

***Working Together to Build Food Security
in Nova Scotia:
Participatory Food Costing 2004/05***



**Prepared by:
The Nova Scotia Participatory Food Security Projects
of the Atlantic Health Promotion Research Centre, Nova Scotia Family Resource
Centres/Projects (funded by the Canada Prenatal Nutrition Program & Community Action
Program for Children), and
the Nova Scotia Nutrition Council**

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Nova Scotia
Nutrition Council



Preparation of this report has been directed by Patricia Williams, with assistance from Rebecca Green, Noreen Millar, Lesley Frank and Renée Hartleib for The Nova Scotia Food Security Projects. The views expressed herein are solely those of the project partners (listed below) and do not necessarily represent the official policy of the Nova Scotia Department of Health Promotion and Protection.

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The Nova Scotia Nutrition Council is a multidisciplinary advocacy group whose goal is to improve and maintain the nutritional health and well being of Nova Scotians through education, advocacy and collaboration.

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Family Resource Centres/Projects (FRC/Ps) are community-based organizations that are found throughout Canada. In Atlantic Canada FRC/Ps tend to be funded by the Community Action Program for Children (CAPC) and Canada Prenatal Nutrition Program (CPNP). CAPC and CPNP programs are built on strong partnerships between parents, community workers, volunteers, private businesses, and the federal, provincial, and territorial governments. CAPC and CPNP projects are specifically designed for and by the communities that use them, and have a strong commitment to participatory, empowerment and community development principles, strengthening and supporting families, equal access, partnerships and collaborations, building from a community volunteer base and being flexible.

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Table of Contents

List of Tables and Figures	1
Executive Summary	2
1. Introduction: Food Insecurity in Canada	4
What Is Food Security And Food Insecurity?	4
How Has Food Insecurity Been Addressed?	5
2. Research Methodology: Food Costing as Participatory Action Research.....	6
3. Research Findings: 2004/05 Food Costing Data in Nova Scotia.....	8
What Is The Cost Of A Nutritious Food Basket In Nova Scotia?	8
Table 1-Monthly Cost of Nutritious Food Basket for a Reference Family of Four* by District Health Authority (2002 and 2004/05).....	9
Does the cost of the NNFB differ in grocery stores located in rural versus urban areas?.....	9
Does the cost of the NNFB differ in grocery stores located in small versus large grocery stores?	10
How Affordable Is A Basic Nutritious Diet For Families In Nova Scotia?.....	10
Family of Four – 2 adults and 2 children.....	11
Family of Three – Female lone parent with 2 children	12
Family of Three – Female lone parent (attending university) with 2 children	13
Family of One - Single adult male with no children	14
What Was The Availability Of Locally-Produced Foods?.....	15
4. Summary of 2004/05 Research Findings	16
5. Discussion of Research Findings	17
Inadequate Income and Precarious Employment.....	18
Minimum Wage	18
Income Assistance.....	19
Low Incomes and Children.....	20
Inadequate Supports for Those with Low Income	21
Transportation	21
Childcare.....	21
Post-secondary Education.....	22
Physical Environment Challenges	23
6. Policy Implications of Food Costing Results	24
7. Recommendations from the 2004/05 Food Costing Data Collection	26
Recommendations for Food Security and Health:	27
Recommendations for Food Security and Income:.....	29
Recommendations for Food Access:.....	30
8. References.....	31

Appendix A - Partners, Committee Members and Participants of the Nova Scotia Food Security Projects	1
Appendix B - Overview of Food Costing in Canada and Nova Scotia	4
Appendix C - Methods for 2004/05 Food Costing Project	6
Appendix D - Letter to the Grocery Store	10
Appendix E - National Nutritious Food Basket (NNFB), adapted	12
Appendix F - Guidelines for Pricing Procedures and Information on Adapted NNFB	23
Appendix G - Methods for Creating Affordability Scenarios	26
Appendix H - NNFB Cost & Calculations for Selected Age and Gender Groups	33
Appendix I - Low-Income Cut-Offs (LICOs)	35
Appendix J - Changes in Cost of Living (2002 vs. 2004/05 Comparisons)	36
Appendices References	41

List of Tables and Figures

Table 1-Monthly Cost of Nutritious Food Basket for a Reference Family of Four* by District Health Authority (2002 and 2004/05).....	9
Table 2 - Monthly Cost of a Nutritious Food Basket for a Family of Four in Grocery Stores Classified as Rural and Urban (2002 and 2004/05).....	9
Table 3 - 2004/05 Monthly Cost of a Nutritious Food Basket in Grocery Stores Classified by Store Size (Family of Four).....	10
Table 4 – Family of four with four sample income sources (2004/05).....	11
Table 5 – One adult/two children; Minimum Wage or Income Assistance (2004/05).....	12
Table 6 - One adult/two children; Student Loan (2004/05)	13
Table 7 - Single adult male; Minimum Wage or Income Assistance (2004/05)	14

Executive Summary

In Canada, despite an abundant food supply and some of the lowest food prices in the world, there are over 3 million Canadians who are unable to afford a basic, nutritious diet (1, 2). “Food insecurity” occurs when individuals cannot obtain enough healthy food or when they live with the uncertainty of not knowing where their next meal is coming from (3). In 2001 about 17% of Nova Scotians reported experiencing some form of income-related food insecurity (4, 5).

The intent of this report is to examine the cost and affordability of a nutritious diet in Nova Scotia, and compare this to findings in 2002 (6).

In summary, the following points represent the key findings from the 2004/05 food costing data:

- The NNFB for a reference family of four in 2004/05 cost an average of \$617.42 per month. This represents an increase of almost 8% between the 2002 and 2004/05 data collections.
- The average cost of the NNFB in rural areas (10,000 people or less) was \$624.65 per month compared to \$597.11 per month in urban areas.
- The average cost of the NNFB in small grocery stores (<15,000 sq. ft) was \$632.40 per month compared to \$606.20 per month in mega/super stores.
- Analysis of family scenarios (family of four/female lone parent with two children) indicates that those relying on Income Assistance or earning minimum wage simply cannot afford a basic nutritious diet. Depending on family types and income sources, the cost of purchasing the NNFB would result in monthly deficits ranging from \$129.84 to \$427.93.
- Analysis of other family and income scenarios (female lone parent receiving student assistance/single adult male earning minimum wage or on income assistance) indicates that other low income families may also find it difficult to consistently provide a basic nutritious diet for their households. A female lone parent with two children who was attending university and assisted by a student loan was the most vulnerable of those studied. For this family, the cost of purchasing the NNFB would result in a monthly deficit of \$ 495.22.
- Exploratory analyses suggest that foods produced locally may be less expensive to grocery store consumers. However locally produced foods are not always available in grocery stores in Nova Scotia.

The findings of this food costing study should be cause for concern among the citizens and governments of our province. Single mothers and their children, post secondary students, workers earning minimum wage, and individuals receiving Income Assistance are among those most at risk of being unable to feed their families or themselves adequate, basis nutritious meals.

Higher food costs in rural areas coupled with higher costs in smaller grocery stores raise particular challenges for those living in rural areas.

Importantly, these data suggest that modest increases to our provincial minimum wage and Income Assistance allowances in recent years are working toward helping more families meet their basic needs. However, with the increasing cost of living and the degree of deficit many families were faced with in 2004/2005 (6, 7), these increases have not been sufficient to ensure all Nova Scotians are able to meet their basic needs including a basic nutritious diet. There remain other issues related to the underlying causes and symptoms of food insecurity that continue to be unaddressed in our society.

The health of Nova Scotians is at risk and the situation for our most vulnerable populations has not changed a great deal. Although there have been some improvements in public policy since the 2002 data were reported, these new data indicate that the situation has worsened for some individuals and families, and that there is a pressing need for further improvement in related public policies. As illustrated by the variety of background research reports relating to food insecurity and the work of individuals, groups and political actors to improve life situations for many people in our society, Nova Scotians have been working together to effect change; however, work remains to be done.

We urge Nova Scotia policy and decision makers to continue to provide and facilitate leadership to support the development of food security, in addition to working at multiple levels and across sectors to sustain research, action, and policy development to *build* food security. As well, we urge Nova Scotian communities – groups and individuals – to continue to act together to raise the profile of food insecurity as a social determinant of health and as a social justice issue.

We hope the findings in this report serve as further impetus for the continued cross-sectoral work that is occurring in order to bring about more change.



1. Introduction: Food Insecurity in Canada

What Is Food Security And Food Insecurity?

Food security is defined as a condition in which all people, at all times, have access to sufficient, nutritious, safe, personally acceptable, and culturally appropriate foods, and that the food supply is procured, produced, and distributed in ways that are environmentally sound, socially just and sustainable(8). The opposite situation, in which food security is limited or uncertain, is referred to as food *insecurity*. Food insecurity means that people cannot access adequate amounts of healthy foods that they need, like, and enjoy. This inability to access food can be due to a variety of reasons; inadequate finances, transportation issues, lack of culturally appropriate foods, or price or availability of therapeutic foods needed for a health condition. It can mean people worry about where their next meal will come from or that their food may not be safe to eat. Food insecurity may also be associated with changes in the food system as agriculture moves from smaller often family-centered operations to large industrial-scale farms and the resulting economic and environmental issues associated with this move such as changes in processing, transportation, marketing and retail practices (9-11).

Food security is a complex issue - many factors influence whether an individual or a community has access to even a most basic nutritious diet. Access to good food is determined by an intricate system of food production, processing, transportation, marketing, purchasing, preparation, consumption, and disposal (12). Personal, organizational, and governmental policies or lack thereof, affect every stage of this system.

Income, socio-economic status, and food security are all fundamental determinants of health (13), and are closely linked to all other determinants of health. Determinants of health are key elements in population approaches used to understand and address inequalities in health (14). The sustainability of our food systems is also integral to building food security. The determinants of food security have been characterized as those relating to food supply and food access (15). Food supply determinants include indicators of a local sustainable food supply, while food access determinants relate to resources and capacity to acquire and use food.

Over the past decade, recessions and reduced social spending by governments have resulted in increased levels of poverty, income inequality, and food insecurity (16-20). Adequate income levels serves as an important determinant of health (21). People who live in poverty cannot afford to eat a healthy diet, regardless of how carefully they choose and prepare foods (6, 7, 22). In 2002/03 the national poverty rate was 15.9 %; and in Nova Scotia, the rate was even higher at 16.1%(23). That translates to nearly 146,000 Nova Scotians living in poverty. Of those living in poverty in Nova Scotia an alarming 48.4% are families led by lone mothers, a group at increased risk for food insecurity (4, 5, 21, 24).

The 2001 Canadian Community Health survey (CCHS), Cycle 1.2 found that 17% of Nova Scotians, or approximately 133,000 people (25), lack the financial resources to purchase healthy food in sufficient quantities. This, along with other available evidence suggests that food insecurity has increased in recent years particularly among vulnerable groups such as the unemployed, socially-assisted, lower-educated, ill, recent immigrants, Aboriginal peoples, and

female-headed lone parent families and their children (4, 5, 26). Further data on food insecurity across the country and in Nova Scotia has been collected 2004 in Cycle 2.2 of the CCHS, and is expected to be released in April 2007.

Food bank use has also grown dramatically in Nova Scotia since the Canadian Association of Food Banks began collecting statistics on food bank use in 1989. According to the National Hunger Count Survey conducted in March of each year, almost 23 311 Nova Scotians used a food bank in March 2006 (27). Because evidence suggests that only one-third of those who experience hunger seek support from food banks (26) this number most likely underestimates the prevalence of food insecurity.

These statistics are disturbing especially when considering the abundance of food in Canada. With some of the lowest food prices in the world (2) Canadian farmers are also finding it increasingly difficult to make a living. This is further complicated by the trend toward fewer but larger farms (28, 29).

How Has Food Insecurity Been Addressed?

Many efforts have been made across Canada to address the growing problem of food insecurity over the past two or three decades. The most common responses, however, have been inadequate in terms of addressing the underlying or root causes of food insecurity. The reactions tend to be community-initiated, volunteer-dependent, short-term relief strategies such as food banks, soup kitchens, and children's feeding programs (30). Although immediate, these answers to food insecurity are a temporary means to addressing the problem. With 650 food banks across Canada in 2005, tremendous social capital is put into a temporary, inadequate solution that does not address the underlying problem of poverty and unsustainable food systems. Volunteer hours account for the vast majority of staff hours in food banks; they alone represent a huge resource mobilized in most communities across Canada.

It is becoming increasingly obvious that efforts must shift dramatically toward policy and system re-design strategies to adequately address the underlying social, political, and economic structures that perpetuate food insecurity (21, 31, 32). Although redesigning policy and effecting system change will take substantial time and a shift in current thinking, it has the potential to make the most sustainable changes in terms of building food security. (6, 30, 33, 34). For this to happen, locally relevant evidence and strategies for change at the system level are required.

Food costing studies provide evidence on the affordability and accessibility of a nutritious diet (35) to inform policy and program change. Food costing has been used to critically examine policies and programs related to the adequacy of welfare rates in Canada (31, 36, 37), grocery store policies to improve access to nutritious food (38) and more recently, minimum wage rates in Nova Scotia (7). Food costing studies determine the cost of a basic, nutritious diet and relate this to the cost of other essential expenses (such as shelter and transportation), to determine its affordability (39). Such evidence is particularly valuable for identifying populations that may be economically vulnerable to food insecurity. There is a growing demand by professionals, community-based organizations and policy-makers across Canada for current, local data on the

cost of a NNFB for use in program planning, policy development, and support for food security (40).

Food costing studies have traditionally been conducted by professionals (41). However, in Nova Scotia, participatory approaches to food costing (involving those individuals with first-hand experience of food insecurity working together with organizations and government departments concerned about the issue of food insecurity) has positioned Nova Scotia as a leader in addressing food insecurity. Participatory food costing has proven to be successful in building the individual capacity of those involved to identify the issues they are facing and the policies that are at the root of the problem. Gaining ownership of problems faced and the evidence collected has served to spark actions for addressing food insecurity, most notably by aiming to influence policy at the root of food security/insecurity (34)

2. Research Methodology: Food Costing as Participatory Action Research

Food costing data were collected using Health Canada's National Nutritious Food Basket (NNFB) (39). The NNFB consists of a fixed set of basic, minimally-processed foods that are nutritious, widely available and commonly eaten by most Canadians in amounts that would provide a healthy balanced diet for specific age and gender groups. The NNFB was adapted by adding a "local component" to examine the cost and availability of locally produced food products; specifically, meat and produce items. On the October 2004 food basket form, costers were asked to record if the specified food item with the lowest price was produced locally (local defined as grown or produced in Atlantic Canada). Additional information was collected in June 2005. If the lowest priced item was not local, costers recorded if a local option was available regardless of price. The place of origin of the local product was recorded as well.

Stratified random sampling based on population, the total number of grocery stores, and an allowance for five store refusals resulted in a sample of 42 grocery stores throughout Nova Scotia. Prior to data collection, store managers were sent letters and subsequently contacted inviting the store's participation.

The food costing process used participatory research methods to examine the affordability of a nutritious diet in Nova Scotia. People involved in FRC/Ps and Women's Resource Centres throughout Nova Scotia were trained and involved as food costers in their communities. It is important to note that participatory approaches aim to support the active involvement of those most involved, affected or potentially impacted, by an issue(38), and are described in detail elsewhere(6).

Forty one participants involved in fifteen Family Resource Centres/Projects (FRC/Ps) throughout NS, and eight support people (public health nutritionists, and FRC/P staff), were trained for the in-store food pricing using standardized guidelines (39) Food costing data were collected by pairs of food costers in the fall of 2004 and again in the spring of 2005 to account for seasonal variability. All food costers were provided with honoraria of \$40 per store and transportation and childcare expenses were covered. Dalhousie University's Office of Research Ethics Administration approved the study.

The methods used to calculate food costs and estimate household incomes and expenses were adapted from methods described by Williams and others (6, 7) and are explained in detail in **Appendix G** of this report.

The 2004/05 participatory food costing research was conducted to update the 2002 data. A summary report of the data was published in June 2006. The underlying theoretical and methodological principles were discussed in more detail in the report of the 2002 data (6). This report will explore the undertakings of the 2004/05 study, which included data collection on the following:

1. Cost of the National Nutritious Food Basket, with comparisons:
 - by District Health Authority in Nova Scotia
 - by rural/urban areas
 - by large/small grocery store

following four basic family types:

- dual parent with two children
- lone mother parent with two children
- lone mother attending university with two children
- single adult male

for a variety of income scenarios:

- median Nova Scotia income
- minimum wage in Nova Scotia
- average Canadian call centre wage
- Income Assistance
- Student Assistance

This report also compares the 2002 data to the 2004/05 data for all of the above.

2. The 2004/05 research explored the availability of locally produced foods, the cost of locally produced foods when available and their cost compared to the lowest priced foods available at the time of food costing data collection.

3. Research Findings: 2004/05 Food Costing Data in Nova Scotia

In this section, we will discuss some of the major findings from this food costing study, including the geographic-specific costs of the NNFB and the implications of these costs for various low income Nova Scotian family types. The availability of locally-produced foods in Nova Scotia grocery stores was also examined and research findings relating to this will be discussed.

What Is The Cost Of A Nutritious Food Basket In Nova Scotia?

The price of a nutritious food basket in Nova Scotia has gone up by 7.7% between 2002 and 2004/05. Results indicate that it would cost on average \$617.42 per month, or \$7409.04 per year, to feed a reference family of four (two adults between 25-49 years, a 13 year old boy and a 7 year old girl) a nutritious diet in Nova Scotia. That is a significant increase from 2002 when it cost an average of \$572.90 per month, or \$6874.80 per year, to feed the same reference family of four a basic nutritious diet. This increase is consistent with provincial Consumer Price Index data indicating that the cost of “foods purchased from stores” increased by 7.285% between 2002 and 2005 (42).

Table 1 shows the 2002 and 2004/05 provincial averages of the monthly cost of a nutritious food basket for a family of four in Nova Scotia, the percentage increase in cost since 2002, as well as variations across district health authorities (DHAs). The same food does not cost the same price in different areas across the province. Further, in the last three years the location of the lowest and highest food prices has shifted. In 2004/05, the NNFB cost the least in Halifax/West Hants (DHA 9), whereas in 2002 Colchester/East Hants (DHA 4) had the least expensive NNFB. In 2004/05, the highest priced NNFB was in the Victoria/Inverness region (DHA 8) where previously it had been in Queens/Lunenburg (DHA 1). However, the greatest increase was seen in Annapolis/Kings (DHA 3) and Hants East/Colchester (DHA 4) both showing a rise of over 10% between 2002 and 2004/05 food costs. Despite the variation within the 2004/05 food costing data, the cost of a NNFB for a family of four did not differ significantly between DHAs.

Table 1-Monthly Cost of Nutritious Food Basket for a Reference Family of Four* by District Health Authority (2002 and 2004/05)

District Health Authority	# of Stores 2002	Monthly Cost (\$) 2002	# of Stores 2004/05	Monthly Cost (\$) 2004/05	% Increase
1 Queens/Lunenburg	3	582.07	3	607.92	4.44%
2 Digby/Yarmouth/Shelburne	5	578.27	6	625.40	8.15%
3 Annapolis/Kings	4	570.48	5	629.43	10.33%
4 Hants East/Colchester	4	551.30	4	610.83	10.80%
5 & 6 Cumberland & Pictou	5	569.28	4	622.75	9.39%
7 Guysborough/Antigonish	2	**	5	613.63	**
8 Victoria/Inverness	9	580.23	6	629.80	8.54%
9 Halifax/West Hants	11	566.12	9	603.00	6.51%
Nova Scotia Provincial Average	43	572.90	42	617.42	7.77%

* a reference family of four is two adults between 25-49 years, and two children, boy aged 13 years, girl aged 7 years

** sample size ≤ 2 stores

Does the cost of the NNFB differ in grocery stores located in rural versus urban areas?

Table 2 displays findings comparing the monthly cost of the NNFB in rural and urban areas. Consistent with results from 2002, data suggest the cost of the NNFB remains higher in rural compared with urban areas.

Table 2 - Monthly Cost of a Nutritious Food Basket for a Family of Four in Grocery Stores Classified as Rural and Urban (2002 and 2004/05)

Store Location	# of Stores 2002	Monthly Cost of NNFB (\$) 2002	# of Stores 2004/05	Monthly Cost of NNFB (\$) 2004/05	% Change
Rural†	22	\$587.22	31	\$624.65	6.37%
Urban‡	21	\$558.85	11	\$597.11	6.85%

* for family of four; values shown are means

† Rural has been defined as towns and municipalities outside of the commuting zone of urban centres with a population of 10,000 people or less.

‡ An urban area is defined as a community with a population greater than 10,000 people.

Does the cost of the NNFB differ in grocery stores located in small versus large grocery stores?

The cost of a nutritious food basket was also higher in stores classified as small (<15,000 sq.ft.) compared with those classified as large (>15,000 sq.ft.) in both 2002 and 2004/05.

Table 3 - 2004/05 Monthly Cost of a Nutritious Food Basket in Grocery Stores Classified by Store Size (Family of Four)

Store Size	Number of Stores 2002	Monthly Cost of NNFB(\$)* 2002	Number of Stores 2004/05	Monthly Cost of NNFB (\$) * 2004/05	% Change
Smaller <15 000 sq ft	20	\$593.29	18	\$632.4	6.59%
Larger ≥15 000 sq ft	3 (15 000-30 000 sq ft)	\$565.45	23	\$606.20	9.26%**
	20 (>30 000 sq ft)	\$553.21			

* for family of four, values shown are means

**calculated based on weighted average of 2002 medium and larger stores (\$554.81)

How Affordable Is A Basic Nutritious Diet For Families In Nova Scotia?

To estimate the affordability of a nutritious diet, monthly costs for food, shelter, and other expenses deemed essential, were compared to potential monthly incomes for four household types:

- 1) a family of four (two adults between 25-49 years; and boy of 13 years, girl of 7 years);
- 2) a lone mother with two children (boy of 7 years, girl of 4 years);
- 3) a lone mother (attending university) with two children (boy of 7 years, girl of 4 years); and,
- 4) a single adult male (aged 30 years).

For the purposes of this report, the NNFB has been used to estimate the costs of feeding these four different family types in Nova Scotia. These cost scenarios are based on a more comprehensive breakdown of 23 different age and gender groups, including pregnant and breastfeeding women. For a comprehensive chart detailing the weekly cost of the NNFB for 23 different age and gender categories, please see **Appendix H**.

Income sources for the scenarios were based on the median Nova Scotian income for a census family with two adults (\$55 300 *before tax*), earnings based on the average call centre wage of \$12.45/hr, current minimum wage rate of \$7.15/hr, and current Income Assistance benefit rates in Nova Scotia. Please see **Appendix G** for full details around sources of income and expenses.

Family of Four – 2 adults and 2 children

Table 4 illustrates the possible realities of purchasing the NNFB for a family of four living in Nova Scotia using four different income scenarios. Our data show that a basic nutritious diet for a family of four in 2004/05 would cost, on average, \$617.42 per month in Nova Scotia. When this cost is combined with other essential living expenses (shelter, transportation, childcare, etc.) the findings suggest that the family earning minimum wage (with one adult working full time and the other part time) could face a potential *deficit of \$427.93*. The same family of four relying on Income Assistance could face a potential *deficit of \$380.53*.

Table 4 – Family of four with four sample income sources (2004/05)

Family Composition	Two adults, 25-49 yrs	Two adults, 25-49 yrs	Two adults, 25-49 yrs	Two adults, 25-49 yrs
	Boy, 13 yrs Girl, 7 yrs	Boy, 13 yrs Girl, 7 yrs	Boy, 13 yrs Girl, 7 yrs	Boy, 13 yrs Girl, 7 yrs
Source of Income	Median Household Income (\$55 300 before tax)	Avg. Canadian Call Centre Wage \$12.45/hr (1FT, 1PT)*	Minimum Wage \$7.15/hr (1FT, 1PT)*	Income Assistance
Monthly Net Income†				
Wages	\$2,822.29	\$2,273.30	\$1,317.84	\$0.00
Personal Allowance	n/a	n/a	n/a	\$380.00
Shelter Allowance	n/a	n/a	n/a	\$600.00
Childcare Allowance *	n/a	n/a	n/a	\$279.00
CTB	\$138.98	\$193.93	\$457.91	\$564.15
GST benefit	\$0.00	\$19.63	\$57.83	\$57.83
Total	\$2,961.27	\$2,486.86	\$1,833.58	\$1,880.98
Basic Monthly Expenses‡				
Shelter	\$615.72	\$615.72	\$615.72	\$615.72
Power/heat/water	\$161.93	\$161.93	\$161.93	\$161.93
Telephone	\$23.00	\$23.00	\$23.00	\$23.00
Transportation	\$377.67	\$377.67	\$377.67	***\$377.67
Childcare**	\$279.00	\$279.00	\$279.00	\$279.00
Clothing, footwear, etc.	\$186.77	\$186.77	\$186.77	\$186.77
Funds remaining before food costs	\$1,317.18	\$842.77	\$189.49	\$236.89
Cost of the NNFB	\$617.42	\$617.42	\$617.42	\$617.42
Funds remaining for other expenses	\$699.76	\$225.35	-\$427.93	-\$380.53

** The family receiving IA needs to be involved in looking for work so they can qualify for up to \$400/month childcare allowance
** Childcare expense is based on \$279/month for “Excel” program for the 7 year old
*** This family may qualify for up to an additional \$150 per month to assist with transportation costs when involved with employment related activities. This would reduce the family monthly deficit to -230.53.*

*FT = full time, 40h/week; PT= part time, 20h/week

† Appropriate tax deductions applied

‡ The basic monthly expenses do not include other routine costs, such as personal hygiene products, household and laundry cleaners, and prescriptions, costs associated with physical activities, education or savings for unexpected expenses, etc.

Family of Three – Female lone parent with 2 children

Table 5 demonstrates the possible monetary impact of purchasing the NNFB for a household made up of a lone mother working for minimum wage or receiving Income Assistance, and her two children. A basic nutritious diet for a lone female parent working full time with two children would cost, on average, \$386.18/month in 2004-05. If this mother were to purchase a basic nutritious diet she would face a potential monthly *deficit of \$373.84 based on minimum wage earnings and \$129.84 based on Income Assistance rates*. Even if the mother receiving Income Assistance were receiving child maintenance, it would provide no real increase in finances; child maintenance is removed from the Income Assistance entitlement dollar for dollar (43).

Table 5 – One adult/two children; Minimum Wage or Income Assistance (2004/05)

Family Composition	One adult, 24 yrs	One adult, 24 yrs
	Boy, 7 yrs Girl, 4 yrs	Boy, 7 yrs Girl, 4 yrs
Source of Income	Minimum Wage \$7.15/hr (FT) *	Income Assistance
Monthly Net Income†		
Wages	\$873.75	\$0.00
Personal Allowance	n/a	\$190.00
Shelter Allowance	n/a	\$600.00
Childcare Allowance*	n/a	\$327.75
CTB	\$564.15	\$564.15
GST benefit	\$57.83	\$57.83
Total	\$1,495.73	\$1,739.73
Basic Monthly Expenses‡		
Shelter	\$523.32	\$523.32
Power/heat/water	\$129.55	\$129.55
Telephone	\$23.00	\$23.00
Transportation	\$321.01	***\$321.01
Childcare**	\$327.75	\$327.75
Clothing, footwear, etc.	\$158.76	\$158.76
Funds remaining before food costs	\$12.34	\$256.34
Cost of the NNFB***	\$386.18	\$386.18
Funds remaining for other expenses	-\$373.84	-\$129.84

** The Mom receiving IA needs to be involved in looking for work so she can qualify for up to \$400/month childcare allowance*
*** Childcare expense is based on \$279/month for “Excel” program for the 7 year old, and a full time subsidized daycare space for the 4 year old at \$2.25/day.*
**** This family may also qualify for up to an additional \$150 per month to assist with transportation costs when involved with employment related activities. This would result in \$20.16 remaining funds for all other expenses.*

*FT = full time, 40h/week

† Appropriate tax deductions applied

‡ The basic monthly expenses do not include other routine costs, such as personal hygiene products, household and laundry cleaners, and prescriptions, costs associated with physical activities, education or savings for unexpected expenses, etc.

Family of Three – Female lone parent (attending university) with 2 children

Table 6 presents the possible impact of purchasing the NNFB for a lone mother of two children who is attending university. Of all the scenarios, this family has the worst financial situation – *potentially in debt each month by almost \$500.00.*

Table 6 - One adult/two children; Student Loan (2004/05)

	One adult, 24 yrs
Family Composition	Boy, 7 yrs Girl, 4 yrs
Source of Income*	Student Loan
Monthly Net Income	
Canada & NS Student Loan	\$1,530.00
Canada Study Grant	\$170.00
Child Tax Benefit	\$564.15
GST credit	\$57.83
Total	\$2,321.98
Basic Monthly Expenses†	
Full-time University Tuition	\$785.13
Textbook/supplies	\$162.50
Shelter	\$523.32
Power/heat/water	\$129.55
Telephone	\$23.00
Transportation	\$321.01
Childcare*	\$327.75
Clothing, footwear, etc.	\$158.76
Funds remaining before food costs	-\$109.04
Cost of the NNFB**	\$386.18
Funds remaining for other expenses	-\$495.22

**Child care expense in this case assumes a subsidized space for the 4 year old daughter and an “Excel” after-school program for the son – neither program may actually be available for this family, given the limited spaces available.*

Note: If this Mom were receiving a student loan and IA, she may be more likely to afford a basic nutritious diet. In 2001, IA recipients could receive support only for participation in community college programs, and not for university attendance. In 2006 the Nova Scotia government announced that those in receipt of IA could apply to retain their IA benefits while attending university. This new program “Career Seek” will potentially benefit 50 people throughout the province over the course of four years.

* Appropriate tax deductions applied

† The basic monthly expenses do not include other routine costs, such as personal hygiene products, household and laundry cleaners, and prescriptions, costs associated with physical activities, education or savings for unexpected expenses, etc.

Family of One - Single adult male with no children

Table 7 presents the potential economic impact of purchasing the NNFB for a single adult male with no children. The monthly cost of the NNFB in 2004/05 for a 30 year old male is \$213.66/month. After the cost of a basic nutritious diet is factored in, the single male with a full time minimum wage job could be left with *just over \$100 per month to cover all other possible expenses.*

Although slightly better off than families in the scenarios examined previously, a single male receiving Income Assistance would not be able to purchase the NNFB, or have money for items such as personal hygiene products, household and laundry cleaners, prescriptions, costs associated with physical activities, education costs, or savings for unexpected expenses. This individual could face *a deficit of almost \$300 per month while receiving Income Assistance.*

Table 7 - Single adult male; Minimum Wage or Income Assistance (2004/05)

Family Composition	Single adult male, 30 yrs	Single adult male, 30 yrs
	Minimum Wage (FT)*	Income Assistance
Monthly Net Income†		
Wages	\$873.75	\$0.00
Personal Allowance	n/a	\$190.00
Shelter Allowance	n/a	\$285.00
GST benefit	\$28.92	\$18.92
Total	\$902.67	\$493.92
Basic Monthly Expenses‡		
Shelter	\$307.84	\$307.84
Power/heat/water	\$80.97	\$80.97
Telephone	\$23.00	\$23.00
Transportation	\$75.36	\$75.36
Childcare	\$0.00	\$0.00
Clothing, footwear, etc.	\$93.39	\$93.39
Funds remaining before food costs	\$322.11	-\$86.64
Cost of the NNFB	\$213.66	\$213.66
Funds remaining for other expenses	\$108.45	-\$300.30

** A single male in receipt of Income Assistance may qualify for up to an additional \$150 per month to assist with transportation costs when involved with employment related activities. Even with this added help, he cannot afford to eat nutritiously.*

*FT = full time, 40h/week

† Appropriate tax deductions applied

‡ The basic monthly expenses do not include other routine costs, such as personal hygiene products, household and laundry cleaners, and prescriptions, costs associated with physical activities, education or savings for unexpected expenses, etc.

What Was The Availability Of Locally-Produced Foods?

To explore the availability of locally-produced food, food costers collected data on the local availability of some of the fruits, vegetables, and meat products listed in the NNFB. These exploratory data reveal that foods produced locally may be less expensive to consumers – but, they are not always available in grocery stores throughout Nova Scotia. During the October 2004 survey, the least expensive apples, potatoes, cabbage, and carrots were grown locally in over 50% of the stores sampled. In the June 2005 survey, locally grown apples, potatoes, and onions were available for the cheapest price in over 50% of the stores sampled. However, there were no local fresh pears, carrots, celery, green pepper, iceberg lettuce, or romaine lettuce available in any of the surveyed stores.

Anecdotal findings provided by the food costers point to the lack of clear, accurate and consistent use of signage around the origin of many fruits and vegetables. Many food costers had to seek out produce and meat managers to help fill out this section of the NNFB form. Often when considering store-packaged meat, neither food costers nor managers could determine where the meat had originated from as labeling often indicated the location of the distribution centre rather than that of production.

4. Summary of 2004/05 Research Findings

In summary, the following points represent the key findings from the 2004/05 food costing data:

- The NNFB for a reference family of four cost an average of \$617.42 per month in 2004/05, with variations in the cost of a basic nutritious diet apparent by region.
- Between the 2002 and 2004/05 food costing data collection periods, our findings show an increase of almost 8% in the cost of a basic nutritious diet. This is consistent with the Consumer Price Index data for NS that indicate a 7.3% increase over the same time period.
- The average cost of the NNFB is higher in rural areas (10,000 people or less); \$624.65 per month compared to \$597.11 per month in urban areas. This means that those families living in rural areas potentially pay more per month for a basic nutritious diet than do those living in urban areas.
- The average cost of the NNFB is higher in small grocery stores (<15,000 sq. ft); \$632.40 per month compared to \$606.20 per month in mega/super stores. This means that those families most likely to shop at smaller grocery stores potentially pay more per month for a basic nutritious diet than do those families who shop at the larger stores.
- The sample affordability scenarios indicate that families relying on Income Assistance do not have sufficient income to cover their basic household expenses AND a basic nutritious diet for their families.
- The sample affordability scenarios indicate that families relying on minimum wage do not have sufficient income to cover their basic household expenses AND a basic nutritious diet for their families.
- Single parents relying on student loans as they attend post-secondary education do not have sufficient income to cover their basic household expenses, school-related costs AND a basic nutritious diet for their families.
- Exploratory analyses suggest that foods produced locally may be less expensive to grocery store consumers. However, locally produced foods are not always available in grocery stores in Nova Scotia.

5. Discussion of Research Findings

When comparing 2004/05 findings to our 2002 food costing project, it is clear the situation has not improved for any of the low-income family types in Nova Scotia; those earning minimum wage or receiving income assistance still cannot afford a basic nutritious diet.

The current food costing data and affordability scenarios indicate that the low-income families examined are at high risk of food insecurity. While it is clear that those who require Income Assistance (IA) are quite unlikely to have adequate income to purchase a basic nutritious diet, it appears that families relying on minimum wage jobs may face even higher deficits each month when a basic diet is factored into their monthly expenses. Some households receiving IA may be eligible for benefits beyond the personal and shelter allowances (such as childcare and/or transportation allowances) that may improve their capacity to purchase a nutritious diet compared to those earning minimum wage who are not involved in the IA program. Even families earning a higher hourly wage (for example, the average Canadian call centre wage at \$12.45/hr) may not be able to consistently afford a basic nutritious diet after considering the cost of other expenses not included in the basic affordability scenario - personal hygiene products, household and laundry cleaners, prescriptions, costs associated with physical activities, education costs or savings for unexpected expenses. Most significantly, if attending post-secondary education, affording a basic nutritious diet seems out of reach if there is no other income supplementing a student loan and there are two dependent children to feed. This household scenario shows the greatest potential monthly deficit of all households examined.

In addition to identifying income-related challenges in ensuring food security, the food costing data also reveal challenges related to physical environments. Higher food costs in rural areas coupled with higher food costs in smaller stores pose barriers to food security for those in rural communities and without transportation. As well, affordability assessment information allows for identification of other high cost areas of family life (childcare, transportation, costs of education) that compete with the ability to purchase food.

The implications of income-related food insecurity are many. Evidence is accumulating to show substantial health risks are associated with poor nutrition. It may result in weakened immunity and an increased risk of chronic diseases including cardiovascular disease and obesity (which has the potential to increase the risk of cancer, heart disease, type 2 diabetes, and hypertension) (13, 44). Food insecurity may also interfere with the management of chronic diseases where dietary modifications are required (45, 46). For children, poor nutrition may lead to poor mental and physical development, which may in turn prevent them from succeeding at school and affect their health and well-being as adults (19, 47). Beyond physical health, food insecurity can be damaging to emotional and mental health. There are often feelings of anger, guilt, shame, fear, stress, and hopelessness associated with food insecurity which can be heightened by experiences such as visiting a food bank, all of which have a negative impact on other determinants of health (6, 48).

The social costs of the various factors relating to food insecurity are evident when brought into sharper focus through recent findings from the Canadian Community Health Survey and other related studies. Nova Scotians have some of the poorest health outcomes and self-reported

health status within Canada (49, 50). For those with lower incomes, the inability to consistently provide a basic nutritious diet for their families will lead to increased social and personal costs over time. Compromised health status has particular implications on health care costs in Nova Scotia. Therefore, the cost of food insecurity to individual, family and community well-being is cause for concern.

The need to examine the underlying systemic factors that create and sustain food insecure realities is crucial to building policy that can address the challenges. Stemming from the food costing data and affordability assessments are three key discussion points that highlight interrelated issues contributing to food insecurity in Nova Scotia.

- Inadequate Income and Precarious Employment
- Inadequate Supports for Those with Low Income
- Physical Environment Challenges

Inadequate Income and Precarious Employment

Minimum Wage

Consistent with findings from our 2002 food costing project, 2004/2005 results demonstrate that some households earning minimum wage appear to be unable to afford a nutritious diet. Comparatively, income scenarios based on 2004/05 food costing data indicate that households earning the Canadian average call centre wage (\$12.45/h) could afford a basic nutritious diet. Although minimum wage legislation was intended to protect society's most vulnerable workers, these findings suggest that there is a gap between the current minimum wage rates in Nova Scotia and hourly wage rates necessary to address the risk of food insecurity (7). These results illustrate that having a job is not necessarily enough to ensure food security.

It should be noted that the recently-increased 2006 minimum wage rate (effective April 2006) of \$7.15/hour has been used in these affordability calculations, but all other income sources and expenses are calculated using 2004/2005 rates. The findings show that even with the increase to minimum wage, families earning this do not consistently have sufficient income to meet their basic needs. It should also be noted that inexperienced workers in Nova Scotia do not start at the current minimum wage of \$7.15. They are paid \$6.70/hr until they have three months experience in a new job (51). Thus, inexperienced employees would have even more difficulty meeting their basic needs and purchasing a nutritious diet than those making \$7.15/h.

Minimum wage has increased 19% since the last food costing study in 2002 but it is still one of Canada's lowest. In 2002, 16,700 Nova Scotia citizens earned minimum wage or less; this number increased to 21,900 people in 2003 (52). Sixty-eight percent of these low wage earners were women and 5% of those were the primary 'breadwinners' in the household (52). Furthermore, 57% of minimum wage earners worked only part-time (53) making incomes even more precarious. In 2000, 25% of the waged workforce in NS received less than \$8.10/hr, only slightly above the minimum wage (53), suggesting that at least 25% of the province's population may be struggling to meet their basic needs at any point in time.

Low minimum wage also keeps other wages low (53). With a static minimum wage there has been a considerable drop in the real incomes of most Nova Scotians and a rise in inequality. Middle and low-income households have seen the biggest drop in disposable income with the richest 20% averaging \$70,000 of disposable, after-tax income, compared to the poorest 20%, who averaged \$8,205 (54).

According to the 2001 Census, over one quarter of all reported occupations in Nova Scotia are in sales and service – sectors dominated by lower wages, more part time and insecure jobs, and poorer working conditions (e.g. lack of benefits, etc.). Females are more likely than males to be in these positions – almost 34% of females reporting their occupation in 2001 indicated the sales and service sector, compared to approximately 20% of males.

Past estimates have suggested that a minimum wage of at least \$10.00/h would be required to allow an unattached person to earn an income that would lift them out of poverty (55, 56) The 2004/05 food costing data shows that an hourly wage of \$12.45 (the average Canadian call centre wage)¹ only provided the scenario family \$225.35 at the end of the month for all additional expenses beyond basic needs. A ‘living wage’ refers to an hourly wage that would be sufficient to bring a person or family to a specific standard of living that typically includes such things as housing, food, transportation, utilities and recreation. This data suggest that there is a gap between the legislated ‘minimum wage’ and what might be considered a ‘living wage’. These data suggest that a more realistic “living wage” may be closer to \$13/hr in Nova Scotia.

Income Assistance

Consistent with findings from our 2002 food costing research, households receiving IA in 2004/05 cannot afford a basic nutritious diet. This message is true despite increases to two core components of this program between 2002 and 2005. The Nova Scotia Department of Community Services increased the Income Assistance personal allowance by \$10 per adult, from \$180 in 2002 to \$190 in 2005 (57). This personal allowance is meant to cover the cost of food, clothing, and other personal needs. The other core component of IA is the shelter allowance, it saw an increase of \$50 (from \$235 to \$285) for a one bedroom apartment between 2002 and 2005 (57). Unfortunately no increases were provided to families in housing with two or more bedrooms. The shelter allowance is intended to cover rent for an apartment or boarding house, or mortgage payments and includes utilities such as electricity and heat (58).

Children under 18 years of age do not receive a personal allowance. While families with children under this age receive the Child Tax Benefit (CTB), this benefit was originally established by the federal government to help alleviate poverty among low income Canadian families (59). Unfortunately changes in income assistance policies in Nova Scotia in 2001 resulted in the discontinuation of IA benefits for children and the inability of the CTB to serve its intended purpose (58). As well, families must file Income Tax each year to receive this benefit (43). IA may help families by offering the Child Benefit Adjustment for households who do not receive \$133/child/month via the Child Tax Benefit; however, any money received through the Child Benefit Adjustment must be returned to IA once the CTB has been paid retroactively (58).

¹ See Appendix G

In Nova Scotia, the purpose of the Employment Supports and Financial Assistance Act, administered under the Department of Community Services, is “to provide for the assistance of persons in need and, in particular, to facilitate their movement toward independence and self-sufficiency”(58). Generally the province expects people to exhaust all liquid assets, including personal savings, before they can qualify for assistance (60). Current food costing data and affordability scenarios suggest that IA does appear to provide slightly more income security when compared to households relying solely on minimum wage. However, it must be noted the scenarios with children assume the households are receiving additional support beyond the basic personal and shelter allowances. The childcare allowance is considered a “special need” by the Employment Supports and Income Assistance Manual (61), as is transportation to support employment related activities. The recipient is only eligible if he or she is participating in designated activities such as employment or training, or if he/she is unable to care for the child(ren) for medical reasons. IA will provide the actual cost of child care, to a maximum of \$400 per month, for dependents 13 years of age and under. Like many of the special needs built into the ESIA program, childcare allowances are dealt with on a case by case basis and cannot be considered a guaranteed source of income for all IA recipients with children. Unfortunately our affordability scenarios show whether you are a single male relying solely on personal and shelter allowances, or you have dependents and receive a childcare allowance, IA still is not sufficient to fully cover the cost of a household’s basic necessities, including the purchase of a basic nutritious diet.

Low Incomes and Children

Low incomes are indicative of high child poverty rates in this province. The Nova Scotia Child Poverty Report Card 2006 reveals that Nova Scotia continues to have a relatively high rate of child poverty, estimated at 18.1% for 2004, representing 33,791 children in the province living below the low-income cut-off (62). Children in lone parent families are at particular risk of poverty. Lone parent families in Nova Scotia have increased over 33% from the 1991 to the 2001 Census. Female lone parents represent the largest portion of these, at 14% of all Census Families in the province in 2001. The Canadian Council on Social Development has indicated, through its Progress of Canada’s Children and Youth project, that children in lone parent families have a poverty rate 4.5 times higher than those of children in two-parent families.

The 2004/05 participatory food costing data collection indicates that the cost of a basic nutritious diet continues to increase in the province, pushing food security further out of reach for those in low income circumstance whether this is a result of earning minimum wage or relying upon Income Assistance. Unfortunately recent increases in both have not been enough to ensure food security for many Nova Scotia citizens. Nova Scotia food bank usage statistics indicate that (44%) of food bank patrons have children, and approximately one quarter of these patrons are single parents (63). Considering the number of children living below the poverty line in Nova Scotia, the link between poverty, food insecurity and the effects on healthy child development is cause for attention.

Inadequate Supports for Those with Low Income

Income-related challenges to ensuring food security are not unlike the challenges of meeting other basic needs. Information from the affordability scenarios allows for identification of other high cost areas of family life (i.e. childcare and transportation) that often compete with purchasing food. Previous research shows that families are resourceful but often faced with difficult decisions (6, 64). For example, some families have to choose between paying their electrical bill and buying their week's groceries. Households with low incomes tend to view the grocery budget as flexible or elastic. When faced with multiple bills, money is diverted from potential food purchases to cover other essential expenses such as shelter and utilities (6, 65). In other research, vulnerable mothers indicate that they sometimes do not feed themselves so that their limited food supply can be given to their children (64).

Transportation

Qualitative findings from our 2002 food costing and story sharing project suggest that transportation is a major barrier to food access in Nova Scotia (6). Many low-income mothers shared that they relied on public transportation, taxis, or walking. If living in rural Nova Scotia, this issue becomes exacerbated due to lack of public transportation and the higher costs of food in rural grocery stores.

For those relying on income assistance, transportation costs (whether it is in the form of cab fares, public transportation, or personal transportation) are considered part of the personal allowance entitlement. In some cases, transportation support is provided to cover costs associated with participating in employment related activities, however for the most part, the personal allowance is meant to cover all the costs associated with food, travel, and incidentals. This means that 'food money' may become compromised and used for 'travel money'.

No matter what the income source, limited access to transportation may, in turn, affect the number of times people can shop, how much money is available to buy food and how much they can buy during each trip (66, 67). Furthermore, some studies suggest that food retail outlets are more commonly located in more affluent suburban neighbourhoods as opposed to lower income neighbourhoods (68-70) perhaps forcing more money from the food budget to the travel budget.

Past research identified community supports that strive to bridge transportation gaps for families (31, 71). Innovative food delivery programs, free transportation to grocery stores, and free taxi and bus tickets are some of the supports Family Resource programs endeavor to provide to help families meet their basic needs.

Childcare

Affordability scenarios show childcare expenses as estimates of the minimum amount these types of families would have to pay, and assume subsidized daycare spots, which may or may not be available for many families at any given time. Further discussion relating to childcare expenses (and allowances, in the case of Income Assistance recipients) is provided in **Appendix G**.

In the absence of a standardized subsidized childcare system for all low-income families in Canada, Nova Scotia relies on multiple childcare options to attempt to meet the need. Some families relying on Income Assistance or minimum wage may secure a subsidized day care space for their pre-school child(ren) and be eligible for the maximum subsidy, thereby paying a fee as low as \$2.25/day (72, 73). However, not every family has this opportunity and some centres charge higher per diem rates than provided for in the IA budget, resulting in additional fees for the family. There are approximately 2,750 (74) subsidized day care spaces available in Nova Scotia, but these spaces and rates are not guaranteed to be available for all low income applicants. Some families may be able to access subsidized centre or other program-based care for their school-aged child(ren) – such as “Excel”, a before school, lunch and after-school program available in the Halifax Regional Municipality (75). However, without these possibilities, childcare costs may escalate for school-year and/or summer childcare. Families outside of urban areas may experience different childcare rates and availability. For example, if subsidized childcare spaces are not available, a family receiving IA may be eligible for a childcare allowance that may be used to pay for daycare or home based childcare.

The affordability scenarios comparing income sources, indicate that the sample families receiving Income Assistance that were entitled to and receiving childcare allowance fared slightly better than the same sample families working at the minimum wage rate without childcare financial assistance. While both income sources lead to a monthly deficit when the price of the NNFB was factored into monthly expenses, Income Assistance childcare support did result in a lower monthly deficit. It is clear that supports to families of this nature, either IA childcare allowances or subsidized childcare for low income employed parents can help the financial situation of families. It is important to note that the newly implemented federal Universal Child Care Benefit (76), at the rate of \$100/month for each child under 6 years, will not provide a sufficient increase in most of the sample household budgets to bring these families out of a deficit position. A greater level of support of this nature would be required to aid in food security.

Post-secondary Education

One of the paths from poverty to prosperity is increased education. Higher average incomes correspond with higher levels of educational attainment (77). However the costs of obtaining higher levels of education continue to climb. Those in low-income circumstances may find the capacity to pursue education limited when confronted with the expenses in light of available supports. Over the past 15 years, tuition rates in Nova Scotia have increased dramatically, resulting in the highest tuition rates in Canada. According to Statistics Canada “Tuition and Living Accommodation Costs” (TLAC) survey, the average annual costs of an under-graduate degree program in Nova Scotia is \$6,281, compared to the national average of \$4,214 (78).

A correlation between the rising costs of post-secondary education and the inadequacy of supports to maintain a decent standard of living can be made by noting the opening of food banks directly on university and college campuses. In 2004 the Canadian Association of Food Banks partnered with the Canadian Alliance of Student Associations to conduct a Campus Hunger Count (79). This Count reported there were 51 campus food banks in Canada. The Campus Hunger Count found the province of Quebec, which has the second highest student population in the country, only had two campus food banks; Quebec also boasts the lowest

undergraduate fees. At the time of the Count, Nova Scotia reported only two campus food banks (79); by the summer of 2006 seven of the eleven post-secondary institutions in this province have food banks to help provide food to students who cannot afford to purchase their own (*Personal Communication, May 4, 2006*). Nova Scotia sadly boasts the highest tuition rates in Canada (78).

In the Campus HungerCount report, food banks that were able to report on income sources of their clients indicated that over 80% of clients relied on both loans and employment income to support themselves through school (79) This suggests that the financial assistance available to students is inadequate to meet their basic dietary requirements. Other research on food insecurity in student populations has supported this. For example, one study indicated that students ranged from spending 10.6 to 30% of their budget on food meaning that most were exceeding the allotted amount for food as defined by the Canada Student Loan Program (80).

Examining the food costing data, the scenario consisting of a lone female mother with two children, attending university with a student loan, is potentially experiencing the greatest monthly deficit of all examined households when the cost of a healthy diet is considered. If this family were able to access support from Income Assistance as well as receive a student loan, she may be more likely to afford a basic nutritious diet. Since 2001, IA recipients can receive support only for participation in community college programs, and not for university attendance (58). However, a new pilot program, *Career Seek* was announced by the Department of Community Services in 2006. This program will allow 50 people a year over a four year period to receive income assistance while they pursue post-secondary education. It is required that the program is student loan eligible and is a minimum of two years in length(81).

Physical Environment Challenges

Results indicate that food security in Nova Scotia is influenced by some particular challenges related to the physical environment. Data suggest that rural areas are faced with particular food security challenges. As discussed above, lack of public transportation in rural areas can increase the cost of accessing food. Rural households without a personal vehicle – likely the most economically disadvantaged homes – may have little choice in where they can do their grocery shopping. Their most convenient option will likely be the smaller grocery or convenience store, which as the data suggest is more likely to have higher food prices. Needing to shop at higher priced smaller stores due to the high cost of and/or lack of transportation can be a barrier to food security for urban people as well.

The inconsistent availability of local foods throughout the province is also a challenge to achieving food security in Nova Scotia. These exploratory data allowed for identification of the need to build further tools for accessing the levels of accessibility of local food throughout the province.

6. Policy Implications of Food Costing Results

The aim of this food costing research is to gather evidence that can be used to build food security in Nova Scotia. **Food security** exists when all people, at all times, have access to sufficient, nutritious, safe, personally acceptable and culturally appropriate foods, produced, procured and distributed in ways that are sustainable, environmentally sound and socially just(8).

By constructing the affordability scenarios, we have clear evidence that lone mothers and their children, post-secondary students, workers earning minimum wage, and individuals receiving Income Assistance are among those unable to consistently afford a basic nutritious diet. The NNFB costs slightly more in rural areas, and slightly less at larger grocery stores, which means those outside of urban areas may pay more for a nutritious diet. Research indicates that food insecurity can cause many problems, including compromised nutritional health that may lead to physical, mental, and social complications - not only for those individuals experiencing food insecurity but also for communities and our province as a whole. It is clear that Nova Scotians need to act on the results of this research to work together for change.

Based on the 2004/05 data, many families in Nova Scotia still cannot afford to eat nutritiously. For those families relying on minimum wage and Income Assistance, current rates do not cover the full costs of a nutritious and therefore may pose a significant risk to health.

These findings support the need for focus on several key policy implications.

- Further improvements in Nova Scotia's minimum wage rate or Income Assistance rates may lessen the health risks associated with the inability to consistently purchase a basic nutritious diet.
- Income Assistance rates in Nova Scotia need to be increased to ensure that more Nova Scotians are able to meet their basic needs.
- The continuation of elevated child poverty rates undermines the health and quality of life for the future generations of this province.
- Better access to transportation may reduce the tendency for people living in low income circumstances to compromise food budgets to cover transportation costs.
- Programs and policies that exist to support families in areas of transportation and childcare are important to the welfare for families.
- Increased childcare support may lead to greater capacity to seek and gain employment or education, which may lead to greater food security for families with young children.
- Further improvements in the areas of student supports (student loan, IA covered living expenses while attending school) would improve the capacity of some of the most vulnerable families to be food secure.

- Equitable grocery prices between larger and smaller, and urban and rural stores would improve food security for some families within Nova Scotia.
- Further research is needed to examine policies that impact on the ability of consumers to have access to locally produced food and the ability of local producers to contribute to the food security of Nova Scotians.

7. Recommendations from the 2004/05 Food Costing Data Collection

In the spirit of this participatory research, Nova Scotians need to act on the results of this research to work together for change. In light of the multiplicity of issues, policies and programs relating to food insecurity must include multiple solutions, strategies and partners-especially those most affected by food insecurity.

Individuals do come together in a variety of “communities”, such as the Nova Scotia Participatory Food Security Projects and more recently as the Nova Scotia Food Security Network², to explore alternative approaches to enhancing food security in Nova Scotia. Family resource centres, women’s and church groups, and poverty activists spend a great amount of time and energy advocating for people in low-income circumstances so families can meet their basic needs. Countless volunteer hours are clocked across the province by those working to help families through the rich variety of community programs and services, such as local food banks. A variety of political actors and groups do explore related issues and attempt to affect programs and policies that will highlight and improve the plight of food insecure individuals within the province.

Yet despite all of this work, effort, expense and focused attention, research shows that

- poverty remains
- food insecurity persists
- supportive programs are vulnerable to budget cuts in times of restrained government spending
- up-to-date and relevant research and statistics to support evidence-based decision-making can be costly to maintain, and
- comprehensive, supportive social policy can be difficult to construct or be politically unpopular

The reality remains that many individuals and families continue to struggle to make ends meet. Food insecurity, its underlying causes and related symptoms, continues to persist.

More concerted, wider-reaching, holistic, cross-sectoral approaches are needed. Evidence-based decision-making must become the driving force behind programs and policies at all levels of governments. The evidence brought forth by the 2004/05 food costing data needs to be addressed. This data collection will be continued, due to the work of those in the community who have driven this project forward and the foresight of the Nova Scotia Department of Health Promotion and Protection as they have agreed to support recommendations in *Healthy Eating Nova Scotia* (82), which identified food security as one of four priority areas for the province. The more informed we can become, and the more entrenched this kind of information can

² The Nova Scotia Food Security formed in 2006 out of network of partnerships built through the Nova Scotia Participatory Food Security Projects to address multiple concerns related to food security. The participatory food costing process is now being guided under the umbrella of this Network. Committee members consist of individuals with broad representation from relevant organizations in community, government and university sectors.

become in our attempts to address the wide variety of issues related to food insecurity, the more likely we will succeed in creating food security for all.

We encourage the Government of Nova Scotia to continue to take action and show strong leadership in working across all Departments, as well as with District Health Authorities and Community Health Boards, the federal and municipal governments, community groups engaged in action on food security, and all citizens, to address the critical issues relating to food insecurity that impede the health and well-being of many Nova Scotians. While individuals and communities share in the responsibility, government and other public agencies hold the critical role of “facilitator” in this process. In continued efforts to build capacity around food security within Nova Scotian communities, we call upon the government to continue to find ways to provide and expand its facilitation of the leadership development necessary to support food security. As with other current strategic policy planning, this work needs to be targeted to multiple levels and across sectors and jurisdictions, and needs to include support for research, action and policy development to build food security. There is a broad-based need to acknowledge food security as an issue relating to the “determinants of health/population health” perspective, as well as a “social justice” and “sustainable food system” issue. Thus, work needs to be directed toward restructuring and strengthening Nova Scotia’s social welfare and food systems policies to include innovative strategies and actions that:

- Respect the right of all Nova Scotians to a nutritious diet;
- Respect the inclusion of people affected by the issue of food insecurity in creating solutions; and that
- Build capacity at individual, community and system levels to ensure guaranteed access to a sustainable food supply in Nova Scotia for the health of present and future generations.

In light of the complex and interrelated issues of food insecurity identified in this report, recommendations for action must involve multiple strategies and partners. Food insecurity is affected by many aspects of life including income, family, economy, environment and communities. Furthermore food insecurity shapes health outcomes both physical and psychological in nature. Implications of the food costing data lead to several System Level and Community Level recommendations.

Recommendations for Food Security and Health:

There is a need to build awareness broadly around food security in relation to the determinants of health, and expand support for solutions that address the root causes of food insecurity, poverty, and poor health outcomes in NS. Much leadership has been shown to date from provincial and federal departments of health, health promotion, and public health in support of food security.

The Department of Health Promotion & Protection has shown leadership through collaborative efforts with provincial partners to build and support a provincial healthy eating strategy and the Nova Scotia Food Security Network. This strategy has prioritized food security as a key focus area. Funding has been secured from the Department of Health Promotion & Protection to facilitate annual food costing. As well the Public Health Agency of Canada and Health Canada

continues to support food security projects through their partnerships with family resource centres and the Nova Scotia Food Security Network.

- It is recommended that both levels of government responsible for health continue to build awareness and support food security projects as food security is a key determinant of health.
- It is recommended that the following tools be used aid this work.
 - *Healthy Eating Nova Scotia*: a provincial healthy eating strategy.
 - Food Costing Model: a participatory model for food costing endorsed and funded by the Department of Health Promotion & Protection
 - Thought about Food? A Workbook on Food Security and Influencing Policy and accompanying DVD – The Office of Economic Development could work with community groups to develop provincial workshops for related community groups.
 - Thought about Food? Understanding the Relationship Between Public Policy and Food Security in Nova Scotia: A Background Paper & Policy Lens –The Department of Health Promotion and Protection could facilitate cross-governmental dissemination and understanding of the Food Security Policy Discussion Paper and Policy Lens
- It is recommended the Department of Health Promotion and Protection continues to support the participatory food costing model to undertake annual food costing data collection.
- It is recommended that the Canadian Prenatal Nutrition Program and the Community Action Program for Children be maintained as a federal priority to allow for family resource centres funded through this federal initiative to continue providing families facing difficult circumstances such as low income with education, support and additional resources to increase access to a basic nutritious diet.
- It is recommended that in conjunction with “eat local” and other public education campaigns, the Department of Health Promotion and Protection in collaboration with Public Health in the District Health Authorities, could support or enhance similar campaigns within private enterprise grocery stores, and with Farmers Markets to explore and fund innovative ways of providing more Nova Scotian families with access to locally-produced goods and products
- It is recommended that the Department of Health Promotion and Protection collaborate on community dialogues to build awareness of food security issues by using the

workbook designed to facilitate capacity building for food security titled, Thought About Food?: A Workbook on Food Security and Influencing Policy.

Recommendations for Food Security and Income:

We encourage the government to take action under the leadership of the Department of Community Services, Departments of Finance, Office of Economic Development, and the Department of Labour & Environment in the following areas that relate to income and basic needs.

- It is recommended that government use the data developed by the Nova Scotia Participatory Food Security Projects to index the personal allowance portion of Income Assistance rates to reflect the actual cost of a nutritious food basket based on age, gender and overall family structure.. This would be similar to how the Old Age Security program is adjusted four times a year based on changes in the cost of living as measured by the Consumer Price Index (83).
- It is recommended that the government extrapolate from housing data developed by Halifax Regional Municipality in order to index the shelter allowance portion of Income Assistance rates to adequately reflect average rental housing costs.
- It is recommended that the government also considers increasing other basic costs of living allowances such as education, transportation, child-care and clothing to support families in accessing employment.
- It is recommended that the government use data reported in the Nova Scotia Child Poverty Report Card and consider increasing the number of subsidized day care spaces to better reflect the number of children living in poverty in Nova Scotia. As well it is recommended that the government continue to work with the federal government to develop a variety of realistic and diverse strategies to assist families with childcare expenses and availability.
- It is recommended that government in conjunction with community, advocacy groups and others, develop an affordable housing strategy for Nova Scotia and increase the number of affordable housing units.
- It is recommended that government increase awareness of and access to programs/services for low income people.
- It is recommended that the government consider increasing minimum wage rates to a “living wage” that reflects the daily costs of living in Nova Scotia.
- It is recommended that the government continue to develop other programs and supports for working families, which could include collaborating on efforts to increase affordable child care, public transportation etc.

- It is recommended that the government attract more viable businesses to Nova Scotia that offer a living wage so families can afford basic expenses including adequate nutrition.

Recommendations for Food Access:

We encourage the government to take action under the leadership of the Department of Transportation and Public Works and the Department of Agriculture in the following areas that relate to transportation, equitable food prices and access to local foods.

- It is recommended that the government explore ways to ensure equitable grocery prices between larger and smaller, and urban and rural stores.
- It is recommended that the government conduct cost analyses of implementing affordable public transportation systems in other communities in the province, in addition to Cape Breton and Halifax Regional Municipalities.
- It is recommended that the government support sustainable local agriculture.
- It is recommended that the government encourage and support “buy local” campaigns at various levels.

Below are suggestions regarding **Community Level Actions** that could contribute to food security:

- It is recommended that community organizations and individuals support the development of community transportation networks to provide shared transportation to improve access to food retail outlets.
- It is recommended that community organizations and individuals support the development of community gardens and similar sustainable alternative programs for obtaining nutritious food.
- It is recommended that community organizations and individuals support the development of a Community Shared Agriculture³ relationship with local farmers, to provide families with affordable, fresh, high value food.
- It is recommended that community organizations and individuals support the development of community kitchens where people can cooperatively buy in bulk, cook together, learn about healthy eating and cooking as well as prepare several days’ meals in advance.

³ As outlined by the Nova Scotia Department of Agriculture, Community Shared Agriculture, also referred to as Community Supported Agriculture or CSA, are direct-marketing based farm business models where consumers purchase annual shares from a local producer in exchange for weekly deliveries of seasonal produce.

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Appendix A - Partners, Committee Members and Participants of the Nova Scotia Food Security Projects

Food Costing Project Staff <i>(June 2004 – December 2006)</i>	
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Food Costing Communication Working Group <i>(struck February 2006)</i>	
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Steering Committee Members	
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Av Singh	Agra-Point International
Lynn Langille	AHPRC
Sandra Crowell	AHPRC
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Marie Brown	Diabetes Association of NS
Don Black	Farmers' Markets Nova Scotia Cooperative Ltd.
Kate Graves	Farmers' Markets Nova Scotia Cooperative Ltd.
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Cathy Chenhall	NS Health Promotion & Protection
Michelle Amero	NS Health Promotion & Protection
Holly Thomas	Parent's Place, Yarmouth
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Brenda Leenders	Public Health Services, CEHA
Eileen Woodford	Public Health Services, CBDHA, GASHA
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Rita MacAulay	Public Health Services, CDHA; NSNC
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Acronyms

AHPRC- Atlantic Health Promotion Research Centre (Dalhousie University)

AVHA- Annapolis Valley Health Authority

CBDHA- Cape Breton District Health Authority

CDHA- Capitol District Health Authority

CEHHA- Chelchester East Hants Health Authority

GASHA- Guysborough Antigonish Strait Health Authority

MSVU- Mount Saint Vincent University

NS- Nova Scotia

NSNC- Nova Scotia Nutrition Council

PCHA- Pictou County Health Association

SSHA- South Shore Health Authority

SWHA- South West Health Authority

Family Resource Centres & Food Costers and Support People			
AVHants	Christine O'Neill- Mayers	Caring Connections (Truro)	Bessie Cox
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Bridgewater Family Resource Centre/BBHH	Christine Laybolt	Digby County Family Resource Centre	Paula Racki
	Debbie Joudrey		Bethany Winchester
	Debby Williams	Fairview Resource Centre, Halifax	Bonnie Duncan
	Debra Schwartz		Deborah Rawding
	Diane Warner		Lisa Blackburn
	Holly Longpre	Kid's First, Guysborough	Michelle Bryne
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	Susan Burress		Vanessa Feris
	Helen Scott		Lesley Ehler
	Shelley Moran		Sonya Sarty
	Building Blocks, Kennocook	Beatrice White	LEA Place Women's Centre
Suzanne Fahey		Earline Sharpe	
Kim Burns		Katie Spears	
CAPC Shelburne	Keri Goulden	Maggie's Place, Amherst	Vicki Rutledge
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	Nancy Day		Katy Hill
	Tammy Clements		Nancy Pineau
	Debbie Poirier		Roxanne Natte
	Karen Jessome		Beth Baker
	Nancy McKinnon	Parent's Place Yarmouth	Chrissy Boudreau
	Joanna La Tulippe Rochon		Debbie Williams
	Lisa Brewster		Polly Ring

Appendix B - Overview of Food Costing in Canada and Nova Scotia

Food costing initiatives have a history in Canada dating back over fifty years (1). The federal government became involved in food costing in 1973 when it established the *Food Prices Review Board* to address public concern around speculated increases in the cost of food (2). The Food Prices Review Board, with professional consultation, devised the first food basket to monitor and explain food price increases and make recommendations around government policy (3).

In 1980, Agriculture and Agri-Food Canada took over monitoring food costs and developed the Nutritious Food Basket, a standardized list of 64 foods. The Thrifty Nutritious Food Basket was later developed to better reflect purchasing patterns of lower income families (3). These tools were used to provide benchmark information for the cost of a nutritious diet in 18 cities across Canada. The data were widely used by health, nutrition, community, Non-Governmental Organizations (NGO's), and social service agencies for policy, planning, and advocacy work.

Health Canada developed the current food costing tool, the National Nutritious Food Basket (NNFB) in 1998 (3). The NNFB is a standard list of 66 basic foods that meet Canadian nutrition recommendations, reflect the average purchasing patterns of Canadian households, and are palatable and economical. The NNFB does not constitute a recommended diet, but is rather a list of food that can be priced to determine the cost of a nutritious diet for different age and gender groups. These foods include a variety of choices from the four food groups found in Canada's Food Guide to Healthy Eating. Together, these 66 food items can be used to prepare a week's worth of meals and snacks that meet nutrient requirements for both adults and children. Costs are kept low by including sale priced items and excluding expensive items, such as prepared meals, restaurant foods, convenience items, organic food, and junk food. Also, non-food items such as toilet paper and household cleaners are excluded making the basket less representative of what the average Canadian would actually purchase at a grocery store in a typical month.

Health Canada does not support regular costing of food in its provinces and northern territories. It is left to community groups and provincial organizations to choose to invest the time and resources necessary to conduct food costing surveys. Some provinces have mandated the costing of the NNFB on an annual or bi-annual basis within government infrastructure. Food costing studies are traditionally conducted by professionals such as public health nutritionists and home economists.

In Nova Scotia, recognizing the need to address the issue of food insecurity, the Nova Scotia Nutrition Council (NSNC) partnered with the Atlantic Health Promotion Research Centre (AHPRC) and Nova Scotia Family Resource Centres/Projects (FRC/Ps) to form a core group of committed partners, collectively known as the Nova Scotia Food Security Projects, who initially came together to complete a participatory food costing project throughout Nova Scotia. In 2002 they received funding from the Population and Public Health Branch, Atlantic Region, Health Canada to examine the affordability of a nutritious diet in Nova Scotia, using participatory

approaches. Subsequent funding was received to build on this work by involving women experiencing food insecurity in order to affect policy change.

Using the NNFB, results from the 2002 food costing indicated that it would cost \$572.90 to feed a family of four a basic nutritious diet in Nova Scotia (4). When this cost was put into the context of the cost of basic living expenses, these data showed that Nova Scotians on income assistance (IA) or in minimum wage jobs could not afford to buy the food needed to support their individual or family's health and well-being. In addition, it was found that the average cost of the NNFB was significantly higher in rural areas and within smaller stores (less than 15,000 sq. ft.) compared with those in urban areas and larger stores, respectively.

These results caught the attention of the Nova Scotia Department of Health Promotion and Protection and in 2004, they granted funds to the Nova Scotia Food Security Projects in order to complete a larger project aimed at developing options for a model to support ongoing food costing in the province. Concurrently, this round of food costing (2004/2005), also funded by the Department of Health Promotion and Protection was conducted. The result of the 2004/2005 food costing serves as a comparison to the 2002 results and as further impetus for the continued work that needs to occur in order to bring about change to improve food security in Nova Scotia.

The 2004/2005 participatory food costing study was conducted to build on the evidence collected in 2002. It was recognized that regular monitoring of the cost of a nutritious food basket could be an effective way of assessing whether households could afford a quality diet. As well, the participatory research process used in 2002 was successful in engaging professionals, community-based organizations, policy makers, and food-insecure individuals in generating practice-based on food insecurity. The Department of Health Promotion and Protection endorsed the findings of the inquiry into a possible model to support on-going food costing in the province. As a result, they have committed funding for annual participatory food costing, using the model proposed by the Food Costing Working Group of the Nova Scotia Participatory Food Security Projects.⁴

⁴ Working Together for Ongoing Food Costing & Policy Solutions to Build Food Security: A Proposed Model of Ongoing Food Costing in Nova Scotia. July 2006.

Appendix C - Methods for 2004/05 Food Costing Project

Survey Tool

Health Canada's standardized survey tool, the *National Nutritious Food Basket 1998* (5), was used to collect food-costing data in both 2002 and 2004/05. This tool was validated for use in Nova Scotia prior to the 2002 food costing (4). Two focus groups were conducted, one in a low-income urban black community, and one in a rural area to ensure low-income families were able to plan menus with the list of foods in the NNFB and that the foods were palatable.

One addition to the NNFB was made, a 'local component' to address the cost and availability of locally produced food products, specifically meat and produce items. On the October 2004 food basket form, costers were asked to record if the food item with the lowest price was produced locally. Local was defined as grown or produced in Atlantic Canada. This component was modified for the June 2005 food basket form, so that costers were asked to note if the lowest price food was local, note if local was available (regardless of price) and record the place of origin listed either on the food packing itself or on the store signage advertising the food item.

This change was done in partnership with Halifax's Ecology Action Centre- Food Action Committee, a group interested in promoting the social, economic, and environmental benefits of locally produced food. The environmental and community economical benefits of supporting local food are also an integral component of food security. Food security is one of the four priority areas of Healthy Eating Nova Scotia, the provincial healthy eating strategy. Specifically this government-supported document states that it will advocate for public policies that increase the affordability of locally produced food and that it will support local food production and distribution systems. By including a local component in the NNFB we can monitor if the government is successfully addressing local farmers/producers needs to be able to distribute their goods and services in the local community. These data will also be used to examine "food miles," or how far food travels from the farm to the fork.

Grocery Store Selection

A list of all Nova Scotia grocery stores was generated by contacting the head office of major grocery store chains, as well as searching the online yellow pages, using the search terms "Nova Scotia" and "retail grocers." Members of the Food Costing Working Group and partnering FRC/Ps from across the province crosschecked the compiled list by comparing it to their knowledge of existing grocery stores in their communities, thus developing a complete list with accurate addresses. Phone calls were made to each store to obtain the square footage of the building and to confirm that they carried the items required for the NNFB survey. Any store that required a paid membership was excluded from the final list of available stores.

There were 185 stores on this list. Strata criteria were based on the population of each DHA, the size category of the store (based on square footage), and the population of the community in which the store was located in order to determine if the store was located in an urban or rural area.

It was desirable that all regions of the province were represented in the sample, therefore each county or part of a county within a District Health Authority (DHA) territory was used as a stratum. This approach also allowed for estimating regional as well as provincial cost estimates, and comparisons between regions.

Of the 185 stores on the list, 84 were smaller, containing 15,000 square feet or less, 87 were larger, containing more than 15,000 square feet, while no size information was available for 14 stores. The store size was used as a stratification variable because of anticipated price differentials between larger and smaller stores.

Forty-two stores were selected using stratified random sampling. An additional two stores in areas close to participating FRC/Ps were included in the October costing at the request of participating food costers, who were Family Resource Centre/Project (FRC/Ps) participants. The data from these two additional stores was gathered solely for the interest of the participants and were not factored into statistical analyses of the provincial data. Of the randomly selected stores invited to be a part of the food costing survey, one refused to participate, allowing another store that met the same stratification criteria to take its place. In addition, one of the randomly selected stores did not meet the minimum item requirements set out by the NNFB and was therefore not included in the data analysis.

Training of Food Costers

There were approximately 40 participants and 15 support people available to assist with the food costing. They represented 15 FRC/Ps and one Women's Centre across the province. Food costing training involved a train the trainer approach similar to the one used in the 2002 Phase I of the project (4). Many of the people who trained were then able to assist in the delivery of further training in their communities. This further training took place in five areas: Sackville, Annapolis Valley, Shelburne, Amherst, and Cape Breton.

During the Spring 05 costing, a small refresher course was available. There was one new participant and in this case, project staff went to her location to provide a one-on-one training session. In addition, food costers also had access to a "Community Guide to Food Costing," developed by the NS Food Security Projects which served as a reference tool.

On-site Price Collection

Food costing data were collected during the weeks of October 25th – 30th, 2004, and June 13th – 18th, 2005. Prices were collected in spring and fall because these months represent the times of year with the least seasonal variability in food costs. All stores were surveyed within a one-week period to ensure consistency across sale items and to avoid variability in food prices. Prior to both the Fall 04 and Spring 05 collection of food costing data, a letter was faxed to the selected grocery stores explaining the project and requesting the store's participation. Head offices were also contacted and sent a letter asking for permission to do food costing in all of their stores that had been selected. Subsequent to this, a member of the research team contacted grocery store managers individually to personally request permission to conduct the food costing in their store (if permission had not been granted from head office).

Each store was called a second time to inform them of the date and time when food costers would arrive to conduct the survey. Food costers worked in pairs and were instructed to identify themselves to the manager when they arrived at each store. All food costers were provided name badges identifying them with the project, thus assuring store managers of their legitimacy. A set of standardized guidelines for the in-store food pricing procedures based on the NNFB was provided and followed by the food costers. The guidelines helped to ensure that pricing was done consistently in all stores throughout the province.

Food prices obtained from each store for each food item were recorded by the food costers on the NNFB form and returned to the research team via mail. In the June 2005 food costing, two of the basket forms were lost in the mail system. In the future it would be recommended that the participants photocopy the basket at the Resource Centre they are affiliated with, prior to sending it out.

Calculating Food Costs

A cost averaging spreadsheet, provided by the Ontario Ministry of Health (6), was adapted to reflect the NNFB and was used to manage data and facilitate price calculations. Prior to entering the data from the food costing forms into the spreadsheet, the recorded prices were reviewed and checked to ensure accuracy by a research assistant. For example, if a price for an item was recorded using a size that was not specified on the NNFB, the specified size price was crosschecked with the alternative using unit prices, calculations were made and prices adjusted accordingly. As well, when produce was priced per bunch or head, the calculated price per kilogram was double-checked for accuracy. If a scale was not available in a grocery store, the average weight for all stores was used with the price recorded for that particular store. Similarly, if an item was sold individually and the scaled weight was not available, the average weight from all other stores for that item was used. Once the reviewed prices were entered into the spreadsheet, a research assistant verified each calculation and spreadsheet entry. Any changes or revisions to calculations or prices entered were recorded and initialed on the survey forms.

If an item was missing from the survey form, no value was entered to the 'survey data' spreadsheet. The cost averaging spreadsheet was designed to calculate the average price for missing items using the existing data from all other prices entered for that particular item. In the fall data collection 56 items were missing a price on the original NNFB survey, representing 2.02% of all data collected in that time period. In the spring, two full surveys were lost in the mail thus data was only collected on 40 stores. Of these 40 NNFB forms, 59 (2.23%) items were missing. For the two stores missing in the spring collection period, fall 2004 values were substituted in and used in when calculating combined spring and fall averages. This effectively assumes the spring prices for these two stores did not change from the fall, a conservative assumption, and therefore may result in a slight understatement of the combined fall and spring average food costs. This action was taken as these two stores provided information about a region which would have gone unrepresented had they been dropped from the survey altogether.

The cost averaging spreadsheet is formulated so that purchase prices from each food item entered into the spreadsheet are automatically multiplied by a scalar to convert all prices to a

common unit. The scaled price is then multiplied by a weight value that represents the relevant weighting or contribution of that particular food item within the overall food grouping.

Weekly costs of the food basket for a reference family of four and 23 different age and gender groups were then generated. The reference family consists of a woman and a man between the age of 25 and 49, a 13-year-old boy, and a seven-year-old girl. These data were then used to determine the cost for families of different sizes and ages and gender compositions. The cost for families smaller and larger than four people were adjusted to account for economies of scale. Specifically, cost was decreased by a factor of 5% to account for each person beyond a four-person household, and increased by a factor of 5% for each person less than a four-person household (6).

Monthly costs were calculated by multiplying the weekly cost of the NNFB by 4.33 corresponding to the number of weeks in a month. A five percent factor was also added to the cost of the food basket to cover miscellaneous food items used in meal preparation or those purchased in small quantities such as spices, condiments, coffee and tea (5).

Statistical Analysis

Analyses were conducted by a statistician from Mount Saint Vincent University, in collaboration with the Food Costing Working Group of the Nova Scotia Participatory Food Costing Project. Microsoft Excel (version 2003 SP2) and SPSS (version 11.0) were used to assist with statistical analysis of the data, using a probability level of 5% (.05) as the level of statistical significance. Descriptive statistics were generated to determine the average cost of the NNFB for Nova Scotia, the average cost for each DHA, average cost by store size and community size (rural vs. urban).

For the purpose of this project, stores smaller than 15,000 square feet were classified as “smaller stores” and those over 15,000 square feet were considered larger. A rural area was defined as towns and municipalities outside of the commuting zone of urban centres with a population of 10,000 people or less. Conversely, an urban area was defined as a community with a population of greater than 10,000 people.

To protect store identity, a minimum of three stores was used to calculate all averages for NNFB costs. For DHAs where less than three stores were surveyed, stores were combined with an adjoining DHA to calculate averages.

Ethical Considerations

This research received ethical approval from the Health Sciences Human Research Ethics Board at Dalhousie University and the Mount Saint Vincent University Ethics Review Board, both in Halifax, Nova Scotia. Throughout all phases of this research, involvement by FRC/PS participants was supported through reimbursement for child-care and transportation. This was provided for those participating in any meetings or workshops related to the project. Additionally, food costers who assisted with collecting food costing data in the grocery stores were provided with honoraria (\$40/store) to compensate them for their time and contribution to the research. Furthermore, the food costing data from all grocery stores have been categorized and aggregated, and data have not been presented on any individual store.

Appendix D - Letter to the Grocery Store

October 8, 2004

Dear Manager,

The Nova Scotia Nutrition Council (NSNC) and Atlantic Health Promotion Research Centre (AHPRC), in partnership with Family Resource Centres and Projects (FRC/P) across the province, is conducting a provincial survey to determine the cost of purchasing foods that comprise a healthy diet. ***Your store has been selected through a random sampling of grocery stores throughout Nova Scotia to participate in this exciting project. We invite your participation in this by allowing food costers to collect pricing information in your store.*** The overall aim of this project is to determine the generic cost of a nutritious food basket based on a list of foods that reflects healthy eating recommendations. Food costing is a common tool that began in the 1970's by Agriculture Canada to monitor the changing costs in the prices of foods. Now, the National Nutritious Food Basket-Health-Canada is used more often to raise awareness of the cost of a healthy diet and to compare the adequacy of various incomes to provide that healthy diet. Food costing has been used in several provinces and areas across the country and was conducted most recently in 2002 by the NSNC/AHPRC in partnership with Family Resource Centres/Projects. The current survey is basically a repeat of what was done in 2002. The results from that survey helped to raise awareness of the cost of eating a healthy diet in our province. Prior to this partnership food costing was conducted in Nova Scotia in 1988 by the NSNC, and again in 1996/97.

The NSNC is a volunteer organization whose membership consists of community members, organizations, professionals, and students whom are dedicated to promoting the nutritional health and well-being of all Nova Scotians. The AHPRC at Dalhousie University works to facilitate health promotion research throughout the Atlantic provinces. Our partners in this project, Family Resource Centres/Projects across the province, address the needs of Nova Scotia families by providing community-based programs and services to improve the health and development of children who live in low socio-economic families. Food security can be defined as "*all people at all times can acquire safe, nutritionally adequate and personally acceptable foods that are accessible in a manner maintaining human dignity*". This participatory food costing project focuses on Nova Scotians access to food for health.

By surveying food prices from various grocery stores across the province we will determine the extent to which Nova Scotia families can afford a healthy diet. The sample of stores selected (approximately 43) to be costed were chosen randomly from a list of all grocery stores across the province. Prices from all stores will be pooled to determine an average price for the province as a whole as well as by county. Individual prices, brand and store names will be kept strictly confidential. ***Participating grocery***

stores will not be identified and the costs, either for specific foods or for the nutritious food basket, will never be released for any one store. This survey is not intended to determine the cost of food items per store but rather the average cost of healthy eating in each county as well as in the province.

The food pricing will be conducted by two individuals from a Family Resource Centre in your area. With your permission, those completing food basket pricing will spend approximately 90 to 120 minutes in your store. You will be informed of the date that the food pricing will take place in your store several days in advance and food costers will identify and introduce themselves to store managers before beginning the food pricing. As well, they will wear badges indicating they are part of a project of the Nova Scotia Nutrition Council, Atlantic Health Promotion Research Centre and Family Resource Centres/Projects.

Your participation in this project is greatly appreciated and we look forward to working with you on this exciting and valuable project. If you have any questions please contact me at (902) 457-6394. We will be contacting you by phone within the next week to discuss your participation.

Sincerely,

Patty Williams, PhD, PDt
Principal Investigator, Food Security Projects
Assistant Professor, Department of Applied Human Nutrition, Mount Saint Vincent University
Adjunct Professor, Faculty of Health Professions, and
Research Associate, Atlantic Health Promotion Research Centre, Dalhousie University
(902) 457-6394
patty.williams@msvu.ca

Appendix E - National Nutritious Food Basket (NNFB), adapted

City/Town:	Store Name:
Your Name:	Store Address:
Your Phone Number:	Date & Time:
Your Address:	

Note: For all items listed below, choose the **lowest price** for the food product in the purchase size indicated. If the item in the preferred purchase size is not available, choose the lowest price for the closest alternative size. If an item or suggested substitute is not available, indicate this with an “**N/A**” (not available) so that it is clear the item was not simply forgotten.

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? ? (Circle one)	Price Entered to Spread Sheet
Milk Products							
2% Milk	3 L	/2L					
		/4L					
Yogurt	500 g						
Cheddar Cheese, medium	227 g						
Process Cheese Slices	500 g						
Mozzarella Cheese	227 g						
Vanilla Ice Cream	2 L						
Eggs							
Grade A Large	1 doz						

The package sizes will vary and do not have to be any particular size. Cost only the price per kilogram (found on the label; usually the middle number) of regular sized packages of meat (not value packs, or family packs). Meat is assumed to be fresh, not frozen. If the price per kilogram is not available then record the price per pound and later convert that price to kilograms.

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was lowest price Local? (Circle one)	Was local available? (Circle one)	Price entered to spread sheet
Meat Products							
Round Steak (cheapest of any variety i.e. inside, outside, marinating) ✓	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
		/lb			Product of _____ Address _____	Product of _____ Address _____	
Stewing Beef ✓	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
		/lb			Product of _____ Address _____	Product of _____ Address _____	
Ground Beef, medium ✓	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
		/lb			Product of _____ Address _____	Product of _____ Address _____	
Pork Chops, Loin (Cheapest of any variety)	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
					Product of	Product of	

✓		/lb			_____	_____	
					Address	Address	
					_____	_____	
Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available ? (Circle one)	Price entered to spread sheet

Meat Products

Chicken Legs ✓	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
		/lb			Product of	Product of	
					_____	_____	
					Address	Address	
					_____	_____	

Note: For the remaining meats, poultry and fish products, record the cheapest price for the item specified in the preferred purchase unit.

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was lowest price Local? (Circle one)	Was local available ? (Circle one)	Price Entered to Spread Sheet
Wieners, beef & pork	450 g						
Sliced Ham (sandwich type)	175 g	/175g pre packaged					
		/175g deli					
Frozen Fish Fillets	400 g						

Pink salmon, canned	213 g						
Flaked light tuna canned, water	170 g						

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? ? (Circle one)	Price Entered to Spread Sheet
Meat Alternatives							
Baked Beans with Tomato Sauce	398 ml						
Dry Navy Beans/White Pea Beans	454 g						
		/ bag bulk					
Smooth Peanut Butter	500 g						

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? ? (Circle one)	Price Entered to Spread Sheet
Grain Products							
Bread, enriched white	570 g						
Bread, whole wheat	675 g						
Hotdog or Hamburger Rolls	480 g						
Flour, white, all-purpose	2.5 kg						
		Bulk					
Flour, whole wheat	2.5 kg						

		Bulk					
Macaroni or Spaghetti	900 g						
		Bulk					
Rice, long grain, white	900 g						
		Bulk					

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Macaroni & Cheese Dinner	225 g						
Oatmeal, regular	1 kg	/Bag					
		Bulk					
Corn Flakes (can use no name substitute)	675 g						
Shreddies (can use no name substitute)	620 g						
Soda Crackers, salted	450 g						
Social Tea Cookies	350 g						

Note: For oranges, tomatoes, apples, carrots, and onions note the price of each version displayed. For instance, price per kilogram if loose and price per bag or tray (note size).

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Citrus Fruits							
Oranges	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg			

		/lb					
		/3 lb. bag					
Apple Juice, canned or tetrapak (Vitamin C Added)	1.36 L	/1.36L		price/L x 1.36 = price/1.36L			
		/1L					
Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available ? (Circle one)	Price Entered to Spread Sheet
Orange Juice, frozen concentrate	355 ml						
Tomatoes ✓	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
		/lb			Product of _____ Address _____	Product of _____ Address _____	
Whole Tomatoes, canned	796 ml						
Tomato Juice, canned	1.36 L						
Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available ? (Circle one)	Price Entered to Spread Sheet
Other Fruits							
	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
					Product of	Product of	

Apples ✓		/lb			_____	_____	
		/ 3 lb. bag			Address	Address	
Bananas	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg			
		/lb					
Grapes	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg			
		/lb					

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Pears ✓	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
		/lb			Product of _____ Address _____	Product of _____ Address _____	
Raisins	750 g	/bag					
		/kg bulk					
Fruit Cocktail, canned, juice packed	398 ml						

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Potatoes							

Potatoes, fresh ✓	4.54 kg (10 lb bag)	/bag /kg loose		price/lb x 2.2026lb/kg = price/kg	YES NO Product of _____ Address _____	YES NO Product of _____ Address _____	
Frozen french fries	1 kg						

Note: If any of the following vegetables are priced by unit (for instance \$1.99 for a bunch of broccoli) note the price and weigh three bunches of broccoli. Record the weights in the comments section of the pricing form.

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Other Vegetables							
Broccoli ✓	1 kg	/bunch		weight #1 =	YES NO	YES NO	
				weight #2 =	Product of	Product of	
				weight #3 =	_____	_____	
				Add 3 weights and divide total by 3	Address	Address	
				ave weight =	_____	_____	
Cabbage ✓	1 kg	/kg			YES NO Product of _____ Address _____	YES NO Product of _____ Address _____	

Carrots, fresh ✓	1 kg	/kg	price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO
		/lb		Product of	Product of
		/3 lb bag		_____	_____
				Address	Address
				_____	_____

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Celery ✓	1 kg	/bunch		weight #1 =	YES NO	YES NO	
				weight #2 =	Product of	Product of	
				weight #3 =	_____	_____	
				Add 3 weights and divide total by 3	Address	Address	
				ave weight =	_____	_____	
Cucumber ✓	1 kg	/each		weight #1 =	YES NO	YES NO	
				weight #2 =	Product of	Product of	
				weight #3 =	_____	_____	
				Add 3 weights and divide total by 3	Address	Address	
				ave weight=	_____	_____	
Lettuce, iceberg ✓	1 kg	/head		weight #1 =	YES NO	YES NO	
				weight #2 =	Product of	Product of	
				weight #3 =	_____	_____	
				Add 3 weights and divide total by 3	Address	Address	

				ave weight=	_____	_____	
Lettuce, romaine ✓	1 kg	/head		weight #1 =	YES NO	YES NO	
				weight #2 =	Product of	Product of	
				weight #3 =	_____	_____	
				Add 3 weights and divide total by 3	Address	Address	
				ave weight=	_____	_____	

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Other Vegetables							
Onions ✓	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
		/lb			Product of	Product of	
		/3 lb bag			_____	_____	
				Address	Address		
Green Pepper ✓	1kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO	YES NO	
		/lb			Product of	Product of	
					_____	_____	
				Address	Address		
Turnips ✓	1 kg	/kg			YES NO	YES NO	
					Product of	Product of	

					_____	_____	
					Address	Address	
					_____	_____	
Mixed Vegetables, frozen	1 kg						
Whole Kernel Corn, canned	341 ml						
Green Peas, canned	398 ml						

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Fats & Oils							
Margarine, tub (<i>non-hydrogenated</i>)	454 g						
Butter	454 g						
Canola oil	1 L						
Mayonnaise-type Salad Dressing (<i>reduced fat</i>)	500 ml						

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Sugar & Other Sweets							
Sugar, white	2 kg	/bag					
		/ kg bulk					
Strawberry Jam	500 ml						

Appendix F - Guidelines for Pricing Procedures and Information on Adapted NNFB

Guidelines for Pricing Procedures using the NNFB

1. The lowest price for the specified food item is always recorded;
2. If the specified size is available always take the lowest price of that size – never take a larger size to get a cheaper per unit price, this includes family or club packs of items;
3. If a specified size is not available record the price of the nearest alternative size, whether larger or smaller, and later convert to the price for the specified size;
4. In the case of sale items record the sale price as long as that price will be what is paid at the cash and is accessible to everyone. If the special price requires mail-in coupons/rebates, or a minimum purchase then the regular price is taken as the sale price may not be accessible to all;
5. For items such as produce that is available at a price per head or bunch rather than per kilogram you must get an average weight of three bunches to determine a price per weight;
6. For produce available loose and bagged record a price for both and later determine the cheapest per weight.

NNFB Forms – What Has Changed?

We have made some changes to the food costing form. These are:

The *sale column has been moved* to beside the price column (please see example below). *Please continue to follow the regular procedure of recording a check mark if an item was on sale.* For example, if the canned beans were on sale at the time of the food costing you would record the sale price and provide a check mark in the on sale column to indicate this is a sale price. We will be using this information to look at the types of items that are on sale at different times of the month.

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? ? (Circle one)	Price Entered to Spread Sheet
Meat Alternatives							
Baked Beans with Tomato Sauce	398 ml	0.89¢	√				

- The **local columns** ask you to record more information. However, getting this extra information should not make the food costing take extra time. Last time you were asked to determine if the lowest priced item was locally produced (in Atlantic Canada). If it was locally produced you placed a check mark in the *local* column. Most often this required you to ask the produce or meat managers for this information. If the lowest cost variety of the item was not local you also had to record if a local variety was available but at a higher price.

The changed forms now provide you with a place to circle whether or not a food item was locally produced (see example below). In addition, we also want to know specifically where the food item was produced. If the item is packaged we also want to know where. On the changed form space has been provided to record this information (please see example below). This additional information will help us determine how far our food has traveled.

Food	Purchase Size	Price	On Sale	Comments & Calculations	Was Lowest Price Local? (Circle one)	Was Local Available? (Circle one)	Price Entered to Spread Sheet
Other Fruits							
Apples ✓	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES NO Product of _____ Address _____	YES NO Product of _____ Address _____	

HELPFUL HINTS

Here are some helpful hints to keep in mind when looking for where the fruits, vegetable and meat products were produced.

Loose Fruits and Vegetables:

Many times, where the loose fruits and vegetables are from (i.e. “*product of*”) is on the display tag along with the price. This display tag can be found on the bin the food is held in. Another place you may find this information is if there is a sticker attached directly to the food item. If the display tag or sticker states “*Product of Canada*” you will need to ask someone working in the produce section where in Canada it was produced and record this location on the food costing form. If an item has both a display tag and sticker and the “*product of*” is different for both, record both locations. For loose items you do not need to get an address.

Some produce items will come packaged like bags of carrots and potatoes. In these cases we want you to record where the item is a “*product of*” just like in the example of loose above and then where it was packaged which can be found by an address written on the label. You would write the city/town in the “*Address*” spot.

Meats:

For meat products all you will find on the package is a location for where the meat was packed. This is what you would write in the “Address” spot on the form. To determine where the product is from you will need to ask the meat department.

An example using the new food basket form

The lowest cost apples are a 3lb bag. The display tag says it is a product of the USA. You would circle no under the “Was lowest price local?” column. Then record USA under “product of” and you would then look on the package for an address and this one says Ohio so you would record that under “Address”. Now it is also important to check if there are local apples available. In this case there is a 3lb bag of apples grown in Canada. You have checked with the produce department and they are in fact grown in the Annapolis Valley. You then check the address on the package and they were packaged in Berwick, NS.

Food	Purchase Size	Price	On Sale	Comments & calculations	Was lowest price Local? (Circle one)	Was local available ? (Circle one)	Price entered to spread sheet
Other Fruits							
Apples ✓	1 kg	/kg		price/lb x 2.2026lb/kg = price/kg	YES <input checked="" type="radio"/> NO	<input checked="" type="radio"/> YES <input type="radio"/> NO	
					Product of USA _____	Product of Nova Scotia _____	
					Address Ohio _____	Address Berwick, NS _____	

Appendix G - Methods for Creating Affordability Scenarios

Creating Comparative Scenarios to Estimate Affordability

The assessment of income adequacy and the financial impact of purchasing a nutritious diet required assumptions about actual income, costs of goods and services, and what is considered essential for a basic standard of living (7). To estimate the affordability of a nutritious diet, monthly costs for food, shelter, and other essential expenses were compared to average monthly incomes for three hypothetical household types:

- 1) a family of four (two adults between 25-49 years; and boy of 13 years, girl of 7 years);
- 2) a lone mother with two children (boy of 7 years, girl of 4 years);
- 3) a single adult male.

The following explains the sources of data for Tables 4-7 in the full food costing report.

INCOME

Median Income

The most recent data Statistics Canada provides on median family income in Nova Scotia was collected in 2002, and released in 2004. At that time the median income was \$55 300 for a two parent household (8). This amount was divided assuming one parent earned 2/3 of this amount and the second parent earned the other third. Appropriate tax deductions were applied (see “Income Deductions” section below).

Average Call Centre Wage

The average Canadian Call Centre wage is \$12.45/h (9). No averages by province are available. Full time is assumed to be 40h/week while part time is considered 20h/week. Weekly rates were multiplied by 4.33 to estimate monthly averages. Appropriate tax deductions were applied (see “Income Deductions” section below).

Minimum Wage

As of April 1, 2006 the provincial minimum wage for experienced workers in Nova Scotia is \$7.15/h (10). Full time is assumed to be 40h/week; part time is considered 20h/week. Weekly rates were multiplied by 4.33 to estimate monthly averages. Appropriate tax deductions were applied (see “Income Deductions” section below).

Income Assistance

At the time food costing data were collected, the Personal Allowance in Nova Scotia for a non-institutionalized adult (18 years and older) was \$190.00 per month (11).

The maximum Housing Allowance, whether a family rents or owns a home, is as follows: \$285 for a single member household, \$550 for a two member household and \$600 for any family with three or more members (11).

Other forms of assistance, such as transportation and childcare allowances are also available to households. The maximum amount a family is eligible to receive to cover transportation costs is \$150.00 per month while \$400.00 is the maximum allowable for child care costs per month (12). Families only receive the full amounts if their expenses demand it. A family spending \$279/month on child care would only receive \$279 for their child care allowance. Amounts for other forms of assistance are often determined on a case by case basis with decisions influenced by variables such as whether the adults of the household are seeking work, involved in an employment program, need transportation to a medical appointment, how dire the financial situation is, etc. A Child Care Subsidy Program is available to qualifying households with children under 12 years; this program is addressed in the “Child Care Expenses” section below.

Student Loan

Based on the 2005-06 Academic year, Canada Student Loans and Nova Scotia Student Loans will provide a maximum of \$210/week and \$150/week respectively (13). Canada Study Grants are available to qualifying students. For example, a single mother with 2 children is eligible for a Canada Study Grant; this will provide an additional \$40/week to her and her family (13). Amounts provided in the scenario are based on a typical 34 week (~8 months) school program. Please note: Student Loans and Canada Study Grants under \$3,000 are non-taxable.

Child Tax Benefit

Canada Revenue Agency’s Online Calculator (14) was used to estimate the monthly amount households would receive. The online calculator requires information regarding province of residence, marriage status, number of children under 18, number of children under seven, child care expenses, net income and net income of spouse. The Calculator estimates Canada Child Tax Benefit as well as the Nova Scotia Child Benefit; the National Child Benefit Supplement is also calculated based on income. These benefits are paid to one parent, on a monthly basis, and are non-taxable.

GST Credit

To estimate quarterly GST amounts Canada Revenue Agency’s Online Calculator requires information regarding province of residence, marriage status, number of children under 19, net income and net income of spouse (14). To calculate monthly amounts, the amount calculated for each quarter was divided by three.

INCOME DEDUCTIONS

The four main deductions applicable to most employed Nova Scotians include federal and provincial taxes, Employment Insurance and Canada Pension Plan Contributions.

Federal Tax Deductions (15)

Tax Bracket	Tax Rate (%)
\$0 - 35,595	15.00
\$35,596 - 71,190	22.00
\$71,191 - 115,739	26.00
\$115,740 and over	29.00

Provincial (Nova Scotia) Tax Deductions (15)

Tax Bracket	Tax Rate (%)
\$0 - 29,520	8.79
\$29,521 - 59,180	14.95
\$59,181 - 93,000	16.67
\$93,001 and over	17.50

Employment Insurance (16)

This is a system of income benefits based on hours worked in a year, earnings and previous use, and new employment benefits. Employees contribute \$1.87 per \$100 insurable earnings, with maximum insurable earnings set at \$39,000 for 2006. EI provides temporary financial assistance for unemployed Canadians while they look for work or upgrade their skills. Also, Canadians who are pregnant or caring for a newborn or adopted child, caring for a family member who is seriously ill, or ill themselves may also be assisted by Employment Insurance.

Canada Pension Plan Contribution Rate (17)

Every person in Canada over the age of 18 who earns a salary must pay into the Canada Pension Plan. Contributions are based on annual earnings that fall between a pre-determined minimum and maximum level. The minimum level is frozen at \$3,500. The maximum level is based on increases in the average wage and adjusted each January. For the 2006 year the maximum income level is \$42,100 and the contribution rate is 4.95%.

Below is a sample calculation of all appropriate income deductions for an individual working full time in a minimum wage position.

Gross Income*:	\$14,860.56		
	Taxable Income	% Deduction	Amount Deducted
Federal Tax Rate	14,860.56	15.00%	2,229.08
Nova Scotia Tax Rate	14,860.56	8.79%	1,306.24
CPP Contribution**	11,360.56	4.95%	562.35
EI Contribution	14,860.56	1.87%	277.89
Total Deductions:			\$4,375.57
Income After Taxes:	\$10,484.99		

*\$7.15/h x 40h/week x 4.33w/month x 12m/year

**Taxable Income = Gross Income – \$3,500

EXPENSES

In previous affordability assessments shelter and utilities, telephone, transportation, child care, clothing and footwear and food have been established as basic essential needs for a typical household (4, 7, 18, 19). The Market Basket Measure (MBM), a tool developed by Human Resources Development Canada (this department now falls under Human Resources and Social Development), estimates the cost of a specific basket of goods and services for the year 2000. The MBM attempts to measure absolute poverty; therefore, the goods and services in the basket are viewed as necessary for a minimum standard of living.

Statistics Canada collected MBM data for 19 specific communities and 29 community sizes in the ten provinces. The MBM is calculated using a reference family of four; one male adult and one female adult aged 25 to 49 with two children, a girl aged nine and a boy aged 13. The Low Income Measure equivalence scale is applied to the MBM data to account for differences in household size and composition (19).

For the affordability scenarios, we used MBM data to supply shelter, transportation, and clothing and footwear expenses. Estimates for 2005 were adjusted for inflation by applying a factor corresponding to the Consumer Price Index.

Shelter

MBM shelter values for Nova Scotia (19):

\$580/month for a family of four, two children

\$493/month for a lone parent family, two children

\$290/month for a single individual

Values were adjusted using the Consumer Price Index to reflect 2005 costs (20).

Utilities

The cost of power, heat and hot water vary depending primarily on the size of the apartment or house and the number of occupants residing there. Nova Scotia Power supplied conservative estimates based on the types of shelters in the MBM; values were adjusted using the Consumer Price Index to reflect 2005 costs (20).

Shelter figures in the MBM did include utilities; however, for our affordability scenarios utilities were assumed to be an additional expense above shelter estimates, as the MBM figures for shelter are substantially lower than the Canadian Mortgage and Housing findings of the 2005 Rental Market Survey conducted in Nova Scotia (21).

Telephone

The cheapest Atlantic communications provider offers a basic telephone service for \$20.00/month, plus 15% HST; installation costs are not included in this estimate. This service also does not include long distance charges or any other phone options (22).

Transportation

The transportation component of the MBM is based on the cost of owning and operating a 1995 Chevy Cavalier. This includes 20% of the cost and annual interest on a 36-month loan, 1500 litres of regular gasoline, insurance and license fees, a tune up and two oil changes (19).

The MBM also calculates transportation costs for urban areas based on a public transportation pass for two adults and one round trip taxi ride monthly. Data does not include transporting children, nor does it include transportation costs outside public transit hours. Transportation cost for the single male scenario is based on using public transportation.

MBM transportation values for Nova Scotia are outlined below (19):

\$325.75/month for a family of four, two children

\$276.88/month for a lone parent family, two children

\$65/month for a single individual

MBM values were adjusted using the Consumer Price Index to reflect 2005 costs (23).

Child Care Expenses

The Child Care Subsidy Program is a provincial program, and is not to be confused with the child care allowance provided by Income Assistance. Single parent families with net monthly incomes less than \$1401 and two parent families with monthly incomes less than \$1476 would qualify for the maximum subsidy amount (26); however, families with incomes higher than this may qualify for a pro-rated subsidy amount (it is important for families to call their local Department of Community Services office to enquire about eligibility). For the scenarios with children where parents are earning minimum wage, receiving IA or a student loan, it was assumed parents had applied to the NS Department of Community Services' Child Care Subsidy Program. Maximum amounts provided are:

0-17 months \$22/day

18 months-3y \$20/day

3-5y \$19/day

5-12 \$17.70/day

These rates became effective January 1, 2005 and are on a graded scale to better reflect the higher cost of caring for infants and toddlers. Previous to this families were provided a flat rate regardless of a child's age.

Parent fees are subtracted from these maximum rates. A parent will be required to pay no less than \$ 2.25 per day towards the cost of child care. This amount increases depending upon the family income, the number of children receiving subsidy and the child care centre surcharge (this is the difference between the subsidy amount and the actual daily Centre cost). This parent contribution is calculated per family, not per child. It is important to note that only children under 13 qualify for this program (27, 28).

According to the Child Care Subsidy Program Daily Parent Fee Schedule, both a single parent family with two children and a two parent family with two children would pay a parent fee of \$2.25 per day provided the net household income was between \$0 - \$1,401 per month for the single parent family; and \$0 - \$1,476.00 per month for the two parent family, respectively.

Clothing/footwear

The clothing and footwear component of the MBM is based on the Acceptable Level of Living (ALL) basket developed by Winnipeg Harvest and the Winnipeg Social Planning Council with relative spatial indices applied to these costs to generate equivalent costs for other urban centres. The estimates were based on urban centres only and were assumed consistent with other community sizes (12). The ALL Report assumes purchases of all new clothing.

MBM clothing & footwear values for Nova Scotia are as follows (19):

\$191/month for a family of four, two children

\$162.35/month for a lone parent family, two children

\$95/month for a single individual

Values were adjusted using the Consumer Price Index to reflect 2005 costs (29)

Tuition & Books

The average annual cost of an undergraduate degree in Nova Scotia is \$6,281 (30). The Nova Scotia government approves the annual tuition fees for full-time regular programs.

When calculating allowable loans, Nova Scotia Student Assistance programs factors in up to \$1,300 a year for “Books, Instruments and Related Computer Costs” (31). This amount was divided by eight (\$162.50) to estimate monthly costs for school related expenses additional to tuition.

Appendix H - NNFB Cost & Calculations for Selected Age and Gender Groups

Using the tables on the following page you can quickly estimate how much a basic nutritious food basic would cost any family; follow the steps in this example or substitute the members of your family to find how much it costs for you.

The 'Smith Family' consists of:

Mother: female between 25 and 49 years

Father: between 25 and 49 years

Two children: A girl aged 7 and a boy aged 14.

Step 1: Write down the ages and sex of all the people you are feeding.

Step 2: Using the chart on the following page you can figure out the costs based on the NNFB.

Mother: \$31.69

Father: \$42.91

Daughter: \$27.05

Son: \$40.94

Total \$142.59

Step 3: Since it costs a little more per person to feed small groups of people and a little less to feed larger groups, you may have to adjust the total cost found in Step 2. Use the following adjustment for family size if it applies to your situation.

- **1 person: increase costs by 15%** (multiply food costs by 1.15)
- **2 persons: increase costs by 10%** (multiply food costs by 1.1)
- **3 persons: increase by 5%** (multiply food costs by 1.05)
- **4 persons: no change**
- **5 persons: decrease food costs by 5%** (multiply food costs by .95)
- **6 persons: decrease costs by 10%** (multiply food costs by .90)

Step 4: If you want a monthly rate, multiply your weekly rate by **4.33**
(\$142.59 x 4.33 = \$617.42)

Weekly Cost of the National Nutritious Food Basket (NNFB) for Selected Age and Gender Groups in Nova Scotia, 2004/05

Sex	Age (years)	Cost per Week (\$)
Child	1	17.10
	2-3	17.96
	4-6	23.76
Boy	7-9	28.01
	10-12	35.01
	13-15	40.94
	16-18	47.17
Girl	7-9	27.05
	10-12	32.50
	13-15	34.60
	16-18	32.49
Man	19-24	44.32
	25-49	42.91
	50-74	38.93
	75+	35.48
Woman	19-24	33.17
	25-49	31.69
	50-74	31.11
	75+	30.30

Stage of Pregnancy or Lactation	Age of Mother (years)	Cost per Week (\$)
Trimester 1	13-15	38.59
Trimesters 2,3		40.78
Lactation		41.96
Trimester 1	16-18	38.18
Trimesters 2,3		41.21
Lactation		42.29
Trimester 1	19-24	37.31
Trimesters 2,3		39.79
Lactation		40.74
Trimester 1	25-49	35.81
Trimesters 2,3		38.02
Lactation		38.81

Appendix I - Low-Income Cut-Offs (LICOs)

The Low-Income Cut-Offs (LICOs) are Canada's unofficial measure of poverty. They define a set of income cutoffs below which people may be said to live in straitened circumstances (32). LICOs are *relative* measures of poverty; families who spend significantly more (i.e., 20 percentage points more) on food, clothing and shelter than the average Canadian family are considered to be living below the cut-offs.

To compare the financial situations of household scenarios in the report, below is the most recently available LICOs for various family compositions residing in different community sizes.

Before-Tax Low-Income Cut-Offs (LICOs), 2004					
	Population of Community of Residence				
Family Size	500,000 +	100,000-499,999	30,000-99,999	Less than 30,000*	Rural
1	\$20,337	\$17,515	\$17,407	\$15,928	\$14,000
2	\$25,319	\$21,804	\$21,669	\$19,828	\$17,429
3	\$31,126	\$26,805	\$26,639	\$24,375	\$21,426
4	\$37,791	\$32,546	\$32,345	\$29,596	\$26,015
5	\$42,862	\$36,912	\$36,685	\$33,567	\$29,505
6	\$48,341	\$41,631	\$41,375	\$37,858	\$33,278
7 +	\$53,821	\$46,350	\$46,065	\$42,150	\$37,050

Notes: This table uses the 1992 base. Income refers to total pre-tax household income.

*Includes cities with a population between 15,000 and 30,000 and small urban areas (under 15,000).

Source: Prepared by the Canadian Council on Social Development using Statistics Canada's Low Income Cut-Offs, from *Low income cut-offs for 2004 and low income measures for 2002* Catalogue # 75F0002MIE2005003. (32)

Appendix J - Changes in Cost of Living (2002 vs. 2004/05 Comparisons)

Family of Four Earning Minimum Wage Comparison (2002 vs. 2004/05)

	2002	2004/05	
Family Composition	Male & Female (b/w 25-49y)	Male & Female (b/w 25-49y)	% change
	Boy 13, Girl 7	Boy 13, Girl 7	
Source of Income	Minimum Wage (1FT*, 1PT†) \$6.50/h	Minimum Wage (1FT*, 1PT†) \$7.15/h	
Monthly Net Income			
Wages	\$1,137.00	\$1,317.84	15.91
Personal Allowance	n/a	n/a	
Shelter Allowance	n/a	n/a	
Childcare Allowance	n/a	n/a	
CTB	\$512.07	\$457.91	-10.58
GST benefit	\$55.00	\$57.83	5.15
Total	\$1,704.07	\$1,833.58	7.60
Basic Monthly Expenses			
Shelter	\$580.00	\$615.72	6.16
Power/heat/water	\$125.00	\$161.93	29.54
Telephone	\$28.75	\$23.00	-20.00
Transportation‡	\$325.75	\$377.67	15.94
Childcare	\$173.33	\$279.00	60.96
Clothing, footwear, etc.	\$191.00	\$186.77	-2.21
Funds remaining before food costs	\$280.24	\$189.49	-32.38
Cost of the NNFB	\$572.90	\$617.42	7.77
Funds remaining for other expenses§	(\$292.66)	(\$427.93)	46.22

* full time = 40h/week

† part time = 20h/week

‡ assumes private transportation

§ other expenses include other routine costs, such as personal hygiene products, household and laundry

**Family of Four Receiving Income Assistance
Comparison (2002 vs. 2004/05)**

	2002	2004/05	
Family Composition	Male & Female (b/w 25-49y)	Male & Female (b/w 25-49y)	% change
	Boy 13, Girl 7	Boy 13, Girl 7	
Source of Income	Income Assistance	Income Assistance	
Monthly Net Income			
Wages	\$0.00	\$0.00	0.00
Personal Allowance	\$360.00	\$380.00	5.56
Shelter Allowance	\$600.00	\$600.00	0.00
Childcare Allowance	\$0.00	\$279.00	279.00
CTB	\$531.40	\$564.15	6.16
GST benefit	\$55.00	\$57.83	5.15
Total	\$1,546.40	\$1,880.98	21.64
Basic Monthly Expenses			
Shelter	\$580.00	\$615.72	6.16
Power/heat/water	\$125.00	\$161.93	29.54
Telephone	\$28.85	\$23.00	-20.28
Transportation*	\$325.75	\$377.67	15.94
Childcare	\$0.00	\$279.00	279.00
Clothing, footwear, etc.	\$191.00	\$186.77	-2.21
Funds remaining before food costs	\$295.80	\$236.89	-19.92
Cost of the NNFB	\$572.90	\$617.42	7.77
Funds remaining for other expenses†	(\$277.10)	(\$380.53)	37.33

* assumes private transportation

† other expenses include other routine costs, such as personal hygiene products, household and laundry

**Single Parent Family Earning Minimum Wage
Comparison (2002 vs. 2004/05)**

	2002	2004/05	
Family Composition	Single Female (24y)	Single Female (24y)	% change
	(Boy 7, Girl 4)	(Boy 7, Girl 4)	
Source of Income	Minimum Wage (FT*) \$6.50/h	Minimum Wage (FT*) \$7.15/h	
Monthly Net Income			
Wages	\$758.00	\$873.75	15.27
Personal Allowance	n/a	n/a	
Shelter Allowance	n/a	n/a	
Childcare Allowance		n/a	
CTB	\$512.07	\$564.15	10.17
GST benefit	\$55.00	\$57.83	5.15
Total	\$1,325.07	\$1,495.73	12.88
Basic Monthly Expenses			
Shelter	\$493.00	\$523.32	6.15
Power/heat/water	\$100.00	\$129.55	29.55
Telephone	\$28.75	\$23.00	-20.00
Transportation†	\$276.88	\$321.01	15.94
Childcare	\$304.42	\$327.75	7.66
Clothing, footwear, etc.	\$162.36	\$158.76	-2.22
Funds remaining before food costs	(\$40.34)	\$12.34	-130.59
Cost of the NNFB	\$351.68	\$386.18	9.81
Funds remaining for other expenses‡	(\$392.02)	(\$373.84)	-4.64

* full time = 40h/week

† assumes private transportation

‡ other expenses include other routine costs, such as personal hygiene products, household and laundry

**Single Parent Family Receiving Income Assistance
Comparison (2002 vs. 2004/05)**

	2002	2004/05	
Family Composition	Single Female (24y)	Single Female (24y)	% change
	(Boy 7, Girl 4)	(Boy 7, Girl 4)	
Source of Income	Income Assistance	Income Assistance	
Monthly Net Income			
Wages	\$0.00	\$0.00	
Personal Allowance	\$180.00	\$190.00	5.56
Shelter Allowance	\$593.00	\$600.00	1.18
Childcare Allowance		\$327.75	
CTB	\$531.40	\$564.15	6.16
GST benefit	\$55.00	\$57.83	5.15
Total	\$1,359.40	\$1,739.73	27.98
Basic Monthly Expenses			
Shelter	\$493.00	\$523.32	6.15
Power/heat/water	\$100.00	\$129.55	29.55
Telephone	\$28.75	\$23.00	-20.00
Transportation*	\$276.88	\$321.01	15.94
Childcare	\$0.00	\$327.75	4875.00
Clothing, footwear, etc.	\$162.35	\$158.76	-2.21
Funds remaining before food costs	\$298.42	\$256.34	-14.10
Cost of the NNFB	\$351.68	\$386.18	9.81
Funds remaining for other expenses†	(\$53.26)	(\$129.84)	143.79

* assumes private transportation

† other expenses include other routine costs, such as personal hygiene products, household and laundry

**Single Male Receiving Income Assistance
Comparison (2002 vs. 2004/05)**

	2002	2004/05	
Family Composition	Single Male (30y)	Single Male (30y)	% change
Source of Income	Income Assistance	Income Assistance	
Monthly Net Income			
Wages	\$0.00	\$0.00	
Personal Allowance	\$180.00	\$190.00	5.56
Shelter Allowance	\$235.00	\$285.00	21.28
GST benefit	\$18.00	\$18.92	5.09
Total	\$433.00	\$493.92	14.07
Basic Monthly Expenses			
Shelter	\$290.00	\$307.84	6.15
Power/heat/water	\$62.50	\$80.97	29.55
Telephone	\$28.75	\$23.00	-20.00
Transportation*	\$65.00	\$75.36	15.94
Childcare	\$0.00	\$0.00	
Clothing, footwear, etc.	\$95.00	\$93.39	-1.69
Funds remaining before food costs	(\$108.25)	(\$86.64)	-19.96
Cost of the NNFB	\$198.73	\$213.66	7.51
Funds remaining for other expenses†	(\$306.98)	(\$300.30)	-2.17

* assumes public transportation

† other expenses include other routine costs, such as personal hygiene products, household and laundry

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