFFERENCE:	+ 3,805 OR 250-255 AVERAGE ANNUAL REQUIREMENT	+ 4,100 OR 270-275 AVERAGE ANNUAL REQUIREMENT	+ 4,580 OR 300-305 AVERAGE ANNUAL REQUIREMENT

Source: Calculated from Statistics Canada, Catalogue No. 91-520, and from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*. (The actual figure for the year 2001 from the Census is 7,175.)

TABLE 17: PROJECTED HOUSEHOLDS BY TYPE, 2001-2016
(MEDIUM PROJECTION X MEDIUM WESTERN)

HOUSEHOLD TYPE:	2001	2006	2011	2016
Family (79.3%)	5,720 (5,690)	6,840	7,885	8,970
Non-Family (20.7%)	1,480 (1,485)	1,790	2,060	2,340
Total	7,210 (7,175)	8,630	9,945	11,310

Source: Calculated from above projections and Statistics Canada *Census of Canada, 2001*. Actual Census figures are given in brackets.

[25] This is so, even though it is based on two different sets of data collected or estimated before the Census was taken. Note also that the Census tends to undercount people, especially in the North.

TABLE 18: PROJECTED HOUSEHOLDS BY TENURE, 2001-2016
(MEDIUM POPULATION X MEDIUM WESTERN HEADSHIP RATES)

TENURE:	2001	2006	2011	2016
Renter (75.8%)	5,465 (5,440)	6,540	7,540	8,570
Owner (24.2%)	1,745 (1,735)	2,090	2,405	2,740
Total	7,210 (7,175)	8,630	9,945	11,310

Source: Calculated from above projections and Statistics Canada *Census of Canada, 2001*.

TABLE 19: PROJECTED HOUSEHOLDS BY DWELLING TYPE, 2001-2016
(MEDIUM POPULATION X MEDIUM WESTERN HEADSHIP RATES)

TYPE:	2001	2006	2011	2016
Single-detached (58.7%)	4,230 (4,215)	5,070	5,840	6,640
Semi-detached (10.2%)	735 (730)	880	1,015	1,150
Row house (19.4%)	1,400 (1,395)	1,675	1,930	2,195
Apartment (11.4%)	820 (820)	980	1,130	1,290
Other (Movable, etc.) (0.3%)	25 (25)	25	30	35
Total	7,210 (7,175)	8,630	9,945	11,310

Source: Calculated from above projections and Statistics Canada *Census of Canada, 2001*. Actual figures from the Census are given in brackets.

Note that tenure arrangements and types of dwellings constructed are among the trends upon which the Government of Nunavut *has the greatest influence*. Without public lands and subsidies, the scope for home ownership is limited. Decisions about types of dwellings are either made directly through social housing procurement, or are strongly influenced by municipal governments in Nunavut. Tables 18 and 19 are essentially scenarios of the status quo rolled forward into the future, and do not have the same predictability as the others based on population and household dynamics. Policy choices could change the outcomes rather dramatically.

3.5 An Aging Stock Requiring Replacement

Now let us look at requirements arising from the aging stock. There are also more and more dwellings over 30-35 years old and assessed in 2001 as requiring major repairs. They will need to be replaced if renovations would cost more than a new unit.

You can see that in 12-13 years, just under 800 units in the whole stock (in italics) will both have a current need for major repairs and be more than 35 years old. Most are rental units and most of these are probably social housing. About half of these dwellings requiring major investment or replacement have already reached this age.

Across Nunavut, whole generations of social housing from the 1950s and 60s were aggressively replaced during the 1980s and early 1990s, e.g., the "matchbox" houses. Given the necessary financial resources, this replacement process can be expected to continue, especially as energy prices and maintenance costs rise. A sensible ten-year plan would likely tackle about 70-80 units of replacement or wholesale renovation each year.

TABLE 20: HOUSING IN NUNAVUT NEEDING MAJOR REPAIRS, 2001

PERIOD OF CONSTRUCTION	RENTED	OWNED	TOTAL
1945 or before	0	0	0
1946-1960	*25*	*10*	*35*
1961-1970	*305*	*50*	*355*
1971-1980	*350*	*50*	*400*
1981-1985	*160*	*40*	*200*
1986-1990	120	45	165
1991-1995	85	55	140
1996-2001	40	35	75
TOTAL	1,080	280	1,360

Source: Statistics Canada, Catalogue No. 95F0325XCB01004.

In addition, the Census numbers appear to show a significant quality assurance issue with rather newly-built housing: there are 380 units requiring major repairs even though they had been built and occupied for 15 years or less in 2001. It would seem to make sense to try to hold onto these newer dwellings through additional targeted renovation investment over the coming 10-12 years as well.

In brief, some 136 dwellings per year require either significant renovation or replacement in the course of a Housing Action Plan for Nunavut. If this does not occur, the costs of having people live in inadequate conditions will be compounded by the wastage of the substantial resources originally invested in these dwellings. According to the Census, the average value of owned dwellings was $150,523. If this applies to the rental stock as well, the total Nunavut stock as of 2001 would be worth about $1.1 billion.[26]

3.6 Combination of Requirements to Meet Both Demographic Growth and Physical Changes in the Stock

Now we can consider the summary results for all the requirements calculations. Looking in more detail at specific age groups, we can see the potential for different types of new or expanded housing to be required, in particular:

- A few dozen residence spaces for students (15-24 age group).
- Some 100-235 dwellings for childless couples starting out, with one or two bedrooms (20-24 age group).
- Between 2,600 and 4,600 lower-density dwellings with multiple bedrooms for families with children, groups of adults sharing, and for extended families (24-64 age group).
- More than 1,000 accessible dwellings with ready care services for senior citizens (65+ age group), and for those with disabilities.

TABLE 21: OVERALL NUNAVUT HOUSING REQUIREMENTS FOR 2001 TO 2016 BASED ON DIFFERENT POPULATION AND HEADSHIP RATE ASSUMPTIONS

YEAR	REPLACE AGING UNITS	HIGH POPULATION GROWTH:	MEDIUM POPULATION GROWTH:	LOW POPULATION GROWTH:	DIFFERENCE - HIGH AND LOW:
2001-2006	390	+ 2,800	+ 1,450	+ 2,000	+ 1,200
2006-2011	400	+ 2,300	+ 1,310	+ 1,900	+ 1,230
2011-2016	200	+ 2,200	+ 1,320	+ 2,000	+ 1,370
TOTAL	+ 990	+ 7,300	+ 4,080	+ 5,900	+ 3,800

Source: Calculated from Statistics Canada, Catalogue No. 91-520, and from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*.

[26] Statistics Canada, Catalogue No. 95F0446XCB01004.

In addition, there will be requirements in the order of 860 units to accommodate single person non-family households such as migratory workers and short-term residents, individuals who lose their spouses, ex-convicts and others, aged 24-64. These people tend to have the greatest flexibility to occupy shared accommodation in family units, non-permanent accommodation in hostels and hotels, and converted smaller dwellings.

3.7 Reliability of Housing Requirements Projections So Far

Before ending the assessment of housing requirements in Nunavut, it is appropriate to ask: how valid so far are the projections on which the statement of anticipated work to be done in building and renovating dwellings?

TABLE 22: STATISTICS CANADA POPULATION ESTIMATES FOR NUNAVUT, 2001-2004

POPULATION ESTIMATE DATE:	ESTIMATED NUNAVUT POPULATION:	PROJECTED POPULATIONS (JULY 1 OF EACH YEAR):
July 1, 2001	28,121	Low: 28,100 Medium: 28,200 High: 28,300
July 1, 2002	28,740	Low: 28,500 Medium: 28,700 High: 29,000
July 1, 2003	29,384	Low: 28,900 Medium: 29,200 High: 29,700
July 1, 2004	29,644	Low: 29,300 Medium: 29,700 High: 30,300

Source: Statistics Canada *Daily*, September 25, 2003.

You can see from the tracking figures above that the Medium projection seems to be the one closest to ongoing developments to this point. The very latest figures from Statistics Canada, published on December 21, 2004, suggest that the Nunavut population may have levelled off for the moment; this is surely a temporary situation, given the rate of natural increase already documented.[27]

[27] According to the Statistics Canada *Daily*, the estimated Nunavut population as of October 1, 2004 was 29,624. This would imply that out-migration exceeded natural increase during the preceding three months.

4. HOUSING NEEDS

4.1 Core Housing Need

To simplify calculation of housing need in Nunavut, several previous planning documents have indicated that there is an immediate gap of about 3,000 units to be addressed that arises from "overcrowding". Some analysts have based this on the difference between the Canadian average number of persons per dwelling (2.6) and that in Nunavut (3.7). Dividing the population in 2001 of 26,745 by 2.6 yields 10,286 units; dividing it by 3.7 yields 7,228.

Here, the aim is to offer *specific numbers of those in need by each type of need* using both CMHC and Statistics Canada sources. They offer three related perspectives: "core housing need", "crowding" defined in terms of numbers of persons per room, and physical standards of dwellings.

As it happens, applying the core housing need method produces a requirement for more than 3,000 units that meet adequate standards of size and quality, and that can be afforded by residents. This is composed of 2,740 households already in core need in 2001, plus an increment of growth in core housing need based on population growth since then. The increment amounts to at least 355 additional households, after factoring out those likely to have incomes above the income threshold, and those likely to have been moved into newly-built social housing.[28]

The "core need" concept was originally developed by CMHC in the 1980s to assist in determining the target groups for social housing. It relates objective measures of housing conditions to a household's ability to pay for alternative accommodation at 30 percent or less of income within the market where they live.

First, there are those who have adequate and suitable accommodation but do not have enough income to pay for it. CMHC calls this an "affordability" problem. Then there are those who live in crowded dwellings, and also lack resources to make a change, said to have a "suitability" problem.

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[28] It is assumed that around 150 units per year have been constructed and occupied since 2001. About half of these can be assumed to have been taken up by migrants with higher incomes and/or to be current residents trading up. A further 200-225 were likely provided with social housing as families or individuals in deep need. Without firm housing production figures and other market data, these are rough estimates only. But if the added population were to have formed households at an average rate of 3.7 persons per household, then at least 805 households should have been formed. So the shortfall was likely in the order of at least 355 households that have fallen into the core need category in one way or another. Of course, these are conservative assumptions in that they assume no net improvement in space available per household. On the other hand, most households formed or maintained by those arriving in Nunavut for the first time are probably smaller, on average, so more households could have been formed and just be doubling up in the available accommodation.

Finally, there are those in physically substandard dwellings who have an “adequacy” problem if alternatives are beyond their means. In addition, a minority of households suffers from a combination of problems: living in substandard physical conditions; having too little space; *and* paying too much for shelter.

TABLE 23: NUNAVUT HOUSEHOLDS IN CORE NEED, 2001

REGION	TOTAL BELOW INCOME THRES-HOLDS	AFFORDA-BILITY	SUITABILITY	ADEQUACY	MULTIPLE PROBLEMS
Total Urban	475	150	135	95	100
Total Rural	2,260	280	970	565	445
TOTAL	2,740	420	1,110	655	545

Source: John Engeland, *Households in Core Housing Need.* (This is a set of Microsoft Excel files available at http://www.nhrc-cnrl.ca/30/Posting.cfm?intPosting=67768. These estimates are based on the 2001 Census of Canada.)

As Table 23 above indicates, according to CMHC calculations, there were about 2,740 households in Nunavut "in core need", of which about 2,480 were Aboriginal households. More Nunavut households in core need suffer from substandard physical conditions and too little space than from having to pay too much of their income for rent. Often, this is because they are receiving rental subsidies in social housing or elsewhere. They certainly could not afford the same unit at full-cost recovery rates of $1,500 a month or more.[29]

This situation is reflected in the figures in Table 24 below, in which the numbers paying less than 15 percent of income for rent equates to approximately the numbers of social housing units.

Most Nunavut households in need have substandard physical conditions (called "adequacy") and too little space (called "suitability"), rather than affordability problems (paying too much of income for rent).

Moreover, the housing situation in Nunavut has worsened in all respects over the past decade, if the comparison between the situation in 1992, shown in Table 25, and the 2001 estimates offered above in Table 23 can be relied upon.

[29] This is one of the limitations of core need methods as applied in Northern territories where private markets do not exist in most communities. The unique situation in Nunavut is that, without the social housing stock to accommodate some 50 percent of the population, the affordability problems would, of course, be dramatically higher. In brief, *much of the population* would fall into the core housing need category if they were put onto a comparable basis with Southern households and paying market rents.

TABLE 24: NUMBERS OF NUNAVUT HOUSEHOLDS PAYING VARIOUS PROPORTIONS OF INCOME FOR RENT, 2001

RENT AS A % OF INCOME	ONE-FAMILY HOUSEHOLDS:	MULTI-FAMILY HOUSEHOLDS:	NON-FAMILY HOUSEHOLDS:	TOTAL HOUSEHOLDS:
Less than 15	2,715	370	690	3,780
15-24	625	30	295	950
25-29	125	0	70	310
30-49	155	10	135	180
50 and over	95	0	125	220
TOTAL:	3,715	415	1,310	5,435

Source: Calculated from Statistics Canada, *Census of Canada, 2001*. Note that individual figures may not add up to the total due to rounding errors.

TABLE 25: NUNAVUT HOUSEHOLDS IN CORE NEED IN 1992

DISTRICT	TOTAL SURVEYED	BELOW STAN-DARDS	IN CORE NEED	% IN CORE NEED	SUITA-BILITY PROB-LEM	ADE-QUACY PROB-LEM	AFFOR DABILI TY PROB-LEM	MULTI-PLE PROB-LEMS
Baffin	2,505	1,155	937	36.0	563	181	37	156
Keewatin	1,340	698	582	43.4	308	164	5	105
Kitikmeot	1,020	515	446	43.7	206	132	1	107
TOTAL	4,865	2,368	1,965	40.4	1,077	477	43	368

Source: NWTHC Housing Needs Survey, 1992. This is repeated in the report *An Evaluation of the Measurement of Housing Need in Northern and Remote Communities* prepared for CMHC by the Institute of Urban Studies, on page 23.

4.2 Comparing Numbers in Core Need across Canada

A further topic to be addressed in considering Nunavut housing needs is the comparative numbers in core housing need compared with those in other parts of Canada. It is also important to determine the relative proportions of *Aboriginal people* in core housing need compared with Aboriginal households elsewhere in the country. The aim in doing so is not to say that Nunavut residents in greater need on a household-to-household basis. Rather, it is to reflect the reality that their options are fewer than elsewhere, and also that the requirements for concerted government action are greater.

Looking first at Nunavut compared with all of Canada, the Territory has more than twice the national average at 38.7 percent of the total, compared to 15.8 percent for the country as a whole (Table 26 below). It also demonstrates a clear difference from the rest of Canada in that the proportions elsewhere are all clustered in the 13-18 percent range, while that in Nunavut is a full 20 percentage points higher.

Turning to the relative core housing need amongst Aboriginal households in Canada, you can see from Table 27 on page 33 that a similar pattern prevails, although the disparities are not quite so large, particularly in the case of Saskatchewan and British Columbia.

TABLE 26: INCIDENCE OF CORE HOUSING NEED AMONG ALL HOUSEHOLDS, 2001

PROVINCE/TERRITORY:	NUMBER IN NEED:	PERCENTAGE IN NEED:
Newfoundland & Labrador	29,100	16.0
Prince Edward Island	7,400	15.5
Nova Scotia	60,900	17.9
New Brunswick	36,800	13.7
Quebec	393,100	14.0
Ontario	689,900	17.3
Manitoba	58,100	14.9
Saskatchewan	44,800	13.9
Alberta	131,300	12.9
British Columbia	251,400	17.7
Yukon	1,800	17.9
Northwest Territories	2,200	18.5
Nunavut	2,700	38.7
CANADA	1,709,700	15.8

Source: CMHC, *2001 Census Housing Series: Issue 2 – The Geography of Household Growth and Core Housing Need, 1996-2001*, Socio-economic series 04-001.

TABLE 27: COMPARING ABORIGINAL HOUSEHOLDS IN CORE NEED, 2001

PROVINCE/TERRITORY:	NUMBER IN NEED:	PERCENTAGE IN NEED:
Newfoundland & Labrador	1,530	23.0
Prince Edward Island	105	27.3
Nova Scotia	1,120	24.2
New Brunswick	1,115	23.4
Quebec	4,210	18.0
Ontario	16,030	22.2
Manitoba	10,255	26.3
Saskatchewan	8,605	29.1
Alberta	10,120	21.0
British Columbia	16,290	29.6
Yukon	515	24.6
Northwest Territories	1,475	25.6
Nunavut	2,480	44.4
CANADA	73,850	24.8

Source: John Engeland, "The Fundamentals Behind the 2001 Housing Story", Presentation to the NHRC Data Working Group, May, 2004. Note that 260 non-Aboriginal households were in core housing need in Nunavut.

4.3 Crowded Dwellings

The analytical report on the results of the Aboriginal Peoples Survey released in September of 2003 noted that "[c]rowding among Inuit in the Far North is a serious concern.[30] There, 53% of all Inuit across the Arctic lived in crowded conditions, compared with 13% of all Aboriginal people living in urban areas across the country and 19% in rural areas outside the Canadian Arctic."

[30] See: http://www.statcan.ca/english/freepub/89-589-XIE/housing.htm. Of the four Inuit regions of Canada, (Inuvialuit, Nunavut, Nunavik, and Labrador), Nunavik in northern Quebec was the only region in which the crowding situation for Inuit did not improve, in the five years between Censuses. In Nunavik, 68 percent of Inuit lived in crowded conditions in 2001, up slightly from 67 percent five years earlier. There was a decline for Inuit living in Labrador where the proportion fell from 33 percent in 1996 to 28 percent in 2001. Finally, the Inuvialuit region in the Northwest Territories saw a decline from 51 percent to 35 percent.

The report went on to comment that according to Health Canada, "there is a higher risk of tuberculosis in communities with higher levels of crowding" and that crowding could be one factor associated with the high rate of tuberculosis among the Canadian Arctic Inuit population.[31] According to the Statistics Canada assessment, in 2001, 54 percent of Inuit *individuals* in Nunavut experienced crowding compared to 63 percent in 1996. The number of crowded *dwellings* occupied by Inuit was in the order of 1,082. People out hunting at Census time, etc., could mean there were higher numbers per dwelling in reality.

This type of need has rightly received the most attention by Nunavut residents and by the leadership of both governmental and Aboriginal organizations. Because of cost considerations, housing in Nunavut has tended to be smaller, on average, than much of the stock to be found in the south. Most standard models are under 1,000 square feet or 92 square metres. Table 28 below assesses the occupancy of all Nunavut dwellings according to the 2001 Census.

TABLE 28: CROWDING IN NUNAVUT BASED ON DETAILED ANALYSIS OF PERSONS AND ROOMS, 2001

SITUATION:	NUMBER:	% OF TOTAL STOCK
1-3 persons in 3 rooms or less	780	10.9
4 persons in 4 rooms or less	285	4.0
5 persons in 5 rooms or less	555	7.7
6+ persons in 6 rooms or less	945	13.2
TOTAL	2,565	35.7

Source: Calculated from Statistics Canada, *Census of Canada, 2001.*

One person per room or less is a very Spartan standard of space per occupant in smaller homes, since even basic bachelor apartments usually have two or three rooms. Thus, a minimum standard of three rooms – not counting bathrooms and hallways -- has been adopted for all households of three persons or fewer. This reflects the fact that Nunavut residents are forced to stay in their homes for long periods by the climate, and that many also use their homes for activities relating to their livelihoods, such as preparing country foods.

[31] Statistics Canada mentioned that about 3.6% of Inuit in the Far North had tuberculosis, compared with 1.7% for the non-reserve North American Indian population, and 0.9% for the Métis according to Health Canada data.

Based on this standard, over a third of all Nunavut homes currently lack adequate space. In addition, note that these figures are for the whole population of Nunavut. Crowding is proportionately higher among Aboriginal households for a variety of economic and social reasons.

Driving the tendency toward crowding in Nunavut is rapid population growth, by far *the highest rate in Canada* in recent years, at 1.8 percent compared to the national average of under 1.0 percent. Coupled with this is a long-term trend to supply fewer dwellings in relation to population growth than is typical in the rest of Canada. For example, the Census data show that between July of 1991 and July of 2001, approximately 6,555 people were added to the districts composing the Territory. About 2,500 occupied dwellings were added over the same period, or about 2.4 new persons for every new home. In Canada as a whole, the ratio was 1.7.

A second approach recognizes the reality that people require a minimum number of bedrooms, even if their other space is restricted. This is embodied in the core need figure of at least 1,110 facing a suitability problem; some portion of the 545 multi-problem households also deals with too little space.

A key factor in the inability to afford more space, and to maintain housing in good condition is that, after paying for food, many households in Nunavut do not have very much left over each month. In the more isolated communities especially, this situation has direct adverse consequences for health, as documented in detail by the Department of Indian Affairs and Northern Development. In this and other regards, there are clear and measurable links between housing and population health.

TABLE 29: AVERAGE HOUSEHOLD EXPENDITURE FOR CANADA AND THE NORTHERN TERRITORIES, 2003

ITEM:	CANADA:	YUKON:	NORTHWEST TERRITORIES:	NUNAVUT:
Total	$61,150	$64,680	$77,070	$68,840
Food	$6,790	$7,980	$8,890	$12,380
Shelter	$11,580	$11,740	$14,400	$9,510
Clothing	$2,440	$2,440	$3,200	$3,370
Transportation	$8,350	$8,510	$9,930	$5,490
Personal taxes	$12,370	$11,710	$14,670	$13,790

Source: Statistics Canada, *The Daily*, Monday, December 13, 2004.

Statistics Canada household expenditure data for 2003 show that people in Nunavut devote almost twice as much for food, on average, ($12,380 per year) as do Canadian households in general ($6,790). Nunavut residents also pay significantly more for food than do residents of the other territories.

In the more isolated communities especially, this situation has direct adverse consequences for health, as documented in detail by the Department of Indian Affairs and Northern Development. In the 1992/93 nutrition surveys, INAC found that the Northern Food Basket cost 2 to 2½ times more in these communities than in Ottawa. While the cost of perishables in some communities in Nunavut has decreased since 1991, following changes to the Food Mail Program, the overall cost of food has not declined substantially. Even though most families in these communities also rely on traditional food, obtaining this food is not without a cost. For some families, traditional food is not accessible due to a lack of equipment, skills or time, poor health or availability.

TABLE 30: RELATIONSHIP BETWEEN FAMILY INCOMES AND THE COST OF FOOD, 1992

COMMUNITY: INCOME:	ARVIAT	RANKIN INLET	BAKER LAKE	CORAL HARBOUR:
Under $10,000	40	25	25	15
$10,000-$19,999	55	35	70	25
$20,000-$29,999	40	50	45	15
# of families	240	355	250	110
Average income ($)	34,538	52,201	33,136	38,357
Thrifty food basket costs	10,752	11,232	11,856	13,344

Source: Institute of Urban Studies, University of Winnipeg, *An Evaluation of the Measurement of Housing Need in Northern and Remote Communities*, p. 22.

4.4 Physically Substandard Dwellings

The final major aspect of housing need is physically substandard shelter… broken windows, inadequate insulation, etc. This has already been addressed above in relation to overall state of repair of the existing stock, and calculated at some19 percent of the total. However, two other factors affecting the quality of Nunavut housing should be flagged: logistics of undertaking repairs, and the need to address the needs of those with mobility-related disabilities.

Turning to the first issue, in no other province or territory does long-distance transportation logistics loom so large in determining design, specifications, and maintenance of dwellings. Changing a single window can cost $1,700 or more.

In most other geographic regions, residents have more options to use local materials and to improve their accommodation on their own initiative. In its major report on the Nunavut economy of 2001, the Conference Board of Canada notes that "[t]ransportation infrastructure in Nunavut is very limited with respect to roads, air and sea."[32] The report goes on to point out that in this regard, Nunavut is quite different from Yukon and the NWT. There are 4,681 kilometres of road in Yukon compared to only one inter-community road of approximately 20 kilometres in Nunavut. Unlike the NWT, there are no winter roads with the exception of the road from the NWT to the Lupin Mine just inside the western Nunavut border.

The Conference Board also comments that Nunavut's housing concerns are linked to the high cost of serviced land and of building, maintaining and operating homes. For example, most building materials must be shipped in from the south at a cost of up to $35,000 [per unit].

According to the report, the GN recognizes the lack of transportation infrastructure in the territory and has developed a transportation strategy. Part of this strategy will include a commitment to improve links between communities within Nunavut, particularly to support government decentralization. However, a firm connection between improved overall transportation links and reduced housing construction and renovation costs still appears to be a long way off.

Looking now at the issue of adapting units to the needs of those with disabilities, it is important to note that the three territories were omitted from the Participation and Activity Limitation Survey of 2001.[33] Based on Canada-wide proportions of the population with disabilities, it is likely that as many as 10.5 percent of all the dwellings in Nunavut should be adapted to those with mobility problems, i.e., in the order of 720 units.

It has not been a priority in the past to make such adaptations available to residents of Nunavut, but they are likely to become increasingly important as the numbers of elderly households in Nunavut increase. In addition, Nunavut has the highest rate of unintentional injuries in Canada, so mobility limitations are also likely to affect quite a number of younger people as well. By adopting the principles of "universal design", a substantial number of Nunavut homes built in the future could be more user friendly for those with disabilities. Features such as wider doorways, grab bars, etc., also need to be considered within the renovation requirements noted above.

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[32] Conference Board of Canada, *Nunavut Economic Outlook: An Examination of the Nunavut Economy.* (Ottawa: Conference Board, 2002), p. 15.

[33] See Statistics Canada, Catalogue No. 89577-XIE.

4.5 Conclusion

A variety of measures from reputable research and statistical agencies all point to the same conclusion about housing needs in Nunavut: they are primarily for the construction and renovation of housing to offer residents sufficiently spacious, heated, and functional places in which to live. Because of the dominant role of government employment and of income support payments in the Nunavut economy, action must be initiated and heavily underwritten by government bodies at this stage in the life of the territory.

5. HOUSING DEMAND

There are three main current and potential sources of effective demand for housing in Nunavut:

- Newly-hired households moving into staff housing provided for them by the Government of Nunavut, the Federal government or private sector companies on a subsidized basis.

- Higher income households already in home ownership that grow tired of existing accommodation and move to purchase it within the private market.

- Renting households that suddenly receive a significant amount of cash or an ongoing income stream, e.g., successful artists.

The most ready source of future demand in Nunavut is among those paying relatively small amounts for rent, but having substantial incomes. As indicated in Table 31 below, in 2001, there were about 615 such households. If 10 percent were to enter the market each year, and net migration were to involve up to 100 households per year, then it possible that effective housing demand in the territory could amount to as much as 160 new dwellings each year.

TABLE 31: HIGHER INCOME HOUSEHOLDS PAYING LOW RENTS, 2001

HOUSEHOLD INCOME	PAYING UNDER $100	PAYING $100-$199	PAYING $200-$299	PAYING $300-$399	PAYING $400-$499	TOTAL PAYING LOW RENTS
$50,000-$59,999	90	40	20	25	25	
$60,000-$69,999	60	20	15	15	15	
$70,000-$79,999	35	15	10	15	15	
$80,000-$89,999	30	10	0	10	10	
$90,000-$99,999	15	0	10	10	0	
$100,000 and over	45	0	15	25	20	
TOTALS	275	85	70	100	85	615

Source: Calculated from Statistics Canada, *Census of Canada, 2001*.

Another factor affecting the demand for new construction as well as requirements for it is the number of households living in dwellings that are larger than average in relation to household size. Although the Census figures must be approached with caution, since they tend to undercount, there could be as many as 1,435 such households in Nunavut according to the Census. A program to encourage them to move into smaller accommodation is a potentially useful policy tool, e.g., moving bonuses as smaller units are built, etc.

TABLE 32: SMALLER HOUSEHOLDS OCCUPYING LARGER DWELLINGS IN NUNAVUT, 2001

HOUSEHOLD SIZE:	5 ROOMS	6 ROOMS	7 ROOMS	8 ROOMS	9 ROOMS	10+ ROOMS	TOTAL
1 person	255	95	20	15	0	0	385
2 persons	340	170	70	25	10	10	625
3 persons	--	190	90	30	10	20	340
4 persons	--	--	--	50	20	15	85
TOTAL	595	455	180	120	40	45	1435

Source: Statistics Canada, Catalogue Number 95F0323XCB1004.

In conclusion, there appears to be some potential to use the existing housing stock in Nunavut more fully through market-like mechanisms, operating in both new and existing dwellings. Considerations of entitlement by government employees to accommodation to a certain standard and of control over their own space by private owners clearly limit what can be done through government regulations and directives.

Incentives for matching people to space, and sound management of the existing assets are an integral part of showing that a larger future portfolio could be handled well. In this connection, the GN will want to consider how to make available tenure options as open-ended as possible. The aim would be to increase the opportunities for people to find and make living arrangements that best suit their needs.

6. COMMUNITY VARIATIONS IN NEED

6.1 Introduction

Nunavut residents live in communities spread over a large land mass in three distinct geographic regions: Baffin or Qikiqtaaluk (eastern region), Kivalliq (central region), and the Kitikmeot (western region). As documented below, two thirds of the territory's twenty-eight communities have populations of 1,000 or less. The regional administrative centres of Cambridge Bay in Kitikmeot, and Rankin Inlet in Kivalliq, have populations (2001) of 1,300 and 2,200 respectively. Iqaluit is the largest community with a population of over 5,200 and is growing quickly.

6.2 Baffin Region (Qikiqtaaluk)

The Baffin region is located at the eastern part of the former Northwest Territories and includes Baffin Island and the eastern High Arctic Islands. The population lives in twelve coastal communities: Iqaluit, Kimmirut, Cape Dorset, Hall Beach, Igloolik, Arctic Bay, Resolute, Pond Inlet, Grise Fiord, Clyde River, Sanikiluaq, Qikiqtarjuaq and Pangnirtung.

The economy of the region is based upon renewable resource harvesting including a commercial inshore and offshore fishery, arts and crafts, tourism, and the public and service sectors. Communities depend upon air service and spring sealifts for transportation and supplies.

6.3 Kivalliq (formerly Keewatin)

Kivalliq lies on the western coast of Hudson Bay and includes Southampton Island. Residents live in seven communities: Rankin Inlet, Repulse Bay, Chesterfield Inlet, Baker Lake, Coral Harbour, Whale Cove and Arviat.

Renewable resource harvesting is a primary economic activity and includes a caribou and arctic char processing plant. Tourism has grown substantially in the region and there is some growing interest in mineral exploration as well. The public sector is a major employer in the region.

6.4 Kitikmeot

The westernmost region of Nunavut includes the Boothia Peninsula and Victoria Island. The communities include Cambridge Bay, Kugluktuk, Unmingmaktok, Bathurst Inlet, Taloyoak, Gjoa Haven and Kugaaruk.

As well as renewable resource harvesting such as a commercial char fishery and musk ox harvest, the region has considerable mineral wealth that is in the process of being explored and developed.

6.5 Changes in the Three Regions of Nunavut

As Table 33, below indicates, housing dynamics in the three regions of the territory have some important differences, especially in the scale of activities involved.

TABLE 33: CHANGES IN SELECTED HOUSING INDICATORS BY REGION WITHIN NUNAVUT, 1991-2001

DISTRICT:	BAFFIN (QIKIQTAALUK):	KIVALLIQ (KEEWATIN):	KITIKMEOT:
Population added, 1991-2001	+ 2,960	+ 1,710	+ 430
Occupied dwellings added, 1991-2001	+ 1,320	+ 560	+ 265
Persons added per dwelling added, 1991-2001	2.1	2.7	1.1
Dwellings in need of major repair, 1991	450 (17.2 % OF total stock)	340 (19.8 % of total stock)	185 (17.7 % of total stock)
Dwellings in need of major repair, 2001	645 (16.4 % of total stock)	460 (23.7 % of total stock)	260 (20.0 % of total stock)
Percentage change, 1991-2001	+ 69.8	+ 73.9	+ 71.2
Average number of persons per room, 1991	0.8	0.9	0.8
Average number of persons per room, 2001	0.7	0.7	0.7
Average number of rooms per dwelling, 1991	5.0	4.9	5.0
Average number of rooms per dwelling, 2001	5.1	5.3	5.0

Source: Statistics Canada, Census of Canada, 1991 and 2001. Note that there were small boundary changes upon division of the Northwest Territories that may affect comparability between the different Census years, but these do not involve heavily populated areas, and affected only Kivalliq (formerly Keewatin).

Tables 34 and 35 offer the basic statistics underlying these figures. The population numbers are based on the published Census data, rather than the higher post-Census revision upward to correct for undercounting. The dwelling numbers are also a bit low, since they do not include vacant units or collective dwellings, but these probably do not amount to more than 2 percent of the total,

TABLE 34: SELECTED HOUSING STATISTICS BY REGION WITHIN NUNAVUT, 1991-2001

REGION:	BAFFIN:	KIVALLIQ:	KITIKMEOT:	TOTAL:
Population, 1991	11,360	5,820	4,385	21,565
Population, 2001	14,320	7,530	4,815	26,665
Difference:	+ 2,960	+ 1,710	+ 430	+ 5,100
Occupied dwellings, 1991	2,615	1,380	1,040	5,035
Occupied dwellings, 2001	3,935	1,940	1,305	7,180
Difference:	+ 1,320	+ 560	+ 265	2,145
Persons added per dwelling added, 1991-2001	2.2	3.1	1.6	2.4

Source: Statistics Canada, Census of Canada, 1991 and 2001. Note that there were small boundary changes upon division of the Northwest Territories that may affect comparability between the different Census years, but these do not involve heavily populated areas, and affected only Kivalliq.

TABLE 35: SELECTED HOUSING STATISTICS FOR CANADA AS A WHOLE, 1991-2001

VARIABLE:	AMOUNT:
Population, 1991	26,994,045
Population, 2001	29,639,035
Difference:	+ 2,644,990
Occupied dwellings, 1991	10,018,265
Occupied dwellings, 2001	11.562,975
Difference:	+ 1,544,710
Persons added per dwelling added, 1991-2001	1.7

Source: Statistics Canada, Census of Canada, 1991 and 2001.

6.5 Aboriginal Proportion of Community Populations

From the Aboriginal Peoples Survey of 2001, conducted in parallel with the Census, there are a number of useful indicators of Aboriginal housing conditions and potential housing needs at a community level for the majority of Nunavut hamlets. Tables detailing relative community needs are contained in Annex "A". Table 36 below offers a listing of all communities with size of Aboriginal population in each case, if known:

TABLE 36: NUNAVUT COMMUNITIES BY NUMBERS OF ABORIGINAL PEOPLE RESIDENT IN THEM, 2001

COMMUNITY:	TOTAL POPULATION:	ABORIGINAL POPULATION:
Arctic Bay (Ikpiarjuk)	646	610
Arviat	1,899	1,790
Baker Lake (Qamanituaq)	1,507	1,410
Bathurst Inlet (Kingoak)	5	N.A.
Cambridge Bay (Iqaluktuuttiaq)	1,309	1,030
Cape Dorset (Kinngait)	1,148	1,070
Chesterfield Inlet	345	320
Clyde River (Kangiqtugaapik)	785	750
Coral Harbour (Salliq)	712	690
Gjoa Haven (Uqsuquqtuuq)	960	920
Grise Ford (Aujuittuq)	163	N.A.
Hall Beach (Sanirajak)	609	580
Igloolik	1,286	1,220
Iqaluit	5,236	3,030
Kimmirut	433	410
Kugaaruk	605	570

TABLE 36: NUNAVUT COMMUNITIES BY NUMBERS OF ABORIGINAL PEOPLE RESIDENT IN THEM, 2001 (CONTINUED)

COMMUNITY:	TOTAL POPULATION:	ABORIGINAL POPULATION:
Kugluktuk (Qurluqtuq)	1,212	1,110
Nanisivik,	77	N.A.
Pangnirtung (Pangniqtuuq)	1,276	1,210
Pond Inlet (Mittimatalik)	1,220	1,140
Qikiqtarjuaq	519	490
Rankin Inlet (Kangiqiniq)	2,177	1,710
Repulse Bay	612	590
Resolute (Qausuittuq)	215	N.A.
Sanikiluaq	684	650
Taloyoak (Talurjuaq)	720	670
Umingmaktok (Umingmaktuuq)	5	N.A.
Whale Cove (Tikirarjuaq)	305	290

6.6 Adapting Housing Responses to Housing Requirements and Needs in Individual Communities

One of the most sensitive but essential housing and planning issues to be addressed by leaders and residents of Nunavut is how many units and what types of housing assistance to allocate to each community around the territory. To address the logistics, cost, and other problems will require concentrated effort. Yet the attractions of offering all communities something are undeniable as well.

This report lays out a range of community indicators that could be adapted to support the resource allocation process. Recommending specific allocation strategies is beyond its scope. Yet it is clear that opportunities exist to tailor allocations to conditions in different communities just by examining simple geographic and population dynamics. Moreover, the experience of Nunavik offers at least a potential model of allocating units so as to concentrate activity in specific communities and obtain economies of scale that make housing dollars go farther.[34]

[34] See *Nunatsiaq News*, "Only seven communities to receive new housing", May 31, 2002.

There are substantial variations across Nunavut Territory in both the extent of housing need, and the capacity to respond to that need. Careful analysis of projected population growth (and decline) in the 28 current settlements reveals four distinct groups of communities.

These are: depopulating; small but still growing; medium and growing, often as a result of government decentralization initiatives; and the capital of Iqaluit, which is in a class by itself. Each type will likely require somewhat different strategies in order to use available resources for housing most effectively. Close tracking of community population and household trends will be an essential support to sound decision-making, and to community allocations based on need.

In addition, there are some indications that while the quality of housing in Baffin region has improved somewhat, probably because of staff housing added in Iqaluit, there has been relative deterioration in Kitikmeot and Kivalliq (formerly Keewatin).

Here are some examples of different intervention strategies based on different demographic, geographic, administrative and social situations:

- Support remaining residents in relocating to growing communities with new housing.

- Upgrade ventilation and put additions onto sound existing units; offer residents options to relocate to other communities to new housing; add seniors housing.

- Monitor population growth carefully; make additions to sound existing units a priority; support youth employment and mobility training through training teams travelling to each community; add new, flexible seniors housing.

- Make sustainable new housing construction a priority with maximum training for multiple trades and skills; support additional local ventures based on housing; service land in advance of need; anticipate future economic development in the form of flexible housing forms.

- Prepare for unexpected increases in migrant population; service land well in advance of need; offer transitional housing options.

These options are roughly grouped with each range of communities in Nunavut in Table 37 below, as a potential starting point for discussion. No one would relish taking decisions about the future of whole settlements, but gearing housing responses to housing needs on the ground is certainly preferable to trying “one size fits all” approaches.

TABLE 37: OPTIONS FOR RESPONDING TO DIFFERENT TYPES OF COMMUNITY NEED

COMMUNITIES:	PROJECTED GROWTH, 2005-2020: PEOPE/(UNITS)	PROGNOSIS IMPLIED BY PROJECTIONS:	SOME APPROPRIATE RESPONSES TO NEED:
Bathurst Inlet Umingmaktok	0 (0)	No projections given. Effective end of settlement.	Support any remaining residents in relocating to growing communities with new housing.
Grise Fiord Nanisivik Resolute Bay	+ 26 (<10) - 32 (0) + 35 (<12)	Limited growth or decline, with small population base.	Upgrade ventilation; put additions on sound existing units; offer option to relocate to other communities to new housing; add seniors housing.
Chesterfield Inlet Kimmirut Kugaaruk Qikiqtarjuaq Whale Cove	+ 163 (54) + 200 (67) + 315 (105) + 212 (70) + 140 (47)	Rapid projected growth, but with a small population base for services and economic opportunities.	Monitor population growth carefully; make additions to existing stock a priority; upgrade ventilation; support youth training through mobile teams; add seniors housing.
Arctic Bay Clyde River Coral Harbour Hall Beach Sanikiluaq Taloyoak	+ 275 (92) + 347 (116) + 421 (140) + 318 (106) + 312 (104) + 390 (130)	Population currently under 1,000 but projected to increase to over 1,000 by 2020.	Monitor population growth carefully; make additions to existing stock a priority; upgrade ventilation; support youth training through mobile teams; increase economic opportunities.
Arviat Baker Lake Cambridge Bay Igloolik Kugluktuk Pangnirtung Pond Inlet	+ 926 (309) + 524 (175) + 556 (185) + 569 (190) + 520 (173) + 593 (198) + 701 (234)	Population over 1,000 and growing rapidly; key regional administrative functions; some potential as bases for long-term economic development.	Make sustainable new housing construction a priority with maximum training for multiple trades and skills; support additional local ventures based on housing; service land in advance of need; anticipate future economic development in the form of flexible housing forms.
Iqaluit	+ 2,785 (928)	Substantial and rapidly growing population.	Prepare for unexpected increase in migrant population; service land well in advance of need; offer transitional housing options.

Source: Community-by-community population projections were developed and published by the Nunavut Bureau of Statistics. Unit figures are illustrative only, and are based on adding 1 new home for each 3 people added to the community population according to the projections.

7. CONCLUSIONS

7.1 Summary of Housing Requirements, Need and Demand

Over a ten-year period, Nunavut requires annual production of more than 250-275 units just to keep pace with population increases. More than 140 units per year should be replaced or renovated in a major way. A further 110-190 or more units per year should have bedrooms added, or should be complemented by new housing targeted to household sizes and types in greatest need, e.g., youth, seniors.

In brief, Nunavut requires annual housing production and renovation/addition in excess of 500-600 units a year to make real progress on its backlog of need and to accommodate future growth.

Currently, it would appear that in the order of 100-150 units are being commissioned each year by private sector companies such as the Northern Property Real Estate Investment Trust, by the Nunavut Housing Corporation, and by individual buyers.

Looking at affordability of new homes, it is very unlikely that more than 150 households per year can rent or buy at “market” rates to the extent these actually exist in Nunavut. Therefore, it is likely that 350-450 new or renovated/expended units per year of subsidized housing will be required.

7.2 Current Housing Investment in Nunavut

Based on Statistics Canada data for investment in residential building, renovation and associated activities, a total of $255 million has been spent in Nunavut since the beginning of 1999, as set out in Table 38.

TABLE 38: HOUSING INVESTMENT 1N NUNAVUT, 1999-2004

YEAR:	INVESTMENT AMOUNT IN $ MILLIONS:	PERCENTAGE CHANGE, YEAR OVER YEAR:
1999	40.4	N.A.
2000	47.7	+ 18.1
2001	31.7	- 33.5
2002	56.8	+ 80.7
2003	45.0	- 20.7
2004	55.7	- 10.5
TOTAL	254.9	

Source: Statistics Canada Daily, various issues.

As in the case of other data provided above, it is interesting and strategic to compare the level of needs and of effort in Nunavut with that in other jurisdictions. Fortunately, an analyst at Statistics Canada has recently published a comparison of housing investment in all provinces and territories across Canada.[35] It is not surprising to see that Nunavut has among the lowest figures of all in each category except for new housing investment in some years. Given the rapid pace of population growth and the extent of the backlog of need, the Alberta level of investment in new construction is probably the most appropriate benchmark for Nunavut.

TABLE 39: INVESTMENT IN RESIDENTIAL STRUCTURES AS A PERCENT OF NOMINAL FINAL DOMESTIC DEMAND (ALL OF CANADA)

	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.	Can.
	%													
1999	3.3	4.1	3.9	3.3	4.1	5.4	3.1	3.1	5.2	5.4	3.8	1.8	**2.6**	4.8
2000	3.6	4.7	4.3	3.9	4.1	5.6	3.1	3.0	5.0	5.2	4.3	1.1	**2.6**	4.8
2001	3.9	4.6	4.4	4.3	4.7	6.0	3.3	3.0	5.2	5.5	4.3	1.4	**1.3**	5.2
2002	4.4	5.0	4.9	4.6	5.7	6.5	3.7	3.4	6.0	6.3	4.8	2.8	**2.8**	5.9

TABLE 40: PER CAPITA INVESTMENT IN NEW HOUSING

	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.	Can.
	$													
1999	351	500	559	401	488	883	347	357	1,181	735	452	439	**815**	726
2000	383	647	621	506	486	967	343	335	1,209	689	700	75	**893**	760
2001	450	642	637	604	570	1,014	353	290	1,340	751	667	366	**250**	824
2002	659	774	781	685	868	1,196	428	366	1,694	935	1,100	1,659	**1,034**	1,043

[35] Brenda Bugge, "A glance at provincial investment in residential structures 1981 – 2002". Go to: http://www.statcan.ca/english/freepub/13-605-XIE/2003001/chronology/2003provincial/residential.htm.

TABLE 41: PER CAPITA EXPENDITURE ON RENOVATIONS

	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.	Can.
	$													
1999	552	507	493	441	522	529	400	452	497	536	1,258	488	**333**	515
2000	619	596	591	545	566	582	452	506	551	608	1,433	575	**286**	572
2001	709	613	643	577	696	695	529	576	602	642	1,500	683	**393**	665
2002	726	664	711	632	753	715	605	632	649	681	1,467	634	**414**	704

TABLE 42: RENOVATION EXPENDITURE AS A PERCENT OF PERSONAL DISPOSABLE INCOME

	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.	Can.
	%													
1999	3.5	3.0	2.7	2.5	2.9	2.5	2.2	2.6	2.4	2.8	5.1	1.9	**1.5**	2.6
2000	3.7	3.4	3.1	3.0	3.0	2.6	2.3	2.8	2.4	3.0	5.2	2.0	**1.2**	2.7
2001	4.1	3.4	3.3	3.1	3.5	3.0	2.7	3.1	2.4	3.1	5.3	2.3	**1.5**	3.1
2002	4.0	3.5	3.5	3.3	3.6	3.0	2.9	3.3	2.5	3.2	5.0	1.9	**1.5**	3.2

7.3 Housing Investment in Relation to Requirements, Need and Demand

Based on an estimate of $250,000 for each new dwelling, $100,000 for major additions, and $35,000 per unit for substantial renovations, annual housing investment in Nunavut in the range of $78.4 to $92.7 million annually would appear to be required to keep pace with requirements and to make steady progress on the backlog of need. At present, approximately half or less of that amount is being invested each year. Moreover, it is probably being invested disproportionately is response to demand rather than need, given the sporadic nature of social housing funding at present.

8. RECOMMENDATIONS

Recommendations in this report focus on what Nunavut authorities, the Federal government, and NTI could do to improve the *quality and scope of information about housing requirements, needs, and demand projections in the future*. They *do not* address the issue of what to do about the actual projections produced here, which is the role of other GN and NTI policy and planning documents.

The following are intended as a launching point for building added data collection, research and analytical capacity in the Territory:

The following recommendations focus on data requirements to support sound decision-making and are intended as a launching point for building added capacity in the Territory:

1. The contents and conclusions of this report should be reviewed by experts from the Government on Nunavut, the Government of Canada, and the interested people of Nunavut to confirm their accuracy and to build a shared understanding of the information base that underlies housing requirements, needs and demand in the Territory.

2. The Government of Nunavut and Nunavut Tunngavik Inc. should consider publishing a combined annual report on housing conditions and progress in the Territory, focusing on how key trends are shaping the quantity, quality and affordability of accommodation. Topics covered should include: population growth, migration, housing production and investment, housing quality changes, changes in housing policy and programs, and indicators of improvement or decline in overall housing conditions. (Both already publish precursors to such a report.)

3. Improvements should be made to housing data collection and reporting by Canada Mortgage and Housing Corporation and Statistics Canada so that comparable data series to those for other provinces and territories are published for Nunavut, e.g., housing starts in addition to residential investment and building permits. A specific feasibility study of how to make these improvements in a low-cost and rapid manner should be undertaken as a first step.

4. Nunavut should certainly be included as a distinct entity in a new set of CMHC housing requirements projections slated to come out late in 2005.

5. Sample surveys of housing conditions in a range of Nunavut communities should be undertaken each year to support regular reports on conditions and to facilitate close matching between housing production and needs. These surveys will be essential to progress reporting in relation to the Ten-Year Action Plan. Disability needs should be included in these surveys.

6. Housing officials in Nunavut should keep in regular contact with health ministry experts in order to be able to detect potential changes in fertility and birth rates as these may impact on future housing requirements.

ANNEX “A”: DETAILED POPULATION AND HOUSEHOLD TABLES

POPULATION IN DIFFERENT AGE GROUPS, NUNAVUT, 2001-2016
(LOW PROJECTION, THOUSANDS)

AGE GROUP:	2001	2006	2011	2016
0-14	10,200	9,500	9,100	9,200
15-24	5,000	5,800	6,200	5,700
25-34	4,600	4,400	4,700	5,300
35-44	3,800	4,400	4,300	4,300
45-54	2,400	2,900	3,800	4,300
55-64	1,200	1,900	2,400	2,800
65-74	0,600	0,800	1,000	1,600
75+	0,200	0,300	0,400	0,700
TOTAL	28,000	30,000	31,900	33,900

Source: Calculated from Statistics Canada, *Population Projections for Canada, Provinces and Territories 2000-2026,* Catalogue No. 91-520. The actual population was 28,121.

POPULATION IN DIFFERENT AGE GROUPS, NUNAVUT, 2001-2016
(MEDIUM PROJECTION, THOUSANDS)

AGE GROUP:	2001	2006	2011	2016
0-14	10,300	9,800	9,500	9,700
15-24	5,000	6,000	6,500	6,100
25-34	4,600	4,600	5,100	5,800
35-44	3,800	4,600	4,500	4,400
45-54	2,400	2,900	3,800	4,300
55-64	1,200	1,900	2,400	2,800
65-74	0,600	0,800	1,000	1,600
75+	0,200	0,300	0,400	0,700
TOTAL	28,100	30,900	33,200	35,400

Source: Calculated from Statistics Canada, *Population Projections for Canada, Provinces and Territories 2000-2026,* Catalogue No. 91-520. The actual population was 28,121.

POPULATION IN DIFFERENT AGE GROUPS, NUNAVUT, 2001-2016

(HIGH PROJECTION, THOUSANDS)

AGE GROUP:	2001	2006	2011	2016
0-14	10,400	10,300	10,600	11,500
15-24	5,000	6,000	6,900	6,600
25-34	4,800	4,800	5,300	6,200
35-44	3,800	4,600	4,700	4,800
45-54	2,40	2,900	3,800	4,400
55-64	1,200	1,900	2,400	2,800
65-74	600	800	1,000	1,700
75+	200	300	400	700
TOTAL	28,400	31,600	35,100	38,700

Source: Calculated from Statistics Canada, *Population Projections for Canada, Provinces and Territories 2000-2026,* Catalogue No. 91-520. The actual population was 28,121.

HEADSHIP RATES OF DIFFERENT AGE GROUPS, NORTHWEST TERRITORIES, 2001-2016
(MEDIUM WESTERN)

AGE GROUP:	2001	2006	2011	2016
15-24	10.3	10.6	11.6	11.3
25-34	42.3	42.2	41.7	42.2
35-44	54.1	52.4	51.6	51.6
45-54	58.5	58.4	59.5	58.5
55-64	61.5	64.3	63.5	64.0
65-74	69.6	65.5	69.4	70.6
75+	60.0	66.7	66.7	66.7
AVERAGE, ALL AGE GROUPS	30.4	31.8	33.1	34.1

Source: Calculated from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*.

TOTAL HOUSEHOLDS FORMED BY DIFFERENT AGE GROUPS, NUNAVUT, 2001-2016

(LOW POPULATION X MEDIUM WESTERN HEADSHIP RATES)

AGE GROUP:	2001	2006	2011	2016
15-24	515	615	720	645
25-34	1,945	1,855	1,960	2,255
35-44	2,055	2,305	2,220	2,220
45-54	1,400	1,695	2,260	2,515
55-64	740	1,220	1,525	1,790
65-74	420	525	695	1,130
75+	120	200	265	465
TOTAL	7,195	8,415	9,645	11,000

Source: Calculated from Statistics Canada, *Population Projections for Canada, Provinces and Territories 2000-2026,* Catalogue No. 91-520, and from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*. The actual number of households counted in the Census was 7,175.

TOTAL HOUSEHOLDS FORMED BY DIFFERENT AGE GROUPS, NUNAVUT, 2001-2016

(MEDIUM POPULATION X MEDIUM WESTERN HEADSHIP RATES)

AGE GROUP:	2001	2006	2011	2016
15-24	515	635	755	690
25-34	1,950	1,940	2,125	2,450
35-44	2,055	2,410	2,320	2,270
45-54	1,405	1,695	2,260	2,515
55-64	740	1,220	1,525	1,790
65-74	420	525	695	1,130
75+	120	200	265	465
TOTAL	7,210	8,630	9,945	11,310

Source: Calculated from Statistics Canada, *Population Projections for Canada, Provinces and Territories 2000-2026,* Catalogue No. 91-520, and from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*. The actual number of households counted in the Census was 7,175.

TOTAL HOUSEHOLDS FORMED BY DIFFERENT AGE GROUPS, NUNAVUT, 2001-2016

(HIGH POPULATION X MEDIUM WESTERN HEADSHIP RATES)

AGE GROUP:	2001	2006	2011	2016
15-24	515	635	800	745
25-34	2,030	2,025	2,210	2,615
35-44	2,055	2,410	2,425	2,475
45-54	1,405	1,695	2,260	2,575
55-64	740	1,220	1,525	1,790
65-74	420	525	695	1,200
75+	120	200	265	465
TOTAL	7,285	8,710	9,915	11,865

Source: Calculated from Statistics Canada, *Population Projections for Canada, Provinces and Territories 2000-2026,* Catalogue No. 91-520, and from Roger Lewis, *The Long-term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016*. The actual number of households counted in the Census was 7,175.

ANNEX "B": COMMUNITY POPULATION AND HOUSING DATA AND NEED INDICATORS

COMMUNITIES RANKED BY SMALLEST TO LARGEST NUMBER OF DWELLINGS OCCUPIED BY ABORIGINAL PEOPLE, 2001

COMMUNITY	NUMBER OF ABORIGINAL-OCCUPIED DWELLINGS:	PERCENTAGE OF ALL DWELLINGS:(NUMBER)
1. Whale Cove	75	93.8 (80)
2. Chesterfield Inlet	90	94.7 (95)
3. Kimmirut	95	90.5 (105)
4. Kugaaruk	105	91.3 (115)
5. Hall Beach	110	91.7 (120)
6. Repulse Bay	115	92.0 (125)
7. Qikiqtarjuaq	125	89.3 (140)
8. Sanikiluaq	130	89.7 (145)
9. Arctic Bay	140	93.3 (150)
10. Clyde River	140	96.6 (145)
11. Coral Harbour	165	97.1 (170)
12. Taloyoak	170	91.9 (185)
13. Gjoa Haven	215	91.5 (235)
14. Pond Inlet	245	90.7 (270)
15. Cape Dorset	255	86.4 (295)
16. Igloolik	255	91.1 (280)
17. Kugluktuk	310	87.3 (355)
18. Cambridge Bay	315	77.8 (405)
19. Pangnirtung	320	91.4 (350)
20. Baker Lake	370	91.4 (405)
21. Arviat	375	90.4 (415)
22. Rankin Inlet	480	74.4 (695)
23. Iqaluit	955	53.7 (1,780)

Source: Statistics Canada, *Aboriginal Peoples Survey Community Profiles, 2001*, and *Census of Canada, 2001*.

COMMUNITIES RANKED BY MEDIAN HOUSEHOLD INCOME FROM LOWEST TO HIGHEST, 2000

COMMUNITY	MEDIAN HOUSEHOLD INCOME, 2000	DIFFERENCE FROM NUNAVUT ($38,348)
1. Qikiqtarjuaq	$27,232	- $11,116
2. Baker Lake	$27,904	- $10,444
3. Whale Cove	$30,256	- $8,092
4. Gjoa Haven	$30,272	- $8,076
5. Coral Harbour	$32,064	- $6,284
6. Taloyoak	$32,469	- $5,879
7. Igloolik	$33,280	- $5,068
8. Kugluktuk	$33,344	- $5,004
9. Arviat	$33,408	- $4,940
10. Cape Dorset	$33,536	- $4,812
11. Hall Beach	$33,920	- $4,428
12. Sanikiluaq	$34,688	- $3,660
13. Pangnirtung	$35,520	- $2,828
14. Repulse Bay	$37,035	- $1,313
15. Chesterfield Inlet	$38,016	- $332
16. Arctic Bay	$39,104	+ $756
17. Pond Inlet	$39,872	+ $1,524
18. Cambridge Bay	$40,064	+ $1,716
19. Kimmirut	$41,088	+ $2,740
20. Clyde River	$42,496	+ $4,148
21. Kugaaruk	$44,800	+ $6,452
22. Rankin Inlet	$48,192	+ $9,844
23. Iqaluit	$56,672	+ $18,324

Source: Statistics Canada, *Aboriginal Peoples Survey Community Profiles, 2001*.

COMMUNITIES RANKED BY FASTEST TO SLOWEST GROWING ABORIGINAL POPULATIONS, 1996-2001

COMMUNITY	GROWTH RATE FROM 1996-2001:	DIFFERENCE FROM AVERAGE IN NUNAVUT (+ 8.1)
1. Iqaluit	+ 24.1	+ 16.0
2. Cape Dorset	+ 22.7	+ 14.6
3. Kugaaruk	+ 22.0	+ 13.9
4. Arviat	+ 21.8	+ 13.7
5. Hall Beach	+ 12.2	+ 4.1
6. Taloyoak	+ 11.1	+ 3.0
7. Clyde River	+ 10.9	+ 2.8
8. Igloolik	+ 9.5	+ 1.4
9. Rankin Inlet	+ 9.5	+ 1.4
10. Repulse Bay	+ 9.5	+ 1.4
11. Gjoa Haven	+ 9.2	+ 1.1
12. Kimmirut	+ 9.1	+ 1.0
13. Baker Lake	+ 8.8	+ 0.7
14. Sanikiluaq	+ 8.4	+ 0.3
15. Coral Harbour	+ 6.4	- 1.7
16. Qikiqtarjuaq	+ 5.8	- 2.3
17. Pond Inlet	+ 5.7	- 2.4
18. Pangnirtung	+ 2.7	- 5.4
19. Chesterfield Inlet	+ 2.4	- 5.7
20. Whale Cove	+ 1.3	- 6.8
21. Arctic Bay	+ 1.1	- 7.0
22. Kugluktuk	+ 0.9	- 7.2
23. Cambridge Bay	- 3.1	- 11.2

Source: Statistics Canada, *Aboriginal Peoples Survey Community Profiles, 2001*.

COMMUNITIES RANKED BY HIGHEST TO LOWEST PROPORTION OF DWELLINGS WITH MORE THAN ONE PERSON PER ROOM

COMMUNITY	% OF DWELLINGS WITH MORE THAN ONE PERSON PER ROOM:	DIFFERENCE FROM AVERAGE IN NUNAVUT (19.1)
1. Kugaaruk	42.9	+ 23.8
2. Sanikiluaq	37.0	+ 17.9
3. Clyde River	35.7	+ 16.6
4. Igloolik	35.3	+ 16.2
5. Hall Beach	31.8	+ 12.7
6. Arviat	29.3	+ 10.2
7. Cape Dorset	25.0	+ 5.9
8. Repulse Bay	25.0	+ 5.9
9. Pond Inlet	24.5	+ 5.4
10. Arctic Bay	22.2	+ 3.1
11. Taloyoak	20.6	+ 1.5
12. Qikiqtarjuaq	20.0	+ 0.9
13. Gjoa Haven	18.6	- 0.5
14. Kimmirut	15.8	- 3.3
15. Pangnirtung	15.6	- 3.5
16. Rankin Inlet	14.4	- 4.7
17. Baker Lake	13.3	- 5.8
18. Whale Cove	13.3	- 5.8
19. Coral Harbour	12.1	- 7.0
20. Iqaluit	11.5	- 7.6
21. Kugluktuk	11.3	- 7.8
22. Chesterfield Inlet	11.1	- 8.0
23. Cambridge Bay	9.5	- 9.6

Source: Statistics Canada, *Aboriginal Peoples Survey Community Profiles, 2001*.

COMMUNITIES RANKED FROM HIGHEST TO LOWEST PROPORTION OF DWELLINGS REQUIRING MAJOR REPAIRS, 2001

COMMUNITY	% (NUMBERS) OF DWELLINGS REQUIRING MAJOR REPAIRS	DIFFERENCE FROM AVERAGE IN NUNAVUT (21.6 OR 1,225/5,665)
1. Whale Cove	46.7 (35/75)	+ 25.1
2. Chesterfield Inlet	38.9 (35/90)	+ 17.3
3. Sanikiluaq	34.6 (45/130)	+ 13.0
4. Gjoa Haven	27.9 (60/215)	+ 6.3
5. Hall Beach	27.3 (30/110)	+ 5.7
6. Pond Inlet	26.5 (65/245)	+ 4.9
7. Kimmirut	26.3 (25/95)	+ 4.7
8. Repulse Bay	26.1 (30/115)	+ 4.5
9. Rankin Inlet	26.0 (125/480)	+ 4.4
10. Baker Lake	25.7 (95/370)	+ 4.1
11. Arviat	24.0 (90/375)	+ 2.4
12. Kugaaruk	23.8 (25/105)	+ 2.2
13. Taloyoak	23.5 (40/170)	+ 1.9
14. Clyde River	21.4 (30/140)	- 0.2
15. Cape Dorset	19.6 (50/255)	- 2.0
16. Igloolik	19.6 (50/255)	- 2.0
17. Kugluktuk	19.4 (60/310)	- 2.2
18. Iqaluit	17.3 (165/955)	- 4.3
19. Qikiqtarjuaq	16.0 (20/125)	- 5.6
20. Cambridge Bay	15.9 (50/315)	- 5.7
21. Arctic Bay	14.3 (20/140)	- 7.3
22. Pangnirtung	12.5 (40/320)	- 9.1
23. Coral Harbour	12.1 (20/165)	- 9.5

Source: Statistics Canada, *Aboriginal Peoples Survey Community Profiles, 2001*.

COMMUNITIES RANKED FROM MOST TO LEAST CHILDREN AS A PROPORTION OF THE ABORIGINAL POPULATION, 2001

COMMUNITY	% OF CHILDREN IN THE TOTAL POPULATION:	DIFFERENCE FROM AVERAGE IN NUNAVUT (53.9 OR 12,245/22710):
1. Sanikiluaq	58.9 (380/645)	+ 4.7
2. Kugaaruk	58.8 (335/570)	+ 4.9
3. Arviat	58.3 (1,040/1785)	+ 4.4
4. Coral Harbour	58.3 (405/695)	+ 4.4
5. Repulse Bay	57.6 (340/590)	+ 3.7
6. Pond Inlet	57.0 (655/1150)	+ 3.1
7. Hall Beach	56.0 (325/580)	+ 2.1
8. Igloolik	55.9 (685/1225)	+ 2.0
9. Cape Dorset	55.8 (600/1075)	+ 1.9
10. Kimmirut	54.9 (225/410)	+ 1.0
11. Gjoa Haven	54.6 (505/925)	+ 0.7
12. Clyde River	54.3 (415/755)	+ 0.4
13. Rankin Inlet	53.5 (920/1720)	- 0.4
14. Whale Cove	53.4 (155/290)	- 0.5
15. Arctic Bay	53.3 (325/610)	- 0.6
16. Taloyoak	52.6 (355/675)	- 1.3
17. Baker Lake	52.1 (735/1410)	- 1.8
18. Kugluktuk	51.8 (580/1120)	- 2.1
19. Chesterfield Inlet	51.6 (165/320)	- 2.3
20. Pangnirtung	51.2 (620/1210)	- 2.7
21. Qikiqtarjuaq	51.0 (250/490)	- 2.9
22. Iqaluit	50.2 (1590/3665)	- 3.7
23. Cambridge Bay	48.8 (505/1035)	- 5.1

Source: Statistics Canada, *Aboriginal Peoples Survey Community Profiles, 2001*.

ANNEX "C": BIBLIOGRAPHY

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