



**SUSTAINABILITY
IN A GENERATION**

Acknowledgements

Lead Author

Noel Keough

Art Contributors

Bree Horel
Patrick Sweet

Research Assistant

Garrath Douglas

Cover Design

Bree Horel

Contributing Writers & Researchers

Bob Morrison
Hans Verwijs
Richard Parker
Noel Keough
Bert Einseidel
Chris Turner
Cheri Macaulay

Donors

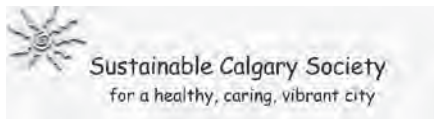
Anonymous Donor
Dillon Consulting Limited
IBI Group
Sunnyside Natural Market
The Alberta Ecotrust
The City of Calgary

Trend Analysis Team

Bob Morrison
Noel Keough
Bert Einseidel
Garrath Douglas
Brenna Atnikov
Byron Miller
Richard Parker

Report Layout and Design

Celia Lee



Sustainable Calgary takes full responsibility for the analysis and presentation of the information in this report.

How to reach us:

Address

Sustainable Calgary
207-223 12 Ave SW
Calgary, Alberta · T2R 0G9

Email

info@sustainablecalgary.ca

Phone

403-270-0777

Website

www.sustainablecalgary.ca

Sustainable Calgary Mission:

To promote, encourage and support community level actions and initiatives that move Calgary towards a sustainable future. In the context of our urban lives, we define sustainable development as the process of working towards the long-term health and vitality of our city and its citizens with regard to ecological, social, cultural and economic processes.

‘There is more to life than simply increasing its speed. Live simply so that others can simply live.’

- *Gandhi*



Green Shoots of a Sustainable Twenty-First Century City

by Chris Turner

Indulge me for a moment while I brag. There have been moments in my downtown Calgary neighbourhood over the past year when I've felt like I had this urban sustainability thing licked. The CTrain station is just two blocks away, and I pass the neighbourhood grocer along the way, and my favourite pub and coffee shop are even closer. To take the family to the Folkfest last summer, we hopped on our bikes, not into our car; another fine summer's day, we strolled over to the Bow River Flow, the city's first explicitly sustainability-themed festival. On Wednesdays all summer long, our community centre's parking lot was a thrumming farmers' market, and our options included succulent greens and herbs from a stall that gathered its produce from a dispersed "farm" made up of dozens of backyard gardens across the city.

I feel entitled to the smugness, at least a little, since we chose the neighbourhood because it was so well positioned for sustainability – because it was walkable, dense with people and businesses and services, well connected to transit, close to arts venues and nightspots and parks. A mature, mixed-use, profoundly urban place.

Through a certain lens, my neighbourhood sits at the leading edge of a citywide trend. As the following report from my colleagues at Sustainable Calgary attests, Calgary is a fast-growing and rapidly evolving city that has begun to embrace its urban bustle as a vital asset. The City of Calgary now spends more of its transportation budget on public transit than ever before (fully two-thirds of it in 2010). Residential development is booming in the downtown core, the long-neglected East Village is finally being stitched back into the city's broader fabric, and a new CTrain line will soon link the western suburbs to the centre and beyond. For these and other reasons, no major city in Canada has done more to reduce its dependence on the automobile over the last decade as Calgary has. And maybe no other has so fully rediscovered its urban soul, either. Attendance at public institutions, from neighbourhood libraries to big city festivals, is booming. And there are more of those festivals than ever before – not just the riverside sustainability fest I already mentioned but celebrations of Calgary's blossoming diversity (ImagineAsia and GlobalFest) and its vibrant arts community (from the avant-garde music at Sled Island to the world-class puppetry at the International Festival of Animated Objects). The number of farmers' markets in Calgary, meanwhile, has more than tripled since 2004. The general trend in Calgary is toward a more integrated, more lively and more diverse urban existence – toward sustainability, in other words.

In this trend, Calgary joins a dynamic and fast-growing global movement. More than half the world's people now live in cities, and those cities are pursuing sustainability as never before. Farmers' markets and community gardens are springing up wherever the urban soil will allow them across North America (there are now more than three times as many farmers' markets across the United States as there were in 1994, for example). Multimodal transit is also increasingly de rigueur on city streets the world over. Denver, Colorado, is building LRT lines similar to Calgary's at the fastest rate ever seen in North America; Delhi's efficient new subway system is the pride of India's capital; New York has returned Times Square to its natural state as a vibrant public space as part of America's most ambitious pedestrianization program; the forefathers of Calgary's Bus Rapid Transit line reside in the Latin American cities of Curitiba, Brazil and Bogota, Colombia, where it has inspired an urban sustainability renaissance; and the state-of-the-art bike-sharing system developed in Montreal – Bixi, by name – now finds welcoming new bike lanes in Washington, D.C., and London, England.



.....

The twenty-first century, in short, is by necessity an urban century, and sustainability is being embraced as the best path to our brightest possible future in metropolises the world over. Calgary is in good company in its pursuit of sustainable living.

Notwithstanding Calgary's impressive progress, the city has a long journey to sustainability ahead of it. We could begin again with my own neighbourhood and all the things it still lacks. A sufficient number of affordable housing units, for starters. A substantial boost in residential density. A transit system that looks more like a web than a series of spokes pointed at the single hub of the city centre. And again, my neighbourhood's shortcomings stand in amply for the whole city's. There's nowhere near enough affordable housing in Calgary – more than 17 percent of the city's residents spend beyond their means for their shelter – and the most shameful urban boom of the last few years has been in the ranks of the city's homeless. Though the city as a whole is growing denser and more transit-oriented, Calgary still has a ways to go before it returns to the population density it reached 60 years ago. (Calgary is 30 percent less dense as a whole today than it was in 1951.) Partially as a result of that sprawling half-century, Calgary is in a class of its own in terms its environmental footprint – on average, each of us Calgarians require 33 percent more than the Canadian average and four times as much as the “global fair share” of land and resources to meet our daily needs. Calgary may be less unsustainable than ever, but this is emphatically not the same thing as being sustainable.

There are a great many ways to think about urban sustainability and a wide range of factors to indicate its presence or absence (the many pages of data to follow attest to that, among other facts). But we could begin, in Calgary, with a singular transformation born of a single change in perspective. Think of this report, in shorthand as a measurement of the sustainability of Calgary's urban density. We do not yet understand density in Calgary, and if we intend to become a sustainable city, we will have to learn it all: What density means, what it does and doesn't do for property values (increases them) and crime rates (lowers them) and the health of the city (vastly improves it), and why it is far more important than a green office tower or a bank of solar panels to reducing the environmental footprint of the city. Density is the precondition for sustainable public transit, for complete streets and bustling farmers' markets, for walkability and diversity.

Perhaps most importantly, density is not bitter medicine to be swallowed down but a better urban future to be embraced. Imagine your favourite urban scene – a café on a plaza in Rome or Paris, a street thick with chic boutiques in New York or London, a bazaar in Mumbai or Marrakech, a night market in Bangkok, music blaring out of a nightclub in New Orleans or Havana, the Stampede Parade or a barhop along the Red Mile, alley burgers at CharCut, families strolling the stalls of Lilacfest or music lovers bopping from venue to venue at Sled Island – imagine almost anything called to mind by the word urban, and the image it inspires is one of people spending time in a dense neighbourhood. Great cities are dense cities. Sustainable cities are dense cities. Let's make our city one of them.

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Sustainability in a Generation



This is the 4th State of Our City Report since 1998. In that time, sustainability has become the overarching theme driving the debate over how our city will evolve into a more healthy, caring and vibrant 21st century city.

In the past decade two substantial public and deliberate conversations have occurred around the future of our city – imagineCalgary and PLAN IT Calgary. **Tens of thousands of Calgarians have sent a clear message that we want a city where all Calgarians enjoy the fruits of our labours, where we live in balance with the natural world and where we fulfill our responsibilities as global citizens.**

Despite all of the good will, stated desire for progressive change and roadmaps for that change, we have still taken only baby steps towards walking the talk. We know what to do, we've committed plans to paper, but as a community we have not made a firm commitment to the actions that will get us to our vision.

In every State of Our City Report since 1998, including this fourth report, two critical challenges have been identified. First, we live in a city where inequality persists and deepens. Second, we continue to pursue a lifestyle that consumes far too many of the earth's resources. We live hard and fast in Calgary and too many vulnerable people and too much of the natural world gets trampled in the process.

So is Calgary on a Path to Sustainability?

There are signs that perhaps our resource consumption has peaked but we will need to accelerate efforts to reduce consumption to sustainable levels.

Population density has begun to trend higher in the past couple of years after reaching historic levels of sprawl in the mid 2000s; transit usage continues to increase – modestly city-wide but rapidly for the downtown commute; our ecological footprint is four times what is fair and sustainable though it too may be peaking. Rates of energy consumption have not slowed in twenty years and due to our reliance on fossil fuels, greenhouse gas emissions continue to rise.

The economic sector is the most troubling. Our team has concluded that none of these indicators can be considered sustainable.

The number of people spending too much on housing remains unacceptably high with no progress over the past decade. Homelessness has grown and is a human tragedy for too many working people, people with disability and families. Unemployment levels have risen and food bank usage is at historic highs. We have not come to terms with the need to ensure that every Calgarian receives at least a living wage for their labours and our economy remains unsustainably dependent on the non-renewable energy industry.

There is room for optimism in our stewardship for the natural environment. Most of these indicators show considerable improvement. The biggest question in this sector is are we improving fast enough.

Per capita water consumption has been reduced impressively and total withdrawals from our rivers are decreasing even as population grows. The intensity of use of pesticides has decreased but total amounts being put into our watershed continue to increase. Water treatment systems are world class but many sources of pollution are still compromising the health of our fresh water.



Our Process

While producing this report was an important goal, the process of developing this tool is equally valuable. Experiences with sustainability reporting suggest that the way to attain a set of indicators that is truly meaningful, useful, and representative of our city is to involve a broad cross-section of citizens in the indicator selection process. This helps develop new understandings of issues and new insights into potential solutions. The small businessperson begins to understand the ecological impacts of packaging choices, while the social worker sees new linkages between jobs, poverty, and habitat preservation.

Over 2000 Calgarians participated in the creation of the first two State of Our City reports. Our project team coordinated dozens of presentations and workshops across the city among groups as diverse as Rotary Clubs, City Council, the Developmental Disabilities Resources Centre, and various community associations.

In a tremendous volunteer effort, citizens led the way in choosing indicators, researching the data for each indicator, and writing the State of Our City reports. In the final analysis, the 36 indicators documented in this report were chosen in a democratic process open to all who had participated in the project.

Our Wellness indicators continue to show a generally healthy population but there are signs that our health status may have peaked and subsequent generations may not enjoy the same good health if we don't move quickly to a wellness model of health care.

The most troubling signs are continued high levels of asthma, rising obesity and no real action on switching health dollars into primary and preventive health. People of lower income have substantially worse health outcomes than the rest of us. Though there has been improvement, people with disabilities are not given near the support they deserve and need.

There is strength in community life with an increasingly diverse population, vibrant arts and culture scene and decreasing crime rates.

We have built up a lot of social and cultural capital to see us through to a sustainable future but we have to be vigilant to protect it where it is vulnerable. Community association memberships are low and the institution needs a renaissance; volunteerism has slipped in comparison to other parts of Canada and there are indications that we have less time for leisure activity.

Our education indicators are a good news story with most of these indicators in what we consider the sustainability range or moving in that direction.

Average class size has decreased to within the target range set by Alberta Education; grade three achievement scores consistently meet targets and our students rate among the best in the world on international tests; and more and more people use the Calgary Public Library and all of its services.

The bottom line is that we will need every bit of human and social capital represented in our community and education sectors to meet the challenge presented by high resource consumption, growing inequalities and health and wellness at a crossroads.

Status Reports and Plans are Not Enough

Over the past decade of work we have also learned that we will not achieve our vision of a sustainable city without the buy-in and participation of Calgarians. To that end Sustainable Calgary helped convene a gathering of citizens that resulted in the creation of CivicCamp Calgary.

The vision for the first CivicCamp was to create a space where ideas could be heard and tools could be shared. What emerged from this citizens' forum was a non-partisan, public advocacy group that engages Calgarians in building a city that works for us all. CivicCamp encourages people to engage from where they are and what they know, to bring their perspective and expertise gathered from their families, their streets, their neighbourhoods, their city. CivicCamp is a call to citizens to act on issues that are meaningful and are valued, and to uphold the responsibilities and obligations of citizenship in the larger community. CivicCamp is facilitating conversations between Calgarians and our elected representatives and civil servants about making change happen and in two short years has become Calgary's leading advocate for sustainability.

It will take timely access to information, good ideas and grassroots mobilization to overcome the structural, cultural and political impediments to the change we want.

This report is a call for that next generation to stand up, demand action, get stuff done and to take on the responsibility to achieve sustainability in a generation.

Sustainability: Something Real and Lasting



In 1992 the largest gathering of global leaders in the history of the world took place at the Earth Summit in Rio de Janeiro, Brazil. Preparations for this event consumed tens of thousands of people from all over the planet for two years. The focus of the meetings was to discuss an agenda for change. The Earth Summit was motivated by worldwide concerns about the twin scourges of poverty and environmental destruction and the desire to reshape our economies to eradicate both. This new vision of how the peoples of the world might live together within the limits of nature was called "sustainable development."

As a first step toward the goal of sustainable development, the world's peoples and nations signed treaties, conventions, charters, and declarations that commit us to action. These foundational documents include Agenda 21 – Global Programme of Action on Sustainable Development, and various conventions to protect biological diversity, to combat desertification and to take action on climate change. Not only were the government of Canada and Canadians signatories to these documents, but individual Canadians, and our government, played a pivotal role in creating them.

Through these international agreements we have accepted certain obligations as our part in creating a sustainable world. In 1996 a group of Calgarians took up the challenge of fulfilling these obligations locally, in our own small way, through Sustainable Calgary.

Community Sustainability Principles

1. Maintain or enhance ecological integrity. A sustainable community lives in harmony with the natural world. It protects the air, water, soil, flora, fauna and ecosystems that it depends upon for its survival. These are the life support systems for all human communities.

2. Promote social equity. In a sustainable community each and every citizen is afforded access to the benefits and opportunities that a community has to offer without social or economic discrimination.

3. Provide the opportunity for meaningful work and livelihood for all citizens. A strong, resilient and dynamic local economy is essential for community sustainability. A sustainable economy provides the opportunity for meaningful work and livelihood for each and every citizen.

4. Encourage democratic participation of all citizens. We live in a democracy. The bedrock of a democracy is citizen participation in the functioning, planning and decision-making of society. In a sustainable community, participation is both a right and a responsibility and should be available to every citizen.

5. Maintain Ethical Relations with Our Neighbours. In our bid to achieve sustainability we need to find ways to work cooperatively with our neighbours in our urban village and the global village. Sustainability cannot be achieved at the expense of our neighbours – wherever they may be.



What Do We Want to Sustain?

To be successful, we must understand the ends we want to achieve and the means we choose to achieve those ends. The goal of a sustainable community is to achieve a high quality of life. The qualities we seek to achieve include love, comfort, health, education, physical sustenance, adequate shelter, meaningful work, caring relationships, spiritual meaning and a sense of belonging, diverse natural areas, and clean air, water, and soil. In a sustainable community, the means to attain these qualities is through the most efficient and wise use of time, effort, and resources.

For a long time now, economic growth has been the means we have chosen to achieve good quality of life. Sustainability reporting helps us examine whether economic growth is the appropriate means through which to achieve our desired ends. Perhaps a more fitting model, one that reflects the natural world, is a state of dynamic equilibrium where change, innovation, and development are possible and desirable, but are not dependent on constant growth.

Key to sustainability is the relationship between lifestyle and quality of life. Most Calgarians enjoy a high quality of life. High levels of resource consumption characterize the particular lifestyle that supports our quality of life. Sustainability reporting challenges the community to examine whether this lifestyle is sustainable for the long term and, if not, what changes can be made to create a sustainable lifestyle that can deliver an equal or greater quality of life for our children, grandchildren, and future generations.

What Is a Sustainability Indicator?

An indicator helps us understand where we are, which way we are going and how far we are from where we want to be. A good indicator is an early warning of an emerging problem and helps us recognize what needs to be done to fix it.

What distinguishes a sustainability indicator is its ability to illuminate the interconnections among systems. Each of the indicator descriptions in this report includes a section on Linkages. A linkage is a direct or indirect relationship between two or more systems, where changes in one affect the status of another.

Establishing Trends

Sustainability trend information for each indicator is located in the upper right-hand corner of the indicator pages. When designating the trend, several criteria were taken into account. Is the indicator currently at a sustainable level? Is the indicator moving toward or away from sustainability? Is the pace of change of the indicator such that it will reach a sustainable level in a reasonable time? The answers to these questions are necessarily subjective. The indicator project team has reviewed each indicator thoroughly and debated what the information is telling us before reaching agreement on what we believe the trend to be. After reading the report, you may or may not agree with our assessments. We hope you will agree that the report makes a compelling case to ramp up efforts for the next generation of sustainability.

Sustainability Trend Legend

- ☺ Trend is sustainable or is moving toward sustainability.
- ☹ Trend is far from sustainable or is moving away from sustainability.
- ☹ There is no discernible trend.

A Citizens' Agenda



A Citizens' Agenda for a Healthy, Caring and Vibrant Calgary

These indicators are a snapshot in time. But measurement itself is not enough. In 2005 Sustainable Calgary undertook an exercise that engaged citizens in identifying policies and actions that we thought would make the most difference toward improving the sustainability of our city.

By 2012:

1. Ensure all Calgarians receive the equivalent of a living wage.
2. The City of Calgary should require that all new communities and Area Redevelopment Plans (ARPs) meet a standard of Community-Oriented Development including: jobs; diverse housing types and affordabilities; basic health and education services and recreational opportunities; walkability and bikability; high quality transit service; and ample public and green spaces.
3. A minimum of 65% of transportation spending should be allocated to transit and non-motorized transportation.
4. The City of Calgary should require that in every community 15% of new residential construction be designated affordable housing.
5. The City of Calgary should create a 100% renewable energy strategy.
6. The City of Calgary should implement a zero-waste policy and program.
7. The provincial government should mandate that sustainability be integrated into the curriculum at all grade levels.
8. The City of Calgary should mandate transit-oriented development, including minimum density requirements, throughout Calgary.
9. The City of Calgary should mandate state-of-the-art commercial and residential green building standards.
10. The City of Calgary should implement a program to hasten the accreditation of foreign-trained professionals.
11. All levels of government should work together to ensure that alternative or complementary health care is treated on an equal basis with conventional health care, that primary health care is the priority of our health care system and that health care remain public and free of financial barriers to access.
12. The City of Calgary, in partnership with Calgary Economic Development, should create a comprehensive sustainable economic diversification strategy with a focus on these priority actions.

Community Indicators



Highlights

Crime Rate & Rate of Victimization

In 2009 the estimated person crime rate per 100,000 people in Calgary was 798. The estimated property crime rate was 4,305. Both property crime and person crime rates are at their lowest levels since the mid-1980s.

Leisure Activity

In 2010, 51.4% percent of Calgarians were physically active enough during their leisure time to experience health benefits. From 1995 to 2009 this activity level has increased steadily from 53 percent to 64%, but in this past year took a steep drop to the lowest level on record.

Membership in Community Associations

In 2008 approximately 14.4% of Calgarians were members of their community association. In 2003 an estimated 19% of Calgary households were members of their community associations, slightly more than the 16 % reported in 1999.

Number of and Attendance at Public Festivals

In 2010 approximately 411,000 people attended ten major city festivals. Since 2001 several new festivals have emerged in the city, including GlobalFest, ImagineAsian Festival, Bow River Flow, Sled Island and the Calgary International Blues Festival.

Sense of Community

In 2006, 90% of Calgarians agreed (42% strongly, 48% somewhat) that they were able to go to other Calgarians for help. In 2003, 63% of Albertans reported a strong (17.4% very strong, 45.7% somewhat strong) sense of belonging to their local community. In 2001 87% of Calgarians felt they could "count on people in my neighbourhood for help in an emergency."

Valuing Cultural Diversity

In 2010, of the 245 positions within a selection of Calgary's most influential boards, councils, elected bodies, and media, 31 percent were held by women, 9.8 percent by visible minorities, and 0 percent by Aboriginal people. These groups make up 50, 23, and 2.5 percent, respectively, of Calgary's population. If these 245 positions were representative of the population we would find 122 women, 56 visible minorities and 6 aboriginals in this group.

Volunteerism

In 2007 approximately 52 percent of Albertans volunteered, each contributing an average of 172 hours. This is up from 39% in 2000.

Crime Rate & Rate of Victimization



The Facts

In 2009 the estimated person crime rate per 100,000 people in Calgary was 798. The estimated property crime rate was 4,305. Both property crime and person crime rates are at their lowest levels since the mid-1980s.

Definitions

These statistics were drawn from the Calgary Police Service Annual Statistical Report: 2005 – 2009, the Annual Statistical Report Person and Property Crimes, 1994 – 1998 and 1997 – 2001 and the 2008 Report to the Community. Person crime includes attempted and committed homicide; street, financial, and commercial robbery; sex offences; assault; kidnapping; extortion; and harassment. Property crime includes break and enter, theft, and fraud.

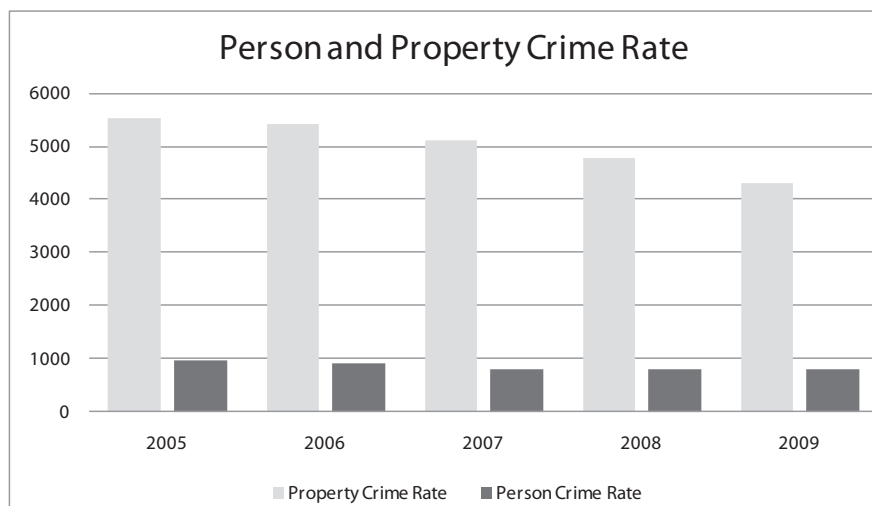
Trends

Person and property crime rates in Calgary have both been decreasing since the early 1990s and are at their lowest rates since the mid-1980s. Between 1991 and 2009, property crime rates have declined over 60%. Person crime rates declined approximately 35% in that same period. Numbers of youth accused of offences have declined by almost 50% in the past decade. Sex crimes and assaults are down significantly over that same period.

There were 3177 domestic incidences with criminal code offences in 2009, down from 3576 offences in 2005. However, domestic calls for service were up significantly from a low of 11,100 in 2002 to 14,300 in 2009. Sadly, Alberta has the country's highest rates of spousal abuse and stalking of women. Researchers warn that these statistics may underestimate the amount of domestic violence in Calgary as almost 78% of family violence and abuse goes unreported.

The rate of homicide has remained relatively steady since 2000. Drug related crime has remained fairly steady since 1999 with a rate of about 21 per 100,000.

Calgarians opinions about crime and safety are in some ways at odds with the crime statistics and with their own behaviour. Since 1999 surveys regularly report that in the range of 80% of Calgarians report feeling very safe or reasonably safe walking alone in their area after dark. However, though crime rates have been steadily decreasing



since the late 1980s, surveys over the past 10 years have consistently found that less than 10% of Calgarians think that crime is decreasing.

Calgary tends to be at about the Canadian average for incidence of most types of crime and its crime severity index tends to be below the Canadian average.

Importance

A sense of safety is a key component of a sustainable community. Crime directly decreases the quality of life of victims through financial loss, physical injury, emotional trauma, and alienation. The repercussions of a crime spread beyond the immediate victim: parents, children, friends, co-workers, witnesses, and the community also suffer after a crime has occurred. Fear of crime can lead people to stay behind locked doors and resist stepping out into the community, whether to take a walk or to participate in community life.

Linkages

The way we design our city, communities and public spaces can deter crime and enhance safety. This approach is known as Crime Prevention through Environmental Design. The creation of neighbourhood gathering spots like community gardens helps to build ties between neighbours while establishing a strong sense of community.

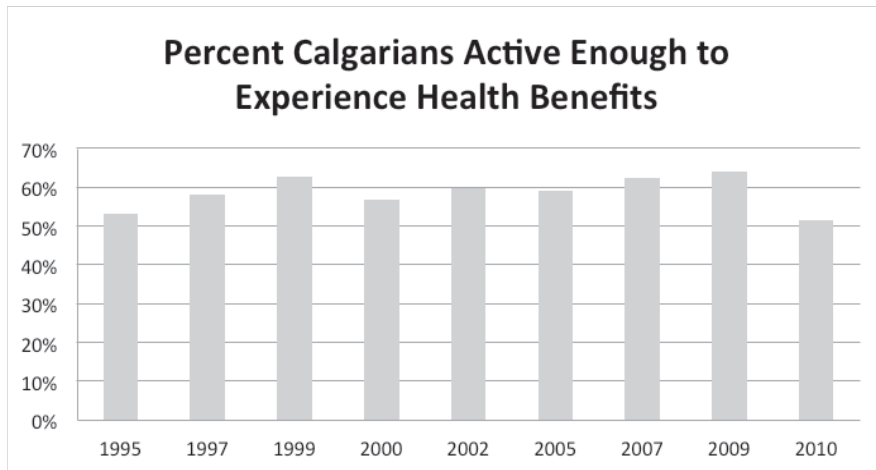
Building healthy, caring communities is one

of the best ways to prevent crime. Key factors in this approach include the provision of employment and educational opportunities, access to services, adequate housing, and accessible play and recreational facilities.

Many women endure domestic violence because the escape from the violence often means joining the ranks of the homeless. Insufficient financial supports for these most vulnerable citizens are a key factor in their slide into homelessness.

Individual & Collective Actions

- Get to know your neighbours and other community members.
- Support pro-active social programs that make our community more inclusive.
- Learn more about the work of Safer Calgary (www.safercalgary.com).



The Facts

In 2010, 51.4% percent of Calgarians were physically active enough during their leisure time to experience health benefits. From 1995 to 2009 this activity level has increased steadily from 53 percent to 64%, but in this past year took a steep drop to the lowest level on record.

Definitions

Information about physical activity levels in Calgary was derived from the 2009 and 2010 Alberta Survey on Physical Activity – a report of the Alberta Centre for Active Living. The percent of people physically active enough to experience health benefits is derived from surveys of time spent by individuals in strenuous, moderate and mild activity in an average week. Statistics on participation in recreation activities is from the Alberta Recreation Survey 2008.

Trends

Based on results from the 2009 Alberta Survey on Physical Activity, Calgarians were at their most active since the surveys began in 1995. Interestingly, by 2007 Edmontonians and the rest of Alberta had been catching up with Calgarians in terms of their levels of activity. However, in 2009 activity levels for Edmontonians and other Albertans decreased sharply, while Calgarians' activity levels showed a modest increase. This exceptionalism in Calgary seems to have reversed itself in 2010.

Data from the 2002 Pathwatch survey indicate that more and more Calgarians are spending their leisure time on the city's pathway system. The overall average hourly

use of the pathways has increased by 54.2 percent since the first Pathwatch survey in 1994. Most pathway users walk (43.4%), cycle (37.9%), run (11.3%), and inline skate (6.3%). The most common reason for using the pathways is exercise (43%), followed by recreation (27%) and commuting (18%). Interestingly, significantly less women use the pathway system.

Increasingly, work life balance is becoming an important issue for Canadians. A University of Guelph, Centre for Families, Work and Well-being, research review found that job overload from heavy work demands is related to job stress, poor physical and mental health, greater use of the health care system, higher absenteeism, poorer job performance and higher job turnover. Research has found that individuals under work-life stresses smoke more and are more dependent on alcohol and prescription drugs.

The research also demonstrates that flex-time and a compressed workweek have positive effects on work-life stress and job satisfaction. Studies also show that productivity increases in workplaces where work-life balance programs are in place and in use.

Albertans work longer hours than any other Canadians, 50 hours more than the average and almost 100 hours more than British Columbians.

Importance

Leisure time helps to create healthy, balanced individuals and communities. Physi-

cal activity, the reduction of stress levels, and the pursuit of hobbies promote physical, mental, and emotional well-being. People who lead rich, active lives in their leisure time often bring positive, productive energy to all other aspects of their lives. At the community level, leisure activity can help to foster social support networks and caring, vibrant communities.

Linkages

Leisure activities can be linked to ecological indicators. For example, the Recreation Surveys of the past 10 years show that almost 20 percent of Calgarians take part in birdwatching. People who use Calgary's parks for activities like birdwatching are more likely to value natural spaces than those who do not. Some leisure activities are highly resource intensive, such as motorized sports, downhill skiing, and golf. While leisure is an essential part of a well-balanced life, the most sustainable leisure activities co-exist with natural environments. In fact, walking, biking, swimming and gardening are consistently the most popular leisure activities in Calgary.

According to the Alberta Centre for Active Living survey, income is an important determinant of physical activity. For example, households with incomes greater than \$100,000 are more than 5 times as likely to obtain enough physical activity as households making less than \$20,000.

A 2004 report for Health Canada (Duxbury, 2004) estimates that work overload, caregiver responsibilities and conflicts between work and family responsibilities costs the Canadian health care system over 15 billion dollars annually.

Individual & Collective Actions

- Devote a larger share of transportation spending to walking & cycling infrastructure



Membership in Community Associations

☹ SUSTAINABILITY TREND



The Facts

In 2008 approximately 14.4% of Calgarians were members of their community association. In 2003 an estimated 19% of Calgary households were members of their community associations, slightly more than the 16% reported in 1999.

Definitions

In 1999 and 2003 membership information was gathered through a Sustainable Calgary survey of Calgary's community associations. Community associations were contacted by telephone, email, and fax, and of the 120 community associations surveyed, 30% responded in 2003. Only 14% responded in 1999. The 2008 survey was commissioned by the Federation of Calgary Communities as part of Project Intelligence. Eighty-one (60%) of 138 community associations responded to the survey.

Trends

It is difficult to establish a trend in this data due to the low response rates in 2001 and 2004; the complexities of kinds of memberships (family versus individual) and voluntary versus obligatory membership depending on the community. Still we can have some confidence that the rate of membership is under 20%.

Project Intelligence found that relatively few community association volunteers carry a heavy load. Between 36 and 133 volunteers contribute almost 3100 hours to the typical community association. In total 51,700 volunteers committed 423,000 hours to the activities of their community associations.

Most CA programming caters to weddings and banquets or meeting space, but there is a rich variety of programming that includes activities such as green living workshops, conversational languages, art and music shows, historical walking tours and flea markets. The Project Intelligence report estimated that about 124 community associations produce a regular newsletter. It also found that compensation for CA employees is generally below the average of organizations of comparable size and mission.

Though CAs play a unique and vital role in Calgary there is an urgent need for resources. Many association buildings are old and in need of repair or replacement. Human resource capacity of CAs across the city var-

ies. Training for employees and volunteers in areas like programming, financial management, community outreach and governance are also needed.

Importance

Participation in the social and cultural life of a community is a necessary ingredient for sustainability. In Calgary one measure of such participation is membership in community associations. Calgary is unique in the status and responsibility afforded to community associations in large part because of their proactive history. The everyday interactions of members of a community contribute to the creation of social capital – a key ingredient in the cohesion of communities and the enhancement of its capacity for independence, support and creativity. Participation can enhance the amenities available in a community, including recreational facilities, schools, and meeting spaces.

Linkages

Community-level sustainability depends upon a strong sense of community that includes ingredients such as social support, neighbourliness, cooperation, shared visions, and trust. Surveys indicate that many households join their community association to take advantage of sports and recreational opportunities for themselves and their families. These activities can play a role in creating a level of familiarity with neighbours and building a sense of community. Community associations also give residents the opportunity to improve local neighbourhoods through volunteer involvement on environment, transportation, and planning committees.

Such participation facilitates a familiarity with neighbours and contributes to the creation of "social capital" – the sum of our relationships that help us dream together and plan, coordinate, and carry out activities to achieve our goals. Every friendly nod, hello, or chat on the street corner builds social capital.

Health Canada notes that people with stronger support networks and social contacts experience less heart disease and have lower premature death rates. Individuals who have a support network and a sense of community are also more likely to participate in community life.

Over the past decade tens of thousands of Calgarians have contributed to a long-term vision for our city through imagineCalgary and to the 30 year transportation and land-use policy through PLAN IT Calgary. In order for these visions and plans to become a reality and for the rapid change our city is undergoing to be a positive change citizens will have to be engaged at the community level, where new LRT lines, new housing and commercial developments, and new parks investments have to be made. There is no institution better placed to facilitate this change for the better than our Community Associations. They provide Calgarians an opportunity unique to Canadian cities to influence change – if we get involved.

Individual & Collective Actions

- Become an active member of your community association.
- Get involved in community recreation and leisure activities.
- Check out the Federation of Calgary Communities website: <http://www.calgarycommunities.com>.



Number of and Attendance at Public Festivals

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The Facts

In 2010 approximately 411,000 people attended ten major city festivals. Since 2001 several new festivals have emerged in the city, including GlobalFest, ImagineAsian Festival, Bow River Flow, Sled Island and the Calgary International Blues Festival.

Definitions

Attendance information was obtained for ten major festivals in Calgary through each festival's office or website. The festivals include Calgary Folk Music Festival, Calgary International Children's Festival, Calgary International Film Festival, Sled Island, GlobalFest, Carifest, PlayRites Festival, Lilac Festival, Shakespeare in the Park, and WordFest. Other information about festivals and the arts in general was obtained from Calgary Arts Development.

Trends

With the demise of the WinterFest and this past year's cancellation of the International Jazz Festival, the two festivals with the highest attendance in 2000, total attendance for the top ten festivals is down from a high of 581,000 in 2000. However, more Calgarians are enjoying a wider variety of festivals and arts and cultural events. The Folk Festival, Children's Festival and WordFest have seen about a 50% increase since 2000. Shakespeare in the Park and the Lilac Festival have maintained attendance numbers since 2000. Both Sled Island and GlobalFest have come on the scene since 2000 and have become two of the most popular festivals in the city.

Alberta Culture reports that since 2002 participation in the arts has risen from 85% of the population to just over 90%. In all 19,400 public arts events attracted 2.4 million Calgarians in 2009 and Calgary Arts Development provided 3.75 million dollars to 149 arts organizations ranging from 3000 dollars to the Calgary Sketch Club to 135,000 dollars to the Glenbow Alberta Institute.

Attendance at cultural events in Calgary is generally lower than the Canadian average for theatre and festivals and higher than the average for music events.

Importance

Arts and cultural development is directly linked to the sustainability of a community. Support for this type of development gives

citizens of all ages and backgrounds the opportunity to develop their imagination, creativity, and awareness. These opportunities make a community more vibrant and attractive. Arts and cultural experiences often afford a new outlook to those who take part, whether as participant, spectator, or volunteer.

Beyond a certain level of material well-being, quality of life and happiness are less likely to be linked to higher income but rather to intangibles such as the enjoyment derived from creating and participating in the arts. A sustainable community places great value on the importance of the arts for finding and expressing meaning in our daily lives.

Linkages

Festivals are linked to a greater sense of community. According to Alberta Community Development, local festivals and special events can increase tourism, generate revenue, develop recreation opportunities for visitors, and develop a positive community image. These events also provide an opportunity for Calgarians to get engaged in their community as volunteers. In 2009, 21,000 volunteers contributed over 500,000 hours to arts groups.

On the other hand, lower income families and individuals often find that festivals and

other arts and cultural events are out of reach economically. If this becomes a common phenomenon, the full potential of the events as positive contributors to the community will not be realized.

At the provincial level, cultural events and festivals are an important part of Alberta's prosperity. The Alberta Foundation for the Arts reports that a 1995 survey found that 94% of Albertans believe that having a wide variety of cultural activities and events makes Alberta a better place to live.

In 2009 Calgary's arts sector generated over 106 million dollars in annual revenues and was supported by 21,000 volunteers. Still, from a 2007 survey, Calgary was spending less per capita on arts funding (\$3.00) than Edmonton (\$3.88), Vancouver (\$4), Winnipeg (\$5.20) or Toronto (\$6.40). In 2008 City of Calgary committed up to 165 million dollars over 10 years to cultural space infrastructure.

Individual & Collective Actions

- Watch for and attend local performances, festivals, and exhibitions.
- Become a volunteer at your favourite festival.
- Check out Calgary's Pechakucha Nights (pecha-kucha.org/night/calgary).

Attendance at Public Festivals 2010

| | |
|--|---------|
| Calgary Folk Festival | 52,000 |
| CariFest | 5,000 |
| Shakespeare in the Park | 33,000 |
| Enbridge PlayRites | 10,164 |
| Calgary International Childrens Festival | 70,619 |
| Lilac Festival | 80,000 |
| PanCanadian WordFest | 15,000 |
| Calgary International Film Festival | 20,000 |
| Sled Island | 25,000 |
| GlobeFest | 100,000 |
| Total | 411,000 |



Sense of Community

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The Facts

In 2006, 90% of Calgarians agreed (42% strongly, 48% somewhat) that they were able to go to other Calgarians for help. In 2003, 63% of Albertans reported a strong (17.4% very strong, 45.7% somewhat strong) sense of belonging to their local community. In 2001, 87% of Calgarians felt they could “count on people in my neighbourhood for help in an emergency.”

Definitions

In 2001 Calgary’s Sense of Community (SOC) Partners (Calgary Health Region, City of Calgary, Sustainable Calgary, The Calgary Foundation, and United Way of Calgary and Area,) surveyed Calgarians about their sense of community using a set of 18 statements. The 2003 sense of belonging survey comes from the Statistics Canada General Social Survey on Social Engagement cycle 17. The 2006 data derives from Signposts 2006: A Survey of the Social Issues and Needs of Calgarians sponsored by United Way, City of Calgary and The Calgary Health Region.

Trends

Most of the survey work to date suggests that Calgarians have a relatively high sense of community.

One important finding arose from a 2003 community-based follow-up study to the 2001 city-wide sense of community survey. It surveyed seven neighbourhoods and found that the sense of community varies considerably in Calgary across neighbourhoods. Some neighbourhoods enjoying a significantly higher sense of community than others.

It is difficult to establish a trend with the available information. Since the inception of the Sense of Community project in 2001 a number of surveys have asked Calgarians about sense of community, trust, and quality of life, but there has been no consistent set of questions for which a trend can be established. There is a pressing need for collaborating agencies to establish some consistency in survey methods and questions.

The 2009 Statistics Canada General Social Survey – Social Networks reported that family is the most important social support, but it also found that on average 23% of Canadians have called on neighbours for sup-

port in major life changing episodes and that neighbours become more important as a person ages.

Importance

An increased Sense of Community makes Calgary a better place to live and work. Most people understand SOC intuitively. Yet it is a complex idea, composed of several elements – a feeling of belonging or membership, having influence on your community, being able to meet most of your needs through your community, and being emotionally connected with and committed to your community. We recognize it in neighbourly and friendly actions like waving, chatting, visiting, and borrowing and lending items and assistance. These types of interactions often help us feel at home in our neighbourhoods and rooted within the larger city.

Linkages

Studies show that a strong Sense of Community has wide ranging impacts. It is related to greater feelings of safety and security and increased levels of voting, recycling, helping others, and volunteering. Individuals with higher SOC are shown to be happier and less worried, and have a greater sense of competence. A strong SOC is also related to lower mental illness and suicide rates, less child abuse, higher quality of child rearing, physical improvements in neighbourhoods, reduced crime, and greater “hardiness” among individuals.

Beyond this, studies have shown that SOC can have a significant influence on the relative success of economic development efforts. Strong, connected communities are more able to keep money circulating in the community, in effect “plugging the leaks” in the local economy.

The 2006 survey found that the two services that respondents felt were most important in relation to inclusion in the community were libraries and public transit. The most important family and relationships issue was childcare programs and services. With respect to finances related to facilities, programs and services, thrift stores were cited as the most in demand community service.

Interestingly the 2006 General Social Survey found that sense of belonging to neighbourhood decreased with level of educa-

tion and increased with income. It also found that newcomers were more likely to feel a sense of belonging to the neighbourhood. A 2005 Statistics Canada research report found that close to two-thirds of those who felt a very strong or strong sense of community belonging reported excellent or very good general health compared to only 50% of those with a very weak sense of community belonging.

Individual & Collective Actions

- Try organizing an annual block party.
- Volunteer with agencies that assist those who are isolated.
- Join community and school organizations.



Valuing Cultural Diversity



The Facts

In 2010, of the 245 positions within a selection of Calgary's most influential boards, councils, elected bodies, and media, 31 percent were held by women, 9.8 percent by visible minorities, and 0 percent by Aboriginal people. These groups make up 50, 23, and 2.5 percent, respectively, of Calgary's population. If these 245 positions were representative of the population we would find 122 women, 56 visible minorities and 6 aboriginals in this group.

Definitions

Canada's Employment Equity Act defines visible minorities as "people other than Aboriginals who are non-Caucasian in race or non-white," and Aboriginals as "persons who are Indians, Inuit, or Métis." The corporate boards of directors examined for the indicator include five of the top private sector employers with head offices in Calgary (Petro-Canada, EnCana, ATCO, Imperial Oil, and TransCanada). The five boards of directors in the non-profit sector include the Calgary Foundation, Calgary United Way, Volunteer Calgary, Epcor Centre for the Performing Arts, and the Calgary Inter-Faith Food Bank. Elected officials in the survey include the 2010 Calgary Public and Separate School Boards, aldermen and Mayor, provincial MLAs, and federal MPs. The media survey includes the supper-hour news anchors for each local television station, radio morning show anchors for the top five rated radio stations, and membership on the editorial boards of Calgary's two leading dailies. Demographic information was derived from the 2006 Canadian Census.

Trends

Since this indicator was first examined in 2001, some influential bodies have become more representative of Calgary's diverse population, while others have become less so. Relative to 2001, the percent of women holding positions on the boards of major corporations has doubled to 19%. Representation by women in government held steady at 34 percent. However, representation on the boards of non-profits has fallen over 20%. The proportion of high profile media positions held by women has dropped substantially – by 30%.

Between 2001 and 2004 the number of people belonging to visible minorities on non-profit boards doubled but has since

decreased to only 12%. The number filling high profile positions in the media more than tripled from 2001 to 2004 but as of 2010 the percentage is now just over double that of 2001. Though visible minorities are underrepresented across the board, our government representatives include more visible minorities than any other sector. Most disappointing, there has never been a visible minority on any of the boards of the surveyed corporations since we began tracking this indicator in 2001.

Aboriginal representation in Calgary's major boards and organizations continues to be dismal. Through our 2001, 2004, 2007 and 2010 surveys aboriginal representation in these positions of power and influence has been 0.9, 0.9, 0.4 and 0% respectively.

In none of the sectors studied does representation match the demographic reality of Calgary's diverse population. Of all the groups surveyed, corporations have the lowest overall cultural diversity and gender balance.

Importance

The richness of community life is closely related to the diversity of its constituents. Our valuing of cultural diversity reflects the extent to which we, as a city, benefit from the diversity that surrounds us. As diversity increases, so does the breadth of our collective experience and creativity, as well as the quality of political debate.

As the fourth most common urban center for immigration in Canada, Calgary is strengthened by the diversity of its citizens. Beyond ethnic diversity, respect and accep-

tance of other differences (for example, sexual orientation or physical or mental ability) is an important mark of a mature society and is inherent to a sustainable society.

Linkages

The problems highlighted in this indicator are mirrored in national statistics. Internationally, Canada is an underachiever in terms of women in politics. Women make up only 22% of parliamentarians and we rank 51st in the world. Compared to the United States (32), Canada has far less women (21) holding CEO positions in the top 1000 corporations in each country.

According to Statistics Canada, young male immigrants admitted under the business and skilled worker classes are the most likely to leave Canada within the first year of arrival. For Canada, the out-migration of recently arrived immigrants to their home country or to other countries has substantial implications, from the low return to settlement and integration services, to the lost contribution of immigrants' valuable skills in the knowledge-based economy. By not fully utilizing the skills and experience of immigrants, the Canadian economy loses as much as \$5-billion annually.

Representation in Leadership Positions

| Sector | # of positions | | % Women | | % Visible Minority | | % Aboriginal | |
|------------|----------------|------|---------|------|--------------------|------|--------------|------|
| | 2001 | 2010 | 2001 | 2010 | 2001 | 2010 | 2001 | 2010 |
| Non-profit | 82 | 91 | 46 | 36 | 7 | 12 | 2.4 | 0 |
| Government | 49 | 61 | 33 | 34 | 14 | 16 | 0 | 0 |
| Media | 30 | 39 | 40 | 28 | 3.3 | 8 | 0 | 0 |
| Corporate | 59 | 54 | 10 | 19 | 0 | 0 | 0 | 0 |
| Totals | 220 | 245 | 34 | 31 | 5.9 | 9.8 | 0.9 | 0 |



The Facts

In 2007 approximately 52 percent of Albertans volunteered, each contributing an average of 172 hours. This is up from 39% in 2000.

Definitions

These data are derived from the 1997, 2000, 2004 and 2007 National Survey of Giving, Volunteering and Participation conducted by the Canadian Centre for Philanthropy. This indicator measures the rate of “formal” volunteerism among Canadians 15 years and older. Formal volunteerism is defined as intentional, organized participation in a volunteer or charitable activity. Informal volunteerism occurs at a more spontaneous level, when people casually assist friends, neighbours, and family members outside of their household.

Trends

The number of volunteers in Alberta jumped significantly from 2000 (39%) to 2004 (48%) and rose another 4 percentage points in 2007. The number of hours that Albertans volunteer also rose significantly from 2000 (139 hrs) to 2004 (175 hrs), but dipped slightly in 2007 (172 hrs). Alberta ranked 6th among all provinces and territories in both participation rate and volunteer hours – our worst showing on record. Fifty-nine percent of Saskatchewanans volunteered in 2007. Saskatchewan has ranked number one in participation rates in every survey since 1997.

Consistently over time women participate as volunteers at a higher rate than men. The ratio in Alberta in 2007 was 54% to 49%. In addition a few people carry most of the load. 78% of all volunteer hours were contributed by just 12% of the population.

Importance

The spirit of volunteerism is a defining characteristic of Calgary. It indicates the sense of belonging people have in their community, the responsibility they accept for it, and the care they afford it. Volunteers are the lifeblood of many organizations and programs. Without volunteers, many important initiatives, from Block Watch to literacy programs in schools, would struggle to survive. The work accomplished by volunteers is of top quality because it is often motivated by care and concern.

Volunteering rates in Alberta and Canada

| | 1997 | 2000 | 2004 | 2007 |
|-----------------------------|-----------|------------|-----------|-----------|
| Alberta | | | | |
| Percent Volunteering | 40% (2nd) | 39% (2nd) | 48% (4th) | 52% (6th) |
| Average Hours | 146 (4th) | 139 (10th) | 175 (7th) | 172 (6th) |
| Canada | | | | |
| Percent Volunteering | 31.4% | 26.7% | 45% | 46% |
| Average Hours | 149 | 162 | 168 | 166 |
| Top Provinces % | SK (47%) | SK (42%) | SK (54%) | SK (59%) |

On a personal level, volunteerism offers individuals a sense of satisfaction based on making a contribution to a cause or to their community. It is also an excellent way to make new friends, network, learn, and gain new skills.

Linkages

Volunteerism has been recognized as a significant contributor to our social capital. Unfortunately it is not captured in official economic statistics. Volunteer activity is often the catalyst for activities that contribute to the ecological sustainability of our community, such as habitat protection programs. Most city festivals rely heavily on volunteers, as do many library programs and food banks. Our school system is also enriched by the contribution of parents on a volunteer basis. In fact in 2007 volunteers contributed the equivalent of 1,077,000 jobs to Canada.

Many individuals volunteer to learn skills that will help them find a career and increase their contribution to the formal economy. Volunteer activity provides opportunities for exposure to the diversity of our community and thus contributes to the sense of acceptance within the community.

On a cautionary note, as education, health, and social services are withdrawn by governments, volunteer levels may rise to fill the gaps. Elder care is a perfect example. Volunteer activity may also mask a situation where valuable work in our community is not being recognized as important enough

to be paid, and unemployed or underemployed individuals are expected to give of their time freely.

Individual & Collective Actions

- Find a cause or an organization you are passionate about and volunteer your time.
- Check the Volunteer Calgary website at www.volunteercalgary.ab.ca.
- Support the adoption of economic measurement tools such as the Canadian Index of Well-being that factor volunteer work into assessments of our economic well-being (ciw.org).



Economic Indicators



Highlights

Housing Affordability

In 2009, approximately 17.6 percent of all Calgary households, representing 77,200 households, spent more than they could afford on housing. The 2008 Calgary homeless count registered 4060 persons, an increase of 1463 people since 2004.

Economic Diversification - Oil and Gas Reliance

In 2008 Calgary's oil and gas sector contributed approximately 7.5% of the city's employment, 18.7% of the city's GDP, and 75.5% of the city's exports, for a reliance index of 33.9 (100 being total reliance). This is the highest level of reliance since 1998.

Unemployment Rate

In 2010 Calgary's unemployment rate was 7.7% compared with a national rate of around 9%. It is the highest rate for Calgary since 1996 and more than doubles the 2008 rate of 3.3%. The number of jobs in Calgary declined from 748,000 in May of 2008 to 736,800 in May of 2010 while the population continued to increase. This dramatic change in Calgary's employment picture is a direct result of the world economic turmoil that started with the financial crisis of September 2008.

Hours Required to Meet Basic Needs at Minimum Wage

To meet basic needs at minimum wage in Alberta in 2009, a single Calgarian had to work 53 hours per week and a single parent with 2 children had to work 83 hours per week. These numbers have improved considerably since 2004 when the comparable numbers were 73 hours and 111 hours.

Food Bank Usage

In 2010 the Calgary Inter-Faith Food Bank Society (CIFB) gave out 54,813 hampers to 140,442 recipients. CIFB distributed about 3.2 million pounds of food in 2009-2010 and worked with 95 partner organizations. Food bank usage increased dramatically between 2008 and 2010 and is now at historically high levels.

Income Equity: Gap between Rich and Poor

In 2005 the top 10 percent of Calgary families earned 37.41 times the income of the bottom 10 percent. That represented a 13% increase over the 2001 gap of 33.13.

Housing Affordability



The Facts

In 2009, approximately 17.6 percent of all Calgary households, a total of 77,200 households, spent more than they could afford on housing. The 2008 Calgary homeless count registered 4060 persons, an increase of 1463 people since 2004.

Definition

This indicator is derived from Statistics Canada census data and so is only calculated for census years. The 2009 figure is extrapolated from the 2006 data. The Canada Mortgage and Housing Corporation states that for housing to be affordable, a household should spend no more than 32 percent of its gross income on shelter.

Calgary's homeless count has been conducted by the City of Calgary every two years since 1992. Since 2004, the count measured the number of homeless people living in facilities and service agencies, as well as on the street. The data comes from the City of Calgary Biennial Count of Homeless Persons.

Trends

Calgary's affordable housing situation is currently not sustainable. Since 1991 the percentage of Calgary households overspending on housing has not changed much - hovering between 16.5 and 17.6%. The RBC Affordability Index, calculated quarterly shows fluctuations between census years. The index has averaged 40% since 1985 and exceeded 50% for periods in 2007-08 and in 2009 was approximately 36%.

The data shows that renters are more likely to require affordable housing than homeowners. In 2006, 38,600 low-income renter households (37% of all renter households) spent more than 30% of income on housing, an increase from 32% in 1991. In 2006, 39% of aboriginal renters, 45% of all renter households with a disabled person and 42% of all new immigrant renter households spent more than 30% of their income on rent.

In 2006, 33,600 homeowners (12% of all homeowners) spent more than 30% of income on housing. Almost 18,000 of those households spent over 50% of their income on housing. In 1991 only 7.5% of all homeowners overspent on housing.

Since the first homeless count of 447 individuals in 1992, the number of homeless has increased almost tenfold. Of particular concern is the rise in the number of homeless families, from 25 in 1994 and 42 in 2002 to 197 in 2008. As a result of the increase in homeless families, 384 children and youth were among the 2008 homeless. With only 3% of Calgary's population, aboriginals were 15% of the homeless. Over 50% percent of the homeless suffer from mental illness, 30% suffer some form of addiction and over half hold a job .

The 10 Year Plan to end Homelessness set a target of 850 affordable units built by 2011-12. In 2009 The Homeless Foundation reported it had secured funding for more than 890 units. Between 1994 and 2006 the number of private rental units in the city had fallen by 17,000 units and by a further 1000 units by 2009 . There were a modest 2900 new units built, but tear-downs and condo conversion far outpaced new construction. Vacancy rates have risen from a low of less than 1% in 2006 to about 5.3% in 2009. And from 2005 to 2008 average rents increased almost 50%. The loss of rental units was partly offset because 25% of condominiums were in the rental market. Another 48,000 rentals occurred in detached, semi-detached, row and townhouses and secondary suites, including over 7500 secondary suites.

Importance

Without the basic human right of affordable shelter, many other sustainability objectives cannot be achieved. If lower-income families spend more than 30 percent of their income on shelter, they are less able to afford other basic goods and services. When health suffers as a result of these circumstances, citizens' ability to support themselves may be compromised at further economic, physical, and social cost to themselves, their families, and the community. It costs \$100,000 per year in social services to support one homeless person.

Linkages

Lack of affordable housing is linked to a decrease in sense of community. People who have insecure access to housing and/or who may have to move frequently are less able to integrate into and contribute to their communities. This also creates difficulties for children and youth, and can affect

their health and education outcomes. Housing and transportation are closely linked. Living in a city where owning a car is obligatory presents significant hardship for low-income earners. A study of households making less than \$50,000 in the 28 largest metropolitan areas across the US found that they often spend more on travel than on housing.

This indicator is linked to several other indicators of economic sustainability. Food bank usage, unemployment rate, income equity, and the hours required to meet basic needs at minimum wage are each related to housing affordability. For people living in poverty, action must be taken to improve each of these indicators in order to enhance quality of life.

Individual & Collective Actions

- Support city-wide secondary suites policy
- Support policy for 15% of housing stock in every community to be affordable - see Citizens' Agenda
- Google 'City of Calgary housing research' for the latest housing research & statistics



Economic Diversification - Oil and Gas Reliance



The Facts

In 2008 Calgary's oil and gas sector contributed approximately 7.5% of the city's employment, 18.7% of the city's GDP, and 75.5% of the city's exports, for a reliance index of 33.9 (100 being total reliance). This is the highest level of reliance since 1998.

Definition

This indicator is derived by determining the oil and gas industry's influence on three areas of Calgary's economy: employment (the Conference Board of Canada Metropolitan Outlook Report), contribution to GDP (the Conference Board of Canada), and net exports (Government of Alberta, Alberta Finance and Enterprise). These three values are reflected as percentages, added, and divided by 3.

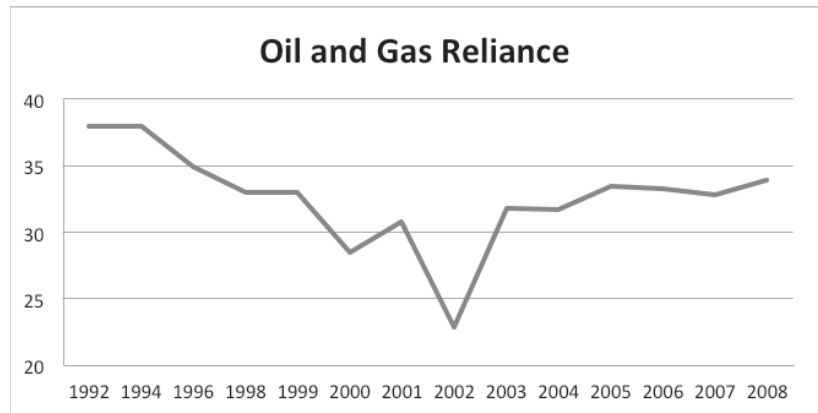
Trends

Calgary's economy appears to have grown more dependent on the oil and gas industry since 2002, reversing a trend of reduced reliance from 1992 to 2002.

From another angle it appears the reliance index itself is closely tied to the price of oil. The sharp rise in oil prices through 2007 and 2008 resulted in the latest increase in the reliance index. Despite governments' stated desire to diversify, Calgary's fortunes still rise and fall with the prices of oil and gas.

Some worrisome trends can be seen in the provincial exports data. In many areas of diversification the economy is going backward rather than forward. From 2000 to 2008 there has been a steady decline in the export value of paper products and wood pulp (16%), wood products (53%), computer and electronic products (80%), and furniture and related products (56%). The data demonstrate that the importance of the oil and gas industry is not only a result of direct jobs created. For example, though the direct employment is relatively low, salaries in the sector are in the range of 60% greater than the average and many of the professional and service sector jobs are heavily reliant on the oil and gas sector.

The Conference Board of Canada regularly reports a diversity index for Canadian Cities. On a scale of 0 to 1 with one being very diverse. In Spring 2009 Calgary's index was 0.77, compared to 0.9 or better for Vancouver, Winnipeg, Montreal and Halifax and



0.88 or better for Toronto and Edmonton.

Importance

A sustainable community values economic diversity just as it values cultural and ecological diversity. A diverse economy that does not rely on a single resource, employer, or sector is better able to withstand economic downturns and fluctuating market prices and can provide a stable environment for long-term community sustainability.

Linkages

Our sense of community is linked to business diversification. Boom-and-bust economies tend to promote more transience, making it difficult for people to put down strong roots. This type of economy also tends to have a negative effect on equity, as wealth becomes more concentrated during the boom periods, while bust periods are associated with increased crime rates and homelessness. In a boom-and-bust economy it is especially important to maintain strong economic stabilizers for the bust times, including unemployment insurance and a progressive taxation system.

A sustainable economic development strategy could focus the activities of community economic development's economic drivers and clusters on key sustainability challenges facing Calgary as identified in the Citizens' Agenda. Such a strategy might focus on economic development opportunities in affordable housing, energy conservation and renewables, waste management, human-powered transportation, immigrant workforce expansion, green building design, and transit- and community-oriented

design expertise. Each of these foci is a potential growth area for the economy of the 21st century.

Individual & Collective Actions

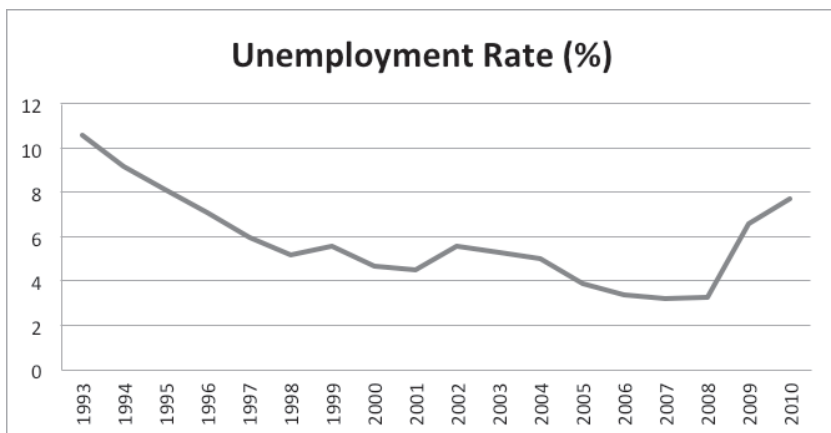
- Support policies that strengthen the diversification of the local, regional and provincial economies.



Unemployment Rate



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The Facts

In 2010 Calgary's unemployment rate was 7.7% compared with a national rate of around 9%. It is the highest rate for Calgary since 1996 and more than doubles the 2008 rate of 3.3%. The number of jobs in Calgary declined from 748,000 in May of 2008 to 736,800 in May of 2010 while the population continued to increase. This dramatic change in Calgary's employment picture is a direct result of the world economic turmoil that started with the financial crisis of September 2008.

Definition

The unemployment rate measures the proportion of the population in the labour force who are without work. The labour force represents all individuals over 15 who are employed (part-time and full-time positions) or actively looking for work. These figures are for the Calgary Census Metropolitan Area and are collected by Statistics Canada.

Trends

From 1998 to 2008 Calgary's unemployment rate averaged 4.5%, ranging from a high of 5.65% in 2002 to a low of 3.2% in 2007. The dramatic change in the Calgary employment picture between the 2000-2008 period and 2009-10 led the Calgary Economic Development Authority to declare that over the past decade Calgary has experienced nation leading growth and economic performance and nation leading contraction, one extreme to the other!

The decline of 12,000 jobs in Calgary in two years hides the true story. Jobs in the Pro-

fessional, Scientific and Technical Services dropped from 91,500 to 77,200. These are traditionally some of the highest paying and most stable jobs often associated with the oil and gas sector. The number employed in Information, Culture, Recreation, Health Care, Social Assistance and Education services increased by 13,100 jobs. These are traditionally lower paying often part time or seasonal jobs. Not only are fewer people employed but the income producing ability and stability of the jobs has changed considerably for the worse.

Importance

Increasing unemployment creates the greatest challenges for those in the lower economic groups. Those earning at or near the minimum wage through the boom years have not been able to build up savings or acquire assets to assist them in weathering a downturn in the economy. Those who can least afford it are often hit the hardest.

The vitality and productivity of a society depends on the work of its citizens. Each individual has the potential to contribute to the betterment of society. In a sustainable community all people should have that opportunity. The more people in a community who are un- or under-employed the less sustainable that community is.

High unemployment means that there is less money circulating in the community, added to which those who still have jobs may be earning less (e.g. no overtime or wage increases) and trying to save more thus reducing their discretionary spending.

This in turn means less income for shops, entertainment facilities, restaurants etc leading them to have to cut back on staff. This again often hurts the lower income and entry level workers who can't get their foot in the door.

Linkages

High levels of unemployment can drain a city of its prosperity. With fewer people earning wages, fewer tax dollars are available to support programs for unemployed citizens, while demand for these programs increases. Services such as affordable housing and food banks can be overloaded in times of high unemployment, and the basic health of unemployed citizens and their families can suffer.

Level of education and literacy are strongly linked to unemployment rates, since most jobs require a certain level of education or literacy. Workers with little education or poor literacy skills are vulnerable to layoff and displacement, and once unemployed, they can find it very difficult to secure new jobs.

Sometimes structural barriers such as a lack of transportation can prevent people from gaining employment. Public transit that is convenient, affordable, and efficient can help people who do not drive, or do not own and often cannot afford a car, to have access to a wider range of jobs.

Individual & Collective Actions

- Support a policy for minimum wage that at least meets the basic needs of an individual or family.
- Investigate job sharing in your workplace.

Hours Required to Meet Basic Needs at Minimum Wage

☹ SUSTAINABILITY TREND



The Facts

To meet basic needs at minimum wage in Alberta in 2009, a single Calgarian had to work 53 hours per week and a single parent with 2 children had to work 83 hours per week. These numbers have improved considerably since 2004 when the comparable numbers were 73 hours and 111 hours.

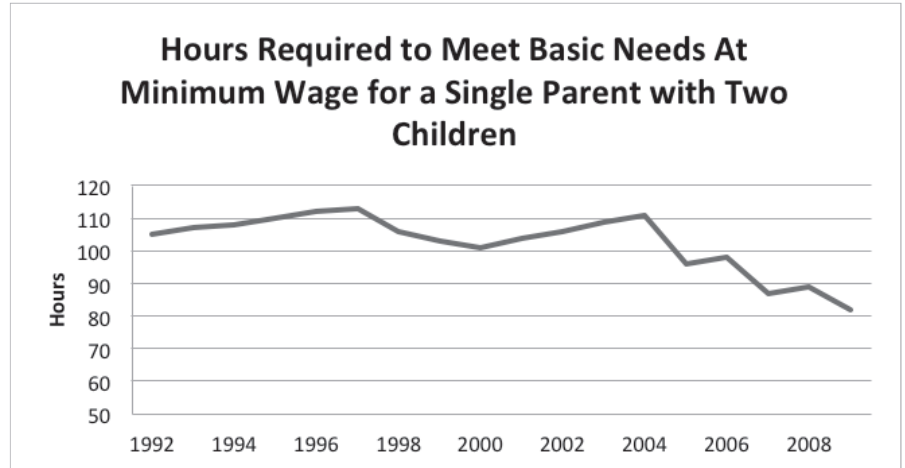
Definition

This indicator is derived by dividing Alberta's minimum wage of \$8.80 per hour into the before-tax Low Income Cutoff (LICO) levels established by Statistics Canada for various household sizes in cities of over 500,000 people. A low-income household is defined as one that requires at least 54.7 percent of its income just for food, shelter, and clothing. For this calculation it is assumed that an average work-week is 40 hours, that an individual has two weeks of vacation a year, and that she takes all 13 statutory holidays.

Trends

Albertans working at minimum wage have to work longer hours to meet their basic needs than residents in any other province or territory. Since 1969 when the first LICOs were calculated the trend has been that incomes for minimum wage earners fluctuate from bad (in years when the minimum wage is increased) to worse (in the years immediately prior to an increase). For example in 1992 when minimum wage rose from \$4.50/hour (established in 1988) to \$5.00 per hour a single individual would have had to work 69 hours per week to make the LICO. The minimum wage remained at \$5.00 for six years, and as a result, in 1997, that same single person then had to work over 74 hours. Likewise during the period 2000 to 2004 when the minimum wage stagnated at \$5.90, hours of work at minimum wage to reach LICO went from 66 to 73. In 2004 a single parent with two children would have had to work 111 hours per week to reach the LICO.

Since 2004 the minimum wage was increased to \$7.00 in 2005, and then \$8.00, \$8.40 and \$8.80 in 2007, 2008 and 2009. The hours required to reach LICO is lower now that at any time since the early to mid-1980s. To underscore the deterioration of incomes for low wage workers in Alberta, we have to go all the way back to the decade from 1969 (44 hours/week) to 1978



(42 hours/week) to find a minimum wage that afforded low paid workers sufficient incomes to meet basic needs.

In the past decade a North American wide movement advocating a Living Wage has flourished – including in Calgary where the campaign is led by Vibrant Communities Calgary (VCC). In 2009, in order to make ends meet on a regular 40-hour work-week, a single Calgarian would need to earn approximately \$11.72/hour. A single parent with two children would need to earn \$17.94/hour. Remember this is food, shelter and clothing. That does not leave much for a visit to the dentist, a summer daytrip to Banff or an afternoon at the zoo. More importantly it does not include the second largest household expenditure – transportation. The living wage advocated in Calgary by VCC is \$13.50/hour, or \$12.25 when benefits are also provided.

As of October 2010, Ontario had the highest minimum wage at \$10.25 followed by Nunavut and Newfoundland and Labrador at \$10.00.

Importance

Equity is an important element of a sustainable community. Every member of the community should have the opportunity to have meaningful work for a reasonable wage. Adequately remunerated employment can increase self-sufficiency, decrease reliance on social programs, and, in the long term, reduce costs to society.

Linkages

Long working hours leave little time for family, community, physical fitness, lifelong learning, volunteer activities, or participation in local governance.

In families where parents are working long hours for low wages, inequities are potentially exacerbated from one generation to the next. Parents who work long hours are less able to support the learning and development of their children.

In a 2008 survey, 88% of Canadians said they would like to see Canada distinguish itself as a country where no one lives in poverty. A majority of those surveyed support a raise to the minimum wage and 77% say that in time of recession it is even more important to help poor Canadians. In 2007, 8.4% of Alberta's wage earners 20 years and over were making less than a living wage. In the first half of 2009, 72,900 Calgarians were earning less than a living wage – 68% were women and 68% were over the age of 20 years.

A 2004 United Way study estimated that each year poverty costs our city up to \$8 million in education system costs, up to \$16 million in health care costs and as much as \$32 million in other costs.

Individual & Collective Actions

- Support an annually indexed minimum wage that is a living wage.
- Get involved in the Alberta Poverty Reduction Strategy – pialberta.org.

Food Bank Usage



The Facts

In 2010 the Calgary Inter-Faith Food Bank Society (CIFB) gave out 54,813 hampers to 140,442 recipients. CIFB distributed about 3.2 million pounds of food in 2009-2010 and worked with 95 partner organizations. Food bank usage increased dramatically between 2008 and 2010 and is now at historically high levels.

Definition

CIFB is a crisis facility that provides food from nine depots to Calgarians in times of financial trouble. Individuals and families can receive three hampers per year through self-referral and up to three more when they are referred by an agency or organization where they are participating in programs or services.

The CIFB started providing this emergency service in 1982 and has been tracking its distribution of food since 1992. The number of recipients measured in this indicator includes people who make multiple visits.

Trends

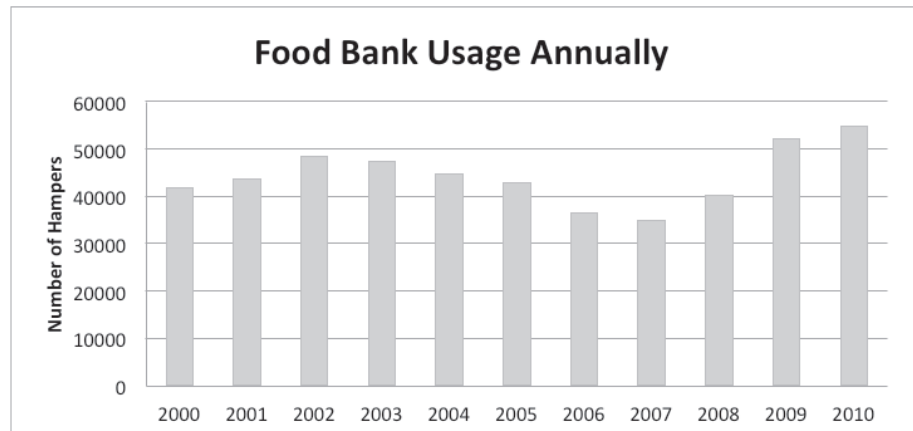
Food bank usage climbed steadily from 1992 to 2002 and showed a decline between 2003 and 2007. With the economic downturn the number of hamper recipients has risen dramatically (64% in volume and 33% per capita) since 2007. Every day about 370 clients receive food from the food bank. These numbers suggest that the food security crisis in Calgary is as dire as it has ever been.

Forty-one percent of Food Bank users in Calgary are children. The food bank distributed over 63,000 litres of milk to kids last year. A large percentage of the food bank's clients are wage earners.

The Canadian Association of Food Banks reports that on a national scale, Alberta has the second lowest rate of per capita food bank usage, at just over 1.5 percent of the population. In comparison, approximately 6 percent of people from Newfoundland, 2.5 percent from Ontario, and 1 percent from the Yukon use food banks. Still, relative to other provinces Alberta had the second largest increase in food bank use between 1998 and 2003, at 33.6 percent.

Importance

Food bank usage indicates to what extent



we are fulfilling our societal responsibility to more vulnerable citizens. Historically, food banks have been considered a temporary phenomenon, dedicated to resolving a food distribution crisis. Over time they have become a fixture in our towns and cities. According to the Canadian Association of Food Banks, more than 750,000 Canadians used a food bank in March 2003 alone. From 2002 to 2003 food bank usage rose 5.5 percent across Canada. Single-parent families, families relying on social assistance, and off-reserve Aboriginal families are over-represented among the hungry.

Linkages

Lack of accessible, affordable and safe public transit can severely limit the ability for many low-income citizens to find work and to make it to and from work reliably.

A national survey of over 700 food bank users across Canada found that the vast majority of clients lived in rental accommodation but only about 3% lived in subsidized housing. Three quarters of the households surveyed reported yearly income of less than \$15,000, less than the poverty line for even a single individual. On average clients spend over 60% of their income on rent and utilities and most feel that even a \$100 reduction in monthly income could be disastrous for them. The analysis from the report pointed to welfare support cuts most importantly and rising unemployment as the most serious structural issues fueling the use of food banks. The report predicted that a decade of cuts combined with the economic recession could see a calamitous rise in food bank usage – the Calgary experi-

ence seems to be bearing out that analysis.

The food bank's national survey Hunger Count 2010 found a striking rise in food bank clients across the country. It also found that 38% of clients are children, 11% work, 51% are on social assistance and 15% receive disability related income supports. The report found that low income is at the roots of the food security crisis. It also found a strong link with poor health. Health problems compromise people's ability to meet basic needs and can throw them into poverty. Both national reports call for a national housing strategy as a key ingredient to this crisis. They also call for a National Poverty Reduction Strategy, and a Child Care Strategy, increases to, and indexing of, social assistance rates, and a minimum wage pegged to the Low-income Cutoff – essentially a living wage policy.

Individual and Collective Actions

- In the short term, be generous to food banks. They need cash, food donations, and volunteers.
- For long-term sustainability, support policies and programs that tackle the root causes of poverty, like national policies for adequate and indexed social assistance, living wage, child care and a housing strategy.

Income Equity: Gap between Rich and Poor

☹ SUSTAINABILITY TREND



The Facts

In 2005 the top 10 percent of Calgary families earned 37.41 times the income of the bottom 10 percent. That represented a 13% increase over the 2001 gap of 33.13.

Definition

This indicator is derived using figures from The Calgary Foundation Vital Signs Reports, the Federation of Canadian Municipalities 2003 report titled "Falling Behind: Our Growing Income Gap," and the Canadian Centre for Policy Alternatives 'Growing Gap' project. Income includes the following sources: employment, employment insurance, social assistance, and other government transfers.

Trends

Up until 1977 there had been a steady improvement in wealth distribution in Canada since the gross inequalities that precipitated the great depression. The trend reversed itself from the mid-1970s to the mid-1980s and since 1984 the trend toward more unequal wealth distribution has accelerated.

Between 1992 and 1998, median income increased by a greater rate for the highest 10% of income earners than for any other income group in Calgary. According to a Statistics Canada report in 1984, the top 10% of families in Canada held 52% of household wealth. By 1999 they held 56% and by 2005 they held 58%.

Calgary is a relatively rich city, with the highest median family income in Canada in 2008 at \$91,570. Between 2005 and 2008, the median family income in the Calgary metropolitan area increased by 28 percent. Over that same period of time persons living with low incomes decreased from 12.7% to 8.9%.

Between 2001 and 2005 only Vancouver and Toronto had a higher ratio of income between the top and bottom 10% of families at (42.24 and 47.55) than Calgary and only Vancouver and Victoria had a higher percentage increase in the gap at 22% and 19% respectively. By comparison Ottawa's ratio was 20.3 and it had actually decreased by 1.2% in that time period.

Importance

A community that is increasingly split by income inequity cannot sustain itself over time. Poverty breeds isolation and exclu-

sion, with less opportunity for interaction between people of different income levels.

Linkages

The social and physical implications of income disparity are profound. 'The Spirit Level: Why More Equal Societies Almost Always Do Better', groundbreaking research on 23 of the wealthiest countries in the world, suggests that physical and mental health, drug abuse, education outcomes, imprisonment, obesity, social mobility, trust, teenage pregnancy and violence are all worse in more unequal societies.

The real story of income disparity is to be found at the very highest incomes. From 2006 to 2007, the income of Canada's top 100 CEOs increased 22%, to an average of \$10.4 million dollars, far higher than the modest 3.2 % increase for the average Canadian. In 1995 the top 50 CEOs earned 85 times the average Canadian and by 2007 the top 50 CEOs earned 400 times the average Canadian. "Since the late 1970s the richest 1% has almost doubled its share of total income; the richest 0.1% has almost tripled its share of total income; and the richest 0.01% has more than quintupled its share of income.... The privileged few who rank among the country's richest 1% took almost a third (32%) of all growth in incomes between 1997 and 2007." Income inequality is at levels not seen since the 1920s in Canada. The top 0.01% of Canadians have a greater share of income now than they did at the time of the great depression.

Even delegates to the annual World Economic Forum are sounding a warning about income inequality with advisors to the International Monetary Fund calling it 'the most serious challenge we face' globally. A January 2011 Economist article highlighted three top reasons why inequality matters – its negative impact on personal well-being, the limits it imposes on equality of opportunity and the effects of higher concentrations of political power.

A 2007 Statistics Canada study suggests this pattern of growing inequality has been in effect at least since the late 1980s. From that period to 2004 several measures of inequality have worsened including top and bottom decile ratios, the Gini coefficient and the percentage of Canadians in the middle income range. In addition between

1984 and 2005 only the top 10% of Canadian families saw their percentage of the wealth generated in Canada increase. As an example the top CEO in Canada in 1978 earned just over \$450,000. In 2006 Canada's top CEO earned over \$51 million. Research has also found no correlation between CEO pay and better societal outcomes or economic growth.

In Calgary poorer communities find themselves more likely to be near industrial sites and pollution sources. As school funding is cut back, low-income communities find it more difficult than richer communities to raise supplemental funds for computers, textbooks, and educational enhancements.

In a 2001 report from York University, "Inequality is Bad for Our Hearts," it was reported that if all Canadians were as heart healthy as the wealthiest Canadians, there would be 6,366 fewer deaths from heart disease annually. The cost of income-related differences in heart disease among Canadians is estimated at \$4 billion annually. A 2007 Quebec report found that children raised in poverty are more likely to get sick and die at a younger age with mortality of boys from the poorest families being up to 3 times the rate of boys from rich families.

Individual and Collective Actions

- Support the reform of taxation systems to ensure that they are not regressive and do not burden low-income households.
- Support legislation that ensures minimum wage is a living wage.
- Learn more about the idea of maximum wage ratios.



Education Indicators



Highlights

Adult Literacy

In 2003, 61% percent of Albertans aged 16 and over functioned at prose literacy level three or higher; only 21% functioned at level four or five.

Average Class Size

In 2009/2010 the average class size in Calgary Catholic schools was 22.5 students and for the Calgary Board of Education 21.5 students. Class sizes in Calgary are larger than the Alberta average of 21.3 but are generally in line with the guidelines recommended by Alberta Commission on Learning (ACOL). Neither Calgary Board met the target for class size at the important K-3 grade level.

Daycare Worker Salaries and Turnover

In 2010 daycare staff in Alberta worked for an average starting wage of \$12.49/ hour. Alberta daycares experienced a 45 percent turnover rate from December 2003 to May 2004.

Grade Three Achievement Scores

On the 2008-09 Provincial Achievement Tests for Language Arts, 86.7 percent of grade three students in Calgary achieved the acceptable standard as identified by Alberta Learning, and 20.1 percent achieved excellence. These achievement levels exceed the targets set by Alberta Learning.

Library Use

In 2010 Calgarians used the 17 branches of the Calgary Public Library (CPL) approximately 35.45 million times, or 33.3 uses per capita, representing an increase of more than ten uses per capita since 2003.



The Facts

In 2003, 61% percent of Albertans aged 16 and over functioned at prose literacy level three or higher; only 21% functioned at level four or five.

Definition

This indicator is based on surveys for the 1996 International Adult Literacy Survey (IALS) and the 2003 Adult Literacy and Life Skills Survey (ALLS). The reports define four types of literacy – prose, document, numeracy and problem-solving– each with either four or five levels of proficiency. At level three, an individual can do simple research and integrate information. At level four, an individual integrates and contrasts information well. At level five, an individual can integrate complex information and perform multiple numerical operations.

Trends

Since 1989 there have been only three major adult literacy surveys in Canada. The 2003 results suggest some deterioration in adult literacy in Alberta since 1996. On the positive side the percentage of Albertans at level 1 literacy has decreased from 15% to 13.6% but those in level 2 or below has increased from 36% to 40%. The percentage of Albertans in the highest level of literacy (4/5) has decreased significantly from 29% to 21%.

However, Alberta is still one of the best performing Canadian provinces. In 2003, 20% of Canadians were at level 1 literacy and only 17% were at level 4/5. Canada is in the middle of the pack internationally. Scandinavian countries consistently score highest, especially at the higher levels. Norway outscored Canada in the percent of 16 to 65 year olds with level 4/5 document literacy - 28% to 23%.

With the increasing demand for a literate workforce, several initiatives have emerged including community-based literacy programs, in which literacy specialists work to build literacy skills in individual communities. Five Calgary neighbourhoods participated in this program in 2002.

Importance

Higher literacy skills tend to correlate with healthier lifestyles and likelihood of having a job. They also enable citizens to partici-

Comparative Percentage of Level 4/5 Literacy

| Type | Alberta | | USA | | Sweden | Norway |
|-----------------|---------|-------|-------|-------|--------|--------|
| | 1994 | 2003 | 1994 | 2003 | 1994 | 2003 |
| Prose | 29% | 21% | 21% | 12.8% | 32% | 21% |
| Document | 30% | 22.6% | 19% | 15% | 36% | 28% |
| Numeracy | 27% | 18.6% | 23% | 12.7% | 36% | 18% |
| Problem-Solving | ----- | 5.8% | ----- | ----- | ----- | 7.2% |

pate more fully in their communities and to gain meaningful work. Literacy also supports lifelong and independent learning by helping people to acquire new competencies and skills. A society's ability to tackle the complex sustainability challenges we face today is directly related to the literacy of its citizens.

Linkages

In Canada an individual at literacy levels 1 or 2 is almost three times more likely to be unemployed as an individual at the 3 or 4/5 levels of literacy . According to Literacy Alberta, illiterate adults suffer higher rates of poverty and unemployment. Between 22 and 50 percent of people with low-level literacy skills live in poor households compared to 8 percent with high literacy levels .

Less than 10% of Canadians who could benefit from literacy upgrading programs actually enroll. According to the ABC Canada Literacy Foundation, financial instability, lack of childcare, and lack of accessible transportation are some of the barriers that prevent people from enrolling in literacy programs .

Offenders experience literacy problems at three times the rate of the general population. People with low literacy levels experience more hospitalizations and are more likely to misinterpret medical instructions.

A 2004 Statistics Canada study of the literacy rates in 14 OECD countries, including Canada, suggests that raising the average literacy and numeracy skill level of the workforce, and reducing the proportion of workers at the lowest level of skill, could yield significantly higher levels of growth in GDP per capita .

Survey results suggest that those with low scores spend significantly less time using computers , that the children of parents with low literacy skills are falling further behind and that over time literacy skills in Canada have been losing ground to literacy levels in Scandinavian countries. These findings are consistent with the well-documented thesis that fairer societies generally perform better.

Individual and Collective Actions

- Visit ABCs Website: www.abc-canada.org.
- Let your political representatives know you support more regular literacy surveys.
- Develop your own literacy skills by joining a book club.
- Check out the annual Calgary WordFest.

Average Class Size



The Facts

In 2009/2010 the average class size in Calgary Catholic schools was 22.5 students and for the Calgary Board of Education 21.5 students. Class sizes in Calgary are larger than the Alberta average of 21.3 but are generally in line with the guidelines recommended by Alberta Commission on Learning (ACOL). Neither Calgary Board met the target for class size at the important K-3 grade level.

Definition

Class size is defined as the ratio of students to full-time equivalent teachers in a classroom. Alberta Learning reports published class size statistics collected from the Calgary School District and the Calgary Roman Catholic Separate School District for kindergarten through grade 12. Given that students may spend time in several classes, the Alberta Learning report limits the data to the four core subject classes: language arts, math, sciences, and social studies. These numbers do not include data about special needs classes. "Class Size" figures do not include educational professionals who do not teach in classrooms, such as principals, counselors, and librarians.

Trends

Beginning in the 2004/05 school year, Alberta Education provided jurisdictions with Class Size Initiative funding with the intent that jurisdictions meet the Alberta Commission on Learning (ACOL) class size guideline by 2006/07.

Funding went directly to hiring and maintaining teachers over three years. The funding successfully reduced the average class size from 27.2 in 2003/04 to 21.3 in 2009/2010.

The ACOL's program success in the Calgary region is now imperiled by recent news from the Provincial government. The six-year push by the province to trim class sizes by funding more than 2,900 extra teachers is about to erode with more than 500 teaching jobs to be slashed across Alberta in September of 2010. In the 2010/2011 year class size initiative funding for all but the K-3 grade level has been withdrawn.

Importance

Education is the foundation upon which a community can build ecological, social, and

Average and Recommended Class Sizes, 2009/2010

| Grade Level | CBE Average | Catholic Board Average | Alberta Average | ACOL Recommendations |
|-------------|-------------|------------------------|-----------------|----------------------|
| K-3 | 17.4 | 19.1 | 18.5 | 17 |
| 4-6 | 21.2 | 22.4 | 21.5 | 23 |
| 7-9 | 23.2 | 22.3 | 22.5 | 25 |
| 10-12 | 24.2 | 26.2 | 22.8 | 27 |
| Average | 21.5 | 22.5 | 21.3 | 23.0 |

economic sustainability. A strong education equips youth to become contributing, committed, compassionate, and skilled citizens of tomorrow. Positive environments for teachers and students, including smaller class sizes, can also raise morale and lower stress levels, thereby improving the overall quality of education.

Linkages

Smaller class sizes and increased individual attention can play a critical role in socialization that contributes to healthy lifestyles as youths become adults. Consequently, children in smaller classes may experience fewer health problems, reduced incidence of antisocial behaviour, and less involvement in crime.

Volunteers have always been a part of our school system. With budget cutbacks, volunteers become even more critical since they work with students, help staff, and assist with fundraising and extra-curricular activities. Obligating parents to provide more time and money to programs and activities, however, works to the disadvantage of lower-income communities, where parents may already be working long hours to make ends meet.

Large class sizes can also spur parents to investigate private schools, which can offer class sizes as small as twelve students. The shift toward private education in Calgary has social and economic implications, since only families with significant financial resources are able to access these schools. Per student, private schools receive 60 percent of the funding that public schools receive from the government, and they are also eligible for government grants like the Alberta Initiative for School Improvement. Combined with tuition, the resources available

to private schools enable them to provide educational opportunities that may not be available in public schools, thus potentially perpetuating inequities.

Individual and Collective Actions

- Let your MLA know that funding for public education should not be cut.
- Volunteer your time and skills to your local school and get active with parent councils.
- Get to know the issues faced by your local school board and trustees so that you can participate in the debate



CALGARY

Daycare Worker Salaries and Turnover



The Facts

In 2010 daycare staff in Alberta worked for an average starting wage of \$12.49/hour. Alberta daycares experienced a 45 percent turnover rate from December 2003 to May 2004.

Definition

Daycare staff wage information was obtained through the government of Alberta's Wage and Salary Survey. Hourly wage figures assume full-time employment and apply to all early childhood educators, including daycare staff, preschool teachers, and supervisors. Information about staff turnover rates came from a study in the May 2004 edition of Today's Parent.

Trends

In 1996 a starting daycare worker made 35% above the minimum wage. By 2009 a starting worker was making modestly more relative to 1996 - about 42% above minimum wage. Top wage earners in the sector earn about double the minimum wage. Wages of daycare workers peaked relative to minimum wage about 2001 and have fallen since then.

As of 2008 Alberta had 74,000 childcare spaces. Alberta is near the bottom of the pack for ratio of spaces to children in the province - less than 20%. PEI is tops at about 40%. Quebec has space for about 28% of children. As of 2006/07 the provincial allocation per child and per childcare space in Alberta were \$195 and \$1492 respectively. These totals are the lowest and second lowest of any province. Compared to Alberta, BC allocates double per child and Quebec allocates almost 10 times per child.

The importance researchers attach to early childhood education is not reflected in either education standards for early childhood educators or their compensation. As of 2008 only Manitoba required a 4-year degree for childhood educators. Alberta ranks 4th from the bottom in terms of median full-time employment income for childcare workers based on the 2006 census. At 18,800 dollars Alberta is well below the Canadian average of 25,100.

Largely as a result of low wages, daycare staff turnover rates were found to be consistently high from 1998 to 2004. Still, 45 percent turnover remains very high rela-

Daycare Staff Wages in Alberta

| | 1996 | 1999 | 2001 | 2005 | 2009 |
|--------------------|--------|--------|---------|--------|--------|
| Starting Wage | \$6.75 | \$7.35 | \$8.39 | 10.08 | 12.49 |
| Wage After 3 Years | \$8.01 | \$8.50 | \$10.58 | 11.59 | 14.48 |
| Top Wage | \$9.25 | \$9.85 | \$12.10 | 15.47 | 17.51 |
| Minimum Wage | \$5.00 | \$5.65 | \$5.90 | \$7.00 | \$8.80 |

tive to Alberta's average turnover rate of 13.7 percent (across all sectors). Childcare wages do not compare very favourably to other jobs in Calgary. For example the average 2009 wage for construction, retail and transportation and warehousing were \$28.29, \$17.35 and \$22.58 respectively.

In a survey of 14 OECD countries Canada was found to spend the least on early learning and childcare .

Importance

Education during early childhood has a tremendous effect on child development and the overall path that is laid down for future learning. In their 1999 book, *The Learning Revolution: To Change the Way the World Learns*, researchers Dryden and Vos state that 50 percent of a child's ability to learn is developed during the first four years of life, while another 30 percent is developed by age eight. However, early childhood programs receive proportionally lower government funding than other educational programs. Daycare workers' low wages and strenuous working conditions lead to high turnover rates, which in turn can create instability in daycare programs. Lack of stability and consistency in those programs can be hard on children.

Linkages

A 2008 Today's Parent survey found that average licensed daycare fees in Alberta were the second highest in the country at \$750/month, compared to \$399 in Manitoba where generous provincial subsidies are in place. The survey also found the most dissatisfaction among Alberta parents - 30% compared to a Canadian average of 12%.

As single-parent households and two-income families become an increasingly common reality, the need for high-quality,

accessible childcare is growing. As of 2007, over 342,000 0-12 year olds had mothers in the workforce. Adequate compensation of daycare staff, along with benefits programs, safe and healthy working conditions, and access to resources and professional development, help to ensure a high-quality experience for children and provide peace of mind to working parents. In particular, access to high-quality childcare programs may help more mothers to return to the workforce.

Individual and Collective Actions

- Support government action on a comprehensive national childcare strategy that addresses the needs of working and stay-at-home parents.
- Support an immediate increase in the wages paid to childcare workers.

Grade Three Achievement Scores



The Facts

On the 2008-09 Provincial Achievement Tests for Language Arts, 86.7 percent of grade three students in Calgary achieved the acceptable standard as identified by Alberta Learning, and 20.1 percent achieved excellence. These achievement levels exceed the targets set by Alberta Learning.

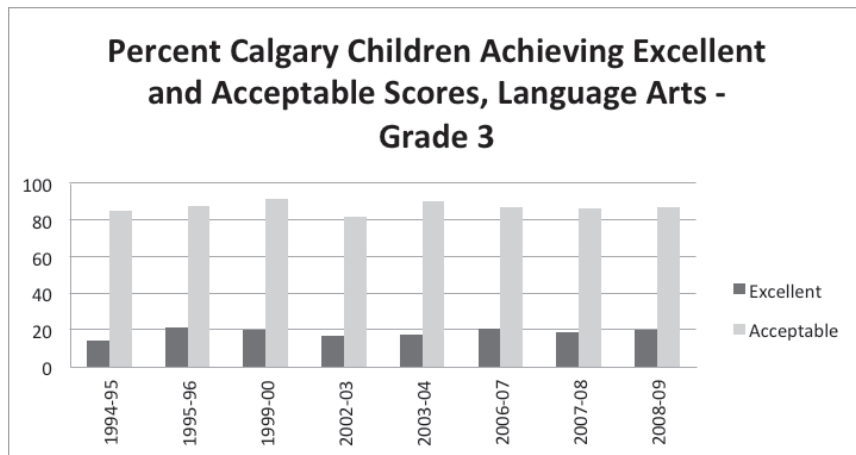
Definition

This indicator is based on the results of Alberta Learning's Provincial Achievement Tests in Language Arts for grade three students in Calgary's public and separate schools. An acceptable performance is a score of 50 percent or better, and an excellent performance is a score of 80 percent or more. The provincial targets are 85 percent of students achieving acceptable performance and 15 percent achieving excellent performance.

Trends

Since 1994-95 Calgary's grade three achievement scores have fluctuated widely from year to year but continue to remain generally above provincial targets. The achievement of the 'excellent' target has been exceeded every year since 1994-95 when it was 14.4 %. The past three years have been the best 3-year average on record. The acceptable achievement target as been reached every year since 2002-03 when only 81.6% of students achieved a score of 80 or better. The last three years have been very consistent with 86.8, 86.5, 86.7 percent of students achieving the acceptable standard of 50.

Canadian students ranked highly on the 2003 Program for International Student Assessment (PISA) tests. Out of 40 countries participating in the testing Canadian students ranked 3rd, 7th, 9th and 11th in tests



for reading, math, problem-solving and science respectively. By comparison Finnish students ranked 1st, 2nd, 3rd and 1st. Students of the United States ranked 18th, 28th, 29th and 22nd. In the 2006 PISA Canada ranked 4th, 4th and 7th on science, reading and math. Finland was 1st, 1st, and 2nd.

Alberta is the highest ranked province on reading and science and is second to Quebec on math. On an international comparison Alberta ranks second only to Finland in science and 4th behind Korea, Hong Kong and Finland in reading and 7th on mathematics. Canada has the most equitable scores of any OECD countries (i.e., the least variation across lowest and highest quintiles).

Importance

Children who establish healthy patterns of learning during the early elementary years are likely to continue to learn successfully into adulthood. While achievement testing occurs in a number of curricular areas, language arts scores have been selected for reporting because literacy is so fundamental to participation in today's world. It allows us to function independently, to contribute to our community, and to be productive in the workplace.

Linkages

Illiterate children tend to have a lower sense of self-esteem, higher dropout rates, and higher rates of incarceration. As people develop literacy skills, they are generally better able to function in society, have greater independence, can contribute to public de-

bate, and can learn additional skills. Volunteerism that supports community building and participation tends to be higher among more educated and more literate members of the population.

Children who struggle to read and write may have parents who also have literacy challenges. Since parents have a strong influence on the enthusiasm and interest with which children approach reading and writing, children from families with low levels of literacy may not receive the encouragement and support they require to develop strong literacy skills. Parents with literacy challenges may also lack the information, confidence, or skills to ensure that their children are receiving sufficient support at school. After struggling through lower grade levels, children in this situation often drop out of high school or graduate with low levels of literacy.

Individual and Collective Actions

- Read to your children from a very early age. Encourage them to read and write.
- Provide a good example to children by reading widely yourself.
- Volunteer to read and be read to in literacy programs at local schools.
- Support your local public library and help build a culture of reading in your community.

Library Use



The Facts

In 2010 Calgarians used the 17 branches of the Calgary Public Library (CPL) approximately 35.45 million times, or 33.3 uses per capita, representing an increase of more than ten uses per capita since 2003.

Definition

The data for this indicator comes from CPL records and user surveys. Library usage includes electronic and in-person visits, circulation of materials, and in-library use of resources.

Trends

Between 1994 and 2010, the per capita use of the CPL increased by almost 80 percent. At over 5.4 million in-person visits in 2010, the CPL had more visitors than the Stampede, Calgary Zoo, Heritage Park, Science Centre, recreation arenas, and all professional sporting events combined. Five million people visited the Library's website. Also in 2010, the CPL circulated over 16 million items, representing the second highest circulation in Canada, second only to Toronto and one of the highest in North America behind Los Angeles and the boroughs of New York City.

Increasingly, libraries do much more than provide citizens with books. Many patrons use the CPL's computer resources for research, job search, and personal communications. In 2010, 156,000 people attended programs and tours offered by the Public Library.

Research shows that getting kids to continue reading over the summer months is an important head start to their school year. In 2009 over 11,000 kids improved their reading skills through the Library's Summer Reading Adventure.

Importance

In a sustainable community, all citizens should have access to the information they need to participate in community life and understand their world. The public library plays an essential role in providing an inclusive place for citizens to engage in ongoing learning in a changing environment. The public library, sometimes called "the people's university," fosters personal empowerment and community development through universal access to learning resources. Children's programs, literacy pro-

grams, and large-print and "talking" books serve community members who are sometimes marginalized or isolated. The library plays an important role in providing access to the Internet for those who cannot afford computers or Internet connection.

Linkages

The lifelong learning that libraries promote is important for personal growth and well-being. It broadens horizons, stimulates curiosity and creativity, leads to increased health and fulfillment, and creates a more enlightened and involved community.

The CPL has directly supported sustainability literacy co-hosting Sustainable Calgary's monthly book club for the past three years and beginning a new partnership with CivicCamp Calgary in 2011.

Libraries help people to acquire and enhance their literacy skills. Because the library is an inclusive and democratic institution, all citizens are welcome to use its resources, regardless of age, ability, cultural background, or income.

A library is an environment-friendly means of disseminating information since it allows resources to be shared among citizens, saving countless trees in the process. CPL is also leading by example with ongoing LEED certification that now includes its new buildings at Crowfoot and Country Hills, three other branches in the planning stages and a LEED certified renovation of the Signal Hill branch.

The library not only provides free access to books but has a program to provide low income Calgarians with tickets to arts and recreational opportunities including dance, music, theatre, festivals, and rodeo.

A key pillar in Adult Lifelong Learning in Calgary is Calgary Learns. In 2009 this organization provided over 1 million dollars in funding to 120 adult learning initiatives in Calgary including vital areas like English as a second language.

A report by the TD Bank suggests that raising the literacy of Canadians with level 1 or 2 reading skills to level 3 skills (functional literacy) would have an economic pay off of close to 80 billion dollars.

The CD Howe Institute reports that literacy upgrading provides a higher payoff than hard infrastructure investment and a greater impact than the same dollars being invested in increasing the number of highly skilled graduates.

Individual and Collective Actions

- Check out CPL's One Calgary One Book initiative.
- Support the drive for a new Calgary Central Library!
- Join the Sustainable Calgary book club.
- Learn more about lifelong learning through the Calgary Community Adult Learning Association: calgarylearns.com



Natural Environment Indicators



Highlights

Air Quality

In 2008 the Air Quality Index at Calgary's three monitoring stations – Central (downtown), Northwest (residential), and East (industrial) – was good 99.5, 97.7, and 98.4 percent of the time, respectively. During 2007, annual average nitrogen dioxide (NO₂) concentrations were 72, 66, and 41 percent of the 32 parts per billion (ppb) guideline value for the three respective stations. The maximum hourly average NO₂ concentrations for the year were 44, 26, and 73 percent of the hourly guideline value (212 ppb) for the Central, Northwest, and East stations, respectively. These numbers have not changed significantly from previous years.

Food Grown Locally

In 2004, there were 9 community gardens and 4 farmers markets. In 2010, there are 90 community gardens and 14 farmers markets. There are also 6 ornamental community gardens, up from 2 in 2008 and 3 in 2009.

Pesticide Use

A minimum of 28,000 kilograms (kg) of active pesticide ingredients were used in Calgary in 2008. Herbicides accounted for 62% of the total.

Surface Water Quality

In 2010 for the Bow River downstream of Calgary (Stiers Ranch monitoring site), the water quality standard for E. Coli was exceeded in 0 of 6 samples. The standard for fecal coliforms was exceeded in 3 of 6 samples. Since 1996, the fecal coliform standard has been exceeded in 61 of 129 samples and the E. Coli standard exceeded 6 times out of 123 samples.

Christmas Bird Count

In the 2009 Calgary Christmas Bird Count, 91 birder and 105 feeder-watchers recorded 63 species and 53,950 individual birds. In the same year, the Fall Migration Monitoring (FMM) program recorded 70 species and 1,966 individual birds. These numbers are slightly larger than observations from 1999.

Water Consumption

In 2009 Calgary's average water consumption was 429 litres per capita per day (lpcd), continuing a trend of declining consumption since the 1970s.



The Facts

In 2008 the Air Quality Index at Calgary's three monitoring stations – Central (downtown), Northwest (residential), and East (industrial) – was good 99.5, 97.7, and 98.4 percent of the time, respectively. During 2007, annual average nitrogen dioxide (NO2) concentrations were 72, 66, and 41 percent of the 32 parts per billion (ppb) guideline value for the three respective stations. The maximum hourly average NO2 concentrations for the year were 44, 26, and 73 percent of the hourly guideline value (212 ppb) for the Central, Northwest, and East stations, respectively. These numbers have not changed significantly from previous years.

Definition

Alberta Environment uses the Air Quality Index (AQI) to measure air quality in the province. The AQI combines measures of carbon monoxide, fine particulate matter (PM2.5), NO2, ozone, and sulphur dioxide to represent overall air quality. Pm2.5, Ozone and Carbon Monoxide are known to impede lung and immune system function. NO2 is formed primarily as a result of high temperature combustion from vehicles, residential and commercial heating, and industry, and is known to aggravate asthma symptoms. Air quality samples are collected continuously from monitoring stations at 611-4 St. SE (Central, moved to 620 7th Ave SW in 2008); 39 St. and 29 Ave. NW (Northwest), and 49 Ave. and 15 St. SE (East).

Trends

Since 1997 good air quality at the three stations has fluctuated between 93 and 100 percent but in recent years has been consistently in the 97 to 99 percent good quality range. Since 1999 NO2 concentrations at the Central, Northwest and East Stations has fallen 18, 19 and 16 percent respectively.

Particulate matter in the 2.5-micron range is perhaps the most troubling air quality parameter. These particles are significant contributors to respiratory problems. This parameter was problematic in 2003 with a total of 50 one-hour exceedances across the three stations. However no exceedances have been recorded since 2003. Hourly averages rarely go above 50% of the allowable hourly limit of 80 ug/m3, with the highest hourly level for 2009 being only 50 ug/m3.

Average NO2 Concentration (ppb) in Calgary

| | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007/08 |
|-------------------|------|------|------|------|------|------|------|------|---------|
| Central Calgary | 28 | 28 | 27 | 27 | 27 | 26 | 24 | 24 | 23/18.9 |
| Calgary East | 25 | 26 | 24 | 25 | 26 | 23 | 22 | 21 | 21/22 |
| Calgary Northwest | 16 | 16 | 16 | 16 | 17 | 15 | 14 | 14 | 13 |

Importance

The air we breathe is a common good. Air quality can affect our health, economy, aesthetics, and the environment. Health effects can be short term, affecting people with respiratory problems, or long term, increasing the incidence of illnesses such as asthma and cancer. The Canadian Government estimates that each year up to 16,000 Canadians die prematurely due to poor air quality. Poor air quality can result in economic losses totaling millions of dollars through damage to materials such as paint, metal, and rubber, and through reduced property values in areas that become known for poor air quality. A Government of Canada report estimates savings from improved air quality of up to 8 billion dollars over 20 years.

Linkages

The City of Calgary's State of the Environment report notes that the personal vehicle is the largest source of air pollution in the city. Environment Canada estimates that CO2 and NOx emissions for passenger vehicles are three times those of buses and 5 – 10 times those of LRT per passenger kilometer. While the per kilometer emissions of various pollutants have improved between 25 to 50% over the past 20 years, average kilometers driven have increased significantly – 51% for SUVs, light trucks and mini-vans.

Carpooling and increased transit usage reduces air pollution. In turn, as air quality improves, more people may be persuaded of the benefits of walking and cycling to work and other destinations. Leaving our cars at home and using alternative modes of transport contributes to improved health, an enhanced sense of community, and crime deterrence.

Calgarians sometimes blame poor air quality on atmospheric "inversions." These inversions, however, do not create the pollutants but merely trap them near the ground, limiting their dilution in the atmosphere. In these conditions, we can breathe (and often see) the condensed effects of everything we put into the air!

A 2005 report by the Toronto Public Health estimated that on average over 800 premature deaths in Toronto could be attributed to air pollution. This number was expected to increase to almost 1500, based on today's population figures.

Individual and Collective Actions

- Walk, cycle, rollerblade, or take public transit to work and other destinations.
- If you do drive, turn your engine off when your vehicle is stopped for more than ten seconds. Less fuel is needed to restart your vehicle than to leave it running.
- Undertake energy efficiency measures at home (e.g., insulate, turn down the thermostat, seal cracks).





The Facts

In 2004, there were 9 community gardens and 4 farmers markets. In 2010, there are 90 community gardens and 14 farmers markets. There are also 6 ornamental community gardens, up from 2 in 2008 and 3 in 2009.

Definitions

A community garden is any group of people who come together to garden (Community Garden Resource Network).

Public community gardens are gardens located on public lands such as those in city parks. City of Calgary Parks defines a community garden as “a piece of land gardened by a group of people (10 persons minimum) for the purpose of providing a garden experience/education to citizens of Calgary. They are offered in partnership between City of Calgary Parks and community-based organizations and are subject to all policies and bylaws governing public lands.”

Private community gardens are privately owned gardens shared by the owners with a specific group of gardeners. For example, the Emmanuel Christian Reformed Church sponsors the Glenbrook Green Thumbs Community Garden.

Trends

In a 2010 survey conducted for The City of Calgary, 33% of respondents said they grow vegetables, 24% grow fruit and 33% grow herbs. Of those who do not grow any food, 50% have no space, 25% have no time and 13% are not interested. 77% said it is very or somewhat important to purchase locally grown foods, while 40% said one quarter of their food purchases are locally grown.

In recent years, interest in permaculture and organic farming has grown and more people are composting their organic waste.

More homeowners share their backyards with vegetable gardeners in exchange for some of the produce. A commercial Small Plot Intensive or SPIN farm (Leaf & Lyre) operates several backyard gardens in the city. More people are also raising backyard chickens or tending honeybee colonies.

The Calgary Food Policy Council was established in 2008 to develop, coordinate, and implement a food system policy. Slow Food Calgary is a local chapter of an international

Community Gardens

| | 2008 | 2009 | 2010 |
|--|--------|------|------|
| Public Community Vegetable Gardens | 7 | 29 | 42 |
| Private community vegetable gardens | 4 | 25 | 48 |
| Gardeners | 750 | 1362 | |
| Land area used as community garden (sq. ft.) | 99,672 | | |
| Public garden plots | 376 | 667 | |

Source: Community Garden Resource Network (CGRN)

movement that began as a grassroots response to the expanding ‘fast food’ industry. It “seeks to protect cuisines, regional dishes, ingredients, and small purveyors from the deluge of industrialization and to restore pleasures to our fast-paced and hectic lives.”

There are more and more books and magazines as well as public presentations on edible gardening offered by the Calgary Public Library and the Calgary Horticultural Society.

Importance

Growing food locally contributes to Calgary’s sustainability by reducing soil degradation, water pollution, and the carbon footprint associated with factory farming and the transportation of food grown elsewhere.

Although fresh, local food is often healthier, it has been pushed aside by processed food sold in chain stores that is high in sugar, salt, fat, artificial flavours, and food preservatives. Foods sold in farmers markets are better alternatives.

Gardening is healthy activity. Forty-eight per cent of Canadian adults enjoy being physically active through gardening, making it the second most popular form of physical activity after walking.

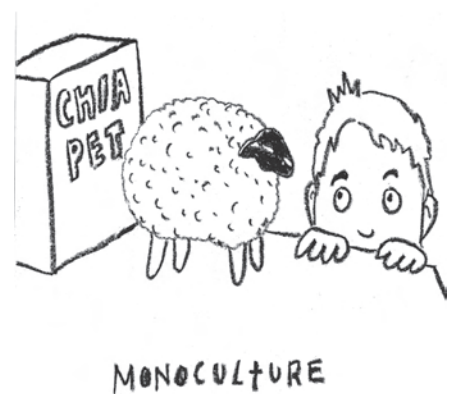
Linkages

It is important to understand the vulnerabilities of our food supply with respect to the supply of fuel required to support agricultural and food transportation, the number of farmers who produce our food, the amount and quality of water needed to grow food, the impact of climate change, and the diminishing amount and quality of

the topsoil.

Individual and Collective Actions

- Produce your own food in your backyard, patio, or in a community garden.
- Visit your local farmers’ markets or ask your grocer to carry local and organic produce.
- Visit the Calgary Horticultural Society web site <http://www.calhort.org/communitygardening/default.aspx>
- Tune in to Deconstructing Dinner (<http://www.kootenaycoopradio.com/deconstructingdinner/>)



Pesticide Use



The Facts

A minimum of 28,000 kilograms (kg) of active pesticide ingredients were used in Calgary in 2008. Herbicides accounted for 62% of the total.

Pesticide use intensity in Calgary ranges from 4.43 kilograms per hectare (kg/ha) for residential landscaping companies to 0.06 kg/ha for Calgary's parks. For golf courses and homeowners/tenants, use intensity is similar at 2.57 kg/ha and 2.33 kg/ha respectively.

Definitions

Pesticides: Includes herbicides, fungicides, insecticides, and non-selective herbicides. Excludes mosquito control products, asphalt solids (pruning paint), ferrous sulphate (moss control), and rodenticides. Data are collected from vendors, governments, golf courses, and landscaping companies. 2008 data do not include shipments to some distribution centers, meaning estimates are low.

Pesticide use intensity (kg/ha): Measures the pesticide application rate, calculated by dividing the weight of active (non-inert) pesticide ingredients by the area of land. Residential use intensity requires assumptions about yard size – assumptions lawn care companies report are high.

Trends

Pesticide sales for domestic use in Alberta have risen since 1993. Pesticide use by homeowners/tenants in Calgary increased 86% from 2003 to 2008, growing from 8,730 kg to 16,275 kg of active ingredients.

Less intensive pesticide use by the City continues. From 2003 to 2008, pesticide use intensity for City parks dropped by over 60%.

In 2010, to reduce unnecessary use of pesticides, the provincial government implemented a ban on the sale of "weed and feed" products. Alberta Environment reports it is also beginning to see a trend by consumers to buy safer alternatives to conventional pesticides. In 2009, Calgary City Council narrowly defeated a ban on the cosmetic use of pesticides.

As of 2007, municipal bylaws regulating pesticide use on private property covered 43% of the Canadian population. Mu-

nicipalities' ability to implement pesticide bylaws has been upheld by the Supreme Court, including use of the precautionary principle in controlling pesticides.

Pesticide use has led to increased concentrations of pesticides in the Bow River downstream of the city compared to the river upstream. In some cases, guidelines for irrigation use and aquatic life have been exceeded. High concentrations of the herbicides 2,4-D and MCPP and the insecticide diazinon have been detected in the Bow River downstream of Calgary. The amount of diazinon has shown a significant increase in that reach.

Glyphosate, the pesticide with the highest sales volume in Alberta, is not monitored in the Bow River. Although a test for detecting glyphosate was implemented in 2000, glyphosate monitoring is not routine, being limited to special studies.

Federal management of pesticides remains questionable. The recent Health Canada re-evaluation of the herbicide 2,4-D concluded that, when used according to label directions, the pesticide poses acceptable "risks," that is, harm to plants, animals, and people. To reach this conclusion, the risks were weighed against the benefits of 2,4-D for lawn and turf, agricultural, forestry, and industrial uses. Similar decisions have been made about other pesticides despite a legal requirement to prevent risks that cause "harm to human health, future generations or the environment."

There are positive trends such as the City's reduced intensity of pesticide use and the provincial ban on weed and feed products. However, the overall trend toward sustainability is negative, primarily because of increasing sales of pesticides and the impact on the Bow River.

Importance

A sustainable community strives to eliminate the use of toxic substances. Evidence suggests pesticide use can have serious consequences for environmental and human health. A comprehensive study by the Ontario College of Family Physicians found that "[e]xposure to all the commonly used pesticides ... has shown positive associations with adverse health effects."

Linkages

Pesticides also pose a threat to the natural environment. Stormwater runoff brings pesticides into rivers, streams, lakes, and wetlands, contaminating water supplies and harming the aquatic ecosystem. Pesticides bioaccumulate in animals, posing a risk to animal, as well as human, health.

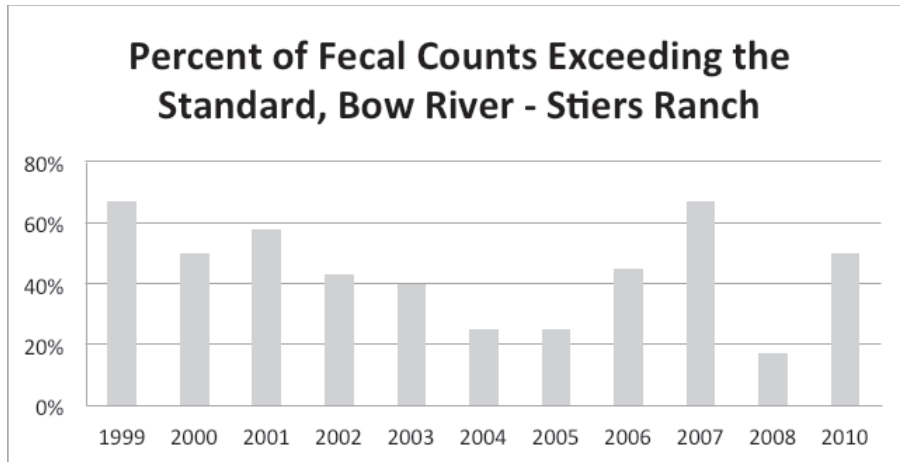
The Canadian Institute of Child Health has documented the greater risks pesticides pose to children. This includes factors such as more hand-to-mouth contact, less ability to "detoxify" contaminants, inability to understand warning signs, and the development of the brain and other organs during childhood. The CIH has stated that "in the case of pesticides to be used for purely cosmetic reasons around schools, child care centres, and homes, we feel that the only acceptable risk is zero risk."

Individual and Collective Actions

- Use safe alternative methods of pest control.
- Visit Calgary's five pesticide-free parks and over 250 pesticide-free tot-lots.
- Support strengthened regulation and management of pesticides.



~~LANDFILL~~
LANDFULL



The Facts

In 2010 for the Bow River downstream of Calgary (Stiers Ranch monitoring site), the water quality standard for E. Coli was exceeded in 0 of 6 samples. The standard for fecal coliforms was exceeded in 3 of 6 samples. Since 1996, the fecal coliform standard has been exceeded in 61 of 129 samples and the E. Coli standard exceeded 6 times out of 123 samples.

Definitions

Escherichia Coli (E.Coli) and fecal coliforms are bacteria found in the intestinal tracts of mammals, including people. Both indicate contamination that may be a threat to human health. Health Canada uses E.Coli as the most reliable indicator of fecal contamination of fresh water bodies. The quality standard for contact recreation is 400 organisms/100ml for a single sample.

Trends

The quality of water is generally good in the Bow and Elbow Rivers upstream of where Calgary withdraws its water. There have been some concerns about the level of contamination from nutrients in the Bow upstream of Calgary. In 2009, increased amounts of bacteria were also measured in that section of river.

Water quality in the Elbow River upstream of Calgary is deteriorating primarily from sources near the city. This includes increasing amounts of fecal coliforms, phosphorus, and suspended solids that affect the ability to treat water for drinking.

Inside Calgary, water quality is primarily affected by stormwater run-off, with suspended solids being the biggest concern. Downstream of the Calf Robe Bridge, water quality in the Bow is heavily influenced by discharges from the Bonnybrook, Fish Creek, and Pine Creek wastewater treatment plants.

Water quality in the Nose Creek watershed is marginal to poor. Key concerns are excessive algae and aquatic weed growth due to high levels of phosphorus and bacterial contamination - making livestock watering the only acceptable use of water from the streams. Nutrients and fecal coliforms from Nose Creek is one of the largest sources of contamination in the Bow River.

Significant improvements in treating the City's wastewater have been made since the 1980s. However, unnaturally high aquatic plant growth - caused by nutrients in wastewater - still results, during late summer, in low oxygen levels that are a threat to fish.

Efforts to identify and manage factors affecting water quality have been partially successful. Introduction of more sophisticated wastewater treatment technology has been praised for reducing threats to fish habitat in the Bow River. Transporting sewage from Airdrie and Cochrane to Calgary for treatment has been credited with maintaining local water quality. The "Cows and Fish" program has also made significant contributions to improving the health of ri-

parian lands and adjacent water bodies. Although there is general information about the impacts on water quality of urbanization, stormwater, natural processes, transportation, farming, recreation, forestry, and oil and gas development, pinning down the specific impacts of those activities has been difficult.

Better management of contaminants has provided some stability such as reducing the risk of fish kills in the Bow River below wastewater treatment plants and improving the health of some riparian lands. Whether or not this stability provides the necessary conditions for sustainability remains to be seen.

Water quality has been designated as not sustainable because of poor to marginal conditions in the Nose Creek watershed and the downward trend in water quality in the Elbow River and its implications for Calgary's water supply.

Importance

People depend on the Bow River, Elbow River, and other water bodies (including aquifers) for drinking water, industrial use, recreation, and tourism, as well as being a place to dispose of wastewater. Ensuring high quality water helps maintain and improve both human and aquatic health.

Linkages

Natural processes contribute to good water quality, so maintaining healthy aquatic and riparian ecosystems is important to ensuring good quality water. The way we live our lives, though, will have the greatest impact - positive and negative - on water quality. Key elements are policies, laws, education, and enforcement that encourage good behavior and control activities detrimental to water quality.

Individual and Collective Actions

- Support policies and legislation to minimize or eliminate water pollution.
- Encourage education, monitoring, and enforcement related to water contamination.
- Manage land, water use, and consumption of resources to reduce and eventually eliminate contamination of water.

Christmas Bird Count

☺ SUSTAINABILITY TREND



The Facts

In the 2009 Calgary Christmas Bird Count, 91 birder and 105 feeder-watchers recorded 63 species and 53,950 individual birds. In the same year, the Fall Migration Monitoring (FMM) program recorded 70 species and 1,966 individual birds. These numbers are slightly larger than observations from 1999.

Definitions

The Calgary Christmas Bird Count is part of the National Audubon Society's North American Christmas Bird Count. This is the 110th year of the count in North America and the 56th in Calgary. The survey involves an all-day census of birds for each day between December 14 to January 5 and covers a 15-mile radius from the city centre. The count is coordinated locally by the Calgary Field Naturalists Society and is conducted by volunteer observers.

The FMM program began in Calgary in 1992. This program monitors changes in the populations of birds during the fall migration period by bird banding. All data is entered into a national database with Bird Studies Canada.

Trends

Since the 2004 State of Our City Report, the diversity and total number of birds counted in the Christmas Bird Count has decreased slightly from the record count of 78 in 2003 and just below the 20-year average of 65. The total individuals counted was actually 7% above the ten-year average. Of course this information should be tempered with some qualifiers. Annual differences in weather conditions, food availability, and the number of volunteer observers can heavily influence the final tally of birds in a given year. For example in -29C weather in 2008 only 30,300 birds were counted.

Since a historic high of 27,450 in 2004, Canada goose numbers have steadily declined to 7012 in 2009 – though this is still well above the 20-year average. 102 Northern Flickers were recorded in 2009 – matching the highest count in the past 20 years, a steady increase from 65 in 2005. Five sightings of the mountain chickadee this year was a high mark since 1990. This is the 8th year of sightings after many years of no sightings at all. In the past two years there have been very few sightings of golden crown king-

lets – only 2 sightings in 2009 versus 50 in 2006. Since 2003 there has been a dramatic increase in Bohemian waxwings – averaging 4-5000 prior to 2003 and now regularly topping 15,000.

Since the Bow River has had a relatively large amount of open water in recent winters, more ducks and geese have been able to overwinter and have provided a regular food source for the eagles.

Importance

The Christmas bird counts represent over 100 years of citizen engagement in and contribution to science. Birds are intricately linked to our ecosystems, and long-term changes in their populations can show us where our environmental protection is lacking. The extension of our city into farmland and acreages means that our zone of influence has encompassed increasing numbers of grassland bird species.

Migrating birds that only spend part of their lives in Calgary are vulnerable to changing land-use practices, as important habitats such as wetlands or woodlots succumb to development. Opportunistic species such as cowbirds and magpies survive well in the urban environment, often to the detriment of less adaptable songbirds.

Nature observation is a relaxing pastime that can have significant health benefits as well as encourage interaction with other community members. Birds also help to connect city dwellers with nature's rhythms: nothing marks the spring and fall in Calgary like the appearance of the V-formations of the Canada goose.

Linkages

According to Audubon's bird count data, there is a shift northward, by an average of over 50 km, for the range of almost 60% of the 305 species found in North America in winter. Grassland species are an exception to this pattern. "This reflects the reality of severely-depleted grassland habitat. These findings suggest that global warming is having a impact on birds and their habitat."

There are 22 – 170 million breeding birds in the 35 million acres that could eventually be developed for tar sands, and 6 to 160 million birds could be lost over the next 30-50 years. Impacts include fragmentation

and loss of habitat. Dangers to birds include oiled birds; water withdrawals harming wetlands; air and water toxin bioaccumulation and global warming.

Species found in Calgary and either on the top 20 birds in decline list or endangered by Tar Sands development include the evening grosbeak, bohemian waxwing, snow bunting, horned lark, ruffed grouse and lesser scaup, northern pintail and boreal chickadee.

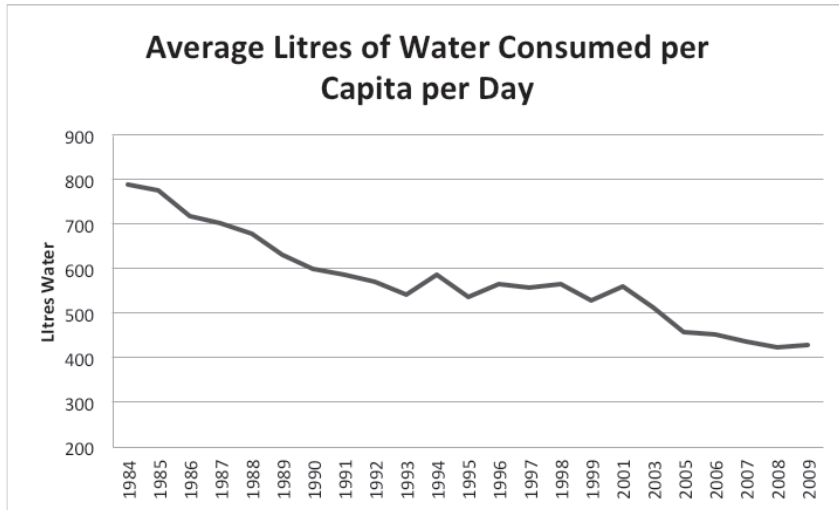
During spring and fall migration, night-migrating birds are attracted by city lights. These birds often fatally collide with buildings at night. The daytime is also hazardous because reflections and glass transparency also disorient birds. According to the Lights Out Toronto, biologists have estimated that 1 to 10 birds hit each building each year resulting in millions of bird fatalities annually in large cities. A lights out policy would protect birds, save energy, reduce greenhouse gas emissions and allow people to get out and enjoy Calgary's night sky. Windows treated to reduce reflection and transparency would also improve energy efficiency.

Individual and Collective Actions

- Get involved in the Christmas and Spring Bird Counts.
- Avoid the use pesticides in your yard and support a ban on cosmetic use of pesticides in Calgary.
- Check out the Calgary Field Naturalists cfns.fanweb.ca



Water Consumption



The Facts

In 2009 Calgary's average water consumption was 429 litres per capita per day (lpcd), continuing a trend of declining consumption since the 1970s.

Definitions

The average amount of water used per person per day includes total water use for the city, including industrial, commercial, institutional, and residential consumption, divided by the total population. Consumption levels also include water not paid for through accounts such as public use, leakage, and fire fighting. These statistics come from the City of Calgary Waterworks. It is difficult to compare usage with other cities as these reported figures include commercial and municipal water use - about 35% of the total.

Trends

Since the 1970s, Calgary's per capita water consumption has steadily declined, with 2009 levels almost 50% less than the late 1970s levels of approximately 800 litres per person per day. Total water diversions from the Bow River rose slightly in 2009 after a significant decline in 2008.

Nonetheless, Calgary has not yet reached a sustainable level of water consumption. In 2003 Calgary had a gross daily water consumption of nearly 476,000 cubic metres. With a projected 2035 population of 1.4 million people, we must change our consumption patterns today to ensure that fu-

ture Calgarians have access to an adequate supply of high quality water. The City of Calgary Waterworks estimates that to ensure that Calgarians living thirty years from now can access the same quality and quantity of water that we enjoy today, present day consumption levels must be reduced by about a third to 350 litres per person per day by 2033.

Compared to other countries, Canadians consume an extraordinary amount of water. Canada is second only to the United States in per capita water consumption. Some European countries have residential water consumption levels as low as 150 litres per person per day, relative to Canada's residential average of 343 litres. Data from Waterworks suggests that with the advent of low-flow appliances an average consumption of 132 lpcd is feasible and household consumption even below 100 lpcd have been achieved in Calgary.

Importance

Like all living things, humans depend on a clean and reliable supply of water. It is important to reduce per capita water consumption but even more important to reduce total withdrawals from the Bow River. Though Canada has an abundance of fresh water, most of it is not available to the high population areas. In fact the water yield on the Prairies of .05m³/m² is less than that of the recognized water scarce countries of Australia and South Africa. The variability of water yield is also the greatest on the Prairies. By comparison water yield west of the

Rockies is 1.5 m³/m².

Calgary's drinking water originates in the snow pack of the Rocky Mountains, flows to our city via the Bow and Elbow River basins, and is stored in the Glenmore and Bears paw Reservoirs. We share our water sources with many users upstream and downstream of the city, which puts additional demands on Calgary's water supply. Moreover, climate change appears to be shrinking the glaciers that are the source of Calgary's drinking water, making it even more important that we act to conserve water today and address climate change.

Linkages

High levels of water consumption put pressure on existing municipal infrastructure. As water demand increases, costly upgrades to treatment plants, pump stations, reservoirs, and pipes are required. In saving water, energy is also conserved, since electricity is used to process and distribute water.

Quite aside from our own savings and conservation, our water consumption affects aquatic life. For example, the amount of water flowing through the city's rivers changes based on human water use. Low water levels can cause the water to warm up, disrupting aquatic life and natural systems.

To encourage citizens to conserve water, Calgary City Council passed a bylaw in 2002 that will put water meters in every home by 2014. Research suggests metered homes consume 60% less water than flat rate homes. As of December 2009, 83% of Calgary homes were metered. All commercial and industrial users are metered. In addition, 7562 low-flush toilets were installed in homes in 2009. This is important not only for reducing usage but also for reducing the quantities of wastewater the city has to prepare to clean.

Individual and Collective Actions

- Install a water meter, low-flush toilet and rain barrel in your home and garden.
- Consider xeri-scaping your lawn so that it thrives on rainfall alone.

Resource Use Indicators



Highlights

Ecological Footprint

In 2009 Calgary's ecological footprint was estimated at approximately 8.59 hectares/person, 33% greater than the Canadian average and more than 4 times the global fair share. The footprint represents a total land area of approximately 92,000 km², about 110 times the actual size of our city.

Transportation Spending

In 2009, the City of Calgary spent \$954 million on transportation, the largest item in the City's budget. Almost two-thirds of the money was for public transit, a dramatic change from previous years. Based on replacement value, roads in 2007 accounted for 82% of Calgary's transportation infrastructure and transit the remaining 18%.

Domestic Waste

In 2009 Calgarians generated 186 kg per person or a total of 198,000 tonnes of hand-collected domestic waste. An additional 55686 tonnes of Calgary's waste (newspaper, mixed paper, metal, glass, electronics, tires, plastics, and organics) was recycled and diverted from landfills. Since 1987 per capita production of domestic waste has declined steadily.

Population Density

In 2008 Calgary had a population density of 2252 people per square kilometre based on a population of 1042900 people and a built up area of 463 square kilometres. The population density increased 2.8% since 2001 but is still 30% less dense than the 3328 people per square kilometre calculated for 1951.

Transit Usage for Work Trips

City-wide, in 2006 transit accounted for 15.6% of all work trips, up slightly from 14.1% in 2001. In 2008 transit accounted for 46.3 percent of all work trips into downtown Calgary. This is a significant increase from 36% in 1998.

Energy Use

In 2009 the average Calgarian consumed the equivalent of 38.77 barrels of oil, or the energy equivalent of 7562 litres of gasoline, down 2.5 % since 2005 and down 10.3 percent since 1990.

Ecological Footprint



☹ SUSTAINABILITY TREND

The Facts

In 2009 Calgary's ecological footprint was estimated at approximately 8.59 hectares/person, 33% greater than the Canadian average and more than 4 times the global fair share. The footprint represents a total land area of approximately 92,000 km², about 110 times the actual size of our city.

Definitions

An ecological footprint estimates the amount of productive land needed to sustain a given human population relative to annual consumption levels of food, forests, energy, manufactured goods, and to deal with the production of wastes and pollutants that result from those activities.

Calgary's ecological footprint derives from a 2009 report by the city - Calgary's Ecological Footprint: Baseline Report 2008. National and global footprint data is provided from the 2009 annual report of the Global Footprint Network. Comparative city footprint data comes from reports prepared for the Federation of Canadian Municipalities in 2001, 2005 and 2008.

Trends

It is estimated that in 1900 Calgary's footprint was one hectare per person, and it rose to two hectares by 1950. By 1960 estimates of Calgary's footprint rose to approximately 5.1 ha/person. Over the past ten years as calculation methods have changed and been refined our footprint has been estimated between 5.8 and 11 ha/person. At current global population levels, the earth can provide approximately 1.8 hectares of productive land and sea for each human. With an ecological footprint of over 4 times this limit, Calgarians are using much more than their share of the earth's resources.

After York Regional Municipality in Ontario, Calgary has the largest ecological footprint of any other Canadian municipality, with a level more than two hectares/person (or 35%) over the national average.

Why such a big footprint? Calgary has the highest Energy Land demand of all of the municipalities, comprising 6.03 hectares of each Calgarian's footprint. The Energy Land demand is particularly high because of Alberta's use of coal-derived electricity compared to hydro-derived electricity in other provinces. Calgarians also live in larger

homes, own more and bigger automobiles and spend more on consumer products than other Canadians. Montreal has the lowest footprint of any large Canadian city.

Though the estimate of footprint has varied over the past 10 years, the methodology for its calculations and the overall trend has been consistent. Year by year we exceed the earth's carrying capacity to a greater extent. In Canada, though we have a vast country we have moved from using only 20% of that capacity in 1960 to over a third of that capacity today.

Below are comparisons of Canada's Ecological Footprint with other cities and nations. Obviously with countries such as Canada overshooting their fair share footprint other countries such as Sierra Leone are using far less. Countries such as Costa Rica maintain high quality human development with relatively small footprints. It is also clear that countries such as Germany are able to be very competitive in the global economy with a far smaller footprint than Canada's. 2009 was a watershed year in that China's ecological footprint rose to equal its fair-share.

The earth first experienced an ecological overshoot (when the annual available biocapacity is used up) in 1976. In 2010, we experienced that overshoot point on August 21st, the earliest date in history.

Importance

The ecological footprint is an important

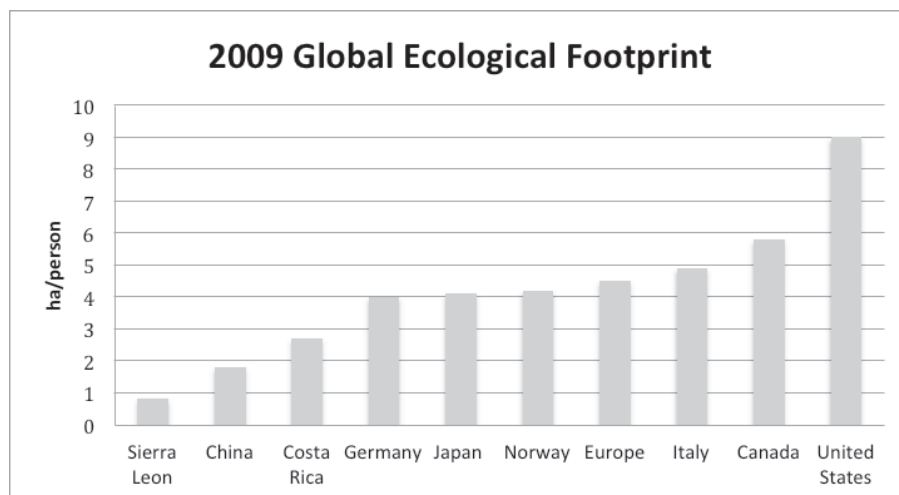
indicator of a sustainable community because it helps us to understand whether our lifestyle is sustainable from a global perspective and to identify wasteful practices and effective strategies for eliminating or adjusting them. From an ethical standpoint, it challenges us to examine our lifestyle in relation to what the earth can provide. It underlines the need to move toward a less consumptive lifestyle that enhances quality of life for all Calgarians.

Linkages

Sustainability indicators related to resource consumption, such as energy use, population density, and water consumption, factor directly into ecological footprint calculations. More broadly, ecological footprint is an economic indicator in that it demonstrates the resource cost of our lifestyles and enables us to reflect on the unequal access to and use of resources throughout our city, country, and planet. The ecological footprint can also encourage us to preserve natural areas that provide us with leisure opportunities and, perhaps more importantly, a stronger spiritual connection to the living world.

Individual and Collective Actions

- Investigate Enmax's Alternative Energy Options for your home.
- Check out your personal ecological footprint using the City of Calgary calculator.
- This year consider a local vacation that doesn't require air travel!



Transportation Spending



The Facts

In 2009, the City of Calgary spent \$954 million on transportation, the largest item in the City's budget. Almost two-thirds of the money was for public transit, a dramatic change from previous years.

Based on replacement value, roads in 2007 accounted for 82% of Calgary's transportation infrastructure and transit the remaining 18%.

Definitions

City of Calgary transportation expenditure does not include depreciation; construction of roads within new subdivisions; provincial government expenditures (e.g., Ring Road); and spending by the Calgary Airport Authority. Road services: Includes roads, traffic, and parking services provided by the City.

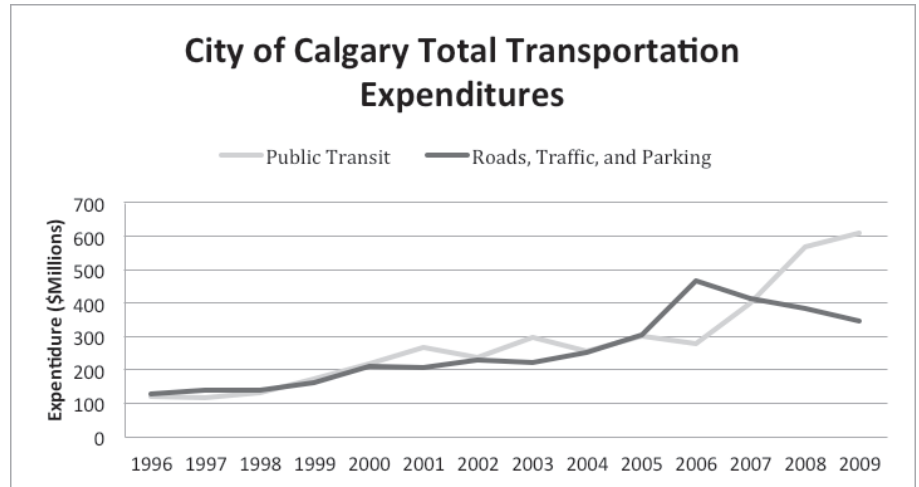
Trends

Increased transit spending in 2008 and 2009 is unique. In previous years, City transportation expenditures were divided almost equally between transit and roads.

The City's transit budget is skewed towards operations which accounts for just under two-thirds of transit spending. This is a particular concern since provincial grants to municipalities have not kept pace with growth and have shifted away from operations to construction projects. If these trends continue, not only will operational budgets be reduced, but new construction will place even greater demands on operational budgets.

In 2009, the City received \$374 million in revenue from user fees, fuel taxes, and developer levies: \$197 million in transportation user fees – 73% from public transit and the remainder from parking fees; \$145 million in fuel taxes from the federal and provincial governments; and an estimated \$32 million from developers to pay for road and transit infrastructure to serve new developments. This revenue covered 39% of the City's transportation budget.

The City has a cost-recovery policy for transit that requires 55% of transit's operating costs to be recouped from fares and other revenue. Although not covering all costs, this policy will deliver similar net operating costs whether urban sprawl continues as it



has or a more compact city develops. The City's parking policy requires that 100% of enforcement revenue and 65% of operating revenue for the Calgary Parking Authority be paid to the City.

Beyond fees paid by developers, the City lacks a cost-recovery policy for roads. Without a policy, it is estimated that, if urban sprawl continues, the City will need an additional \$8.8 billion over the next sixty years to pay for expanding the road system beyond what a more compact city needs. This is one symptom of the cost-revenue gap for roads that Canada-wide estimates have shown results in road users reimbursing governments for only a third of the direct cost of public road infrastructure. In Alberta, road users pay only a fifth of road costs.

Between 1990 and 2009, the City's parking revenue (in 2009 dollars) almost quadrupled while transit revenue doubled.

Compared to other Canadian cities, Calgary's transportation system does not rate highly on sustainability. In the "Green Apple" awards for 2008, Calgary fell from 16th to 19th out of 27 cities – just behind Edmonton, receiving an overall grade of D and only garnering one individual award for its free-fare transit zone downtown.

Transportation spending is designated as moving away from sustainability because of the lack of a cost recovery policy for roads and the inability of provincial grants to keep up with growth.

Importance

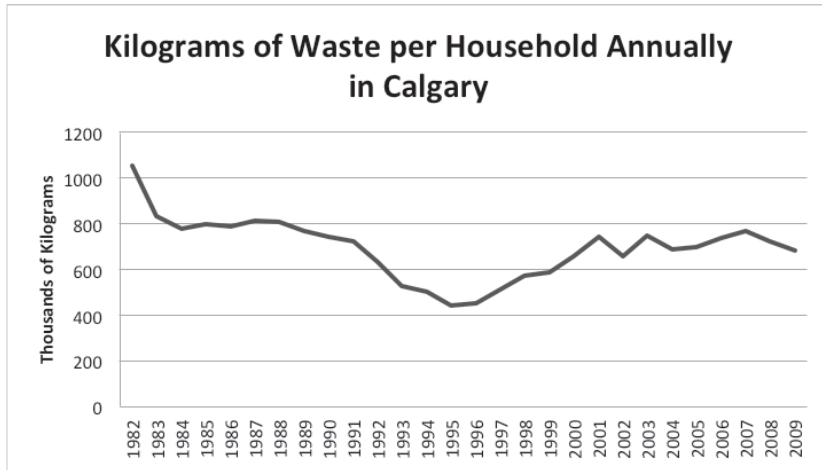
In the future, the Calgary region will require "unprecedented levels of growth in productivity" to maintain the prosperity we have enjoyed during the past four decades. An effective transportation system is essential to maintaining prosperity. Personal and government spending on transportation, unless wisely used, will be a drag on improvements in productivity and quality of life.

Linkages

As a city grows, the form it takes is linked to its transportation system. In Calgary, the transportation system has been designed primarily to accommodate personal cars, often overlooking the needs of transit users, pedestrians and cyclists. Car-oriented design reduces the potential for personal interaction and imposes higher costs on the disadvantaged, low-income individuals and families, and others among society's more vulnerable.

Individual and Collective Actions

- Talk to your alderman and provincial and federal representatives about transportation priorities.
- Investigate car pooling & car-sharing options.
- Evaluate your expenditures on transportation compared to other needs.



The Facts

In 2009 Calgarians generated 186 kg per person or a total of 198,000 tonnes of hand-collected domestic waste. An additional 55686 tonnes of Calgary's waste (newspaper, mixed paper, metal, glass, electronics, tires, plastics, and organics) was recycled and diverted from landfills. Since 1987 per capita production of domestic waste has declined steadily.

Definitions

This indicator measures the amount of household waste generated annually per capita within the city. The data is from the City of Calgary, Solid Waste Services Annual Report and is based on the volume of hand-collected waste delivered to the three city landfills by residential sanitation crews. Residential crews do not collect waste from centralized receptacles, so most apartment, townhouse, and condominium residents are not included in these calculations. This must be kept in mind if the proportion of the population living in this type of housing changes significantly in the future.

Trends

Since 2003 Calgarians have reduced the amount of waste they generate on a per capita basis by 16 percent, with a 40 percent decline since the high mark of 309 kg per person in 1987. Part of this reduction is linked to the implementation of the residential Blue Box program. 55,685 tonnes of recycled material was collected in 2009, an increase of 36% in one year. This represents 36% of all residential waste. In the previous 6 years rates of recycling were increasing at

1-2 percent a year.

Total volumes of household waste to the landfill peaked in 2006 at 217,000 tonnes. Most of the waste to landfill is actually construction and demolition waste - about 60% in 2009. Construction and demolition waste fluctuates much more than household waste and is more dependent on variations in economic activity. Total waste in 2009 was 680,000 tonnes, the lowest total since 2002. Industrial waste, at 29,400 tonnes, was the highest since 2003. 40,000 tonnes of commercial waste was landfilled in 2009, the lowest total since 1999 and the same amount as was landfilled in 1994.

The 535 kg/capita of total waste to landfill is the lowest on record except for 1995 and 1996 when the totals were 512 and 514 kg/capita. From a high of 1500 kg/capita in 1982 volumes have decreased steadily and have not exceeded 650 since 1992.

Calgary's efforts to reduce household waste lag behind those of many Canadian municipalities, where programs such as curbside recycling are well-established. Edmonton boasts Canada's most progressive waste management strategy - through an extensive curbside recycling, composting, and recovery program, the City of Edmonton landfills only 30 percent of its waste.

Importance

This indicator focuses on the overall goal of waste reduction. The volume of waste we generate is influenced in large part by

the consumption patterns of our society. Disposable, heavily packaged, and limited lifespan products are a major factor in the generation of waste. Inherent in waste reduction is reducing consumption, reusing materials and goods, recycling, and composting.

Linkages

The handling and disposal of waste materials is an economic drain. Increased waste generation requires more land for landfills and demands more tax dollars. While it is preferable to deal with waste through recycling and reuse, the best solution is to reduce the use of materials in the first place. Reducing our consumption will free up more of our time and resources to enjoy leisure activities, to volunteer, and to engage in non-consumptive activities. Producing less waste will also lead to cleaner air, water, and soil.

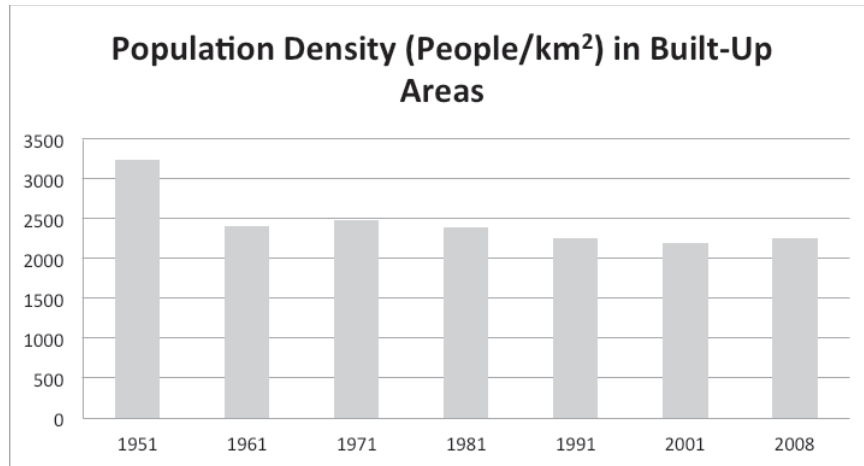
Decreasing municipal waste will save valuable land. If we modify our lifestyles and change our throwaway mentality, we can reduce our impact on forests, farmland, and other natural resources, and ultimately shrink our ecological footprint.

Ultimately, zero waste should be our target. Some cities, e.g. Toronto and San Francisco have already established zero waste targets, though they are driven more by the cost of disposal than an environmental ethic. A zero waste target would require significant changes in materials handling and manufacturing processes of everything from chemicals to consumer products. These changes could reduce the production and use of harmful chemicals and result in the design of products that have a longer life or can be disassembled and the parts recycled.

Individual and Collective Actions

- Refuse, reduce, reuse, recycle, and above all, rethink! Calgarians must begin to view waste as a resource and not simply as items that we throw away.
- Compost - it can save up to 30 to 50 percent of your domestic waste. Contact Clean Calgary for composters, workshops, and information.
- Check out "The Story of Stuff" online.

Population Density



The Facts

In 2008 Calgary had a population density of 2252 people per square kilometre based on a population of 1 042 900 people and a built up area of 463 square kilometres. The population density increased 2.8% since 2001 but is still 30% less dense than the 3328 people per square kilometre calculated for 1951.

Definitions

This density calculation is based on all of the land currently in use for residential, commercial and industrial purposes and roadways. It does not include parks or the airport or land within the legal boundary but not yet developed. Densities are typically measured in people per acre and in units per acre (upa)

Trends

Up until the early 2000s Calgary's population density had been in steady decline since at least 1951. The decline in density coincides with the arrival and rise to dominance of the automobile. As of the 2006 census Calgary was almost 30% more compact than Edmonton and on about par with Winnipeg. Comparisons with Toronto, Montreal and Vancouver are more difficult as these cities are already built-out – meaning there is negligible undeveloped land still to be developed within their boundaries whereas Calgary has roughly a 30 year supply of undeveloped land. A more fair comparison would be with built-up densities for each city. Calgary's built up density in 2006 was approximately 2230 people per square kilometre compared to 4439, 3972

and 5039 for Montreal, Toronto and Vancouver respectively.

Another interesting comparison is metropolitan areas. The Calgary, Montreal and Toronto CMA areas are all roughly equal – in the range of 5-6000 km². Their respective densities are 211, 854 and 866 respectively. Vancouver CMA is 2900km² with a density of 736. Calgary CMA density is approximately one fourth that of the other cities.

We can also take another perspective on comparisons. In the case of Vancouver, if we extend our analysis to an area around Vancouver equal in area to Calgary (Vancouver, Burnaby, Richmond and North and West Vancouver) we get a density of about 2406. If we extend our analysis to an area with a comparable population to Calgary's (Vancouver, North Vancouver, Burnaby and Richmond) we get a density of 2815 people per square kilometre.

As Calgary has grown, community densities have increased from 4.5 to 6 units per acre in the 1970 through to the early 1990s, to 7.2 to 8.4 upa in this decade. In their study of 32 major cities around the world, Peter Newman and Jeffrey Kenworthy recommend densities above 12 to 20 units per residential acre for public transit-oriented urban lifestyles. In those terms, while some progress has occurred, the City must make a greater effort to increase urban densities to a sustainable level. Typical European densities for example are in the 4-5000 people/km² range.

Importance

Compact cities can have less impact on the environment. Car usage generally decreases and alternative modes of transportation become more viable with intensification of land use, which in turn leads to reductions in air pollution. The destruction of natural habitat, watersheds, and farmland surrounding cities can be minimized by restricting low-density urban sprawl.

Linkages

Research demonstrates that as cities become more compact, a greater proportion of the population will choose to walk, cycle, or use public transit. With more people using alternative modes of transportation, the consumption of fossil fuels can be reduced and air quality enhanced. Improving air quality means fewer cases of respiratory disease. Levels of obesity may also decrease as more people walk or bike to their destination.

The social advantages of high-density living are also significant. A compact city can put amenities within reach of those who cannot drive or afford a vehicle, such as the elderly, youth and children, and the poor. Higher density can also mean shorter commuting distances, less time spent in traffic, and more time spent with family and friends and to enjoy active leisure.

High-density living results in important economic benefits. A study commissioned for the City of Calgary estimated that over the next 30 years, business as usual low density sprawling development will cost Calgarians approximately 15 billion dollars more than a more compact form of development within our existing footprint.



URBAN SPRAWL

Transit Usage for Work Trips



The Facts

City-wide, in 2006 transit accounted for 15.6% of all work trips, up slightly from 14.1% in 2001. In 2008 transit accounted for 46.3 percent of all work trips into downtown Calgary. This is a significant increase from 36% in 1998.

Definitions

Information for the downtown commute was derived from Calgary Transit surveys. The city-wide data is derived from the Canada census 1996, 2001, 2006. Transit usage includes community shuttles, buses, and light rail transit (LRT).

Trends

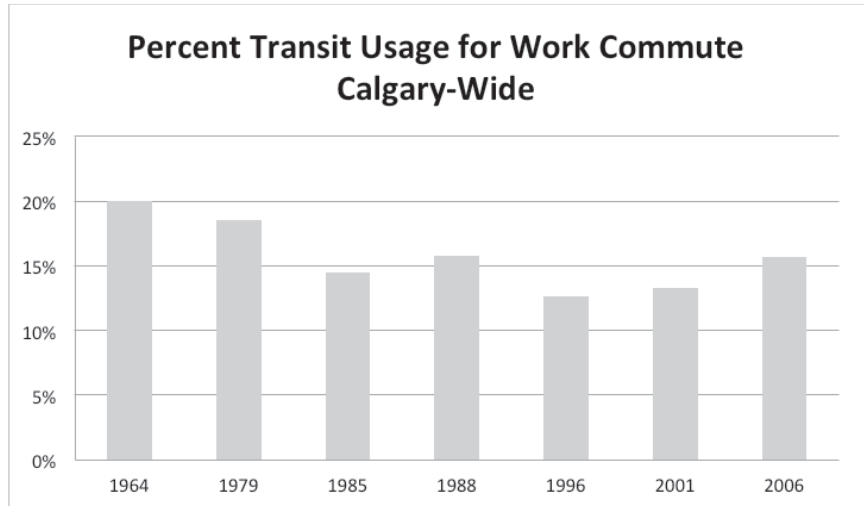
From 2001 to 2006 Calgary has seen the largest percentage increase in transit usage of any major Canadian city. Still, Calgary ranks behind Toronto (22.2), Montreal (21.4), Ottawa (19.4) and Vancouver (16.5) for city-wide transit usage. In that same time period automobile usage for work decreased more than in any other major city. Calgary has less people using the car to get to work than Edmonton or Winnipeg, but is still more car dependent than the other major Canadian cities.

Calgary has a greater percentage of workers using transit to downtown than at any time since the early 1960s, though total transit usage has still not reached the peak of about 20% in 1964. Transit usage to downtown actually dropped slightly from 2007 to 2008 perhaps due to the crowding on the LRT. Increased capacity and the coming on-line of the new SW line should result in a return to the upward trend.

According to census data the same percentage of people walked to work in Calgary in 2006 as in 2001 – 5.4%. Bicycling saw a 17% increase but is still very low at 1.3%. Victoria leads the country with 10.4% of commuters walking and 5.6% using a bike. In all 22.4% of Calgarians used a mode other than private auto in 2006. 34.2% of 15 to 24 year olds did so.

Importance

In a sustainable community, the movement of people and goods is accomplished using the most efficient means possible. The more we use our cars or build our city to support the movement of the automobile, the less livable the city becomes. Sustainability is enhanced when the need for costly and



inappropriate transportation infrastructure and movement is minimized. Thousands of people are moving to Calgary, making it one of the fastest growing cities in Canada and putting increasing pressure on the transportation system. Exacerbating the problem is the fact that many people do not live near where they work. Population growth has concentrated in the outer edge of the city, where transit usage is below average. In Calgary for example more than half of those living within 5 kilometres of their workplace walk, bike or take transit. At 10-14 kilometres that percentage drops to less than a quarter.

Linkages

The primary effect of low transit usage is high personal automobile usage, resulting in more congested and dangerous roads; polluted air; and the creation of greenhouse gases. Noise and visual pollution are also products of roads and parking lots, both of which use valuable land that displaces potential green space or housing developments.

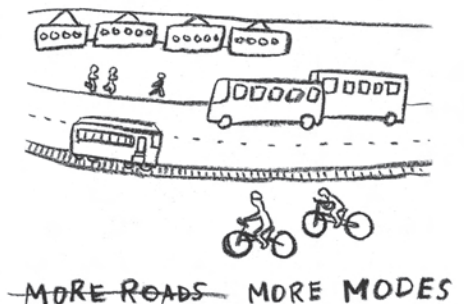
In 2009, the average Calgary household spent almost \$10,000 to own and operate their cars. In comparison, monthly transit passes cost \$1,080 annually.

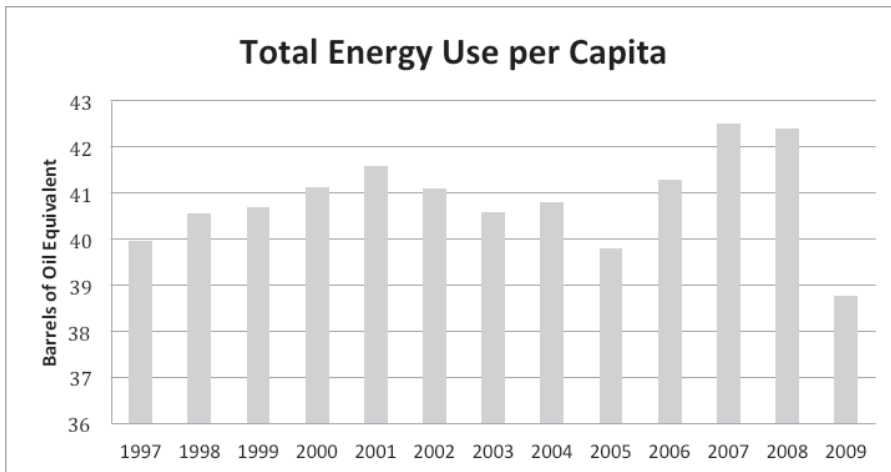
Making communities more transit-friendly by providing bus shelters, benches, and pleasant and safe pedestrian environments can increase ridership and promote positive interaction among community members.

Transit also allows people who do not have a private automobile to participate in the social and economic opportunities offered in the city.

Individual and Collective Actions

- Walk, cycle, rollerblade, or use transit whenever possible
- Consider all the costs in choosing your mode of transportation
- Volunteer to be a carpool coordinator at work and at clubs where your children are members.
- Encourage your workplace to participate in Calgary's annual "commuter challenge." Learn more at www.commuterchallenge.net.





The Facts

In 2009 the average Calgarian consumed the equivalent of 38.77 barrels of oil, or the energy equivalent of 7562 litres of gasoline, down 2.5 % since 2005 and down 10.3 percent since 1990.

Definitions

This indicator tracks the energy use per capita in key energy categories. It combines electricity usage (ENMAX data), natural gas usage (ATCO data), and petroleum product usage (per capita figures based on provincial data contained in Statistics Canada's Annual Energy Statistics Handbook).

Electricity and natural gas figures include residential, commercial, and industrial consumption. Petroleum product usage figures refer to the total of refined petroleum products used in all three sectors, including motor gas, diesel fuel, and aviation fuels. Our consumption estimates are appreciably higher than the City of Calgary State of the Environment Report estimates because our estimates capture the impacts of industrial activity across the province as well as aviation fuel consumption.

Trends

The level of energy consumption in Calgary is not sustainable for the long term and the trend shows no appreciable change in the last 20 years. From 1990 to 1997 there was about a 10% decrease in energy consumption. But from 1997 to 2002 the reduction trend stalled and there was a 1.5 percent increase in energy consumption per capita. Consumption decreased again by 2005 to

1997 levels. In 2007 and 2008 consumption rose to within 1.5% of 1990 levels. In 2009 we saw a significant decrease to 10% below 1990 levels. But, given the second quarter 2010 increase of 10% compared to 2009 second quarter consumption it is fair to say that the 2009 anomaly was likely due to the economic downturn.

Over 50% of our energy consumption is petroleum products and about 70% of that category is gasoline and diesel consumption. Thus a large portion of our energy consumption can be attributed to automobile use. The City of Calgary's Mobility Monitor newsletter of February 2009 reported that total vehicle kilometres traveled in Calgary continues to increase. After peaking at about 7800 km per capita in 2007 kilometers traveled had decreased in 2009 to 7500 km/capita, about the same level as 2005. While Albertans represent 11% of Canada's population we travel 15% of all vehicle kilometers. Between 2001 and 2006 the number of us commuting 15 km or more to work rose almost 50%.

Importance

A sustainable community should expend the absolute minimum in energy resources to meet its needs, leaving future generations with the ability to enjoy the same quality of life. In order for Calgary to become a sustainable community, we need to reduce our consumption of electricity, natural gas, and petroleum products.

Total energy consumption in Calgary has risen 38% since 1990 and Canada's green-

house gas emissions have risen over 25% - the worst record among the G8 country's. Canada has committed to a 6% reduction in Greenhouse Gases from 1990 levels by 2012.

Linkages

Calgarians' quality of life is intricately linked to our use of energy. As a city, we use ever-increasing amounts of energy to heat and light our homes, operate our appliances, produce the goods and services we desire, and move ourselves around. In Calgary the main source of energy is fossil fuels - a non-renewable form of energy. The production, refinement, and consumption of fossil fuels has a significantly greater impact on the environment than that of renewable energy.

The way we design new neighbourhoods impacts our reliance on the automobile and our consumption of fossil fuels. Constructing satellite communities with few or no amenities encourages us to drive our cars to interact with people or to perform even minor errands. This design also affects our ability to create a sense of local community and isolates those without easy access to an automobile.

Energy conservation is increasingly becoming an economic and social concern, as much as an environmental one. In March 2011 the price of oil was heading toward record highs. Many researchers believe we have hit the peak of world oil production, which will push the price of petroleum to levels well beyond what we now experience.

Individual and Collective Actions

- Sell your car and become a carshare member. www.calgarycarshare.ca
- Check out Pembina's Greening the Grid Plan. www.pembina.org/pub/1764
- Sign up for Enmax's alternative energy options program www.enmax.com.



Wellness Indicators



Highlights

Access to Preventive and Alternative Health Care

Approximately 3.8 percent of the Calgary Health Region's (CHR) 2007-08 budget was directed toward preventive health care. In 2003 18.5% of people in the Calgary Health Region reported contact with some kind of alternative health care provider.

Youth Wellness

In 2007, approximately 24% of Calgary's preschoolers were either overweight or obese. (Calgary Health Region BMI Report, 2007). The World Health Organization considers obesity to be of epidemic proportions.

Healthy Birth Weight Babies

In 2008, 92.4 percent of babies born in Calgary had a healthy birth weight. Calgary as the highest incidence of low birth weight in Alberta, Alberta has the highest rates in Canada and Canada has the highest rate of low birth weights among the G7 countries.

Support for the Most Vulnerable

In 2009, the welfare income for a disabled person in Alberta was 64.1% percent of the Low Income Cutoff (LICO). This is the highest percentage since 1989 and is a substantial improvement from the low of 38% in 2005.

Self-Rated Health

In 2009, 66.6% percent of Calgarians 12 years and older rated their health as very good or excellent. In that same year, 8.1% rated their health as fair or poor. In 2009, 75.4% of Calgarians 12 years and older rated their mental health as very good or excellent. In the same year 4.1% rated their mental health as fair or poor.

Childhood Asthma Hospitalization Rates

In 2009, there were 3013 emergency asthma visits and 268 hospitalizations for children under 18 at all Calgary hospitals. Asthma-related hospitalizations and emergencies have declined 40% and 12% respectively since 2003.

Access to Preventive and Alternative Health Care

☹ SUSTAINABILITY TREND



The Facts

Approximately 3.8 percent of the Calgary Health Region's (CHR) 2007-08 budget was directed toward preventive health care. In 2003 18.5% of people in the Calgary Health Region reported contact with some kind of alternative health care provider.

Definitions

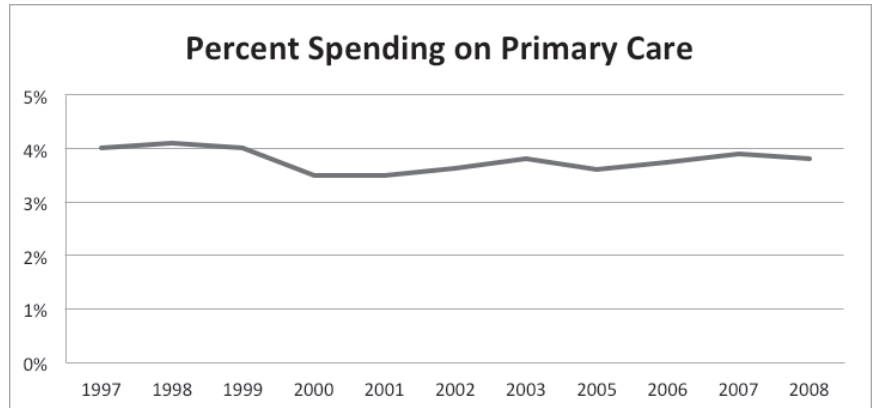
Preventive health care includes all interventions to reduce the risk of illness or injury, including the promotion of regular physical activity, good nutrition, sanitation, and immunization. Information about the CHR's spending on preventive health care came from the CHR 2007-08 Annual Financial Report and includes all spending on prevention, promotion, protection, research, and education.

Alternative health care providers include: massage therapists, acupuncturists, homeopaths or naturopaths, Feldenkrais or Alexander teachers, relaxation therapists, biofeedback teachers, rollers, herbalists, reflexologists, spiritual healers, religious healers, etc. The percent of people in contact with an alternative care provider comes from Statistics Canada, Canadian Community Health Survey (CCHS) 2003.

Trends

The statistics suggest a slight increase in the proportion of resources devoted to preventive health care since 2001, though still extremely modest and not quite at the levels estimated in the late 1990s. Though prevention is a mantra in our health care system, we still devote a very small portion of health care budgets to prevention.

The CCHS data shows that in Calgary women (23.7%) are more likely to use alternative therapies than men (13.3%), by a wide margin. This holds true across the country. By far the most used alternative treatments are chiropractic and massage. The most common chronic conditions for which people seek alternative methods are fibromyalgia, back problems and multiple chemical sensitivities. Across Canada the use of alternative medicine is most common for 25-44 years (25.2%) and 45-65 years (22.5%) Use of these therapies increases with education and income. Of all Canadians, Albertans are most likely to use some form of alternative health care.



Importance

Increasingly, preventive and alternative health strategies are gaining acceptance as reliable complements to conventional health practices. While conventional health care will always play an important role in treating disease and injury, a sustainable community should also adopt practices that promote wellness and reduce the need for more intrusive health interventions. Preventive health care practices such as mammography and immunization not only offer important benefits to individual health, but they also help to achieve large financial savings. Alternative health care practices can be a strong component of a preventive health care strategy, given their focus on overall lifestyle and well-being.

The 2002 Romanow Report (The Commission on the Future of Health Care in Canada) recognized that improved primary health care was crucial in efforts to transform the system, with 24/7 access to an "integrated continuum of care". Romanow recommended that integration of prevention and promotion initiatives should be a central focus of primary health care.

Linkages

The determinants of health research has highlighted the close linkage between socio-economic and educational status and health outcomes. The increasing number of hours required to meet basic needs at minimum wage and the rising numbers of food bank users in Calgary both point to an increasing proportion of Calgarians whose socio-economic status will likely lead to poorer health outcomes.

A health promotion approach has been one response to the need for preventive care. This approach includes multi-sectoral collaboration, community building, and health services reorientation to address issues such as smoking, clean air and water, and nutrition. The Alexandra Health Centre in Inglewood and the Calgary Urban Project Society embody this type of approach as does the groundbreaking work of the Edmonton Population Health team.

An increase in physical activity and a growing interest in organic foods are both linked to preventive health care.

Individual and Collective Actions

- Support the maintenance of universal and equitable access to health care.
- Develop a health strategy clearly focused on prevention.
- Support programs like amateur sports, which promote healthy lifestyles and lower the need for health treatments.



The Facts

In 2007, approximately 24% of Calgary's preschoolers were either overweight or obese. (Calgary Health Region BMI Report, 2007). The World Health Organization considers obesity to be of epidemic proportions.

Definitions

Overweight and obesity rates are calculated using body mass index (BMI). A person's weight in kilograms is divided by his/her height in metres.

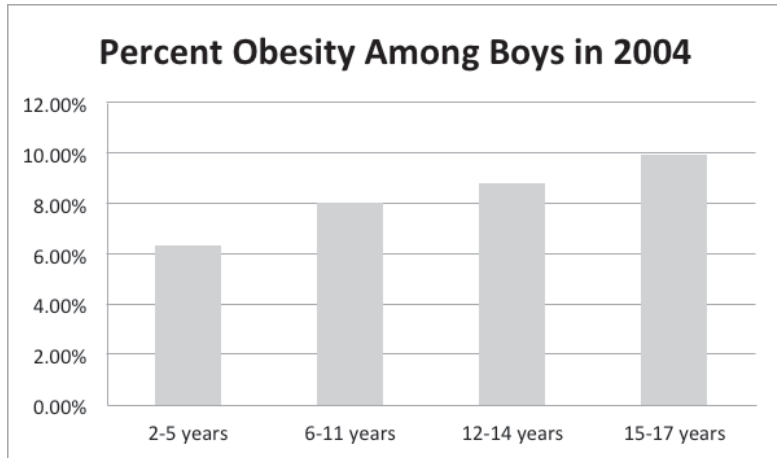
Trends

Between 1978/79 and 2004 there was almost a three-fold increase (from 3% to 8%) in obesity among 2-17 year old Canadians. 26% of that age group were overweight (double the 1978/79 level). In 2008 Alberta boys and girls from 9 to 15 years were found to be 27.1% and 24.8% overweight respectively. This is marginally better than Canadian averages and a huge increase from the national rate of 14% for both sexes (2-17 years) recorded in 1981. The 2004 Canadian Community Health Survey demonstrates the progressive nature of the problem. National rates of obesity for youth 2-5, 6-11, 12-14 and 15-17 years were found to be 6.3%, 8.0%, 8.8% and 9.9% respectively. In all age groups a higher percentage of boys are obese (11.2% of 15-17 year old boys).

While Canadian youth engage in relatively high rates of physical activity, they also are among the most obese in the world. After Greenland and the United States, Canada has the highest rate of youth obesity among girls and boys aged 13 to 15. Obesity levels are higher for youth from low-income families.

Obesity is magnified from youth to adulthood. Between 1979 and 2004 adult obesity increased from 14% to 23% of the Canadian population. Fifty-nine percent of adult Canadians were considered to be overweight in 2004. Obese adults are considered to have an extremely high risk of developing health problems such as heart disease, type 2 diabetes and cancer.

A 2004 study recommended an ecological approach to tackling obesity. This involves an integrated effort between communities, schools, workplaces and policy-makers pro-



moting healthy eating, increased physical activity and less sedentary lifestyles.

Importance

In a sustainable community youth are physically, emotionally, and spiritually healthy. As future leaders and decision-makers, it is vital that youth receive the support they require to become healthy, well-balanced adults. Overweight and obese adolescents have a reduced body image and self-esteem, are more likely to be discriminated against and socially marginalized. Their performance in school is also negatively affected.

Linkages

In a provocative study Freakanomics researchers suggest that the 'creeping' obesity epidemic in North America has much deeper roots in our social fabric dating back to the early part of the 20th Century and includes the industrialization of food production, the spread of automobiles, mass media and the IT revolution. In 'Globesity', the authors demonstrate the global scale of the obesity crisis and that it is primarily a socio-economic problem with its roots in the distorted global agriculture and food supply and distribution system.

Thirty-eight percent of obese children in Canada are inactive, relative to 30 percent of non-obese children. The CCHS found that for 6 to 17 year olds the likelihood of being overweight or obese rises with time spent watching TV, playing video games and using the computer. It also found that those children and adolescents who eat fruit and vegetables 5 or more times a day are substantially less likely to be overweight or

obese than those who consumed less.

Soft drink manufacturers have targeted youth with aggressive campaigns by soft drink manufacturers that have resulted in an increased availability or even monopoly for their products in schools, colleges and universities. Studies in Edmonton have shown that fast food outlets tend to locate close to schools. San Francisco is one city that has been proactive to counter this issue by establishing nutritional standards for fat food businesses.

The financial costs of obesity are enormous. A study by the Alberta Centre for Active Living estimated that compared to an active person, an inactive person spends 38% more days in hospital care, has 5.5% more family physician visits, 13% more specialist services and 12% more nurse visits. On a national basis this means 1.42 million extra hospital stays. Other studies suggest the issue costs 2-3% of the health care budget – approximately 4.6 billion dollars in 2009.

More and more studies are demonstrating the link between overweight and obesity and urban sprawl – low density, auto-dependent, and segregated land uses.

Individual and Collective Actions

- Listen to and include youth in issues that affect them and their community.
- Provide daily exercise or sport opportunities for all school children.
- Promote mentorship programs in community, educational, and work settings.

Healthy Birth Weight Babies



The Facts

In 2008, 92.4 percent of babies born in Calgary had a healthy birth weight. Calgary as the highest incidence of low birth weight in Alberta, Alberta has the highest rates in Canada and Canada has the highest rate of low birth weights among the G7 countries.

Definitions

The Calgary Health Region defines a healthy birth weight as over 2,500 grams (5.5 pounds). This standard was set by the World Health Organization and is used internationally to monitor birth weights. Low birth weight occurs as a result of shortened gestation and/or inadequate fetal growth. Data was derived from Government of Alberta, Alberta Health. Alberta Reproductive Health: Pregnancies and Births, Surveillance Report 2009.

Trends

Since 1990 the incidence of low birth weight babies in Calgary has varied widely, ranging from a low of 5.9 percent in 1994 to a current high of 7.6 percent in 2008. Prior to 2002 low birth weights were consistently below 7 percent. Since 2002 they have exceeded 7% in all but one year and 2008 is the highest incidence of low birth weight since 1989.

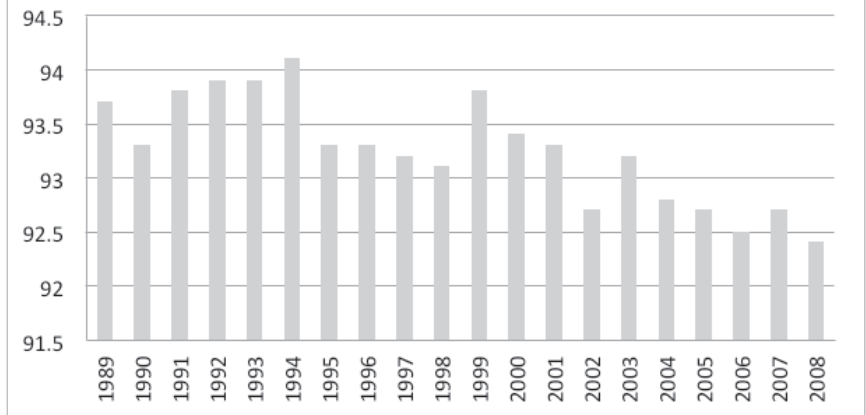
Historically, Calgary has had a higher incidence of low birth weight babies than the rest of Alberta. Several factors may help to explain this trend, including the larger proportion of mothers over 35 in Calgary, the higher rate of multiple births in the city, and Calgarians' access to fertility drugs and advanced levels of care that can facilitate risky pregnancies and sustain low birth weight babies. Studies show that women living at high altitudes also have smaller babies, and even though Calgary isn't La Paz, we are still at 1000m.

Low birth weights are higher in mothers below and above the 25-29 age group. One in 10 births to women over 40 were low birth weight from 2005-2007. In 2008-2009 the Canadian average for low birth weight was 5.9% and the best province was 4.9% (Quebec)

Importance

The National Council of Welfare estimates that up to 75 percent of infant deaths can be attributed to low birth weight. Infants

Percent Healthy Birth Weight Babies



weighing less than 2,500g are approximately 20 times more likely to die than heavier babies.

By promoting practices and behaviours that lead to healthy birth weights, we can protect one of Calgary's most important resources, its children. Never was the axiom getting a good start in life more true than with birth weight. Low birth weight is strongly associated with poor health outcomes. Low birth weight babies are more at risk of developing health complications such as asthma and hearing problems. They are also more likely to have developmental disabilities and to perform poorly in school. The economic costs associated with low birth weight babies are enormous. They are two to four times more likely to be hospitalized during the first five years of life than normal birth weight babies, and they are the Calgary Health Region's fourth highest category of expenditure.

Linkages

In 2006, if Calgary had achieved the national average for low birth weights, 228 fewer infants would have been born at a low birth weight in our city.

The estimated additional lifetime health care costs for a low birth weight baby is more than \$675,000. It can exceed \$50,000 for the first year of life.

Chronic pre-existing medical conditions such as hypertension, Type 1 diabetes and

asthma are associated with preterm births, low birth weight babies or small for gestational age babies.

Mothers in deprived socio-economic conditions frequently have low birthweight infants. Poverty is one of the most potent factors contributing to low birth weights in Canada. Low-income families may have less knowledge about prenatal health and reduced access to nutritional foods, and they are more likely to practice high health risk behaviours such as smoking during pregnancy. Physically demanding work during pregnancy also contributes to poor foetal growth. In Calgary, prenatal classes are available on a user-pay basis, which may limit access for those with limited financial resources. With the advent of new fertility technologies, low birth weight is also becoming an issue in more affluent communities in Calgary, where expensive fertility technologies are more commonly used and delayed childbearing is increasingly common.

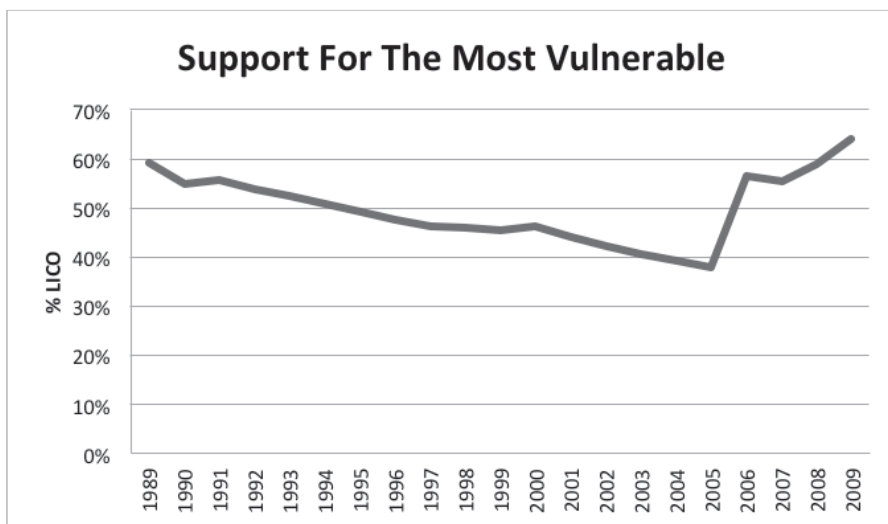
Individual and Collective Actions

- Support pregnant women you know in eating healthy foods, avoiding alcohol, and quitting smoking.
- If you know of family friends or neighbours with low birth weight babies, be more conscious of their need for support.

Support for the Most Vulnerable



☹️ SUSTAINABILITY TREND



The Facts

In 2009, the welfare income for a disabled person in Alberta was 64.1% percent of the Low Income Cutoff (LICO). This is the highest percentage since 1989 and is a substantial improvement from the low of 38% in 2005.

Definitions

Information for this indicator comes from the National Council of Welfare. LICO is one of the most commonly used proxies for the poverty line in Canada. LICO numbers are calculated by Statistics Canada annually.

Trends

Support for the disabled in Alberta had declined by about 12% from the late 1980s to 2005. In 1989 support for disabled was 59.2% of the Low Income Cut-off. By 2005 it had dropped to only 38% of LICO. People with disabilities were receiving \$7851 annually, \$12927 below the LICO. This was the lowest rate of any province. By comparison a disabled person in Newfoundland was receiving \$9728 in 2005. In BC the rate was \$10656.

Since 2005 AISH rates have improved. With concerted pressure and lobbying from disability groups the support rose to 56.6% of LICO in 2006 and now stands at 64.1%. While this is a vast improvement over 5 years, and is now the most generous support program in any province, it is still nowhere near adequate. An AISH recipient in 2009 still comes up almost \$8000 short of

the LICO poverty line income.

Approximately 12.5% of Albertans have some form of disability. 3.3% of Canadian children have some form of disability; 10% of 15 – 64 year olds, 40% of those over 65 and 54% of Canadians over 75 years. In all but the 0-14 age group, more women have a disability than men. The most common disabilities among adults are related to mobility problems and pain and 80% of adults with disabilities report having multiple disabilities. Of those suffering from a disability 14% suffer from a very severe disability.

Importance

It has been said that the strength of a chain is measured by its weakest link. Because of the social stigma that has long accompanied people with disabilities, they are particularly vulnerable to poverty, isolation, and segregation. A society that cannot help its most vulnerable citizens meet their basic needs and participate fully in community life, especially in times of affluence, is not a strong society.

Linkages

At the 2005 low point of support for the most vulnerable Alberta was providing the lowest welfare benefits of any province for single employable people and single parents with one child, and was in the middle of the pack for a couple with two children. None of these rates exceeded the LICO. The best rate was for the couple with two children – 50% of the LICO poverty line. The

positive trend in rate increases for people with disabilities was not mirrored in support for other vulnerable populations. For example, in 2008, a single parent with a 2 year old was receiving less support than in any other province - \$14,094.

Urban sprawl creates problems in everyday living for disabled citizens. As the city spreads outward, transportation links are fewer and travel distances and times increase. A convenient, accessible public transportation system can be a lifeline for citizens with disabilities, who may not have access to a car or be able to drive. These citizens should be able to move throughout our shopping areas, neighbourhoods, and workplaces with ease.

The needs of disabled people should factor into every decision we make about the form of our city. For example, when planning new crosswalks and intersections, we should design them considering those citizens who cannot walk very fast or are in wheelchairs. Because of their different life situation, citizens with disabilities may not feel that they belong in a community as much as their neighbours. This low sense of community can be particularly strong among disabled schoolchildren, who may feel that their difference sets them apart from their classmates in insurmountable ways. The educational system can further exclude these children by focusing largely on academic competencies rather than socialization and the discovery of individual skills and knowledge.

Individual and Collective Actions

- Support the raising of government support for disabled persons to at least the Low Income Cutoff and promote indexing AISH for inflation.
- Support formal inclusion of the requirements and concerns of people with disabilities in the planning and implementation of public transportation and public works.
- Recognize the benefits of opening your workplace to more diversity, including people with disabilities.

Self-Rated Health



The Facts

In 2009, 66.6% percent of Calgarians 12 years and older rated their health as very good or excellent. In that same year, 8.1% rated their health as fair or poor. In 2009, 75.4% of Calgarians 12 years and older rated their mental health as very good or excellent. In the same year 4.1% rated their mental health as fair or poor.

Definitions

The data for this indicator come from the 2003, 2005, 2007, 2008 and 2009 Canadian Community Health Surveys. The question asked was “Compared to other people your age, how would you describe your state of health (mental health)? Excellent, Very Good, Good, Fair, or Poor.”

Trends

Levels of self-rated health have remained relatively stable in recent years. The 2009 levels are slightly lower than in 2003 when 68% rated their health as very good or excellent and 76.1% rated their mental health as very good or excellent. The 2009 rates are an improvement over the low point of 2005 (65.3%) responses for general health. Conversely, the 2009 ratings are the lowest over this 6-year period for very good or excellent mental health, which peaked at 80.4% in 2007.

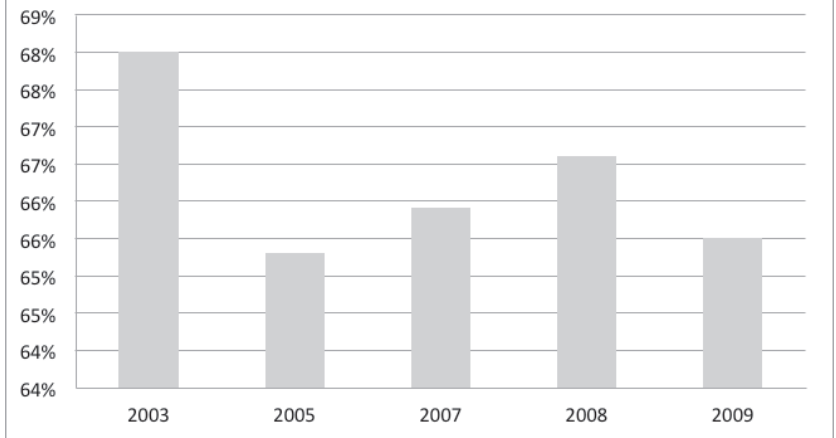
For both general health and mental health, self-perceptions are highest for the 12-19 year old age group. General health perceptions drop significantly (10%) between the 35-45 cohort and the 46-65 cohort; and not surprisingly even more so after 65 years when only 43.6% of Calgarians report very good or excellent health. Mental health fluctuates much less dramatically over a lifetime.

In previous surveys conducted by the Calgary Health Region, when asked to rate their health in comparison to those their age, significantly lower levels of self-rated health were found among people who have a junior high education or less.

Importance

A person’s mental and emotional sense of well-being is often as important as objective assessments of physical health. The notion of self-rated health not only explores an individual’s subjective assessment of physical, mental, and emotional health,

Self-Rated Health: Percent Very Good or Excellent



but also provides an indirect assessment of family well-being, connection to community, economic well-being, and sense of security. Self-assessments provide us with another point of comparison by which we can affirm the assessments made by health care providers or by which we can be alerted to potential problems that may be missed in an objective assessment.

Linkages

The CCHS also asked people about experiences of stress and general overall life satisfaction. In 2009, most people (94%) reported that they are satisfied or very satisfied with life. This was the highest rate over the five years of data. The lowest level of life satisfaction (91.5%) was recorded in 2008. These findings coincide with the economic downturn of 2008 and subsequent beginning of a recovery.

The percentage of Calgarians who reported ‘quite a lot of stress’ in the 2003 – 2009 period was fairly stable. From a high of 24.3% in 2005 the percentage dipped to its lowest level in 2009 (21.2%). Some people say it is all down hill from high school and at least this measure of life satisfaction is consistent with that sentiment. The most satisfied age group were the 12 to 19 year olds (97.5%) while the least satisfied were the 65 and over age group (84.6%). On the other hand Calgarians 65 and older experience the least stress (8.9%) while the highest lev-

els of stress (27%) are reported among the 33-44 year old group. For 45-65 year olds, stress is way down from 28% to 21% from 2003-2009. For 12-19 year olds stress took a huge jump from 2008 (12.8%) to 2009 (24.8%). For Calgarians 65 and older life satisfaction has declined noticeably from the 91-94% range between 2003 and 2007 to only 84.6% in 2009.

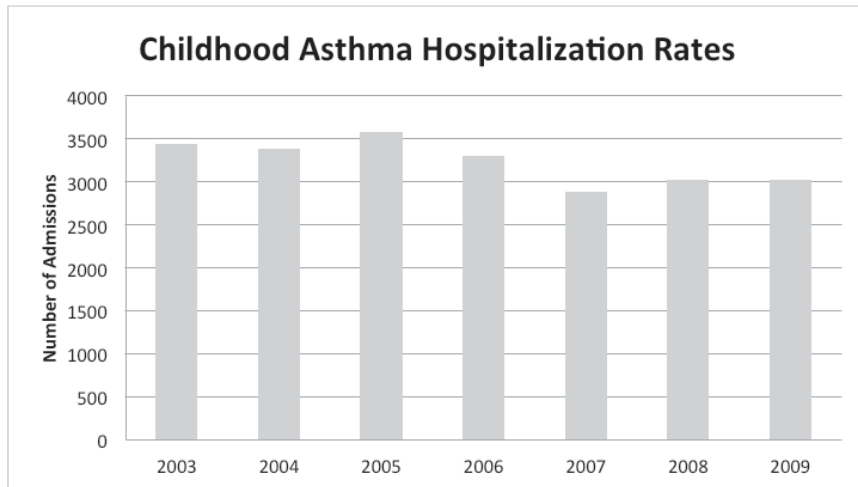
When citizens have a strong sense of wellness, we can expect less absenteeism from work or school, less stress, a more productive economy, and less of a burden on the health system. Healthy individuals are more likely to engage in preventive care, to take more responsibility for their own care, and to be active in the community.

Quantifiably worse health is also related to education and employment, as seen in the Adult Literacy and Hours of Work Required at Minimum Wage indicators. Subjectively, self-rated health may also be influenced by feelings of low self-esteem among a group often less valued by society and is thereby linked to the Sense of Community indicator.

A 2005 Statistics Canada report found that ‘a strong sense of community belonging was associated with substantially better self-reported physical and mental health’.

Childhood Asthma Hospitalization Rates

☺ SUSTAINABILITY TREND



The Facts

In 2009, there were 3013 emergency asthma visits and 268 hospitalizations for children under 18 at all Calgary hospitals. Asthma-related hospitalizations and emergencies have declined 40% and 12% respectively since 2003.

Definitions

Asthma is a chronic inflammatory condition in the airways of the lungs. Symptoms such as chest tightness, wheezing, and coughing are sudden or persistent and can vary from mild to life threatening. In-patient asthma cases include only those in which asthma was the most significant condition leading to a hospital stay. Alberta Health Services provided the data for this indicator.

Trends

Asthma-related emergency visits to Calgary hospitals have declined 20% from a high of 3575 visits in 2005. Hospitalizations in all Calgary hospitals, of those under 18, have declined 35% from the high of 483 in 2004. These reductions continued a trend that saw reductions of about 30% in both hospitalizations and emergency visits from 1996 to 2003.

The reductions are likely the result of more effective control of the condition and more recently decreases in the incidence of asthma in children. The highest number of emergency asthma cases at the Alberta Children's Hospital alone came in 1995, when there were 3,562 asthma-related visits. Hospitalization rates were at their high-

est in 1996, when 222 children were hospitalized due to asthma.

Though there are no overall estimates for rates of asthma for the 2-17 year age group, the available data would suggest that in the range of 35,000 young people in Calgary may be suffering from this disease.

A fall 2010 Statistics Canada report suggests that for the first time since 1994 there is evidence of reduced incidence of asthma in children aged 2-7 in all regions of the country. Across the Prairie provinces rates have gone from 10.3% (1994/95), 10.9% (2000/01), 11.7% (2006/07) to 9.6% (2008/09).

Compared to data from the 1970s, today's childhood asthma rates are still very high. Statistics Canada figures for Canada show that in 1978/1979, 2.5 percent of children under 15 were diagnosed with asthma. By the mid-1980s that rate had risen to 3.1 percent, and by 1994/1995, the rate was approximately 11.2 percent.

In 2003 research suggested Canada has one of the highest rates of child and adult asthma in the world along with the UK, Ireland, Australia, and New Zealand.

Asthma rates among boys tend to be higher than for girls, though in Alberta's adult population, women represent 60% of diagnosed asthma sufferers. Asthma rates in Alberta are slightly above the Canadian average, well above the BC rate but well below the rate in Saskatchewan. The latest Statistics Canada evidence sug-

gests that reduced smoking had a significant effect on reducing incidence of asthma in children. The evidence also suggests that the effectiveness of asthma treatment has been increasingly effective. In this time period the percentage of asthmatic children who experience an attack has decreased from 53% to 36%.

Importance

Asthma sufferers are like the canaries in the coal mine in terms of indicating the health of our city and air quality. Asthma is a growing global problem, with as many as 300 million people affected worldwide. These numbers are increasing, and researchers are struggling to find out why. In Canada, approximately 20 children and 500 adults die each year from the disease. Regardless of the severity of the condition, people who have asthma face a variety of challenges, including reduced activity levels, sensitivity to certain environments, and more days off from work and school.

Linkages

The Canadian Institute for Child Health warns that the growing burden of chemicals to which children are exposed is likely a significant factor in the development of asthma. Airtight homes and offices seal chemical emissions from sources such as carpets, glue, plywood, and paint, thereby concentrating asthma triggers within our living environments. A 2002 report in the Journal of Environmental Health found that children living in cities with high levels of exhaust-related ozone (or smog) are at greater risk of developing asthma.

Dealing with asthma is costly to the health care system. Since physical exercise can trigger asthma attacks, young asthmatics may not be physically active enough to maintain wellness, which could lead to health problems later in life. Asthma is also a serious issue in our schools, not only for the health of children but also for its effect on their education. One quarter of all time lost from school is as a result of asthma. There is evidence that the disease affects math and reading scores of children with effect worsening with asthma severity.

Individual and Collective Actions

- Support incentives for public transport and for low emission energy sources to improve air quality in Calgary.

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