

**Lane Transit District
Federal Transit Administration**

**Environmental Assessment
West Eugene EMX Bus Rapid Transit**

**Request for a Revised Environmental Assessment to
include cost estimate details, incorporation of Peak
Traffic and Peak Energy into the traffic model and
compliance with Oregon State law requiring
coordination of land use and transportation planning**

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www.forestclimate.org
Clearcutting the Climate - Forest Biofuels - Restoration

www.oilempire.us
A Political Map: Connected Dots
Limited Hang Outs - Best Evidence - Disinformation

www.peakchoice.org
Peak Choice: Cooperation or Collapse
Hierarchy of Needs: Earth - Energy - Money
Local, Bioregional, Global Permaculture Solutions

www.peaktraffic.org
Peak Traffic: Transportation Triage at the End of the Age of Oil

www.sustaineugene.org
Green Eugene or Greenwash?
Big Steps to Sincere Sustainability

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www.postcarbon.org/new-site-files/Reports/Searching_for_a_Miracle_web10nov09.pdf

SEARCHING FOR A MIRACLE

Net Energy Limits and the Fate of Industrial Society

by Richard Heinberg Foreword by Jerry Mander

A Joint Project of the International Forum on Globalization and the Post Carbon Institute. [False Solution Series #4]

September 2009

www.road-scholar.org/wep-slideshow.pdf

WETLANDS: West Eugene Transportation, Land and Neighborhood Design Solutions

www.oilempire.us/peak-electricity.html

Peak Electricity: coal, gas, uranium are all peaking by Mark Robinowitz

Summary

I wanted to support the West Eugene EMX bus rapid transit extension. I spent years exposing the problems of the proposed West Eugene Parkway. Documenting the WEP's illegalities helped persuade the Federal Highway Administration (FHWA) to select "No Build" for the planned highway.

But I have read the EMX Environmental Assessment and can't support this project, either.

Public transit can be planned well and it can be planned poorly. It can be designed to be cost efficient and it can be overpriced to give megabucks to road construction companies. Journalists have an obligation to describe the difference if they are watch dogs and not lap dogs.

Oregon law requires coordination of transportation and land use. Intelligent urban design is a factor in planning quality public transit.

In 2002 the State Supreme Court upheld Hood River's restriction on big box megastores which damage local economies and are hard to serve with transit. The City of Eugene rubberstamped more big boxes, both under Republican Mayor Torrey and under Democratic Mayor Piercy, even after initial planning was underway for West 11th EMX.

The West Eugene line would cost about a hundred million dollars, a bit spendy for a bus lane that is partly in mixed traffic, especially since giant bridges and overpasses are not included. The Environmental Assessment did not include details for the price tag even though the National Environmental Policy Act requires that federal decisions cannot be made with proprietary data not subject to public review.

After complaining about the absence of the cost estimate in the E.A., Lane Transit District sent me a copy of the project's budget. \$11.6 million would be for roadway work. Utility relocation would cost \$13 million. Temporary and "indirect" costs would be \$14 million. New buses would cost \$9 million. Right of way condemnation would cost about \$4 million. Consultants would cost \$14 million. Accessways during construction would cost \$7 million. 27 bus stops would cost \$7 million, or about a quarter million per bus stop (more than the cost of building most new houses).

The EMX study states a purpose would be to reduce traffic congestion in the next two decades.

The study uses the Lane Council of Government's LCOG's traffic model for predicting traffic trends, even though LCOG's estimates have been wildly inaccurate. LCOG and ODOT have repeatedly overestimated traffic predictions for West 11th. In 1990, an early study on the WEP predicted West 11th would be impassible by 1996 without the Parkway, and then in 1997 further predicted the same scenario by 2015 if the WEP was not built.

Traffic levels in Lane County peaked in 2003, according to LCOG and Oregon Department of Transportation. Nationally, traffic levels have also peaked, according to the FHWA. The rise in the price of petroleum forced some reduction in travel demand. Higher gasoline prices encouraged many people to drive a little less.

In 2004, LCOG stated that "real fuel prices are assumed to increase from \$1.50 [per gallon] in 2002 to \$2.50 by 2025, while average vehicle fuel economy increases from 20 to 30 mpg." Why were these professional planners so wrong?

LCOG, LTD, ODOT and other transportation agencies refused to consider that oil prices might rise as we reached "Peak Oil," the point where oil production reached the maximum point. Despite record prices and desperate deployment of extremely expensive technologies such as fracking, global oil production has stayed relatively constant for the past several years.

Oregon's oil supply is almost entirely from the Alaska Pipeline, which peaked in 1988 at over two million barrels a day, and has now declined about two-thirds, to the daily flow rate it had in its initial months of start up. When the Pipeline declines a little further, below a half million barrels a day, it will be difficult to continue the flow through the Arctic winter.

Before he retired, then LTD General Manager Mark Pangborn admitted to me that he agreed that Peak Oil was an important concern. LTD ignored warnings that oil prices were going to increase and then had to cut service and raise fares as more people drove less, a pattern shared by nearly every other transit system in the US.

LTD needs to rethink its long range planning to consider how to run public transit as oil prices continue to increase and oil availability continues to decline. This isn't partisan politics, the result of environmental organizations blocking oil exploration or greedy oil companies. The Earth is abundant but finite and we're passing Peak Oil. We should think carefully about how to use the remaining fossil fuels as a "bridge" to a relocalized, lower energy society.

LTD and LCOG transportation plans

"real fuel prices are assumed to increase from \$1.50 [per gallon] in 2002 to \$2.50 by 2025, while average vehicle fuel economy increases from 20 to 30 mpg."

- Lane Council of Governments, December 2004, Central Lane MPO 2004-2025 RTP, Air Quality Conformity Determination, p. 23

[note: LCOG was only off by 19 1/2 years in their prediction for gasoline price increases]

“In conjunction with the Oregon Department of Energy, Metro will develop a contingency plan for dealing with short term gasoline shortages. Initially, this will involve adoption of a framework plan which will establish the need for refinement of the key elements.”

– Metro Regional Transportation Plan (Portland), updated October 6, 1983

[Metro in Portland has still not done this preparation work on a serious level.]

In 1990, the Final EIS for the West Eugene Parkway predicted Level of Service F on West 11th by the 1996, which was an exaggerated claim. In 1997, the Supplemental Draft EIS for the WEP made a similar (wrong) prediction for West 11th traffic for the year 2015. Neither estimate included the concept of Peak Traffic, Peak Energy or any other aspect of the limits to endless growth.

During the WEP debates, I co-authored the WETLANDS alternative: West Eugene Transportation, Land and Neighborhood Design Solutions (sent separately as part of these comments). One aspect of WETLANDS was an examination of West 11th and West Eugene traffic conditions, some are described in the attached presentation. In summary, some modest intersection work on West 11th would work much better than the WEP (due to adding turn lanes at major crossroads). The cost of that work would be about the same as the money wasted on endless studies of the WEP, especially the studies continued after June 2001, when Mayor Jim Torrey, County Commissioner Bobby Green and ODOT Transportation Commissioner Randy Pape all conceded that the WEP could not pass legal muster and "No Build" should be selected. (That "No Build" decision happened at the "West Eugene Charette," an intergovernmental forum of WEP proponents who admitted the project couldn't happen and then later forgot to mention their consensus conclusion and tried to push a dead project through, wasting more millions of taxpayer dollars.)

One reason the WEP would not have worked, from a traffic perspective, is the West 11th intersections with north south roads that would have had WEP intersections or interchanges would have seen doubling or tripling of traffic flows. These West 11th intersections are not clogged, in part because the north south flows are modest and the existing intersections can handle the flows. Boosting the north south flows would overwhelm the capacity of these West 11th intersections. The 1997 SDEIS predicted that West 11th, even with WEP, would still have failed intersections (although the impacts of Peak Energy and Peak VMT were ignored).

West Eugene has three major areas of population density - 18th Street, River Road and Bethel / Highway 99. The WEP would have gone as far away from each of them as possible, one of the reasons it didn't work from a traffic perspective (let alone the fiscal and environmental perspectives). The West Eugene MX would be a little closer to the 18th Street / Amazon Creek residential areas, but it's still focused on the West 11th strip malls that are not pedestrian friendly and mostly contain car oriented businesses with giant parking lots.

If the City was serious about making West 11th transit friendly, it would have imposed a ban on more big box megastores, similar to the law passed in Hood River (which was upheld in the Oregon Supreme Court in 2002). It's not a surprise that Mayor Torrey pushed big box stores, but it was a disappointment that Mayor Piercy chose not to change course, even though there were several City Councilors who sought that change (especially David Kelly). In case any one cares to revive this idea, an excellent resource is the New Rules project of the Institute for Local Self Reliance -- www.newrules.org

Privately, ODOT and FHWA planners were aghast at the stupidity of the City of Eugene in allowing the Wal-Mart / Target combination to be built at the West 11th / Beltline intersection. It seemed that the City wanted to clog up that intersection to help force the WEP to be approved and built, since it is well known in transportation planning circles that big box stores worsen traffic.

In 2002, the cities of Eugene and Springfield, Lane County and LTD passed amendments to the TransPlan to include more (but not all) of the proposed West Eugene Parkway in the fiscally constrained 20 year transportation plan. The cities and the county had some dissent to this unnecessary, overpriced highway - even the city of Springfield had two councilors vote against it. LTD's board was the only jurisdiction that was unanimously in favor of the Parkway even though there were no transit features proposed for it. There were no Bus Rapid Transit lines in the design or substantial improvements to existing bus service. (The bus to Veneta would have used the WEP along with regular traffic.)

In 2011, before he retired, LTD General Manager Mark Pangborn told me he agreed with me about Peak Oil, but didn't offer any explanation why LTD chose not to pay attention to the warnings that Peak was coming. He also could not explain why LTD voted with the local highway lobby for more and bigger roads at the Lane Council of Governments.

EA alternatives overlooked

I could not find a discussion in the EA why a proposal under consideration in 2002 -- to route the busline between buildings just north of West 11th (between Garfield and Seneca) was rejected.

I also did not see a discussion about merely using the double articulated buses, which are already in use on several existing routes, would not be more cost effective than the EMX design. Yes, they don't have the double sided doors but they seem to have more seats. Since much of the most important part of the route is already in a mixed traffic lane, the Revised EA should consider merely having double articulated buses instead of the full EMX proposal.

The National Environmental Policy Act (NEPA) requires a revision to the Environmental Impact Statement to address global Peak Oil, Peak VMT (Lane County, Oregon & US) and the end of the Alaska Pipeline, which fuels the study area.

40 CFR 1502.9: Draft, final and supplemental statements.

(c) Agencies:

(1) Shall prepare supplements to either draft or final environmental impact statements if:

(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or

(ii) **There are significant new circumstances** or information relevant to environmental concerns and bearing on the proposed action or its impacts.23 CFR § 771.130 Supplemental environmental impact statements.

(a) A draft EIS, final EIS, or supplemental EIS may be supplemented at any time. An EIS shall be supplemented whenever the Administration determines that:

(1) Changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS; or

(2) New information or circumstances relevant to environmental concerns and bearings on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS.

The Peak of global petroleum extraction, Peak Vehicle Miles Traveled (in Lane County, Oregon and the US) and the decline of the Alaska Pipeline to near "Low Flow" levels are "new circumstances" that impacts the project's purpose and need. A revised Environmental Assessment is required.

Public Transit After Peak Oil

Transit projections for greater density ignore peak energy

Regarding the assumption that more density is needed for viable public transit - this is true within some scales, but as we pass Peak Oil these assumptions no longer apply. Here is a discussion about urban use of energy, density requirements for transit, and how these factors may be impacted by Peak Energy.

Most of the electricity used in Eugene is generated outside the Willamette Valley. EWEB's dams make enough electricity to run a small part of downtown, not the community as a whole. BPA's giant dams make much more power than the much smaller installations in the tributaries of the Willamette River (see Atlas of Oregon, 2001 for a nice list). Most of our local dams are likely to break during the next Cascadia Subduction Zone earthquake, and therefore pose ultrahazardous risks to floodplain communities. About half of the power used in the Northwest electric grid comes from burning coal. A significant minority is burning natural gas, which is past peak in North America (a really dumb way to use fossil methane). Composting our poop would be great on a home scale, but it's incapable of the scale needed to run major parts of the power grid.

Human scale is also important for non-fascist architecture. Most skyscrapers have very little connection to human reality, even if there's a shop or two on the ground floor.

Public transit will be more popular and necessary after gas rationing or very expensive oil. Over the past year and a half, as gas prices have increased, the growth of vehicle miles traveled in the US has stopped, and public transit systems all over the country have reported increases in usage (including LTD). The total VMT hasn't declined in most places, but the increase has finally flattened out. As prices continue to oscillate steadily upwards, traditional assumptions about density and transit will probably be discarded, although that will probably take a few more years at this rate of shift. These assumptions will probably be assumed long after they're no longer fully relevant. Gas rationing and / or much more expensive oil would make transit much more popular.

During many years of freeway fighting I have had a number of professional transportation consultants (for contractors and governments) privately admit that that Peak Oil will lead to a shift in transit / land use assumptions, but none of them dare admit this in public, since it is not politically correct.

Few environmental groups dare talk about this probable scenario either (after decades of awareness of Peak Oil, none of the national environmental groups yet include it in their analysis of the ecological crisis and most endorse new transportation bills to expand the National Interstate Highway system as long as there's a lesser amount of funding for public transit). Plus, most of the national environmental groups take oil company money (called foundation grants) and they don't want to rock the boat.

I suspect that the transportation agencies will be better able to recognize the shift than will the environmental groups, since the government actually has to deal with the situation while the eco groups get their status from pontificating (which has little connection to the daily logistics of moving people around). However, those parts of the government (politicians) who seem to exist to satisfy their contributors (sand and gravel, real estate, construction, etc) will probably have the hardest time adapting to the new realities. Every species that is put into overcrowded conditions suffers for it, including human beings.

The so-called new urbanism and smart growth ideas usually fail to examine all of the other inputs into a city that make life for humans possible - food, energy, water, sewage out, etc.

If the only impact on the Earth that we have was personal transportation, then everyone should live in giant skyscrapers

But if people want to eat fresh food (not Soylent Green), then sufficient land needs to be dedicated for local production. A good model demonstrating this does not exist anywhere I'm aware of. Perhaps suburbia after Peak Oil has the potential for it, if the lawns and parking lots are converted into food production. Food Not Lawns is probably closer to the answers than Smart Growth (which was a slogan invented to distract environmentalists from highway construction - see the "Peak Traffic" article linked above for details on that history).

John Robbins wrote in Diet for a New America that a walking meat eater (getting their meat from the grocery store) uses more oil than a driving vegetarian. It would be interesting to see the energy consumption of an urban dweller who does not drive yet their food is driven very long distances versus a driver who grows much of their own food and does not require distant energy sources to heat or cool their home. (Of course, the paradigm of vegetarian bicyclists who grow their own food and use solar energy is closer to the ideal ...)

Local food production, local water, local energy, local sewage, zero waste and similar techniques would be needed to reduce the ecological footprint that a city has. Buildings use about as much energy as transportation, which means that a metropolitan area that has poor land use / transportation linkage uses about as much energy as a region that has good mass transit. In other words, while New York City has few cars and excellent public transportation, nearly everything used there is transported a long distance, which negates the lesser impact of all of those trains. A driver in Eugene who eats locally might have less impact than a New Yorker eating vegetables from the central valley of California, but I haven't seen any calculations on that. I merely offer these examples to expand the discussion beyond personal transportation issues, which is a minority of total energy consumption and ecological impact, although probably the most obvious part of the energy puzzle.

Most "modern" cities have ecological footprints that are dozens of times larger than the city. Clearcuts in Cascadia, mountaintop removal in West Virginia, mineral mining in Nevada, deep sea drift nets in the Pacific, oil drilling in the Gulf of Mexico, copper smelters in Chile, factories in northern Mexico and eastern China, confined animal feed lots in Kansas - these and many more ecocidal activities are to fuel metropolises and must be included in analyzing the full impact of any / every urban dweller. And public transit has many environmental impacts that must be

examined as part of any alternatives analysis - the fact that a bus or train has many people on it does not make it "sustainable." Efficiency and sustainability are NOT the same thing. I've heard many well meaning people suggest that the light rail system of Portland makes that city a "sustainable" community, which is ridiculous and sad. More efficient use of non-renewable resources is better than less efficient use of those resources, but that doesn't mean the behavior can be continued generation after generation into the future. Even bicycles, the most efficient transportation ever invented, will be difficult to maintain without sophisticated metallurgy making ball bearings (a technology that seems to have completely abandoned North America, our ball bearings are made elsewhere these days).

Peak Oil and Transportation

<http://www.peakoil.net/Newsletter/NL39/Newsletter39.html> [Association for the Study of Peak Oil]

334. New roads and a tunnel in Switzerland (March 2004 issue)

Switzerland operates a devolved form of government seeking to involve its citizens in major issues rather than impose decisions by parliamentarians under the iron grip of party machines, as practised in many so-called democracies. The decision now facing the Swiss people is whether or not to modernise the highway system and build a new tunnel under the Alps. Linear extrapolation of past trends of traffic and goods transport has no doubt been used to justify the mammoth undertaking, but it is meeting strong opposition, partly built on recognition of oil depletion. A cartoon has appeared depicting a future scene of a cyclist and an old man looking down on an empty highway with trees growing through the cracks. The old man comments "In my day we believed in all that" to which the cyclist replies "You still had petrol" The Swiss Federal Office of Energy is holding a Workshop on oil and gas resources on February 27th which will be open to the public. ASPO will be represented by Campbell and Bauquis in a discussion with representatives of the IEA, IHS, Schlumberger and Chevron-Texaco. It remains to be seen if it will have any positive outcome, as the accompanying report commissioned by the Federal Office simply contrasts the views of so called "optimists" and "pessimists" to reach a neutral position, absolving the government from the need to take any firm action. The likely outcome is that the investments in roads and tunnels will be neither approved nor rejected but simply delayed – it might indeed be a good political response, given that impact of peak oil will soon be self-evident.

Published on 4 Apr 2005 by New Zealand Herald. www.energybulletin.net/5112.html

New Zealand: No easy solutions in sight to keep oil prices in check

by Cameron Pitches

... New Zealand's transport agencies need a contingency plan for the rising price of oil. At US\$70 a barrel, the Auckland Regional Transport Authority should be looking to secure options on electric rolling stock for our rail network.

At US\$100, the Government should be suspending all new roading projects. At US\$200, Auckland International Airport's proposals for a second runway should be shelved in favour of a container wharf for shipping.

Reliance on emerging new energy technologies such as hydrogen won't help us in the short term, either.

The so-called hydrogen economy is a net energy-loss proposition - more energy is put in to the extraction, compression and storage of hydrogen than comes out of it.

In addition, more than 90 per cent of hydrogen is obtained from fossil fuels, which defeats the purpose of an alternative fuel.

www.sevenoaksmag.com/commentary/63_comm2.html

A bridge too far: Big men and their little toys

May 24, 2005

Am Johal

Building our way out of congestion through highway expansion seems incredibly short-sighted, especially in the context of oil reaching \$100 a barrel by 2010 and a public transportation sadly in need of a billion dollar overhaul.

<http://www.fcnp.com/511/story3.htm>

The Peak Oil Crisis: Part 4, A Sudden Shortage

Tom Whipple May 19 - 25, 2005

A few weeks ago, the International Energy Agency (IEA) in Paris released a study called "Saving Oil in a Hurry" in which they examined what the oil importing countries could do should there be an interruption in supply. This 165-page document looks at previous oil shortages — the two in the 1970's and some recent ones in Europe — to develop recommendations as to what governments should do when there is more demand at the pumps than there is gasoline available.

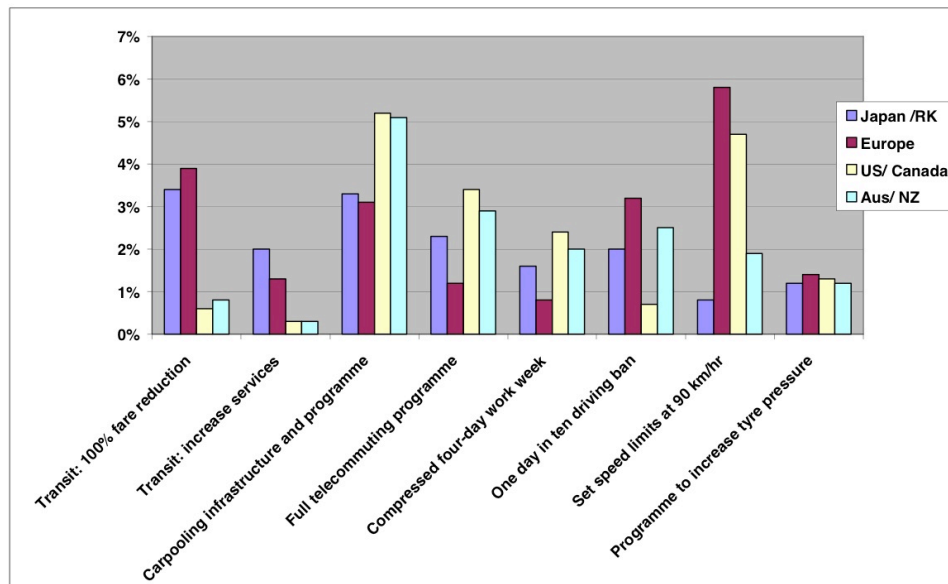
They conclude that the overriding concern during a government intervention is to hurt the economy as little as possible. The study emphasizes that there are important differences between measures simply restricting travel, such as a Sunday driving ban, and those that assist or encourage motorists to cut fuel use such as car-pooling or the concept, unknown here in America, of "ecodriving" (light foot on gas). The major cost associated with fuel storage is lost mobility and the reduced economic activity that results. After much thought, the IEA came up with seven general approaches that would produce savings of energy (in a hurry):

- Increases in public transit usage.
- Increases in car-pooling
- Telecommuting (working from home)
- Changes in work schedules
- Driving bans and restrictions
- Speed limit reductions.
- "Ecodriving"

There can, of course, be endless details to these general approaches to saving transportation energy and the savings garnered by each of these approaches will depend on how they are implemented. There is a big difference between a car-pool publicity campaign and expansion of strictly enforced HOV to all lanes of all major arteries and the denial of parking to single occupant vehicles.

The publication of internationally agreed set of approaches to saving transportation energy at least gives us a basis for discussion on the day when the real shortage arrives.

Percent reduction in total fuel use by IEA region, selected measures



Imperial College
London

from "Saving Oil in a Hurry," International Energy Agency, 2005

www.bloomingtonalternative.com

Confronting the new transportation paradigm

May 2, 2004

by David Coyte

While Indiana's gubernatorial candidates are jockeying for positions on the I-69 proposal and Citizens' group are working up lawsuits on the project, events are transpiring in Indiana and around the world which will render this debate obsolete.

In spite of the recent gas tax increase, Indiana's Department of Transportation has some serious fiscal problems. Rather than scale back new construction projects, INDOT has changed its revenue projection methods to make them look affordable. The new revenue projection formula uses the historical trends of the 1990's to predict revenues for 2002 – 2011.

The significant trend during that period was an incredible increase in miles driven. With the higher gas tax and assuming the same growth in travel INDOT expects an increase in revenue for road "preservation" and new construction of about \$100 million per year – most of which will go to new construction. This is a 15% increase in annual funding for these areas as opposed to the traditional 2%.

There are problems with these numbers both in their likely accuracy and in how they are slated to be spent. Most of the assumed \$100 million in additional annual revenues are targeted towards new construction leaving an approximate \$25 million increase per year for maintaining our existing roads. Since the cost of maintaining a mile of interstate during the late 1990's was rising at over 25% a year, this

formula sacrifices our existing road system for new construction – which then becomes an additional maintenance burden. The assumption in these forecasts that the driving trends of the 1990's will continue is highly suspect. Road funds dropped by well over 100 million between 2001 and 2002 – primarily because of the economic downturn which is still with us. This situation, coupled with rising fuel prices, makes the likelihood of continuing 1990's travel growth most unlikely. INDOT's Long Range Plan Fiscal Forecast ends with this warning: "Again, it is important to note that the fiscal forecast assumes additional funding from some source will occur in the future. The time and amount of the additional funds are not forecasted." This statement should trouble economic planners.

The Global picture is even more troubling. There is substantial evidence that world petroleum prices will begin rising sharply within the next 10 years. While there is plenty of oil resources left on the planet, the cheap and easy "conventional oil" resources are about gone. What's left will be much more costly and slower to produce creating "real", as opposed to the "political" shortages we experienced in 1973. Some experts believe that the current fuel price increases represent the beginning of this situation, and events are occurring which support that belief. In February it was announced that refineries are beginning to ration supplies to independent retailers. OPEC has announced it will cut production in April. This could be due to the reduced ability to produce rather, than as claimed, an effort to support prices which are already well above price targets.

Oil is to our economy what water is to agriculture. Because of this you would expect the planning agencies and the business community to be sensitive to its availability. This is not the case. Much of the blame lies with the Energy Information Administration (EIA), a division of the Dept. of Energy. The EIA is dominated by economists who believe that petroleum will be "created by demand" over the protests of the petroleum geologists who are responsible for finding and producing it. Furthermore, the EIA has accepted huge increases in the oil reserve estimates that came out of the Middle East in 1988 and '89 - which most geologists find highly suspect. In 1999 the EIA predicted that oil prices would stay under \$23 per barrel through 2020 (1997 dollars)*. In January of 2004 the EIA predicted that the price of oil would stay below \$29.00 a barrel in the high price forecast. Today oil is over \$36 per barrel – yet current EIA predictions are just as optimistic. Presidents from both parties, despite the scientific evidence, have supported the EIA fantasies. No president wants to anger the powerful highway and trucking lobbies, or suggest to us citizens that we may have to curb our energy consumption.

If, as events suggest, oil prices continue to rise, then INDOT's revenue projections are more than just optimistic – they are a destructive delusion which will delay us in addressing the very serious issue of developing and maintaining affordable and effective transportation alternatives. As fuel prices rise, miles traveled (read highway revenues) will drop as people conserve, carpool, and use transit. The need for additional highway capacity will disappear. The need for alternate urban and inter-city transportation services will grow.

There are reasonable responses to this situation: First, stop all new road construction – the cheap gas world has come to an end and we will be lucky to maintain our existing road system. Second, take the money slated for new road construction and put it into rail-based transportation. Two big reasons for this: Freight rail uses 1/10th as much energy as trucks, and maintaining rail lines costs about 1/50th as much as maintaining an equal capacity highway. Because of those efficiencies freight has been moving onto rail over the last decade and we are now facing a shortage in rail capacity.

On the passenger side the solution lies with implementing the Midwest Regional Rail Initiative, of which Indiana is a member. This nine-state plan proposes a high-speed (100 MPH) passenger rail system throughout the Midwest. Indiana's cost to implement this plan would be less than the 7 mile long upgrade of I-65 in southeast Indiana. The US Department of Transportation studies have shown that this system will require no public subsidy after the initial few years of implementation. This regional system, coupled with rail based transit systems for our metropolitan areas, will address the transportation needs and energy realities of this century.

Creating additional rail capacity is the investment strategy that makes sense. A bonus for moving freight

onto rail is greatly reduced highway maintenance costs. A bonus for investing in rail transit is better access for our growing elderly and working poor populations. Both efforts improve our air quality and positively impact the issues of sprawl and loss of farmland. Regional farmland becomes ever more precious as distant food sources become more expensive to access.

More of us will become transit dependent as oil prices reverberate through our economy. To remain economically and socially viable we need to focus on the new transportation paradigm while we have the time and resources to implement it. That paradigm demands that we maintain the roads we have while aggressively investing in freight rail and passenger rail infrastructure. . It will take political guts to confront this situation. We best find some soon.

There are excellent books and articles on the subject of oil resource depletion: Hubbert's Peak: the Impending World Oil Shortage, by Kenneth Deffeyes, Princeton University Press, 2001; Out of Gas: End of the Age of Oil, by David Goodstein, WW Norton and Co, NY, 2003; and the The Hydrogen Economy: Creation of the World-Wide Energy Web and the Redistribution of Power on Earth, by Jeremy Rifkin. These are all respected scientists. Searching "Hubbert's Peak" will bring up numerous articles on the Web.

* Annual Energy Outlook 1999, Table A12, page 129, EIA, December 1998

David Coyte is President of CART, the Coalition for the Advancement of Regional Transportation, which is headquartered in Louisville and has been working on transportation planning issues for over a decade. Coyte has contributed articles to planning magazines, newspapers, and non-profit newsletters. A version of this piece will appear in Louisville's Business First Magazine in May.

Peak Energy is here, Peak Denial is not

The reason we use fossil fuels is they are extremely concentrated. Living on our solar budget is what we all will do, willingly or not, as the fossil fuels are depleted, but they're going to provide less than what we have been used to. A solar powered society would have a smaller, steady state economy since storing large amounts solar energy is physically difficult and much more complex than using oil, natural gas and coal. Relocalizing production, hyper efficiency, abandoning the illusion endless growth is possible on a finite planet, and redirecting resources away from highway expansion, military spending, skyscrapers, and similar boondoggles is needed for to be able to use the remaining fossil energy resources as a bridge to a lower energy, semi-sustainable society.

I've used solar electricity for more than two decades, it is great but it's not going to replace our current consumption. Environmental groups that claim seamless transition is possible from coal, oil, natural gas and uranium to a renewable energy future have ignored depletion of non-renewables (needed to build solar panels and wind turbines). They also urge us to support politicians who promote highway expansion, clearcuts and continued wars as long as we get token gestures that do little to protect the planet. Instead, they should teach people to grow food to reduce energy consumption.

The "transition" has been discussed for a half century yet we are far more dependent on destructive energy now than we were in the 1970s. We have done so little for so long that it's worth asking why this is the case. My guess after a quarter century of asking this question is that the elites are only planning to install enough renewable systems to power themselves, it's like the lifeboats on the Titanic being reserved for the First Class passengers while the Third Class passengers are left to figure out how to swim.

Any effort looking at how much renewable energy could be implemented on the energy downslope must examine the interconnections of fossil energy decline, the synergistic impacts of economic, energy and ecological overshoot, and the difficulty of implementing the shifts as the decline accelerates. My solar panels required a globalized distribution system for the components, raw materials, computer chips, delivery trucks to send them to me, and the digital money for all of the transactions needed to make these things happen. My inverter was made in Washington State but I can only guess at how many countries were involved in making all of the chips and other components in it. That international manufacturing system is based on a oil intensive just-in-time manufacturing system. This isn't to say that some of these things can't still be made as the oil is entering terminal decline, just that it will be much more difficult to coordinate, which means replacing all of it at the current rate is a pipe dream.

The 2005 "Hirsch Report" from the US Dept of Energy predicted we'd need two decades of aggressive mitigation to cope with Peak Oil, and that this would have to happen BEFORE the Peak to mitigate the economic damage. Seven years later, we've done virtually nothing, we're past the peak and the global economy is starting to unravel. Merely financing "alternative" energy is going to become increasingly difficult as economic contraction continues. And as

actual shortages of fossil energy become more obvious, transporting the components will become more difficult.

Any discussion of the need to stop using fossil fuel also needs to mention the need to radically reduce consumption, not merely efficiency but also being willing to live with less. Otherwise, it's not something to take seriously. The industrialists understand this, at least the smarter ones do, although they prefer not to mention it much in public. Most environmentalists these days ascribe magical powers to solar and wind that they can be plug in substitutes for the incredibly concentrated energy sources of coal, oil, uranium and natural gas. Solar and wind power are derivatives of fossil fuels, not substitutes for them. It takes a lot of complex systems to make them happen. Solar hot water and passive solar heating of buildings is simpler but won't run the power grid nor the transportation systems that keep food coming into the cities, although it would reduce the stress on the existing fossil fuel systems if they were retrofitted by the millions. Even in Eugene and Portland, two of the supposedly more enlightened places in the US, I'd be surprised if we were up to one percent of buildings with any form of solar technology on them despite all of the "sustainability" rhetoric infesting public discourse. Most of the local solar businesses are scrambling to find projects to keep their employees hired. Half of the friends I know who graduated from the Lane Community Council energy management program (which teaches renewable energy installation skills) were unable to find local or regional jobs in the industry and are doing other things. So I find it hard to believe there will be some sort of sudden transformation for terawatt solar while the fossil fuel debt-and-growth based economy continues its inexorable decline, although I hope to be too pessimistic and proven wrong.

The best thing I've learned from using solar and wind power is that they could power a smaller, steady state economy, not one based on exponential growth on our round, and therefore finite planet. It's hard to store solar energy and wind power, so accumulation of concentrated resources needed for a growth based monetary system is not really possible in our dominant paradigm. As M. King Hubbert wrote in the 1970s we'd have to move beyond "money" to have a healthy, post petroleum civilization.

We are at Peak Oil, Peak Natural Gas and near Peak Coal and Peak Uranium, but Peak Denial is probably far in the future.

www.guardian.co.uk/commentisfree/cif-green/2009/nov/10/peak-oil-fear-economic-establishment

Too fearful to publicise peak oil reality

The economic establishment accepts the world soon won't be able to meet energy demands, but wants to keep quiet about it

Madeleine Bunting

Tuesday 10 November 2009 14.30 GMT

It is very hard for the average person in the street to come to a sensible conclusion on peak oil. It's a subject that prompts a passionate polarisation of views. The peak oilists sometimes sound like those extraordinary Christians with sandwich boards proclaiming that the end of the world is nigh. In contrast, the the international economic establishment – including the International Energy Agency (IEA) – has one very clear purpose in mind at all times: don't panic. Their mission seems to be focused on keeping jittery markets calm.

Faced with these options the majority of people shrug their shoulders in confusion and ignore the trickle of whistleblowers, industry insiders and careful analysts who have been warning of the imminent decline in oil for over a decade now.

Remember the Queen's question – that uncannily accurate and strikingly obvious question she put to economists at the London School of Economics a year ago after the financial crisis: did no one see it coming? Apply that question to peak oil and the answer is that many people did see it coming but they were marginalised, bullied into silence and the evidence was buried in the small print.

Take the 2008 edition of World Energy Outlook, the annual report on which the entire energy industry and governments depend. It included the table also published by the Guardian today, and the version I saw had shorter intervals on the horizontal axis. What it made blindingly clear was that peak oil was somewhere in 2008/9 and that production from currently producing fields was about to drop off a cliff. Fields yet to be developed and yet to be found enabled a plateau of production and it was only "non-conventional oil" which enabled a small rise. Think tar sands of Canada, think some of the most climate polluting oil extraction methods available. Think catastrophe.

What made this little graph so devastating was that it estimated energy resources by 2030 that were woefully inadequate for the energy-hungry economies of India and China. Business as usual in oil production threatens massive conflict over sharing it.

Now, this all seemed pretty gigantic news to me but guess where the World Energy Outlook chose to put this graph? Was it in the front, was it prominently discussed in the foreword? Did it cause headlines around the world. No, no, no. It was buried deep into the report and no reference was made to it in the press conference a year ago.

The fear is that panicky markets can cause enormous damage – panic-buying that prompts fights over resources, which in turn could lead to power cuts in some places and other such mayhem. But so far in facing this huge challenge, our political/economic system seems unable to cope with reality. We are forced to carry on living in an illusion that we have so much time to adapt to post-oil that we don't even need to be talking or thinking much about what a world without plentiful oil would look like. Reality has become too dangerous.

So in reply to the Queen's question of a few years hence, we did see it coming but we chose to ignore it.

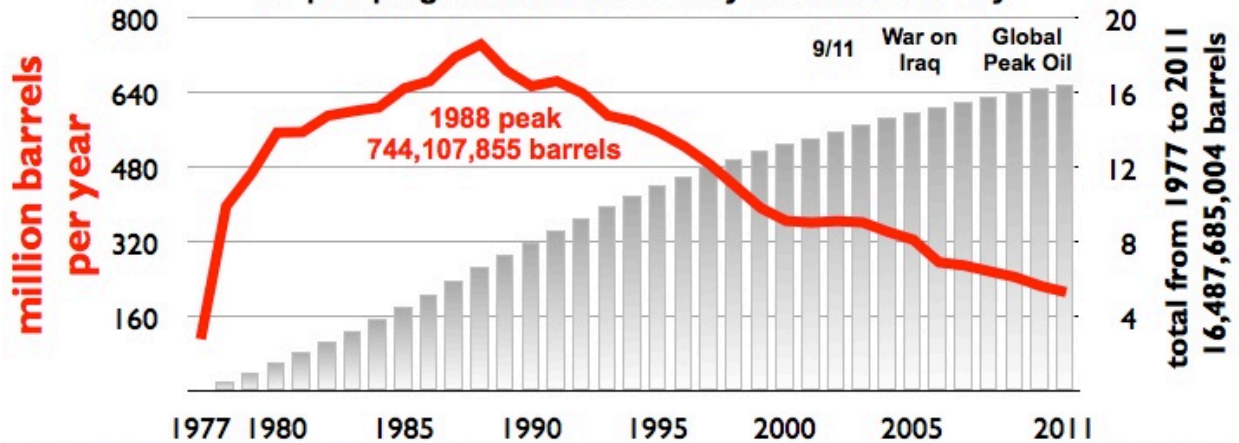
Alaska Pipeline is almost over

Alaska oil extraction peaked in 1988 (over twenty years ago). Clinton Gore opened northwest Alaska to exploration in 1998 (over ten years ago) with barely a peep from the environmental groups, since they're D's and the area isn't called a refuge even though it has the same ecology as ANWR. The real issue with Alaska oil is as it declines it still takes lots of energy to run the pipeline across the state, that's the real reason industry wants more drilling (to keep the pipeline going a few more years).

The Alaska Pipeline requires a tremendous energy input to pump the oil from Prudhoe Bay (in north Alaska) to the harbor terminal at Valdez. While the energy input into the system is dwarfed by the energy density of the transported oil, it is a factor to consider as the oil fields dwindle further.

ALASKA PIPELINE PEAK & DECLINE

2011 flow was 582 k barrels / day, low flow threshold for pumping in Arctic winter may be 500 k bbl / day



posted at www.oilempire.us/alaska.html

data source: www.alyeska-pipe.com/TAPS/PipelineOperations/Throughput

Year 2011

212,756,479 barrels

The Washington Post just ran a story about the Alaska Pipeline decline but "forgot" to mention the Low Flow technical problems they will have when there's no longer enough flow to keep the contents from freezing in the Arctic winter (a problem discussed on the Alyeska Pipeline website but not in the media).

Alaska pursuing unconventional shale oil development to fill its pipeline

www.washingtonpost.com/national/health-science/alaska-seeks-unconventional-shale-oil-development-to-fill-its-pipeline/2012/08/26/5ea879c6-ed51-11e1-b09d-07d971dee30a_story.html

This article notes that the 582 thousand barrels per day figure from 2011 has dropped further to about 560 thousand per day. Low Flow is under 500 k although they may be able to run it down to 300 k, so they claim, if their proposed technical fixes are successful. Perhaps some

fracking technologies may be able to extend the lifetime of the pipeline a little bit, but they require huge investments of money and energy (ie. oil) to work. We are starting to scrape the bottom of the oil barrel now that the cheap and easily extracted oil is winding down. Now we're going after the expensive and difficult to extract oil yet we're behaving as if nothing has changed.

sorry for the wikipedia link:

http://en.wikipedia.org/wiki/Cherry_Point_Refinery
(largest refinery in Puget Sound)

"Most of Cherry Point's crude oil is from the Alaska North Slope. It is brought in by petroleum tankers via the Strait of Juan de Fuca and Rosario Strait and delivered directly to the refinery via the facility's tanker pier near a minor headland called Cherry Point, on the Strait of Georgia.[5] [6] The remainder of the crude comes from a pipeline connected to reserves in Western Canada.

The gasoline and diesel are primarily shipped to filling stations in Washington and Oregon."

<http://205.254.135.24/state/state-energy-profiles.cfm?sid=WA>
Dept of Energy page on Washington's energy

There are not any refineries in Oregon. There are no oil pipelines between Oregon and California (where there is more refinery capacity and some oil drilling in southern California, Oregon's geology did not generate petroleum traps although there are small amounts of natural gas in eastern Oregon.

If you eat food brought on a delivery truck in Oregon or Washington you are dependent on Alaska Pipeline oil even if you do not own a car and ride a bicycle everywhere. I hope somewhere in the Northwest there are politicians and bureaucrats quietly preparing a "Plan B" for when the Pipeline no longer flows in the winter. What part of the world will give up some of their oil usage so Cascadia can still have oil combustion?

http://en.wikipedia.org/wiki/List_of_oil_refineries#Washington
Washington

- Tesoro Anacortes Refinery (Tesoro), Anacortes 108,000 bbl/d (17,200 m3/d)
- Shell Anacortes Refinery (Shell Oil Company), Anacortes 145,000 bbl/d (23,100 m3/d)
- Cherry Point Refinery (BP), Blaine 225,000 bbl/d (35,800 m3/d)
- ConocoPhillips Ferndale Refinery (ConocoPhillips), Ferndale 105,000 bbl/d (16,700 m3/d)
- Tacoma Refinery (U.S. Oil and Refining), Tacoma 35,000 bbl/d (5,600 m3/d)

Columbia River Crossing
Final Environmental Impact Statement
September 2011
Federal Highway Administration, Oregon and Washington DOT
p. 3-321

"Washington and Oregon Petroleum Supply"

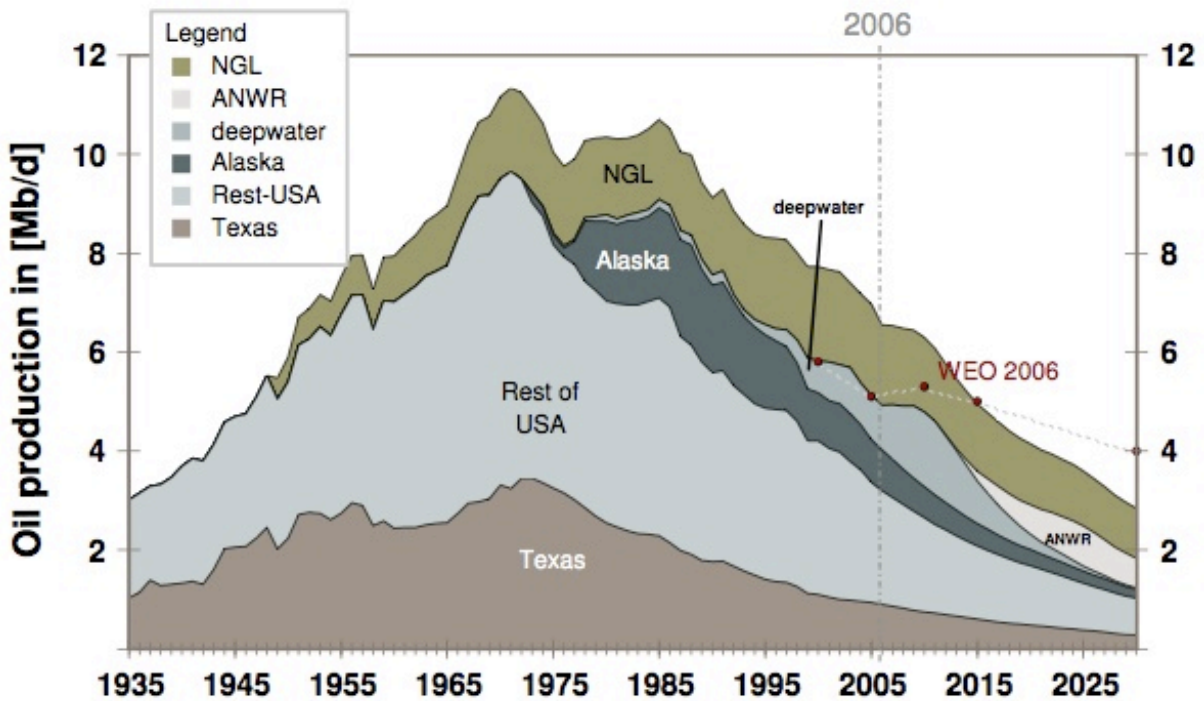
"Because gasoline and diesel are the primary energy sources for the transportation sector, this analysis of energy supply focuses on petroleum-based fuel sources. Approximately 90 percent of Washington's current supply of crude oil comes from Alaska's North Slope oil fields. Five refineries in the Puget Sound area distribute refined petroleum products to Washington and adjacent states. Oregon imports 100 percent of its petroleum, approximately 90 percent of it from Washington refineries. Both states' future supply of petroleum is largely dependent on domestic production and reserves. Oil production from the North Slope peaked in 1988 and is projected to continue declining."

This ignores the fact that North Slope extraction has dropped by two-thirds and is nearing the "Low Flow" condition where flow will be difficult to maintain in the Arctic winter even though this information is on the Alyeska Pipeline website.

The Alaska Pipeline is just above the threshold for clogging in the winter. Alyeska pipeline is are concerned (to put it mildly) that as the flow dwindles they won't be able to use the pipeline any more. They are trying to figure out if the Pipeline can be made to run with much less oil flow than they have thought as Prudhoe Bay is in terminal decline and the Naval Petroleum Reserve has mostly been a bust (northwest Alaska fields opened by Clinton and Gore in 1998, originally thought to have ten billion barrels, now thought to have less than a billion). Most of what was found in Prudhoe Bay is long drilled and burned.

<http://alyeska-pipe.com/Inthenews/LowFlow/LowFlow.html>
Low Flow Study

Figure 29: Oil production in the USA



from "Crude Oil: The Supply Outlook" Energy Watch Group, October 2007
www.energywatchgroup.org/fileadmin-global-pdf-EWG_Oilreport_10-2007.pdf
 NGL: Natural Gas Liquids

www.postcarbon.org/blog-post/165463-alaska-and-energy
 Alaska and Energy
 Posted Oct 26, 2010 by Richard Heinberg

During my recent visit to Anchorage, Alaska to speak at that city's Bioneers satellite conference, the friendly locals seemed eager to educate me about their local energy issues. Some of what I learned struck me as important to share with a wider audience.

Alaska is, of course, a huge energy exporter. Crude from the North Slope saved America's energy bacon back in the '80s, helping to lower world oil prices and bankrupt the evil Soviet empire. Production there has declined from a peak of over two million barrels per day to only 600,000 or so today. Once the flow drops below 500,000 barrels, there will be problems with icing in the Trans-Alaska Pipeline system. Not good.

The state's economy is based almost entirely on resource extraction. Everyone gets a check annually from the Alaska Permanent Fund, set up in 1976 primarily by the efforts of then Governor Jay Hammond. High oil prices mean big dividends: in 2008-2009 extra-large payouts made Governor Palin look good to her constituents, though she was in no way responsible.

Alaska has enormous opportunities for renewables—wind, microhydro, geothermal, tidal, even solar. But these are far from being adequately developed, and progress in that direction will take time and lots of investment—a dramatically higher pace of investment than is currently evident.

Anchorage (by far the largest city in the state) faces a particular challenge with natural gas: currently nearly all houses are heated with gas, but supplies from Cook Inlet will run low in two years, even sooner with an abnormally cold winter. Most options to replace current sources (more drilling, LNG, alternative energy) will take longer than two years to develop. There is no serious planning for what to do about this.

Then there is the situation of the native villages. On one hand, the indigenous peoples of the north might seem well placed to weather the changes ahead as industrial society succumbs to peak oil, peak coal, and peak gas: they have cultural traditions of self-sufficiency, small populations relative to land area, and access to lots of wild protein on the hoof (moose, caribou). However, as James van Lanen of Alaska Department of Fish and Game wrote to me in an email just the other day:

"Alaska Native villages are in a very precarious situation. These remote villages are only accessible by motorized travel via air or watercraft. They are entirely dependent upon fossil-fuel systems for goods and services: food, heat, health care. They have no contact with the outside world without fossil fuels.

"Some villages obtain more of their food resources from wild sources than others. It would be safe to say that on average 80% of the protein consumption in a village is from wild sources. Berries and Plants supplement some part of the overall diet but this is small. The two important things to consider are (1) much of the food consumed comes from industrial sources and is shipped in via small aircraft and (2) wild food harvests are currently almost entirely fossil-fuel dependent (there is a well-embedded 'machine culture' in native villages; I believe that there is no extant ability to obtain significant amounts of wild foods without the use of machines)..."

"Peak Energy will hit Alaska villages sooner and more intensely than many other places. Fuel is already up to \$9 per gallon in some places. As it becomes uneconomical for current supply operations to continue the industrial resources these villages rely on will fizzle out."

"Most village people are aware of their complete dependence upon fossil fuels. Many elders foresee a future collapse due to increasing costs and modern dependence. However, there is no general awareness of the phenomenon of Peak Energy in these communities. There is no awareness that the entire system may break down. Alaska villages desperately need to become educated in what we are facing."

I came away from my too-brief sojourn in Anchorage with both a deep appreciation for this land of great natural beauty, contrasts, and extremes, and an equally deep concern for how Alaskans will deal with their enormous energy challenges. Some of those challenges are going to present themselves forcibly in the very near future.

http://money.cnn.com/2008/05/01/news/companies/hunt_for_oil.fortune/

LAST UPDATED: MAY 3, 2008

Hunting for oil beneath the ice

There's a new rush for petroleum from Alaska to the North Pole. Can ConocoPhillips and other energy giants find another Saudi Arabia under the ice?

By Barney Gimbel, writer

The folks at Conoco surveyed this slice of barren land about a decade ago. But times are a bit desperate up here in North America's largest oil region, and they've come back. "We're looking to see if we left anything behind," says Jim Darnall, an acquisition geophysicist for

ConocoPhillips, as he brushes ice off his bushy gray beard. "We're trying to milk this field anyway we can."

Is this what America's late-20th-century oil paradise has been reduced to - the petroleum equivalent of rooting for loose change in the cushions of a sofa? U.S. crude production is at its lowest since 1949, and nowhere has that decline been steeper than in Alaska, where oil output is less than half what it was a decade ago. The fields that since the late 1970s have provided more than 20% of America's oil are slowly running dry. It's a phenomenon that is hardly limited to Alaska. The world's five largest oil companies are replacing only 82% of the oil they pump each year, as once-prodigious fields fade and state entities in such countries as Venezuela and Russia consolidate ever more control over their oil and gas.

The combination of falling reserves and \$100-plus oil is sparking a frenzy of oil and gas activity in Alaska the likes of which hasn't been seen since the state's initial oil boom more than three decades ago.

Last year the Trans-Alaska Pipeline pumped only a third of its capacity and is set for another 6% decline this year. If the falloff continues, the cost of running the pipeline could exceed its revenues in the next two decades, and it may need to shut down.

www.simmonsco-intl.com/files/Another%20Nail%20in%20the%20Coffin.pdf

Another Nail in the Coffin of the Case Against Peak Oil

By Matthew R. Simmons

January 2008

The USA had a brief respite from its relentless drop in oil output as it fell from being the world's largest oil producer once it peaked in December 1970 when North Slope oil came on-stream, and once again when deepwater Gulf of Mexico oil exploration began. Sadly, both frontiers are now mature and in decline. Prudhoe Bay peaked in 1989 at 1.5 million barrels per day and now struggles to stay above 300,000 barrels per day.

www.aspo-usa.org

Peak Oil Review

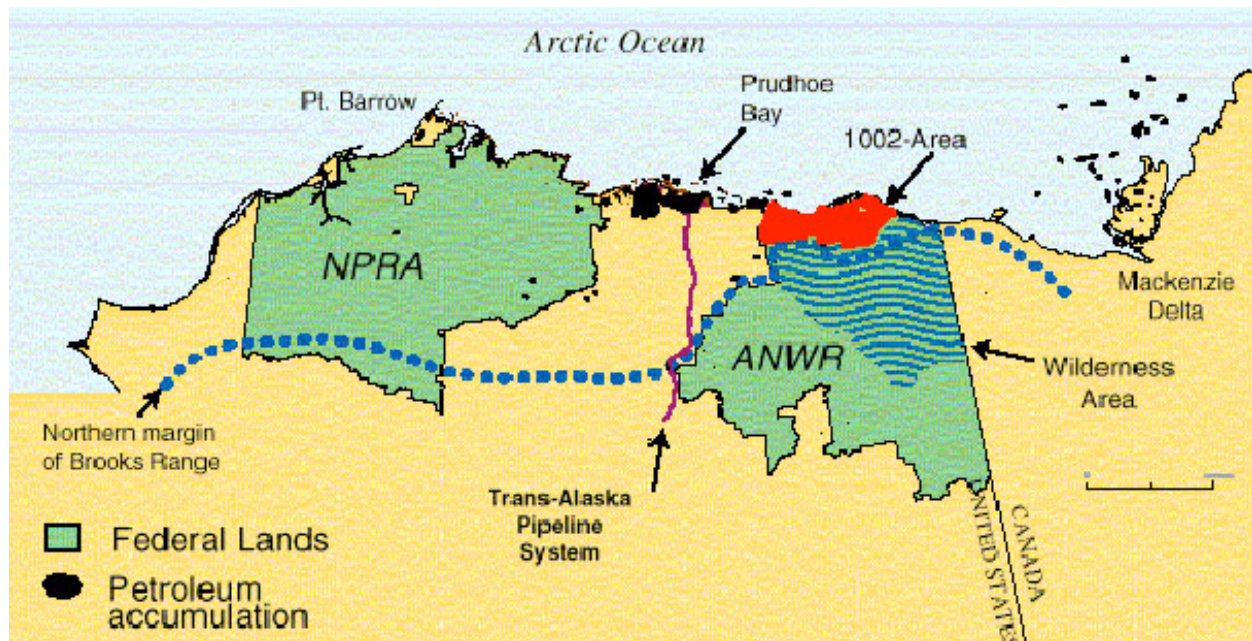
Association for the Study of Peak Oil - USA

Vol. 2, No. 41

October 8, 2007

The North Slope accounts for about 14 percent of US domestic oil production. Its 740,000 b/d is declining about 6 percent a year. One concern of producers is managing the decline of conventional oil production so that there is enough light oil to mix with increasing volumes of heavy oil suitable for shipping through the pipeline.

BP will begin a heavy oil production test on the North Slope next summer. They will use a technology called cold heavy oil production with sand, or CHOPS, that is being adapted from techniques used with similar heavy oil deposits in Canada. Heavy oil could provide an additional 2 billion barrels from the North Slope.



www.aspo-usa.com/index.php?option=com_content&task=view&id=311&Itemid=91

Will Alaska Rise Again?

WRITTEN BY ROGER BLANCHARD

MONDAY, 04 FEBRUARY 2008

Alaska's oil production commenced with developments in the Cook Inlet region of southern Alaska in the late 1950s, where production reached a peak of about 220,000 b/d in 1971. Cook Inlet production has since declined to ~15,000 b/d.

The discovery of the supergiant Prudhoe Bay field in 1967 ultimately led to Alaska becoming the top oil producing state in the U.S., at least for a while. In 1977, production started from the Prudhoe Bay field and Alaska's oil production rose rapidly. The Prudhoe Bay field is the largest field ever discovered in the U.S. and Canada, and one of the twenty largest fields ever found globally.

Because the Prudhoe Bay field dwarfs all other North Slope fields, Alaska's oil production has declined in parallel with the Prudhoe Bay field

In the late 1990s, the Clinton administration opened ~4 million acres in the northeast quadrant of NPR-A to oil and gas development. In 2004, the Bush administration opened ~8.8 million acres in the northwest quadrant, although about 2 million acres were deferred for further study. In 2005, the Bush administration opened ~600,000 acres in the Teshekpuk Lake area (northeast quadrant) but the U.S. District Court temporarily suspended leasing. In 2005, scoping started on ~9.2 million acres of the Southern Planning Area of NPR-A for future oil and gas development.

To date, no large discoveries have been found in NPR-A and I'm not expecting any. Approximately 0.33 Gb of oil have been discovered and production in the northeast quadrant started in 2006. That new production did not prevent Alaska's production from continuing to decline in 2007. I believe the most productive part of the NPR-A will be the northeast quadrant and the lack of significant discoveries there does not bode well for the NPR-A contributing significantly to Alaska's future oil production.

What impact would ANWR and NPR-A production have on future U.S. oil production? Figure 4 shows that future production from ANWR, NPR-A and the deepwater Gulf of Mexico would slow the decline in U.S. production out to about 2020 but then production declines rapidly.

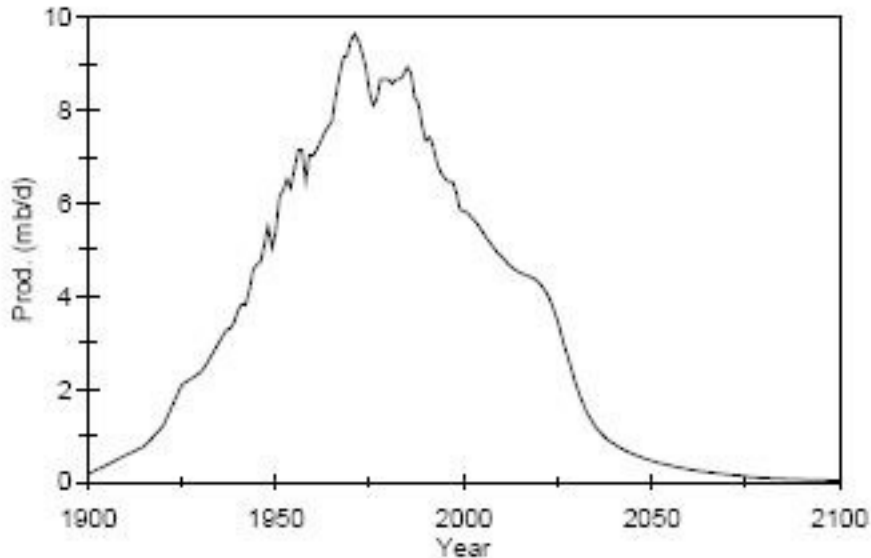


Figure 4 – Historical [1900-2001] and projected [2002-2100] total U.S. oil production (Historical data is from Colin Campbell [1900-1959] and the US DOE/EIA [1960-2001])

The numbers used to calculate future U.S. production will be off to some degree but oil production from ANWR and NPR-A will never cause more than a temporary increase in U.S. oil production. By 2050, domestic production may have fallen below 1 million barrels a day.

One additional factor that may shape Alaska's oil future is the minimum operational flow through the Trans-Alaska Oil Pipeline (TAPS), which has been estimated at 300,000 b/d. The minimal operational flow limit of the pipeline insures that the ultimate recovery from the North Slope will be less than what could be pumped from North Slope fields before they dry up unless some of the late-stage oil is transported by ship.

Natural Gas

The Oregon Energy Plan suggests we should - and could - increase natural gas combustion to substitute for coal. Now, coal is dirty and evil and should be left in the ground, but it's not going to be physically possible to substitute gas for the coal unless we decide not to heat buildings with gas any more. Gas can only be burned once, not several times (like selling real estate in Florida in the 1920s ...) My vote would be to reserve the rest of the natural gas to keep northern cities from freezing in the winter and to institute hyperefficiency to reduce all toxic uses of finite fossil fuels.

Conventional gas wells peaked in the US in 1973. Liquid Natural Gas imports into the US have doubled since 9/11. The US also imports about half of Canada's gas production (extraction).

Fracking for shale gas works for a short time but fracked wells don't last as long as regular wells. It also takes a large amount of energy, money and technical talent to frack -- much more than regular wells. (This is a separate concern than the destruction of aquifers via fracking.) It is a toxic, short term spike in production that may last a few more years but there isn't enough natural gas for the fantasy of replacing coal with gas. Moving beyond coal means using much less electricity and relocalizing production -- not the illusion that natural gas consumption could be increased.

resources on unnatural gas and exaggerated estimates of supply:

<http://petroleumtruthreport.blogspot.com>

geologist Art Berman explains why there is less shale gas than the industry claims

www.postcarbon.org/report/331901-will-natural-gas-fuel-america-in

REPORT: Will Natural Gas Fuel America in the 21st Century? by David Hughes

In this groundbreaking report, David Hughes shatters the myth (advanced by industry, government, and many environmental organizations) that domestic natural gas can be a "bridge fuel" from high-carbon sources of energy like coal and oil to a renewable energy future.

from ASPO USA's Peak Oil Review, January 3, 2010

Association for the Study of Peak Oil and Gas - USA

www.aspo-usa.org

Shale Gas: Panacea or Chimera?

The hype surrounding shale gas continued to build during 2010 with many saying that the gas will prove to be so plentiful that it will be the solution to our energy problems for many decades ahead. It has become conventional wisdom in many circles that the US has 100 years' worth of shale gas ready for exploitation. The hysteria reached its zenith in March at the Cambridge Energy Research Associates annual conference where speaker after speaker spoke ecstatically about the prospects for the natural-gas industry. In Pennsylvania over 1000 shale gas wells have now been drilled. Even India, China, the French and Shell have started investing in the US shale gas bonanza as have the major US oil companies.

During the past year the prices for natural gas fell from \$6 per million cubic feet to less than \$4 as the quantity of gas in storage continued to build. Outside analysts continue to say that at these prices the industry is losing money and that it will require at least \$6 or \$7 gas to pay for the drilling and hydraulic fracturing of the expensive horizontal wells.

Concerns over contamination of groundwater by the fracking process continue to grow. Over strident industry objections, the state of New York has put a temporary hold on new shale-gas

drilling permits until the EPA can investigate the dangers to groundwater supplies more carefully.

As was the case last year, skeptics point out that while shale-gas wells can initially be very productive they quickly fall to below economic levels. The 100 years' worth figure comes from the most optimistic possible reading of the Potential Gas Committee report; in reality the amount of gas available at modest prices may ultimately be only a fraction of the touted amount. When one factors in the talk about moving a substantial portion of US electricity generation to natural gas or perhaps replacing the diesels in long-haul trucking with natural gas engines, exponential growth kicks in so that natural gas reserves would be drawn-down much more quickly than imagined.

While large quantities of shale gas are likely to be produced over the next few decades, behind-the-scenes evidence that the resource is not a long-term solution to our energy problems and certainly not to our liquid-fuels problem continues to mount.

www.aspousa.org/index.php/2010/07/interview-with-art-berman-part-1/

Interview with Art Berman - Part 1

By Arthur Berman • on July 19, 2010

Art Berman is a geological consultant whose specialties are subsurface petroleum geology, seismic interpretation, and database design and management. He is currently consulting with a wide range of industry clients such as PetroChina, Total, and Schlumberger. Mr. Berman has an MS in geology from the Colorado School of Mines and is active with the American Assoc. of Petroleum Geologists. Art spoke with us last Thursday after a presentation in Canada at the CIBC Technical Conference.

POR: Can you give us your latest updated perspective on the shale gas story? Art Berman is a geological consultant whose specialties are subsurface petroleum geology, seismic interpretation, and database design and management. He is currently consulting with a wide range of industry clients such as PetroChina, Total, and Schlumberger. Mr. Berman has an MS in geology from the Colorado School of Mines and is active with the American Assoc. of Petroleum Geologists. Art spoke with us last Thursday after a presentation in Canada at the CIBC Technical Conference.

Art Berman: You have to acknowledge that shale gas is a relatively new and significant contribution to North American supply. But I don't believe it's anywhere near the magnitude that is commonly discussed and cited in the press. There are a couple of key points here. First the reserves have been substantially overstated. In fact I think the resource number has been overstated.

If you investigate the origin of this supposed 100-year supply of natural gas...where does this come from? If you go back to the Potential Gas Committee's [PGC] report, which is where I believe it comes from, and if you look at the magnitude of the technically recoverable resource they describe and you divide it by annual US consumption, you come up with 90 years, not 100. Some would say that's splitting hairs, yet 10% is 10%. But if you go on and you actually read the report, they say that the probable number-I think they call it the P-2 number-is closer to 450 Tcf as opposed to roughly 1800 Tcf. What they're saying is that if you pin this thing down where

there have actually been some wells drilled that have actually produced some gas, the technically recoverable resource is closer to 450. And if you divide that by three, which is the component that is shale gas, you get about 150 Tcf and that's about 7 year's worth of US supply from shale. I happen to think that that's a pretty darn realistic estimate. And remember that that's a resource number, not a reserve number; it has nothing to do with commercial extractability. So the gross resource from shale is probably about 7 years worth of supply.

Forest Incinerators

Peak Oil and Climate Change

Peak Oil and Climate Change are two facets of the same problem of overshoot, and neither can be mitigated in isolation from the other. Concern about melting glaciers and extinction of charismatic megafauna is less likely to influence governmental energy policies than desperate scrambles to replace depleting fossil energy supplies.

Most projections of future carbon levels ignore the fact that fossil fuels are finite. Focusing solely on climate change ignores the most important question facing humanity -- whether to "spend" the remaining oil on solar panels or battleships (a simplified version of the choice).

Focusing solely on oil depletion leads to destructive policies aimed at increasing liquid fuels production -- "alternative" fuels that can have worse environmental impacts than conventional petroleum, including accelerated climate change.

Desperate Cutting

Peak Oil is creating simultaneous separate incentives for slower and faster forest liquidation.

Peak Oil's economic impacts have started reducing construction projects, which will slow lumber demand, creating incentives for timberland owners to hold onto their "resources" for a future uptick in the housing market.

However, economic disruptions would also create an incentive for those who own forests to speed up their obliteration to generate cash flow. This would exacerbate the current trends for clearcutting versus selective forestry -- the practices that create the most short term return are those dominant in the industry, while those that create more board-feet in the long run are rarely practiced by corporate forestry.

Past Peak: New Incentives for Deforestation

Most timber corporations own huge tracts of third growth trees that have little value for lumber. Grinding up tree farms into biofuels will create a new market with seemingly limitless potential

for forest destruction. Many forest protection activists are aware of how “chip mills” have resulted in massive clearcuts throughout the Southeastern US. Turning tiny trees into liquid fuels that can fuel internal combustion engines will speed up deforestation, which ironically will increase global warming (since deforestation is a massive cause of climate change through carbon emissions and disruption of the hydrologic cycle).

Several generators have been built across the United States that burn wood chips to create steam to generate electricity -- which create a market for trees too small to process into high-quality boards.

This would exacerbate the current trends for clearcutting versus selective forestry -- the practices that create the most short term return are those dominant in the industry, while those that create more board-feet in the long run are rarely practiced by timber barons who must maximize profit for shareholders.

Transforming tree farms into liquid fuels for internal combustion engines poses severe threats to forest integrity due to rapacious demands.

Short-sighted pseudo-solutions will speed up deforestation by turning trees into liquid biofuels, which cannot replace the vast amount of oil used for cars, delivery trucks, freight trains, cargo ships and airplanes.

Many power generators built in the United States in the past two decades burn natural gas, which is past peak in North America. This decline is fueling a demand to burn trees (and wood chips) to make steam to generate electricity. Converting forests into megawatts will create markets for trees too small to process into high-quality boards, making recovery of damaged woodlands virtually impossible.

The ecologist David Pimental estimates that 500,000 acres of managed forests would be required to supply electricity to a city of 100,000 people powered by burning trees. In Oregon, the roughly 3.7 million people would require about 17.5 million acres, less than the amount of actual forestland. Since Oregon is the least populated West Coast state, converting forests into electricity is not the answer to the decline of fossil electricity.

Ban clearcutting to protect the climate

(no response, not even a canned letter to the public, was received in reply. Perhaps if a financial contribution had been included there would have been a perfunctory form letter response.)

December 12, 2011

Dear Governor Kitzhaber:

I support your decision for a death penalty moratorium, I hope it will be followed by abolition.

My support for abolition was challenged and strengthened by having two friends brutally murdered nearly two decades ago, a couple whose bodies were found by their children. This crime was not in Oregon and the perpetrator was never caught.

Neither execution nor life imprisonment is “justice” that can undo this sort of evil. Sometimes murderers evolve during their years of incarceration and express sincere regret, but even the best forms of restorative justice cannot change what was done.

While no one on Oregon’s death row appears to be innocent (unlike in some other states) the death penalty is reserved for the poor and the poorly educated, it is not usually applied to murderers who can afford excellent legal counsel nor do war criminals risk execution for mass murder of peasant villagers halfway around the world.

Abolition is not an endorsement of the condemned, but a repudiation of the right of the State to kill. Most democratic nation states have moved beyond the death penalty as part of the slow evolution toward human rights. The US shares the execution limelight with China, North Korea, Iran, Iraq, and Saudi Arabia. All countries in the European Union have abolished the death penalty. Post Apartheid South Africa immediately abolished it. Even post-Soviet Russia has a death penalty moratorium, although “extrajudicial execution” remains a problem.

Now that the State of Oregon will not, for now, deliberately inject poison into the veins of the condemned, it would also be nice to prohibit the deliberate spraying of tons of poison from helicopters over Oregon forests. Dumping biocides such as 2,4-D into our air and water is random assault that leads to sickness and premature death, but our 18th century legal system doesn’t recognize delayed casualty, which allows the crime to continue into the 21st century.

Studying the amount of poison that limited liability corporations are permitted to put immediately upwind of citizens’ bodies is medically unethical if the spraying continues. As you probably know from your medical training, the Nuremberg Code on human experimentation prohibits forcing people to participate in involuntary experiments. People have the right not to be sprayed by timber barons, even if the kings of these corporations have unquestioned political power and a lot of money in their banks. Causing death by chemical induced cancer is a crime like bullets or any other form of murder. I have already had a minor form of cancer (basal cell) and do not consent to being forced to breathe timber company carcinogens sprayed upwind.

Agent Orange is a 50-50 mix of 2,4-dichlorophenoxyacetic acid and 2,4,5-trichlorophenoxyacetic acid. During the Carter administration, 2,4,5-T was banned, but its close cousin 2,4-D remained legal for further dispersal. These two compounds only differ by one extra chlorine atom on the benzene rings that are the basic building block of this compound and both have essentially the same toxic impact on mammals.

During the Bush the First administration, Gordon Durnil, the former chair of the Indiana Republican Party (ie. a friend of Dan Quayle), was appointed to the US - Canada International Joint Commission on the Great Lakes. Durnil looked at the evidence about toxic chemicals in that bioregion, where a quarter of the US chemical industry is concentrated. Women who eat fish from the Great Lakes (the single largest source of fresh water on Earth) have children with more developmental disabilities than women who do not eat them. Durnil concluded the environmental regulatory system had failed and the precautionary principle (not "regulating the impact") should be used. Since there is no way to test for the synergistic impact of all of the synthetic poisons in commerce, treating chemicals as classes of compounds instead of individual chemicals would be more useful. Rather than spend centuries to study each chemical one by one, classes of toxic chemicals should be banned before further harm is done, starting with industrial use of chlorine. Durnil was an honest conservative, which is a highly endangered species in American political habitats.

The chlorine-carbon bond is not naturally found in mammals and is the root of much of what we call toxic waste. A third of industrial chlorine is used for PVC plastic, made by boiling oil byproducts with chlorine gas. About a sixth is used to bleach paper even though annual plants can be used instead of trees to prevent pollution. Chlorinated solvents and biocides each use under a tenth of chlorine. Only about one percent of chlorine is used to treat drinking water -- four times more is used to chlorinate our excrement before it is dumped into rivers. All of these uses have safer alternatives, but switching would be an admission a mistake was made.

If there was rationality in the design and enforcement of the Oregon Forest Practices Act, it would be illegal to clearcut on corporate timberlands and it would be a felony to use a helicopter to spray chlorinated herbicides over communities. Selective forestry makes more board feet in the long run and does not convert forests into tree farms that get overrun with blackberries and Scotch broom. Short term cut and run deforestation is at the root of the decline of Oregon's timber industry and has ruined many other parts of the world, most notably the Mediterranean societies still coping with the consequences of deforestation two millennia ago. The fact that the Oregon Department of so-called Forestry allows clearcutters to violate requirements for stream buffers and leave trees -- even when the clearcut is next to a major highway -- suggests the promise of regulation of toxic sprays is a cruel farce.

Allowing helicopters to spray chlorinated hydrocarbons over Oregon is a crime of random assault, a violation of basic human rights. The fact that both political parties promote this abuse is a reason I am neither a Republican nor a Democrat and I look forward to continued decline of public support for both flavors of corporate controlled politics.

Mark Robinowitz, Box 51222, Eugene, 97405

www.forestclimate.org: Clearcutting the Climate - Forest Biofuels - Restoration
www.sustaineugene.org: Green Eugene or Greenwash? Big Steps to Sincere Sustainability

We are constantly being told about “a permissible amount of radiation.” Who permitted it? Who has any right to permit it?

-- Dr. Albert Schweitzer, *On Nuclear War And Peace*, p. 176,
www.schweitzerfellowship.org/features/about/phil/phil.aspx?id=20

The Nuremberg Code (1949)

www.ushmm.org/research/doctors/Nuremberg_Code.htm

From *Trials of War Criminals before the Nuremberg Military Tribunals under Control Council Law No. 10*. Nuremberg, October 1946–April 1949. Washington, D.C.: U.S. G.P.O, 1949–1953.

The great weight of the evidence before us is to the effect that certain types of medical experiments on human beings, when kept within reasonably well-defined bounds, conform to the ethics of the medical profession generally. The protagonists of the practice of human experimentation justify their views on the basis that such experiments yield results for the good of society that are unprocurable by other methods or means of study. All agree, however, that certain basic principles must be observed in order to satisfy moral, ethical and legal concepts:

- The voluntary consent of the human subject is absolutely essential. This means that the person involved should have legal capacity to give consent; should be so situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, over-reaching, or other ulterior form of constraint or coercion; and should have sufficient knowledge and comprehension of the elements of the subject matter involved as to enable him to make an understanding and enlightened decision. This latter element requires that before the acceptance of an affirmative decision by the experimental subject there should be made known to him the nature, duration, and purpose of the experiment; the method and means by which it is to be conducted; all inconveniences and hazards reasonably to be expected; and the effects upon his health or person which may possibly come from his participation in the experiment. The duty and responsibility for ascertaining the quality of the consent rests upon each individual who initiates, directs or engages in the experiment. It is a personal duty and responsibility which may not be delegated to another with impunity.

- The experiment should be such as to yield fruitful results for the good of society, unprocurable by other methods or means of study, and not random and unnecessary in nature.

- The experiment should be so designed and based on the results of animal experimentation and a knowledge of the natural history of the disease or other problem under study that the anticipated results will justify the performance of the experiment.
- The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury.
- No experiment should be conducted where there is an a priori reason to believe that death or disabling injury will occur; except, perhaps, in those experiments where the experimental physicians also serve as subjects.
- The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by the experiment.
- Proper preparations should be made and adequate facilities provided to protect the experimental subject against even remote possibilities of injury, disability, or death.
- The experiment should be conducted only by scientifically qualified persons. The highest degree of skill and care should be required through all stages of the experiment of those who conduct or engage in the experiment.
- During the course of the experiment the human subject should be at liberty to bring the experiment to an end if he has reached the physical or mental state where continuation of the experiment seems to him to be impossible.
- During the course of the experiment the scientist in charge must be prepared to terminate the experiment at any stage, if he has probably cause to believe, in the exercise of the good faith, superior skill and careful judgment required of him that a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject.

Coal won't be exported, at least not for long

The rush to export more coal is based on two lies. First, the claim we have so much coal we can export it even though coal has peaked in the US on an energy basis. Richard Heinberg's books "Blackout" and "The End of Growth" contain some of the details.

Second, the illusion that shale gas fracking has given us a 100 year supply of natural gas and therefore can shift from coal to gas for electricity. Fracking wells are not only toxic, they also rapidly deplete, much faster than conventional gas wells. What will the coal and gas industries do when the shale gas bubble bursts, likely during Obama's second term?

One group rallying environmentalists against the alleged threat of coal exports is Sierra Club. It was revealed earlier this year that Sierra took \$26 million from Chesapeake Energy, a leading gas "fracking" company, to fund its "Beyond Coal" campaign.

The rush to export is based on the idea that there is abundant oversupply of energy resources that could be sent to Asia, but the geological reality suggests this is irrational exuberance.

Richard Heinberg of the Post Carbon Institute (www.postcarbon.org) was a keynote speaker at the 2012 Public Interest Environmental Law Conference. His book *"Blackout: Coal, Climate, and the Last Energy Crisis"* is a rare look at how coal supplies are smaller than most people think. There is enough to further foul the air but not enough to continue growth of combustion, certainly not hundreds of years worth. Peak Coal is either near or here.

A 2009 report from Clean Energy Action notes that *"Between 2002 and 2008, while coal costs were rising dramatically, the US Geological Survey reduced the amount of economically accessible coal in the Gillette coal field of the Powder River Basin [in Wyoming] from 23 billion tons to 10 billion tons."* This makes coal export less likely.

Furthermore, to export coal from Wyoming via Coos Bay, trains would have to move past Portland, which has much better export terminals. The Eugene to Coos Bay rail route is winding, hilly and slow. Heavy coal trains are more likely to use better tracks to reach ports with greater shipping capacity. The Army Corps of Engineers is reviewing a proposal to set up a transfer station from trains to barges for the Port of Morrow, next to the Boardman coal burning power station in eastern Oregon. If this is built it would avoid congested freight rails in the Port of Portland that are already clogged with imports from Chinese factories.

The Western Power Grid stretches from Tijuana to B.C. to Denver. Half of the electricity comes from coal which is still the backbone of the grid. Obama is pushing "clean coal" which is just greenwashing more coal combustion, including new "cleaner" coal burners.

One motive for the notorious Appalachian mountaintop removal is to extract thinner coal seams that are hard to mine via conventional techniques. Parts of the Appalachians have depleted coal mines with tailings that leach sulfuric acid into river headwaters (the Potomac River headwaters is one example).

Exaggerations of coal, natural gas and oil supplies not only boost stock values of energy companies but also underlie false estimates of future economic growth, since more fossil fuels would mean more economic activity. Heinberg's most recent book *"The End of Growth: Adapting to Our New Economic Reality"* is a useful antidote.

In July 2010, Robert F. Kennedy, Jr. told a crowd at McDonald Theater that we could replace coal generated electricity with natural gas but political problems were the obstacles for the conversion. However, Peak Natural Gas in the US was 1973. The US imports about half of Canada's natural gas production. Liquid Natural Gas imports into the US have doubled in the past decade (although from only 1% to 2% of US consumption). Replacing coal electricity with natural gas is not possible unless we stop heating homes with gas.

Shale gas "fracking" has temporarily increased US production, but claims that this could provide 100 years of supply are extreme exaggerations. The toxic impacts of fracking have finally received public scrutiny -- the documentary *Gasland* is an excellent summary -- but the fact that fracking wells deplete much faster than conventional drilling has not gotten as much attention.

The only reason anyone is floating the idea of exporting US coal to China is the illusion that there is so much natural gas that we can replace some of the coal with gas. The Port of Morrow proposal for transferring coal from trains to barges is supposed to become active in 2016. Geologist Art Berman, an industry insider who has examined shale gas fracking <http://petroleumtruth.blogspot.com> estimates that the fracking bubble may burst around that time. When shale gas is no longer a bubble, plans to shift more coal to gas will go up in smoke and the export proposals will go away, too.

In the winter of 2010 / 2011, natural gas delivery systems broke down in New Mexico during a cold snap when there wasn't enough gas to go around. Some small towns were shut off from gas supplies.

The new LNG import terminal in Baja California is providing gas for US electric generators. Supporters had tried San Francisco and Humboldt Bay before building in Mexico. As gas supplies tighten there will be more pressure for LNG imports.

In 2001, Enron partnered with Coburg Power to build a huge natural gas powered electric generator north of Eugene. It would have been at the intersection of the main electric power line for Lane County where it passes over the natural gas pipeline. After Enron pulled out (they went bankrupt for other reasons), I asked the primary promoter where the station's fuel would come from. He replied it would tap into the pipeline. I then asked where extra fuel would come from since the gas in the pipeline was already heating existing homes and businesses and he had no reply. Coburg Power never got built.

If there is any export of coal and / or natural gas through Coos Bay it is unlikely to last long since we cannot export fuel that does not exist. Will the federal government even allow fossil fuel exports as the permanent energy shock intensifies, since export would let US cities have brownouts and blackouts to provide power for Tokyo, Seoul and Beijing?

Fossil fuel depletion will force reductions in energy use. Hoping to switch from one poison to another only delays the inevitable "power down." Renewable energy is great but it could power a smaller, steady state economy, not the illusion of "green growth."

The author has used solar energy for two decades and has tracked fossil fuel depletion since 1986.

Documentation about Peak Coal and Peak Natural Gas:

www.oilempire.us/peak-coal.html	Peak Coal and Mountaintop Removal
www.oilempire.us/shalegas.html	Shale Gas: toxic to drill, exaggerated supply estimates
www.oilempire.us/peak-electricity.html	Peak Electricity: coal, uranium, natural gas are all peaking
www.oilempire.us/tarsands.html	Scraping the Bottom of the Barrel, not good to the last drop
www.oilempire.us/triple-crisis.html	Triple Crisis: Earth, Energy, Money (Climate Chaos, Peaked Oil)
www.oilempire.us/sierra-club.html	Sierra Club took \$25 million from Chesapeake Energy "fracking" company to fund "Beyond Coal" campaign.

http://cleanenergyaction.files.wordpress.com/2011/10/coal_supply_constraints_cea_0212091.pdf

www.guardian.co.uk/environment/2008/mar/05/fossilfuels.energy

<http://www.postcarbon.org/reports/PCI-report-nat-gas-future.pdf>

<http://www.postcarbon.org/report/331901-will-natural-gas-fuel-america-in>

REPORT: Will Natural Gas Fuel America in the 21st Century?

In this groundbreaking report, David Hughes shatters the myth (advanced by industry, government, and many environmental organizations) that domestic natural gas can be a "bridge fuel" from high-carbon sources of energy like coal and oil to a renewable energy future.

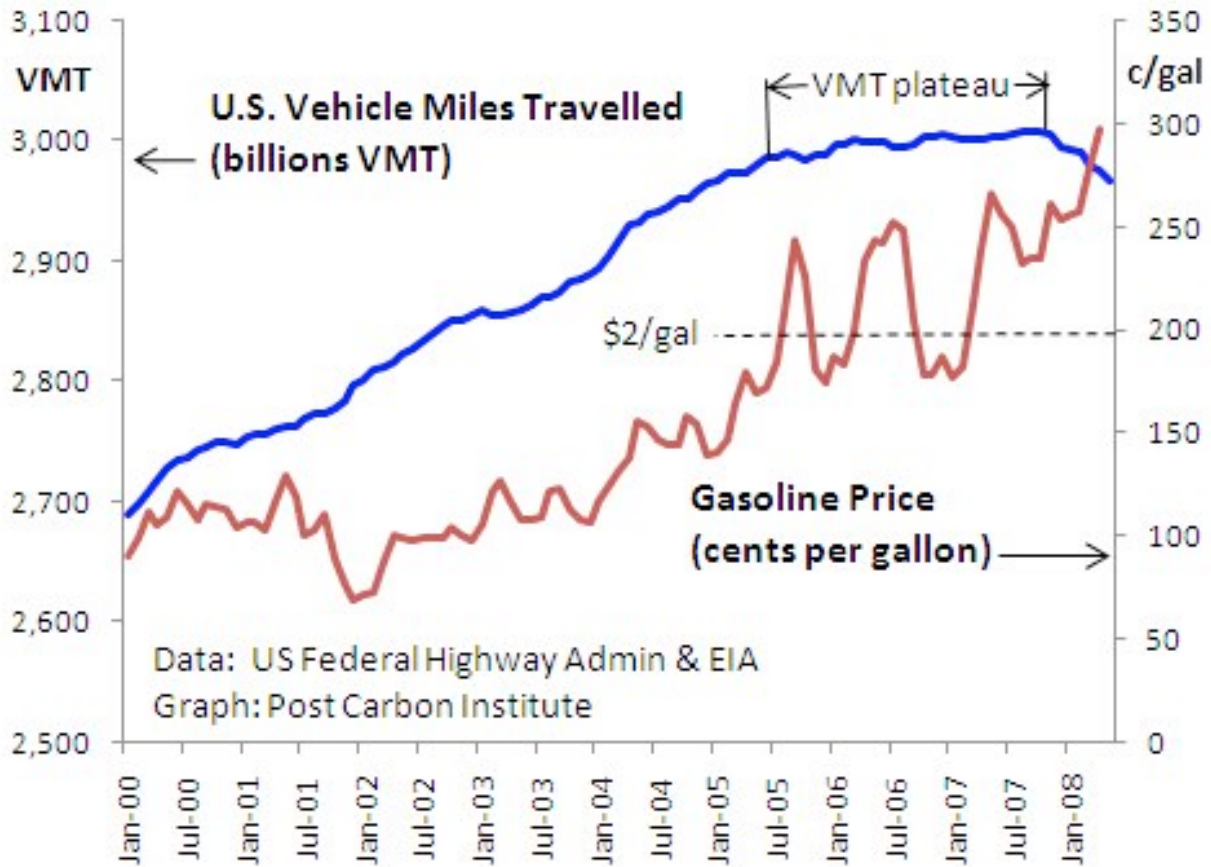
www.aspousa.org Association for the Study of Peak Oil and Gas - USA

A June 26, 2011 New York Times article raising questions about the true cost and prospective profits of developing shale gas has set off a firestorm of public scrutiny and controversy within the industry. ASPO-USA Director Art Berman was consulted for and quoted in the article, and has been featured in follow-up interviews and commentary (including this segment on CNBC's "The Kudlow Report"). ASPO-USA has been leveraging the opportunity to focus media attention on a fundamental premise of ASPO-USA's work—that fossil fuels, including natural gas, face mounting supply challenges amidst rising demand, and America should not bet our future on hopes of endless cheap energy.

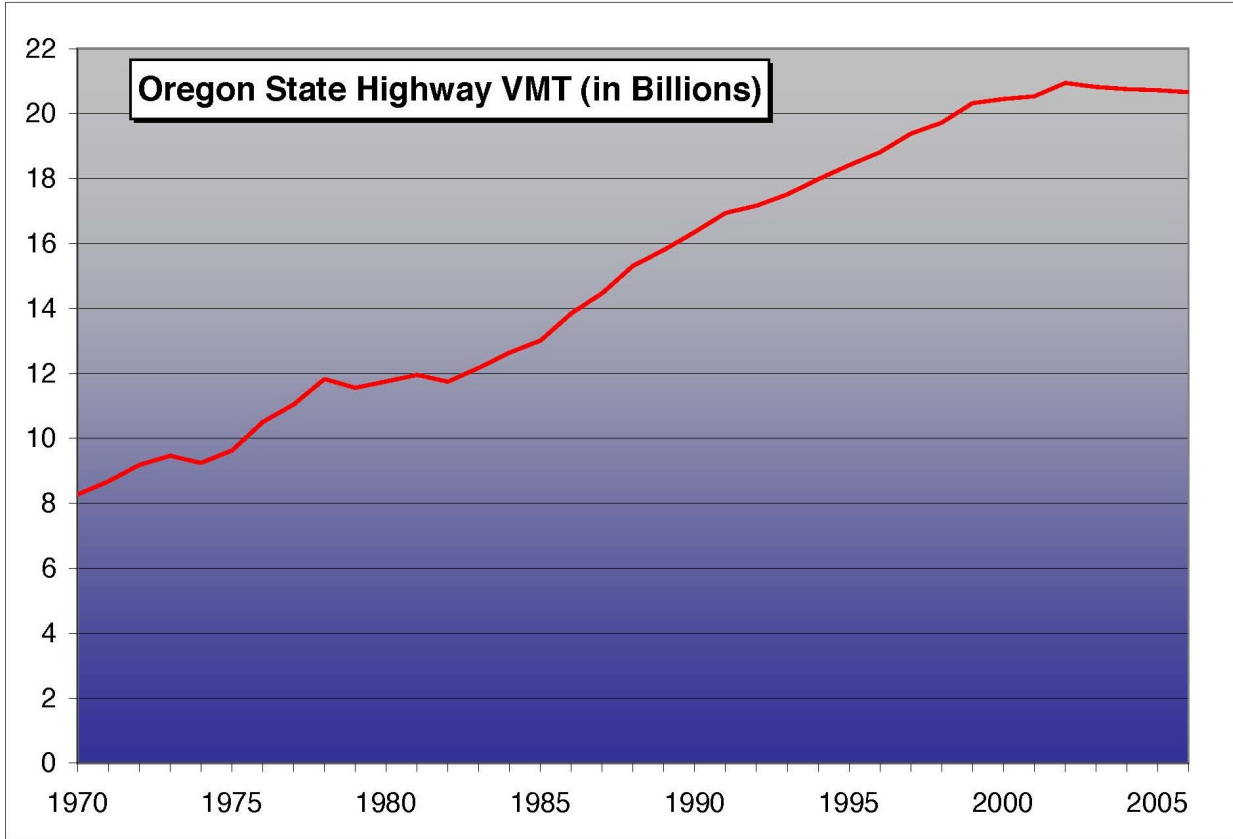
www.nytimes.com/2011/06/26/us/26gas.html www.nytimes.com/2011/06/27/us/27gas.html

Peak Traffic and Peak VMT

see also Request for Supplemental DEIS on the Columbia River Crossing, sent separately as a PDF file.



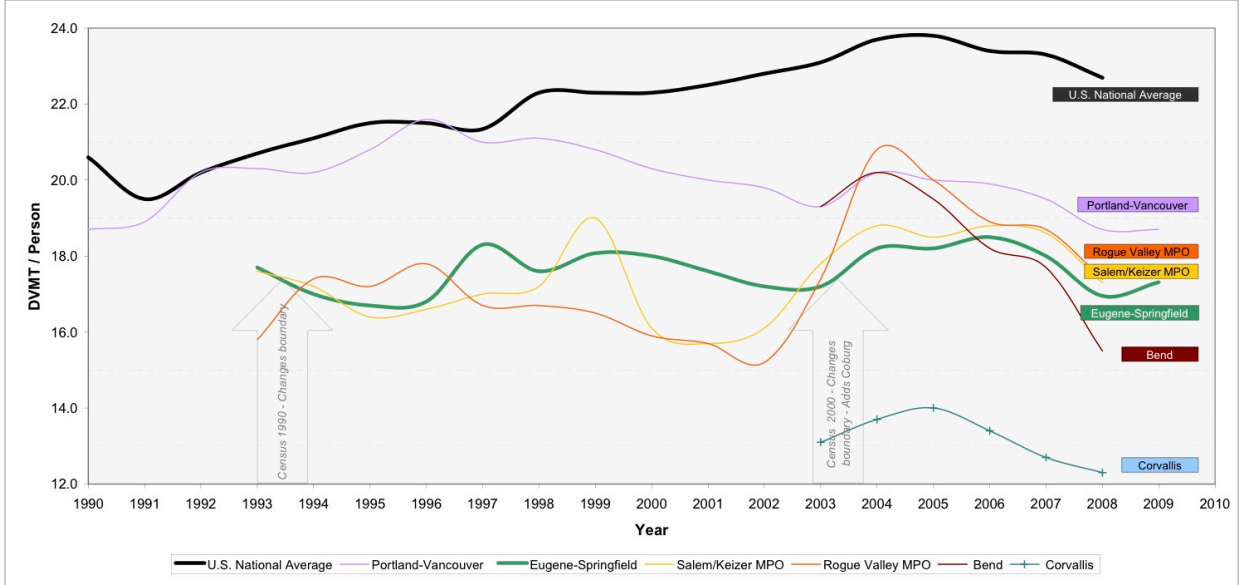
graphic from Post Carbon Institute showing Peak Traffic nationally as the price to drive increased (as predicted)



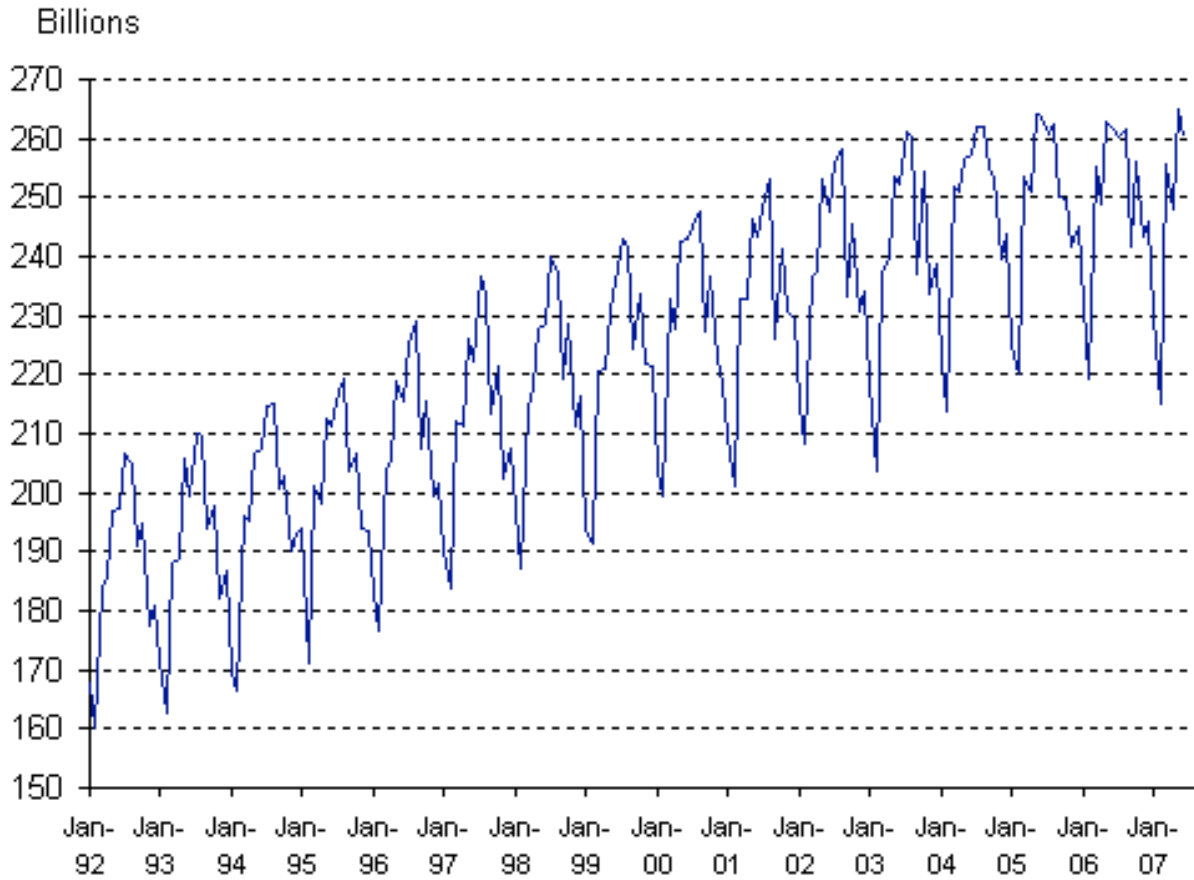
ODOT graphic showing Peak Traffic in Oregon - note the dips from the 1973 and 1979 energy shocks

Daily VMT (Vehicle Miles of Travel) Per Person - 1990 to 2009
Eugene-Springfield compared with other Oregon MPOS and the US National Average

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
United States	20.6	19.5	20.2	20.7	21.1	21.5	21.5	21.3	22.3	22.3	22.3	22.5	22.8	23.1	23.7	23.8	23.4	23.3	22.7	
Portland-Vancouver	18.7	18.9	20.2	20.3	20.2	20.8	21.6	21.0	21.1	20.8	20.3	20.0	19.8	19.3	20.2	20.0	19.9	19.5	18.7	18.7
Eugene-Springfield	n/a	n/a	n/a	17.7	17.0	16.7	16.8	18.3	17.6	20.1	18.0	17.6	17.2	17.2	18.2	18.2	18.5	18.0	16.9	17.3



from LCOG's website

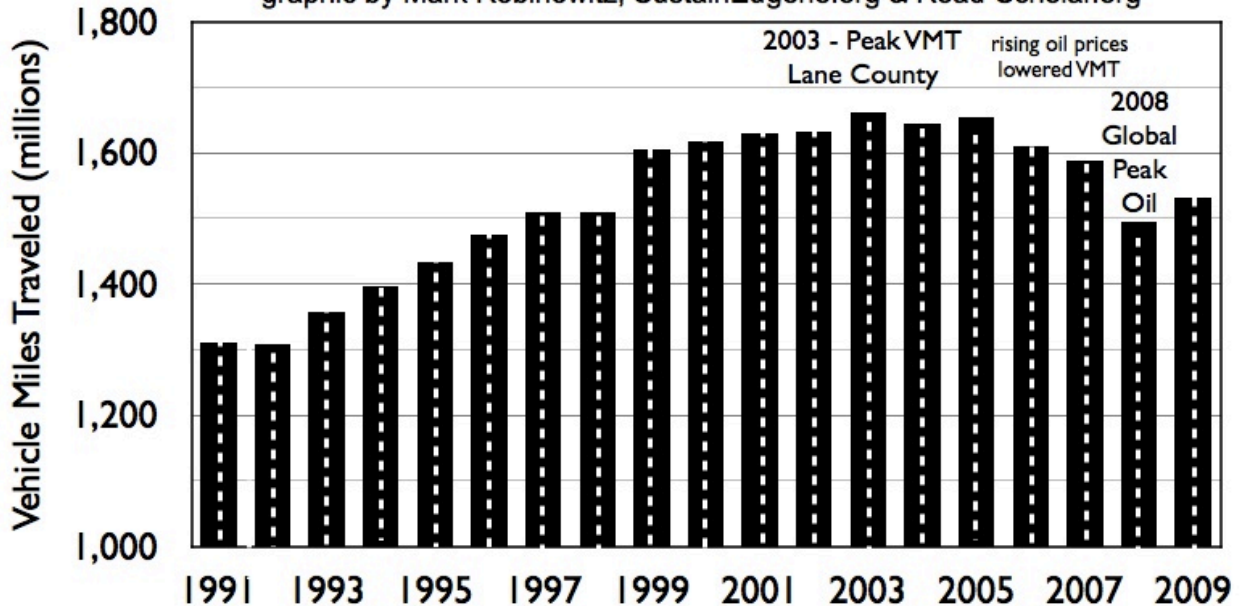


FHWA graphic - national VMT, month by month

Lane County VMT - Oregon State Highways

data source: www.oregon.gov/ODOT/TD/TDATA/tsm/docs/VMTCounty.xls

graphic by Mark Robinowitz, SustainEugene.org & Road-Scholar.org



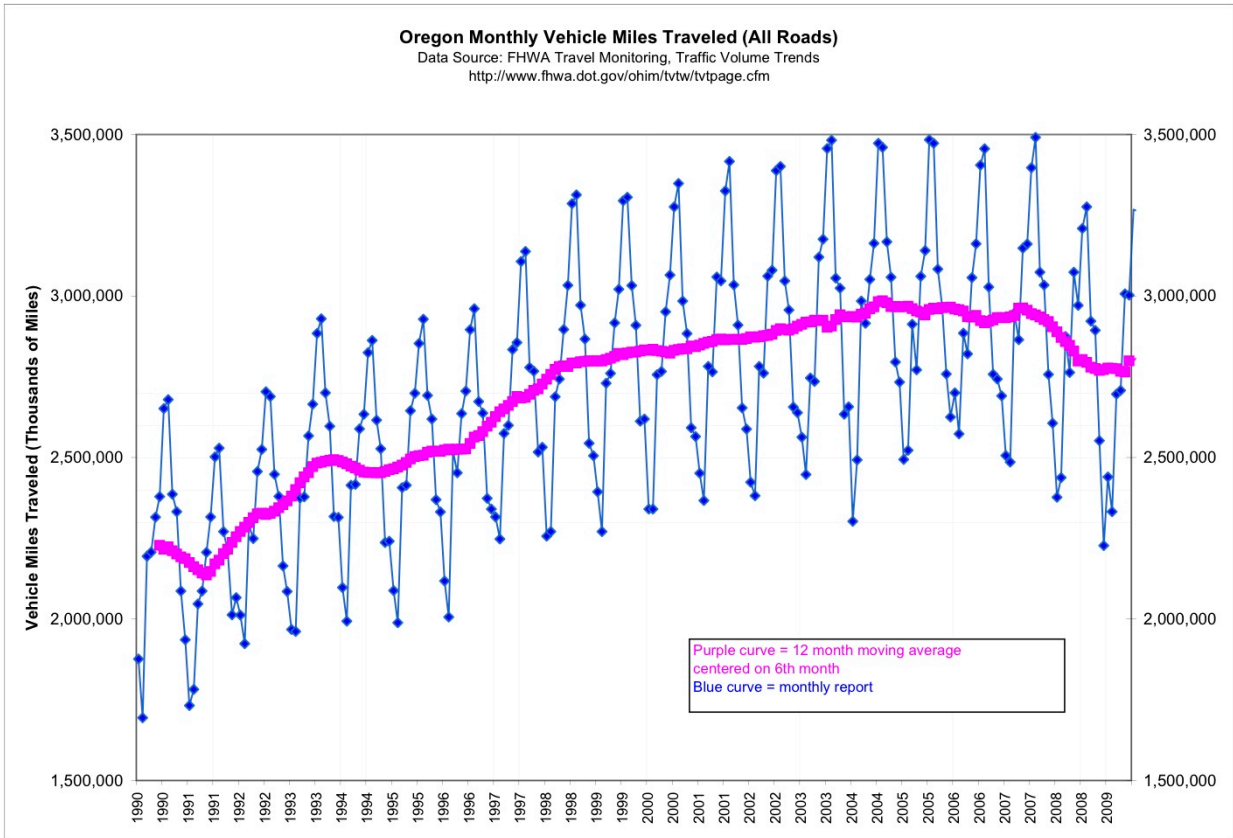
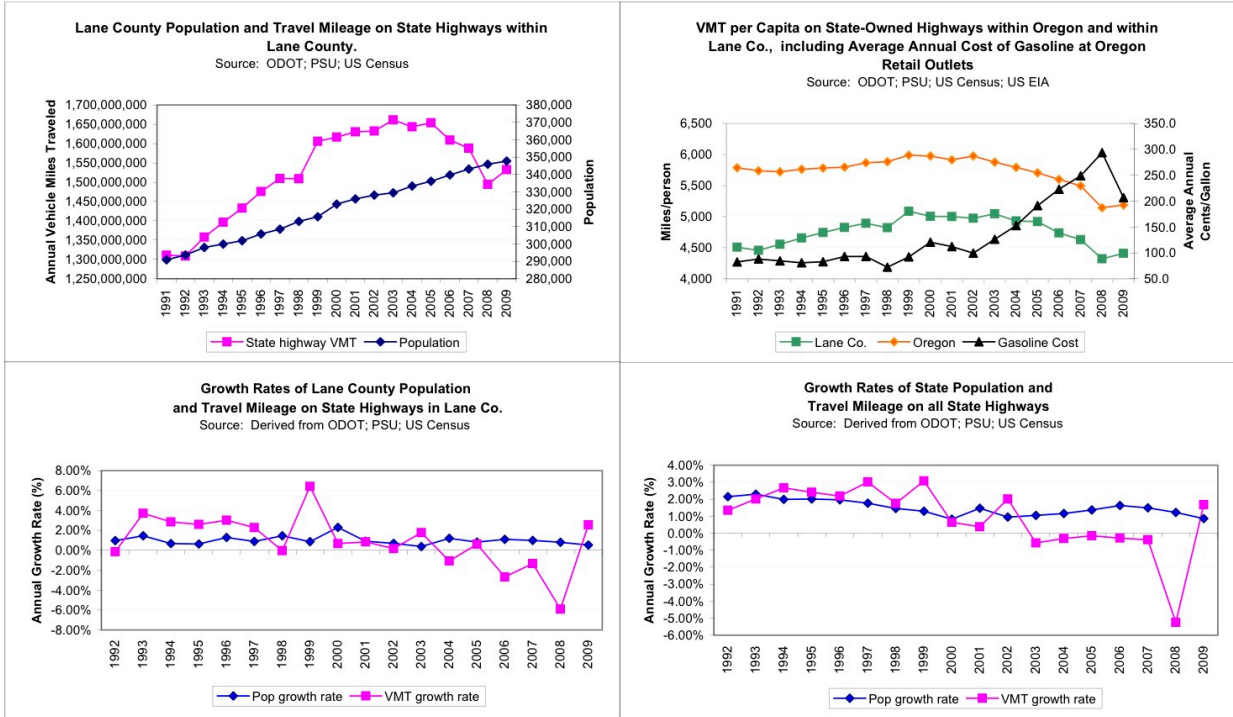
Estimated Vehicle Miles Traveled on State-owned highways in Lane County and Lane County Population, from 1991 through 2009

Sources:

VMT: ODOT (March 2011) <http://www.oregon.gov/ODOT/TD/TDATA/tsm/vmtpage.shtml>

Population: US Census Bureau, Portland State University - compiled by LCOG, <http://www.lcog.org/lgs/ira.html>

Gasoline Prices (excl. local taxes): US Energy Information Administration, http://tonto.eia.doe.gov/dnav/pet/pet_pri_allmg_d_SOR_PTC_cpgal_a.htm



Oregon's \$18 billion highway plan

www.sustaineugene.org/18billion.html

Governor Kulongoski's
Transportation Vision Committee
\$18 billion for more highways
\$18 billion for more highways
Gov. Kulongoski and ODOT plans

Governor Kulongoski's "Transportation Vision Committee" released a report in November 2008 that called for \$18 billion in new and expanded state highways. A couple of Portland based, foundation funded environmental groups were part of this committee, but they were merely window dressing to show that all points of view were supposedly considered. (1000 Friends, Oregon Env. Council, Environment Oregon)

No substantial increases in transit systems (outside of Portland) were mentioned in the report. Portland's light rail expansion is a good thing, but far more money is being spent toward expanding the interstate highway network than public transit.

Washington State is making some modest upgrades to the train tracks that the Amtrak Cascades train uses to have better passenger rail service. The Cascades train can go 200 kph (124 mph), making it the second fastest train in the country -- but the tracks are not able to handle it. Money planned to widen I-5 should be used to upgrade intercity passenger rail.

http://governor.oregon.gov/Gov/pdf/tvreport_final.pdf
"Transportation Vision Report"

some highlights:

- \$4.2 billion - Columbia River Crossing, wider I-5
- \$1 billion - Sunrise freeway, Clackamas County
- \$1.3 billion - I-5 / I-84 reconstruction, Portland
- \$2.1 billion - I-5 to Hwy 99, Tualatin-Sherwood
- \$2 billion - I-5 widening south of Portland
- \$600 million - I-5 widening, Salem to OR 34
- \$670 million - new Salem Willamette River bridge
- \$550 million - Newberg Dundee bypass
- \$100 million - North Corvallis Bypass
- \$200 million - Route 126 upgrade, Springfield
- \$250 million - Beltline widening, Eugene
- \$375 million - Route 62 freeway bypass, Medford
- \$870 million, US 97 upgrades, Bend-Redmond

Oregon's Environmental Groups are silent about ODOT's highway plan
www.oregonpriorities.org/increase-transportation-options/increase-transportation-options
The "Oregon Priorities" website from 1000 Friends, Environment Oregon and Oregon Environmental Council avoids mention of ODOT's plans to spend \$18 billion to expand Oregon

State Highways. They are also silent about Kulongoski's "Mileage Tax" proposal, which would track all trips to charge taxes on a per-mile basis. This surveillance system would reward speeders (who use more fuel) and SUV owners. Gas taxes are a less intrusive way to fund transportation projects than creating "spy roads" to monitor everyone's travels and charging Hybrids the same as Hummers.

Transportation Triage: Stop Building Bypasses and Widening Freeways, Plan for Power Down

On December 7, 2011 the States of Oregon and Washington joined the Federal Highway Administration to approve the four billion dollar Columbia River Crossing between Portland and Vancouver, Wa. The CRC includes a new 10 lane highway bridge plus widening of I-5 on both sides of the river. The Vancouver side of the river would have a sixteen lane wide segment of I-5.

details on the CRC:

www.columbiarivercrossing.org/ProjectInformation/ResearchAndResults/ROD.aspx
official project website

www.columbiarivercrossing.org/FileLibrary/ROD/Appendices/Appendix_B_Maps_of_Selected_Alternative.pdf
Appendix B - Maps of Selected Alternative (15,403 KB)

www.road-scholar.org/crc-sdeis-request.pdf
my Comments on the Final Environmental Impact Statement
Request for a Supplemental Draft EIS
September 2011
includes my 2008 comments on the Draft EIS plus background on Peak Energy and Peak Traffic
(9 mb file)

www.road-scholar.org/columbia-river-crossing.html
Columbia River Crossing - Peak Traffic Alternative

"These forty million [poor] people are invisible because America is so affluent, so rich; because our expressways carry us away from the ghetto, we don't see the poor."

-- Martin Luther King, "Remaining Awake Through a Great Revolution," March 31, 1968

Peak(ed) Oil and Climate Chaos

This section was sent separately as a PDF file.

Peak Money: a permanent change

from the ASPO-USA Peak Oil Notes, October 29, 2009

Association for the Study of Peak Oil

www.aspo-usa.org

Quote of the day:

"(Steven Chu, US Secretary of Energy) was my boss. He knows all about peak oil, but he can't talk about it. If the government announced that peak oil was threatening our economy, Wall Street would crash. He just can't say anything about it."

-- David Fridley, scientist at Lawrence Berkeley National Laboratory, quoted in an article by Lionel Badal (see Peak Oil News, 10/28, item #23)

<http://www.bloomberg.com/news/2012-01-23/u-s-reduces-marcellus-shale-gas-reserve-estimate-by-66-on-revised-data.html>

U.S. Cuts Estimate for Marcellus Shale Gas Reserves by 66%

By Christine Buurma - Jan 23, 2012 9:04 AM PT

<http://www.chrismartenson.com/crashcourse>

"The Crash Course" on energy and money

www.albartlett.org/presentations/arithmetic_population_energy_video1.html

"Arithmetic, Population and Energy"

Albert Bartlett, professor emeritus of physics, University of Colorado

1 hour - probably the best introduction, but not fancy enough for the MTV generation (no stroboscopic psyops included)

<http://www.steadystate.org>
Center for the Advancement of the Steady State Economy

an old growth forest is an example of a steady state ecosystem - the amount of growth is balanced by the amount of decay

"Awareness of Climate Change by the media and general public is obviously running well ahead of awareness about Peak Oil, but there are interesting differences in this general pattern when we look more closely at those involved in the money and energy industries. Many of those involved in money and markets have begun to rally around Climate Change as an urgent problem that can be turned into another opportunity for economic growth (of a green economy). These same people have tended to resist even using the term Peak Oil, let alone acknowledging its imminent occurrence. Perhaps this denial comes from an intuitive understanding that once markets understand that future growth is not possible, then it's game over for our fiat system of debt-based money."

-- David Holmgren, co-originator of permaculture, "Money vs. Fossil energy: the battle to control the world"

www.holmgren.com.au/DLFiles/PDFs/Money_vs_Fossil_Energy.pdf

www.futurescenarios.org

David Holmgren, "Future Scenarios: Mapping the cultural implications of peak oil and climate change"

"Economic recession is the only proven mechanism for a rapid reduction of greenhouse gas emissions ... most of the proposals for mitigation from Kyoto to the feverish efforts to construct post Kyoto solutions have been framed in ignorance of Peak Oil. As Richard Heinberg has argued recently, proposals to cap carbon emissions annually, and allowing them to be traded, rely on the rights to pollute being scarce relative to the availability of the fuel. Actual scarcity of fuel may make such schemes irrelevant."

-- www.futurescenarios.org

Lane County 2010 - 2015 highway expansions

From: Mark Robinowitz [<mailto:mark@oilempire.us>]

Sent: Sunday, August 31, 2008 10:49 PM

To: FLEENOR Bill A; DWYER Bill J; SORENSON Pete; STEWART Faye H; GREEN Bobby

Cc: *Eugene Mayor and City Council; BARRY Celia

Subject: comments on Lane County request to ODOT for nearly \$200 million for more roads

Road Expansion Budget Requests Fiscal Years 2010 through 2015 Cities of Eugene, Springfield, Coburg & Lane County

Asking ODOT for \$186 million for projects worth over \$367 million as we pass Peak Traffic

The Lane Council of Governments is getting ready to make formal requests to the Oregon Department of Transportation for a large amount of federal transportation dollars to widen major roads throughout the metropolitan area. This is the first major stage for implementation of the "Regional Transportation Plan" approved in November, 2007 - the RTP is a long term budget for allocating these funds. The RTP is divided into two segments - the "constrained" list of projects that supposedly can be funded over a twenty year period, and the "illustrative" (formerly called "future") list for projects that they know cannot be funded over the next two decades.

The RTP was narrowly approved by local governments. While most of the jurisdictions that comprise LCOG had no real dissent to this laundry list of road projects, the City of Eugene delegation was split on the issue. City Council Alan Zalenka is one of the two Eugene representatives on the LCOG Metropolitan Policy Committee (which approves the RTP) and he voted no. Eugene Mayor Kitty Piercy voted yes for the RTP. If she had joined Zalenka, then Eugene's vote would have been no, and therefore the RTP would not have passed. Under federal law, the Metropolitan Planning Organization (LCOG) needs to have an approved transportation plan in order to start the byzantine process of asking for federal highway dollars for major projects. In other words, Mayor Piercy's swing vote for the RTP (November 2007) gave the City of Springfield the legal authority to start asking Rep. DeFazio for federal earmarks to fund expansion of Route 126 (they want to convert 126 at Main Street into a grade separated interchange to help subsidize suburban sprawl in the Thurston area).

When this writer asked the Mayor the day after she voted for the RTP how she could reconcile supporting all these road construction projects with her professed interest in "sustainability," she replied that these road projects will never be built (and presumably, therefore, her vote for them was irrelevant). While it is true that Peak Oil means that the entire list of RTP projects will probably not be built, it is also true that some of these expansions will be built in the short run (perhaps during Piercy's second term, should Lane County's ballot scanning machines declare her the winner in November).

As the economic crash intensifies, there will be tremendous pressure to "do something" to put people back to work. In the 1930s, the "New Deal" includes construction of numerous scenic roads that employed many thousands of unemployed men - and these roads also boosted recreational driving that helped boost this huge part of the economy. (The 1930s were also the peak of oil discovery in the United States, but that's a different story.)

In 2009, the next Federal transportation bill will probably be passed by the next Congress. Both major party candidates for President are strong supporters of highway expansion (although the Democrat also

favors increased funding for Amtrak in addition to throwing hundreds of billions of dollars at outer beltways, bypasses and other road projects).

Lane County is holding a hearing on September 3 to approve their list of priority projects that require huge federal funding allocations. Here's a summary from the notice about this meeting - note that Lane County chooses meeting times that are extremely difficult for most citizens to be able to attend - even a noon time public comment period would better accommodate people who work downtown who could come on their lunch hour.

It is interesting that the Lane County employee who sent out a notice about the Sept. 3 hearing knows about "Peak Traffic." This writer sent her some information about Peak Traffic in response to the hearing notice, and this was the reply:

I just noticed your pictures, and wanted you to know I appreciate your interest and involvement. In August, the National Association of Counties reported the following:

Vehicle Miles Traveled Down for Eighth Consecutive Month as Oil Deliveries & Car Sales Drop
The DOT released data showing Americans drove 4.7 percent less in June 2008 than in June 2007. It's the steepest plunge in driving in percentage terms since a 5.3 percent year-over-year drop in January 2006, when winter storms paralyzed the East Coast, and the eighth month in a row that the nation's motorists have responded to high oil prices by reducing the distances they travel. The 12.2 billion drop in vehicle miles traveled for June is the largest numeric monthly decline in miles driven since records began in 1942. Vehicle travel has gone down 53.2 billion miles during the period from November 2007 to June 2008 compared to the same period a year earlier, according to the report issued Wednesday by the DOT's Federal Highway Administration. That tops the decline of 49.3 billion miles recorded during the Arab oil embargo of the 1970s. The decline is most evident in rural travel, which has fallen by 4 percent since November, while urban travel is down 1.2 percent.

Thanks again. Please feel welcome to submit testimony to the Board, after reviewing the materials. If you submit comments prior to the August 27 meeting at the Roads Advisory Committee, I will also inform the RAC of your comments.

Celia Barry
LCPW Transportation Planning
541.682.6935

The LCOG staff have presented accurate information about Peak Oil to the government officials at the Metropolitan Policy Committee meetings. But despite these warnings, most politicians and bureaucrats pretend that "no one could have foreseen" the recent increases in oil prices, even though the warnings were specific although not 100% precise (the exact timing is not predictable even if the trends were obvious). Our bus transportation system is having problems paying its bills - ironically at a time of record public use. If our public officials had acted on the knowledge that Peak Oil was imminent, perhaps they would have pushed to be able to redirect highway expansion funds to run the bus system, so that Peak Oil would not crash our public transit system just as it is needed most. Why should anyone trust the

officials who deliberately ignored accurate warnings about the end of cheap oil to determine budgets and policies as we enter the downslope of Hubbert's Peak?

"You might be right about that"

-- Bobby Green's comment to Mark Robinowitz when told that the end of cheap oil was predicted but ignored by those passing budgets, the reason that LTD cannot afford to run our buses

www.lanecounty.org/TransPlanning/ODOT_Earmark_Support.htm

The Board of County Commissioners will hold a Public Hearing to take comment on the Oregon Department of Transportation (ODOT) federal Earmarks priorities for state highway modernization projects in Lane County. Click [here](#) to view the Board packet materials describing the agenda item.

Hearing Date: Wednesday, September 3, 2008

Time: 1:30 PM

Location: Board of Commissioners Conference Room

Public Services Building, Top Floor

125 E 8th Ave., Eugene

Here is the list of the road projects the County wants ODOT and Federal Highway Administration to fund, along with some comments about each:

Proposed Lane County (Region 2, Area 5) OTC Earmarks List Priorities
Requested funding is for Construction (C-STIP), and not Development (DSTIP), unless otherwise noted

[STIP stands for State Transportation Improvement Plan]

1. I-5 @ Beltline Interchange \$ 35.0 million

\$94 million is already allocated toward this monster interchange project. It was approved in 2003 with little public notice and even less dissent. While all parties involved in this project swear it is not a subsidy for the Peace Health relocation to the McKenzie River, it seems obvious that the hospital is a major part of the purpose.

The \$35 million requested would be used to finish the final stages of this mega project.

GreenwashEugene.com has [information](#) about a much simpler, much cheaper solution for this interchange that would have solved the "weaving" problems in the ramps. Adding extra "collector distributor" lanes (local / express) would have fixed the geometric deficiencies for a fraction of the cost. However, this would not have massively expanded traffic capacity - capacity that will not be needed after the economic impacts of Peak Oil further diminish traffic demand. Unfortunately, this simpler, cheaper alternative was ignored by ODOT in their Environmental Assessment, and the pending West Eugene Parkway seemed to be a better target to focus limited energy for a federal lawsuit.

2. Gateway/Beltline: International Way to Postal Way \$ 15.0 million

This is to reconstruct intersections that will be overloaded by extra traffic induced by the new I-5 / Beltline interchange. \$10 million is already allocated, so this project would total \$25 million.

3. I-5 @ Coburg Interchange \$19.5 million \$ 19.5 million

The City of Coburg is now considered part of the Eugene Springfield metropolitan area for the purposes of having a Metropolitan Planning Organization (a federal requirement for allocating highway money to cities). This interchange project seems to be Coburg's payoff for joining the club, although it is an expensive housewarming present for a town that has only about 1,000 inhabitants.

This project would rebuild the Coburg interchange, ostensibly to handle traffic increases for the industrial area between the historic downtown and the freeway. \$15,668,000 has already been appropriated, so the total cost would be \$35,168,000.

The supporting document for this proposal states:

*Most of the planned employment is also slated for the same general area, and is anticipated to generate even greater levels of traffic during the peak periods of travel.
The interchange is insufficient to meet the demands of the large employment centers that exist within this area. Several large manufacturing companies rely on this interchange to move people, goods, and services throughout the region. This area serves as a major employment hub for the entire region and substandard ramps and other geometric deficiencies create problems at this interchange.
The existing interchange ramps and bridge are not anticipated to be able to accommodate planned future (year 2025) traffic growth.*

However, the biggest employer in Coburg is Monaco Coach, which is already starting to cut jobs as rising gas prices dent sales of its luxury recreational vehicles. If Monaco does not have a fall back plan to convert to bus manufacturing, they are going to implode as a corporation when gasoline prices go up further. Perhaps Lane County's economic leaders could have a contest to guess how high the price of oil needs to climb before Monaco closes down, which would reduce rush hour travel to and from their factory.

Another, hidden reason for this project is the pending widening of I-5 to six lanes through Lane County, which is already being piece-mealed as funding permits. The overpass over the highway does not have any room for adding extra lanes on the Interstate, so this project's reconstruction of the overcrossing could result in room for the widening. The ongoing replacement of the bridges over the McKenzie River is designed for three lanes (plus shoulder) in each direction, as is the planned replacement of the cracked (and the temporary replacement) bridge over the Willamette. The recent reconstruction of the Creswell interchange resulted in an overpass with enough room for more lanes on I-5.

4. Beltline Highway: River Rd. to Coburg Rd. (Phase I) \$ 20.0 million

In 2002, the TransPlan listed this project as potentially costing \$17 million. The LCOG MPC removed this project from the "Constrained" list in the 20 year budget to try to squeeze most of the West Eugene Parkway into that constrained budget (a technical requirement for ultimate approval of the WEP, since "segmentation" of the funding is not allowed under federal law). Now that the WEP is formally cancelled

due to numerous legal and funding obstacles, local governments are taking another look at widening the Beltline.

This project has zero money allocated, but the proposal suggests it could cost \$100 million - the same figure this writer was told by an ODOT planner about five years ago. Widening this stretch would require rebuilding the Delta / Beltline interchange (while traffic would still be using it!), a new bridge across the Willamette, replacement of two overpasses over Beltline (Gilman and Norkenzie roads), and some property displacement (residential and commercial). It might even require relocation of Division Avenue, on the north side of Beltline west of the river (although it might not).

ODOT has started an Environmental Impact Statement process for widening the Beltline, and plans to spend up to \$2,500,000 on the approval process. ODOT claims that eventual shifts to more efficient cars, electric vehicles and alternative fuels means that Peak Oil and Peak Traffic can be largely ignored, although this is extremely optimistic to the point of delusional thinking. At best, these alternatives will be able to mitigate the decline, as replacing the entire infrastructure even as the total available resources to make the shift are reduced is just a pipe dream. Carpooling would do more in the short and medium term to reduce energy consumption than hybrid cars, but that is a social issue, not the ability to buy new techno-toys.

It is worth noting that this stretch of highway is the busiest road in Lane County (more daily trips than I-5 through Eugene - Springfield) and is likely to become busier in the short run because Peace Health hospital moved to one of the worst possible locations in the region from the perspectives of land use, traffic efficiency and emergency operations during disasters. In the long run, gasoline rationing and / or much higher prices will make it difficult to keep traffic levels even relatively constant.

When the I-5 / Beltline Environmental Assessment was being considered, this writer complained that if the interchange was built, that would force additional construction on Beltline, since the new giant ramp was clearly intended as part of a larger vision of a bigger Beltline. This concern was publicly dismissed by ODOT officials, although it was correct.

5. Highway 126W/Veneta to Green Hill Rd. (D-STIP) 2.0 million

ODOT is hoping to spend this money on "development" (the D in D-STIP). Presumably this would go for an Environmental Impact Statement about the impacts of widening this stretch of highway to facilitate conversion of Veneta into a bedroom community for Eugene.

During the West Eugene Parkway EIS process, ODOT officials always claimed that they had no plans to widen 126 across Fern Ridge Reservoir, since the cost would be very high and getting legal approval for the environmental impacts would be extremely difficult. If the WEP had been approved, the Federal Highway Administration would have been sued. The "WETLANDS vs. FHWA" lawsuit would have included arguments about "segmentation" and "logical termini" since Federal laws prohibit federal aid highways that force additional construction not considered in the original approval. This type of violation is especially acute if the segmentation is done to avoid fully analyzing damage to sensitive ecological resources such as parklands, endangered species, wetlands, floodplains, and / or waterways.

There are probably several modest, cheap road fixes that could be implemented to reduce some of the severe safety hazards on this route that would make sense even if Peak Traffic is acknowledged as our future reality -- since Peak Traffic does not mean No Traffic, and a safer road would be in everyone's interest. But fixing existing roads is not as much fun for speculative developers hoping to add road capacity so their new subdivisions can be accommodated. Veneta also has water supply problems that limit growth potentials - and has few jobs of its own (beyond the mostly minimum wage jobs at the shopping mall and the Bi-Mart). While balancing housing and jobs in Veneta would be a good idea, it is probably not very realistic since (1) the economic difficulties we are experiencing are likely to get much

worse, (2) Veneta's sprawling growth means that this balance will remain elusive and (3) this growth was always intended to be just a commuter zone for Eugene (cheap houses that depend on cheap gas for the commute).

6. Franklin Blvd., Ferry St. Bridge to Springfield Bridge 25.0 million

The City of Eugene had so much fun rebuilding Franklin Boulevard (for the Bus Rapid Transit system) that they want to rebuild it again.

This project estimates that \$100 million would be spent to redesign and rebuild Franklin, although this time over a longer distance. The initial \$25 million would be for planning and right of way (evidently some stuff is in the way).

This proposal would extend the "boulevard" treatment through Glenwood, since the City of Springfield hopes to replace the haphazard collection of industrial buildings, pawn shops and other low rent businesses with fancier stuff. However, the fantasy of relocating McKenzie Willamette hospital to the riverfront along Franklin Boulevard would be at least as dumb as the Peace Health "Riverbottom" location, since there are **five dangerous dams** directly upstream from this location. An ODOT official once told this writer that a dam break could result in a forty foot wall of water through Glenwood -- which would be a Willamette Valley tsunami. If McKenzie Willamette relocates, it should be further away from a river so in case of a major flood or earthquake induced dam failure there will be at least one hospital that is not submerged.

A hidden reason behind this project is the U of O Basketball Palace -- despite the presence of Bus Rapid Transit, there is not enough traffic capacity to handle the crowds that are anticipated at this facility. The arena will have about twelve thousand seats - and the Bus Rapid Transit has about four thousand riders a day. Therefore, it would take three days of BRT service to have the so-called EmX serve the arena.

Turn lanes from Franklin Blvd in the vicinity of the arena also would be massively jammed if not rebuilt for arena traffic.

This is one of several examples of how the public is going to be forced to help subsidize this sports complex despite numerous promises from U of O President Frohnmayer and other stadium supporters that public funds were not going to be used for this project.

In ancient Rome, the commoners were kept satiated with the distractions of bread and circuses (the latter included gladiator fights). In modern America, the public is similarly distracted with sports. The U of O has numerous buildings that would be death traps in an earthquake, there is a shortage of housing for students, university professors are being lured to higher paying jobs at other schools, and tuition rates keep rising. It is a sad sign of misguided priorities that an arena partially paid for by the blood money given by Nike CEO Phil Knight (money made through profiteering from quasi-slave labor at his factories in Indonesia) dominates the priorities at this institution ostensibly dedicated to higher education. It is also sad that the rhetoric of "sustainability" flowing from the University conveniently ignores this tremendous investment of energy and money so that people can watch other people throw a ball around.

This project is probably the worst example of transportation greenwash in the metro area. The Bus Rapid Transit line is the excuse to funnel huge amounts of overdevelopment (at least as long as cheap credit to fund it holds out). However, since the fancy bus can only handle a minority of this new traffic, the rest of the people are likely to drive to these new facilities. This means that the bus is going to increase energy consumption and worsen traffic, which is not how this transit system was marketed. Even if the bus was converted to light rail and powered by electricity from burning coal, natural gas and dams (as some voices have been urging), this would not solve the broader problem of transit systems used to facilitate

overdevelopment that ultimately worsens car traffic -- at least as long as the gasoline remains relatively affordable and available.

The next BRT line planned for the metro area will go north from downtown Springfield to Peace Health's River Bottom site and Gateway shopping mall. Even if this would reduce car trips to the new hospital, it is not planned to open until at least two years after the new hospital site opens. It is still in the design phase now, but River Bottom is now open for hospital patients.

A third BRT line is planned for West Eugene to serve the Big Box stores and West Eugene Industrial Area. Lane Transit District has started an EIS to study this route, and it is in the phase of scoping of alternative routes - whether to focus mostly along West 11th, along the Amazon bike path until it crosses West 11th, or to go on 7th Place to Bailey Hill to Stewart Road to Bertelsen to West 11th. All three of these routes have major problems. There is no room on West 11th for widening to accommodate a bus only lane (or lanes) between Seneca and Garfield roads. Building an express bus along Amazon has major environmental obstacles along with eminent domain issues. And routing BRT along 7th to Stewart would avoid the right of way and environmental problems, but building an express bus through a lightly populated area that is deserted at night (and Stewart Road is always deserted) would be a waste of money.

A more reasonable BRT route would be along Highway 99 to the Bethel area, where large numbers of suburbanites live, but the City of Eugene is not urging LTD to prioritize that route. BRT on any West Eugene route would be mostly focused on commercial and industrial areas, not mixed use areas that are better served by public transit. One of the problems of West Eugene is that the populated areas are separated by tracts of big box stores, industrial warehouses and factories, and parklands / wetlands that are unsuitable for "development." If there is a partial solution for West Eugene, stopping the relentless construction of big box stores that are very car dependent would be a primary prerequisite.

Worse, no land use shifts are apparently contemplated for West Eugene to make public transit seem more reasonable - and the City has now closed off the possibility of this by allowing Home Depot and Lowe's (now under construction) to dominate the last large "vacant" areas along West 11th inside the Beltline. Do City or LTD planners seriously think that anyone will take BRT to buy lumber supplies at Lowe's?

Perhaps if the BRT line is ultimately reconstructed, the planners will choose not to have the route weave so much - a particularly poor design choice. Incompetence in public bureaucracies is usually rewarded with an increase in appropriation of tax dollars - in the short run, the only possible recourse the public has is to vote NO on the November 2008 transportation funding increase on the City of Eugene budget.

from the official justification:

There is significant evidence of accelerated development activity throughout the corridor. The UO is beginning construction of a 13,000 seat arena which will lead to increased traffic in all modes, and exacerbate existing deficiencies in the segment west of 1-5. Springfield has been approached by a number of potential development opportunities along the corridor east of 1-5, and the adjoining north/south street (McVay Highway). Any of these potential opportunities will severely tax the existing facility

7. Eugene-Springfield Highway (SR 126) @ Main St. 50.0 million

This project would construct a grade separated interchange between Route 126 and Main Street in Thurston. The project description points to traffic congestion and the difficulty that pedestrians and bicyclists have negotiating this intersection, but the real reason is to expand the road capacity in that area to facilitate large scale construction of subdivisions in the Thurston area. The Route 126 - Jasper

extension is now being completed, and the interchange is a major component of this full project, although its approval was ignored when the Jasper extension was considered. (The Jasper extension was funded solely with County highway funds, so Federal highway laws against segmentation did not apply.)

In previous decades, the long term wish of ODOT has been to extend 126 across the Middle Fork through Pleasant Hill to Highway 58. This would provide second truck route between I-5 and Highway 58, a major alternative to I-5 through Southern Oregon for California bound truck traffic. Until that ultimate extension is budgeted and constructed, the 126 extension to Jasper makes it a bit faster for Springfield traffic to get to 58, although they have to slow down while driving through Lowell. It is also worth noting that the "Region 2050" plan proposed by LCOG a few years ago suggested that Pleasant Hill between Highway 58 and the Middle Fork should be added into the Urban Growth Boundary. Filling in all that farmland with ticky-tacky houses is probably the top long term priority for the region's speculative developers who hope to lure Californians and others to move this region -- we will still have drinking water when Las Vegas does not, property values are cheaper here, and the rhetoric of sustainability is a nice marketing tool to attract people who realize that the communities they live in are not even pretending to address the **triple crisis** of Peak Oil, Climate Change and Overshoot.

8. W. 11th/Terry St. to Green Hill Rd. \$20.0 million

In 2002, when the Cities of Eugene and Springfield, Lane Transit District and Lane County removed this project from the TransPlan to try to squeeze the West Eugene Parkway into the 20 year constrained list (see project 4, above), this project was listed at \$4.5 million. It was eventually refigured as \$5.5 million -- but an increase of nearly 400% in about five years is still impressive, a much greater increase than the rise of construction costs. Either the planners had the original costs too low, or the current cost is too high. While it is true that the demise of the West Eugene Parkway means that this road segment will remain the primary highway access from the west, the proposal in 2002 was to widen this two lane road to four lanes, plus bike path, median and sidewalk. This stretch is not very long, no grade separated interchanges or other major structures are planned, so \$20 million would be a very fancy road upgrade.

Perhaps this cost inflation shows that the real purpose of many of these road projects is a form of wealth transfer from the motoring public to the road construction and sand and gravel companies who have a virtual stranglehold over transportation policy decisions via their bought and paid for politicians and the unelected transportation bureaucracy.

The End of the Age of Oil: growth is over

Peak Oil does not mean that civilization is about to run out of oil. Instead, we are near (or at) the point where continued growth of petroleum combustion no longer can be maintained, which will have profound consequences for the global economy that is dependent on exponential growth of nearly everything (especially of money supplies). Energy creates the economy, a physical limitation rarely acknowledged by economists. Peak Oil is also the point where the maximum amount of economic "growth" is reached -- and ideally a turning point where we can decide to use the remaining half of the oil as a bridge toward a more sustainable way of living. It would require enormous energy, money and people power to reorient away from NAFTA Superhighways toward investing in bullet trains, away from dirty fossil fuel technologies toward efficiency and renewable energy systems, away from resource wars and toward global cooperative efforts to reduce our collective impact on the planetary biosphere.

why alternative fuels and efficient cars won't make much difference

Renewable energy systems are largely focused on generating electricity. Transportation systems are almost entirely based on burning liquid fuels, which are not generated by solar PV power or wind turbines.

A bigger problem is that by the design year of 2030, natural gas supplies from the western US and Alberta are likely to have dropped so low that they will no longer be able to be used to generate electricity -- the remaining gas will be needed to heat buildings, especially in the colder climates where the gas is extracted from. Whatever renewable energy systems are installed between now and then will need to replace the substantial inputs that natural gas has for the western electric power grid at the same time that there is less available energy to manufacture solar panels and wind turbines.

All of the major car companies have developed much more efficient vehicles (Greenpeace, "The Environmental Impact of the Car," 1992), with many models around 100 mpg. VW even has a small model that is highway rated that gets about 250 mpg -- the VW CEO drove it to their annual stockholder meeting a few years ago. While technological shifts may help mitigate the energy crisis after Peak Oil, it cannot eliminate the problem. There are no factories to make these vehicles. There are no capital investments to fund the conversion of existing factories to make hyper-efficient cars. The existing fleet of vehicles are not going to be instantly eliminated in favor of efficient cars, as the owners have invested heavily in their current models -- someone who bought a \$50,000 SUV is not easily going to be able to absorb the loss by purchasing a new car that is more efficient. At best, the investment in more efficient vehicles may slow the decline of VMTs on the Peak Oil downslope -- but it cannot prevent that decline. There is also the problem of substantial use of oil and mineral ores to manufacture new cars, even efficient ones. Carpooling is a more promising short term mitigation than hoping for 100 mpg cars.

Electric cars, even if a hundred million were instantly produced and distributed, will not substitute for food delivery trucks, tractors, freight trains, most Amtrak trains, container ships that bring us cheap crap from Chinese slave labor factories, passenger planes, cargo planes, war planes, petrochemicals for non-transport purposes, fossil fuels used to heat homes and run factories, depleting natural gas used to power part of the electric power grid, oil use at mines and many other uses that show we are not addicted to oil -- we are extremely dependent upon it and the "alternatives" are less concentrated and therefore unable to substitute completely.