



## **Green Coalition Brief**

**Re: TURCOT COMPLEX RECONSTRUCTION  
PROJECT**

**REDUCING THE INTRUSION ON THE ENVIRONMENT:  
BAPE HEARINGS**

**June 15, 2009**



**The Turcot: Reducing the Intrusion on the Environment  
Green Coalition Brief to the BAPE**

**Text by Avrom David Shtern and Professor Adele Shtern**

**Presented by Avrom David Shtern, Director, Transportation Issues and**

**David Fletcher, Vice President, Green Coalition Spokesperson**

**June 15, 2009**

**The Turcot: Reducing the Intrusion on the Environment**

**ISSUES:**

## 1. Sustainable Living: The Irony of the Exurb<sup>1</sup>

Design & Research Professor Adele Shtern, Borough of Manhattan Community College Text & Research Abraham Avrom D Shtern MLIS

### **Abstract:**

**Sustainable living: The Irony Of The Exurb** addresses the issues of **non-urban planning** of post World War II North America till the present day, and how it has put in peril **sustainable local food production**. Given that most live in an urban/suburban/exurban setting makes this topic all the more important. The work touches on **potential solutions** and offers up the issue of post industrial/soon to be post digital Humans' perceived alienation from the environment. The realization that we are not only observers but are **part of the biosphere**, not apart from it, is key to our very survival.

"Biodiversity is more than the protection of endangered species. It serves as the basis for life and sustains the ecosystems that provide indispensable services like fresh water, clean air and food to us every day. It is this social and economical dimension of biodiversity that makes conservation and sustainable use of biodiversity so relevant for cities."<sup>2</sup>

The loss of biodiversity is the critical matter at hand. Mono cultures are susceptible to catastrophic failure. Our oceans are becoming empty of life sustaining properties. Thousands of species are under threat of extinction. We risk losing a liveable planet if we continue our corrosive policies. Sustaining biodiversity is essential in order to avoid humans being placed on the endangered species list.

Why do we have to remake the environment so completely? Can we not enjoy, breath, and experience what little remains of our natural and semi-natural surroundings? Does everything have to be so removed from nature and be so artificial, mechanical and synthetic?

"Imagine a city as a black hole where all matter is sucked in and disappears—nothing is produced and everything is consumed. It was from this perspective that Columbia University Professor Dickson Despommier explained his revolutionary idea of vertical farming to me. This seemingly simple concept brings food production into the city center, where farms are stacked in skyscrapers and powered by renewable resources and the city's own waste stream. It's what he calls an ecological solution to the consumer-centric "black hole" model of the modern city."<sup>3</sup>

What do we really want and how do we wish to build our communities? Many have settled in the outer suburbs and exurbs because they hope to escape from the clutches of the cityscape and live in a more human setting and rural like environment. Yet the very fact of doing so increases the chances that the country like aspects will disappear over time.

More highways like Autoroute 30 and an enlarged Turcot will enable and hasten this process and will push the vital issue of local food production and sustenance to the fore. Ironically, parkways have spurred more unsustainable commercial and residential development until not one farm is left. July 5, 2005 marked the end of an era inside

Washington, DC's Beltway: Duane Dickerson's Prince George's County farm was surrendered for another sterile big box supermarket.

Security of food supply is a growing concern. Most fertile agricultural lands surrounding our cities will be destroyed if unbridled, unrepentant industrialization and materialism and irrational and rapacious development continue unchecked.

The price of food has been held down artificially since the early 20th Century. Costs will begin to skyrocket very soon since modern agricultural techniques and the Green Revolution are based on the oil model. Petrochemically based fertilizers, pesticides, mechanized tools and other forms of machinery and the fragile 3-day Warehouse on Wheels/Just-in-Time method of delivery are taken for granted. But, trade routes can change on a dime because of economic distress, natural disaster, political uncertainty and war. Lax food growing standards in other countries spread disease.

Notwithstanding the current economic strife, the peak oil era may be approaching sooner rather than later. Peak Oil describes the situation where oil production and discovery will stabilize and begin to decline, but the demand for it will continue to increase due to massive industrialization in Mainland China, the Indian Subcontinent and other areas. These issues must be taken into account and not dismissed as peripheral when deciding the future of the Turcot.

"For [over] a hundred years we've been steadily extending the supply lines of our economy, becoming ever more globalized. But some have begun to question that trend, and even to form the foundations of a newer, more local economy. The main reasons are two-fold: our ever-growing globe-spanning economy is increasingly vulnerable to the ecological disruption it is causing, with global warming the prime example; and despite record affluence Americans, [and Canadians, *sic.*], report ever-growing feelings of disconnection and loss of community, trends that can only be reversed if we manage to rebuild local institutions that draw people together." <sup>4</sup>

"The farmer's market: Energy-efficient local food and the average shopper have ten times as many conversations as a supermarket shopper. No wonder they're the fastest-growing part of our food economy. Now we need to get going on other sectors too." <sup>5</sup>

Sustainable development alternatives include local, less synthetically based food production and vertical farming in high-rise structures which may be the only practical solution in many cases. Also needed are environmentally friendly more energy efficient transportation choices, **Transit Oriented Development, and Integrated Living Communities where "the most efficient mile traveled is the one not taken.** That mile is 100% energy efficient."<sup>6</sup>

Keeping people close to work and amenities within walking and cycling distance would reduce the pressure to develop outwards and would lessen encroachment on local farms and natural spaces.

1 "extra-urban"/Auguste Comte Sectorsky, *The Exurbanites*, J.B. Lippincott, Philadelphia, 1955.

2 Mayors Conference 2008: "Local Action for Biodiversity", Introduction, Monika Zimmermann, Director ICLEI International Training Centre & Biodiversity Taskforce, Dr. Marianne Hohn-Berghorn, Director International Affairs and Protocol, City of Bonn, Germany, and Ulrich Nitschke, Head of Service Agency Communities in One World/InWent, 2008, P.3.

3 Rethinking cities: Moving the farm indoors; Vertical farms: Reclaiming urban space and moving production closer to consumption, Circle of Blue, by C.T. Pope, September 12, 2008.

4-5 Bill Mckibben, Author.Educator.Environmentalist, Website, <http://www.billmckibben.com/local-economies.html>.

6 David Fletcher, Green Coalition Vice President, [www.greencoalitionverte.ca](http://www.greencoalitionverte.ca)

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"Until 1961, life in Bhutan was like that lived in the Middle Ages. Since that date, the Kingdom has designed its own unique path for progress with impressive results: the main objective of Gross National Happiness (GNH) holds priority over economic growth. A rapidly expanding western-derived mass education introduces exogenous values and culture, as do the mass media. The newly educated population's expectations are not always aligned with GNH goals. This research analyzes the links between the Bhutanese people's education and their development path. Through document analysis, interviews, and a survey, the study aims to highlight the causes of the emerging gap between people's expectations and GNH. The research reveals that education per se, automatically associated with white-collar jobs, which are insufficiently available, is a destabilizing factor. Furthermore, the influence of western economic and cultural models, especially through mass media, outpaces the formative action of schooling. The study provides insights for Bhutanese policymakers, and those who question mainstream, consumption based development approaches and strive for creative, sustainable alternatives." (See: Er Ezechieli, Stanford University, School of Education, INTERNATIONAL COMPARATIVE EDUCATION, **ABSTRACT, "Beyond Sustainable Development: Education for Gross National Happiness in Bhutan"**, August 2003, A Monograph in partial fulfillment of the requirements for the degree of Master of Arts Approvals: ICE/IEAPA Master's Program Director: Christine Min Wotipka, Ph.D., Advisor: Martin Carnoy, Ph.D., 2003.)

(See also,

- [Brooks, Arthur](#) (2008), "Gross National Happiness", Basic Books, [ISBN 0-46-500278-1](#)
- Layard, Richard (2005), "Happiness: Lessons from a new Science", Penguin Press, [ISBN 0-14-303701-3](#)

- Eric Ezechieli, "Beyond Sustainable Development: Education for Gross National Happiness in Bhutan" <http://suse-ice.stanford.edu/monographs/Ezechieli.pdf> , Stanford University, 2003)

The paradox of the "burbs'" attempt to escape to the country and their venture to fulfill their economic expectations through consumption of material and disposable goods and comforts has framed the debate of highway construction, the destruction of inner cities to make way for the suburban automobile and the sidetracking of less socially destructive, more environmentally friendly and energy efficient transit modes like rail transport to secondary or tertiary status.

At the moment over 40,000 plus cars commute out of the West Island and another 40,000 cruise back in. Many of these motorists make use of the Turcot.

As previously stated, **Transit Oriented Development** and **Integrated Living Communities where "the most efficient mile traveled is the one not taken"**, (David Fletcher, Green Coalition Vice President), is the issue at hand when one examines the future of the Turcot. This project promotes Quebec's car dependant culture of the last 70 years. The externalized costs of the highway model are becoming more evident: These include the production of an overabundance of Green House Gases, noise pollution, sprawl, and the destruction of the last local natural spaces and farmland.

A Transit Oriented Development may even increase the unquantifiable Gross National Happiness Index. More constructive pursuits like family time, exercise or walking through a nature park become more realistic as less time is devoted to commuting.

**The Green Coalition therefore heartily endorses the concept of a greener, "carbon negative" and less intrusive Turcot as proposed by Patrick Asch of Héritage Laurentien and supported by Les Amis de Meadowbrook, the City of Côte Saint-Luc, the Town of Montreal West, and others.**

**The Green Coalition also endorses the greener alternatives as outlined by the Conseil régional de l'environnement de Montréal, (CRE-Montréal) : "Solution alternative pour le réaménagement du complexe Turcot."**

## **2. Public and Alternative Transport**

The Turcot does not exist in a vacuum. It serves a regional purpose and is interrelated with numerous projects along the Saint Jacques Escarpment from Notre Dame Blvd in the east to the Highway 13, Dorval Circle and the airport to the west. The Port of Montreal's expansion plans, The Notre Dame Blvd. reconstruction along with possible mass transit along that corridor, the Old Montreal tramway project, Griffintown, the

Windsor Station redevelopment, McGill University's future Glen Campus Hospital, the conservation of the Saint Jacques Escarpment Ecoterritory, the preservation of Meadowbrook Golf Course, the Dorval Airport Rail Shuttle, and future express West Island commuter trains are issues among others that hug the southern flank of Montreal Island and should be studied as a whole and how they affect each other.

For example, before the MTQ begins to reconstruct the Turcot a transit alternative must be put in place. Public authorities cannot urge the public to use a non-existent or mediocre transit system and expect people to change their habits. A reduction of the highway's capacity is only possible with the existence of viable transit alternatives.

Transportation corridors are the arteries that bind Montreal and unite it with the world. At the moment these rights-of-way are based on the wasteful and finite oil based fly/drive model. A number of practical alternatives are possible:

A) Increased frequencies on existing commuter trains like Dorion-Rigaud, Blainville-Saint Jerome and the Delson-Candiac lines to Lucien L'Allier Station. **The Westminster/Montreal West station crossing bottleneck must be solved in cooperation with the Town of Montreal West.**

B) Reverse commuting opportunities on new train lines from Chateauguay-Beauharnois to St. Laurent, the West Island and Laval, via CPR's Adirondack Subdivision, (St. Luc Junction), and other railway lines. The out of service South Shore CSX line or the abandoned CN Massena Subdivision with connections to existing Montreal railways could be used for this purpose.

C) The Green Coalition has supported the CPR Westmount Subdivision route for the Dorval Rail Shuttle and West Island Express commuter trains because it is the more direct and less costly route. However, should these trains be placed on the circuitous CN Railway, the CPR line to the Lachine and the West End must be upgraded as well to serve the numerous schools, (Villa Maria, Loyola, Concordia University, Royal West Academy, etc.), the future McGill Hospital at the former Glen Yard as well as the West End population at large. Local electric Tram-Trains could visit new stations at Cavendish Blvd in NDG and Old Lachine on Victoria Street.

Moreover, the ADM, (Aéroports de Montréal), has indicated that it will have to reconsider Aéroport Montréal-Trudeau/Dorval Airport's status by mid century and possibly move flights back to Mirabel. It is therefore imperative that improved local rail service takes precedents over a tourist centred airport shuttle. If the Doney Spur were used as a Tram-Train link to an extended Orange Line #2 Metro at Bois Franc with frequencies akin to a Surface Metro then thousands of commuters would be diverted from the highway system, including those using the Turcot interchange, as 2/3 of West Islanders live north of Autoroute 40.



In the longer term the MTQ/AMT, (Agence métropolitaine de transport), should undertake a study regarding the prospect of a Central Station link to CPR's Westmount Subdivision. In the 1920s plans were drawn up for a Union Station and a proposed tunnel from Atwater Avenue heading north of Windsor Station to Canadian National's Tunnel Terminal, (now Central Station). Corporate rivalry between Canadian National Railways & Canadian Pacific Railway and the Great Depression got in the way. New routings would become possible if such a link were established. For example: VIA Rail's Quebec trains would be able to travel to Western Quebec and Eastern Ontario and an airport shuttle would ply on the shortest route, (Westmount Subdivision), to the busiest railway terminal, (Central Station).

D) A local and electric Tram-Train serving the Turcot from Downtown Montreal to Lachine must also be put in place before any construction begins on the highway. A four car train can carry 800 passengers. These trains could run every 72 seconds at maximum frequency/headway. When one doubles the traffic level of an electric traction railway, one improves the urban quality because more buses riding on wider streets would be required for the same passenger load. (See, Friends of the O-Train, (Video):

<http://www.youtube.com/watch?v=jhIawdxxWo>

**Light Rail on Ottawa Streets (1). Part One.**

[http://www.youtube.com/watch?v=Vln\\_fxNK798&NR=1](http://www.youtube.com/watch?v=Vln_fxNK798&NR=1)

**Light Rail on Ottawa Streets (2). Part Two.**

<http://www.youtube.com/watch?v=alKrRIHAZAK&NR=1>

**Light Rail on Ottawa Streets (3). Part Three.)**

The Lachine Canal North Bank, the Lachine Canal South Bank or the old Montreal & Lachine Railroad rights-of ways should be considered. Connections could be made to CP's mostly abandoned Lasalle Loop which had offered local interurban passenger rail services until the late 1920s. This form of surface transit enhances the public surface space than a more expensive Metro which is located in an enclosed and hidden private space.

E) Encouraging more freight transport on the North American railway system would reduce the pressure on the highway infrastructure and the need to increase the size of the Turcot. Considerations should be given to reducing highway capacity if pro rail measures like less taxation and increased infrastructure funding are taken into account:

A wide array of measurements and estimates are used to quantify CO2 emissions and energy efficiency of transportation modes including BTUs per passenger mile, kgs per Passenger Mile, (A Passenger Mile equals one passenger travelling one mile.), teragrams of CO2 equivalents, etc... Different sources, measurements, and estimates are used so comparative analysis is complex.

Although fuel consumption is linked with energy efficiency, the type of fuel used and motor employed will affect the outcome. Other physical factors play a role on different modes of transport like inertia, gravity, friction, grade, etc...

For example:

### **"Despite Lower Carbon Dioxide Emissions, Diesel Cars May Promote More Global Warming than Gasoline Cars**

WASHINGTON - Laws that favor the use of diesel, rather than gasoline, engines in cars may actually encourage global warming, according to a new study. Although diesel cars obtain 25 to 35 percent better mileage and emit less carbon dioxide than similar gasoline cars, they can emit 25 to 400 times more mass of particulate black carbon and associated organic matter ("soot") per kilometer [mile]. The warming due to soot may more than offset the cooling due to reduced carbon dioxide emissions over several decades, according to Mark Z. Jacobson, Associate Professor of Civil and Environmental Engineering at Stanford University." (From: Jacobson, M. Z., "Control of fossil-fuel particulate black carbon and organic matter, possibly the most effective method of slowing global warming", (22 pages), **Journal of Geophysical Research – Atmospheres**. One may obtain a copy by pdf or fax on request to Emily Crum, [ecrum@agu.org](mailto:ecrum@agu.org); Source: Jacobson, M. Z., "Control of fossil-fuel particulate black carbon and organic matter, possibly the most effective method of slowing global warming", **American Geophysical Union/Stanford University/National Science Foundation Joint Release** [http://www.agu.org/sci\\_soc/prrl/prrl0233.html](http://www.agu.org/sci_soc/prrl/prrl0233.html))

Notwithstanding the black carbon issue, a train emits less CO<sub>2</sub> than an automobile according to the available statistics:

#### **Statistics:**

"Intercity passenger rail uses 21% less energy per passenger miles than automobiles and 17 less than airline travel." (Source: "United States Department of Energy, Transportation Energy Data Book", Edition 26, May 2007) "Also, intercity passenger carbon emissions per passenger mile traveled are 40% less than automobile and 56% less than air travel." (Source: "Emission factors based on calculations from the World Resource Institute and Carbonfund.org.". From, "2009 New York State Rail Plan", P.123.)

"Railroads, on average, are three or more times fuel efficient than trucks, (**in terms of ton-miles per gallon**)." (Association of American Railroads, "Freight Railroads & Greenhouse Gas Emissions", July 2007, From 2009 New York State Rail Plan, P.123.) "Although US freight rail rose by 64% from 1990 to 2005, GHG emissions rose by only 29%." (Association of American Railroads Policy and Economic Department, excerpts from "Freight Railroads and Greenhouse Gas Emissions": Dated July 2007. From, "2009 New York State Rail Plan", P.126.)

Carbon Emissions per Passenger Mile travelled for:

Passenger RR: .21 kg

Automobile: .35 kg

Airline: .48 kg  
("Emissions factors based on calculations from World Resources  
Institute/Carbonfund.org")  
(Source: "2009 New York State Rail Plan", P.127)

"Most US transportation related greenhouse gas emissions are due to fossil fuel consumption. Of the transportation sector's GHG emissions, trucking accounted for 20.8% of GHG or 404.6 Tg CO<sub>2</sub> Eq., automobiles and light duty trucks produced 63.5% of GHG's or 1,236.9 Tg CO<sub>2</sub> Eq., freight railways accounted for 2.6 % of the total of GHGs produced or 51.5 Tg CO<sub>2</sub> Eq. and passenger railways accounted for .3% of the US Greenhouse Gas Emissions from Transportation in 2006 or 6.4 Tg CO<sub>2</sub> Eq."

**(Data are in teragrams of CO<sub>2</sub> equivalents. The totals and comparisons do not match exactly because of estimation issues.** Source: Environmental Protection Agency, "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006", Tables ES-7, A-100, and A-101. From: "New York State Rail Plan: 2009; Strategies for a New Age", New York State Department of Transportation, David A. Paterson, Governor, Astrid C. Glynn, Commissioner, Figure 51 U.S. Greenhouse Gas Emissions by Economic Sector, February 2009, P.126.)

In terms of BTUs, (an energy efficiency measurement), air carriers are more efficient than cars. In relation to carbon emissions per passenger mile travelled, "...passenger rail emits 40% less than cars and 56% less than planes." (**Op. cit.**, "New York State Rail Plan: 2009; Strategies for a New Age", P.123 Thus cars emit less on average than planes. However, in every major category rail is more energy efficient than cars, trucks or planes. Railways would be even more efficient and less polluting and emitting if they were electrified. **The Green Coalition applauds the AMT's and Hydro Quebec's study on the electrification of Montreal area commuter trains.**

F) A direct bicycle and pedestrian crossing over the centre of the Turcot Complex is not projected but should be. Cycling and walking are not fig leaves to be used to greenwash this project. **Shank's Mare**, (walking), and cycling are utilitarian forms of transport and should be taken seriously by the MTQ. Irwin Avenue/Lasalle Loop to the south and the former Grand Trunk/CN access road from Saint Jacques Street W. and Pullman Street, (west of Madison Avenue), to the north should be designated as an arterial route for bicyclists and pedestrians to and from Cavendish Blvd. in NDG. Animal crossing routes and corridors must also be considered.

### 3. Wetlands

According to The MTQ's **Natural Description of the Turcot**: "There are no wetlands in the study area", (MTQ, **Complexe Turcot Complex Reconstruction Project Flyer**, 2009, P.4). A beaver lodge remains in the Turcot, (Lac à la Loutre remnant), and a small spring fragment of the Saint Pierre River System is evident at the foot of the Saint Jacques Escarpment access road leading from St. Jacques Street W. Although little remains of the Saint Pierre River system, (except at Meadowbrook Golf Course in

Lachine), it would be interesting to investigate the possibility of reviving parts of it adjacent to the Saint Jacques Escarpment together with a vital TOD community.

**Conclusion:**

It is imperative to think big and not exclude issues and ideas because of political expediency. It is easy to find an assortment of excuses why not to do things. It is harder to set a new course and accept unventured possibilities. The MTQ's fourth objective for the Turcot Complex Reconstruction Project states: "Foster and support regional economic development." (MTQ, **Complexe Turcot Complex Reconstruction Project Flyer**, 2009, P.4) This objective is only possible in a healthy environment and with the goodwill of the Turcot's neighbours.

Thank You,

Avrom David Shtern, Director, Transportation Issues

David Fletcher, Vice President and Spokesperson

Green Coalition Verte [www.greencoalitionverte.ca](http://www.greencoalitionverte.ca)

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## **Artists' Statement**

**Sustainable living: The Irony Of The Exurb** addresses the issues of **non-urban planning** of post World War II America till the present day, and how it has put in peril **sustainable local food production**. Given that most live in an urban/suburban/exurban setting makes this topic all the more important. The work touches on **potential solutions** and offers up the issue of post industrial/soon to be post digital Humans' perceived alienation from the environment. The realization that we are not only observers but are **part of the biosphere**, not apart from it, is key to our very survival.

**Professor Adele Shtern**, MFA, is a multi-disciplinary artist using both traditional and digital media. She is considered a pioneer in computer art. Her art has been exhibited nationally and internationally, and has received numerous awards and grants. Committed to the process of **art as a form of healing**, she conceived and art directed **Lotus Cusp**, creating a multimedia presentation re 9.11 with BMCC students. Please visit <http://www.bmcc.cuny.edu/news/news.jsp?id=118>. This developed into an ongoing art project with students to **raise consciousness re issues of global concern**. She has been an active artist in the Long Island City art community since graduating from Yale in 1979. She is an adjunct Associate Professor at BMCC/CUNY in the Music and Art Department. Professor Shtern may be contacted at [ashtern@bmcc.cuny.edu](mailto:ashtern@bmcc.cuny.edu)

**Abraham Avrom David Shtern**, BA, MLIS, CELTA, is a director of the **Green Coalition**, a Montreal based **grass roots environmental group** interested in the **protection**, conservation, **re-naturalization** and enhancement of natural spaces, open green spaces, farmland, water courses, the **reintroduction of electric rail transit** and the recycling of waste matter. Mr. Shtern is the Green Coalition transportation affairs spokesperson - [www.greencoalitionverte.ca](http://www.greencoalitionverte.ca). He has been involved in a twenty year battle to **preserve a local greenspace** called Meadowbrook. He is a consultant, academic, archival and referencing researcher and analyst. He sits on an adult literacy council RECLAIM, and teaches ESL. Mr. Shtern may be contacted at [adironacksub@gmail.com](mailto:adironacksub@gmail.com)

# Sustainable Living: The Irony of the Exurb<sup>1</sup>

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**Images Clockwise: Vertical Farms**, Design by Chris Jacobs, Website, [www.verticlafarm.com](http://www.verticlafarm.com), Copyright ©, [http://verticlafarm.com/images/design/chris/chris\\_jacobs\\_light.jpg](http://verticlafarm.com/images/design/chris/chris_jacobs_light.jpg)

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**Sunflowers**: Elizabeth Wix, “Photographed at the Green Market at Union Square, Posted, at “Back To Nature”, Copyright ©, 2008, <http://elizabeth-about-newyork.blogspot.com/2008/07/nature.html>

**Organic Farm**, Academy for Environmental Health, (Photo: Public Domain), <http://cdn.wn.com/o25/ph/2009/01/24/22efa035f7c2fba>

**Background**: Greenmarket Schedule/Map, Council on the Environment of New York City, Copyright ©, 2009, <http://www.cenyc.org/files/gmkt/map.pdf>

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The loss of biodiversity is the critical matter at hand. Mono cultures are susceptible to catastrophic failure. Our oceans are becoming empty of life sustaining properties. Thousands of species are under threat of extinction. We risk losing a liveable planet if we continue our corrosive policies. Sustaining biodiversity is essential in order to avoid humans being placed on the endangered species list.

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**W**hat do we really want and how do we wish to build our communities? Many have settled in the outer suburbs and exurbs because they hope to escape from the clutches of the cityscape and live in a more human setting and rural like environment. Yet the very fact of doing so increases the chances that the country like aspects will disappear over time.

More highways will enable and hasten this process and will push the vital issue of local food production and sustenance to the fore. Ironically, parkways have spurred more unsustainable commercial and residential development until not one farm is left. July 5, 2005 marked the end of an era inside Washington, DC’s Beltway: Duane Dickerson’s Prince George’s County farm was surrendered for another sterile big box supermarket.

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The price of food has been held down artificially since the early 20th Century. Costs will begin to skyrocket very soon since modern agricultural techniques and the **Green Revolution** are based on the oil model. Petrochemically based fertilizers, pesticides, mechanized tools and other forms of machinery and the fragile **3-day Warehouse on Wheels/Just-in-Time** method of delivery are taken for granted. But, trade routes can change on a dime because of economic distress, natural disaster, political uncertainty and war. Lax food growing standards in other countries spread disease.

Notwithstanding the current economic strife, the peak oil era may be approaching sooner rather than later. **Peak Oil** describes the situation where oil production and discovery will stabilize and begin to decline, but the demand for it will continue to increase due to massive industrialization in Mainland China, the Indian Subcontinent and other areas.

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