



Your city is about to get a whole lot bigger

Q&A with Jeff Rubin, the former Chief Economist with CIBC World Markets
and author of *Why Your World Is About To Get A Whole Lot Smaller*.

by MELISSA SHIN

How can cities prepare for a peak oil future?

The trend from the last four decades has been suburban sprawl. Increasing amounts of car ownership and huge extension of freeways moving into the hinterland has seen people moving from the cities to the suburbs. This is an unsustainable practice. Firstly, the cost of commuting is going to increase. Secondly, we're going to find that much of the prime agricultural land that has been paved over to accommodate urban sprawl, like in Southern Ontario, will be needed for [agriculture].

In a world of triple-digit oil prices, we're not going to get chicken wings from China. Sure, the wages are going to be cheaper there. But what we save we'll more than squander on [the fuel it takes to get] food here. So there's going to be a move back to local or regional agriculture dictated by higher prices. You're going to see a movement of people from far-flung suburbs back into the city.

The biggest issue will be public transit. I forecast out of a vehicle stock of roughly 250 million vehicles in the U.S., some 20 per cent would take the exit lane if motorists had to pay the same fuel prices as Western Europeans have for the last 10 years. But if [those] drivers were to get off the road right

now and try to get on a bus or a subway, they wouldn't be able to. No transit system in North America has 20 per cent spare capacity.

What about peak water?

The problem is water and growing populations [aren't in the same places]. We're going to find areas like the U.S. Southwest becoming a lot more unsustainable, and cities like Boston might get another at-bat in terms of economic revitalization. The cities along the Great Lakes look significantly advantaged. [Freshwater access] will become even more important as global climate change leads to greater water scarcities in areas that have recently seen huge increases in population and economy.


How will peak oil affect international business?

It's going to change the very nature of the way business is organized. In recent decades companies have become extremely specialized. We're going to find that most businesses—except, ironically, the oil business and other resource businesses—are going to become a lot more local and regional. Markets far away on the other side of the world are going to soon become inaccessible because of

transport costs. Your familiarity with your local market will probably become one of your most important sources of comparative advantage.

Just-in-time inventories will not be possible in a global supply chain. Even the idea of a global supply chain may become untenable. You're already seeing companies like Procter and Gamble reorganizing their supply chains as transport costs become a lot more important.

What do you favour as an alternative to oil?

Unfortunately, there is no substitute for oil as a transit fuel, mainly because natural gas packs only one quarter of the energy density of oil. We don't have enough time [to develop a substitute] and our rendez-vous with triple-digit oil prices [per barrel] is not in 10 or 15 years, but in 10 or 15 weeks. The solution lies on the demand side. We have to change our economy so that it's not so dependent on oil or transit costs. Instead of operating as a global economy, which is an energy and oil-intensive way of doing business, we have to go back to local or regional economies. It won't prevent oil from being in triple-digit range, [but] it'll certainly mitigate the impact of those oil prices on our economic performance." 

WHERE ENERGY MEETS BALANCE



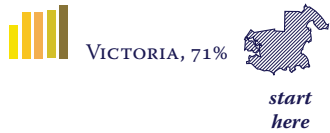
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LEGEND

The arrows flow from highest scoring cities to lowest scoring cities in each population group. The percentages represent the total ranking score for each city.

CATEGORIES

- Ecological Integrity
- Economic Security
- Governance & Empowerment
- Infrastructure & Built Environment
- Social Well-Being

- 700,000+ people
- 250,000-699,999
- 10,000-249,999

5th annual

SUSTAINABLE CITIES

ranking

research by ERIN MARCHINGTON

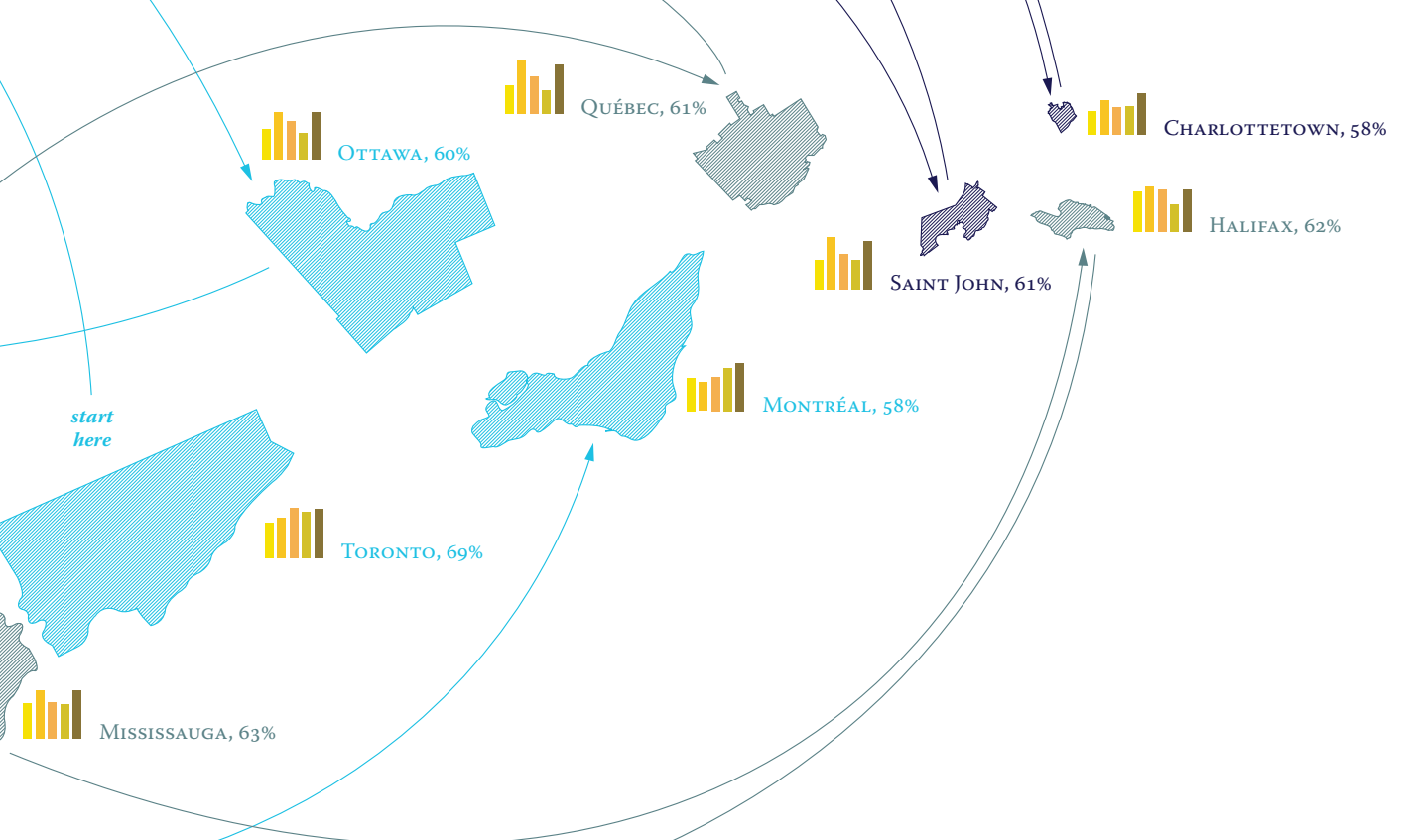
INSIDE:

Metabolic Metropolis . . . p.22

Top city descriptions . . . p.29

The mayors weigh in . . . p.30

Methodology & ranking . . . p.32





The metabolic metropolis

Larger cities may reverse climate change

by SARAH BARMAN

If the concept of a sustainable city sounds like a paradox, that's because it is, according to physicist Geoffrey West.

Ironically, because of their urban "metabolism," cities require only 85 per cent of the resources necessary to double in size, and they're more energy efficient than rural communities.

A UN-HABITAT report *State of the World's Cities 2010/2011* found that cities' density and economies of scale provide more benefits to the environment than rural living—and could even reverse the impact of climate change by reducing per capita emissions.

This seems counterintuitive to the agrarian revolutionary who believes a return to rural communities is a solution to climate change. Urban living may increase our problematic reliance on destructive factory farming, but increased worldwide migration to cities is helping curb population growth because there is no need for large families for labour.

"When villagers migrate to the city, their family size drops, on average, by at least one child per family, often below the steady population rate of 2.1 children," writes Doug Saunders in his recent book, *Arrival City*. "Without massive rural-to-urban migration, the world's population would be growing at a far faster pace."

As more people move to cities to find work, even though their family size shrinks, consumption rears its head. More people means a clamour for more food, energy, and products. According to West, the only way to keep the unsustainable urban machine going is the innovation produced by cities that constantly finds new resources to exploit.

The upshot is if we want to live in a sustainable world, we'll need bigger cities, and more of them. As a physicist who applied his training to the study of urban environments, West believes we need more megalopolises.

But as we found in the fifth annual

Corporate Knights Sustainable Cities ranking, not all cities are created equal.

We studied 28 indicators of sustainability in five categories—ecological integrity, economic security, infrastructure and built environment, governance and empowerment, and social well-being. Seventeen Canadian cities were surveyed, giving us a picture of the country's urban sustainability.

Toronto, Vancouver, and Victoria won top honours in our Big, Medium, and Small city categories respectively. But many other cities boasted environmental programs that made them stand out, such as Edmonton and Whistler. While Whistler is not included in our ranking, the city deserves honourable mention for promising initiatives (see pg. 26).

Evaluating the complex 21st-century city is never easy. This is something University of Toronto civil engineering professor Christopher Kennedy knows all too well. Kennedy led a groundbreaking ranking of

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TYLER HAMILTON

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INFRASTRUCTURE & BUILT ENVIRONMENT

Laure Waridel

After the Rio Earth Summit in 1992, Waridel helped found Equiterre. She champions sustainability in terms of infrastructure and the built environment in an urban context. Equiterre has projects focused on food, gardening, housing, fair-trade consumption, and transportation, including a community-supported agriculture network. She is currently completing a PhD in Sociology of Development and is a proponent of strength in community action.

“We can see on the ground that sustainable development initiatives are multiplying at all levels in small communities and large corporations. My hypothesis is that a new economy is being constructed from below.”

the greenhouse gas emissions (GHG) of ten global cities in 2009 called *Greenhouse Gas Emissions from Global Cities*. To help account for a city's use of energy, Kennedy employs the idea of its urban metabolism, a framework that sees the modern metropolis as a kind of organism or ecosystem with flows of water, nutrients, and waste.

Gathering data from world municipalities, which are only beginning to request figures from energy companies, turned out to be a big challenge, he says. There are so many factors involved that it would be hard for anyone to simply say, “Hey, my city is better.”

For example, Toronto was the only Canadian city included in *Greenhouse Gas Emissions from Global Cities*, and it performed

well against its North American counterparts, but only average overall because its cold climate drives up the use of its major source of emissions—natural gas.

Still, finding ways to compare cities' sustainability is crucial, says Kennedy.

“When you look at a city's metabolism, there are details that become apparent that you miss on a national level,” he says. “Many of the strategies for reducing environmental pollution or reducing greenhouse gas emissions more broadly come down to actions that have to be taken at some city scale, whether that's at the metropolitan, municipal, or corporate level.”

Local programs, in other words, are the only way to have a national and global impact on carbon emissions. And our

ECOLOGICAL INTEGRITY

Sheila Watt-Cloutier

Watt-Cloutier epitomizes the category of ecological integrity. As a former chair of the Inuit Circumpolar Council and a person who has dedicated her life to speaking on behalf of Inuit people and the impacts of climate change, her work focuses on northern populations and her message is universal. She reminds us of the profound interconnection of people and the environment, noting that urban populations are often far removed from the land that supports them.



“For our cities to reflect true ecological integrity, they must not only look inward to their effects on those that reside there, but also outward to how their decisions impact the entire world.”

survey shows that Canadian cities are constantly seeking out new initiatives.

Vancouver stands out for its competitive commitment to sustainability, with its Greenest City Action Team initiative aiming to transform the city into the world's greenest city by 2020. Victoria topped the Small City category, and matched Vancouver for highest numbers by developing its Victoria Sustainability Framework, making sustainability a guiding principle of all city business. For more on the winning cities, see page 29.

But we're not just praising our top cities. Saint John deserves applause for its Green Thermal Utility plan, a multi-building project that would make use of renewable energy sources, such as waste energy

from Irving Pulp and Paper. Looking to the future, with two phases to be completed in 2014 and 2017 respectively, the project aims to reduce emissions by over 16,000 tons of carbon dioxide.

Edmonton stands out in the biodiversity field. They joined the international Cities Biodiversity Index in 2010 and city staff is proactively monitoring hazard trees and invasive species. Montréal and Québec score points for retrofitting old buildings to make them accessible. They also stand out for developing “ecodistricts,” which aim to sponsor sustainable development within neighbourhoods. Considering Montréal's 19 boroughs with separate councils and mayors, this is important.

Ideally all Canadian cities would have

ecodistricts, and with the support of Partners for Climate Protection they just might. The Partners are a network that unites 211 municipalities (and counting), works on local sustainability initiatives and connects cities with funding from the Federation of Canadian Municipalities' Green Municipal Fund.

Many city governments have positive sustainability initiatives, but municipal elections can complicate matters, to say the least.

Toronto's new Mayor Rob Ford has proposed a subway scheme that Toronto Environmental Alliance (TEA) suggests would cost three times as much and serve half as many riders as former mayor David Miller's Transit City. TEA's findings stem from

GOVERNANCE AND EMPOWERMENT

Gurcharan S. Bhatia

Our champion for governance and empowerment is a former member of the Canadian Human Rights Commission and acted as a Judge in the Court of Canadian Citizenship. Bhatia spent the best part of his childhood in an Indian refugee camp and arrived in Canada in 1964, where he was told to “look like a Canadian.” Since then, he has focused on establishing a civil society in Canada that guarantees peace, freedom, equality, and prosperity for all. Bhatia is pictured here performing a new Canadian citizenship ceremony, swearing in over 400 new multicultural Canadians.

“Canadians need a vision for this century. We know what divides us but we have to think what unites us.

What are the
common values in
our vast diversity?”



SMALL CITY, BIG PLANS

While Whistler could not be included in the official ranking due to population size, their initiatives deserve mentioning. In 2009 with the Natural Step, they created Whistler 2020, outlining their vision and strategy for achieving a sustainable future. Whistler 2020 is based on the back-casting concept, which operates on the premise of working towards a desired outcome, and includes monitoring a series of core and strategy indicators. Whistler has some work to do—the city had the highest rate of water consumption among the cities analyzed and scored the lowest in city council gender and visible minority representation. However, Whistler does lead in some areas—it is one of the few municipalities to have a biodiversity-monitoring project and has created an ambitious Integrated Energy Plan. It will be interesting to track Whistler’s progress towards 2020.

the Pembina Institute that states light rail would reduce carbon dioxide emissions by 200,000 tonnes by 2031, compared with only 75,000 for subways. *The Globe and Mail* questioned whether the studies exaggerated Transit City’s benefits, but acknowledged the subway scheme was a step backwards.

Meanwhile, in a giant leap forward, Calgary and Hamilton have elected more progressive mayors. Traditionally conservative Calgary elected Naheed Nenshi, a Harvard grad whose platform was based on limiting urban sprawl and environmental protection. Likewise, Hamilton’s new mayor, Bob Bratina, has maintained the reputation he gained as a city councillor for supporting urban core development by increasing downtown density. These developments leave many people asking if today’s underdogs could leave Toronto behind next year?

With so much at stake, should we be waiting for government to lead the way on sustainability? Our cities are taking initiatives

to explore renewable energy and sustainability frameworks that are far beyond Canada’s anemic national commitments. Yet the uncertainty over Transit City is a good example of how even well-intentioned, long-term municipal projects are at the mercy of regime changes.

Indeed, Vancouver writer and consultant Sanjay Khanna, *Corporate Knights’* choice representative for social well-being, believes that resilience in the face of environmental collapse begins not in council, but deep within the self.

Our cities will need all kinds of innovation—especially the unconventional sort—if they are to come up with solutions that will allow them to grow sustainably in the long term. Cities are our most environmentally-friendly places to dwell, as well as our biggest cause of rampant consumption and waste. But it doesn’t have to be that way. With dedication and implementation, Canada’s cities can help resolve the urban paradox and make our urban metabolisms healthy. *✎ Sustainable Cities continues>>>*



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SOCIAL WELL-BEING

Sanjay Khanna

Writer, journalist, co-founder of Resilient People, a 2009 TED Fellow nominee, Khanna is a man of the people. He co-founded the world's first conference exploring how climate change and ecological degradation threatens people's mental health, and how resilience can be encouraged as the pressures on humanity multiply. *Corporate Knights* caught Khanna at the Vancouver International Airport.

“Social well-being and social capital are inextricably linked.

With social well-being, it becomes possible to build the reserves of social capital that cities will need to ready themselves for the challenges and opportunities that lie ahead. It may be the most reliable indicator of lasting civic vitality, community goodwill, cultural prowess, corporate innovation, and economic success.”

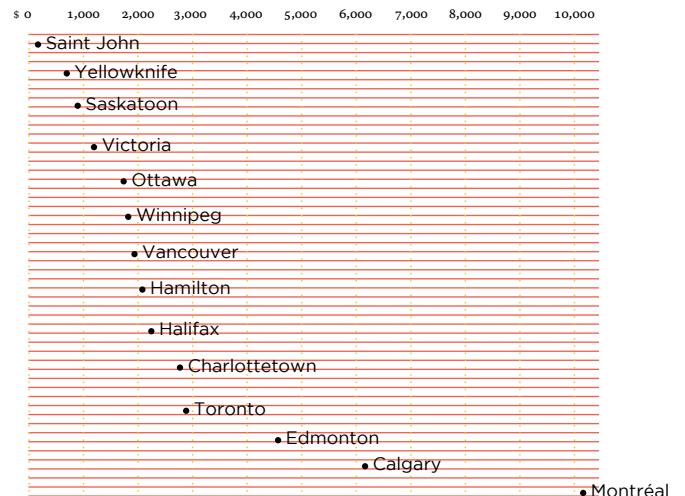
DENSITY BY CITY

Density (people/km²) is an indicator for the Infrastructure and Built Environment category. Data is from the most recent available Statistics Canada census (2006)



HOUSEHOLD DEBT BY CITY

Household Debt by City is an indicator for the Economic Security category. Data is from Frontier Center for Public Policy (FCCP) Local Government Performance Index (LGPI) report (2009)



“You’re going to lose your language and culture faster in poverty than you will in economic development.”



ECONOMIC SECURITY

Clarence Louie
Corporate Knights found our economic security representative standing in the fermentation room of the Nk'Mip winery in Osoyoos, BC. Chief Louie is president and CEO of the Osoyoos Indian Band Development Corporation. His initiatives in economic security are promoting a new path of development for First Nations communities that he hopes will be sustainable and have positive impacts on conserving culture and tradition.

BEST LARGE CITY: TORONTO

In size and sustainability practices, Canada’s biggest city is a heavy-weight champ. Toronto scored highest in governance and empowerment with the best voter turnout for municipal elections in years—53.2 per cent. The city has ambitious greenhouse gas (GHG) emission reduction targets hoping for a six per cent reduction by 2012, moving towards an 80 per cent reduction by 2050. Livegreen Toronto’s program offers a number of energy efficiency grants and programs for homeowners to retrofit their homes or decrease their annual energy bills. And the city’s green roof bylaw— among the first in North America—requires new commercial, institutional, and residential developments with a minimum floor area of 2,000 m² to have a green roof. The question: will the new city council maintain the eco-enthusiasm of the last one?

BEST MEDIUM CITY: VANCOUVER

Vancouver is well on its way to becoming the greenest city in the world, ranking highest in the infrastructure and built environment. The city’s Neighbourhood Energy Utility provides 70 per cent of the area’s yearly energy needs by turning sewage into heat. In early 2010, the city launched a residential solar hot water pilot program offering grants to cover half the installation cost for a system. Building codes now require all new one and two-unit dwellings to be “solar ready” for future installment. Vancouver is one of the few cities in Canada that is currently on track to achieve its 2012 GHG emission reduction targets. With fresh sea air, mountain vistas, and the best health score, living in Vancouver has never been more appealing.

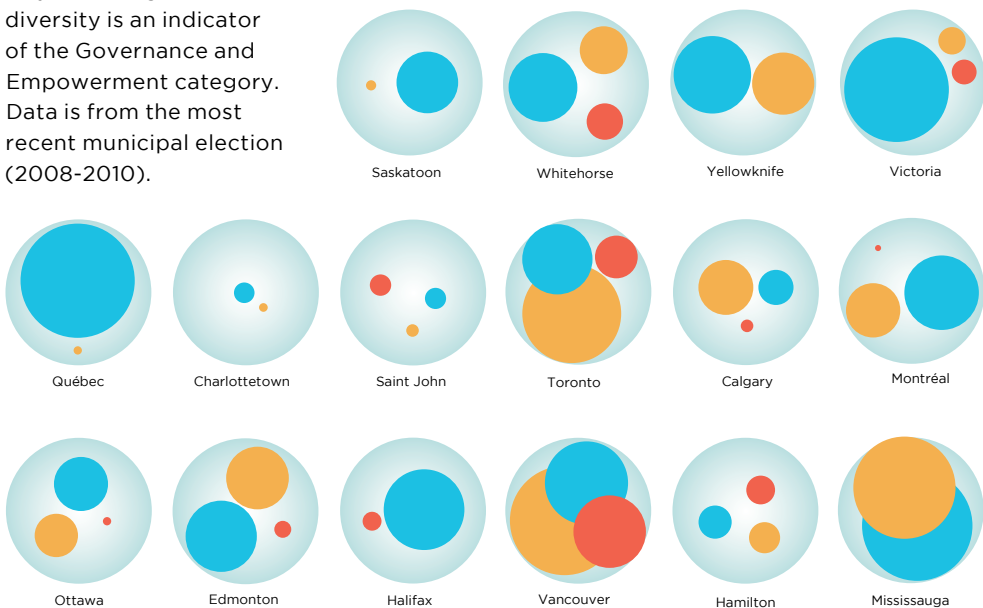
BEST SMALL CITY: VICTORIA

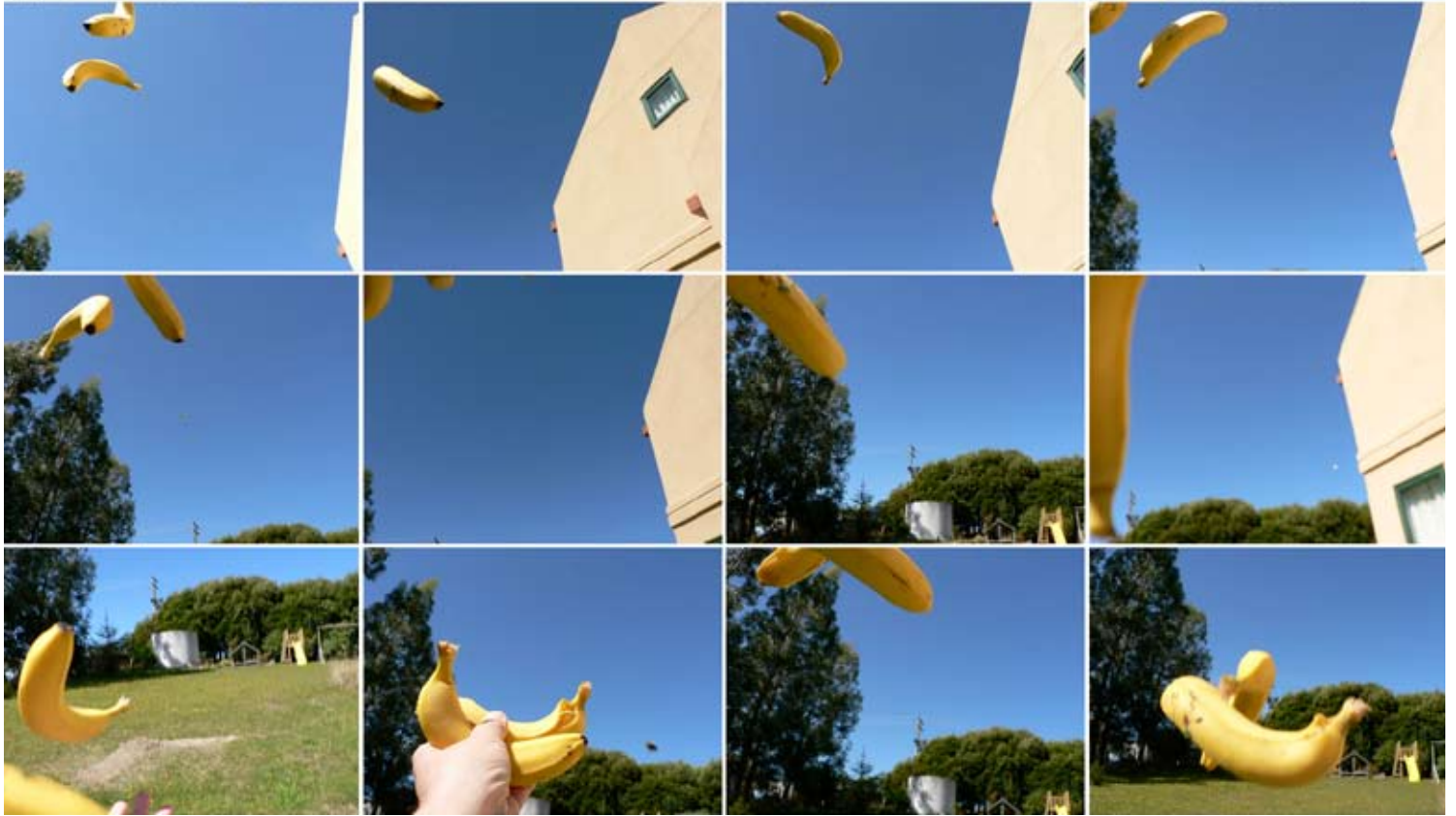
Victoria arrived victorious in its first year in the ranking. The small city does well across most categories proving integration works best—overall Victoria tied Vancouver. It’s the only city in our ranking that achieved a perfect score for both gender and visible minority representation on city council. Victoria also does well in economic security, with low average long-term household debt. The award-winning Dockside Green project is attempting GHG neutrality by connecting a biomass heating system to a hotel site. With an edible garden at City Hall, Victoria is a small city with big plans for sustainability.

GENDER AND DIVERSITY

City Council gender and diversity is an indicator of the Governance and Empowerment category. Data is from the most recent municipal election (2008-2010).

● represents 100% ● % women on council ● % minorities on council ● % visible minority pop.





The city's gone bananas

Why your Mayor should have tropical fruit and tree-forts on the brain —by JON-ERIK LAPPANO

While bananas and tree-forts sound like primate priorities, we humans take these simple pleasures for granted. There is a good chance that someone, somewhere in your city is enjoying a banana—over a bowl of cereal, in a peanut butter sandwich, or taking it on-the-go for quick fuel. Across the country, the sweet and starchy fruit is a frequent choice on brunch buffets and in juice bars, packed in school lunches, and dressed up at ice cream shops. However, in 20 years, bananas—currently shipped into our cities from distant climes—and tree-forts—supported by our oldest trees—may be hard to find if our cities don't start taking sustainability seriously.

Bananas belong in important conversations—in boardrooms, behind closed doors, in city halls.

In fact, your mayor should be thinking about bananas right now. Not because His or Her Worship doesn't have more important things to consider, or because they might be particularly peckish, but because bananas are a symbol for something greater. Their existence north of the 49th parallel is a testament to globalization. They are beacons of the pre-apocalyptic marketplace, emblems of cheap fossil fuel economies.

In 2030, something as common as the contents of your morning smoothie will be determined by the economic, social, and environmental health of our planet. And the way our cities respond to the complex issues of today will affect the simple joys of its citizens for tomorrow.

Bananas are a thought experiment for the future of the sustainable city.

We asked the mayors of some major cities in Canada a few out-of-the-box questions to get them thinking about their broader visions for the sustainability of their city in the future. In addition to bananas, we asked mayors to think about tree-forts and transit.

Many Canadians take some things for granted—available food, green space, and accessible transportation. In many ways, these issues are influenced by municipal level decision-making. As the climate continues to change and the global population increases, Canadian cities are due for some major adjustments. Over the next few decades, municipal investment in sustainability will carry a lot of weight when it comes to securing something as plain and simple as the fruit on your cereal.



In the year 2030 ...

WILL YOU BE ABLE TO EAT BANANAS IN YOUR CITY?

"Yes. They are greatly appreciated and enjoyed, because they are a treat, much like oranges in the Christmas stocking during WWII. Prices for tropical fruits have increased significantly, but because of Whitehorse's proximity to the Pacific, we are still able to get tropical fruits like bananas for a reasonable cost more often than other communities. However, Yukon agriculture has grown considerably in 20 years time, so while we may not be growing local bananas, we are growing a wide variety of fruits and vegetables and have a number of vibrant markets providing a diversity of locally-grown products year-round."

—Mayor Bev Buckway,
Whitehorse, Yukon Territory

"Of course. Not only will they be available from around the world, but having completed our Community Energy project in 2017 (drawing geothermal heat from a long-abandoned mine and supplementing it with biomass boilers from a newly established local wood pellet industry) locally produced bananas will be available from the recently established farms and orchards underground at another local abandoned mine*. The community, by 2030, will benefit immensely from the new community garden focusing on efforts toward sustaining our 100-mile diet opportunity."

—Mayor Gordon Van Tighem,
Yellowknife, Northwest Territory

*Mayor Van Tighem notes that the idea of a subterranean garden is, at this stage, purely an interesting concept in Yellowknife, but at least one is in operation in Tokyo, Japan.

WILL THE CITY'S CHILDREN HAVE TREE-FORTS?

"I believe they will. The Halifax Regional Municipality (HRM) is so committed to the environment that we plant several thousand trees each year in our own right. As well, we require developers of subdivisions to deed green spaces over for public use and to plant at least one tree per new lot.

And it doesn't end there. We are preparing an Urban Forest Master Plan, which will be a blueprint for the conservation and promotion of a healthy urban forest on both public and private land in HRM. We pride ourselves on being among the greenest communities in Canada and, somewhere in all that greenery, I'm confident you will always find youngsters busy playing."

—Mayor Peter Kelley, Halifax, Nova Scotia

WHAT WILL BE THE BEST WAY TO GET AROUND YOUR CITY?

"In 20 years, my hope is that we have an efficient, sustainable transportation network that combines excellent transit, safe cycling and pedestrian routes, and zero-emission cars and trucks. Our 2020 goal is to exceed 50 per cent of commutes by walk/bike/transit and we're on track. We need ongoing investment in all green options: rapid transit, buses, separated bike lanes, pedestrian corridors, and electric vehicle infrastructure."

—Mayor Gregor Robertson,
Vancouver, British Columbia

"Public transit will play a vital role in Calgary 20 years from now. Better transit is the answer to much of what ails the modern city including issues of pollution, congestion, and a lack of social inclusion."

—Mayor Naheed Nenshi, Calgary, Alberta

"The year 2030 will no doubt call for significant change from current and past practices in terms of existing transportation habits such as the role of private cars. There will also be changes in design of our landscapes and transportation funding. In 20 years the fastest way to travel around our city will be a combination of existing and improved infrastructure that promotes inter-modal connections in Charlottetown and our neighboring municipalities."

—Mayor Clifford Lee,
Charlottetown, Prince Edward Island 

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City ranking breakdown by category

CITIES	ECOLOGICAL INTEGRITY	ECONOMIC SECURITY	GOVERNANCE & EMPOWERMENT	INFRASTRUCTURE & BUILT ENVIRONMENT	SOCIAL WELL-BEING	TOTAL
LARGE CITIES						
Toronto	5.5	6.2	7.9	7.3	7.7	6.9
Edmonton	7.1	6.2	5.3	4.7	7.2	6.1
Ottawa	4.8	7.3	6.0	4.1	7.6	6.0
Calgary	5.8	6.6	5.5	4.5	7.6	6.0
Montréal	5.2	4.4	5.3	6.8	7.5	5.8
MEDIUM CITIES						
Vancouver	6.5	6.0	7.6	7.7	7.5	7.1
Mississauga	5.5	7.6	5.7	5.3	7.6	6.3
Halifax	6.3	7.1	6.7	4.3	6.8	6.2
Hamilton	5.2	7.5	6.8	4.0	6.9	6.1
Québec	4.5	8.4	5.9	3.7	7.7	6.1
Winnipeg	4.6	7.4	5.0	5.5	6.9	5.9
SMALL CITIES						
Victoria	5.2	7.2	7.2	7.6	8.2	7.1
Saskatoon	4.7	7.4	6.6	4.5	7.4	6.1
Saint John	4.6	8.2	5.5	4.6	7.5	6.1
Yellowknife	5.7	6.4	6.1	4.3	7.6	6.0
Charlottetown	4.6	6.3	5.2	5.4	7.3	5.8
Whitehorse	4.7	5.7	6.9	2.8	6.5	5.3


Methodology

Like a living organism our Sustainable Cities methodology continues to evolve. To create a measurable and comparable set of indicators from year to year the methodology retains the same five categories as it has since The Natural Step helped create it: ecological integrity, economic security, governance and empowerment, infrastructure and built environment, and social well-being. However, the total number of indicators analyzed for all categories has been reduced from 63 to 28 avoiding overlap and creating a manageable amount of data. The new indicators added include urban biodiversity monitoring, source water strategy, renewable energy initiatives, and health. Therefore comparing this year's numbers to last year's is not

appropriate. Rather, trends are the best way to assess a city's progress.

The most populous centres in each province and territory and the ten most populous cities in the country are selected for inclusion. Cities are then grouped into three groups based on population: Big Cities have over 700,000; Medium Cities have over 250,000; and Small Cities have between 10,000 and 250,000. Victoria was added due to their involvement with the Federation of Canadian Municipalities Sustainable Cities 2011 conference. Whistler was also analyzed because of their promising sustainability initiatives, but was not included in the final ranking as it did not meet the population benchmark of 10,000 permanent residents. Iqaluit and St. John's

were invited to participate in the ranking, but were unable to take part.

Data collection for each indicator makes use of a variety of sources, including Statistics Canada and Environment Canada, and a detailed survey designed by *Corporate Knights* were submitted by each city. All participating cities completed the survey, and cities were not penalized if indicator data was not available. Data for each indicator is rationally and logically normalized to a 0 – 10 value (10 high, 0 low). 

For a full list of indicators, sources, and to learn more about our Sustainable Cities advisor The Natural Step, please see our Expanded Methodology online at: corporateknights.ca/cities2011

Epilogue: Plans to adapt

Is your city prepared for climate change?

by ERIN MARCHINGTON

Climate change isn't a future problem—it's happening right now. And we may not be able to stop it. A January 2011 study published in *Nature Geoscience* by the Canadian Centre for Climate Modeling and Analysis suggests there is little we can do to prevent drastic climate change, even in a highly unlikely "zero-emissions" scenario. If all emissions ceased today, the study still suggests a temperature increase varying between one and four degrees Celsius for the next thousand years—meaning long-lasting changes of epic proportions. How we respond and adapt to climate change is therefore critical going forward.

At a December 2010 meeting of the Adaptation Advisory Committee, part of Canada's Climate Change Adaptation Project, city infrastructure was noted as the top priority concern when considering industries and disciplines that are most immediately vulnerable to the impacts of climate change.

Whether your city can cope depends on where you live.

As part of our survey this year, we evaluated Canadian cities' plans for climate change adaptation and mitigation. Canadian coastal cities analyzed in our survey have developed climate change adaptation strategies and plans, with Vancouver and Halifax leading the way in actively funding and implementing projects. For example, "Climate Responsive Design" has led to a stabilization project in Vancouver's Stanley Park. Halifax's Climate SMART (Sustainable Mitigation and Adaptation Risk Toolkit) has been in action since 2005, an ongoing partnership between the municipal, provincial and federal governments to plan and implement climate change initiatives. Victoria, Saint John, and Charlottetown also

have adaptation studies and plans underway, which the projected sea-level rise will put to the test.

Mainland cities are also working to adapt. Both Toronto and Montreal are engaging with multiple stakeholders and researchers to model and assess climate change risks to inform future city planning. Yellowknife and Whitehorse, northern cities that may have already seen the

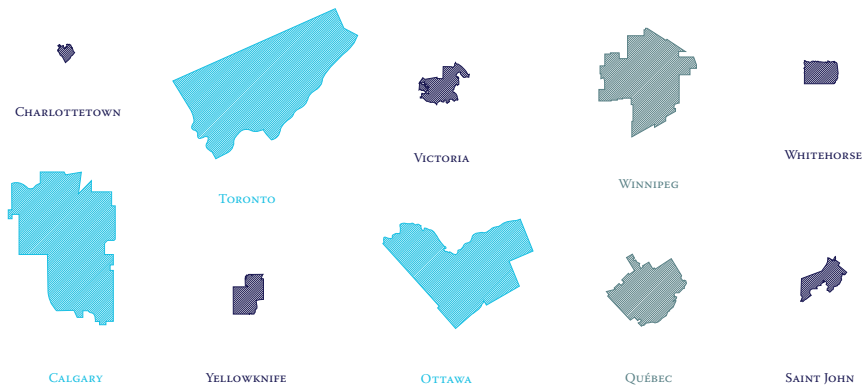
impacts of warm winters, are also actively developing climate change strategies.

Still, some cities have no concrete plans on climate change, let alone adaptation. Hamilton, Mississauga, Edmonton, and Saskatoon may not be as directly affected as Iqaluit or Victoria, but the countries that grow their bananas surely will be. In our interconnected and global society, no one is untouchable. 🍌

FLOATING—PLANS & IMPLEMENTATION



SWIMMING—IN DEVELOPMENT



SINKING—NO SPECIFIC PLANS

