TOWN OF STRATFORD

SUSTAINABLE STRATEGIC PLAN

June 2010

Executive Summary

In order to preserve Stratford as a leading community in the Atlantic region, the Town of Stratford is strongly committed to developing and achieving its sustainability goals and principles. Town Council has provided leadership and creating opportunities to initiate a long-term, strategic, sustainable plan. Undoubtedly, the Stratford community will benefit from embarking on this planning exercise, as strong sustainable planning will create a sustainable future.

Having approved Stratford's Sustainability Plan, Sustainable Decision Making Framework and Wind Energy Policy and Bylaw, Mayor Jenkins, at the public meeting held on March 26, 2009 launched the process of developing "Stratford's Sustainable Strategic Plan".

A Strategic plan is an overarching 'umbrella document' that helps to direct other plans such as the Official Plan and Master Transportation Plan. The Sustainable Strategic Plan represents a process for moving from vision to action, rather than a fixed plan. It is a framework within which innovation, enterprise and ideas will be encouraged as the community learns and adapts to the opportunities and challenges that lie ahead. It provides direction for the actions over which the Town has jurisdictional control, and helps to facilitate partnerships and collaboration to address issues of wider interest

To achieve such an important mission, we have employed the "*Collaborative Approach*" to planning. Collaborative planning aims to initiate the plan *"With"* people instead of *"For"* people. Accordingly, we facilitated and strongly encouraged all residents and stakeholders to get involved in this sustainability practice for building their future. We invited all residents and stakeholders to participate in the strategic planning process and to share their knowledge and experiences with each other, as well as building their capacity through acquiring information, guiding ideas, technical skills and practical tools.

The "Sustainable Strategic Plan" has been developed in four phases a follows:

Phase I: Developing a Conceptual and Methodological framework and the Planning Process

Phase II: Creating a shared **VISION** of sustainable community

Phase III: Identifying the **CURRENT REALITY** of Stratford including challenges and opportunities

Phase IV: Exploring initiatives and **STRATEGIES** to move from the Current Reality toward Success

Having held eleven meetings since March 2009, through effective participation of diverse stakeholders, we have developed "Stratford's Sustainable Strategic Plan" in the areas of Natural Environment, Social Fabric, Cultural Fabric, Economic, Governance and the Built Environment.

The report as "Stratford's Sustainable Strategic Plan" consists of three chapters. Chapter one focuses on the "Vision" statement, Chapter Two defines and explains "The Current Reality" including existing opportunities and challenges within the Town. Finally, Chapter Three identifies strategies to achieve the vision.

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Chapter 1)

VISION

INTRODUCTION

In 2008 the Town of Stratford embarked on a process to develop an integrated community sustainability plan. The final report entitled Imagine Stratford: Towards a Vision for 2028 and adopted by Council in September 2009.

In 2009, as part of the process of preparation of a Sustainable Strategic Plan for the Town, the Collaborative Team (CT) for the project undertook the development of a vision statement.

In order to link Stratford's sustainability principles and Stratford's Sustainable Strategic Plan, over the course of three meetings the CT used Chapter 7 of the "Imagine Stratford" report as a base for the development of a 2030 vision statement for the plan. Additional input was provided through the Town's planning department to assist in the development of the strategic plan.
At its first meeting, held on April 2, 2009, the CT developed a framework for the strategic plan, which consisted of the following main components:

a) Natural environment
b) Economy
c) Cultural fabric
d) Social fabric
e) Governance
f) The built environment

The following is the Vision for the Town of Stratford in 2030.

A) THE NATURAL ENVIRONMENT

A-1) Water

1. Stratford's water resources provide a dependable supply of healthy water to meet the needs of people, other species and nature.
2. Stratford's potable water supply system delivers water of excellent quality, which exceeds provincial standards, and meets benchmark aesthetic standards.
3. Residents are educated about water and encouraged to conserve and protect it.
4. Wastewater is treated to have zero negative impact when returned to the natural environment.
5. The whole of the Town is serviced by central sewer and water systems.
6. Storm water is managed proactively, effectively and efficiently.
7. Well field protection is optimized using a multi-barrier approach
8. Healthy streams, rivers, ponds and wetlands support thriving populations of wildlife.

A-2) Wildlife and forests

1. Natural bio-diversity is protected in the town.
2. Preserving Trees and Forest areas are preserved in the Town.
3. Stratford protects and maintains the existing natural beauty, wildlife habitats and the created "green corridors".

A-3) Natural landscape

1. Stratford's residents protect and maintain the natural landscape including natural paths, streams, beaches and shorelines, viewscapes and diversified topography in Stratford.

A-4) Land and soil

1. Land use practice is sustainable and efficient.

2. The ecological footprint of the built environment is minimized.

A-5) Air

1. Stratford's residents enjoy one of the highest levels of air quality in Canada.

B) THE SOCIAL FABRIC

1. Stratford works with partners to meet, the physical, mental, spiritual, cultural and social needs of community members.
2. Community Members learn about and enjoy experiences with all cultures and generations through activities, and events facilitated by the partners.
3. The community understands and respects diverse views.
4. Community members are respectful and law abiding.
5. Community Members eat healthy food, exercise and engage in recreation and other stress relieving activities that assist in increasing well being. They avoid the abusive use of substances that have a negative effect on physical and mental health.
6. Local, organic food is available year round at an affordable price. When it is not available locally, the nearest possible source is used to supply the community.
7. Community members accept responsibility for their own health.
8. Stratford residents are able to participate in activities regardless of ability and socio-economic status.
9. Provide and distribute equal opportunities and resources are provided and distributed between all residents equally.

C) THE CULTURAL FABRIC

1. Stratford is well known in the region for its arts, culture and heritage opportunities.
2. The community is passionate about arts, culture and heritage and is alive with creative energy and aesthetic appreciation.
3. Artists from all disciplines have opportunities to share their vision and work.
4. Arts, culture and heritage are reflected in Stratford's design for the built environment and open spaces.
5. Arts, culture and heritage are appreciated and supported as part of the community's health and beauty.

6. Stratford's people, its history and the natural environment are retained and celebrated through diverse cultural offerings.
7. Stratford tells the story of its journey to sustainability through artistic and cultural offerings.
8. Sustainable practices and alternatives are the norm, rather than the exception.
9. Stratford's residents celebrate cultural diversity, inclusion and solidarity.
10. Arts, culture and heritage are economic drivers of Stratford's economy.

D) THE ECONOMY

1. Stratford's economy provides a quality of life that attracts and retains community members.
2. Stratford has a year round sustainable diversified economy that meets the needs of the community.
3. The Stratford economy is responsive and adapts to the challenges and opportunities created by environmental change.
4. Businesses in Stratford respond to changing patterns of natural and human resources through the Town's economic sustainable model.
5. Businesses in Stratford are well known for their high level of corporate social responsibility.
6. Locally operated businesses thrive and are encouraged. They use local products and purchasing as much as possible
7. Stratford's sustainable physical, social and cultural infrastructure attracts investment and people to Stratford.
8. Stratford's economy provides opportunities for a competitive return on investment.
9. Stratford's economy is an independent and integral part of the PEI economy

E) THE GOVERNANCE

1. Stratford is recognized as a leader in sustainable community development and corporate policies.
2. Stratford's goals and objectives are clearly understood and practiced by residents and businesses.
3. Planning and decision making continues to be carried out using a sustainability based decision-making framework.
4. Elected officials and town staff value fiscal responsibility, accountability and transparency.

5. Elected officials and town staff are committed to a high quality of life for all residents.
6. The Town of Stratford values the engagement of the community in planning and decision-making.
7. The Town values its employees and provides and an environment that encourages professional development.

F) THE BUILT ENVIRONMENT

1. Stratford's built environment reflects the community's character, contributes to health and well being.
2. Stratford's built environment anticipates and accommodates the needs of residents and the business community.
3. The new and renovated built environment reflects leading edge technology in the sustainable management of energy and materials and construction.
4. Stratford's green building sector is a leading contributor to the local economy.
5. Sustainable policies and initiatives contribute to the financial health of the Town.
6. Developed areas are designed to harmonize with the surrounding natural environment.
7. Limits to growth are understood and respected.
8. Community spaces encourage personal interaction and shared activities.
9. Residents live, work and play in neighborhoods which are close to green space, public transit, trails and amenities.
10. Effective legal and financial tools are in place to encourage flexible ownership models for housing that is affordable for all.

F1) Energy

1. Stratford's energy needs are supplied by a mix of local and regional sources wherever possible.
2. Stratford has substantially increased its use of efficiently generated carbon free energy sources.
3. Residents and businesses understand energy issues and practice energy conservation.
4. The Town continues to lead in energy conservation and reduction in greenhouse gas emissions.

F2) Housing

1. Stratford's residential areas accommodate and integrate a diverse and wide range of residential densities and building types.
2. Stratford's residential neighborhoods are well designed, sustainable and affordable
3. Town of Stratford provides efficient urban services to all residents.

F3) Land Use

1. Stratford celebrates diverse and inclusive neighborhoods in land use and population.
2. Stratford's land use pattern facilitates lower demand for daily vehicle urban travel.
3. Appropriate commercial and institutional services are located in residential areas to reduce the need for daily vehicle use.
4. Stratford's land use plan encourages low impact development and green infrastructure integrating the natural environment into the community.
5. Stratford's land use patterns and regulations attract investors, businesses and developers to the Town; facilitating and promoting a sustainable economy.
6. All parts of the Town are connected and accessible through an integrated master transportation plan.

F4) Parks and Open Space

1. Stratford has a network of parks and open spaces, which are ecologically sound and aesthetically inspiring.
2. Parks and open spaces provide the community with opportunities for learning, leisure, spiritual renewal and recreation.
3. Parks and open spaces are managed in ways which minimize fossil fuel use and maximize the use of natural materials.
4. Parks and open spaces encompass wetlands and woodlands. Natural areas are protected and a policy of no habitat loss exists.
5. Healthy streams, rivers, ponds and wetlands support thriving populations of wildlife.
6. Developed and recreation areas are managed to protect the natural environment.
7. Stratford residents value their role as stewards of parks and open spaces.

8. Stratford's parks and open spaces are linked to each other and to residential and commercial areas by a network of trails and sidewalks.

F5) Transportation

1. Transportation, to, from and within Stratford is connected, accessible, safe, affordable and energy efficient.
2. Stratford ranks preferred methods of transportation in the following order:
    a) Active transportation, i.e. bicycle, pedestrian and other non-motorized means of transport;
    b) Public transit;
    c) Vehicles using leading edge technologies;
3. Sustainable transportation alternatives and options are developed, promoted and supported.
4. The convenience and affordability of alternative transportation modes to, from and within Stratford ensure that usage rates continue to rise.
5. The transportation system has transitioned to renewable energy and ecosystem integrity.
6. Stratford's residents and businesses are aware of the benefits of sustainable transportation modes.
7. The Transportation system management has addressed the demands of users and is safe and enjoyable.

Chapter 2)

THE CURRENT REALITY

A) Natural Environment

The Town of Stratford is situated on a peninsula, bounded by the Hillsborough River, Charlottetown Harbour, Hillsborough Bay and Fullerton's Marsh. To the south are the communities of Alexandra and Pownal and to the east is the community of Mt. Herbert.

The geographic size of the Town is 5,230 acres. The Trans Canada Highway, connecting the eastern end of the Province to the capital via the Hillsborough Bridge, bisects the Town from east to west.

This short report provides an overview of the Stratford's natural environment including Water, Land/Soil, Air, Forest/Trees and Natural Landscape. Each section begins with a brief explanation of key issues and concerns.

A-1) Water

Water is essential to all life on earth and there is an urgent need to manage this finite resource more sustainable. Demand for fresh water grows each year as global population increases, and the wealthier we all become the more water we each use. The United Nations estimates that if current trends continue by 2025, we will require 50% more water than is currently available.

The pollution of the precious supplies we have, and the effects of climate change further exacerbate problems of water scarcity. We are also quickly destroying essential elements of the water cycle (that recycles water from ocean to land) such as forest cover and wetlands, without which supplies simply dry up.

Stratford embarked on a program to provide central water supply and distribution services for the core area of the Town and fire rated water service in the commercial area for building sprinkler systems in 1999. In the last number of years, many of the areas of the Town that were serviced by central sewer in the 1980's began to experience water contamination. The sources of contamination are believed to be poorly constructed older wells, higher density development, and improperly abandoned septic systems. In response, the Town developed a strategy to service these areas with central water supply services in the short term. Over the longer term, the objective is to install central water supply services throughout the Town, excluding the Agricultural reserve area.

The Town of Stratford currently has six water supply stations within the town boundaries. Two of these utility stations are used for the main distribution system, namely Cable Heights and Pondside. The other four stations are smaller in size and are used to serve subdivisions. They are located at Beaconhill, Langley, Park Lane, and Reeves Estates.

The estimated annual volume of water resources allocated for municipal use is 696,000 gallons. This equates to182.3 imperial gallons per customer per day. During the 2008 summer months the average flow on the main distribution system was 263,911 IPGD

To meet the future demand increase as the Town develops, the Utility department has recently received approval for funding to explore a new well field.

In terms of water conservation practices, the Utility Department currently has a committee, which explores this issue. In addition, the Utility has a water information pamphlet for new residents and new projects, utility bill information inserts and a Water Conservation presentation to local school kids.

Regarding the issue of water quality, the Utilities' wells have experienced some form bacteria contamination every year from 2003 through 2008. These minor contamination issues have been treated with chlorine at the distribution source thus no contaminated water reaches the Utility costumers. All water on the main distribution system has always met the Canadian Drinking Water Guidelines

It is believed that the main sources of contamination to groundwater is due to excessive run off of storm water which is not drained properly off each property or within a subdivision thus allowing contaminants to enter the water table through abandoned wells, septic systems or other cavities in the ground. As well, the drainage of soils in Stratford is considered poor, causing excessive rain and thaws that do not permeate the soil quickly enough thus promoting excessive run off. Tables 1, 2 and 3 below show the groundwater resources in Stratford area.

Water Budget of Stratford Areas

Table 1 Groundwater Budget of Zone 1 (Rosebank)

Watershed area= 8 km^2	Inflow (m^3/d)	Outflow (m^3/d)
Recharge	8397.3	
Stream/River leakage	3.2	585.6
Cable height		220
Pond side		2288
Langley		320
Coast seepage		5516.7
Transboundary (Zone 1/Zone 2)	1036.2	948.5
Transboundary (Zone 1/Zone 3)	924.4	482.5
Sum	10361	10361

Table 2 Groundwater budget of Zone 2 (Alexandra)

Watershed area= 23.2 km^2	Inflow (m^3/d)	Outflow (m^3/d)
Recharge	23828	
Stream/River leakage		5238
Cable Height		110
Park Lane		160
Sundance		160
Bird Hill		320
Coast seepage		21730
Transboundary (Zone 2/Zone 1)	948.5	1036.2
Transboundary (Zone 2/Zone 3)	4170.6	194.8
Sum	28950	28949

Table 3 Groundwater budget of Zone 3 (South portion of Fullertons Creek)

Watershed area= 24.7 km^2	Inflow (m^3/d)	Outflow (m^3/d)
Recharge	26552	
Stream/River leakage	491.6	15492
Coast seepage		7134.8
Transboundary (Zone 3/Zone 1)	482.5	924.4
Transboundary (Zone 3/Zone 2)	194.8	4170.6
Sum	27721	27722

Notes:
1) Pumping rates at the well fields were based on data used for the delineation of well field captured zones and could be different from the real rates.
2) Pumping uses by domestic wells were not included in the calculations and were expected to be low compared to the recharge because most of the domestic water it returned to groundwater from septic field.
3) Recharge was assumed 410 mm/yr.
4) Hydraulic properties were based on model calibration.

5) Current groundwater allocation policy on PEI requires that groundwater should not be allocated more than 50% of the annual recharge on a watershed basis. So, the potential available rate of groundwater would be 50% of the annual recharge minus the allocated rates (i.e. those used in the well fields). This represents the potential and the impacts on local streams, existing wells, and seawater intrusion, etc. and so on should be investigated before the potential rates can be allocated.

Waste Water:

Sewage is created by residences, institutions, commercial and industrial establishments. Raw influent (sewage) includes household waste liquid from toilets, baths, showers, kitchens, sinks, and so forth that is disposed of via sewers. In many areas, sewage also includes liquid waste from industry and commerce.

The separation and draining of household waste into greywater and blackwater is becoming more common in the developed world, with greywater being permitted to be used for watering plants or recycled for flushing toilets. A lot of sewage also includes some surface water from roofs or hard-standing areas. Municipal wastewater therefore includes residential, commercial, and industrial liquid waste discharges, and may include stormwater runoff.

The core area of the Town has had central sewer services since the 1980's. Since that time, services were extended outside of the core area on an ad hoc basis to address ongoing water contamination resulting from failed septic systems. A consultant's review of the viability of on-site septic systems in the un-serviced area of the Town was commissioned in 2002. The consultant concluded that the majority of the existing approved lots were not sustainable with on-site septic systems due primarily to the size of the lots and the poor soil conditions. In the short term, the Town has a strategy to service the subdivisions where the majority of the lots were deemed to be not sustainable. In the long term, it is the intention of the Town to install municipal sewer services throughout the Town, excluding the Agricultural reserve area.

Currently there is a study underway which aims to ascertain the current capacity of the existing sewage treatment plant and to provide cost effective solutions to expanding our waste-water services to meet the future demands of the Town.

Storm Water:

Combined Sewage systems are designed to handel both stormwater and sewers at the same time. However, in many societies like Stratford, such systems are avoided since they complicate and thereby reduce the efficiency of sewage treatment plants owing to their seasonality. The variability in flow also leads to often larger than necessary, and subsequently more expensive, treatment facilities.

Indeed, storm water is more often the result of increasing the area of our footprints which leads to decreasing the absorbing capacity of the natural land and at the same time increasing the amount of runoff water per acre in developed areas.

As rainfall runs over the surface of roofs and the ground, it may pick up various contaminants including soil particles and other sediment, heavy metals, organic compounds, animal waste, and oil and grease. Some jurisdictions require stormwater to receive some level of treatment before being discharged directly into waterways.

There are a number of issues related to the storm water management within the Town. Firstly, the unregulated infilling of ditches along public right of ways has caused considerable flooding of properties in recent years. The Province has recently imposed a new policy for the infilling of ditches which aims to ensure proper design and construction of the underground infrastructure.

There is also an increased need to have storm water management plans for new subdivisions/development. This requirement could potentially address issues with surpassing the capacity of the downstream drainage system as well as the associated rise in pollution that occurs along with the increased length of network. Placing emphasis onto water retention areas or other methods of recharging the aquifer as opposed to transmitting runoff to the Hillsborough River is essential to maintaining wetland habitats.

A-2) Land/Soil

Soil is a major supporting system for life on earth, and if degraded may take centuries to recover. Many scientists and environmental organizations experiment with ways to enrich the soil without using man made chemicals. Over the past 30 years we have had a great deal of success with different compost mixes, nutrient recovery from human excreta and green manures.

Soil Care

We nourish our soil with our own home-made compost and by use of green manures. Green manures are fertility-building crops such as clover and field beans which are grown to collect nutrients in their biomass. They are mulched onto or dug into the soil to improve structure and increase fertility. Green manures have great potential to be used more widely in agriculture. This would reduce the amount of nitrogen fertilizers used and therefore cut down on our greenhouse gas emissions from their energy-intensive production.

Pest Control

By maintaining a diverse environment we protect our plants against attacks from pests. Pest species are part of the natural environment, which have got out of control due to a lack of predators and a ready food supply - our crops. We encourage predatory

species by providing habitat and nectar sources. For example we plant flowers of the daisy family among our vegetables to attract the adult hoverflies, which lay their eggs nearby. Their larvae then feed on our aphid pests. Our vegetable crops are inter-planted with flowers and green manures to confuse the pests, which then don't wreak havoc as they would in a monoculture.

Soils in the region are primarily Charlottetown series and tend to be somewhat heavy. High clay content in certain areas creates low percolation rates and poses problems for tile fields. While soil depth is generally good, there are pockets of shallow soils, primarily along the escarpment. A number of shale pits are located in this area. Ground water is of high quality and is in generally good supply.

The following existing land use data was developed from mapping and aerial photographs. The information was gathered by CBCL for a Storm-water Management Plan Report developed in 2004.

- Agricultural – 49%
- Forested – 16%
- Developed – 35%

Two significant issues dealing with land and soil within the town's boundaries are soil contamination and soil erosion. Soil contamination is often caused by the leakage of outdoor oil tanks. According to the provincial brochure, *Home Heat Tank Safety*, "Just one liter of spilled oil can contaminate one million liters of groundwater." Fortunately, since 2001 Prince Edward Island began regulating the replacement age and installation of small oil tank systems.

Erosion is a natural process, but it has been increased dramatically by human impacts. There exist two general types of soil erosion in Stratford. The first is a shoreline erosion, which appeared on coastal areas, primarily occurs through the action of currents and waves but sea level change can also play a role. The impact of unsustainable urban development and poor storm water management is the second main reason for soil erosion in Stratford's inland areas.

- **Climate Change and Sea Level Rise issue**

In 2003, The Canadian Council of Ministers of the Environment (CCME) produced a report entitled, *Climate, Nature, People: Indicators of Canada's Changing Climate*. Within the document is a section dealing with the sea level rise in the Charlottetown area and the effects this has:

"Rising sea levels threaten familiar shoreline environments. Coastal wetlands, which are important ecosystems and barriers against shoreline erosion, gradually disappear. Bluffs and beaches are more exposed to erosion by waves, groundwater is more likely to become contaminated by salt water, and low-lying coastal areas may be permanently lost. In addition, wharves, buildings, roads, and other valuable seaside property face a greater risk of damage as a result of flooding from storms." (p.13 *Climate, Nature, People*)

Below is a graph illustrating the Charlottetown annual mean sea level rising over the years as a result of climate change and the sinking of the land.

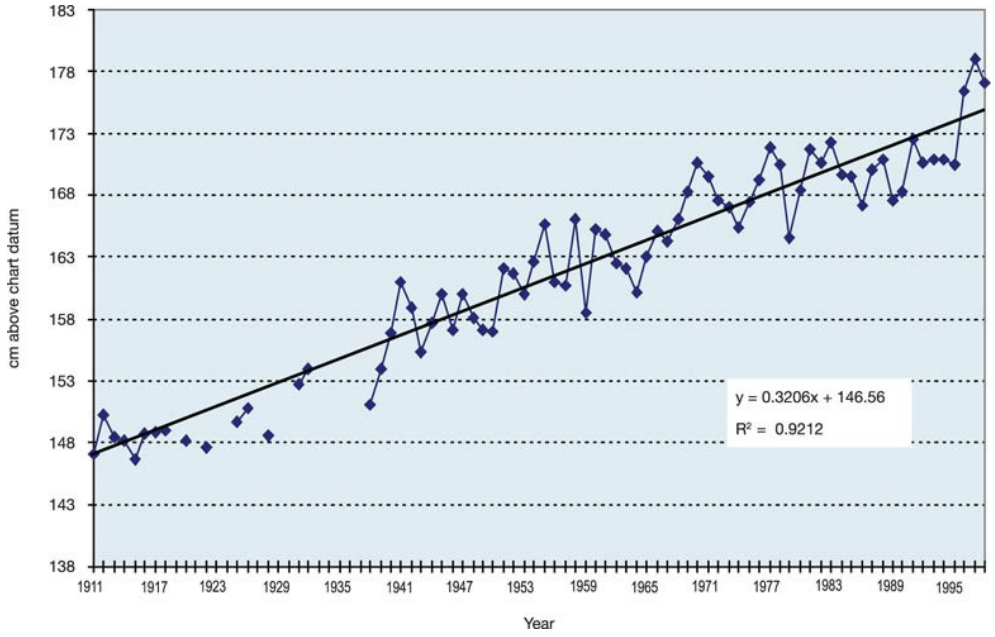


Figure 1 Charlottetown Annual Mean Sea Level

It is clear that more must be done to ensure that our shoreline, groundwater, urban infrastructure and ecosystems are protected from the sea level rise. Initiatives should be taken to reduce the effect we have on climate change as well as place emphasis on protecting our coastal areas.

It should be noted that other forms of soil erosion may occur inland as well, due to improper farming practices and/or clear-cutting of land.

A-3) Air

Sources of air pollution refer to the various locations, activities or factors which are responsible for the releasing of pollutants in the atmosphere. These sources can be classified into two major categories which are Human activities and Natural sources.

Currently, the main human activities based source of air pollution in the world is fossil fuel consumption, which emit Green House Gas into the air.

Responding to such a global issue, governments, policy makers and scientists and organizations around the world try to initiate policy, regulations, technology and materials, which can reduce fossil fuel consumption and producing less volume of GHG in their communities.

A new pilot project between Environment Canada and the provincial Department of Environment, Energy and Forestry provides the public with hourly reports and future forecasts on the air quality in their area. The Air Quality Health Index (AQHI) is a scale from 1-10 which describes the health risk associated with the current readings. There are also recommendations provided as to the level of activity a person with respiratory illness can safely partake in, given the current conditions.

At present, there are three monitoring stations on Prince Edward Island, the closest of which is in Charlottetown. The scale is calculated based upon values of Ozone (0_3), Particulate Matter ($PM_{2.5}$/PM_{10}), and Nitrogen Dioxide (NO_2).

While the AQHI may prove to be beneficial to those suffering from respiratory illnesses, it should be noted that this project is fairly broad based, and does not provide accurate results to areas outside of the monitoring locations. Furthermore, according to Government officials, the AQHI for Prince Edward Island is not expected to rise to a level of concern, as we do not have significant air polluting contributors within the province.

According to the PEI's Department of Environment the most common issue that arises in terms of air quality stems from the burning of biomass. This includes the outdoor burning of waste in fire pits as well as the burning of wood in home furnaces.

This creates a conflict in the sense that the Provincial Government aims to increase the use of alternative bio-fuels in an effort to reduce the dependence on oil. To address this issue, the Provincial Government has developed an energy strategy entitled *Securing our Future: Energy Efficiency and Conservation.* This energy strategy outlines their commitment to:

- *Better understand the environmental and health concerns associated with biomass emissions (i.e. wood smoke).*
- *Ensure that increasing the use of local biomass resources is accomplished in a sustainable fashion.*
- *Government will only be supportive and promote biomass installations that meet acceptable emissions levels.*

These three stipulations are aligned with Stratford's commitment to becoming a sustainable community and could potentially be used as framework for the development of bylaws focusing around the promotion and regulation of clean, renewable energy sources.

A-4)Wildlife

The greatest threat to wildlife in Stratford, and other developed areas alike, is the deconstruction of their natural habitat. As land is developed wooded areas are diminished, watercourses are more at risk of pollution and wildlife are driven out of their natural habitat due to lack of food and shelter.

The future development of the Town should concentrate on working around the natural features of the land (i.e. streams, forests, etc.) instead of simply clear-cutting in order to maximize the amount of subdivision lots. This protects Stratford's existing natural beauty, wildlife habitats, and at the same time creating "green corridors," (links of green space which connect two or more habitats), thereby ensuring a thriving wildlife presence in the community.

Common Wildlife to PEI and Stratford include:

- Beaver
- Eastern Coyote
- Mink
- Muskrat
- Raccoon
- Atlantic Brant
- Mergansers
- Red Fox
- Red Squirrel
- Striped Skunk
- Weasel (Ermine)
- Common Snipe
- Diving Ducks
- Pond or Dabbling
- Grey Partridge
- Ring-necked
- Pheasant
- Ruffed Grouse
- Snowshoe Hare
- Ducks
- Woodcock
- Canada Goose

A-5)Forest/Trees

As mentioned above, a land use survey conducted in 2004 found that approximately 16% of Stratford's area is forested. This equates into roughly 837 acres. Protecting this land is essential to the ensuring the future of wildlife in the community.

Below are some common trees/shrubs native to PEI:

Hardwoods
Maple (various species)
Birch (various species)
American Beech
Ash (various species)
Ironwood
Balsam Poplar
Largetoothed Aspen
Oak

Softwoods
Balsam Fir
Eastern Larch
Spruce (various species)
Pine (various species)
Eastern Hemlock
Eastern White Cedar

Shrubs
Alder (various species)
Service Berry
Sweet Fern
Dogwood (v.spec.)
Beaked Hazelnut
Hawthorn
Witch Hazel

A-6) Natural Landscape

The declining availability of oil and natural gas will necessitate the diversification of our landscapes for the benefit of biodiversity and future generations. While the Town represents a somewhat natural geographic region, the one obvious anomaly is the area often referred to as “Bunbury District”, essentially the area between the former community of Bunbury and Fullerton’s Marsh.

Topography and drainage is quite diverse. In the northern part of the Town the landscape is gently rolling with a poorly differentiated drainage system. The land falls generally from a high point on Mason Road north toward Fullerton’s Marsh, west toward the Hillsborough River and south toward Stewarts Cove. There are no prominent streams in this area.

The southern part of the Town has much more diverse topography and a well articulated drainage system with a number of streams and several prominent ravines. The most significant stream system is the Hatchery Pond system feeding into Stewarts Cove.

Several other streams are evident in the Keppoch-Kinlock and Cross Roads areas feeding into Hillsborough Bay. The highest point of land is in Cable Heights in Cross Roads. A significant escarpment begins in the Keppoch-Kinlock area and runs for several miles to the east through Alexandra and Pownal. This prominent land feature affords dramatic views to the south overlooking Hillsborough Bay and Northumberland Strait and has become a popular location for estate type housing. The shoreline is marked by prominent cliffs in the Keppoch area which become less pronounced to the north and east. A number of beaches are located along the shoreline, mostly at the mouths of streams and in coves.

- ### Land Use Planning and Management

As pressure on the land increases and ecosystems are evermore degraded it is clear that the sectoral approach to land management is not sustainable. It is necessary to integrate land practices in a sustainable and efficient way to produce maximum yield with minimum cost to the environment.

Land-use practices could play a major role in reducing the concentrations of green house gases in the atmosphere. Using natural processes to draw down and sequester carbon dioxide will require a major rethink of our relationship with woodland, presence of ruminants on the landscape, and the way in which we manage our soils. It is essential that all stakeholders work together, from politician to farmer, to agree on accessible and appropriate alternatives that do not alienate and marginalize people.

B) Social, Cultural and Economic Characteristics

Introduction

During the past decade Stratford has benefited from improved access to the market that has developed in the City of Charlottetown because of the increased capacity of the new Hillsborough River Bridge constructed in 1998. During the last decade, rural decline has been seen in adjacent communities. Future growth in Stratford will most likely occur more as a result of its proximity to Charlottetown.

Stratford has benefited from high growth rates in residential housing, but has not enjoyed the same rate of growth in commercial development. In order to maintain affordable tax rates, Town Council has determined that commercial development must be encouraged and therefore requires a sustainable economic development plan.

As a result of community consultations in Stratford there have been a number of lessons learned over the past decade. Statements on economic development in the past indicate that the developing mission statement will contain references to these past consultations.

Stratford's Social and Economic Characteristics

Stratford's resident population is one of the best educated communities on PEI, educational attainment is very high; 25% of our residents over the age of 15 years have attained a university degree, this compares to 14% for the province as a whole. The residential nature of the community has resulted in a higher than average youth population relative to PEI, and a lower than average senior population. Stratford has a young, vibrant, educated and growing labor force.

Stratford's population and labor force is a valuable resource for business in the Charlottetown area where in fact 80% of Stratford residents state their place of employment to be. In addition to the significant attributes of the resident population; consideration must also be given to the available pool of workers who regularly commute through Stratford from eastern PEI to employment in the Charlottetown area.

Stratford's location within the Greater Charlottetown community, connected by public transit, means that labor is immediately available for business growth.

Detailed community profile of Stratford is continued in the charts in the following pages.

Table 4) Labour Force Activity

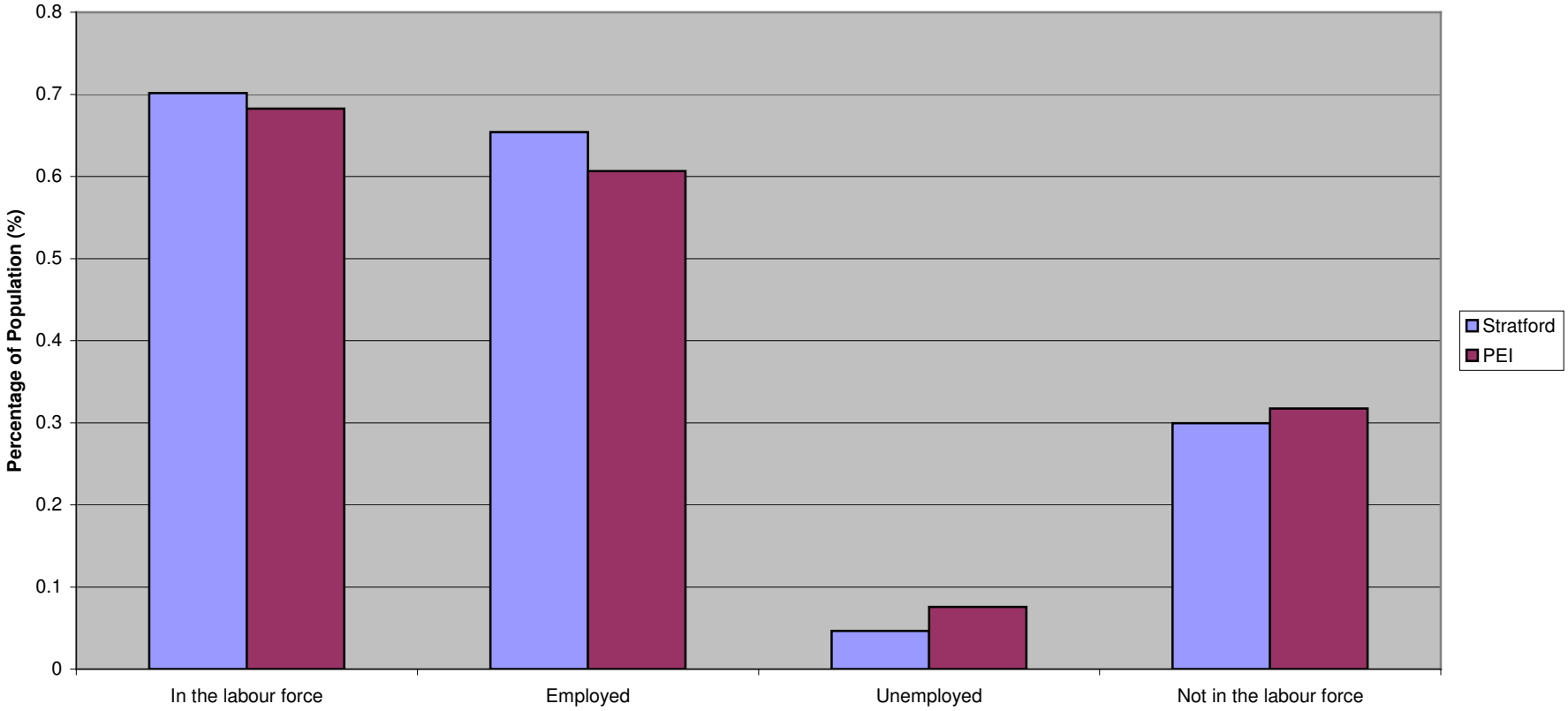


Table 5) Educational Attainment

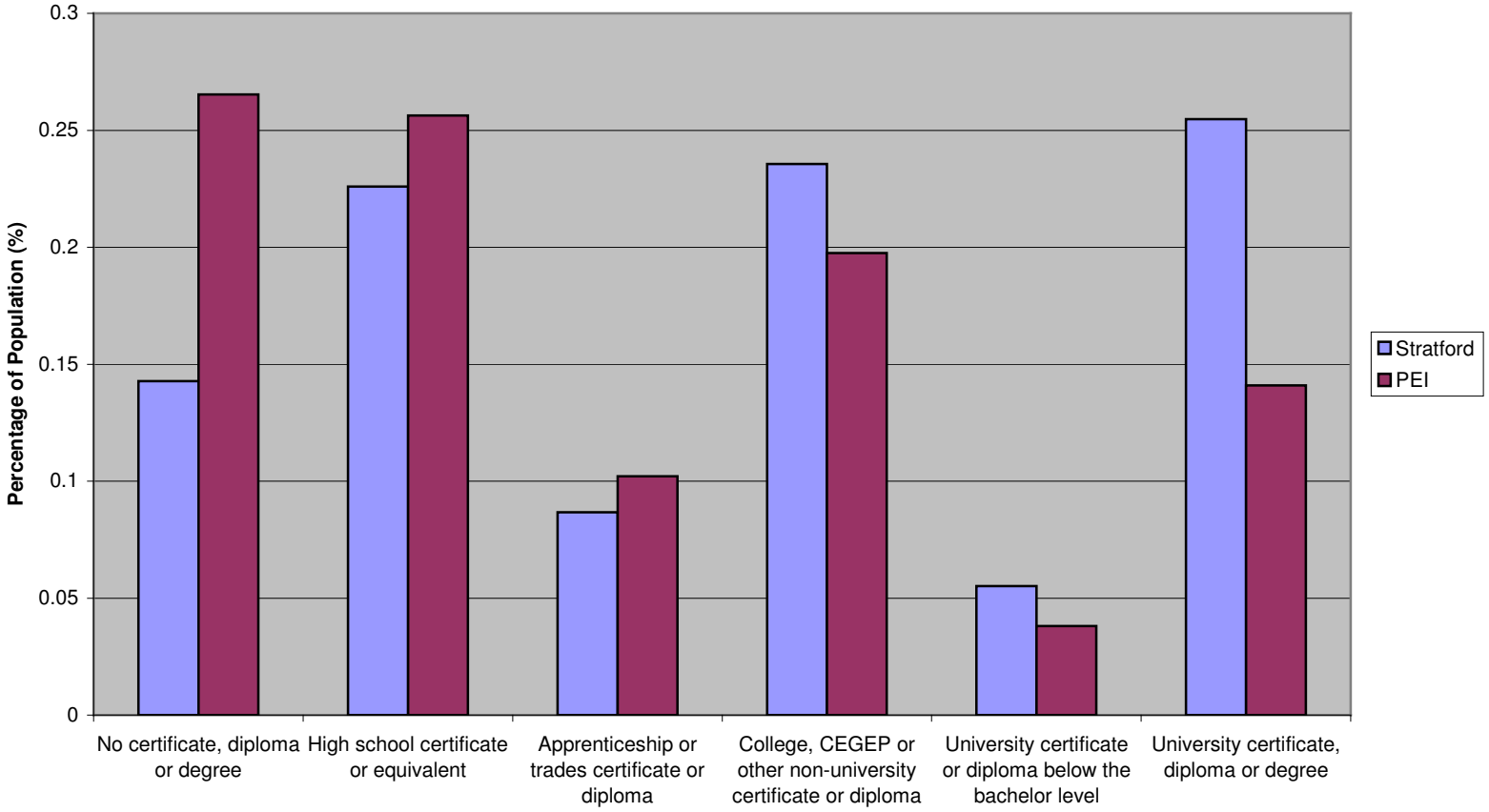


Table6) Occupation

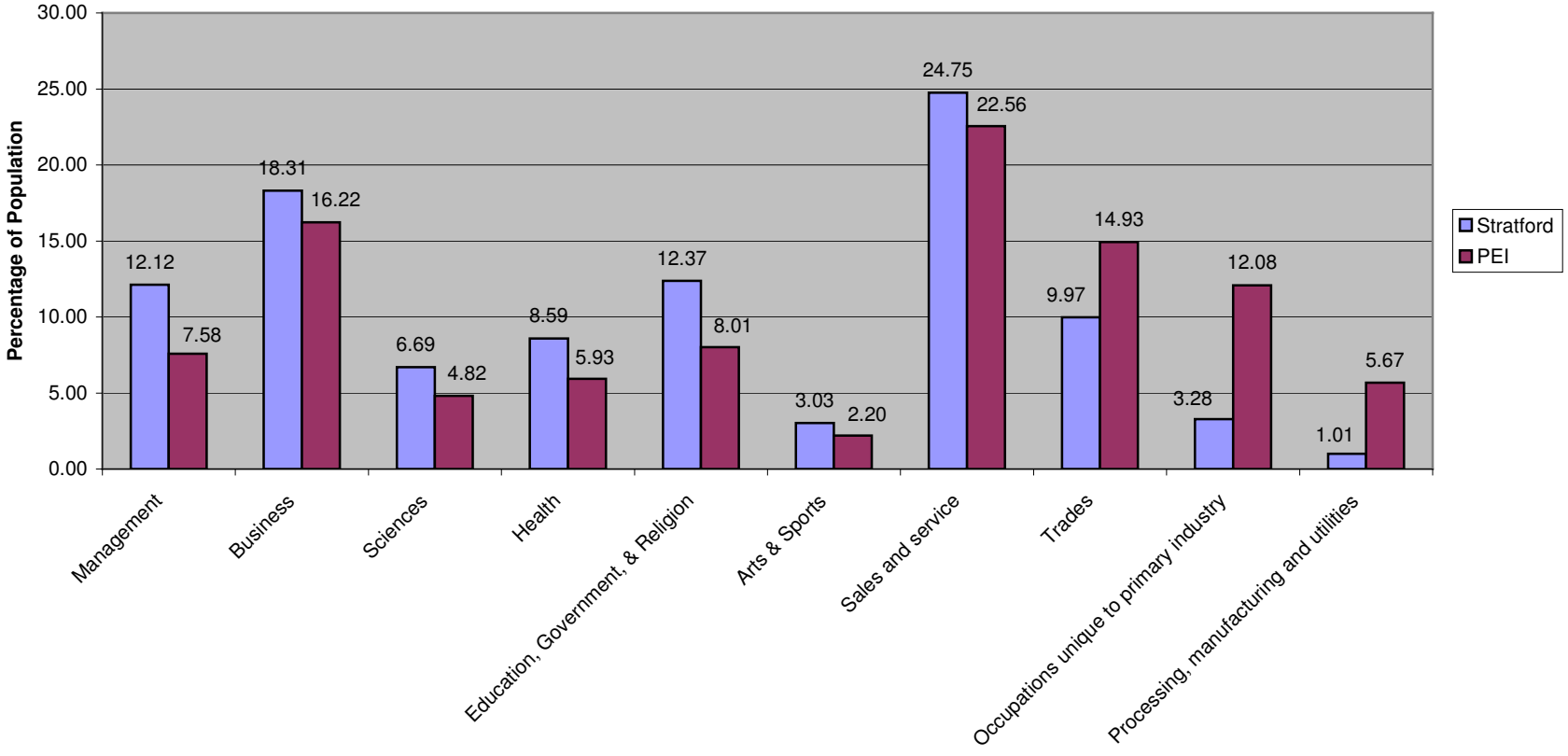


Table 7) Industry

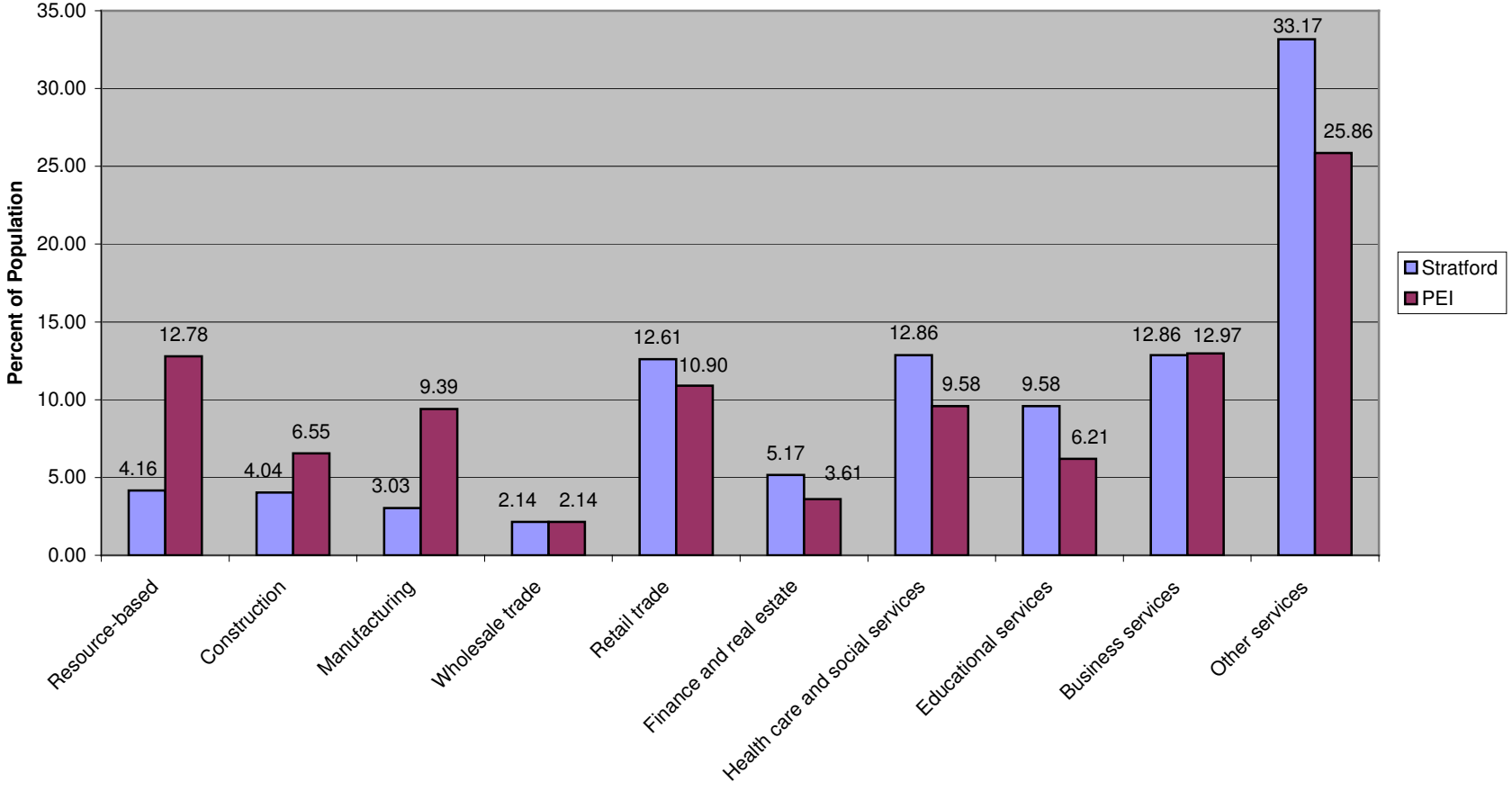


Table 8) Labour Force Activity

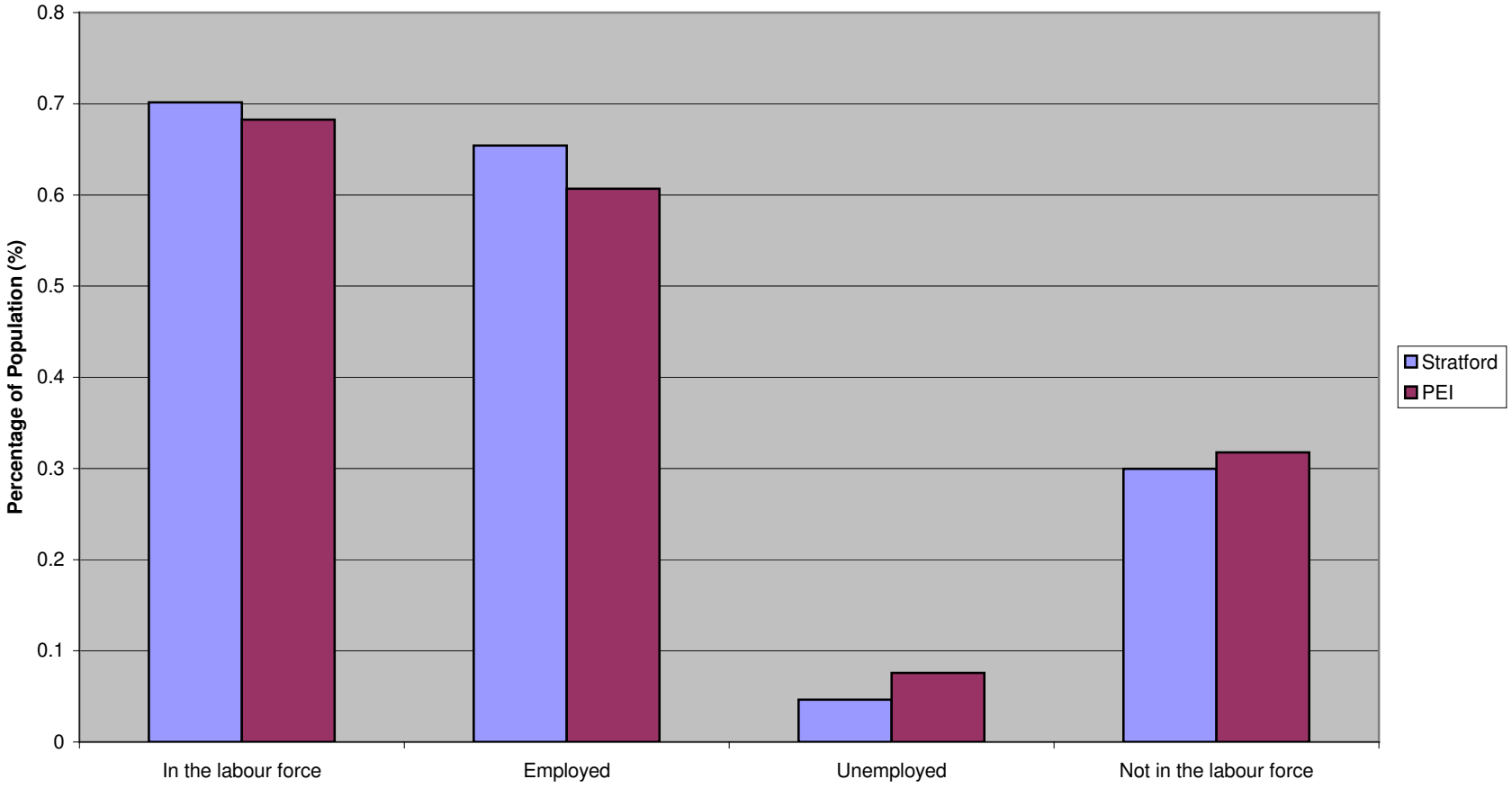


Table 9) Place of Work

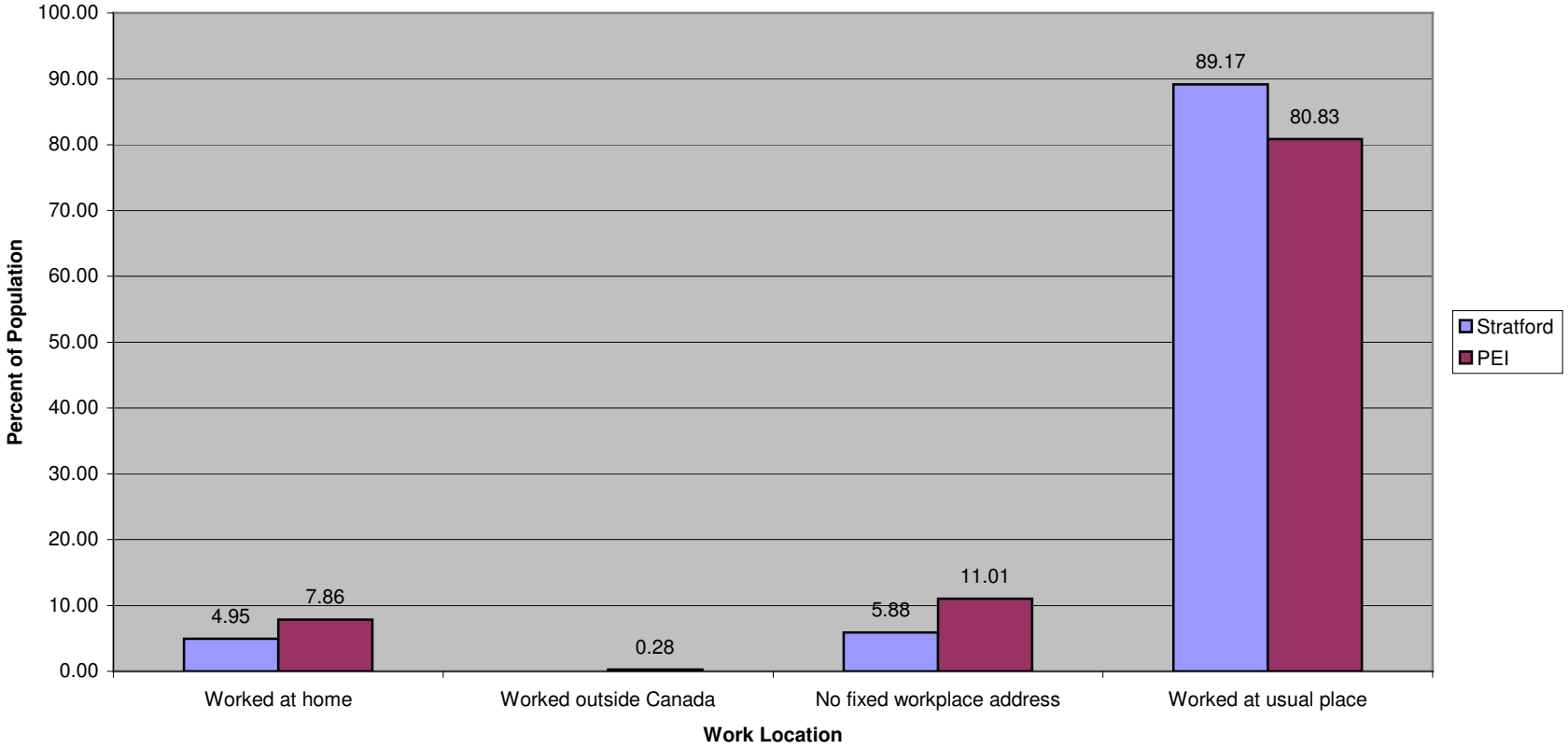


Table 10) Income in 2005

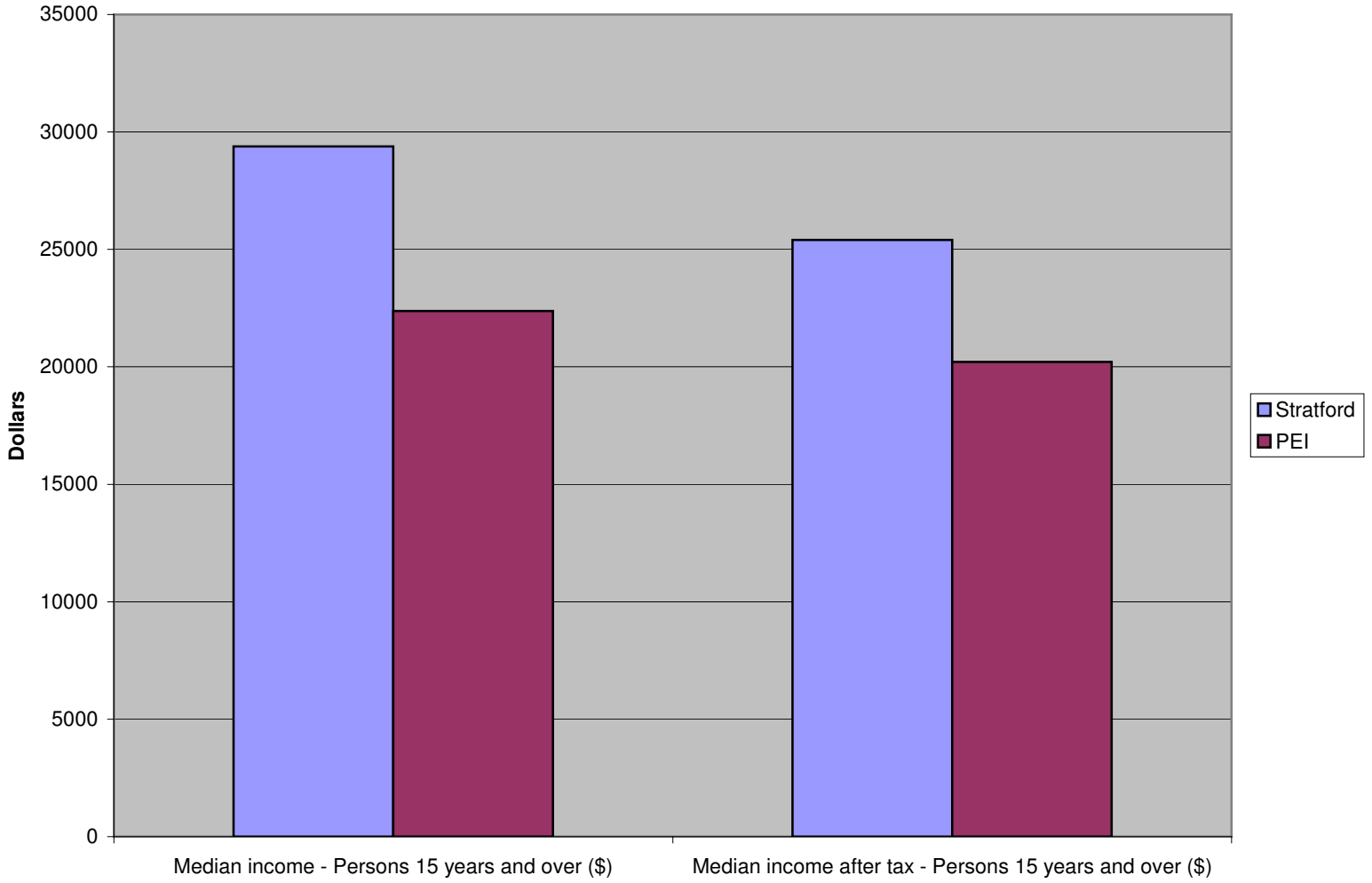
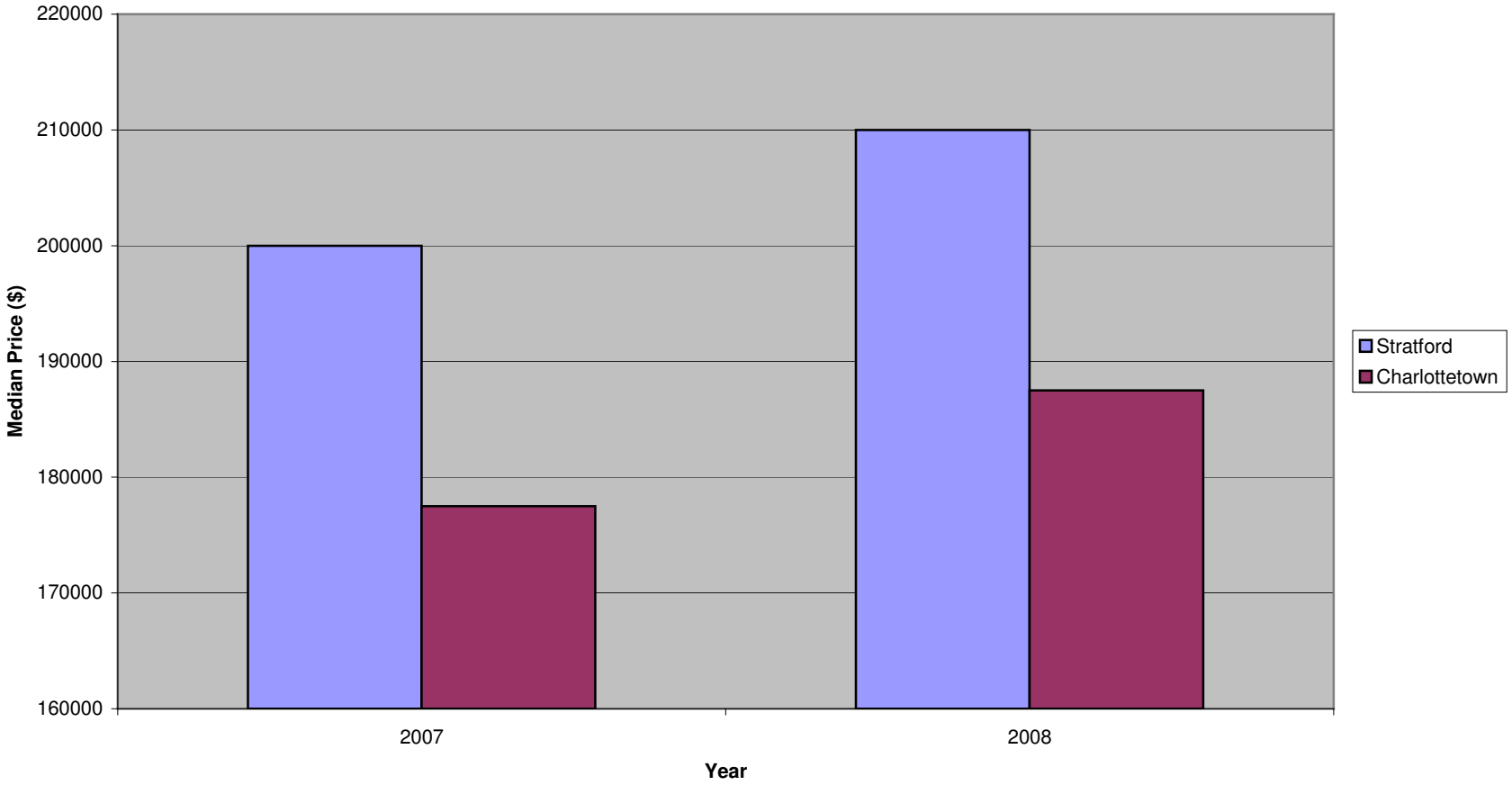
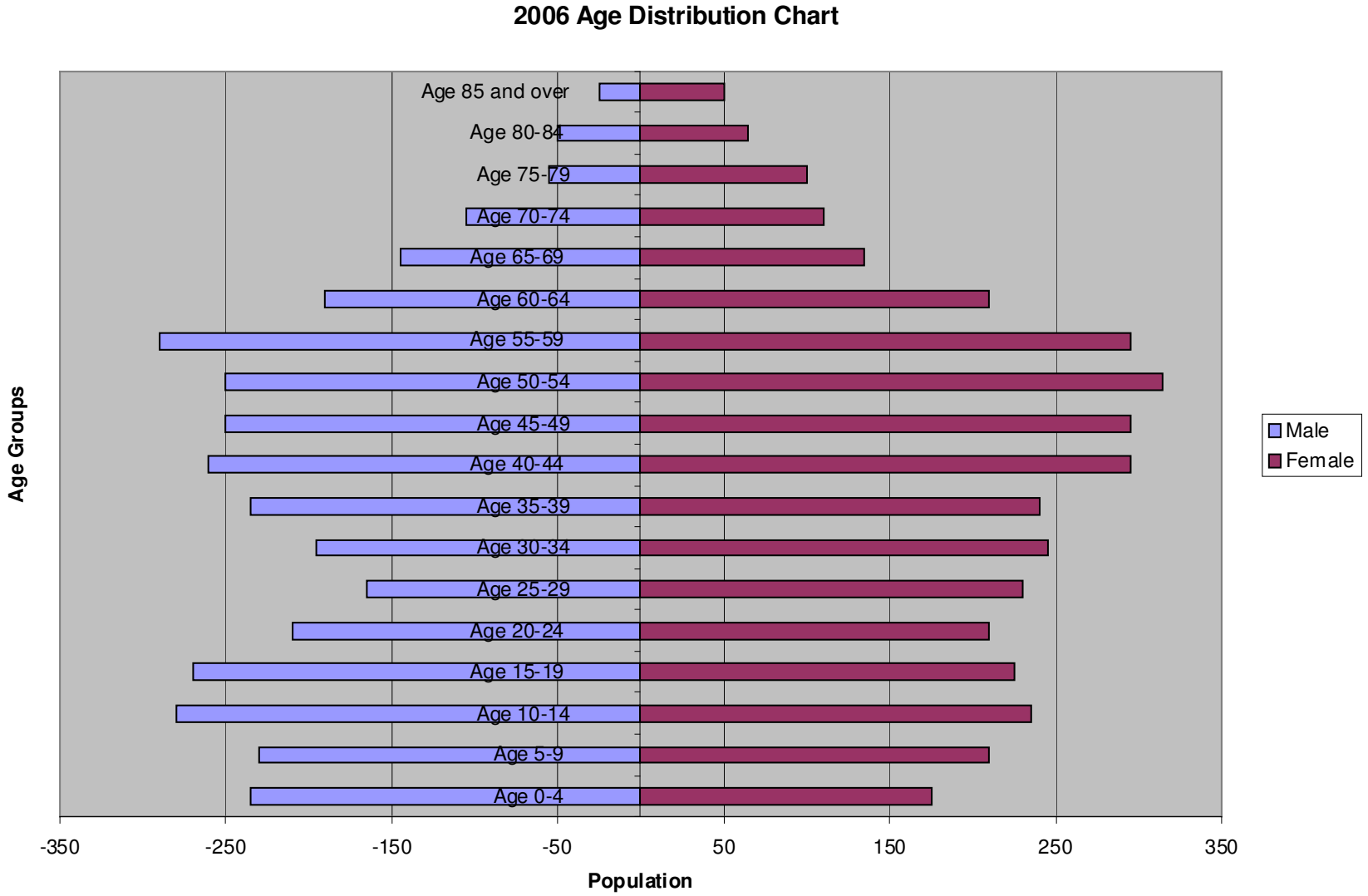
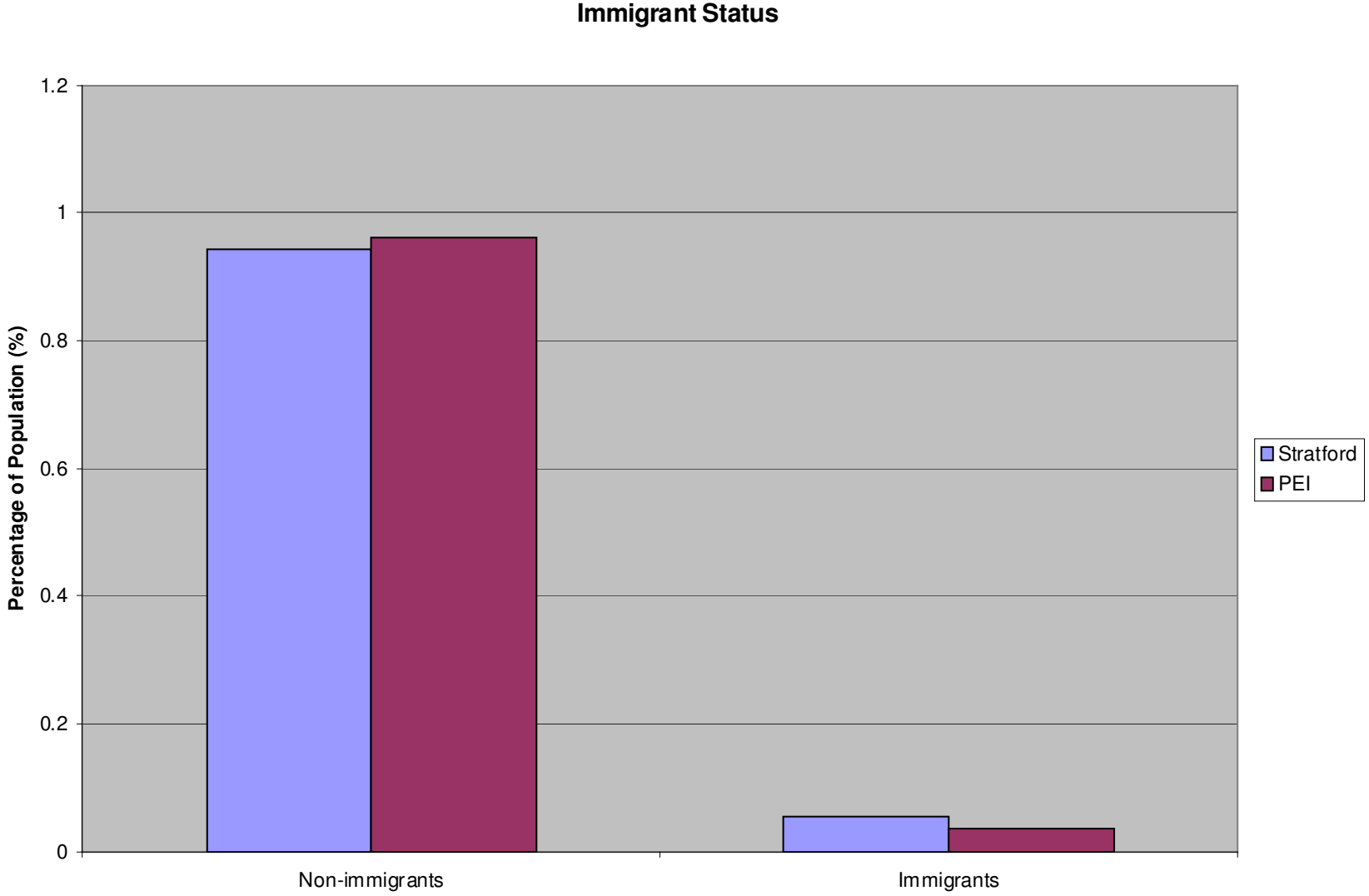


Table 11) Median Housing Price




2006 Age Distribution Chart
Age 85 and over
Age 80-84
Age 75-79
Age 70-74
Age 65-69
Age 60-64
Age 55-59
Age 50-54
Age 45-49
Age 40-44
Age 35-39
Age 30-34
Age 25-29
Age 20-24
Age 15-19
Age 10-14
Age 5-9
Age 0-4
Age Groups
-350
-250
-150
-50
50
150
250
350
Population
Male
Female


Immigrant Status
Percentage of Population (%)
1.2
1
0.8
0.6
0.4
0.2
0
Non-immigrants
Immigrants
Stratford
PEI

Economic Development Opportunities

Sustainable economic development opportunities are those which present economic growth potential and fulfill existing community needs. In a countrywide survey of municipal services completed for the Federation of Canadian Municipalities, results clearly indicated that Canadians are most concerned about road maintenance, affordable housing, clean water, policing, recreational facilities and community safety.

Across Canada the top priority areas perceived to be in most need of attention are affordable housing and roads.

There were also significant findings in the FCM survey about the availability of economic opportunities for community residents, particularly in small communities (<10,000) there is a dearth of opportunity for young people who are moving out of their hometowns to find work.

Engines of Growth Within the Island Context

The current economy and business conditions in Prince Edward Island present the legacy context in which sustainable economic development of the local Stratford economy must find its place, “traditional approaches toward economic development have fallen short of providing the quality of growth that is needed.”

The economic development strategy being put forward by the current provincial government focuses on a three-pillar strategy of investment in people, innovation, and economic infrastructure in targeted industrial clusters. The island is working to shift from resource industry dependence on commodity prices to differentiated unique premium products, which require innovative people and new technology. Investment in new industries seems to be coalescing around specific geographic areas of PEI: Research and Development in Charlottetown, Aerospace in Summerside, Wind Energy in West Prince, Bioscience at UPEI, and IT predominantly in Charlottetown.

The research and development cluster that developed in Charlottetown around UPEI with the AVC, Food Technology Centre, and NRC paved the way for other such important economic development clusters. This example provided the evidence that a critical mass of intellectual capacity gathered around a specific geographic area would spawn new business and job growth.

The Aerospace Industry has become a flagship illustration of a strategic focus on cluster development and the attraction of an important commercial sector to PEI centered in Slemon Park, Summerside. The development of this industry cluster in Slemon Park points out the effectiveness of “cluster development” as referred to in the sustainable cities report prepared for the federal government.

The growth of aerospace sector is attributed to a combination of the availability of skilled labor on PEI and the tax rebate offered to the industry by the province in all areas of taxation; full rebates are provided to eligible Slemon Park employers for sales tax, property tax, and provincial corporate income tax for a 20 year period.

New business development has occurred in West Prince around a wind energy resource that is internationally significant, centered in North Cape, the excellent wind energy resource and capacity development in the Wind Energy Institute in this area of PEI has spawned the natural development of an industry cluster.

The Bioscience cluster is one that has been recently identified with future avenues of growth on PEI. Biosciences represent an innovative industry which use traditional resources in non traditional ways, over time, potential exists to create a bio-science based value chain in nutraceutical and biopharmaceutical products based on unique island resources. This industry has grown in recent years to over $60 million in value in the island economy and has received recent stimulus from the 2007 opening of NRC's Institute for Nuti sciences and Health.

Information technology business has grown in recent years in PEI and is expected to continue to provide employment opportunities for workers with post secondary education. Firms like CGI have provided an engine of growth for the provincial economy which has seen employment increase in the IT sector by 40% in the last 5 year period. These occupations include database analysts, web designers and developers, and software engineers. A key area of future employment development is anticipated to be in interactive media and video game development, in keeping with the 2004 introduction of "Game Plan" a comprehensive provincial strategy to attract this industry to PEI.

Potential for District Energy

Stratford Utility may have the opportunity to create a district energy creation and distribution system. The Mission statement of such a utility might be something like:" To develop a world class community based district energy system that responsibly invests shareholder capital to encourage local economic development and demonstrate environmental leadership."

There are 2 opportunities in the district energy field that require evaluation:

1. The ability to finance individual business energy saving investment plans, leasing to the client the long-term benefits of the alternative renewable energy technology. Conceptually, Stratford could lease solar panels to residents, secured by the resident's property; this could impact fossil fuel consumption

2. The ability to finance district energy initiatives to increase the dependence of the community on alternative renewable energy technology. Conceptually, Stratford could work toward the formation of a district energy grid, combining one or more forms of

alternative energy production and distribution. Potential energy sources include methane recovery and heat stripping in sewage treatment facilities and wind power from town owned property.

Stratford Business Directory

The Town of Stratford has within its municipal boundaries 125 businesses, 21 of which are home based. These businesses have been divided into 6 categories: Accommodations, Agriculture, Government, Manufacturing, Retail, and Service.

The Accommodations category is comprised of 10 businesses, seven of which are home based. There are 2 Agriculture businesses, 1 Government based business and 2 for Manufacturing. There are seven Retail outlets, 1 of which is home based. Finally the Service based business is the largest category with 103 businesses, 13 of which are home based.

The Built Environment

Introduction

The Built Environment, here, refers to the man-made surroundings that provide the setting for human activity, ranging in scale from personal shelter to neighborhoods to the large-scale civic surroundings. In the present report, The Built Environment refers to Housing, Transportation, Infrastructure, Parks and Open Spaces, Energy and Land Use Planning issues.

Land Use and Zone Characteristics

This section of the report breaks down Stratford's land use into the various zones as well as giving information as to the percentage of each zone which has been developed to date**.** This data was gathered by analysing satellite photographs using GIS software.

Table 14) Land Use and Zone Characteristics

Zone		Area (acre)	Percentage of Town's Total Land (%)	Area Developed (acre)	Percent Developed (%)
- Agricultural Reserve	A1	1309	23.68	1309	100
- General Commercial	C1	17.86	0.32	17.86	100
- Highway Commercial	C2	8.44	0.15	8.44	100
- Neighborhood Commercial	C3	2.45	0.04	2.45	100
- Light Industrial	M1	60.16	1.09	33.61	55.87
- Business Park	M2	77.07	1.39	44.52	57.76
- Mason Road Commercial	MRC	64.73	1.17	51.60	79.72
- Mason Road Mixed Use	MRMU	3.56	0.06	1.73	48.53
- Recreational and Open Space	O1	295.19	5.34	282.64	95.75
- Public Service and Institutional	PSI	98.54	1.78	98.54	100
- Planned Unit Residential	PURD	60.57	1.10	44.92	74.16
- Single Family Residential	R1	1249.76	22.6	825.59	66.06
- Single Family Residential Large	R1L	1541.75	27.88	987.18	64.03
- Two Family Residential	R2	515.97	9.33	341.83	66.26
- Multiple Family Residential	R3	24.9	0.45	24.9	100
- Town Centre Commercial	TCC	60.85	1.1	21.25	34.92
- Town Centre Institutional	TCI	19.4	0.35	13.40	69.08
- Town Centre Mixed Use	TCMU	59.9	1.08	51.09	85.29
- Town Centre Residential	TCR	46.41	0.84	24.44	52.66
- Waterfront Public Space	WPS	21.89	0.4	-	-
- Waterfront Mixed Use	WMU	25.02	0.45	-	-
- Waterfront Residential	WR	4.43	0.08	-	-
Total		**5570.84**	**100**		

Subdivision Characteristics

In an effort to better understand the land allocation for parks, roads, and lots required when designing new subdivisions, Beacon Hill and Kinlock Creek subdivisions were analyzed.

Beacon Hill

The Beacon Hill subdivision is comprised of approximately 62.7 acres of land. Of this total, 10 acres are allotted for the roads (16%), 6.4 acres make up the parkland (10%), and 46.3 acres make up the 122 single family residential lots (74%). Average lot size is 16531sq ft.

Kinlock Creek

The Kinlock Creek subdivision is comprised of approximately 57.3 acres of land. Of this total the roads make up 10 acres (17.5%), 13.3 acres make up the parkland (23.2%), and 34 acres account for the 112 single family residential lots (59.3%). Average lot size is 13223 sq ft.

While the land allocation percentages do significantly differ between the two subdivisions, in terms of parkland and residential lots, it should be noted that Kinlock Creek has a substantial park/open space/trail network. This large allocation of land for recreation should be used as the model for future development. It should also be noted that the land allocation for the road network was fairly constant at approximately 17%.

Housing

The number of dwelling units, as well as dwelling type was ascertained using the 2006 Census information as well as the Town's development database.

Table 15) Housing Characteristics

Dwelling Type	2006 Census	Development since 2006	Total
Apartments	309	102	411
Duplex/Semi-Detached	269	32	301
ROW/Townhouse	34	21	55
Single Family	2104	258	2362
Total	**2716**	**413**	**3129**

*2006 Census information was recorded as percentages of total dwellings. The numbers presented in this table represent the percentages multiplied against the total number of dwellings listed in the census.

In an effort to estimate the density of the Town we must first calculate the population. This is accomplished through interpolating the Statistics Canada data from 2006, namely the population in 2006 and the population growth rate from the previous five years. If the five year growth rate is to remain constant at 12.2% then the population in 2009 should be approximately 7602. This gives an overall density for the town at 338.2 people/km^2.

Another estimation for the Town population can be determined using the number of dwellings multiplied by the Statistics Canada size of house hold data (3 people/family) This method yields a population of 9387 and a density of 412.1 people/km^2. This estimation yields a very high population, as it relies on 2006 data for the average family size which very well could have changed.

Residential lot standards for the various zones:

- R1 11000 sq ft
- R1L 22000 sq ft
- R2 Duplex, semi, & row 14000 sq ft. or 7000sq ft./unit.
- R3 9000 sq ft., plus 1500 sq ft./unit.
- PURD same as R2 and R3 (depending on development type).

By dividing the undeveloped land in each residential zone by the minimum lot sizes we are able to estimate the future maximum population of the Town at a100% development level. Note, the road and parkland allocation must also be taken into account for this calculation. A conservative estimate for this land uses 40% for roads and parkland, therefore the undeveloped land for each residential zone becomes:

- R1 –169.63ac
- R1L –221.81ac
- R2 –69.63ac
- R3 –Completely developed.
- Purd –6.26 ac

Now dividing through these land values by the minimum lot standards yields:

- R1 –671 lots

- R1L –439 lots
- R2 –433 units
- R3 –Completely developed.
- PURD –38 units.

Multiplying the number of dwelling units by the Statistics Canada average household size of three yields a maximum population increase of 4743 people. This projects the maximum population of the town as 12345. It should be noted that this projection does not include future development in the agricultural, TCR, and WR zones.

Average Pricing for a home in Stratford: $185,879.

Transportation

Stratford boasts a large road network comprised of both public and private, paved and unpaved roads. The lengths of which can be observed from the table below:

Table 16) Stratford Road Lengths2

Road Type	Length (miles)
Paved Public	52.39
Unpaved Public	0.79
Paved Private	1.46
Unpaved Private	6.16
Total	**60.83**

The Provincial Department of Transportation and Public Works classifies the majority of roads in Stratford as “Local,” with the exception being the Trans Canada Highway (Arterial) and the Bunbury Road (Collector).

One important figure for statistical purposes is the ratio of roads to dwelling units. For Stratford this works out to be 31.29m per dwelling unit.

Parks and Open Spaces

As noted above under the Zone Characteristics portion of the report O1 has a total area of approximately 295 acres, roughly 0.05% of the Town's total land. Approximately 95% of the O1 land is developed, leaving 12.5 acres of designated O1 zoned land yet to be developed. The following table presents the most popular park names of Stratford:

- Robert L. Cotton Park
- Kenny Park
- Keppoch Park
- Pondside Park
- Lantz Park
- Reddin Park
- Bunbury Park
- Sprucehill Park
- MacNeill Field
- Reeves Park
- Sundance Park
- Town Centre Park
- Stratford Soccer Complex
- Spruce Grove Park
- Clearview Park
- Zakem Park
- Bellevue Park
- Tea Hill Park
- Bunbury Rink
- Glen Stewart School Park
- Starling Park Emmalee Park
- Kinlock Park
- Partridge Park Rankin Park

New Urbanism

New Urbanism is an urban design movement, which promotes walkable neighborhoods that contain a range of housing and job types. It arose in the United States in the early 1980s and continues to reform many aspects of real estate development and urban planning.

The heart of New Urbanism is in the design of neighborhoods, which can be defined by thirteen elements:

1. The neighborhood has a discernible center. This is often a square or a green and sometimes a busy or memorable street corner. A transit stop would be located at this center.
2. Most of the dwellings are within a five-minute walk of the center, an average of roughly 1/4 mile or 1,320 feet (0.4 km).
3. There are a variety of dwelling types — usually houses, rowhouses, and apartments — so that younger and older people, singles, and families, the poor, and the wealthy may find places to live.
4. At the edge of the neighborhood, there are shops and offices of sufficiently varied types to supply the weekly needs of a household.
5. A small ancillary building or garage apartment is permitted within the backyard of each house. It may be used as a rental unit or place to work (for example, an office or craft workshop).
6. An elementary school is close enough so that most children can walk from their home.
7. There are small playgrounds accessible to every dwelling — not more than a tenth of a mile away.
8. Streets within the neighborhood form a connected network, which disperses traffic by providing a variety of pedestrian and vehicular routes to any destination.
9. The streets are relatively narrow and shaded by rows of trees. This slows traffic, creating an environment suitable for pedestrians and bicycles.
10. Buildings in the neighborhood center are placed close to the street, creating a well-defined outdoor room.
11. Parking lots and garage doors rarely front the street. Parking is relegated to the rear of buildings, usually accessed by alleys.
12. Certain prominent sites at the termination of street vistas or in the neighborhood center are reserved for civic buildings. These provide sites for community meetings, education, and religious or cultural activities.
13. The neighborhood is organized to be self-governing. A formal association debates and decides matters of maintenance, security, and physical change. Taxation is the responsibility of the larger community

While New Urbanism seeks to create walkable communities, it lacks an emphasis on requiring these communities to participate in the green building movement. New Urbanist has taken a step further and coined Sustainable Urbanism, which combines New Urbanism and LEED-Neighborhood to create walkable, transit-served urbanism with high performance buildings and infrastructure

In order to have a good understanding of current reality of Stratford's Built Environment we identified key indicators. Table 5 shows the comparison between the New Urbanism approach and Stratford indicators.

However, it should be noted the report doesn't stress that Stratford can or wants to fully embrace the New Urbanism approach, but it does indicate that there is significant room towards a more sustainable community.

Table 17) Comparison between Stratford and New Urbanism Approach Indicators

Element	Indicator	Definition	New Urbanism Design	Stratford	Target change by 2030
1	Parcel texture	Average size of all parcels in sq.m.	652	5167	
2	Single family land parcelization	Average size of single-family residential parcels in sq.m.	477	2648	
3	Single family dwelling density	Dwelling units per net hectare of land designated for single-family use.	21.0	3.78	
4	Mufti-family dwelling density	Dwelling units per net hectares of land designated for multi-family use.	46.3	4.35	
5	Average residential density	Dwelling units per net hectare of at land designated for all Residential uses.	26	3.44	
6	Convenience shopping proximity	Percent of dwellings within 400 m. of a convenience market.	60	15.67	
7	Transit proximity	Percent of dwellings within 400 m. of a transit stop.	97	71.26	
8	Pedestrian network coverage	Percent of total street frontage with sidewalks	100	12.79	
9	Pedestrian crossing distance	Average street width curb-to-curb in m.	10.5	10.00	
10	Bicycle network coverage	Kilometers of designated bicycle routes divided by total neighborhood hectares.	0. 02		

Chapter 3)

THE STRATEGIES

A) NATURAL ENVIRONMENT

A-1) Water

Vision	Challenges and Opportunities	Strategies
1. Stratford's water resources provide a dependable supply of healthy water to meet the needs of people, other species and nature. 2. Stratford's potable water supply system delivers water of excellent quality, which exceeds provincial standards, and meets benchmark aesthetic standards. 3. Residents are educated about water and encouraged to conserve and protect it. 4. Wastewater is treated to have zero negative impact when returned to the natural environment. 5. Water and sewerage systems management is conservation oriented. 6. The whole of the Town is serviced by central sewer and water systems. 7. Water management planning is undertaken on a comprehensive basis. 8. Storm water is managed proactively, effectively and efficiently. 9. Water management costs are optimized to balance cost and long term sustainability. 10. Well field protection is optimized using a multi-barrier approach 11. Healthy streams, rivers, ponds and wetlands support thriving populations of wildlife	1. Average water consumption is 97 Gallon per person per day 2. The Town's population is increasing 3. Quality of water is challenging. The Town has had contamination reports during the last five years. 4. Citizen's knowledge and awareness of sustainability and natural resources conservation is limited 5. Good quality water resources are available 6. Waste water affects water quality 7. The residents' consumption pattern is unsustainable 8. Insufficient resources to provide full services for the whole town 9. Impacts of climate change are serious 10. Storm water reduce water quality 11. Water is relatively inexpensive 12. Inadequate regulations for groundwater protection 13. Inadequate policy, bylaws and regulations for water efficiency design and development	1. Evaluate lowering consumption and recycling as alternatives to future new supply system 2. Exceed Canadian Drinking Water Standards 3. Increase the level residents' knowledge of efficient consumption 4. Continue to improve effluent waste water quality 5. Ensure that water supply and wastewater management minimize energy requirements and use sustainably managed materials and resources 6. Implement Official Plan policy to service the whole Town in 5-7 years (subject to infrastructure fund availability). 7. Ensure that watershed-based management approaches and policies are integrated into Stratford's approach to development, infrastructure, habitat protection, recreation and aquifers. 8. Develop a sustainable storm water management plan for the Town and ensure that development proposals conform to the plan. 9. Capital and long-term costs of water are managed in a financially prudent and fiscally responsible manner 10. Develop policy, bylaws and regulations for water efficiency design and development

A-2) Land / Soil

Vision	Challenges and Opportunities	Strategies
1. Land use practice is sustainable and efficient. 2. The ecological footprint of the built environment is minimized.	• The Town's land resources are very limited • Coastal soil erosion continues to increase • Pesticide is a source of soil contamination in the town • Sea level rise is a potential cause of soil erosion	**In Collaboration with the Province:** 1. Ensure that farms have farm management plans, which contain soil retention and quality standards and strategies and erosion control practices (e.g. contour plowing, retention ponds, mulching, limited fall plowing etc.) 2. Monitor results to ensure compliance. 3. Set standards for construction practices which require preventative construction methods.

A-3) Air

Vision	Challenges and Opportunities	Strategies
1. Stratford's residents enjoy having one of the highest levels of air quality in Canada	• Currently, the Town's air quality is desirable • Fossil fuel consumption continues to increase which affects the air quality	1. Develop appropriate pollution control policy and, on the basis of EIA assessment and research and using monitoring networks, as appropriate 2. Develop air pollution control capacities in the Town, emphasizing incentive programs for the reduction of fossil fuel consumption and greenhouse gas emissions

A-4) Wildlife

Vision	Challenges and Opportunities	Strategies
1. Protecting natural bio-diversity in the town 2. Preserving Trees and Forest areas in the Town 3. Stratford protects and maintains the existing natural beauty, wildlife habitats and the created "green corridors".	• New subdivision development threatens wildlife habitat • Lack of Education and awareness • Lack of policy and regulations. • There is no continuous wildlife corridors	1. Develop a Conservation Bio-Diversity plan which includes: a. Education and awareness program- b. Policy and regulations to implement the plan c. A Monitoring program 2. Apply biodiversity plan to subdivision and development applications to include wildlife corridors, stream protection, maintenance of hedgerows and woodlots and create wildlife elements in lot landscaping.

A-5) Natural Landscape

Vision	Challenges and Opportunities	Strategies
1. We protect and maintain the natural landscape including natural paths, streams, beaches and shorelines, viewscapes and diversified topography in Stratford.	New subdivision development threatens natural landscapes	1. Provide public access to shorelines. 2. Protect the natural viewscapes

A) SOCIAL FABRIC

Vision (Where we wish to go)	Challenges and Opportunities	Pragmatic Strategies (How can we get there)
1. Stratford works with partners to meet the physical, mental, spiritual, cultural and social needs of community members. 2. Community Members learn about and enjoy experiences with all cultures and generations through activities, and events facilitated by the partners 3. The community understands and respects diverse views 4. Community members are respectful and law abiding 5. Community Members eat healthy food, exercise and engage in recreation and other stress relieving activities that assist in increasing well-being. They avoid the abusive use of substances that have a negative effect on physical and mental health. 6. Local, organic food is available year round at an affordable price. When it is not available locally, the nearest possible source is used to supply the community	• Stratford's population is 7083 in 2006, with an average annual growth rate of 2.45% • Stratford is relatively an aged community. Almost 50% of residents are older than 40. • Population decline for age group of 20 - 29 shows emigration of young people after graduation • Female population in age 25-44 is almost 20% more than male population. This reflects more female labor force in the Town • Almost 60% of residents are legally married and 27.9% are single. • The median income of residents after taxes is 24,400 which is highest in PEI. • 94.3 percent of residents are non-immigrants and only 5.4% classified as immigrants. • 63% of residents have lived in the town for more than 5 years. This means that almost 37% of people are new residents while the population has increased almost 12% in the past five years. That means almost 25% of the population have moved out of the Town. • Almost 63% of residents have post secondary school education; only 14.3% of residents have 'no diploma or degree' and 22.6% have 'high school or equivalent.	1. Provide social and recreational services to all different groups of residents including, but not limited to, seniors, youths, and minorities 2. Develop and/or enhance community social and institutional capacity in order to increase opportunity of sharing of experience and knowledge. 3. Identify special needs of residents and ensure that residents with physical or mental challenges have access to facilities and services in the Town. 4. Communicate, educate and engage residents inclusively by ensuring they have a voice in the Town's initiatives and decision making processes.

…. SOCIAL FABRIC

Vision (Where we wish to go)	Challenges and Opportunities	Pragmatic Strategies (How can we get there)
7. Community members accept responsibility for their own health. 8. Stratford residents are able to participate in activities regardless of ability and socio-economic status. 9. Opportunities and resources are provided and equally distributed to all residents.	**Comparing Stratford's with the Prince Edward Island** According to the 2006 Canada Census: • Stratford's residents are more educated • Stratford's residents have higher annual income • Stratford's residents are more employed • Stratford's housing is more expensive • Stratford's residents use more vehicles • Stratford's residents walk or bike less (less active) • Immigrant rate in Stratford is higher than the PEI average rate	**In Collaboration with the Province:** 5. Promote the development of awareness of primary health care such as first aid and emergency training for residents. 6. Foster volunteer participation in community programs and Town activities. 7. Promote and facilitate healthy life style choices for residents.

C) Cultural Fabric

Vision	Challenges and Opportunities	Pragmatic Strategies (Suggested)
1. Stratford is well known in the region for its arts, culture and heritage opportunities. 2. The community is passionate about arts, culture and heritage and is alive with creative energy and aesthetic appreciation. 3. Artists from all disciplines have opportunities to share their vision and work. 4. Arts, culture and heritage are reflected in Stratford's design for the built environment and open spaces. 5. Arts, culture and heritage are appreciated and supported as part of the community's health and beauty. 6. Stratford's people, history and the natural environment are retained and celebrated through diverse cultural offerings. 7. Stratford tells the story of its journey to sustainability through artistic and cultural offerings. 8. Sustainable practices and alternatives are the norm, rather than the exception. 9. Stratford's residents celebrate cultural diversity, inclusion and solidarity. 10. Arts, culture and heritage are significant economic drivers of Stratford's economy.	1. Stratford is relatively an aged community. Almost 50% of residents are older than 40. 2. Population decline for age group of 20 – 29 shows emigration of young people after graduation 3. Almost 63% of residents have post secondary education 4. 94.3 percent of residents are non-immigrants and only 5.4% classified as immigrants. 5. Immigrant rate in Stratford is higher than PEI. 6. Limited cultural infrastructure and facilities for cultural events and activities	1. Continue to promote respect, understanding and appreciation of cultural diversity and inclusion. 2. Continue to promote sustainability principles as a culture within the community. 3. Identify, protect and preserve the Town's built natural and cultural heritage. 4. Build a network and partnership with local businesses, institutions and organization to develop and promote cultural activities. 5. Identify the specific opportunities in which cultural activities can 'add value' to the Town. 6. Identify and provide cultural infrastructure and spaces such as a library, studio space, art gallery, public art and outdoor meeting spaces. 7. Facilitate and support cultural programs, events and initiatives

D) ECONOMIC

Vision (Where we wish to go)	Challenges and Opportunities	Pragmatic Strategies (How can we get there)
1. Stratford's economy provides a quality of life that attracts and retains community members. 2. Stratford has a year round sustainable diversified economy that meets the needs of the community. 3. The Stratford economy is responsive and adapts to the challenges and opportunities created by environmental change. 4. Businesses in Stratford respond to changing patterns of natural and human resources through the Town's economic sustainable model. 5. Businesses in Stratford are well known for their high level of corporate social responsibility. 6. Locally operated businesses thrive and are encouraged. They use local products and purchasing as much as possible 7. Stratford's sustainable physical, social and cultural infrastructure attracts investment and people to Stratford. 8. Stratford provides opportunities for a competitive return on investment. 9. Stratford is an independent and integral part of the PEI economy.	• The Stratford economy is quite dependant to Charlottetown • Most residents of Stratford work in Charlottetown or another place in the Island • The number and types of businesses are inadequate to create a competitive and acceptable economy in the Town • Some businesses left the Town • Lack of economic development model and plan for the Town • Lack of strong partnership and collaboration with local academic and research institutions for economic studies • Lack of sufficient information and data about the Town's economy and businesses • Availability of high quality land and services for business development • Good potential for commercial and business developments in the core area of the Town • Stratford's sustainability plan has been adopted and the Town is committed to a sustainable economic development vision	1. Develop a sustainable economic development model for the Town. 2. Support and encourage sustainable local existing businesses. 3. Perform a *targeted industry study* to Identify innovative sustainable industries, which are most suitable for the Town. 4. Examine and initiate new policies, land use planning and incentive programs to attract investment to the Town. 5. Facilitate development of the artistic economy. 6. Enhance the local economy through local production, trades and services and local consumption. 7. Develop and integrated marketing plan for promoting Stratford's economic, environmental, social and physical assets. 8. Work with community groups, business groups, the private sector and governments and neighboring municipalities to increase competitiveness and maximize resources. 9. Collaborate with educational, research and technological institutions on development initiatives

…. ECONOMIC

Vision (Where we wish to go)	Challenges and Opportunities	Pragmatic Strategies (How can we get there)
		10. Facilitate land development in business zones with potential central energy systems and infrastructure to businesses at a competitive cost. 11. Support and recognize excellence and innovation in sustainable economic development. 12. Expand Stratford's role as a regional service centre by building on it's existing ties with the surrounding area. 13. Facilitate and promote the establishment of community owned renewable energy systems. 14. Facilitate the development of sports, arts, cultural and recreational initiatives as a driving force of local economic development.

E) Governance

Vision (Where we wish to go)	Challenges and Opportunities	Pragmatic Strategies (How can we get there)
1. Stratford is recognized as a leader in sustainable community development and corporate policies. 2. Stratford's goals and objectives are clearly understood and practiced by residents and businesses. 3. Planning and decision making continues to be carried out using a sustainability based decision-making framework. 4. Elected officials and town staff value fiscal responsibility, accountability and transparency. 5. Elected officials and town staff are committed to a high quality of life for all residents. 6. The Town of Stratford values the engagement of the community in planning and decision-making. 7. The Town values its employees and provides and an environment that encourages professional development.	• Town Council and staff are very committed to the "Sustainability" initiatives • Town has developed and adopted "Sustainable Decision Making Framework" • The rate of resident participation in major issues and long term planning is low • The Town's financial and human resources are limited • Good relationship between the Town and residents • Professional and high performance staff are available • Sufficient physical resources and administration facilities and equipment.	1. Develop the Town's strategic vision and action plan for sustainable development. 2. Develop policies and programs to increase all stakeholder participation in the Town's decision-making process. 3. Improve municipal staff and Councilors' knowledge of the importance of residents and other stakeholders participation in the decision making process. 4. Provide a transparent policy and process for selecting stakeholders for partnerships. 5. Provide transparency to stakeholders in decision-making processes such as budgeting, staffing, purchasing goods and services, and assigning contracts or work. 6. Develop, identify and proclaim the Town's priorities and annual work plan including goals, objectives, tasks and resource management. 7. Establish a mechanism to provide the annual corporation report to residents integrating the Town's annual work plan, monitoring and evaluating Town's performance to achieve the delegated tasks and objectives. 8. Establish a mechanism to consider criticisms and complaints respectfully and respond effectively. 9. Encourage and enhance an accountability culture among the Town's staff and citizens. 10. Create a mechanism to identify and understand the needs and aspirations of all residents. 11. Develop specific plans and programs to respond to groups with special needs. 12. Establish a mechanism for building consensus in major decisions. 13. Facilitate and strongly encourage involvement of volunteers in the Town's plans and programs.

F) THE BUILT ENVIRONMENT

F1) Transportation

Vision	Challenges and Opportunities	Strategies
1. Transportation, to, from and within Stratford is connected, accessible, safe, affordable, convenient and energy efficient. 2. Stratford ranks preferred methods of transportation in the following order: • Active transportation, i.e. bicycle, pedestrian and other non-motorized means of transport; • Public transit; • Vehicles using leading edge sustainable technologies; 3. Sustainable transportation alternatives and options are developed, promoted and supported. 4. The transportation system has transitioned to renewable energy and ecosystem integrity. 5. Stratford's residents and businesses are aware of the benefits of sustainable transportation modes. 6. Transportation system management has addressed the demands of users and is safe and enjoyable.	• Residents are very dependant on cars • Public transit is not commonly used by residents, therefore, it is not efficient • The rate of walk-able areas in the Town is very small. • Modes of active transportation including bikes, trails, sidewalks … are not fully developed • Lack of Town's Master Transportation Plan • The Town's streets owned and maintained by the Province and Town has no control on roads • Poor connectivity and accessibility between and within different parts of the Town • High volume of daily vehicle trips per capita	**In Collaboration with the Provincial Government:** 1. Develop a Master Transportation Plan for the Town including roads network and classification, public transit, connectivity and accessibility, design guidelines and standards, other modes of transportation, walking trails and bikeways, traffic lights, crosswalks and speed limits. 2. Develop an inclusive process for planning, design, and construction of streetscape and pedestrian infrastructure and use available resources effectively and efficiently 3. Support and encourage a high level of pedestrian safety and security. 4. Facilitate safe, accessible, and convenient connections among major nodes, hubs, destinations, transit centers, and major land use and activity center for all populations, particularly those with visual or mobility impairments **Stratford Strives to:** 5. Provide education and outreach to community members, decision makers, and Town staff about sustainable and active transportation issues 6. Provide opportunities for all residents to access public services and engage in social and recreational activities. 7. Create a plan for ensuring adequate funding for planning, capital and maintenance improvements of streetscape and active transportation improvement projects 8. Design Stratford's Transportation system as a green network, enhancing the Town's long-term ecological functioning. 9. Promote healthy lifestyles by encouraging walking to daily and occasional destinations.

F2) Parks and Open Spaces

Vision	Challenges and Opportunities	Strategies
1. Stratford has a network of parks and open spaces, which are ecologically sound and aesthetically inspiring. 2. Parks and open spaces provide the community with opportunities for learning, leisure, spiritual renewal and recreation. 3. Parks and open spaces are managed in ways, which minimize fossil fuel use and maximize the use of natural materials. 4. Parks and open spaces encompass wetlands and woodlands. Natural areas are protected and a policy of no habitat loss exists. 5. Healthy streams, rivers, ponds and wetlands support thriving populations of wildlife. 6. Developed and recreation areas are managed to protect the natural environment. 7. Stratford residents value their role as stewards of parks and open spaces. 8. Stratford's parks and open spaces are linked to each other and to residential and commercial areas by a network of trails and sidewalks	• Insufficient knowledge of Town's Green Infrastructure • Lack of a Master Plan for the "Green Infrastructure" • High rate of Open Space per capita • Poor subdivision design created low quality and Inappropriate land allocation for parks and open spaces • Inadequate public participation in decision making process for new parks and open spaces • Inadequate connection between different parks and open spaces *Green infrastructure* *Green infrastructure is our natural life support system — an interconnected network of waterways, wetlands, woodlands, wildlife habitats, and other natural areas; greenways, parks and other conservation lands; working farms, ranches and forests; and wilderness and other open spaces that support native species, maintain natural ecological processes, sustain air and water resources and contribute to the health and quality of life for Stratford's residents.*	1. Prepare a Master plan and sustainable Design for green infrastructure to link diverse green space elements into a system that functions as a whole, rather than as separate, unrelated parts. 2. Develop a policy to provide information and increase public knowledge of ecological, social and economic benefits, functions, and values of green infrastructure to the Town. 3. Employ sound scientific knowledge and professional disciplines such as landscape ecology, urban planning, and landscape architecture in the planning and design processes. 4. Provide a framework for integrating diverse natural resource with growth management activities through an ecosystem-based approach 5. Consider Green infrastructure as a critical public investment and allocate a primary budgetary item for inventory, planning and implementation 6. Develop a policy to encourage new subdivision developers to provide a high quality open space (exceeds minimum bylaw requirement) with good accessibility and connectivity to the Town's green infrastructure network.

F3) Energy

Vision (Where we wish to go)	Current Reality (Where we are)	Pragmatic Strategies (How can we get there)
1. Stratford's energy needs are supplied by a mix of local and regional sources wherever possible. 2. Stratford has substantially increased its use of efficiently generated carbon free energy sources. 3. Residents and businesses understand energy issues and practice energy conservation. 4. The Town continues to lead in energy conservation and reduction in greenhouse gas emissions.	• Almost all electricity in the Town is generated from un-renewable sources • Energy consumption per capita is very high • Subdivision and housing design do not consider energy efficiency guidelines • Developers, builders and residents' knowledge of energy efficiency and conservation is insufficient • Good potential for wind energy development • Developed and approved wind angry policy and bylaw	In collaboration with the Federal and Provincial government: 1. Encourage and facilitate the design and construction of energy efficient buildings. 2. Encourage and facilitate the installation of community based renewable energy generating systems. 3. Develop a policy and implement a plan to educate and improve people's awareness of energy production, efficiency and conservation 4. Expand efficient public transit and promote construction of active transportation infrastructure in all parts of the Town 5. Encourage, facilitate and promote the use of new technologies, in new construction and in the renovation of existing buildings, for more energy conservation and efficiency.

F-4) Housing

Vision (Where we wish to go)	Challenges and Opportunities	Pragmatic Strategies (How can we get there)
1. Stratford's residential areas accommodate and integrate a diverse and wide range of residential densities and building types. 2. Stratford's residential neighborhoods are well designed, sustainable and affordable 3. The Town of Stratford provides efficient urban services to all residents.	• Homogenous residential zone • Low density and higher land occupation per capita • Relatively expensive houses • Higher percentage of single family houses • Lack of resident support of higher density • Less opportunities for young families, single parents, seniors to own a house • Poor traditional subdivision design	1. Develop and adopt a long-term plan for housing development within the Town, as a sustainable response to the local housing needs. 2. Develop and adopt bylaw amendments to create sustainable housing zones and create compact forms of residential land use. 3. Facilitate multi-unit dwellings, small lot size single family, condominiums and townhouse developments. 4. Promote and encourage diverse housing in residential neighborhoods for diversity, inclusion and social enrichment. 5. Facilitate and encourage developers and organizations in building sustainable housing. 6. Provide technical housing information to residents and builders. 7. Encourage and facilitate the design and construction of green buildings, innovative and sustainable housing projects.

F-5) Land Use

Vision (Where we wish to go)	Challenges and Opportunities	Pragmatic Strategies (How can we get there)
1. Stratford celebrates diverse and inclusive neighborhoods in land use and population. 2. Stratford's land use pattern facilitates lower demand for daily vehicle urban travel. 3. Appropriate commercial and institutional services are located in residential areas to reduce the need for daily vehicle use. 4. Stratford's land use plan encourages low impact development and green infrastructure integrating the natural environment into the community. 5. Stratford's land use patterns and regulations attract investors, businesses and developers to the Town; facilitating and promoting a sustainable economy. 6. All parts of the Town are connected and accessible through an integrated master transportation plan.	• Stratford has a very low density urban fabric • Higher demand for daily urban travel • High per capita gasoline consumption • Higher per capita GHG emission • Higher per capita Water use (landscaping…) • Higher land occupancy • Higher Infrastructure costs • Higher energy consumption for heating • Higher social infrastructure cost per capita • Higher percentage of available open spaces and parks per capita	1. Develop new land use policy to support and encourage low impact development preserving the green infrastructure. 2. Review and amend the Town's Official Plan and update the existing land use map in accordance with the sustainability principles including: a. Create more land-use diversity, and more mixed-use zones in the Town. b. Create accessible public open spaces and community institutions to provide sense of place and community identity. 3. Develop policies and regulations in order to encourage and facilitate active transportation and public transit access in new subdivisions. 4. Create land use policies to achieve active transportation plan objectives and create safe physically active transportation within the existing subdivisions. 5. Encourage architecture and landscape design to reflect climate and ecology into building practice 6. Review and amend the Town's bylaw in order to allow for smaller lot size in residential zones 7. Facilitate development of a farmers market. 8. Create a conservation land policy which supports local designated agricultural land and protects the Town's agricultural heritage and encourages the production of local healthy food.