



WINNIPEG'S GREAT TRANSITION

Ideas and actions for a climate-resilient, low-carbon city





A RESILIENT WINNIPEG

What does a resilient Winnipeg look like? It is a network of thriving, pedestrian-friendly neighbourhoods. Each neighbourhood is organized around a rapid transit hub, a local marketplace, and a handful of local education and cultural centres. High-density residential neighbourhoods feature passive solar housing and a variety of welcoming public spaces, powered by biomass, solar, or geothermal district heating and cooling.

A Winnipeg that is powered by a decentralized, renewable, low-carbon energy grid will be resilient to climate change. A well-designed transportation system – prioritizing transit, active transportation and shared vehicles – connects our neighbourhoods and efficiently moves people and goods without being carbon intensive.

Entrepreneurs, small businesses, social enterprises, and cooperatives form the backbone of a dynamic local economy. Our city's economy is diverse and largely self-reliant. We use local materials, capital and labour to provide meaningful employment, meet local needs, and promote local trade. We witness a community agriculture renaissance, which reduces the carbon footprint of our food system, rejuvenates depleted soils, promotes health, and creates opportunities for meaningful work.

Socially and culturally, Winnipeggers strive to improve their individual and collective well-being rather than pursue consumption and economic growth as the panacea for all challenges. We prize materially simpler lifestyles centered on sharing and mutual support.

Politically, we pursue strong, democratic neighbourhood governance systems such as neighbourhood councils, participatory budgeting, and cooperative economic development. City and provincial governments support a diversity of transformative activities through appropriate policies and incentive programs.

Winnipeg can be a truly resilient northern city that thrives amid the challenges of the 21st century.

INTRODUCTION

– Summary –

Transition Winnipeg wants to respond to contemporary challenges – including climate change, scarce cheap oil, and economic volatility – by making our communities more resilient. We foster community connections, food security, and the development of skills, knowledge and technologies to transition to a less energy intensive and healthier way of life.

Transition groups around the world have developed “Energy Descent Action Plans” (EDAP) to express local visions for meeting contemporary challenges. This vision document represents the first phase in what we hope will become a full-scale Energy Descent Action Plan and adaptation strategy for a truly resilient and low-carbon city.

Present Situation and Probable Impacts

- **Climate change is shifting the frequency, intensity and timing of precipitation, droughts, and weather events.** It is making our weather more extreme and variable.
- **Increasing frequency and intensity of flooding and storm events is only just beginning to tax infrastructure,** emergency services, and the solvency of government and households.
- **This winter, more extreme weather highlighted the potential for climate change to tax urban infrastructure** as snowfall exceeded expectations due to increased atmospheric moisture and water pipes froze due to an unprecedented frost line.

- **Diminishing energy returns (“peak oil”) are making fossil energy more expensive,** contributing to potentially catastrophic climate change, and making fuel extraction and shipping methods more harmful (including the effects of fracking as well as disasters such as that of Lac Megantic).
- **Climate change will seriously impact our ability to grow food** due to more extreme, variable, and unpredictable weather patterns.
- **Following the 2008 recession, the global economy entered a period of slow or no growth.** Periods of economic contraction can either be managed or unmanaged. New financial institutions, instruments, and policy arrangements will have to replace those that assume growth as the norm.
- **Failing to take a timely and proactive approach to adapt to climate change is entirely indefensible.** It increases the likelihood that institutions and households have to cope with a prolonged period of emergencies (or near emergencies) which could have been avoided with greater awareness and action.

Envisioning the Transition

- **Each chapter in this document outlines the status quo and potential impacts** in a particular subject area.
- **Each chapter offers a number of reform-oriented implementation proposals** and demonstration projects.
- **This document represents a tool for ongoing public engagement** and a forum for ideas to initiate projects at the neighbourhood level that build resilience.

ENERGY

– Summary –

Almost everything we do requires energy. The three greatest draws on energy include heating and air conditioning, electricity, and transportation. Winnipeg's high demand and the structure of our energy supply have heavy financial and environmental consequences; they also leave us vulnerable should prices rise or an unexpected shortage occur.

While Canadians have made modest gains in improving energy efficiency, Transition Winnipeg believes reducing demand should be prioritized, which requires new provincial legislation and a thorough rethinking of how we design our transportation networks, power grids, and heating and cooling systems. Overall, our efforts need to be focused on reducing demand, improving building efficiency, and incorporating more renewable sources into our energy mix.

Being more responsible when it comes to power generation and consumption will not only improve our environmental record, but also save us money, improve our health and wellbeing, and strengthen social resilience.

Present Situation and Probable Impacts

- **Overall emissions in Manitoba have risen more than 18% since 1990.** Meanwhile, Denmark is on track to *reduce emissions by 20% or more by 2020* compared to 1990s levels.
- **As extreme weather becomes more frequent, the risk to large power systems grows;** droughts on hydro rivers and downed

transmission lines could mean Winnipeggers are not able to access the power we need.

- **Over one-third of our energy use is for transportation,** almost entirely of fossil fuel-based products. From 1990 to 2009, demand for fuel increased 16%.
- **Manitoba's capital is also one of the more sprawling centres in Canada,** with just 1,400 people per square kilometre, which makes it difficult to forego car travel in favour of alternative transportation.
- **The food sector accounts for about a third of the world's total energy consumption** according to the UN Food and Agriculture Organization, and accounts for around 22 percent of total GHG emissions; rising energy costs mean more expensive food.
- **Non-households (businesses and big institutions) have become less efficient over the past two decades and household dwellings have grown in size.** Manitoba had 28% more household space in 2009 than in 1990, though energy consumption increased by less than 1%, highlighting how more density with less household space could make a big impact.

Envisioning the Transition

- **Create a separate public utility that focuses exclusively on demand-side reduction** and expands Hydro's existing PAYS (Pay As You Save) financing Program; such a utility would increase efficiency and further increase the proportion of our power generated by renewable sources for home heating and cooling.
- **For urban development, the emphasis should be on mass transit and active transportation – including cycling, skiing, and walking.** Clustering mixed-use communities around transit network hubs allows for a dramatic reduction in energy consumption to get us around.
- **Test and adopt more robust metrics to track progress** in terms of ecological costs and energy return on energy investment (EROEI).
- **Adopt new policies and regulations to drive heating and**

cooling innovation, including better insulation, biomass, geothermal, and district heating systems.

- **Prioritize high-density, multi-family dwellings** rather than single detached dwellings.
- **New houses should be built according to “passive building” standards**, which are 80-90% more efficient than standard building codes and require minimal maintenance.
- **Provide energy from more renewable sources than just hydro.** In some areas, this requires energy distribution systems that use small, local power stations and home solar systems to generate and disperse electricity.
- **Support the transition with educational campaigns** across ages and disciplines through policies, incentives, and private initiatives.

Demonstration Projects

- **BUILD Winnipeg leverages Manitoba Hydro’s PAYS program to offer home retrofits that reduce energy and water consumption** by improving insulation and installing low-flow water devices.
- **NOW Home Project in Toronto boosts the efficiency potential of aging structures** by revitalizing an existing home with solar panels for water heating, improved insulation, a heat recovery system, and other technologies; the net effect has been a reduction in GHG emissions of 60% (Whitehouse and Garver 2008: 34).
- **Berkeley, California has a program in place where the city pays for the installation of solar panels** and is repaid through an assessment added to property taxes over 20 years (Brune 2008: 163), making it cost neutral for homeowners to undertake important energy-saving measures.
- **Geothermal heating is more efficient than any top-of-the-line gas furnace**, and will reduce energy costs by up to two-thirds;

¹ [Winnipeg Free Press, “Warming up to geothermal”](#) (2013)

Iceland heats 85% of its buildings this way.

- **Over 60% and 80%, respectively, of Danish and Swedish home heating comes from biomass** like wood and straw.
- **St. Paul, Minnesota, has biomass heating infrastructure serving over 200 buildings**; wood chips are used as fuel, with 95% provided by trimmings and storm damaged brush from inside the city.
- **Providence University near Otterburne installed a biomass heating facility in 2011**; it replaced 60% (+) of the natural gas used by the college.
- **Stanley Business Centre in Morden became the first district geothermal complex in the province**, heating three buildings with one system; costs were cut by half, as compared to each building installing their own heating infrastructure.¹
- **District power utilities in Prague, Czech Republic serve over 260,000 households**; in Reykjavik, Iceland almost all houses use district heating.
- **In Helsinki, 90% of the city is covered by a combined heat and power system that produces electrical and thermal energy** from one fuel source; the amount of energy saved corresponds to the annual heating needs of approximately 270,000 detached homes.²

² [City of Helsinki: State of the environment](#) (2008)

FOOD

– Summary –

Everyone eats. However, fewer and fewer people eat healthy, know where their food comes from or know how to grow it. Our global food system ensures that our grocery stores are teeming with food items from all over the world. Despite this apparent abundance, our global food system is vulnerable. Conflict, climate change, and politics can affect not only the price of food, but also availability and distribution. In Canada, grocery stores only stock a three-day food supply. If distribution channels stopped, Winnipeggers would quickly lose access to most of the foods they currently enjoy and could face larger challenges such as hunger.

Beyond these issues, the global food system relies heavily on oil. Fuel, fertilizers, pesticides, and insecticides are the main components of monoculture crops that make up the bulk of our global food system. Land for both crops and livestock are now heavily degraded, experiencing compaction, salinization, desertification, and nutrient deficiencies.

Transition Winnipeg envisions a food system that is resilient to external shocks and restores the environment on which it depends.

Present Situation and Probable Impacts

- **Climate change is affecting Manitoba farmers. In 2014, there was 200% more rain than normal to Western Manitoba and**

³ [David Suzuki Foundation: Food and Climate Change](#) (2014)

⁴ [FAO: "Energy Smart" Food for People and Climate](#) (2011)

⁵ [Statistics Canada](#) (2011)

close to 1 million acres have not been seeded due to extreme weather. In addition an unknown number of seeded acres have been lost to overland flooding and costs are rising to protect existing crops from diseases caused by high humidity and heat (Winnipeg Free Press, July 12, 2014, B7).

- **The average meal travels 1200 km from farm to plate.** The farther food travels, the more processing, refrigeration, and transportation is needed.³ As a result, food is not as fresh and requires a lot of energy.
- **The food sector accounts for about a third of the world's total energy consumption and about 22% of total GHG emissions.**⁴ Rising energy costs mean more expensive food.
- **The size of farms in Manitoba is steadily increasing, while the number of farms is decreasing.** Larger farms signify a loss of biodiversity, greater mechanization, and fewer opportunities for small or new farmers. In fact, every year there are fewer Manitoba farmers and they are getting older. The absence of a new generation of farmers will result in the loss of local knowledge and farm skills.⁵
- **Just over one-third of Winnipeggers report eating fruits and vegetables five or more times a day.**⁶ The Dietitians of Canada have identified that Canadians are consuming higher amounts of highly processed foods, which heightens the risk of diet-related diseases, such as diabetes, hypertension, and obesity.⁷ Processing is also a drain on environmental resources, such as water and waste.

Envisioning the Transition

- **Ensure the strategies outlined in Direction 8 of "Quality of Life" in *OurWinnipeg* are utilized to enhance opportunities for local food production** and community gardening.

⁶ [WRHA: Health For All](#) (2014)

⁷ [Dietitians of Canada](#) (2014)

- **Incorporate edible landscaping in public spaces** and residential neighbourhoods.
- **Support and uphold the ban on cosmetic pesticide use** in Manitoba by championing organic lawn care practices and supporting local organizations dedicated to educating the public on such practices.
- **Reduce food waste** by introducing curbside pick-up of household compost or installing neighbourhood composting sites.
- **Establish a Food Policy Council** and introduce policies to support urban agriculture and encourage residents to shop for local food products, thereby contributing to the local economy and supporting local producers.
- **Incorporate permaculture principles** into the design of communities and parks.
- **Begin the rejuvenation of City land and soil** through practices such as mulching, building swales, and planting perennials where appropriate.
- **Encourage households to transition from lawns to edible gardens** through incentives, such as coupons for plants, seeds, and food processing equipment.
- **Establish “Healthy Food Zones” by prohibiting fast food restaurants to locate near schools** and encouraging youth to eat healthy.

Demonstration Projects

- **Sustainable South Osborne Community Co-op is a neighbourhood non-profit** that develops and supports sustainable local food systems, active transportation, simplified living, and climate change adaptation. The organization runs a multitude of food projects – free community garden and garden share projects, a youth garden club, community orchard,

permaculture classes, and food buying club – that emphasize community building, learning food skills, and sustainability.

- **Dig In Manitoba is a project of Food Matters Manitoba, a local charity, and encourages families in Manitoba to grow edible gardens, decrease food waste,** and learn how to meal plan, compost, garden, and cook healthy meals.
- **Guelph, Ontario is an example** of a Canadian city that has banned cosmetic pesticide use, has implemented curbside pick-up of household food waste, and allows residents to keep small livestock, as long as they meet certain regulations.⁸
- **Toronto has many forms of urban agriculture that are actively supported by the city’s Food Policy Council,** which conducts research on agricultural methods and ways to increase the city’s capacity to provide its own food.
- **Growing Power is an active urban farm situated on 2 acres of land in Milwaukee, Wisconsin, USA.** Growing Power grows 159 varieties of food, including fruit and vegetables in its 14 greenhouses; tilapia and Great Lakes perch in its aquaculture system; and goats, ducks, chickens, turkeys, and bees.
- **The Permaculture Centre of Japan has trained over 500 people in permaculture practices** through its intensive permaculture design course, as well as its course for families with children. They have found that people in Japan are looking for connection and a way to take action in their lives and permaculture is a way to do this.
- **Economist Michael Shuman has calculated that a 20% shift to local food purchasing in Michigan would lead to 42,519 new jobs,** generating \$2.9 billion in new wages, tax collection, and value added products.⁹

⁸ [Guelph Mercury: Urban farms take root in Guelph](#) (2012)

⁹ [The Fair Food Network](#)

TRANSPORTATION

– Summary –

A growing number of Winnipeg residents are choosing to walk, bike or bus for some or most of their travel for a mix of reasons. As the cost of fuel continues to climb, active transportation options will become increasingly popular and necessary for more Winnipeggers. The resulting impact of Winnipeg residents driving fewer kilometres each year will be seen at the personal, neighbourhood and municipal levels.

Transition Winnipeg believes the vision set out in *OurWinnipeg* is too modest and that the implications of a transportation shift will be greater and more enduring than generally conceived. Some implications include reduced revenue from parking and fuel taxes, the need for less car infrastructure and more active transportation infrastructure (fewer motorized lanes and more bike lanes); the need for densifying downtown and re-urbanizing suburbs, and for transportation planners to shift emphasis to integrated, multi-modal travel. Many Winnipeggers are already well ahead of the curve and demanding change.

Present Situation and Probable Impacts

- **Transportation accounts for 37% of all greenhouse gas emissions** in Manitoba, and 43% of that is from light duty vehicles (passenger cars, SUVs, vans, pick-up trucks).¹⁰
- **Winnipeg is responsible for 50% of the province's transportation emissions**, and 52% of Manitoba's registered vehicles are in Winnipeg.¹¹

¹⁰ [Environment Canada, National Inventory Report 1990-2006](#) (2008)

¹¹ [Centre for Sustainable Transportation, University of Winnipeg](#) (2007)

¹² [2007 Winnipeg Area Travel Survey](#) (2009)

- **Single-occupant motor vehicles comprise the majority** of daily transportation in Winnipeg. The percentage of weekday trips made in cars as drivers is 64%, and a further 15.7% are made in cars as passengers.¹²
- **Lower-carbon means of transportation** such as public transit, walking, and cycling comprise only 8.3%, 10%, and 0.7% of total daily transportation respectively.
- **Winnipeggers are significantly less interested in low-carbon transportation** if it will require more than a 30 minute walk, a 30 minute bicycle ride, or a 44 minute bus trip.¹³ The design of Winnipeg's neighbourhoods is often a barrier to low-carbon transportation.
- **Winnipeg's layout often requires motor vehicle transportation.** Six decades of urban sprawl has seen residential areas separated from employment areas and schools from shopping and recreational areas, which has made life difficult for those who, for economic or physical reasons, cannot drive.¹⁴

Envisioning the Transition

- **An increasing number of Winnipeggers are choosing to walk, bike, or bus** more regularly. A higher proportion of vehicles will be increasingly fuel efficient while car ownership in general decreases. Carsharing arrangements will become increasingly common.
- **Transit-oriented development is imperative.** Schools, libraries, community centres, and other necessities like grocery stores are to be located within sufficiently short distances from where people live and work in order for residents to reach them on foot or by bike.
- **Modes of transportation must be integrated.** Bike racks on all buses and ample parking for bikes, vehicles, and carsharing

¹³ [Statistics Canada National Household Survey: Transportation](#) (2011)

¹⁴ [Industry Canada, Consumer Spending on Transportation](#) (2004)

vehicles at major transit hubs are examples of first steps in this integration.

- **Transportation planning must shift emphasis from maximizing capacity to ensuring the availability of an integrated and connected system of safe and convenient travel options** across both short and long distances. Possibilities include reducing speed limits and road design speeds, reconfiguring traffic signals to accommodate cyclists, and increasing allocation of road space for public transit and non-motorized travel.
- **Multi-modal transportation planning** has started to take root in Winnipeg and should be encouraged to grow as it is described in *OurWinnipeg*, The City of Winnipeg's 2011 Planning document.¹⁵
- **Maintaining our extensive road infrastructure will become a liability.** The city should examine alternatives to paving and expanding, including de-paving, permeable paving, and the development of public spaces.

Demonstration Projects

- **A well-known successful example of bus rapid transit** can be found in Curitiba, Brazil.¹⁶ London, England has one of the most extensive and successful networks with 240km of dedicated bus-only lanes.
- **Stormwater management systems, such as permeable pavement used on roads, can help deal with runoff during our increasingly wet summers.** The Cermak/Blue Island Sustainable Streetscape diverts up to 80% of the average rainfall from the sewer using bioswales and other features.¹⁷
- **Parklets and pocket parks convert parking spots to public space or greenspace.** San Francisco initiated parklets as part of its Pavement to Parks program and offers excellent examples,¹⁸

¹⁵ [OurWinnipeg, City of Winnipeg \(2010\)](#)

¹⁶ [Race, Poverty & the Environment](#) (2005)

¹⁷ [City of Chicago](#) (2012)

¹⁸ [Untapped Cities](#) (2011)

¹⁹ [New York City Department of Transportation](#) (2014)

as well as Holman Pocket Park in Portland. New York City features an extensive public plaza program.¹⁹

- **Ciclovía, an annual event in Winnipeg, is a weekly event in Bogota, Columbia,** where roadways are closed to motorized vehicles and opened up for residents to walk, bike, in-line skate or participate in activities such as yoga.
- **Pedestrianized centres such as Groningen, Netherlands** are places where cycling and walking is given priority over driving.²⁰
- **Complete Streets are designed and operated for safe, convenient and comfortable access by all road users regardless of age, mobility or mode.** NYC's conversion of 8th and 9th Avenues resulted in significant increases in cyclists and retail sales combined with reductions in injuries to all road users.²¹
- **Carsharing enables residents to live without personally owning a car by providing access to a network of shared vehicles.** In Winnipeg, Peg City Car Co-Op launched in June 2011 and continues to grow. Studies show that every carshare vehicle removes 9-13 vehicles from the road. Peer-to-peer carsharing is another version that connects individuals looking for temporary access to a vehicle with those willing to rent out their private vehicle. Quebec's Communauto offers both neighbourhood-based carsharing and a peer-to-peer version.²²
- **Bikesharing systems provide public access to bikes for a fee for short periods of time.** There has been an explosion in the introduction of bikeshares in cities around North America, with Nice Ride in Minneapolis and St. Paul, Minnesota, being the nearest example to Winnipeg.²³
- **One proven example of transit-oriented development** is the Rosslyn Ballston Corridor in Arlington, Virginia where 50% of residents take transit to work and 73% walk to the transit station.

²⁰ [Streetfilms.org](#) (2013)

²¹ [New York City Department of Transportation](#) (2012)

²² [Transportation Research Board](#) (2010)

²³ [Nice Ride Minnesota](#) (2014)

URBAN PLANNING

– Summary –

We still plan our neighbourhoods according to the notion that most folks want to own a car, need to travel great distances to get to work, have no time to grow food, are able to service a large mortgage and desire little interaction with their neighbours. Not only is this unsustainable, these premises are also frequently at odds with the needs and desires of city residents.

The city's infrastructure deficit – the amount of money required to repair and upgrade roads, sewers, and other public property – is the highest per capita deficit in the country, and expected to worsen within ten years. These estimates do not consider the impacts of climate change, which will put further pressure on our city budget. If we can't afford what we have, we certainly can't afford to grow our city's footprint.

Transition Winnipeg is promoting a vision of a socially, ecologically and financially resilient urban environment. We should follow the lead of cities like Calgary, which are re-engineering sprawling neighbourhoods to be energy efficient, walkable, affordable, and community-centered.

Present Situation and Probable Impacts

- **Without a change in direction, the city's infrastructure deficit is only going to get worse;** the amount of money required to repair and upgrade roads, sewers, and other public property is assessed at \$3.9 billion,²⁴ the highest per capita deficit in the

²⁴ Winnipeg Free Press: "[Climate change could bring more of these winters](#)" and "[Infrastructure crisis hits another pothole](#)" (2014)

country. The deficit over the next ten years will reach \$7.4 billion²⁵ without major reconsideration of how we build our city.

- **The infrastructure deficit does not incorporate costs associated with climate change,** inevitably making the deficit worse than projected. There has been an increase in extreme weather events, storms, and ice damming and this trend is expected to intensify.
- **The size of new homes in 2010 nearly doubled to an average of 1,950 square feet** compared to 1975, when the average size of a house in Canada was 1,050 square feet. The average number of residents per household decreased from 3.5 in 1971 to 2.5 in 2006.
- **As energy prices rise, the market will drive families to seek more affordable housing and public transportation options,** making sprawling suburbs bad investments. New communities have not followed the guidelines provided by Winnipeg's development plan.

Envisioning the Transition

- **Develop an Ecological Zoning Map ("Ecocity Zoning Map") to provide a land use guide for future development patterns,** including the re-greening of the city.
- **Recover costs associated with sprawl** through an appropriate combination of levies and taxes.
- **Ensure new communities follow the development plan** presented in *OurWinnipeg*.
- **Improve drainage and water retention;** use swails and boulevards to capture or slow runoff and allow percolation back into the soil. This technique can be combined with active transportation network development to provide greenspace.
- **Protect and improve the tree canopy,** which catches up to 80% of rainfall and cools buildings in the summer.

²⁵ [A Sustainable Winnipeg](#), p. 12 (2011)

- **Accelerate mixed-use zoning** so that people can live closer to where they work.
- **Expand the use of water-permeable materials** for surfaces rather than hard-paving.
- **For new developments, passive house standards should be encouraged** or mandated by all levels of government, including greywater/rainwater harvesting, green roof, and white roof systems.
- **For existing structures, identify where solar walls can be installed immediately to improve efficiency;** solar walls are special walls installed on the south side of buildings which provide heat and improve air quality; they last 30 years and displace 20-50% of the traditional heating load.
- **Ensure new developments are mixed-income and mixed-use;** incorporate both family homes (such as condos) and affordable rental housing in a single development.
- **More incentives should be provided to community-initiated, cooperative cohousing developments;** cohousing provides for minimal but sufficient individual living space combined with a generous amount of shared activity space for residents.
- **Shift regulations to make district/development-oriented heating and cooling systems mainstream** (including geothermal and biomass systems).

Demonstration Projects

- **As an example of socially diverse developments,** Davies Smith Developments has created The Rowe Condominiums, with two-storey, 1,107 square foot homes available on the lower floors. With these two- and three-bedroom residences on the main floor, and traditional one- and two-bedroom condominiums above, this complex provides housing options for people of all ages and from diverse walks of life.
- **Toronto's "World on Yonge" mixed-use development will turn 10 acres of land in the heart of the downtown into a vibrant**

- **community** with residential, retail, and office buildings. The four structures on the site will provide over 100 storeys of residential and hotel space, an office complex, 500,000 square feet of retail space, and a 40,000-square foot grocery store.
- **In Victoria, British Columbia, Dockside Green, located on 15 acres along the waterfront, will eventually house three distinct communities** composed of residential dwellings mixed with office and industrial space, local shops, and greenspace. The 1.3 million-square foot site has been designed to create a sense of belonging for its 2,600 residents, with the 'Galloping Goose Trail' providing bike paths and wide pedestrian promenades that connect the three communities, and an on-site amphitheatre meant to be a central gathering place within the neighbourhood.
- **Cohousing started in Denmark in the early 1970s and now includes over 150 cohousing sites worldwide,** in both town and country, as either new build or conversions that incorporate private, rent-buy, and social housing; two Winnipeg groups are currently initiating potential cohousing developments, including Old Grace Cooperative and Prairie Rivers Cohousing.
- **LILAC (Low Impact Affordable Community) in Leeds uses the Mutual Home Ownership Model** to provide cooperative housing.
- **Lancaster, California adopted a zoning code for the downtown to encourage walkability** and a mixed use, pedestrian-friendly streetscape.

ECONOMY

– Summary –

Winnipeg’s economy is embedded in a web of global trade, but as we slowly awaken to the limits of globalization and the persisting dominance of local trade, there are compelling reasons to position our city and region for a re-localization renaissance rooted in climate change adaptation, social entrepreneurship, and community economic development. By one estimate, “more than 90 percent of all phone calls, web traffic, and investment is local.”²⁶

Expensive fossil fuel, high debt loads, and intensifying climate change will organically shape development patterns and personal habits in the years to come, particularly as the under-45 age group begins to prioritize simplicity over accumulation and carbon-intensive lifestyles. Economic growth and greenhouse gas emissions march in lockstep, but striving for “balance” rather than mindless “growth” can have positive impacts on our wellbeing – how we make a living, how we trade, and how we live a good life.

Present Situation and Probable Impacts

- **Climate change has serious underacknowledged economic consequences;** climate researcher Robert Sandford suggests that the need for governments to repeatedly rebuild following extreme weather events could cause persisting fiscal insolvency, arguing that “the costs of ongoing flood damage may reach a magnitude that could easily bankrupt Manitoba.”²⁷
- **Records are being set for insured losses due to weather**

related catastrophes in North America.

- **Rising fossil fuel costs could drive price increases for almost everything;** driven not only by supply constraints, but also policy-driven regulations, commodity speculation and cartel-driven price increases.
- **Our economy is disproportionately dependent upon completely unsustainable debt loads** that exacerbate inequality; 97% of today’s money is created as debt.²⁸
- **Cheap and easy access to credit has inflated housing prices** to historically unprecedented highs, masking economic instability as strength.
- **Incomes have stagnated and debt has risen since the 1970s,** which means people are working harder for less money (debt stands at about \$1.65 for every dollar earned); about 50% of our income (and rising) is spent on housing and transportation.
- **Income stagnation and climate change are changing the aspirations of young people;** more millennials (born after 1980) are shifting towards low-carbon or subsistence lifestyles, communal living arrangements, and often withdrawing from the formal economy and “rat race” in favour of more life-affirming and creative pursuits.
- **Measures such as GDP, population growth, and housing starts are poor measures of well-being,** economic health, and ecological resilience; they are informing short-term thinking and ill-advised development patterns.
- **The “growth sectors” identified in Winnipeg’s economic development strategy won’t deliver jobs** (bioproducts, neutraceuticals, synthetic composites); they are niche industries and as such should be accommodated but not *emphasized* in government planning.
- **The word growth is used in Winnipeg’s five-year economic development strategy once per page,** or 87 times; growth is

²⁶ [Foreign Policy Magazine: Why the World Isn’t Flat](#) (2007)

²⁷ [Literary Review of Canada: An Unexpected Water Crisis](#) (2012)

²⁸ [Positive Money: How Banks Create Money](#)

not a robust development strategy.

Envisioning the Transition

- **Resilience must strike a balance between formal and informal economic activity**; income is important on the one hand but so is leisure time, education, health, and trust between neighbours and communities.
- **Developing a strategy centered around community economic development, entrepreneurship, and economic democracy** will likely provide more jobs than niche industries.
- **Encourage young folks to adopt diverse approaches to generating or replacing income**, including do-it-yourself projects, entrepreneurship, and reciprocal labour/services.
- **Urban farming may become an important new sector in the years to come**; it reduces the carbon footprint of our food system, promotes health, and creates opportunities for meaningful work.
- **Public trusts should be established to manage land and resources** for maximum long-term public benefit, sustainability, and eco-system restoration.
- **Community Land Trusts** can be used to separate land price from price of building; land is held in a non-profit trust and the house is managed through a cooperative (which makes the home more affordable).
- **The city can dramatically reduce expenditures** on fertilizer, beautification, and land maintenance by encouraging farm cooperatives to use city land to grow food.
- **Encourage the use of “B Corporation” or “deliberate corporation” designations** where rigorous standards of social and ecological performance, accountability, and transparency in the public interest must be met; deliberate corporations cannot pay out dividends to shareholders unless meeting standards.
- **Adopt metrics that measure well-being in addition to GDP**, such as GPI or a basket of social indices.
- **Community banks or small development and loan funds** can

make microfinancing available for small-scale entrepreneurship.

Demonstration Projects

- **The sharing economy has the potential to dramatically reduce consumption** by using web-based booking systems to facilitate sharing rather than buying goods (eg. zipcar, or yerdle).
- **Peg City Car Co-Op** is a local sharing economy cooperative that provides a service, creates local jobs, and takes cars off the road.
- **Many house sharing, co-housing, and co-working models facilitate the provision of needs** and reduce the need for home ownership, predatory investment schemes, and high debt.
- **Community Supported Agriculture (CSA)** provides healthy local food for investors that share in the risks and rewards of harvests.
- **Montreal’s RESO and Maine’s “Coastal Enterprises” keep local manufacturing jobs** and foster economic democracy by identifying reasons for potential business closures and helping to solve them.
- **Examples of B-corporations include** Seventh Generation household products, Salt Spring Coffee, and Numi Tea.
- **Manitoba’s BUILD and Aki Energy are local social enterprises** that are geared to provide work for excluded worker populations.
- **BUILD specializes in Green Retrofits and Aki installs community geothermal energy** primarily in northern and First Nations communities.
- **Diversity Foods is a local social enterprise that purchases foods from 60 local, sustainable farms**, and employs those who have traditionally been excluded from the workforce.
- **Sweden’s JAK members bank provides a debt-free banking model**, noting that charging high interest causes economic instability, inflation, inequality, and short-term thinking.

COMMUNITY & SOCIETY

– Summary –

The interacting effects of fossil fuel overdependence could sharpen existing economic, social and cultural divisions in the community. It may also make it difficult for local authorities to meet transient emergencies in an even-handed manner that doesn't favour the most privileged in society. Economic and climate changes may contribute to a generally heightened level of social anxiety and uncertainty, either undermining or strengthening the spirit of cooperation and solidarity so essential as the community tries to navigate challenging times.

Paradoxically, and more optimistically, periods of rapid change can also reshape existing structures of elite privilege and open new opportunities for creating a more equitable and life-giving community. Climate change represents a new source of vulnerability for the already vulnerable groups in our community. These developments will require a fundamental re-thinking of how we care for the heart and soul of the community.

Present Situation and Probable Impacts

- **Up to one-third of Winnipeggers may be living on the economic, linguistic or social margins**, restricting their ability to participate in social or community activities, which would increase their social capital and provide access to resources for adapting to change.
- **Nearly 1 in 3 households are comprised of only one person** and over 55% of Winnipeg households have no children under age 24 (Statistics Canada, 2012); such residences include young professionals, divorced, widowed and many elderly people.

- **Median household after tax income is \$27,853**, less than half that of households with two or more individuals (\$64,696) (Statistics Canada, 2013). Many of these households may not be economically viable should energy prices increase or climate change impose heavy household infrastructure costs.
- **Social capital appears to be created and maintained largely through voluntary associations like sports, arts, ethnic, cultural, and religious organizations** with participants in most of these groups coming from the more educated, employed, and higher income segments of the community, and through employment in the workplace.
- **During the transition to a low-carbon society individuals and families may experience increased stress**, depression, isolation, economic inequality, homelessness, and interpersonal and inter-group conflict.
- **Household impacts would be most immediately economic** with severest effects on single person, single parent, elderly, and refugee households with incomes too low or so fixed that they cannot afford necessities made more costly by climate change and peak oil.
- **Neighbourhoods might become focal points for social networking**, pooling resources, mutual assistance, provision of necessities and mutual security. Reduced mobility would place increased pressure on neighbourhoods for new services, e.g., full day child care, recreation, information resources and training activities, local employment, local markets, space for community meetings and self-governance.

Envisioning the Transition

- **Use education and the arts to ensure that individuals have the capacity to bounce back from economic, social, or**

environmental shocks; this includes a psychological orientation towards individual and collective problem-solving, organization, and social learning.

- **The current social service delivery model used by federal, provincial and city levels of government should be reconfigured** and increasingly predicated on local community provision of service through neighbourhood-based social service cooperatives partly staffed by the user population of that service, with funding and performance standards being set by superordinate levels of government.
- **Strengthen and expand the existing stock of community centre infrastructure to integrate facilities** for more educational programmes, social development, governance functions, and local market functions.

Demonstration Projects

- **Winnipeg's own Sustainable South Osborne Community Cooperative (SSOCC) has used garden and food projects to build community**; as a Winnipeg-based Transition Initiative, it has identified key activity areas as food, energy, transportation, materials management, education, and biodiversity.
- **The Evangeline District in P.E.I. leverages local cooperatives** to cope with problems related to the collapse of maritime fisheries.
- **Seattle's creation of the Department of Neighborhoods** demonstrates an open and transparent mechanism to support neighbourhood projects through a "neighborhood matching fund."

- **Portland, OR and St. Paul, MN have mechanisms for neighbourhood associations to provide input into municipal decision making** around land use and budget allocations.
- **The participatory budgeting process in Porto Alegre, Brazil** demonstrates that municipal governments can create avenues for meaningful neighbourhood engagement through local consultation.
- **Examples of community reorientation to resilience include Gaviotas, Columbia**, an example of an intentional village that has created a viable community in previously unproductive wet steppes of the Llanos.
- **Cuba has responded to fossil fuel shortage** precipitated by the collapse of the Soviet Union and U.S. trade embargo in ways that highlight social resilience in the face of crisis.
- **Belo Horizonte, Brazil has fostered a coordinated response to food insecurity** through the creation of a local food production and distribution system that sets fair prices, pays fair wages, and ensures access to nutritious food through local markets and restaurants.
- **The Italian government has transferred the delivery of services from the state to social cooperatives** which provide better quality care for lower cost; over 3,000 social cooperatives employ 60,000 individuals, many of whom are previously marginalized from mainstream society.
- **Solidarity cooperatives operating in Quebec use a multi-stakeholder structure** for the delivery of homecare in partnership with 160 community health centres; 11 regional cooperative associations provide start-up and support functions.

ACKNOWLEDGEMENTS

This document is the product of input from a number of community groups and individuals over a two-year consultation period.

Main authors of this draft are denoted with an asterisk (*). Transition Winnipeg would also like to thank those who provided in-person contributions or further written submissions that may yet be incorporated into future material.

This discussion document is part of the launch process for Transition Winnipeg's Energy Descent Action Plan (EDAP), a comprehensive vision of Winnipeg's transition to a low-carbon, climate-resilient future.



By Joel Pett, Lexington (Ky.) Herald-Leader, Cartoonists and Writers Syndicate, for USA TODAY

INTRODUCTION

Mark Burch*
James Magnus-Johnston

ENERGY

Benjamin Gillies*
Bruce Duggan

FOOD

Kelly Janz*
Blair Geisel
Shirley Thompson

TRANSPORTATION

Beth McKechnie*

URBAN PLANNING

Curtis Hull*
Benjamin Gillies*
Christopher Leo

ECONOMY

James Magnus-Johnston*
Mark Burch

COMMUNITY & SOCIETY

Terri Willard*
Rodney Kueneman*
Mark Burch*