SSP 5

Winnipeg Federal Conference

CIP & Agriculture Post WUF Task Force, July 2008

Strategic Sustainable Planning at Multiple Levels of Community:
Global Impacts on Community and Culture:
Planning for Radical Community Patterns for Real Sustainability.

Food Security in the Post Oil Era & Climate Change.

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On behalf of the **New City Institute** and the **Vancouver Peak Oil Executive.**

Global Impacts Planning on Cities & Culture:
SSP The Vancouver Experience 2005 to 2008

The Vancouver Paper for the Federal Winnipeg Planning Conference, in part a follow up to the World Urban Forum Agriculture Canada Session 2006. This paper in another form was to be presented at Oxford University as input to changing Architecture programmes in the UK, and at the Wessex University UK in Skorpios Greece, September 2008, however we are unable to make it to these sessions, so this paper will be a summary aimed at those areas of international interest as well.
Richard R. Balfour MAIBC

"If you want to tell people the truth, make them laugh, otherwise they'll kill you."
Oscar Wilde

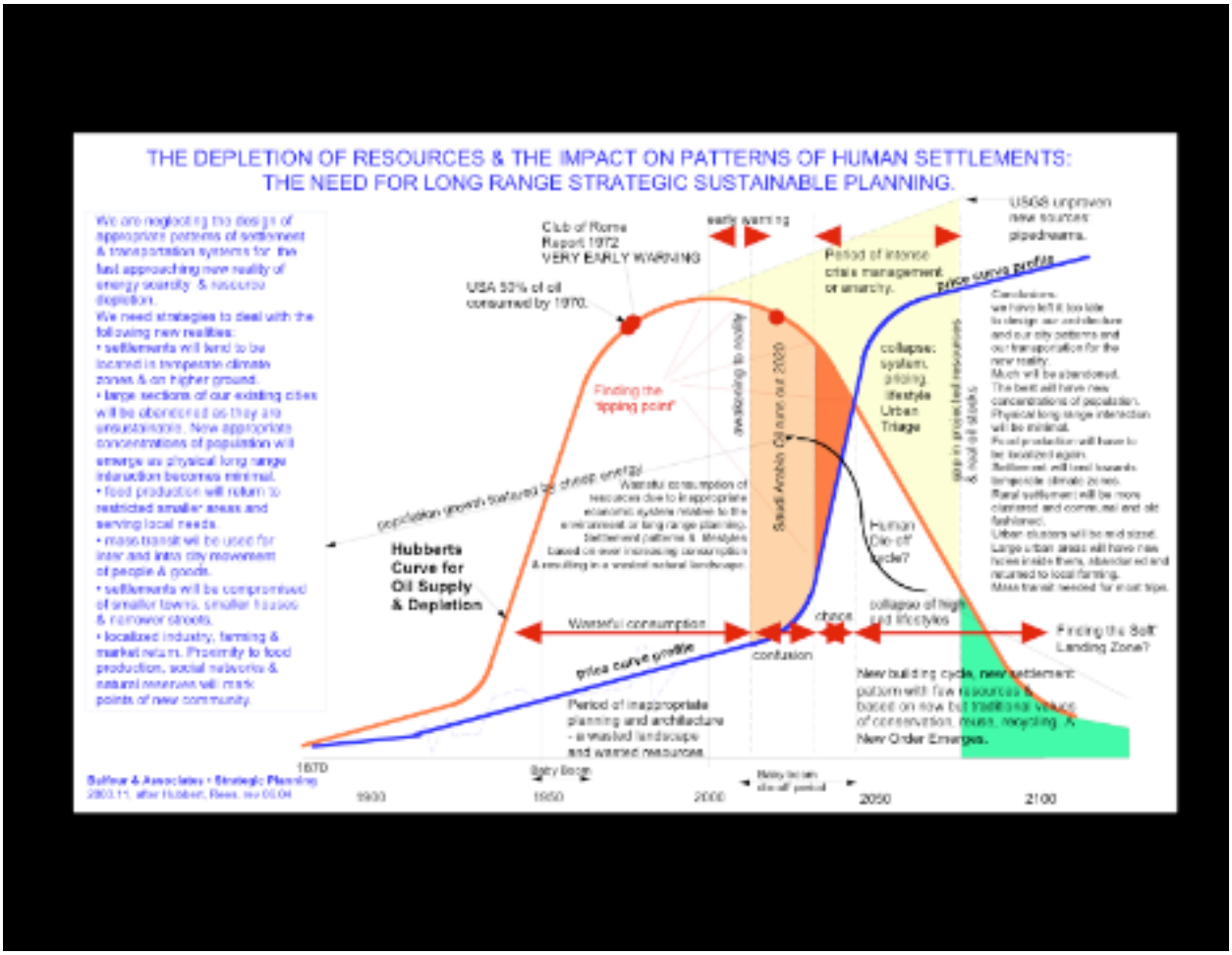
Abstract:
Global impacts now starting to hit our cities and culture were forecast more than a generation ago, particularly by the Club of Rome in 1972. Purported 'Realists' have managed to put off adjustments of our planning for our own survival as a culture, putting everyone at risk. The end of cheap energy plus the Global Warming caused by wasteful consumption of fossil fuels is about to trigger bigger social instability of food and water shortage and mass migration. In an attempt by architects and planners who have fought this intransigence for 35 years, there is a move afoot to move us out of linear planning, the comfort of the status quo, to shift us into a society wide awareness and into lateral thinking in planning. The changes to the very pattern of community are key to making any soft landing out of the present free fall our world culture is now in. The Vancouver experience in this paper is brought to the world for the Winnipeg Planning Conference July 2008. The graphics to accompany this paper will be available for download from the www.plancanada.com website.

This a short history of the SSP process started in Vancouver during and after the World Urban Forum of 2006, on how Global Impacts will affect our cities and ability to survive as a civilization. The range of adaptive planning processes in the face of Peak Oil and Climate change range from the micro level; planning for land use changes in cities and on the urban edge, to medium or regional scale of adapting to post oil travel and supply of food and energy, to the macro scale of adapting new regions to growth from mass migrations.

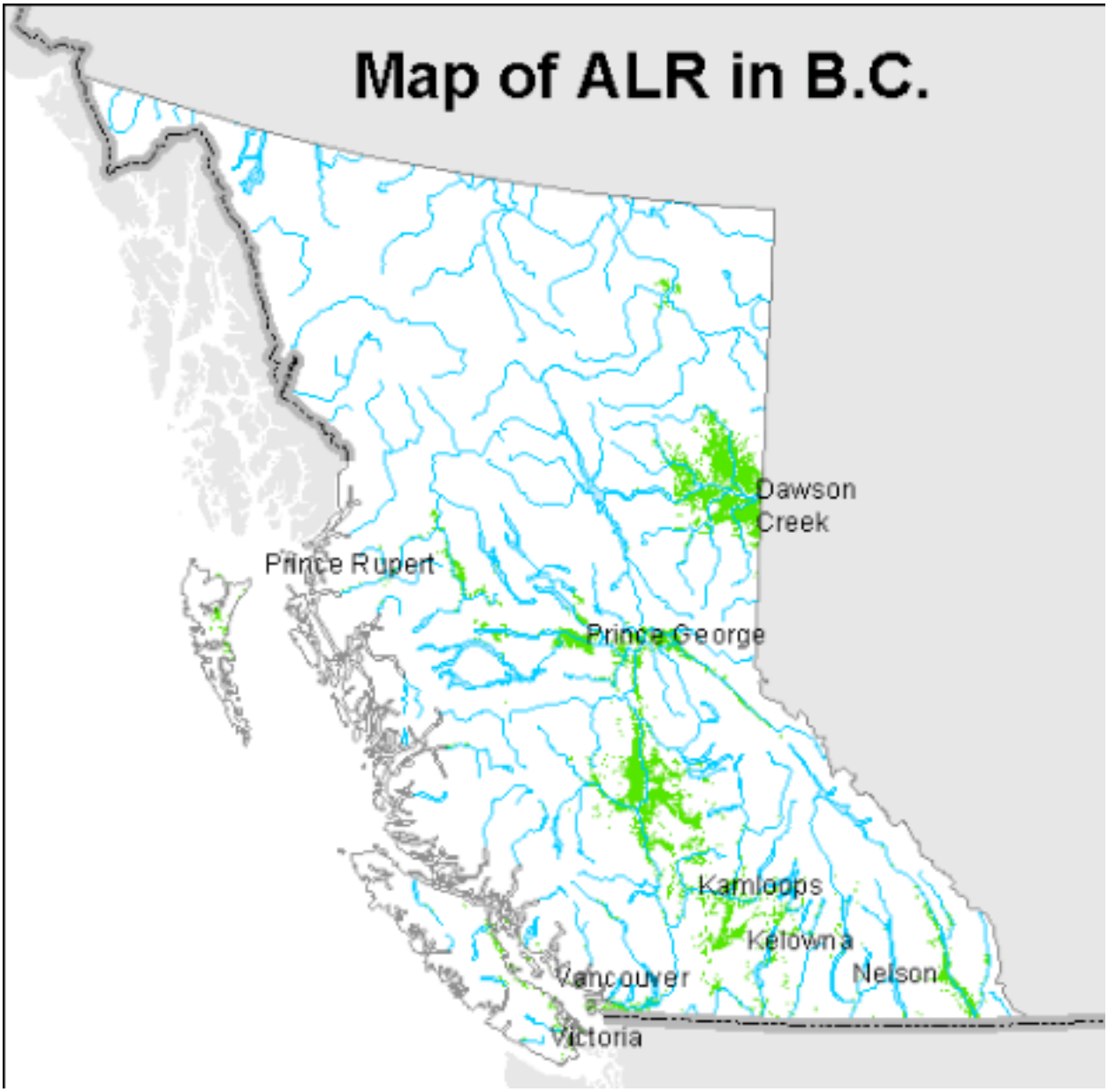
2005: Incipient Awareness in Metro Vancouver.
Just as Vancouver was about to host the World Urban Forum, there were voices raising questions about the promotion of current urbanism as more greenwash than green integrity. A few innovations in planning in a bountiful culture has really little to teach the Third World, but Old World and traditional culture has a lot to teach the rest of us in adapting to a future with a shortage of all key materials because we consumed them all in a century of waste.

The Federal Government of Canada Agriculture Ministry was also concerned that too much focus was on the urban and nothing was on the world visitors agenda about the rural sustainability that makes urban life possible. The prime concerns about food production has since caught the attention of the world as we find out how much oil has made cheap food possible. The planning for food first and foremost rather than as an afterthought, is now gaining some priority.

The Agriculture Ministry and the Canadian Institute of Planners inaugurated a day session in The Vancouver World Urban Forum to deal with planning for agriculture and food security issues, at least from a pan-Canada perspective. Richard Balfour, Architect and Planner, and Chair of the Strategic Sustainable Planning Committee of the Vancouver City Planning Commission, put forward a paper on how peak oil and climate change will necessitate a re-planning of the suburbs and a fresh look at rural land use and lifestyles in a post industrial, post oil society rapidly upsetting current linear planning assumptions.



The Vancouver City Planning Commission was questioning current planning assumptions through the Strategic Sustainable Planning Committee. This VCPC put on the first SSP workshop in 2005, bringing together a broad base of interested citizens, students and professionals in urban affairs to 'war game' the social change impacts caused by global changes; peak oil, global warming and a hint of these have on jobs, social stability, and the start of mass population moves which would run totally outside the current planning assumptions of city planners and agriculture planners around the world.



In 2006 a follow-up, a "war game" seminar was held in Vancouver and this time participants were given different portions of the Metro Vancouver landscape to manage in a forward time frame of 7 to 10 years when energy prices and energy shortages would create massive changes to how we govern our cities, how families and communities even survive.
This session received support and direct involvement from other agencies; Post Carbon Institute, New City Institute, Metro Vancouver Planning Coalition and Dynamic Cities.

For people outside of Vancouver, it is important to note that this city pictures itself as hemmed into a triangle of land with the Georgia Basin, and inland sea to the west, mountains to the north (not a barrier but still limited by a restricted vision), the US Border just a half hour drive south, and the agricultural basin of the Fraser Valley to the east. To the still frontier minded population, there is nowhere to build but on the farmlands stretching to the east a hundred and fifty kilometers to Hope and the Fraser Canyon.

The majority of BC is mountainous and only a few people have asked the obvious question of why are we not

moving into the hills with settlement and saving the farmlands and flood plains for our much needed food. This part of BC has the best soils and one of the most benign climates certainly in Canada but in fact on a world scale. The urbanization from the cheap oil era now at an end, has created a pattern of community that is not sustainable, and the farmlands must be preserved and accessed by new forms of farm community and hamlet if there is to be any self sufficiency and real sustainable community in the future. The reversal and correction of a past century of planning for the car has to end, not as some idealistic turnaround but in dramatic real response to a new paradigm; no gas, no suburb, no car. The adjustment in North American cities is going to be painful, luckily Europe has maintained a more efficient land use pattern not quite so dependent on cars, mobility and the use of energy to separate land uses. The correction in North America is going to be costly, painful but unavoidable. A Century of planning for cars and ignoring land conservation has to be corrected, and quickly.

Oil Price Shock and Urban Triage Planning.

As of this writing, the sub prime meltdown in the US has already created Death of Suburbia worst case pictures of abandoned houses and tent with RV settlements in the outskirts. The abandoned houses, once reaching a scale of normalcy, where occupied houses are the minority, creates the age of Vandals setup where houses are stripped of copper plumbing and wiring. The speed of this new harvesting of the just built suburb for parts surprises even the prophets of this scenario. Fetid swimming pools lie unattended, breeding mosquitos and other unfriendly bugs, altogether creating a totally unhealthy situation. This is not just happening in the outer eastern suburbs of Los Angeles but all over the United States in the spring of 2008.

These conditions of urban triage were supposed to take longer to occur, the abandonment of suburbia was supposed to be induced by the end of cheap energy first. This highlights the fact that some places will not be able to entertain triage or community recovery at all, but will suffer complete destruction and abandonment. The already-in-dire-straits Third World cities suffering the impact of peak oil, the end of cheap energy, the loss of cheap food and the riots that ensue is also evident in North America. There are pockets of the Third World right in the USA. The exclusion and eviction of the poor from New Orleans, the abandonment of downtown Detroit and the meltdown of LA suburbs are the leading edge of Third World post oil experience closer to home for the oil age Middle Class about to be hammered with the end of lifestyles in a harsh new reality.

This should not impact Canadian cities in the same way as housing and lending policies in Canada are not so cavalier and unstable in the same way as the US, and given Canada's lower population but large natural resource base, this makes Canada a high attractant area for other places going through the first stages of destabilization. But no place is immune from the worst of global impacts where oil age planning concepts and disrespect for land conservation have been applied.

With this new peak oil and climate change triggering of mass migration as a backdrop, the planning war game seminars of 2005/ 2006 added the complexity of new settlements, not just urban triage but the pressure to actually provide new buildings and communities. These new forms cannot be like the oil age solutions; they have to be something else, at best described as closer to the Old World or even the Third World to be sustainable in the post oil age.

While the SSP gaming sessions could not go into the kind of detail needed to show what the post oil tradition might look like, we can say it will not include single family suburbs as we have come to know them. Nor will it include high rises, shopping malls, industrial parks, big box anything, freeways, industrial agriculture, recreational communities, or automotive service districts. In short it will be something new but vaguely familiar to an old town pattern; transit oriented, railway connected, mid rise in form, mixed in uses, a little more crowded, noisier and smellier than the antiseptic planning bylaws mandated at the price of cheap oil. It will be either that in transition, or nothing at all because these wasteful land use patterns cannot be sustained after the era of cheap oil and gas.

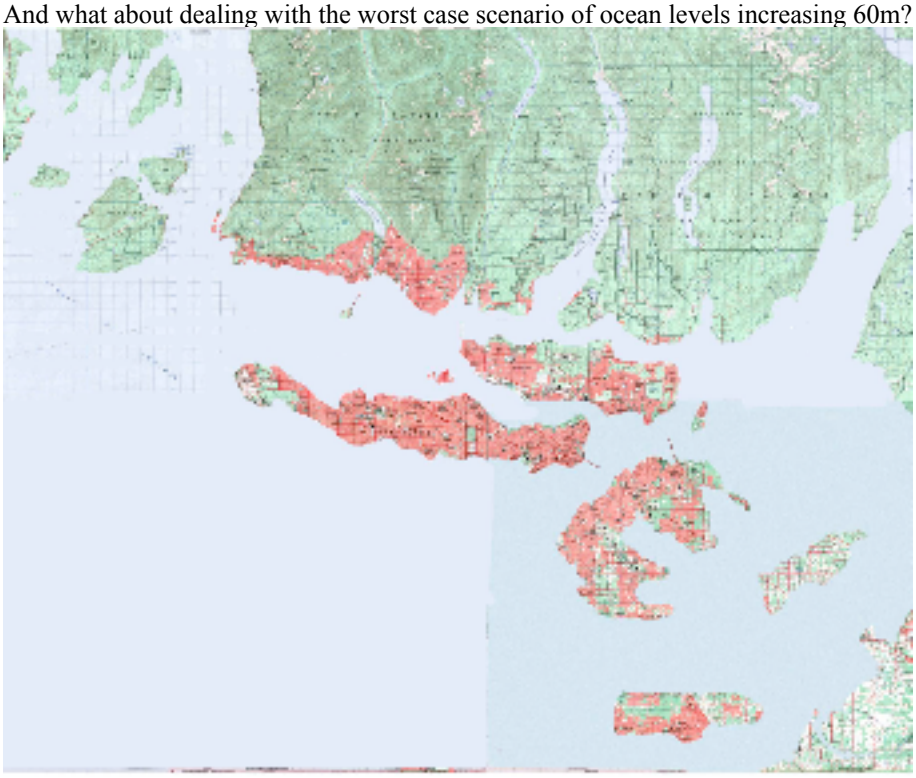
One new word that came out of the planning sessions was Marbelization. In urban triage context where the community can be recovered instead of written off altogether, there is the notion of restoring balance to the urban landscape by reintroduction of new green fingers of sustainability and the first use by demand will be for local food production. The old homogenous and car dependent suburb has to metamorph into a more differentiated land use of higher density housing and urban villages with the support and green lungs of adjacent new openings of farm forest and fields. The urban villages have to be complete in providing all functions including local industry. The energy to allow dispersal of land uses in antiseptic zoning bylaw fashion will not be here to allow for such waste.

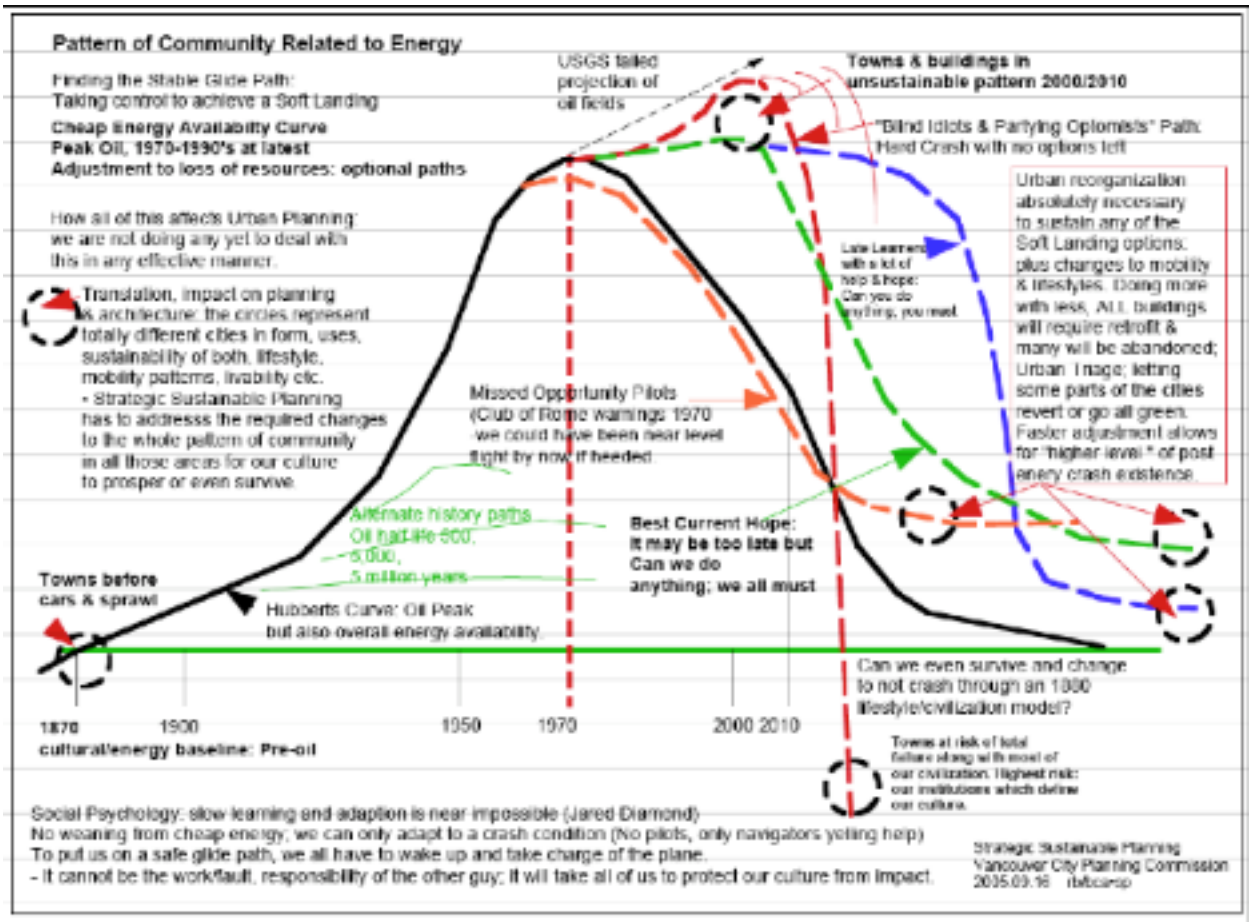
Urban Agriculture and Reclamation of Lost Farm Lands.
From the Agriculture focussed seminars, this work this section covers the reclamation of lands for food production, to actually work on claw back of agricultural lands lost in bad decisions when governments thought they were serving a globalization process which is in itself unsustainable and which will wither as the cheap energy tap is turned off and more rapidly than anyone could have expected.

At the Metro Vancouver level, the urgency with with we have to retool our whole urban landscape has gone largely unnoticed. The tendency to continue linear planning, to continue the errors of the oil age planning and engineering standards continues with a blindness to what is really happening to our economy already. In and effort to kick start some redirection, the MVPC and other groups put forward a paper to the GVRD/Metro government that called for radical redirection of community growth. It may be too late, there may not even be the resources to achieve this redirection just when it is needed. But if there is mass migration not planned for up to now, about to hit places like Vancouver, we better be prepared to redirect growth from the farmlands as they will be even more vital given new mouths to feed. These new migrations by themselves are hard to gauge where international borders are concerned; will Canada let in numbers that could overwhelm our own population in short order. Can the pressures be so great they become uncontrollable in magnitudes larger than what the US experiences from the Mexico side? Does Canada have any obligation to accept what will start as lifestyle refugees but which will soon swell to the dispossessed?

The need to readjust our communities is addressed in this paper at three levels;
1)The Micro: reconfiguration under Urban Triage in the city and on the edges
2) The Medium Range: Redirection of growth to the new hilltowns of BC, based on rail,
3) The Macro Scale: A redirection of national growth from immigration to the Mid Canada Development Corridor first proposed in 1969.

And what about dealing with the worst case scenario of ocean levels increasing 60m?





1. Micro: Reconfiguration under Urban Triage: Marbelization in Land Use Policy.
Given social and market forces that will change to be out of synch with our oil age planned suburbs, we need proactive solutions to allow for adaptation where the residents see the need and want to act. Holding the line on unsustainable land use patterns only means more pain and suffering. In areas of whole community collapse, the suburbs becomes a defacto new slum at worst or recaptured farmland at best, where water is available. Places like Phoenix return to the desert. Oil drilling towns return to the tundra.

In high attractant areas like southern BC, in migration will keep the pressure on urban infill even as urban land prices fall and farmland prices hold steady as the really highest and best use of farmland is as a farm, and local food production needs will reinforce that. More intensive land cultivation with less machinery, less pesticides and less oil based fertilizer will become the new reality as the oil supplied farming system runs dry.

As an illustration of cross boundary land use planning for sustainability, this new policy direction is aimed at making both suburb and farm more sustainable, by making direct link in use, protection and efficiencies. While some may see this as idealistic at present, it is really only an attempt to deal with a new reality in a post oil economy.

These new policy directions are covered in more detail and with graphic content in the Winnipeg July 2008 SSP4 Presentations.

In short form, the four by four policy works in such a way:
1A. A not now viable urban boundary area with say 7200 square foot lots or 6 units per acre allows for the neighbours to band together to go to council to seek urban densification to four times the initial density. The

proviso for consideration is that in order to permit this, the urban land owners have to acquire title to four times this land area in the farmland adjacent to them or within a bike ride/walk or horse drawn carriage distance. Remember this is for a post oil economy, not too far in the future.
The subject farm land must be, as part of the package and part of the policy, put into control of a Farmlands Trust, an independent third party which administers the covenant. It is not administered by the town or city or any local authority which might potentially abuse the trust. The farmland is then leased back to the urban land owners so they have first right of use of their purchase, and allowing for food security and independence for the town.
Where farmlands are not adjacent or available, a corollary to this is for an urban land area be converted to farmlands or green fingers for sustainability. In this case the ratio would be half the land area for new farming commons for the quadrupling of density on the urban portion.

1B. An official community plan designation is needed to make the 1000 metre area around urban boundaries inside the urban edge, into a rural protection zone. The intent of this is to protect the farm edge, reclaim lost farm opportunity through Marbelization, and make the community self sufficient in food in the post oil age. This is a reversal of past mistakes of urban creep.

What this looks like in plan and section:
The above example is a retrofit or remedial condition. In some new edge of urban conditions, the reinforcement and protection of the rural farm edge can be illustrated in other ways with new edge community planning. The tool to accomplish this is not reduction of density but in fact a small increase but in a pattern of differentiated sustainable pattern of urban village with viable green fingers.

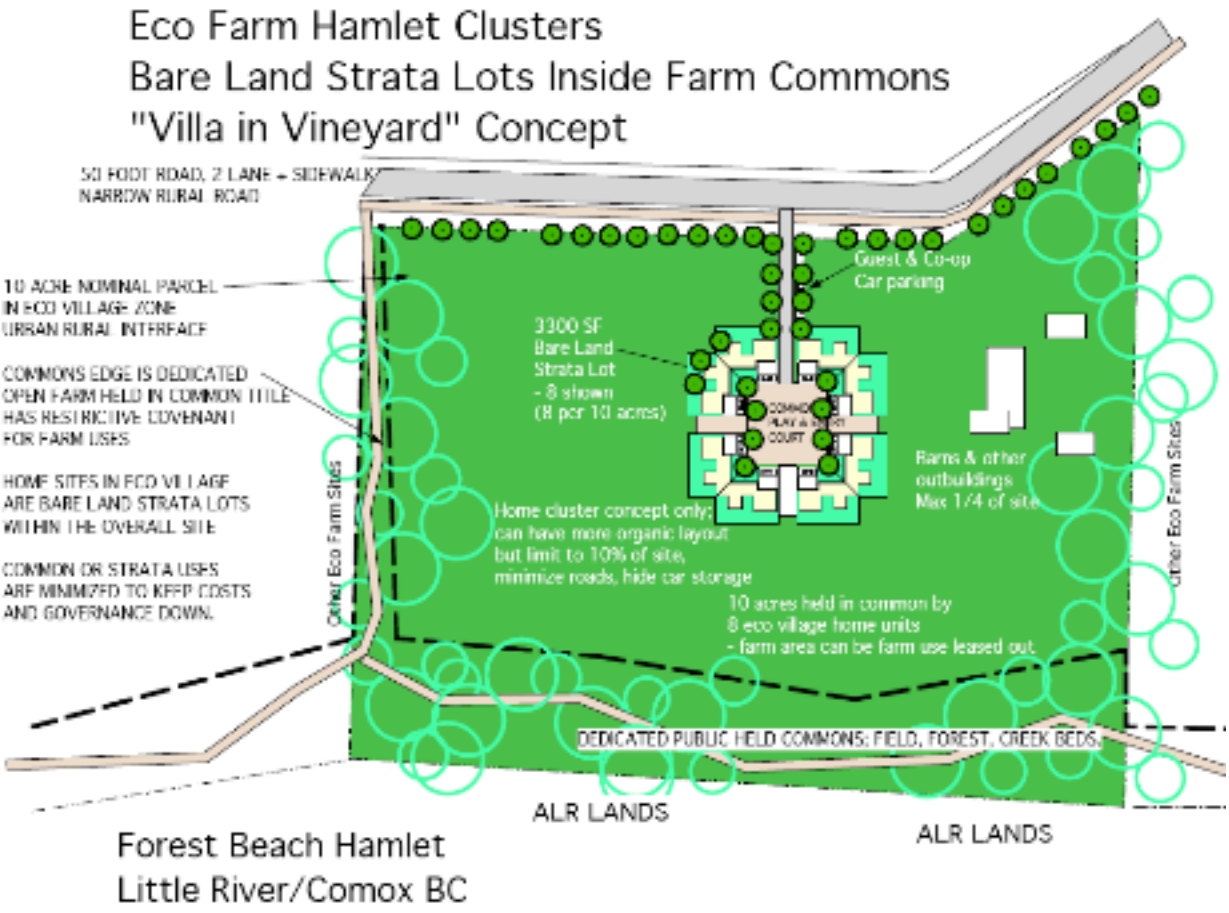
In all of these cases a new golden rule must replace an older one that has caused endless headaches and erosion of natural areas and farms. The so called 'rounding out of town boundaries' mostly for engineering and servicing purposes, but really used by unconscionable developers has set up a pattern of continual never ending rounding out, an excuse for suburban sprawl.

In place of this, the new rule is Keep the Green Fingers. This does NOT mean extending urban fingers into farmlands either, this is a green policy, not a backdoor sprawl program. In order to justify this, the density otherwise achieved is clustered on the net site and in fact bonused, even doubled. The range of possibilities is shown in the next diagram.

This application of clustering plus bonus for hardship is also applied to the New Mountain towns concepts; the application of new principles of maintaining the green is an extension of Ian McHarg's Design with Nature approach of 1970s. How this might apply to a new town site in evolution is indicated in the diagram showing evolution of the urban villages with green networks shown below. The whole approach to urban servicing is up for review; not big pipe systems but evolving community level water and waste treatment streams. Transportation is an evolving incremental step from shuttle bus first stages to full blown access via regional rail systems and aerial gondolas for vertical access. This is for a post oil age; private cars if available or affordable at all are not the primary focus of travel and access. This is why the new mountain towns need to be set aside now and given Charters to develop without the hindrance and outmoded thinking imposed by current municipal jurisdictions. New post oil bylaws, guidelines and just plain common sense are need to properly address how mountain communities can develop with nature, not in spite of it.

<u>The Rural Village Principle: illustrated site; Comox/Little River:</u>
Characteristics: instead of oil age spread out pattern making everyone dependent on car ownership, the housing is clustered but still retains single family ownership of house and land, an important piece of the puzzle. Group ownership and management is to be avoided to an extreme. Common lands are put into full public ownership as a new commons of farmlands, creeks, forests and beaches. The one exception is for a more rural land tenure next to the preserved farmland, in a farm friendly fashion. In those sites, the village in the vinyard model has eight homes each on their own lot around a common central open space all share in cooperative holdings the remainder of a ten acre/ four hectare parcel which must be farmed to avoid taxation.
In exchange for a full third to half the land going into the commons, the remainder for urban uses has the density multiplied as a bonus.

Goals achieved: the community is more sustainable, the best parts of the site next to farm and natural amenities are protected. The community has enough scale and density to support local shops and services plus a school and seniors housing so that it becomes a complete community not just another suburb.
Comparison to oil age planning approach: land conservation is practiced, public realm is extended, affordability increases, a complete community is formed and dependence on car travel is cut severely.



Parksville Urban Village on the edge.

This is one of those examples where this site should have been protected as a green finger and secured through other sites purchasing the land to increase their own density in trade. However, this does illustrate how the urban trade off or third way can achieve more community benefits, more edge protection and make a community focus needed in locations outside a central community or downtown.

In this case the gross density has been clustered on about 40% of the site and doubled or more. The built form is taken out of wood frame to a mid rise density equal to high rises but in a more efficient and livable form. In exchange the middle part of the site is made into public park, in this case with a lake also used for storm water management and as an irrigation source for the farm edge. The farm edge of the property is itself made into a farm use but in this case as a public commons or community gardens for the urban neighbours, not just the on site new residents but also the existing urban community abutting it.


Parksville BC
Strategic Sustainable Urban Farm Interface Community.
Public Realm Additions:
Central Park and lake
ALR Farm Edge uses
Community Gardens
Cooperative Farm Uses
Edge Landscape Buffer
Public Trail network
Civic Public Open Spaces
Community Hall
Village Commercial & Social Spaces
old farm house bed & breakfast
new barn
co op greenhouse
Community Gardens Area
Public Lake & Public Park with perimeter walk
garden sheds & patio
ALR Interface Dedicated to Public Trust for use as: Community Gardens, Co-op Greenhouse, Equestrian Centre: 50 stall Riding ring, fish pond, Storm water capture for nearby farming.
Community Hall
lakeside shops & theatre
Bistro
200m jogging course?
Lake is part of storm detention system
park land dedication/lake
Area of Agricultural Land Use Dedication to Farmland Trust
Garden Public Access Path
garden sheds & patio
Community Gardens Area
Corfield Street
24' lane
gallery apartment 4 storey
terraced apartment 6.5 storey
apartment 6.5 storey with terraces down to 3
Mid rise buildings: 2 storey townhouse like units with garden patios
Floors 3, 4 are single floor smaller units
Farm Village, Agricultural Land Trust and Cooperative Approach to Public Realm: Community Gardens, Farm Edge Protection.

The Farmland Trust: a new defense mechanism that has application outside BC

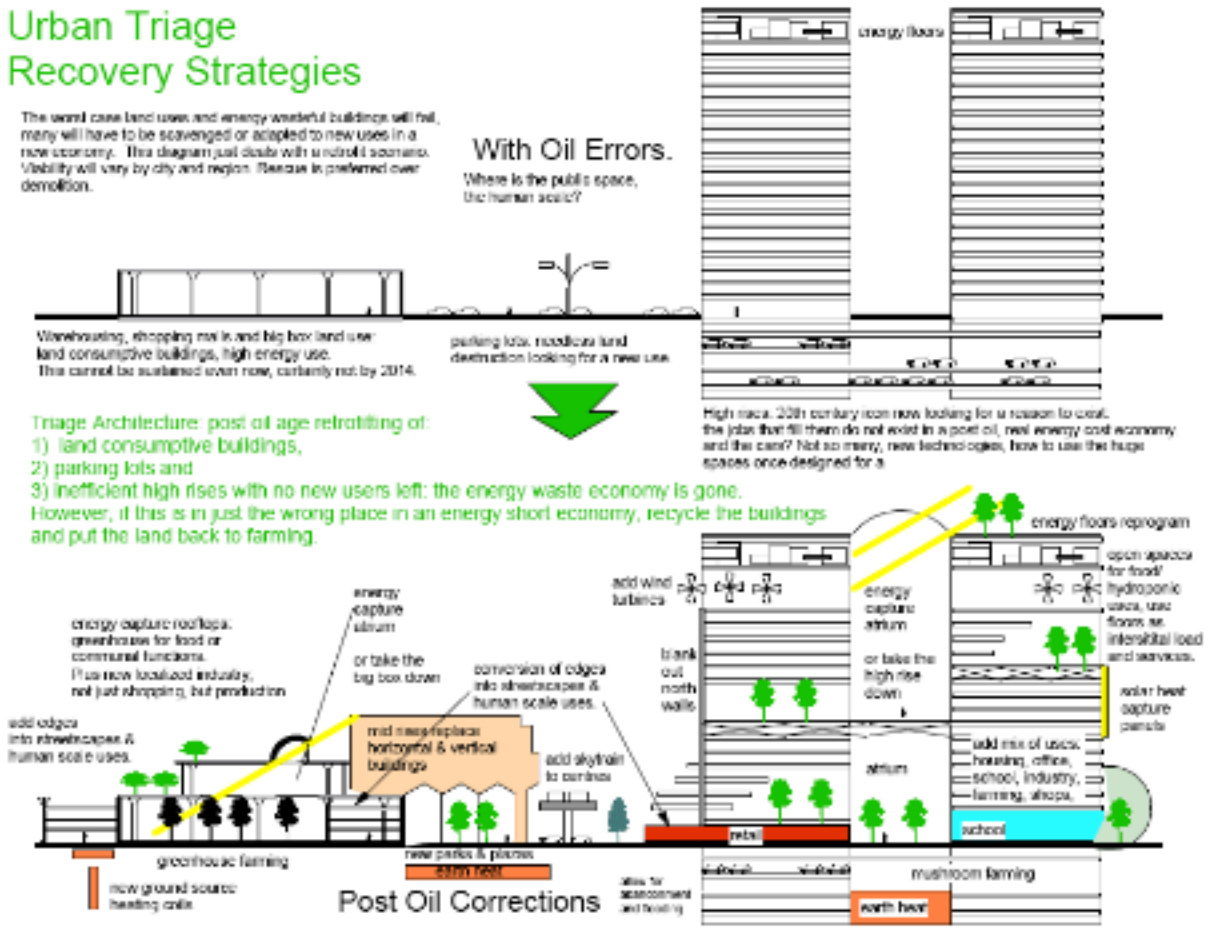
This densification on the urban edge for sustainability achieves a number of community goals; the density is now enough to warrant public transport that can be workable, the density is enough to support commercial and public service functions that a suburb cannot afford. But best of all the green fingers are achieved and in a way to make the farm edge defendable from more urban creep. The onsite farm portion is put into the Farmland Trust for safekeeping. The next objective is to have the Trust acquire the next layer of farmland as it becomes available to put it too into trust, and leased back to the farmer. This has application in BC even with the ALR to give another level of protection. Outside BC this becomes perhaps the main level of protection and requires the intervention of the Farmland Trust as an intervener in the market place, a proactive planning role.

The Urban Centres, Large Cities in a Post Oil Economy.

In the SSP Manual, Balfour & Keenan raised the specter that like Napoleon's army in Moscow, the supply line to feed the army or in this case, your large city, cannot be maintained. Decimation of the city is likely, in the same way Imperial Rome became a village of a few hundred people for a thousand years. But if we move quickly, even as

industrial age oil based mega farming collapses, the small scale internal urban farming may save some cities, and be vital to local peace and prosperity. For those that expected this paper to cover the architects view of urban food production, I am sure this was all you expected, not the other realms of food protection policies in a realm of economic dislocation. In fact the urban use of dying globalization white elephants is a huge new industry, we can only hope, we need to see how to rescue this investment and growing food for cities is the best first step.

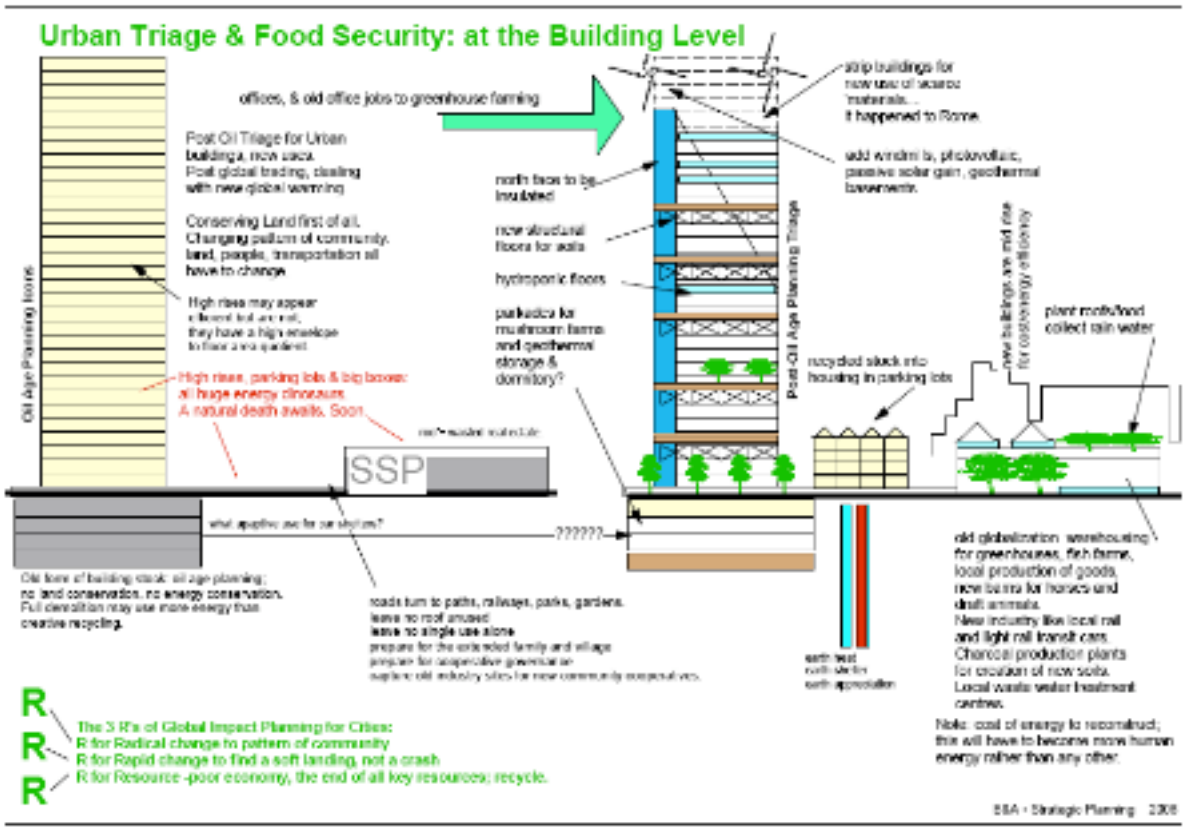
High rises; not really and efficient form to start with, can they be used as hydroponics greenhouses, if of course the north sides get insulated and the sun control that should have been put on for people are now added for plants. Can they be used for heat capture as a glass plenum for instance?



Big box stores and warehouses, as industrial scale greenhouses likely require retrofitting which can be costly and perhaps not really feasible if the retrofit glass and mechanical systems become to costly in the end of cheap energy.

Diagram

Office parks in the suburbs, a really bad idea doomed to fail as commuting costs soar, have one chance at a new life; to convert to whole communities. The adaptation of the buildings to become mixed use villages is a start with new housing around the boxes then used for commerce, industry and community uses. The parking lots become farm use again and then the density might be high enough to warrant the transit access not possible as a single use low density centre. All of these scenarios are only possible in a peacefully adjusting society to the end of cheap energy, which may not be possible in many places, and also only workable if we plan ahead, not wait for complete community failure.



Shopping centres.
As urban locations infill shopping centres, attempting to create new communities, suburban ones are likely just new ghost towns.

The investment of real estate meltdown.
Most pension funds on which all retirement plans are based have majority holdings in so called prime holdings of shopping centres, office towers, resorts. All the uses which are not sustainable in a post oil economy. As these newly dysfunctional land uses empty, the value of the pension fund is eroded. So much for long term security.
.....
Given the precarious existence of all communities which were based on oil age planning economies, the first question we need to ask of all the abandoned infrastructure is, can this site be used to grow food first of all. This has differential impact by income group, which is illustrated in the diagram on family income and shifting priorities as energy prices escalate.
What is also implied in this is the rapid shifting of people downward or off the charts as they drop discretionary income, then urban land decreases and families double up in the best sites while other sites are abandoned. This is already underway in the US in part from the Sub prime market collapse but this will accelerate with energy price escalation.

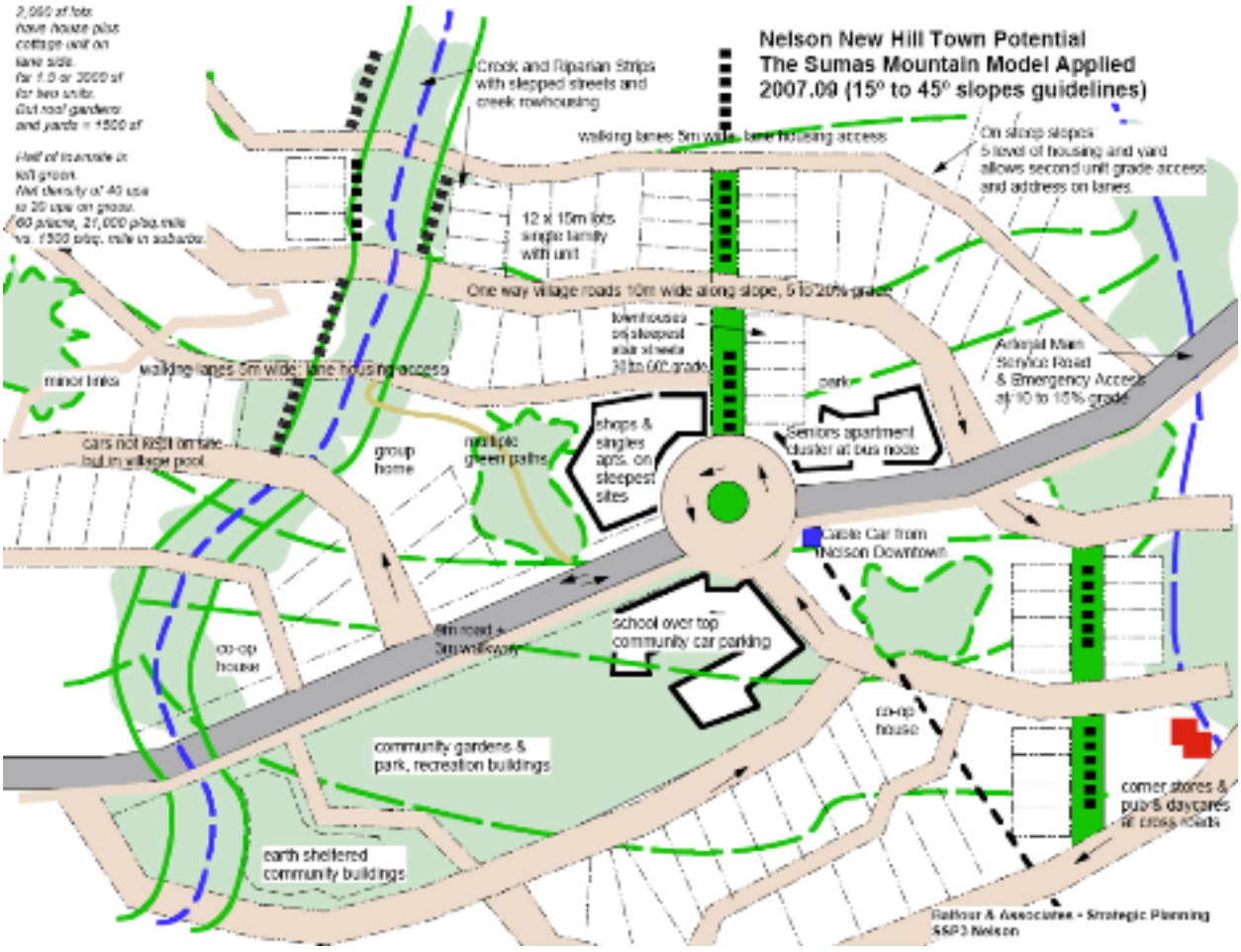
Given that investment in large projects from the oil age building boom by pension funds, the collapse of market value of oil age white elephant projects means a likely decimation of pension fund security, putting more of the seniors population at risk. This will heighten the pressures on family and friends to work cooperatively to take care of each other in the post oil economy, or more people will perish from a new level of neglect and impoverishment.

Railways to the rescue.
North America at this time uses ten calories of oil energy to raise one calorie of food. This of course is about to

end. No oil, no cheap food. But for the few goods that just have to be made available, perhaps to fewer people and at higher prices, the reefer truck has to give way to the reefer train. In the case of BC looking for winter fruit from California, or Quebec wanting Florida oranges, the railway has to be the new lifeline. The bigger concern is can we maintain a peaceful adjustment in the economy for this option even to be available. And in a market economy, what is the northern market sending south to make this all worthwhile?

The re-railing of North America to keep any city functioning means we need to build up inner city rail marshaling yards, not abandon them. Electrification of the rail and of the shorter haul delivery truck will be making even bigger demands on the Hydro grid. Canada is a world leader in electric rail transportation and exports to Asia, Europe and the US but does not get to apply the technology here. We have little time to play catch up, we need to switch our railways to electric at the same time we need to expand the rail grid to replace highways as a network. The third tier is the need to move new electric rail lines into the Mid Canada Development Corridor, covered elsewhere in this paper.

At the same time the flame out of natural gas supplies means more building heat will be by electricity and that has to be cut to a third by moving urban buildings to geothermal exchange or ground source heating, the equivalent of putting your house underground but not giving up access to light and air.



Capital Investment; is it possible?

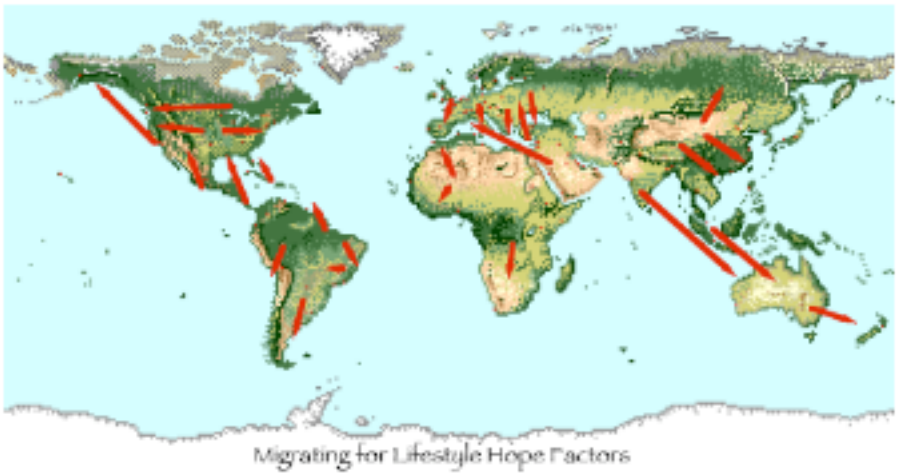
This indicates a massive switch of systems in every category which may not be possible; is there any surplus money in a downsizing economy to do these changes? The one positive feedback will be the unavoidable doubling up of families in large buildings, in effect providing their own body heat to cut energy costs.

This notion of higher use of existing "MacMansions" is yet to be taken seriously. In a trying to trick the interviewee this spring, a radio talk show host said, "so I guess in a few years I will have to have 17 people living in my house", to which I responded that this might be a bit of an overstatement, however if we do not move fast to correct our mistakes and high waste of energy, the 17 people would be an understatement. Julian Darley of the Post Carbon Institute says we have enough buildings already even for a population explosion, and in term of efficiency and also in what we can really afford in the environment, he is right.

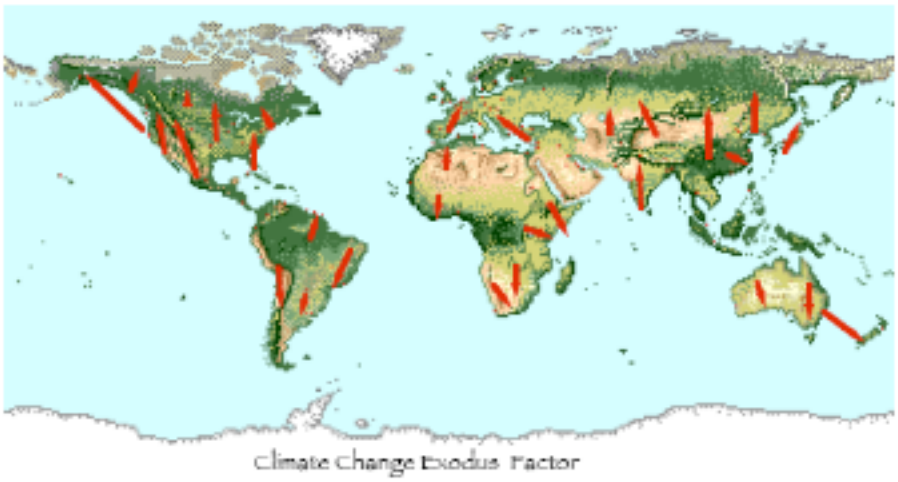
Germany already does this with their new house designs. The use of large homes for extended families in 'the right location' will be offset by ghost suburbs in places that do not make sense in the post oil age. The abandonment of suburbs in the US sub prime meltdown already has created dangerous conditions of vandal recycling, unsafe houses and unmaintained swimming pools in just newly built US suburbs now decimated by the sub prime mortgage fiasco. New tent cities exist, home to a former middle class. The hundred thousand FEMA mothballed trailer homes held ready to house these newly dispossessed are not rolling out for use because there just are not enough of them.

The ground shifting now started in housing, jobs, commuting and pattern of community radical rejigging is going to have multiple courses of direction. We cannot cover the whole range of stable community trying to get by, to collapsed communities to burgeoning communities in high attractant areas. But we do need to address the radical change to the pattern of community needed to be based on new first principles of good social and environmental design, not on oil age standards, car mobility and dependence on long distant food sources. The new patterns form a new paradigm, not some ideal ideas but a set of conditions we now cannot avoid; we will not have the luxury or resources to keep going the way we have.

World Mass Migration Scenarios



Migrating for Lifestyle Hope Factors



Climate Change Exodus Factor

Any job left will be close to home or you move your home to be near it.
Homes will be smaller for all or you will be moving in with friends and families to conserve.
Food production has to be in your immediate yard, neighbourhood or within a walking distance of your abode.
Security of land ownership may come into question; abandoned lands, land squatting, share cropping and serf farmers may not be avoidable new descriptions.
Mobility in total has to collapse, the remaining movement will be by fewer individual vehicles of alternate energy usage or mass transit.
Revival of the horse is a must; what a great business opportunity for those with horse futures.

Commerce and industry will be relocalized and operate at a lower volume, as globalization of the cheap oil era dies

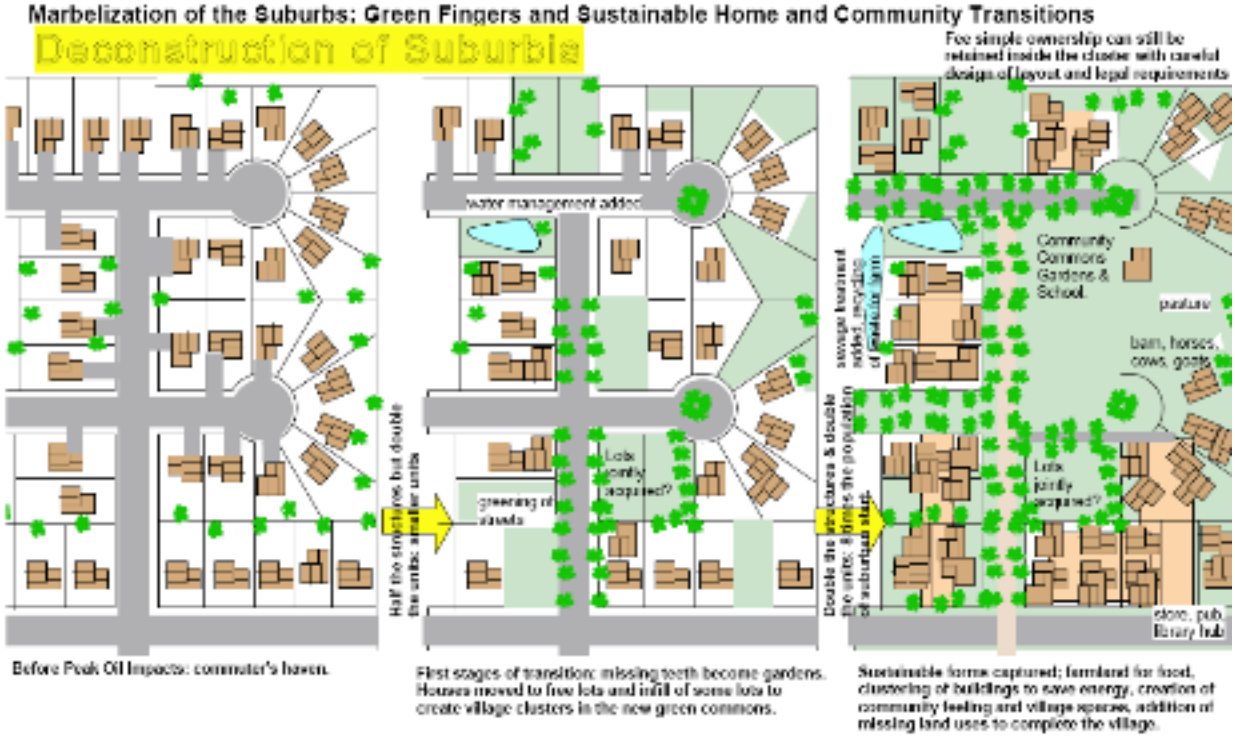
off, reintroduction of more noise and smells into any scale of community will run counter to the pristine segregation of land uses of the oil age.
Education systems will have to rejig if they continue at all. Home schooling or very local schools for elementary grades; shortening of high school which will now use the former local elementary schools, and a reduction in higher education in formal ways. The need to relearn old world, old economy skills from farming to blacksmith, doing more for yourself, is going to replace the effete clean hands education of the oil age.

The intermediate need to keep old technology going as systems shut down means a growth industry in trades and fix it shops in every community.

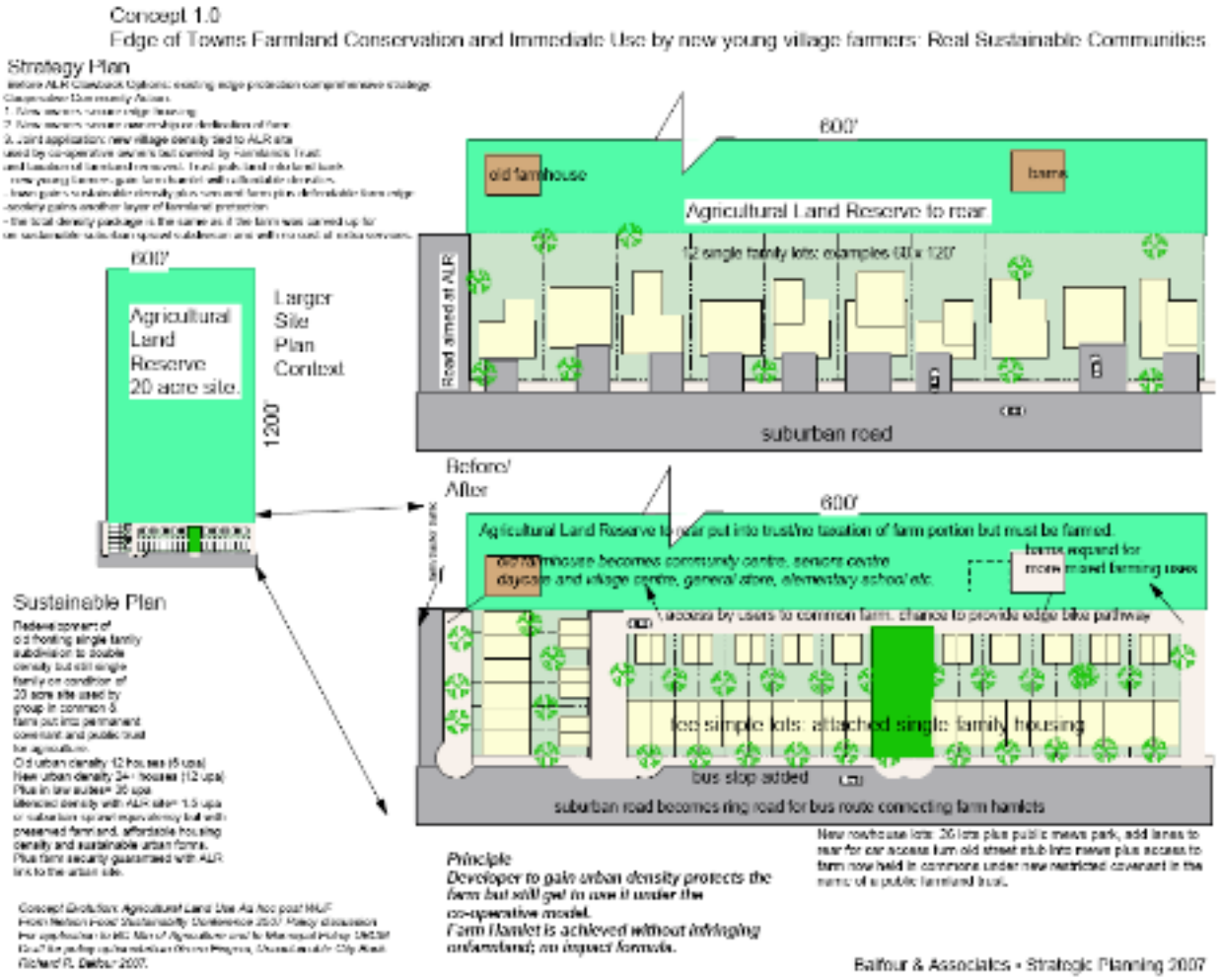
The sheer volume of throw away now trucked to landfills will be reduced but also local re-use of materials will be another local industry if we can just figure out what can become of them, and where do we put our refuse now we cannot truck it all away?

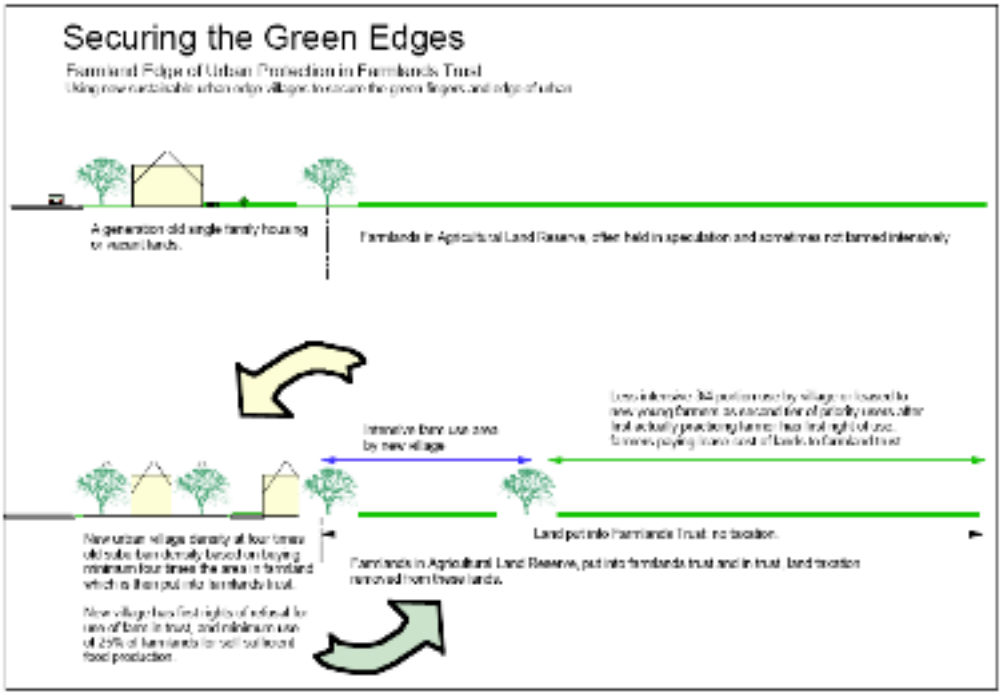
The very act of on street abandonment of unused cars versus expanded tendency to make off with anything not nailed down means private property like cars on public streets will become impossible. The unusual armed convoys of Detroit where the few cars move in convoy between gated safe spots might be a new norm, if of course the infrastructure to provide gold standard gasoline can be maintained at all. This alone might mean we get oil based cities with cars, police and high taxes and many other cities without. IN the middle might be the cities that undergo urban triage to keep livability high.

These now theoretical, soon to be experienced type of changes can only be laughed off so long. It usually takes a generation or more to turn land use patterns around, to rebuild houses and city centres. We now have little time and vanishing resources to build for sustainability. This means we cannot fully succeed in this area, many areas will be making do with a bad solution from another time.



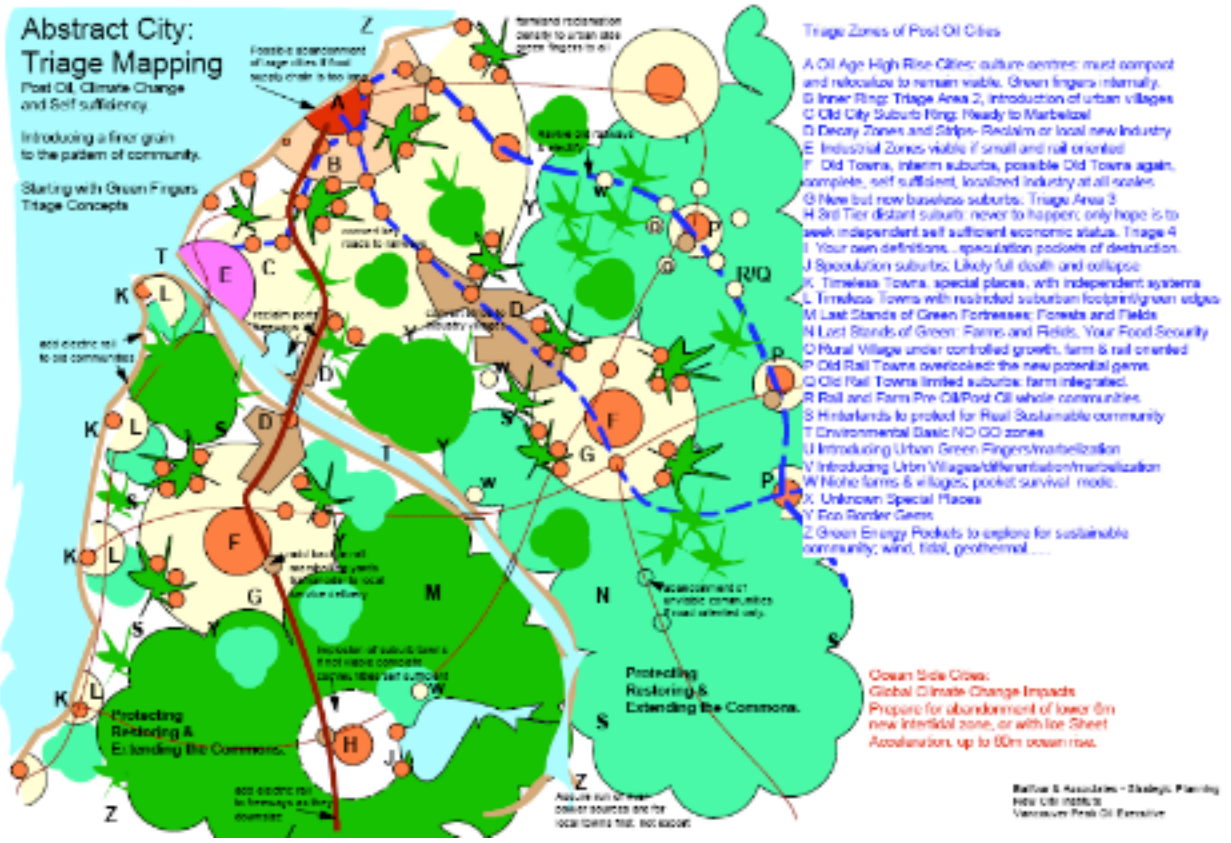
Managing the Death of Suburbia: Reclaiming Green Fingers: Turning the remainder housing into the Village


Concept 1.0
Edge of Towns Farmland Conservation and Immediate Use by new young village farmers: Real Sustainable Communities
Strategy Plan
600'
old farmhouse
home
Agricultural Land Reserve to rear
12 single family lots: examples 60' x 120'
Road aimed at ALR
suburban road
600'
Agricultural Land Reserve 20 acre site
Larger Site Plan Context
1200'
Before/ After
600'
Agricultural Land Reserve to rear put into trust/no taxation of farm portion but must be farmed.
farmhouse becomes community centre, seniors centre daycare and village centre, general store, elementary school etc.
home, request for more mixed farming uses
access by users to common farm, chance to provide edge bike pathway
ten simple lots: attached single family housing
bus stop added
suburban road becomes ring road for bus route connecting farm hamlets
Sustainable Plan
Principle
Developer to gain urban density protects the farm but still get to use it under the co-operative model.
Farm Hamlet is achieved without infringing onfarmland; an impact formula.
Balfour & Associates • Strategic Planning 2007



Peak Oil Motions in Vancouver:

In an effort to raise city wide awareness, three think tank groups came together to propose the Metro Vancouver Regional Districts adopt a Peak Oil Motion. This had been tried in some US cities and regions but tended down there to say ' we are short of oil, how can I find more oil for my home and SUV." In Vancouver's' case we took the more proactive role asking, we have wasted earths resources in only a few generations, how can we CHANGE THE PATTERN OF COMMUNITY to use less energy and save out culture. Still the motions did not get adopted, going to show that the real needed solutions are not within the capability of the political system to comprehend or adopt.



The SSP Manual: A Civil Defense Manual for Cultural Survival, based on a generation of research and experience in the field, and after 2 Planning Commission seminars, requested by observers and outsiders as a means to help other cites carry out this kind of workshop experience. The Manual sales took off and other seminars were held. Contact between nonprofit and interest groups formed but in planning circles the creative juices were not flowing in the direction of quantum thinking or Real Sustainability, they were all stuck in a quagmire of linear planning for a longer oil and car age that was already ending in reality.

The inner regional district; the GVRD, self titling itself as (mini) Metro, was into a so called Regional Growth Strategy, based on more growth of the same old types with some token new infill experiments. This did not take the pressure off the farmlands, did not recognize the end of cheap energy, did not note the inability of our current pattern of community to survive in this form in the new paradigm.

The GVRD Policy Proposals and Action Plan for Real Sustainability.'

Given Vancouver as a city has a need to promote itself as one of the leaders in livable cities, it should be a new challenge for that Metro area to now go into action to move in Real Sustainable directions. The best attempts to save farmland, to shift population to the hillsides, to mix industry and reign in office parks and sprawl have not really worked. More radical and rapid adjustments are needed. In response to a 'Regional Growth Strategy", Architects, Planners and other concerned citizens provided a short blueprint for change which showed how and why new policy directions are needed. These can be summed up in part in the attached map indicating the need to reshuffle urban growth and focus it first on a new rapid electrified rail system.

This has wider implications in that the circle route north from Vancouver to Whistler is linked back down the Fraser Canyon and back to Vancouver through the Fraser Valley. This level of a new Metro Vancouver is the backbone or organization of new settlement of rail oriented hill towns more on a Swiss model, and totally in keeping with the real British Columbia social geography, a province of mountains to be embraced for new sustainable communities of scale and self sufficiency and as a true model to the world. This public position paper was endorsed by the

Metro Vancouver Planning Coalition, Vancouver Peak Oil Organization, New City Institute and Post Carbon Institute, in part as a follow up to an attempt to get the four Regional Districts that make up the real Metro Vancouver to adopt a Peak Oil Motion in 2006, and 2007.

Not that anyone has all the answers, but these four nonprofit planning organizations came together t o submit a vision and action plan to start us on the road to recovery after our oil age denial stage. We have little time but in short, rapid and radical action is required;

1 Limit the urban growth boundaries and infill/ quadruple urban densities
2. Extend green fingers into the urban cores- food security is an urban issue first of all.
3. Stop farmland erosion, in fact reverse it with a claw back of lost agriculture lands.
4. Sever the farm districts for self government under new charters but without any more commercial and industrial land uses and and end to highway and port expansions.
5. Under new charters, create new towns on the hills of BC, stable, south facing sites with the best planning principles and moving away from flat land roads, engineering and planning from the automotive era.
6. Move to City State democratic and elected governance of the social ecological basins, and to rural and First Nations counties, new areas of autonomy and self reliance for a post oil economy.
7. Move transportation resources back to rail from roadway, and quickly adapt rail to electric power. The new pattern of community focussed on old towns and mountain new towns will allow for new non-automobile, non oil based transportation networks, starting with aerial gondolas, as functioning now in northern Italy.
8 Prepare for downsizing all grids, including moving new settlement into hill towns at run of the river power sites; not exporting the power but using it at home
9 Relocalize at all levels, this means remixing now segregated land uses into new forms of Old World towns. Travel will not even be a luxury again, we have to relearn from the old world and quickly.

The Map attached to the second MVPC/NCI/PCI/POE supported paper illustrated the impact on the Fraser Valley part of Metro Vancouver; the new rail orientation, the confined footprint of old towns, the areas for the new towns.

Map of Metro: Valley Section.

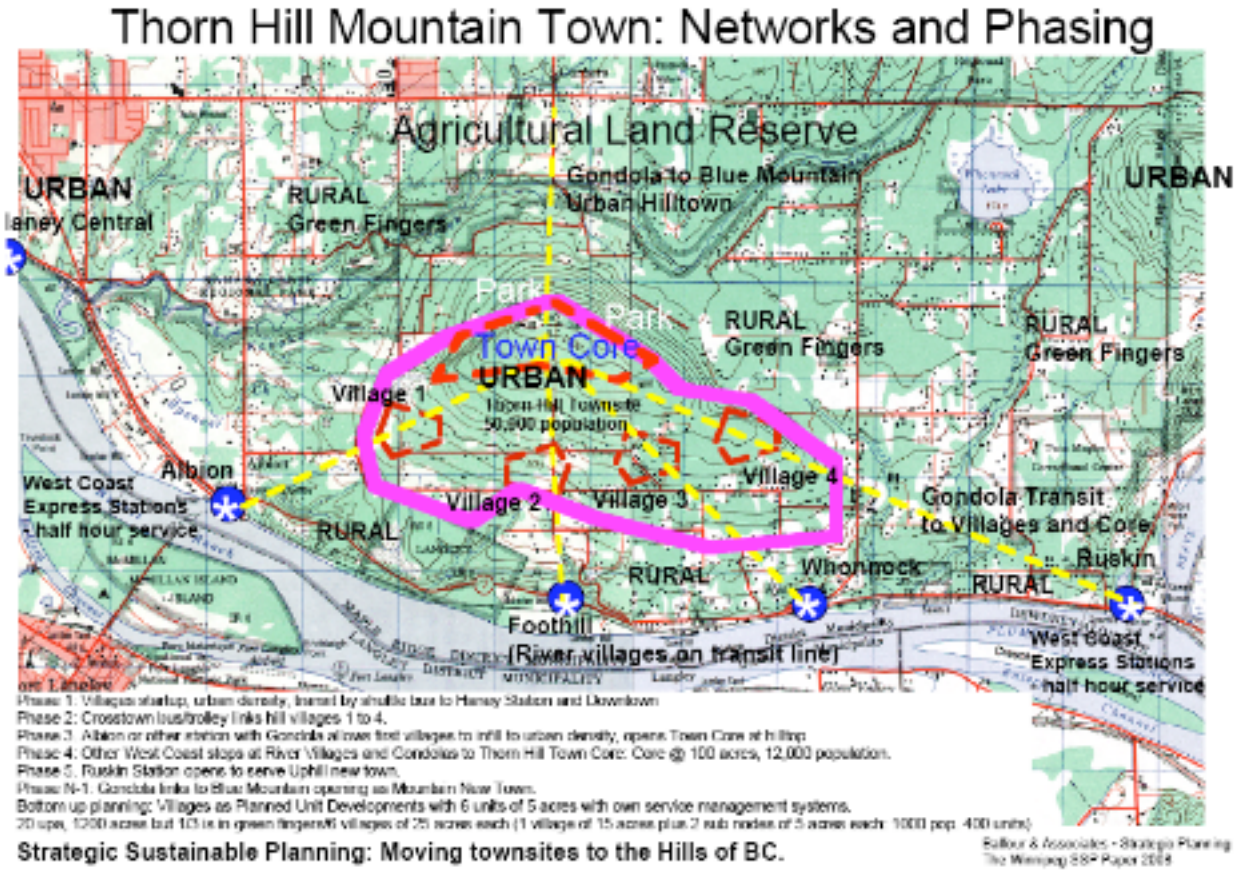
This is not a growth for growths sake position, but it is in consideration of how to accept many millions more people fleeing conditions much worse and from every direction. A quadrupling of the Georgia Basin population within a decade or two is more possible given the upheaval in less benign areas; the cold prairies as fuel costs rise, the shift from LA as water and oil both run out, the exodus from desert towns as water is lost and air conditioners cannot be run on high cost energy. The offshore migration is yet unassessed, but food shortages and energy shortages will mushroom the pressure to move.

The need to expose the policy vacuum in current planning is now evident; there is no real planning for the changes we now have to face. The current approaches are inadequate for the linear planning oil age, but ten times incomplete for making the substantive adjustment for a new reality of high energy cost, no commuting, urban triage. And at the same time we need to find ways to keep family and community intact, our culture in play, our food security made local and assured.

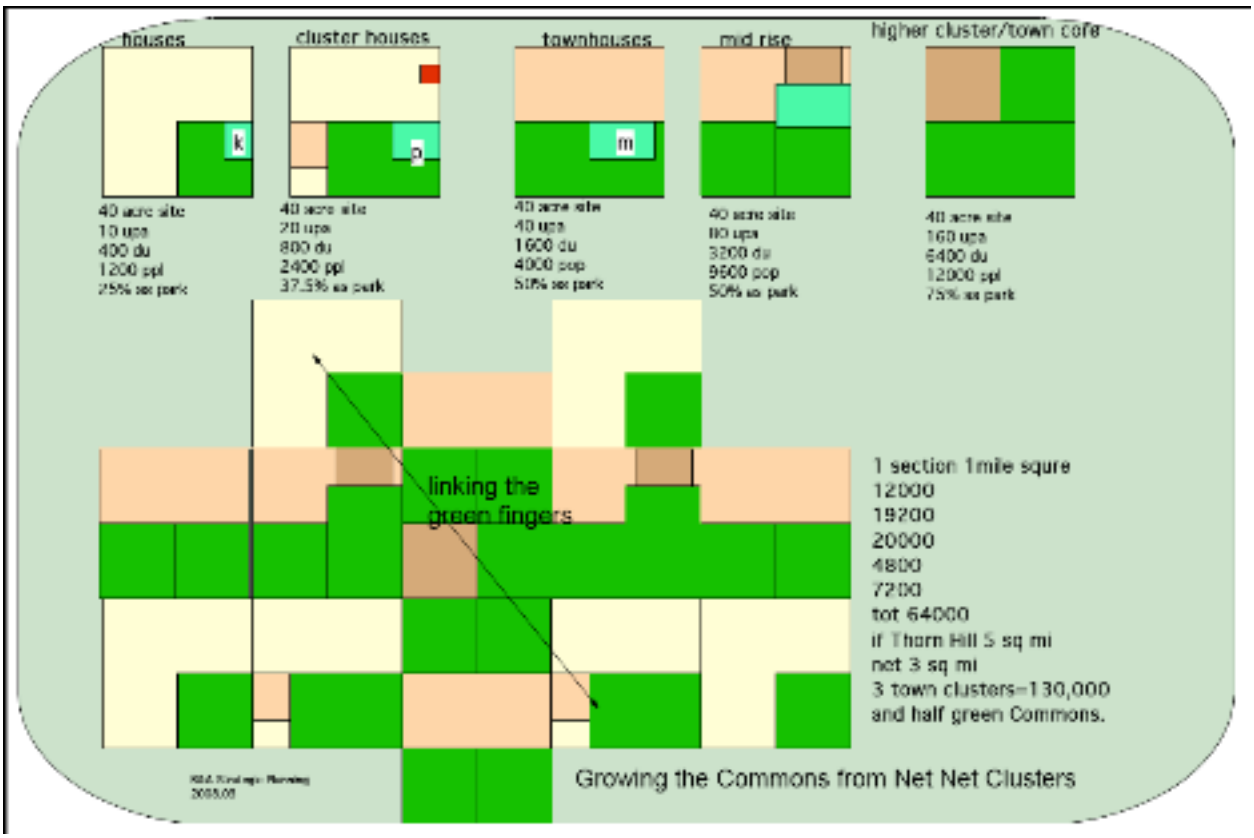
In an effort to present just a small snapshot of the evolution of a new hill town, the following diagrams of a classically perfect hill town site illustrate the new pattern of adjustments to human settlement. This is based on a rail network, not highways, on clustering and green fingers at every scale, a hierarchy of central place, a conservation of nature. But it also stands for the need for community, outright home ownership to and even higher level, but in a more tight knit pattern. A new community of old world inspiration is at once both more dense in some areas but more green overall, it is the marbelization pattern of new old settlement, not a homogenous undifferentiated waste of land seen in oil age planning.

The Thorn Hill site as the new BC Prototype:
The schematics for Thorn Hill take another approach to development, not following planning and engineering approaches based on cars and total disregard for land conservation. We all have to practice traditional land use

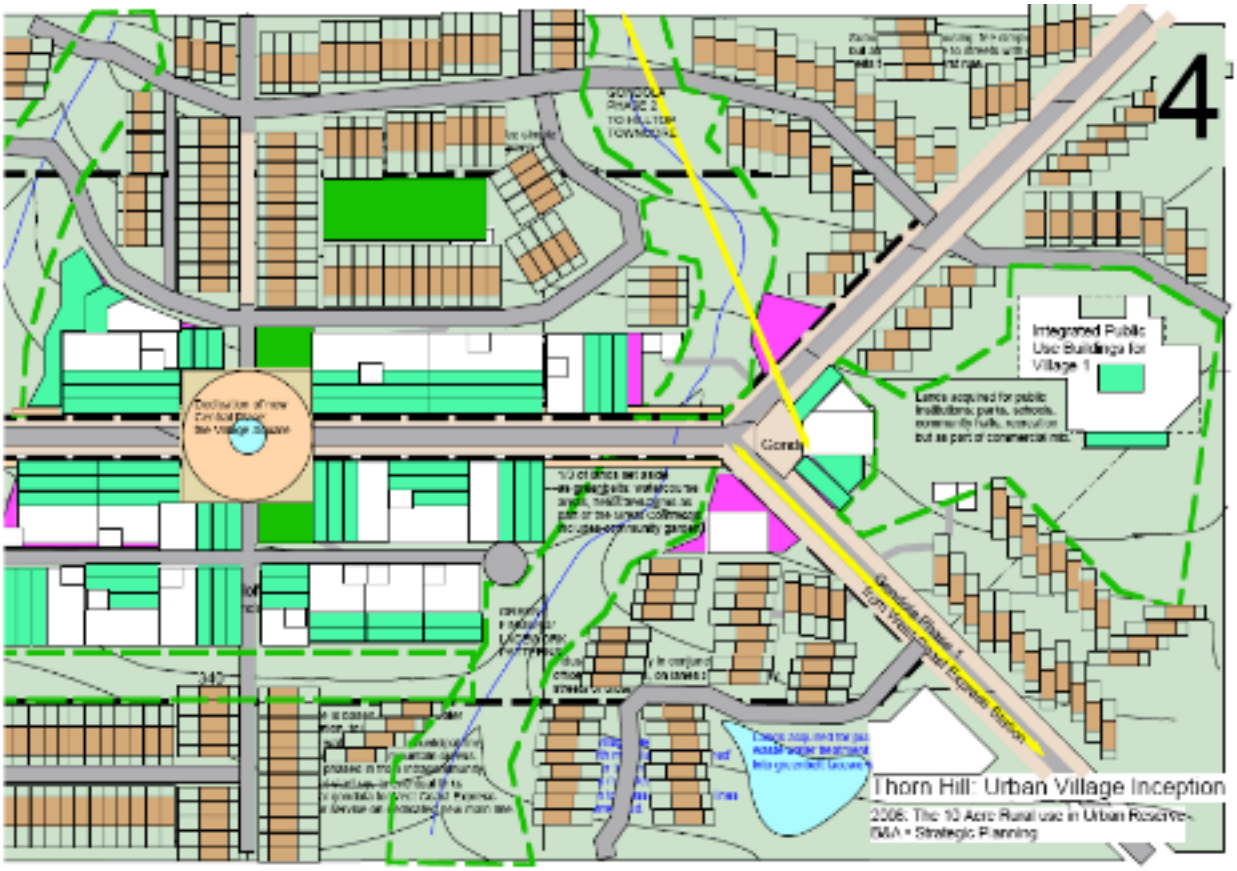
conservation, starting with conservation of the green, the protection of the lands which give the community sustenance. There is no option to the 100 mile diet in the near future when the transportation is not going to be there for mass movement of food, but may still be viable for precious things which cannot be grown in the higher latitudes nor in winter. The things we now take for granted like a winter time papaya will cost a lot more.



The shortage of resources means that new 'development" as we have come to call it, likely cannot be sustained in the old way, and a new small compact approach to housing cluster to village will have to take a step by step accretion of settlement. No wholesale cookie cutter subdivision but a careful nestling into the landscape. The diagrams attached are on the optimistic side in a declining resource availability. Here is an application of process and change from a more traditional, pre-oil or old world approach. In all cases, there is always land left over. There is also a clear provision of private house and garden and a clear public realm, jointly and locally managed, not from a larger government role. Ambiguous spaces, or strata governed spaces are minimized. You have control or you do not, otherwise new interlopers will take advantage in a post oil shifting sands economy. This applies all over the world, which means to most of the world, these somewhat more confining design approaches are still idyllic in the eyes of the world. A shift in focus will make the new community realize that in fact they have lost nothing and gained a lot by designing for themselves first and not at all for the private mobility function which has governed community design for the last hundred years.



Municipal services are another thing now taken for granted which need to be rethought. By historic measure they are gold plated and this only really comes to mind when the cost of replacing big pipe systems is calculated in new inflated dollars made worse by now disappearing cheap energy. This means we have to meet health and safety standards but in new, perhaps more traditional, not heavily engineered ways. The notion of incrementalism in both servicing and development scares municipal authorities as it implies different standards and lack of uniformity; or worse still, it sets a new precedent. We really do not have much choice as the alternatives are keeping a standard only a shrinking upper class can afford, or no standards or no services as land squatters move in and create slum conditions. Making incrimentalism work would mean small is beautiful clusters serve themselves in terms of waste water management, the most pressing concern for health. If and when clusters reach the next plateau of density, the new round of infill supports moving to a larger community level treatment plant. In fact there is no real need to move to municipal or regional sewage treatment when those systems in themselves need to be reevaluated to move to localized treatment as a practical solution to high cost of big pipe replacement. The original engineering reaction to this has softened as it becomes apparent we cannot afford the Cadillac treatment in the future.



This means some of the Green Fingers advocated for healthy sustainable community have yet another function, to provide for local waste water treatment. After enclosed or earth bermed primary agitators and digesters do the first stage treatment, and settlement of sludge is taken care under cover, the green belt provides an area of controlled polishing of the effluent in wetland conditions, with at least giving irrigation water to the next downhill community. Taking it one more step and ozonating without chlorine could take it another step and provide a close loop drinking water source.

Even potable water from far away sites can be at risk; if roof top water collection went to on site treatment and storage, this would remove another impediment to settlement. How we use water is the greatest possible area of savings altogether, but here we can learn from desert like islands from the Georgia Gulf to Greek Cyclades.

And lastly, the land given over to access of sites is the most anti-land conservation abuse. Even retrofitting suburban sprawl to urban villages does not require local roads and then two lane driveways into every kitchen, thereby saving another 25% of land area that can be given over to public green space, private gardens or just more housing units nestled in the forest. This does not mean forcing people into strata title or common land holdings to achieve the design objectives.

Fee simple ownership is still the goal, and at worst, in BC parlance, small house sites in a green commons is fee simple ownership or an island like parcel, but the common road and forest and field held in common has minimal administration and minimal individual responsibility legally or monetarily.

This is important because the needless complexity of oil era attempts at this kind of development that skirted heavy engineering input only caused an explosion of lawyer input and heavy management fees which killed off the spirit of cooperation in land management it was meant to encourage. (Blue Mountain, another urban reserve, future new town site abandoned to suburban sprawl models, can still be salvaged through cluster design rather than urban subdivision designs from the car planning days, in fact such sites might become urban under such a model at low cost and provide higher sustainability as well as improve the environment in the final product.

Map of incremental hill town centre infill.

In the Thorn Hill site however the rural residential interim step can be avoided. Incrimentalism would still apply but the long range infill density would be recognized in day one and fee simple ownership sites established. The exception to this would be the urban village and town core areas where mid rise buildings would necessitate strata title or condominium ownership, with cooperatives being the recommended best option for a longer range price stability as communities start to stabilize socially in a post oil community.

Current mobility patterns will change, the incidence of family relocation will cut back as the craziness of the overheated oil era economy cools right down. Families of course will still move, but roots in several communities will become critical, access to housing in more than one place, even communally will be a safeguard for guaranteeing having a place to live for your family. The Wild West exploitation of real estate will end as people realize the frontier is no more. This will create a pattern of ownership and attachment to the land and community closer to European and even First Nations attitudes. Incremental accretion in the hill towns cannot be a generation in the making with an interim rural land use, but full urban village densities and built form with accretion within the lots themselves in response to changing family and community needs, to the build out point where the maximum density is achieved and the greenbelts and farmlands and forests, the green fingers are left intact.

The need to move communities to the hill towns and off the farmland seems obvioius to people from places that already do that out of common sense, but BC has inherited a prairie mentality of the fear of building on slopes. There is also a vested interest by a development community that advocates building on farmlands just because it is easier. The famed Agricultural Land Reserve set up in 1972 has been gutted by the current government so that the farmland is being whittled away even with the Land Commission still in place. Scientific Planning of the region has been replaced by a planning for one's friends and business acquaintences. As a result BC which only raises half of its own food and will need to raise all of it soon, is under assault by short term thinkers. This is why the hill towns of BC have to be instigated and under a new charter of sustainability now, not a generation too late.

The map of an urban village shows the sequential infill of development based on a set of pattern language guidelines more than prescriptive density. It involves going for maximum build out of lots as early as possible, not imposing the strange penalty of maximum densities where buildings have to be demolished for new ones. The 'School Marm's' approach to density as a dirty word has to end now. This will accelerate the nodal agglomeration which makes a new village start healthy functioning as a service centre and social focus much earlier. Of course the role of the private car pretty well disappears, most people are now within walking and bike ride distance. Shuttle electric buses and aerial gondola connections to regional trains completes the mobility needs of daily requirements in the post oil pattern of community. In health terms alone this is a better community; as the need for cars is gone at the same time the car and the gas to drive it, both become unaffordable. In this case, another historic function of urban green space returns, the meadows to keep horses for village and the historic 10 mile round day trips and for local transportation.

This still leaves us with a harsh reality however; we need the local mobility of service vehicles, farm delivery vehicles, garbage pickup albeit reduced by recycling The streets designed for them first will be reconfigured so they function within otherwise pedestrian realms. Even with relocalization, service traffic is a necessity, even at a reduced scale.

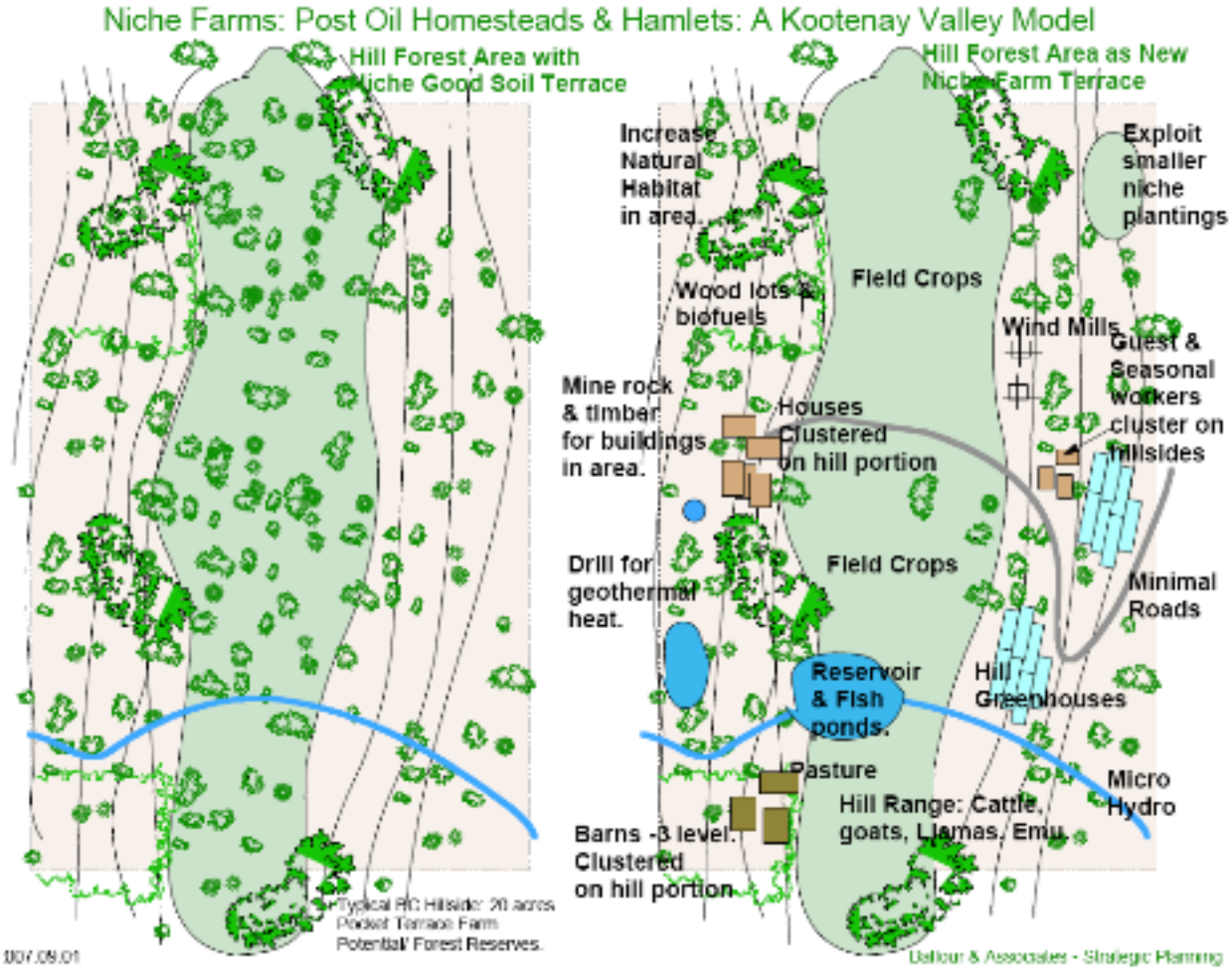
Another victim of land use planning for post oil is any notion of regional land use that is land wasteful and temporally underutilized. Regional drive in churches will pass, just like regional scale big box stores. We will need to find other localized functions for these white elephant projects of the 20th century. Like office parks designed for the automobile era, the best hope for adaptive re-use is for such places to evolve into their own community by adding housing and industry, as long as this is not on farmland, in which case a simple reversal of land use is in order.

The Post Industrial Age Reclamation of the former BC Resource Towns.

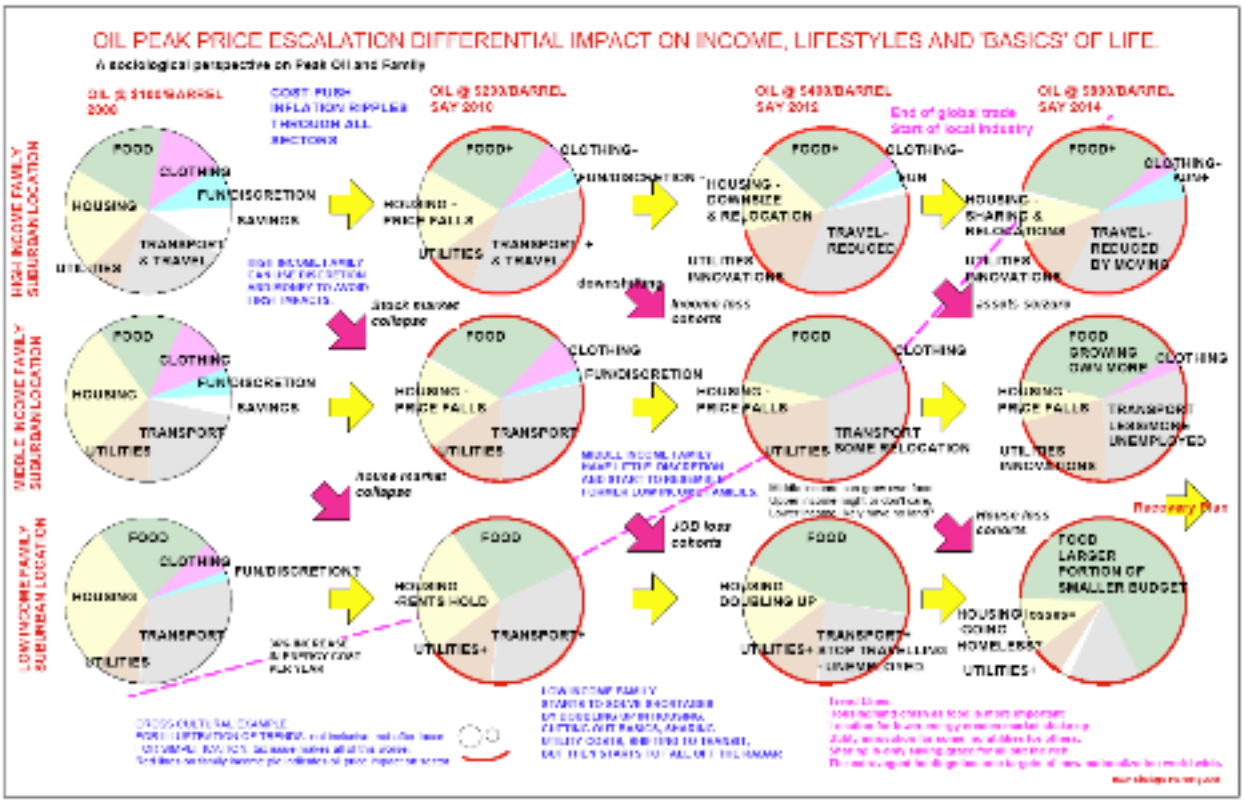
Canada is not a frontier country any more and the boom and bust mentality of one resource towns needs to be adjusted for long range sustainability. We cannot keep having families shuffled to the next big job in another town of uncertainty or unemployment added to a big city when the investment has been lost in the small resource town.

The greatest hope is that the workers who have so much invested in home and community will come together, form cooperatives and take over the now devalued or dying industry to operate at a lower level until new demands are found. Integral to this is then need for these towns to have officially assigned to them, the timber licenses and mineral rights to carry on legitimately. What also needs to be added is local control over all other local resources and environmental management of land forests and water, not for development but for stewardship in a holistic approach, with a certainty of access. This of course would still be policed by the senior government agencies to make sure abuses are avoided. This also applies to First Nations communities. Applied at the regional scale, we now are looking at the workable county level of government, and for the big urban areas, a City State form of government; elected, accountable, and efficient, removing the conflict between various levels of government which in itself is an unsustainable system of governance.

This level of social engineering has been called 'forced relocation' by some, who have read only part of the proposal. All of these suggestions are not force at all but proposals to make whole and sustainable communities for the post oil age. To not move in the direction to create Whole Communities will mean urban and suburban areas will empty and collapse by themselves. The SSP process is trying to deal with consciousness raising and preparedness to avoid that pain and to get families and communities to act together to achieve the needed shifts in the pattern of community before it is too late.



Bob Williams has led a decade of summer classes to Northern Italy to expose North Americans to the cooperative movement in action. Without going into any detail here, the references should be made for anyone wanting to look at new alternatives for failing communities that one wants to rescue, not abandon. The frontier culture built into North America stresses the individual over cooperative action, which has been part of our downfall as we race each other to last of the spoils of the earth. The depleted resources cannot be treated the same way or in fact we loose our cultural heritage in the way of the movie Mad Max. The SSP exercises of the Vancouver City Planning Commission which led to the SSP manual started out the same way, but trying to find the path of cooperation means we have to use the human part of our brain, not the reptilian portion.



The Urban Agglomerations and Triage.

The Worlds largest masses of urbanity where big cities reach out to touch each other an obliterate the countryside in-between are most at risk. Their best hope is that the new cancer in between them dies off and is replaced with green sustenance again, a pattern of small town and farm and field of such significance that it not only can sustain the reworked spaces in between the cities, but the cities as well. This is just not likely however given the need to put more human and animal energy into farming for example. A failure to do this properly will likely result in a collapse in total, in which case nature will just reclaim the whole lot. In trying to act impartial, it can easily be concluded that this is just as well until we remember that it is the fate of most of us that hangs in this balance. So cooperation is a necessity, awareness is vital, and action is too late but lets try doing something rather than argue about how much time we do not have left.

Luckily Europe will not suffer this same degree of suburban reversal as it has avoided the worst excesses of North American oil age planning for cars first and maybe people later. Africa and Asia in the third world category who feared they might never catch up can now thank fate that they are where North American is likely to wind up. This is where Learning from the Third World arguments grew out of the Vancouver 2006 World Urban Forum reactions. Shear population pressures will likely cause upheaval when essential supplies run low and access to farmland is restricted so no self help options are open. The collapse of social order and its susequent control is pretty welll the only area that governments have address global impacts, hot proactively but as a police state reacionary force against its own people.

Social Engineering on the Federal Scale.

While areas of the US, southern Europe and Africa suffer a new climate extreme, some hope is held out for some heating in climate change causing benefits in parts of Canada and Siberia and perhaps Argentina and Chile south. These areas are not as significant as the areas lost to new deserts and loss of aquifers, but the extreme of opportunity will not be lost on the masses of people displaced by climate change and economic upheaval from the end of cheap energy.

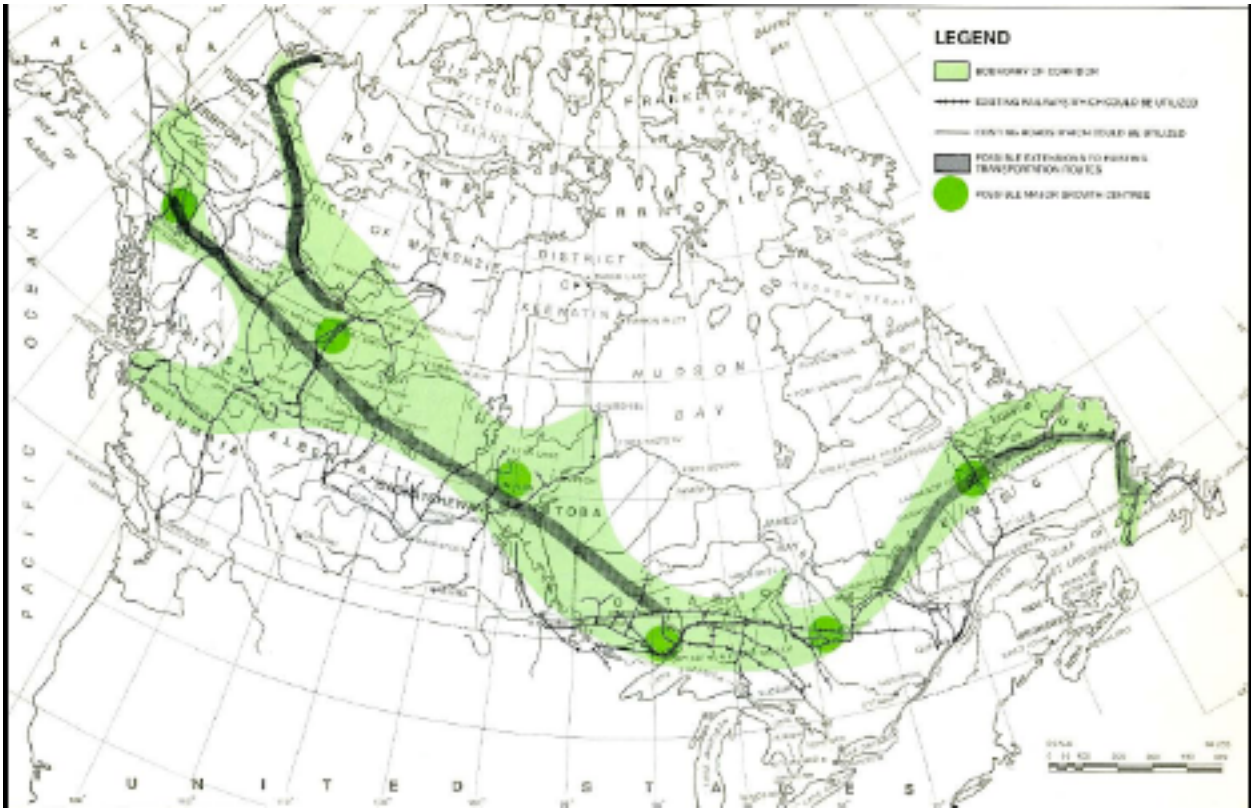
The new areas of high attractiveness (relatively speaking), means huge and rapid pressure might be put on these new areas, subjecting them to potential environmental collapse sooner than would be otherwise expected.

The other point is that the southern belt of existing Canadian Cities in themselves are not sustainable or self sufficient in a post oil economy, so the question has to be asked, can the 1969 Mid Canada Development Corridor plan presented to the Trudeau government, be made into a now practical way of accommodating mass migrations to new towns on the edge of the now migrating Boreal Forest?

The plan by Richard Rohmer and Acres International was considered premature in 1969 but perhaps not now. The resources are there but for one critical one: the soils are poor.

New research into historic methods of soil creation have yielded new solutions which may help new settlement with farms not just in this belt but world wide as we move from oil based agriculture to more natural means of production. One of the best hopes for this kind of site, and for soil remediation and for agriculture inside cities is the Terra Preta or intentional use of charcoal in soil, as a filter, as embodied carbon capture or retention, as a nutrient for new crops. At a small scale even household slow conversion of household waste biomass can create new home based soil creation and amelioraton. We will need to look at this on a regional scale to make borderline new towns sustainable in areas like the Canadian Shield which stretches from Labrador into Saskatchewan and Nanuvat.

The whole strategy of this wholesale new town approach is covered in more depth in the presentation for July 2008 for a Canadian Federal Policy conference on Agriculture, in Winnipeg. At that session, more detail will be introduced in all three levels of these discussions, looking at the workings of logistics to make them work in new policy and in mobilizing citizen response in their own adaption to global impacts planning.



This paper was presented for the still informal 2008 Agricultural Task Force in a follow up to the Wordl Urban Forum of 2006. It was also to be presented to Oxford University review of Architectural programs for the UK and to the University Planning Session in Skorpios, Greece in September 2008, which now will be posted instead to www.plancanada.com.. It is a short history of the SSP process started in Vancouver during and after the World Urban Forum of 2006, on how Global Impacts will affect our cities and ability to survive as a civilization. The range of adaptive planning processes in the face of Peak Oil and Climate change range from the micro level; planning for land use changes in cities and on the urban edge, to medium or regional scale of adapting to post oil travel and supply of food and energy, to the macro scale of adapting new regions to growth from mass migrations. In the end, we face such huge changes that the greatest impediment is the inability of humans to recognize the problem or to accept the need to change in time to save themselves from further grief as resources become more scarce. This paper is offered with hope that we can act and in time to acheive a soft landing for our cities rather than a social-economic collapse.

Richard Balfour MAIBC
July 2008, Vancouver and Winnipeg.