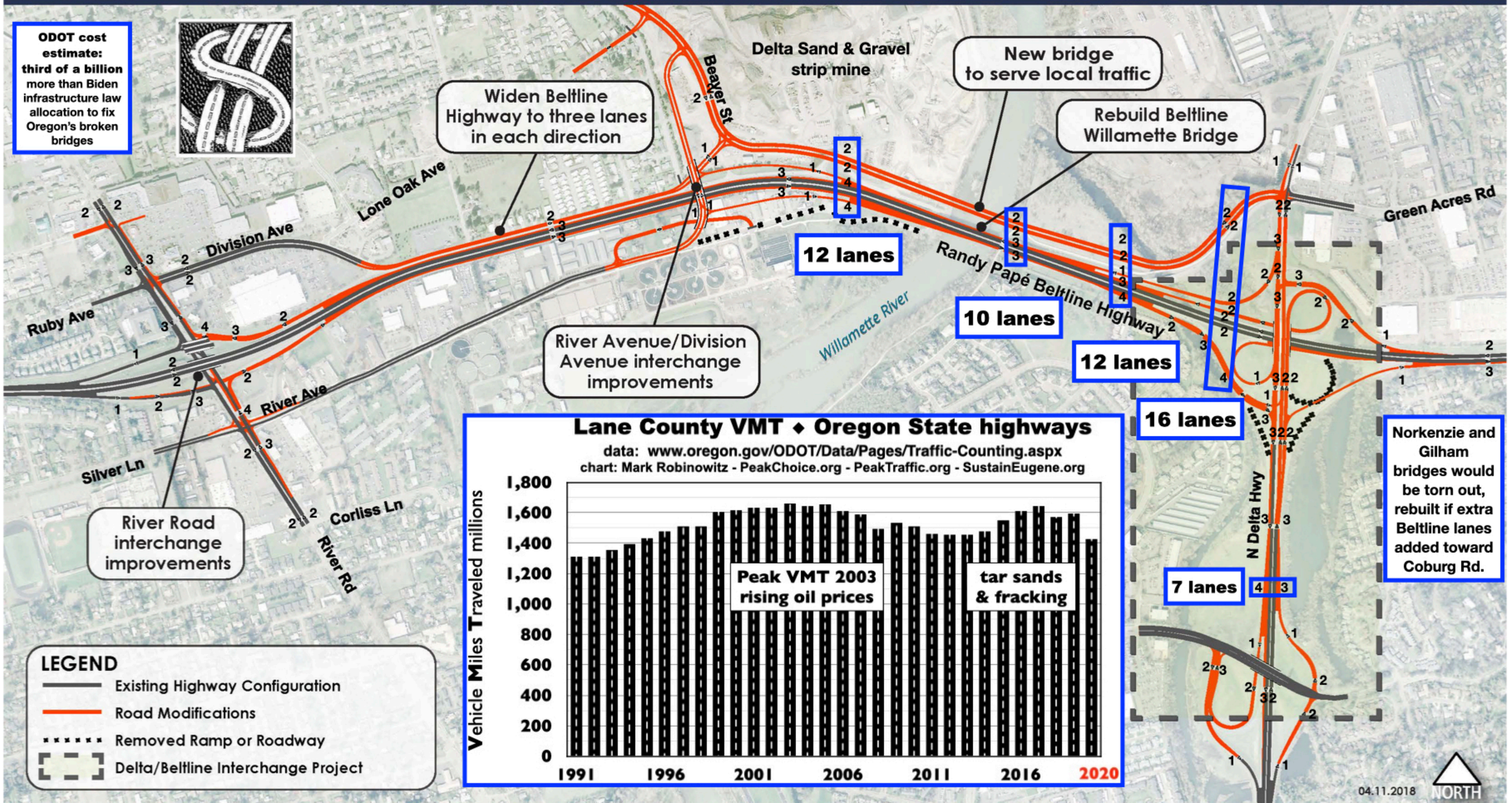
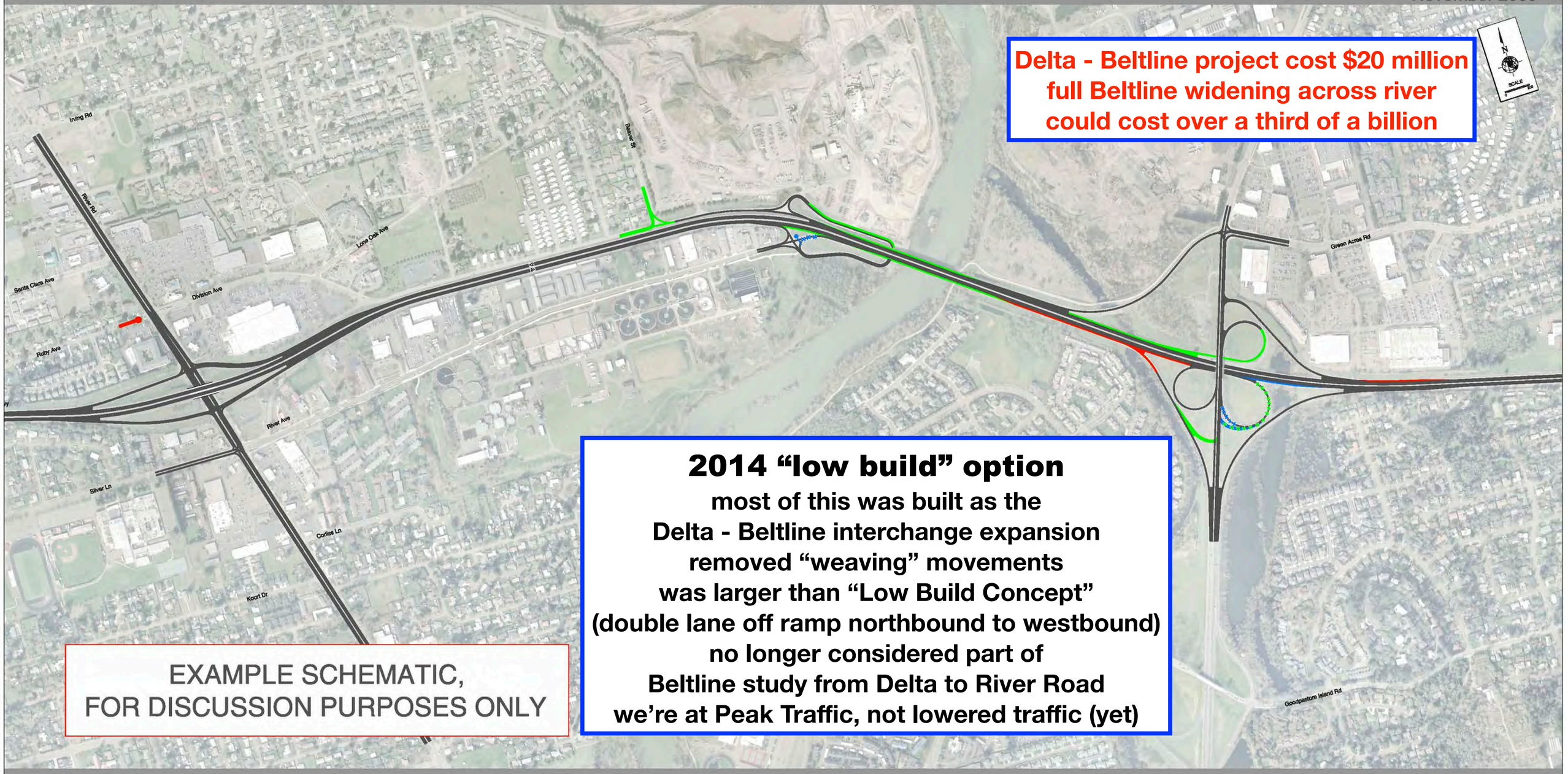
Beltline Highway Facility Plan: Delta Highway to River Road

ODOT map
clearer numbers added by
Mark Robinowitz · SustainEugene.org





Delta - Beltline project cost $20 million
full Beltline widening across river
could cost over a third of a billion

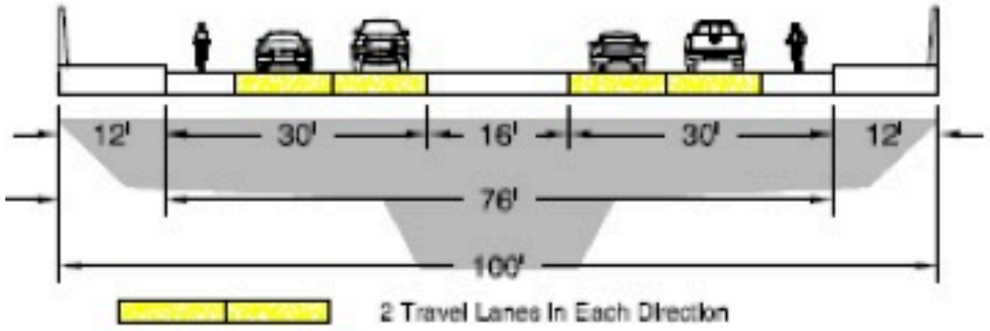
2014 “low build” option

most of this was built as the
Delta - Beltline interchange expansion
removed “weaving” movements
was larger than “Low Build Concept”
(double lane off ramp northbound to westbound)
no longer considered part of
Beltline study from Delta to River Road
we’re at Peak Traffic, not lowered traffic (yet)

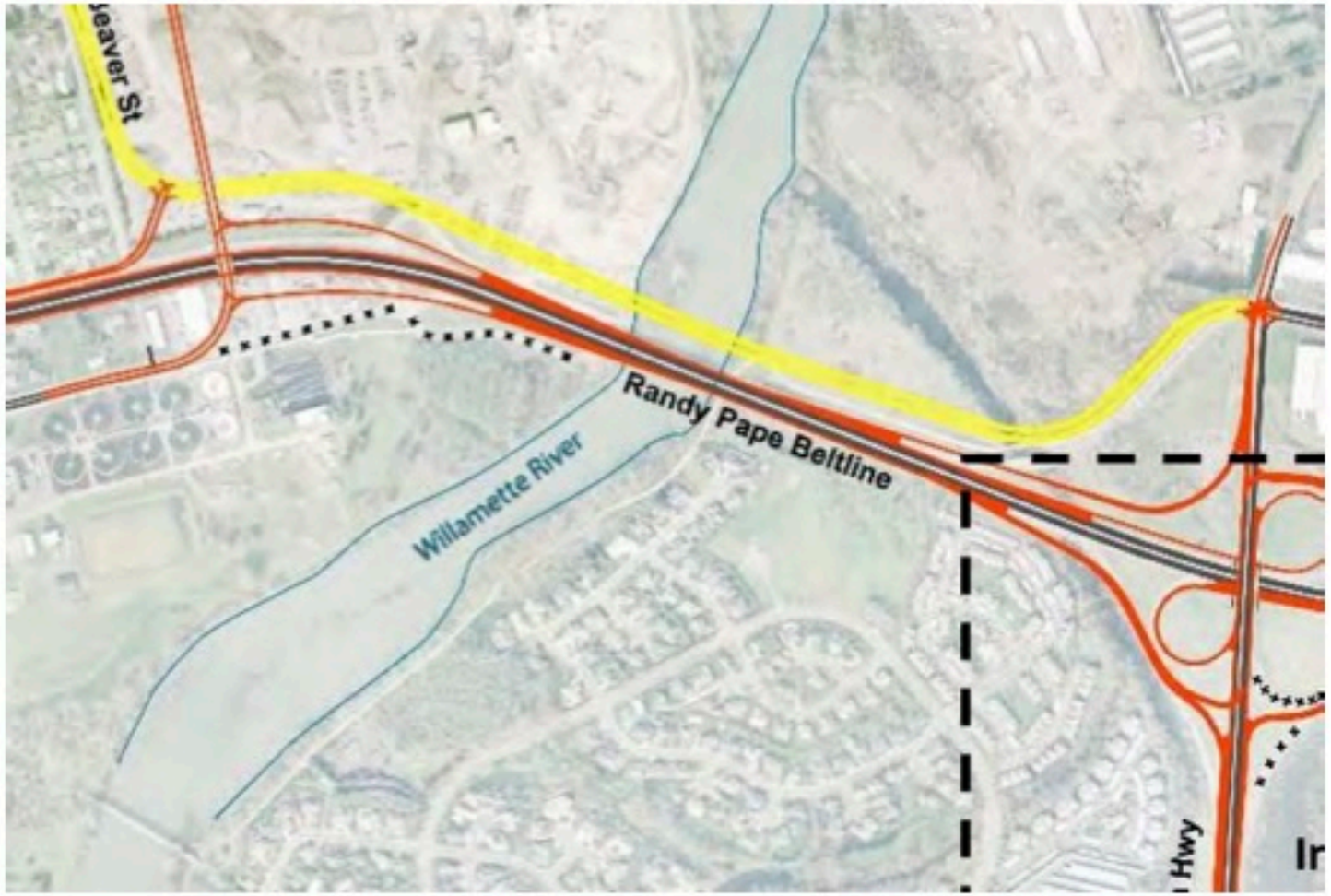
EXAMPLE SCHEMATIC,
FOR DISCUSSION PURPOSES ONLY

(C) New Bridge to Serve Local Traffic

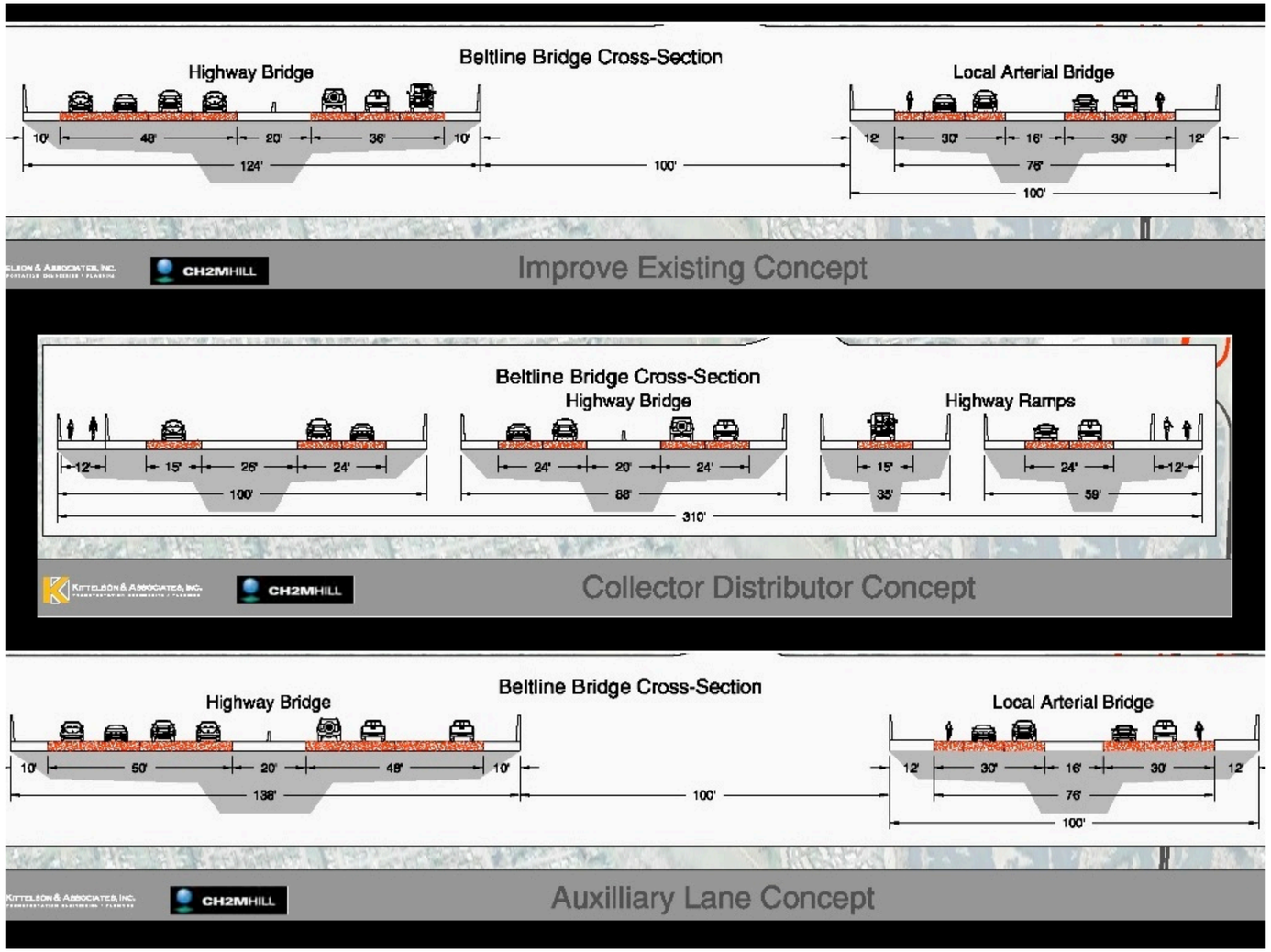
The “local” bridge would likely be built first as temporary bridge for Beltline traffic if the existing bridge is demolished to be replaced with a bigger structure.



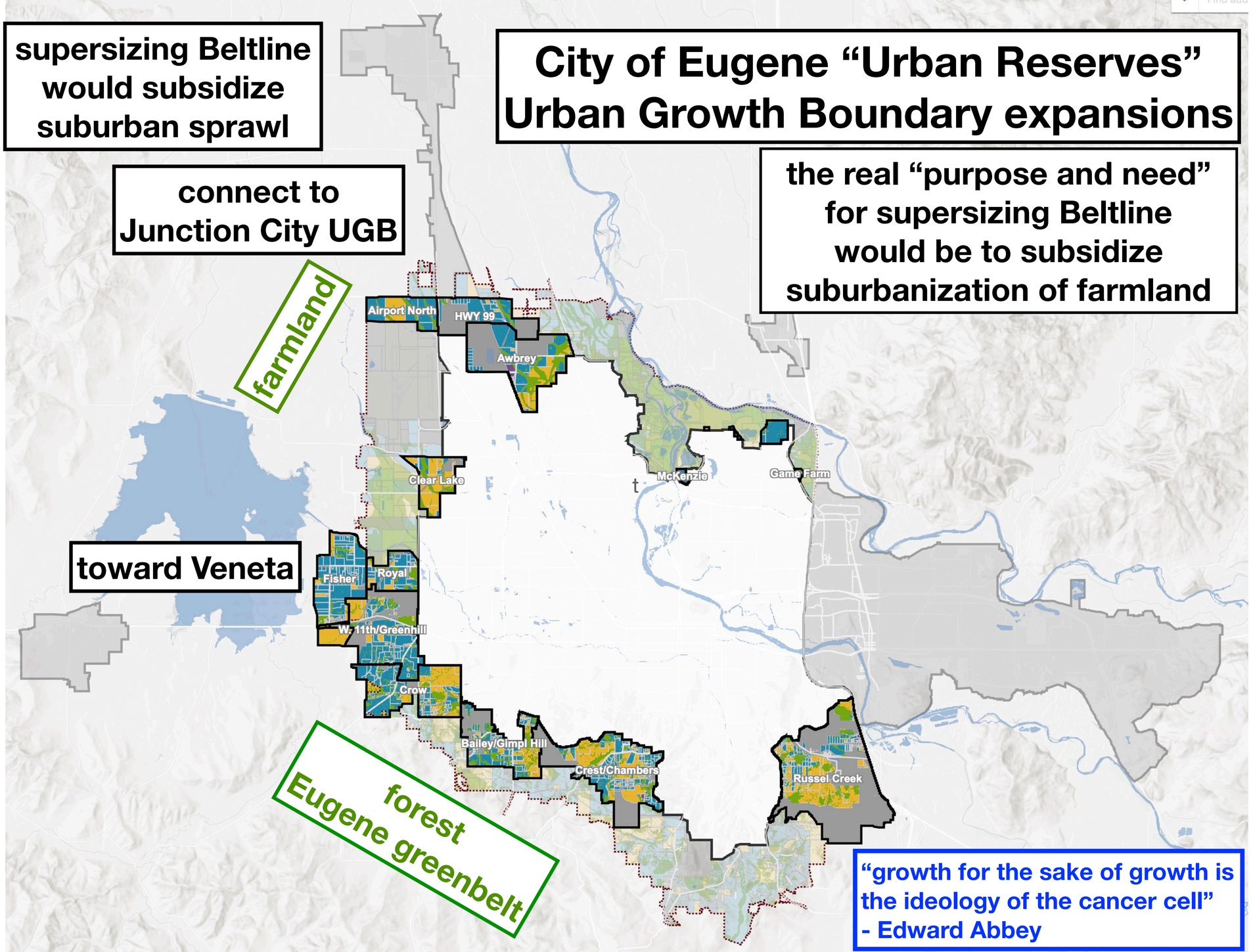
Long term planning should consider fiscal constraints, peak traffic, climate change, and energy depletion. It takes a lot of fossil fuels to make concrete and steel, we should use what is left as efficiently as possible. Replacing the old Beltline bridge, built before the Cascadia Subduction Zone was discovered, with a new bridge of the same width should be enough for the rest of the oil age.

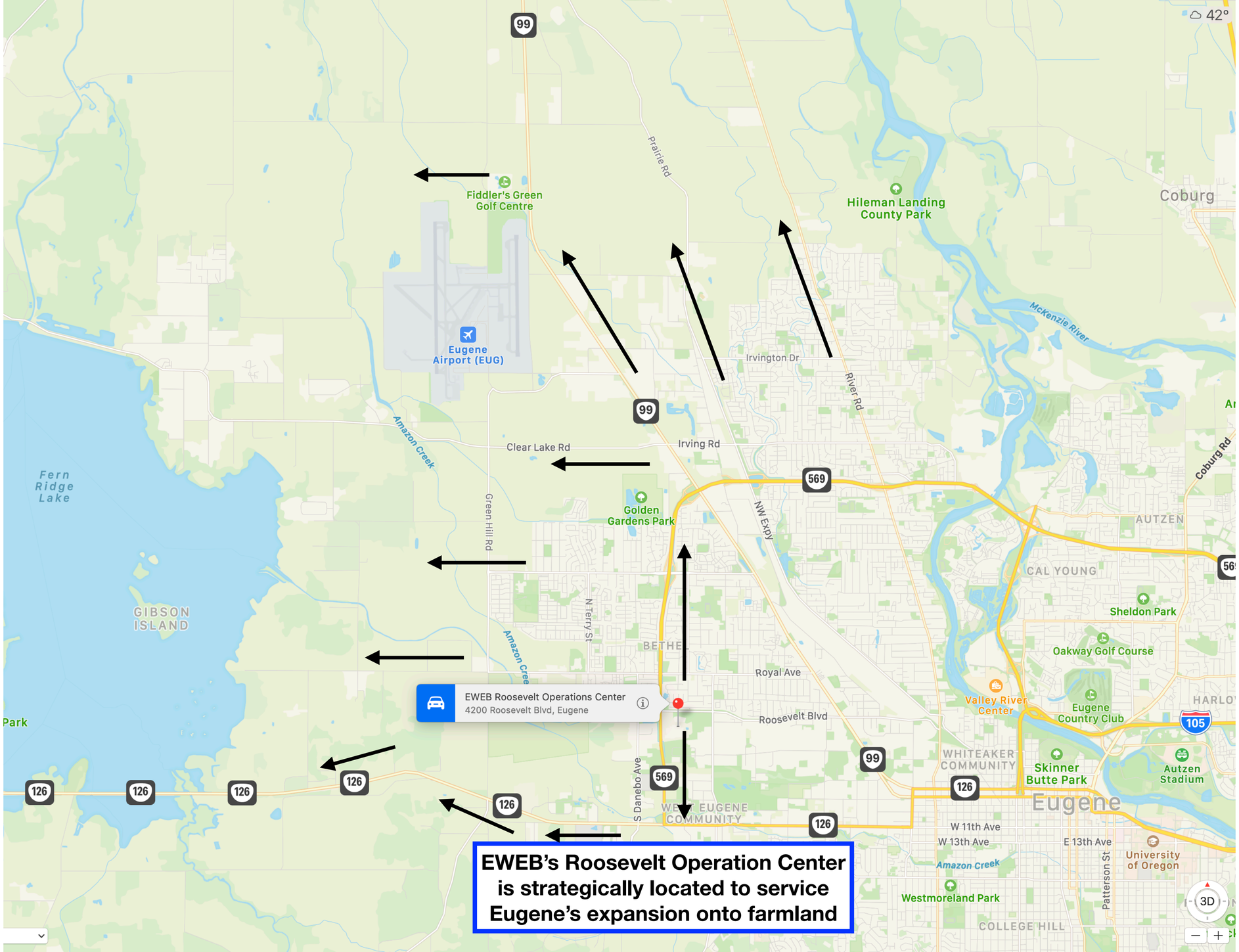


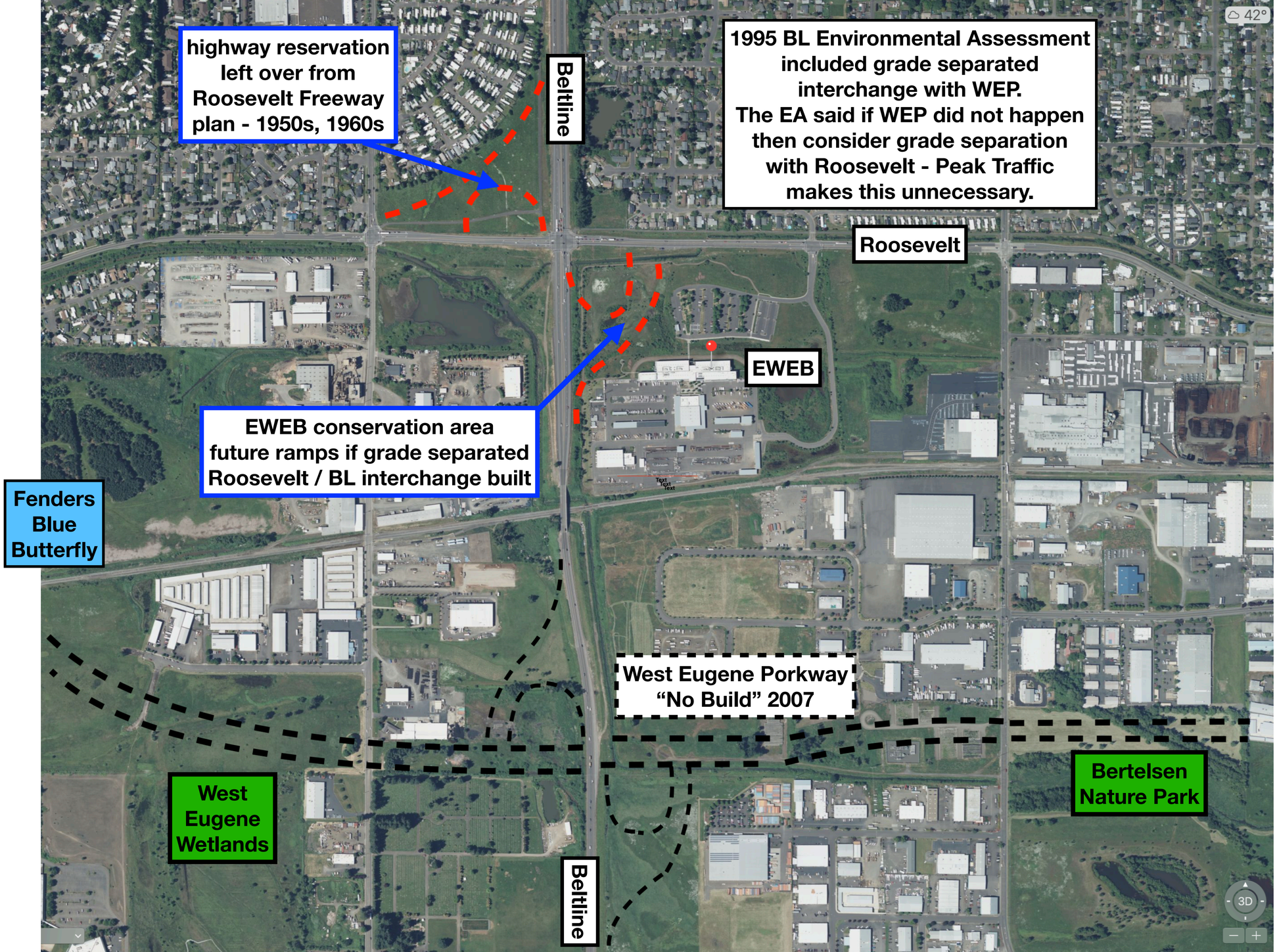
ODOT 2014 study: Beltline cross sections across the river

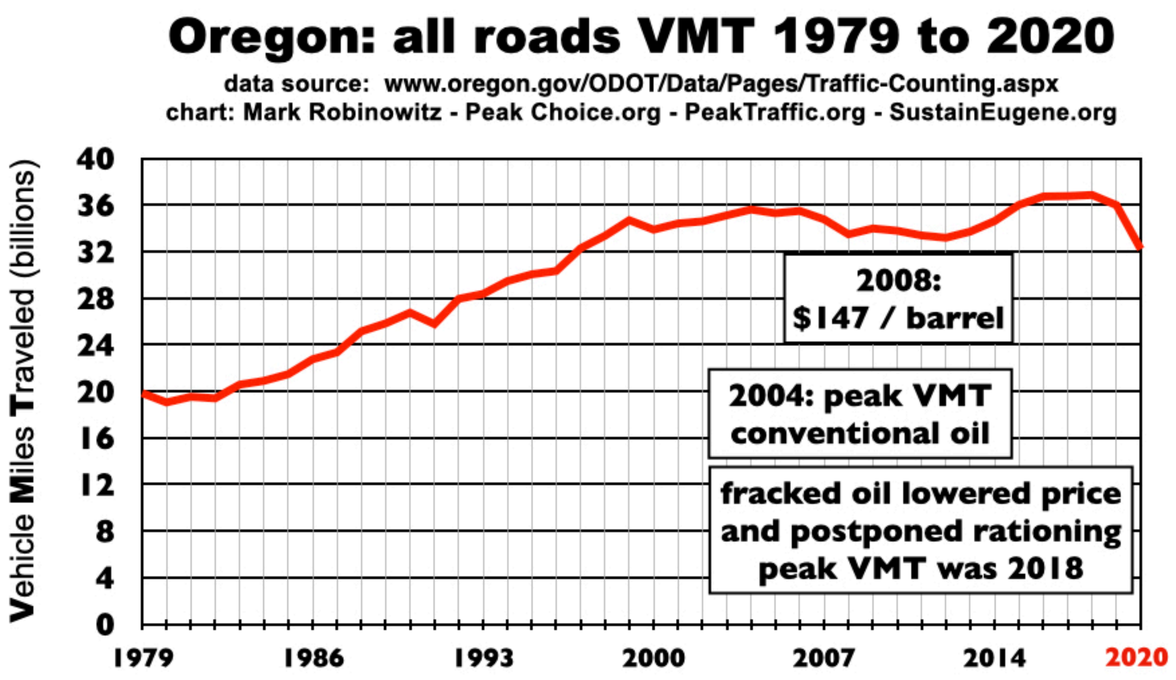


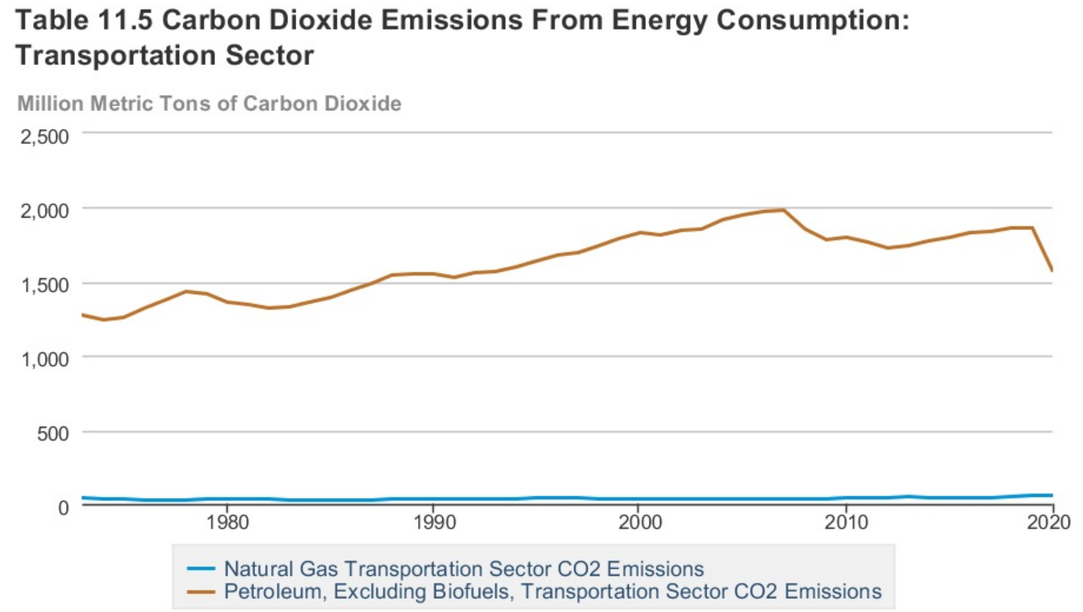
ODOT has not released cross section graphic showing the 2018 version which would be 10 lanes of bridge across the river and up to 16 lanes between the river and Delta highway


supersizing Beltline would subsidize suburban sprawl
City of Eugene "Urban Reserves" Urban Growth Boundary expansions
connect to Junction City UGB
the real "purpose and need" for supersizing Beltline would be to subsidize suburbanization of farmland
farmland
Airport North
HWY 99
Awbrey
Clear Lake
McKenzie
Game Farm
toward Veneta
Fisher
Royal
W. 11th/Greenhill
Crow
Bailey/Gimpl Hill
Crest/Chambers
Russel Creek
forest
Eugene greenbelt
"growth for the sake of growth is the ideology of the cancer cell"
- Edward Abbey


42°
99
Prairie Rd
Fiddler's Green Golf Centre
Hileman Landing County Park
Coburg
Eugene Airport (EUG)
McKenzie River
Irvington Dr
River Rd
Amazon Creek
Clear Lake Rd
Irving Rd
569
Fern Ridge Lake
Green Hill Rd
Golden Gardens Park
NW Expy
Coburg Rd
AUTZEN
CAL YOUNG
Sheldon Park
Oakway Golf Course
GIBSON ISLAND
N Terry St
BETHEL
Royal Ave
EWEB Roosevelt Operations Center
4200 Roosevelt Blvd, Eugene
Valley River Center
Eugene Country Club
Roosevelt Blvd
105
Park
126
WHITEAKER COMMUNITY
Skinner Butte Park
Autzen Stadium
S Danebo Ave
WEST EUGENE COMMUNITY
Eugene
W 11th Ave
W 13th Ave
E 13th Ave
Amazon Creek
University of Oregon
Patterson St
Westmoreland Park
COLLEGE HILL
3D
EWEB's Roosevelt Operation Center is strategically located to service Eugene's expansion onto farmland

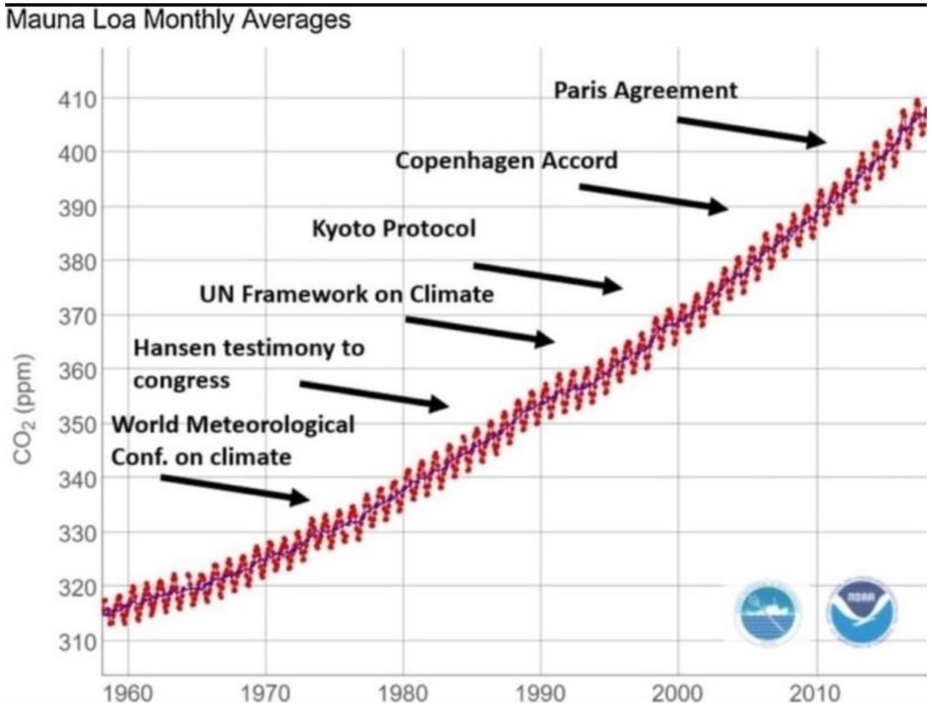

highway reservation left over from Roosevelt Freeway plan - 1950s, 1960s
Beltline
1995 BL Environmental Assessment included grade separated interchange with WEP.
The EA said if WEP did not happen then consider grade separation with Roosevelt - Peak Traffic makes this unnecessary.
Roosevelt
EWEB
EWEB conservation area
future ramps if grade separated
Roosevelt / BL interchange built
Fenders Blue Butterfly
West Eugene Porkway
“No Build” 2007
Bertelsen Nature Park
West Eugene Wetlands
Beltline





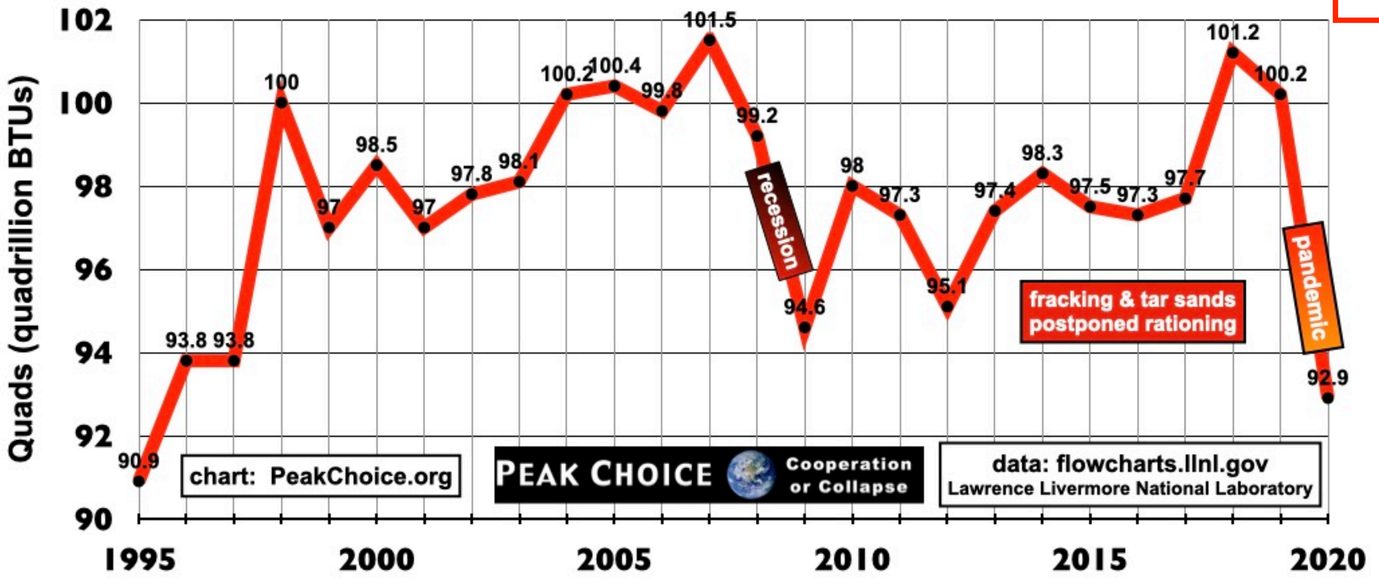
eia Source: U.S. Energy Information Administration

Covid closures cut carbon more than climate activism

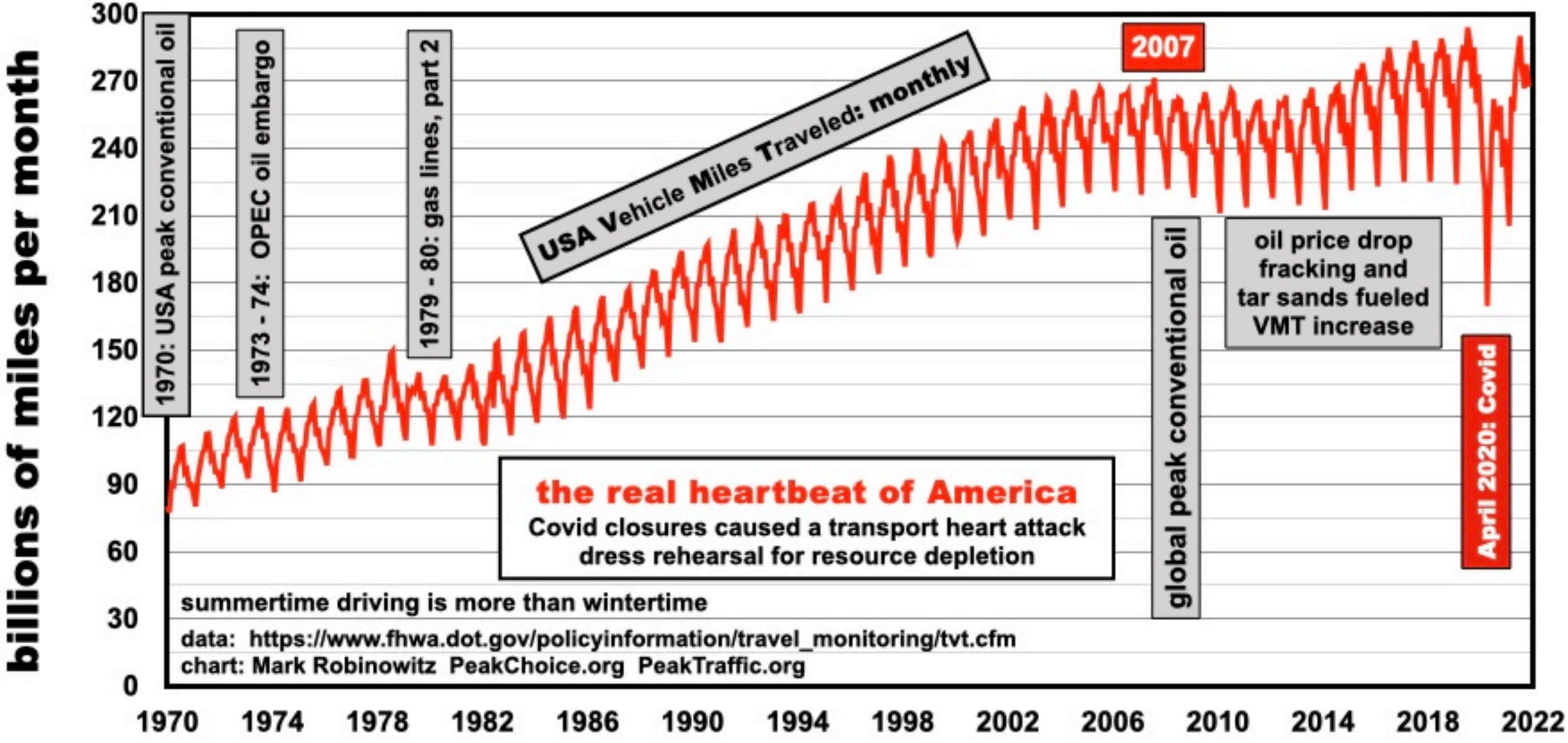


Covid closures cut carbon more than climate activism

USA peak energy all sources



USA VMT January 1970 - November 2021



monthly USA aviation passengers

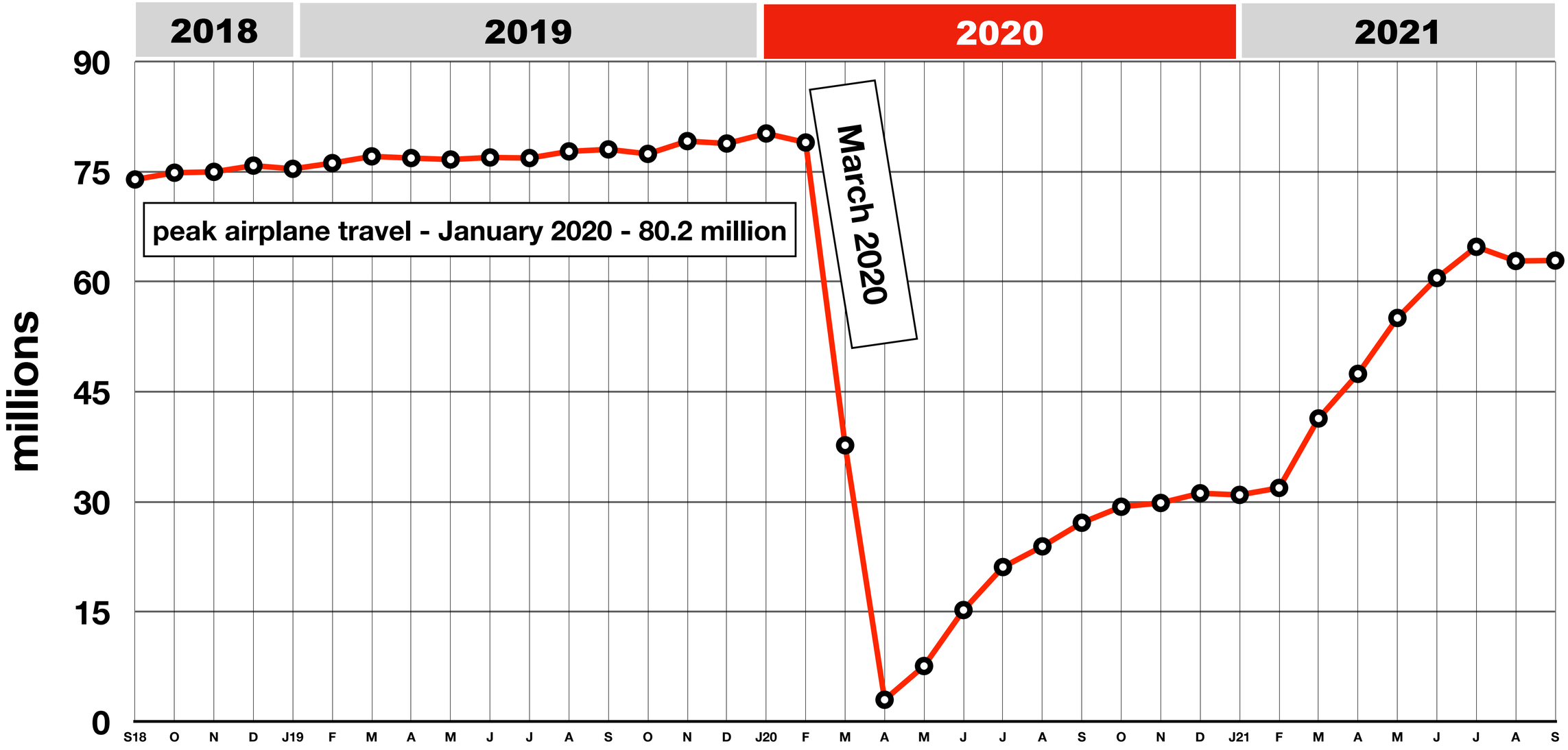
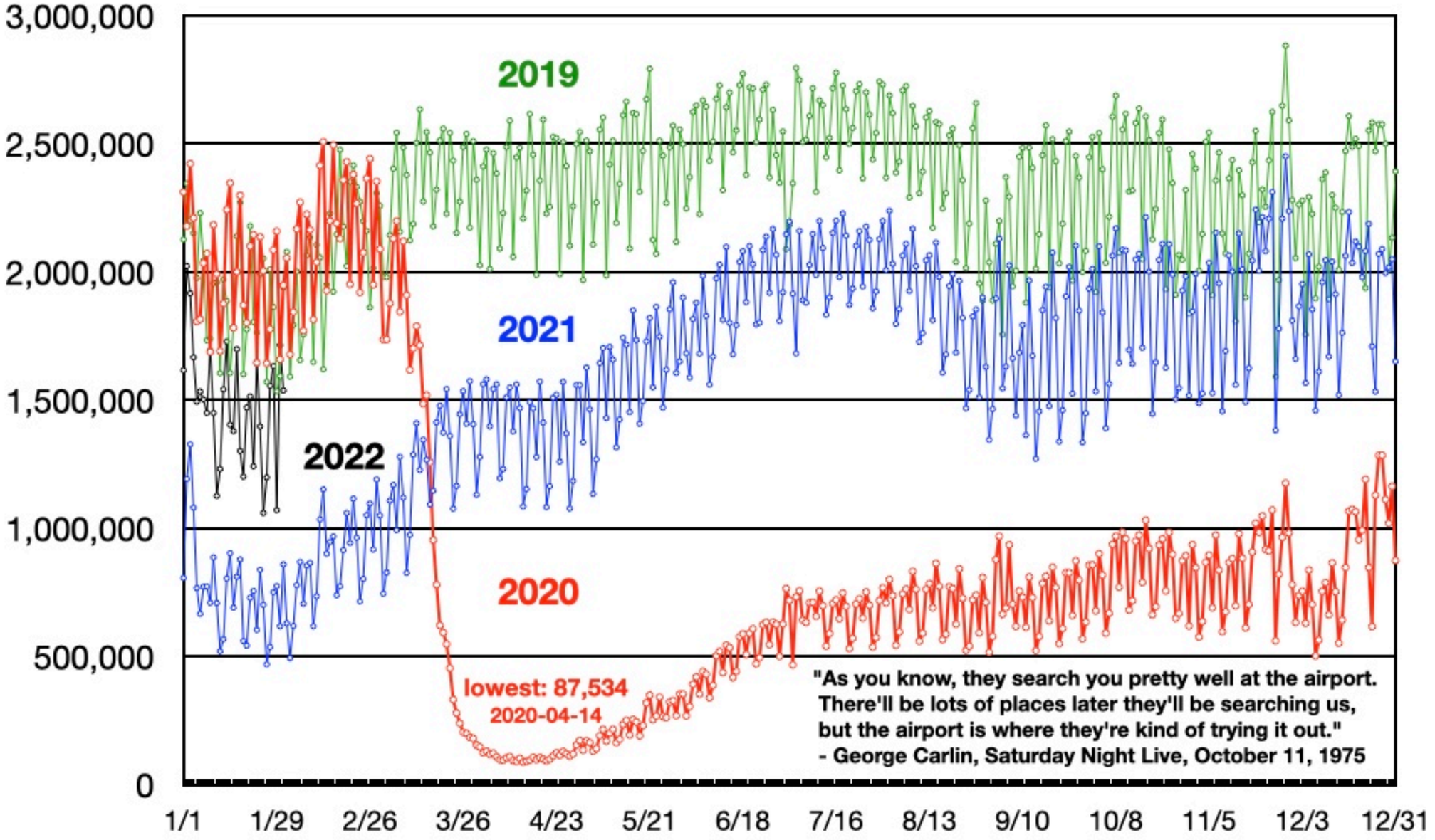


chart: PeakChoice.org

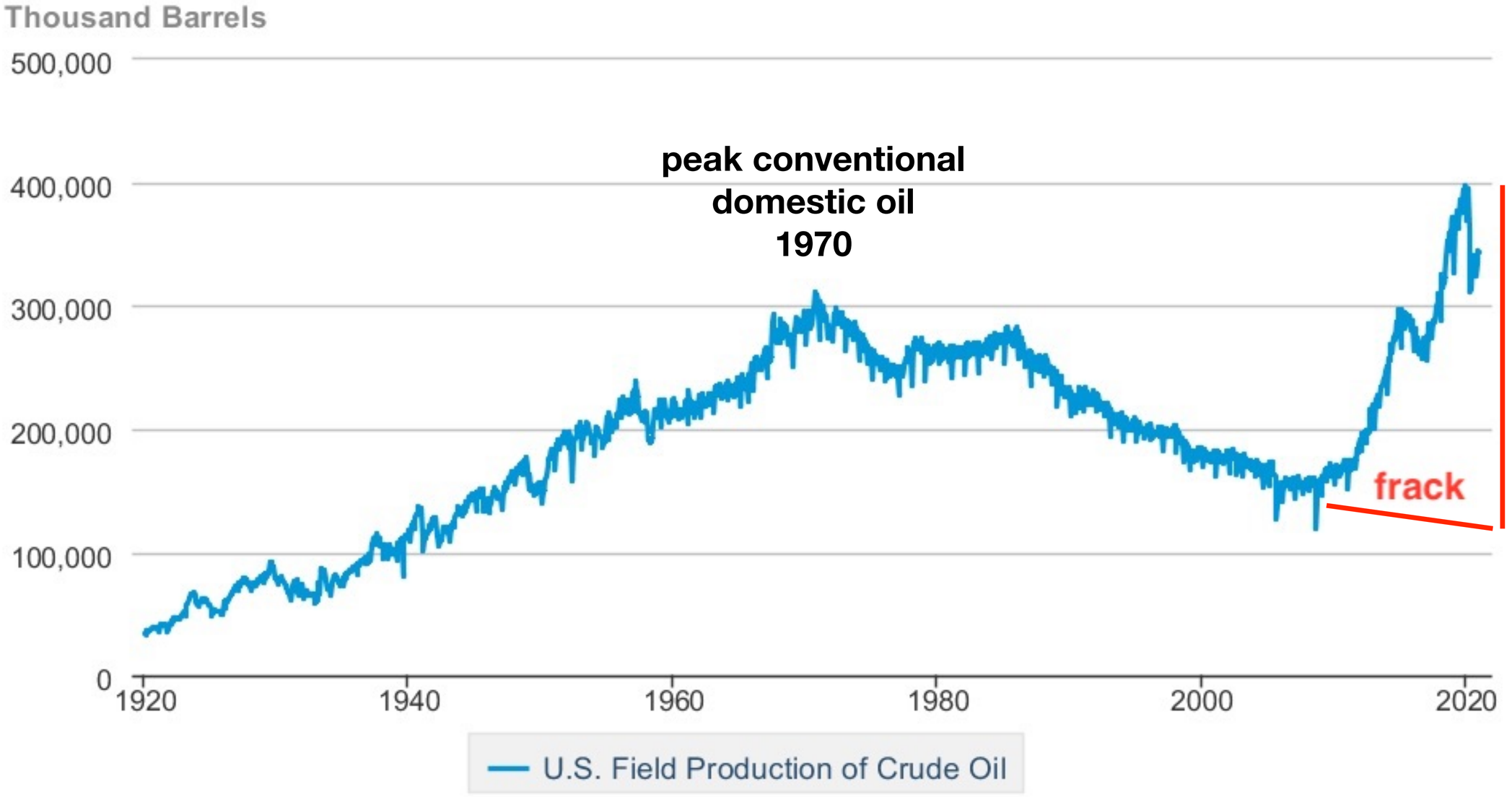
data: www.bts.dot.gov/newsroom/september-2021-us-airline-traffic-data

TSA daily airport checkpoint — 2019, 2020, 2021, 2022

data: www.tsa.gov/coronavirus/passenger-throughput
chart: PeakChoice.org - cooperation or collapse



U.S. Field Production of Crude Oil

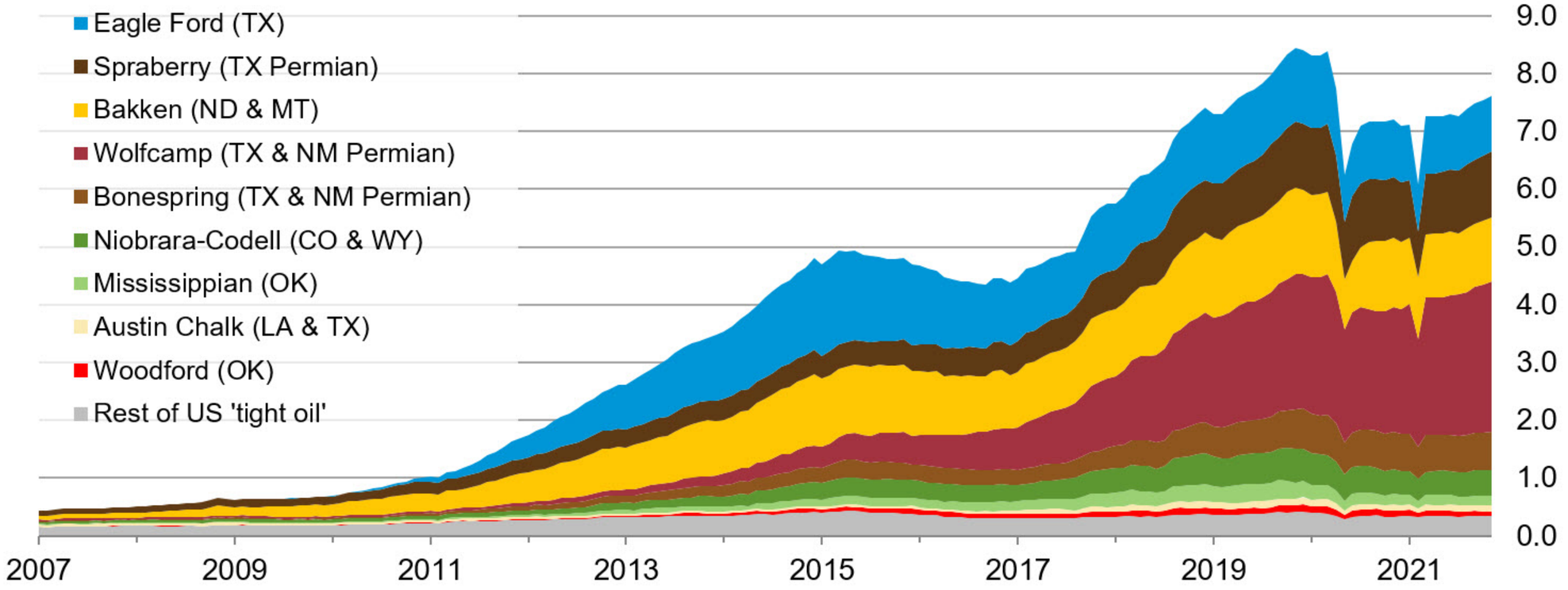


eia Source: U.S. Energy Information Administration

U.S. tight oil production – selected plays

million barrels of oil per day

fracked oil is two thirds domestic oil production



Sources: EIA derived from state administrative data collected by Enverus. Data are through November 2021 and represent EIA's official tight oil estimates, but are not survey data. State abbreviations indicate primary state(s).

Note: Improvements to play identification methods have altered production volumes between various plays.

ALASKA PIPELINE: PEAK & DECLINE

nearing low flow shutdown threshold for Arctic winter operations
extraction is now less in summer to reserve capacity for winter

drilling "ANWR" might retrieve another billion barrels, maybe more,
to offset (temporarily) decline of Prudhoe Bay

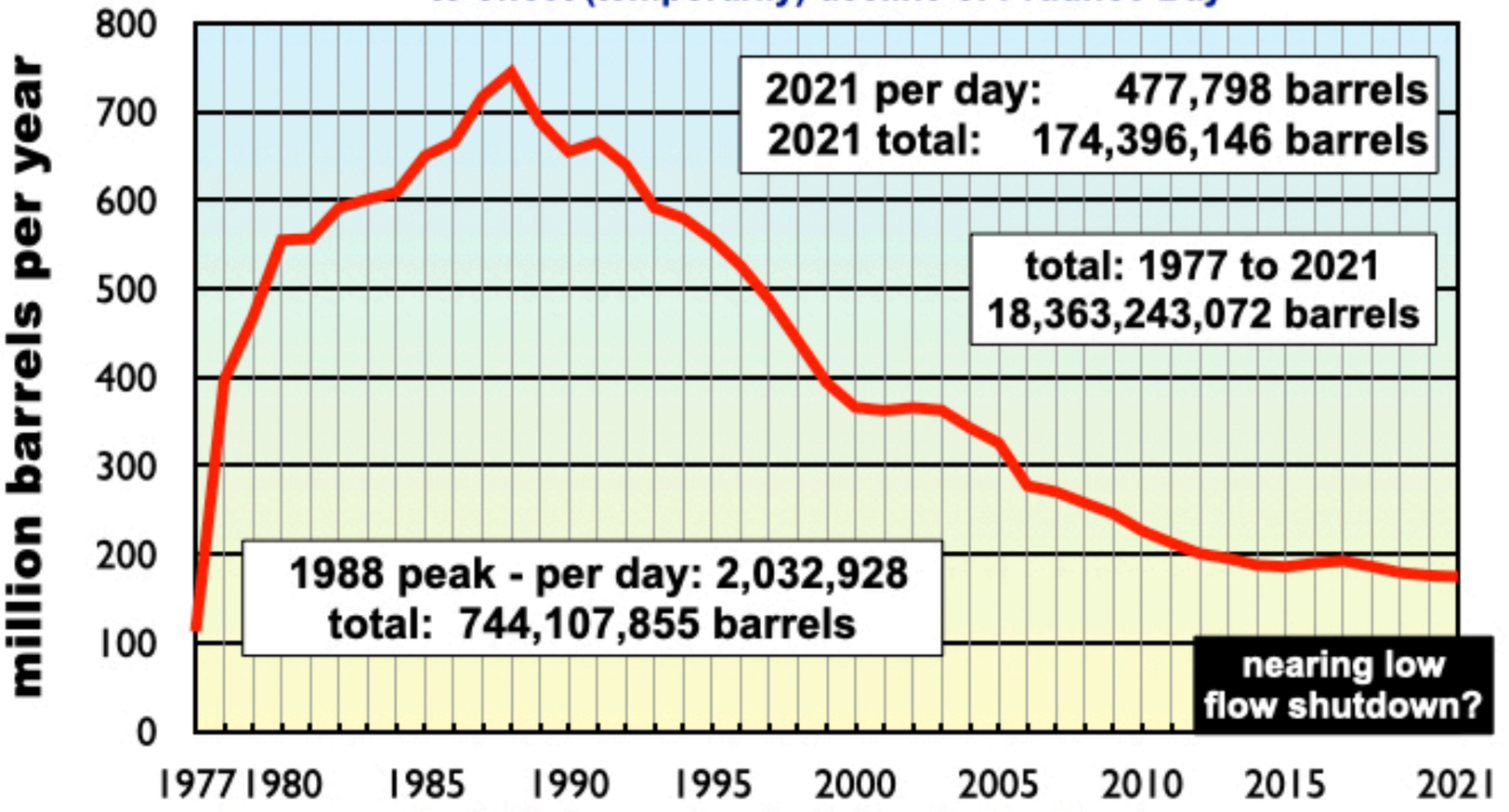
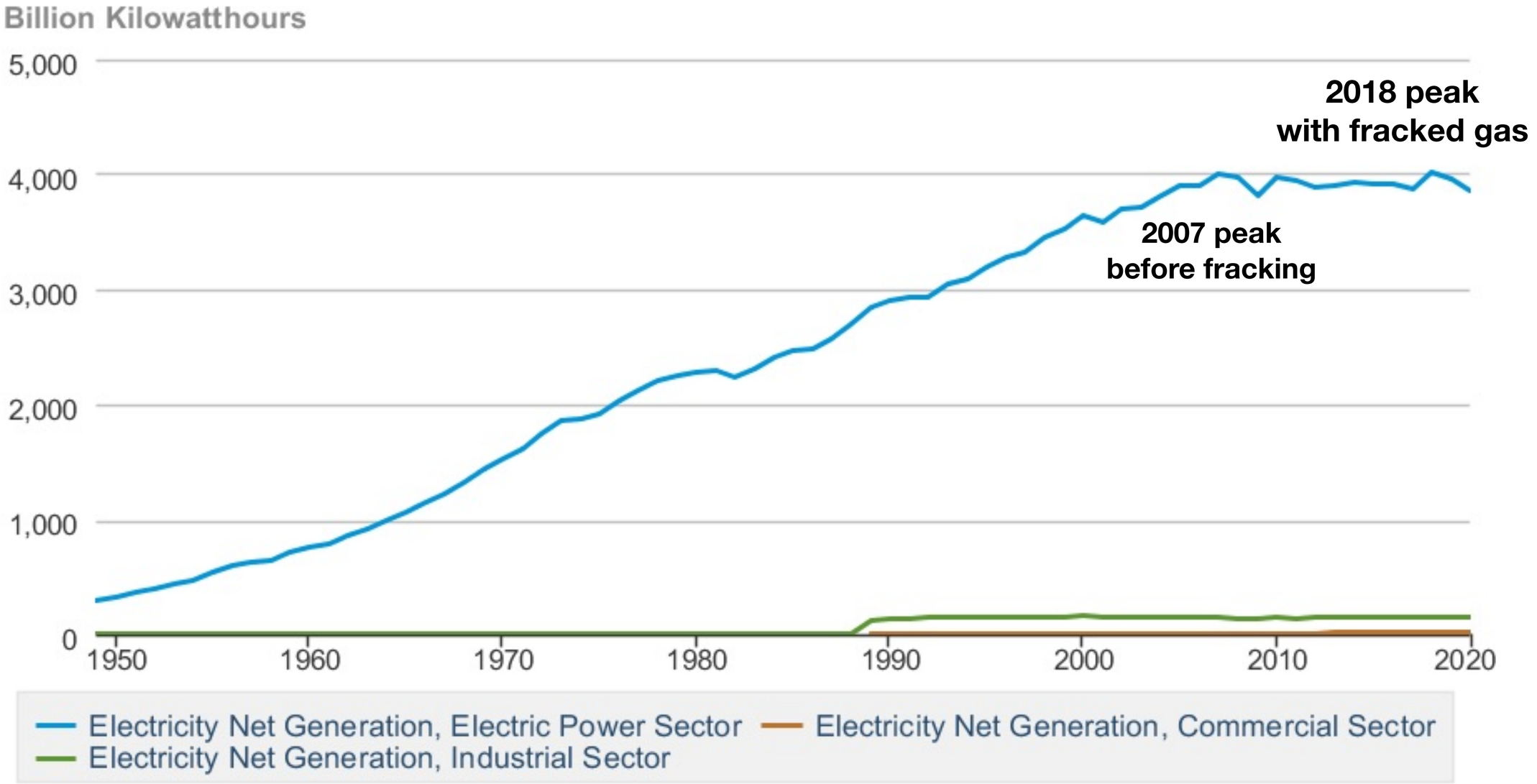


chart: www.PeakChoice.org/peak-alaska-pipeline.html
data: www.alyeska-pipe.com/historic-throughput/

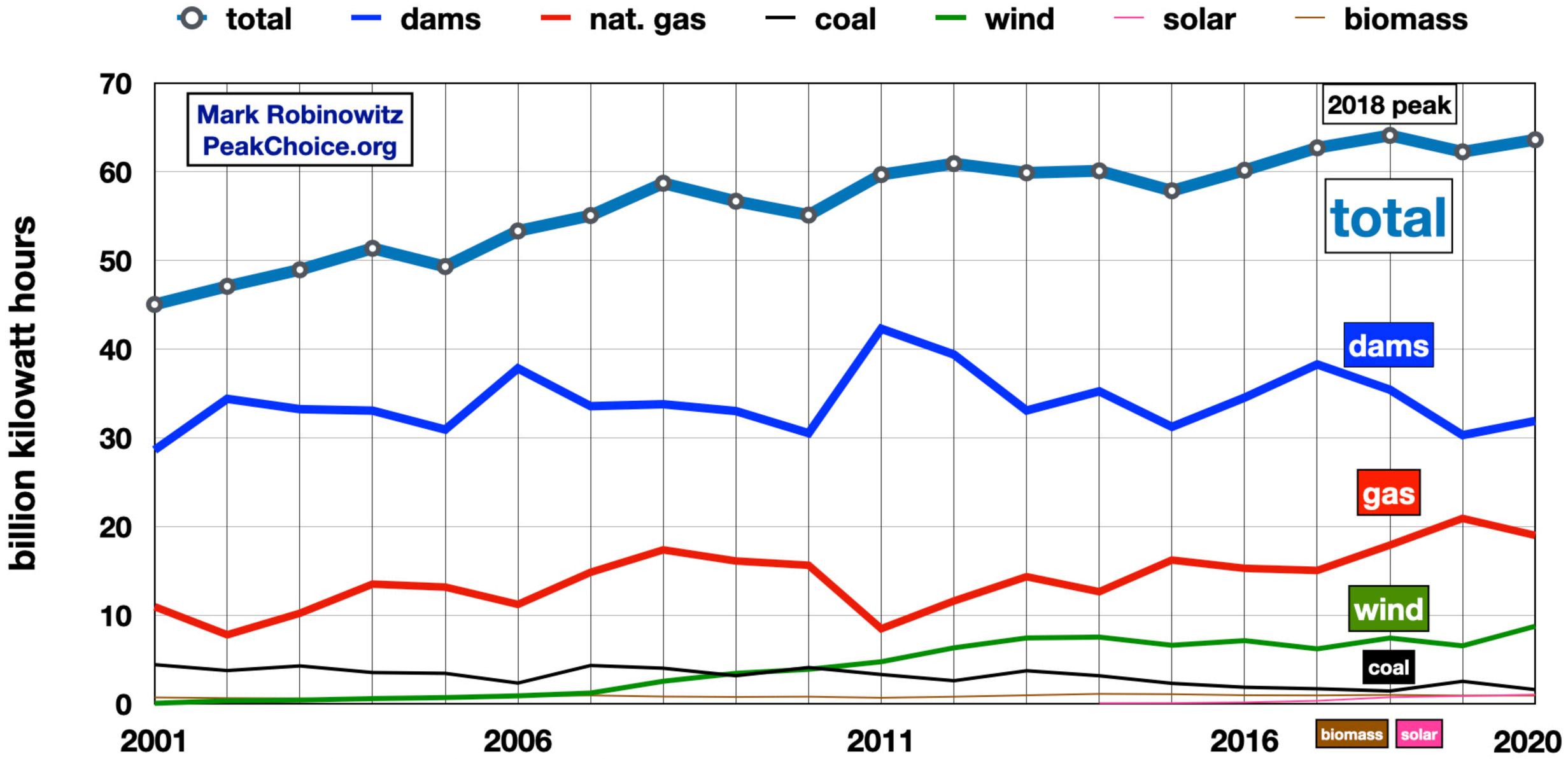
Table 7.1 Electricity Overview

Peak Electricity all 50 states



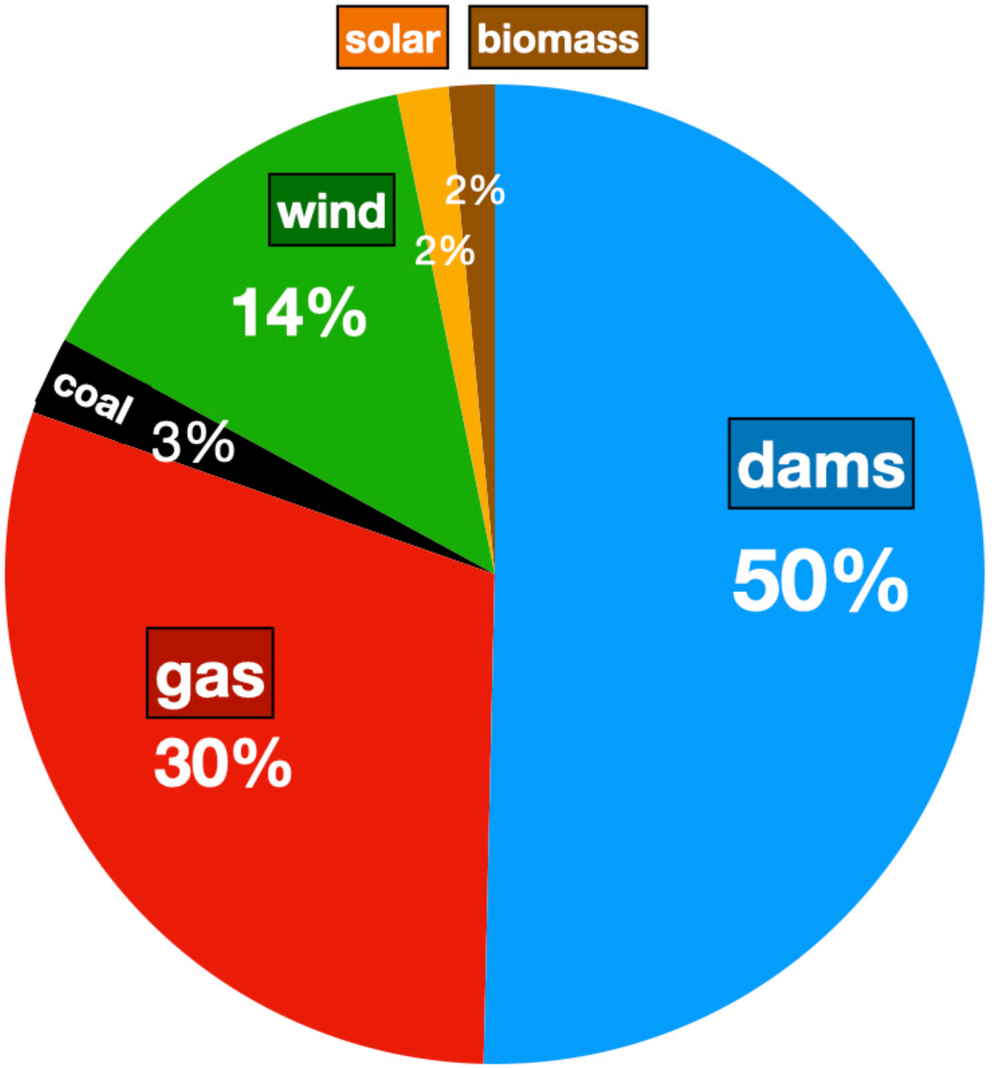
eia Source: U.S. Energy Information Administration

Oregon in state electric generation 2001 - 2020



https://www.eia.gov/electricity/data/browser/#/topic/0?agg=2,0,1&fuel=vvvvu&geo=000000000002&sec=g&freq=A&start=2001&end=2019&ctype=linechart&ltype=pin&rtype=s&pin=&rse=0&maptype=0

Oregon electricity generation 2020



In 2020 the Boardman, Oregon coal powered generator closed. No more coal is burned for electricity in Oregon, but we are connected electrically to coal burners on the rest of the Western Electricity Coordinating Council western power grid.

Nat. gas is the largest energy source for WECC, which includes B.C., Alberta, Pacific Northwest, California, Arizona, Tijuana, Great Basin, Rocky Mountains.

2020 wind power increased about a quarter more than 2019. Natural gas dipped slightly. Gas and wind have similar amounts of installed capacity but gas generates much more power because it is constant (baseload) and wind is variable.

In 2020, solar generated more megawatt hours than biomass for the first time.

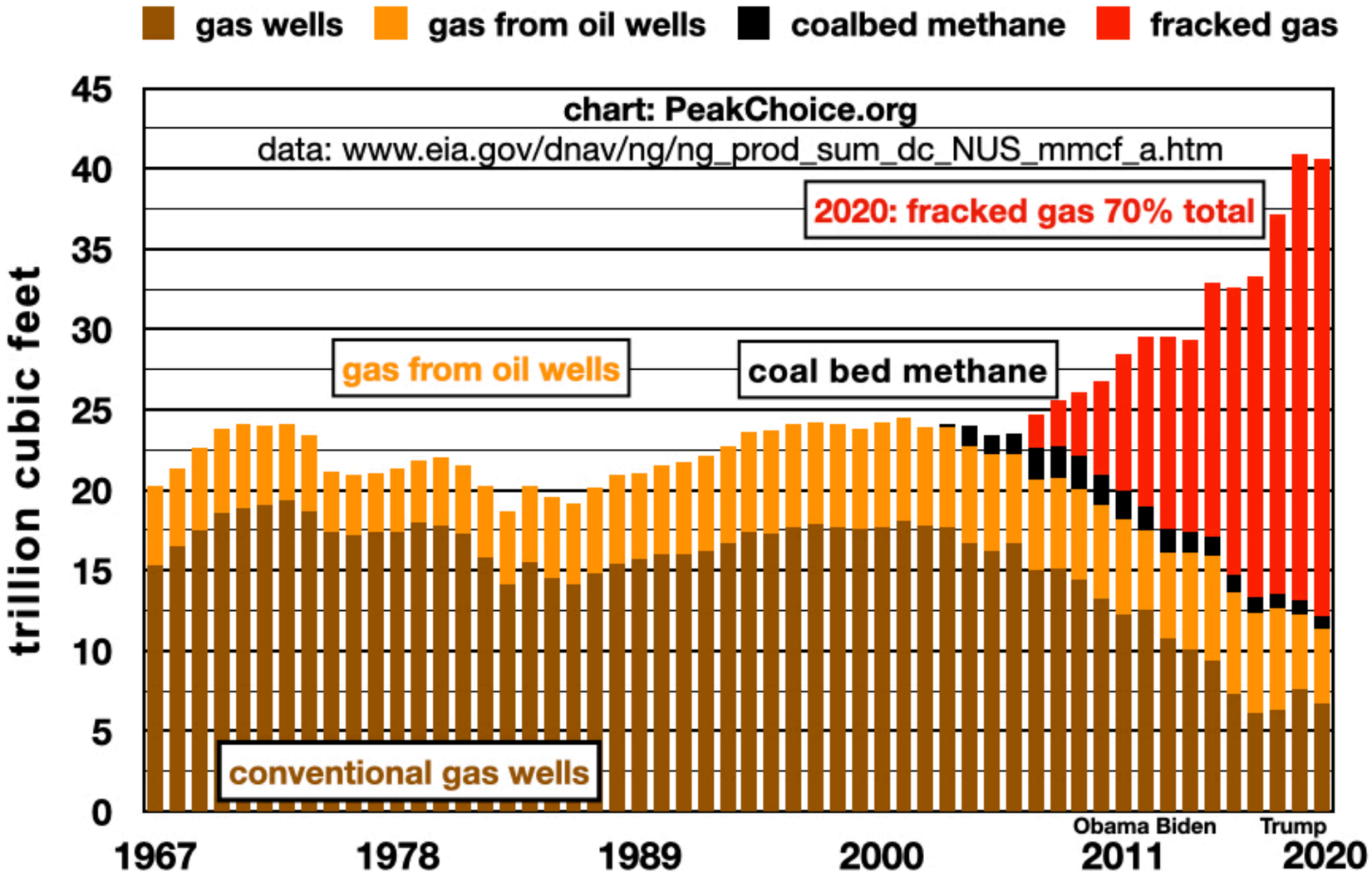
Washington State generates more hydroelectricity than Oregon.

chart: Mark Robinowitz PeakChoice.org

data: https://www.eia.gov/electricity/data/browser/#/topic/0?agg=2,0,1&fuel=vvvvu&geo=000000000002&sec=g&freq=A&start=2001&end=2019&ctype=linechart&ltype=pin&rtype=s&pin=&rse=0&maptype=0

USA conventional unnatural gas peaked 1973

fracking postponed rationing



fracked gas was 8% of supply in 2007, in 2020 it was 70%
2017 fracked gas (19.927 trillion) surpassed 1973 conventional gas peak (19.371 trillion)
2017 conventional gas and from oil wells combined (12.873 trillion), 1957 level (12.9 trillion)

Peak Traffic and Transportation Triage

Mark Robinowitz · PeakTraffic.org

Whether you focus on Peak Energy, Climate Chaos or what is euphemistically called the “Great Recession,” each of these aspects of reaching the limits to growth mandate an end to highway expansion. We cannot afford to build more roads when we cannot maintain what we already have. The transition from cheap, abundant oil to expensive, hard to get oil is reducing the amount that people drive and damaging the economic system that requires endless growth to function. Peak Energy is starting to reduce the physical ability to grow traffic levels, regardless of economic circumstances. Burning fossil fuels pollutes the thin film of the atmosphere, with health consequences and environmental impacts, including global warming. Ecology, energy and money are interconnected and inseparable, and each require a holistic integration with the others to address any of them.

Energy depletion is not merely about personal transportation. Driving less will be uncomfortable, but eating less would be far more difficult. Most food eaten in the US crosses time zones, some travels across international borders. As fossil fuels decline we need to grow food where it is eaten. Relocalizing food production, growing food in cities, community gardens, suburban "food not lawn" efforts, and protection of farmland from asphalt and concrete are all needed to cope with oil depletion.

George H.W. Bush's highway law - the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) - requires Federal aid highway plans to be designed for traffic conditions two decades in the future, not current traffic congestion.

It's anyone's guess what energy (and therefore, traffic) levels will be in the 2030s, but under any physically possible scenario the flow rates of petroleum will be lower, since conventional fossil fuels have peaked globally. There will be oil extraction in the 2030s but less than current flow rates. Future fuels will be the dirtier, more expensive, difficult to extract “bottom of the barrel” supplies. Electric cars, public transit, car sharing, and relocalization could mitigate these impacts but not prevent them. It takes fossil fuels and minerals to make electric cars and repave roads.

Transportation planning needs to focus on maintaining the enormous road networks already built, not expanding them further for travel demand that will not materialize on the energy downslope. Investments euphemistically called "modernization" should be dedicated toward train service, not super wide superhighways.

The National Environmental Policy Act (NEPA) mandates a "Supplemental" Environmental Impact Statement must be prepared if there are "new circumstances" not anticipated when the scoping process was conducted. Surely reaching the global peak of petroleum production is relevant for a transportation project allegedly designed for travel long past the peak.

If the Federal Highway Administration included Peak Energy in environmental analyses, this would be a seismic shift in transportation planning across the United States. Plans need to consider energy depletion and the limits to growth on a finite planet.

There are several ways this shift could happen: a successful Federal lawsuit forces FHWA to include Peak Energy, the start of gasoline rationing (delayed by fracking and tar sands mining) forces transportation planners to consider alternatives, or a change in national policies.

Peak Energy and Peak Vehicle Miles Traveled are “new circumstances” relevant for proposed transportation projects.

Council on Environmental Quality regulations
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.

Federal Highway Administration regulations
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.

“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

www.eugeneweekly.com/20140213/guest-viewpoint/grading-curve

Troubled Bridges Over Water
Time for Transportation Triage
Federal law requires 20 year plans
Highway plans ignore Peak Traffic

Grading on a Curve

Enviro 'champs' ignoring the biggest issues

ARTICLE | FEBRUARY 13, 2014 | BY MARK ROBINOWITZ

On Nov. 27, EW's Slant profiled the "Environmental Scorecard" of the Oregon League of Conservation Voters. EW drew attention to "the relatively high scores racked up by state reps and senators in our part of the valley." Unfortunately, OLCV was grading on a curve to make Democrats in Salem look better than they are.

One of the most important votes of the 2013 session, not included in OLCV's scorecard, was to appropriate $450 million toward the Columbia River Crossing (CRC), a $3 billion to $4 billion dollar boondoggle that would widen I-5 to 16 lanes north of the bridge. The Oregon House voted 45-11 in favor and the Senate voted 18-11 in favor. Only two Democrats in the House and one in the Senate voted "no."

EW highlighted Rep. John Lively's 94 percent OLCV rating, but did not mention his vote for the CRC nor his previous promotion of bigger roads while working for ODOT.

OLCV's website cites 10 state reps as environmental champions, but only one of those 10 voted against the CRC. Designating highway expansion supporters as "environmental leaders" suggests political partisanship has become more important than environmental protection.

The only legislator representing Lane County who was against CRC was Rep. Bruce Hanna of Roseburg, a Republican. Some Republicans expressed dislike of the token transit component. Republicans were freer than Democrats to oppose Gov. Kitzhaber's campaign for CRC.

CRC is now bogged down in financial chaos since Washington state legislators did not appropriate anything for it. However, the project is legally approved and an Obama administration priority.

In November 2008, Gov. Kulongoski's Transportation Vision Committee released a report that called for $18 billion in new and expanded state highways, including over $1 billion in Eugene and Springfield. 1000 Friends of Oregon, Oregon Environmental Council and Environment Oregon were part of this committee, but they were window dressing to show that all points of view were supposedly considered. If these groups had a minority report to dissent from the highway promotion, they kept it very quiet.

In 2013, ODOT started building two new highways: the Newberg Dundee Bypass (through farmland) and the Sunrise Freeway in Clackamas County. Both projects only have part of their funding, so ODOT is building segments and hoping for the rest of the money in the future. I attended public hearings for both of these bypasses and did not see any environmental groups at either event.

Also in 2013, ODOT approved a new freeway in Medford, the Route 62 bypass. I didn't attend the hearing. The only environmental group that sent comments was Rogue Valley Audubon Society, which complained construction would harm birds.

Federal aid highways such as CRC have to plan for traffic two decades in the future, not current congestion. Our transportation plans ignore the fact that traffic levels peaked in Oregon in 2003 and Oregon's main fuel source, the Alaska Pipeline, peaked in 1988 and has dropped three quarters since then. It's anyone's guess how much energy will be available for traffic in the 2030s, but it will be much less than the current flow, especially if the Alaska Pipeline closes due to "low flow." Current levels are just above the minimum threshold needed for the pipeline to operate in the Arctic winter.

Here in Eugene from 1999 through 2007, I was the "road scholar" for a proposed lawsuit that prevented the West Eugene Porkway, a bypass of West 11th through the West Eugene Wetlands. WETLANDS vs. Federal Highway Administration was not filed because the feds withdrew the project and selected "no build." Details are at SustainEugene.org.

The lawsuit focused on legal precedents, including Section 4(f), which prohibits federal aid highways through parks. But it also would have tried to have set a new precedent combining the facts of peak oil and peak traffic as reasons the 20-year planning rule no longer justifies highway expansions.

Since then, I have looked for other freeway fights around the country that could use this legal strategy to create a precedent. A state-by-state list of plans for $1 trillion of highway expansions across the country is at PeakTraffic.org.

The most energetic environmental efforts against new roads are often in places where liberal Democrats are surrounded by conservative Republicans (Bloomington, Ind., and Louisville, Ky., are examples). The professional environmentalists in these places know the state government is not their ally (nor their funder).

While trains and transit could play important roles for post-peak transportation, recognizing we're passing the limits to growth and relocalizing food production are probably the most important responses to peaked traffic and peaked energy.

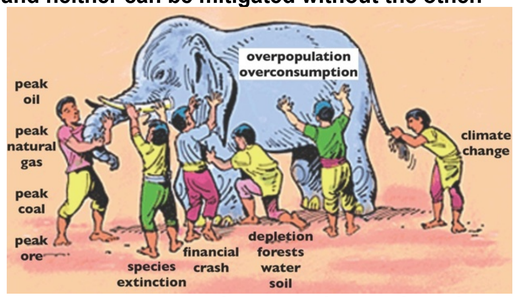
Mark Robinowitz of Eugene is author of "Peak Traffic and Transportation Triage: a Legal Strategy to Cancel Trillion Dollar Highway Plans and Prepare for Post Peak Travel," at PeakTraffic.org.

Sent to me from "a long time environmental activist and former OLCV board member":
OLCV continues to disappoint me. I wrote them after the special session in which local control over genetic engineering was thrown under the bus and told them they should target on a Democrat architect of that compromise for defeat in the primary, just to show that environmentalists mean business. I received no reply. That they left off the CRC from their list of counted votes doesn't surprise me in the slightest. They are an arm of the Democratic party and deathly afraid of organized labor.

PEAKED ENERGY and CLIMATE CHAOS

The most important question facing humanity is how we respond to the interconnected crises of Peaked Energy, Climate Chaos, overpopulation, overconsumption and resource conflicts as we pass the limits to growth on a round, finite planet.

These crises resemble the parable of the blind men touching an elephant. Each observer correctly describes a part of the elephant, but none have a holistic understanding. **Peaked Energy and Climate Change are two facets of ecological overshoot, and neither can be mitigated without the other.**



The global crises of the end of cheap fossil fuels and the start of climate change require global levels of solutions — we need to relocalize everywhere. We are not merely at peak energy, we are at peak technology, peak money, peak communication, and peak everything else. Real solutions would require us to redirect the energy, talents and resources of global capitalism, the military industrial complex, media, universities, and other societal institutions.

We have enough resources and talent to shift civilization to create a peaceful world that might be able to gracefully cope with the end of concentrated fossil fuels, or to create a global police state to control populations as the resources decline. The "War on Terror" is actually a long planned World War to control finite fossil fuels as we pass their peaks.

Understanding why civilization did not respond to the warnings of resource depletion decades ago is needed if a shift toward sanity is still possible at this late date. This is a simple question that has a complex answer — and these decisions were not made democratically. Mitigating Peaked and Climate would require world peace instead of peak oil wars.

We are not "addicted" to oil — the modern world is completely dependent upon fossil fuels for industrial agriculture, transportation networks, and the growth based monetary system. Addictions are things you can give up — but oil runs our civilization.

Peaked and Climate are interconnected

Focusing on energy shortage while ignoring ecology led to the false solutions of offshore drilling, fracking, tar sands, liquid natural gas, biomass electricity, mountaintop removal, and nuclear power.

Focusing only on "carbon" while ignoring energy limits is one of the reasons for the political backlash against climate change awareness. Environmental groups frame these concerns as we *should* reduce energy consumption instead of we *will* reduce use because we cannot burn fuel that does not exist.

Framing the question as how we will use the remaining fossil fuels could bypass climate denial. We will reduce our "carbon footprint" whether we want to or not, since the oil, coal and unnatural gas will be mostly depleted before 2050, when our footprints are supposed to be much smaller. Reducing use by 2050 is code for depletion by 2050.

Our exponential growth economy has hit the end of growth of resource consumption, imposed by nature. Building lots of wind turbines, railroads and relocalizing agriculture would require reallocating resources used for endless warfare and wasteful consumerism. After Peak Everything there will be fewer resources available for "transition." We need triage on a planetary scale for the remaining fossil fuels and minerals.

David Holmgren, co-originator of permaculture, is author of "*Future Scenarios: How Communities can adapt to Peak Oil and Climate Change*." www.futurescenarios.org

> *"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."*

Living on our current solar budget would power a smaller, steady state economy. We will live on our solar budget as the oil, unnatural gas and coal deplete. Future generations need us to choose wisely and use remaining fossil fuels for relocalization and power down.

Non-Binary Climate Concerns ⊕ Mark Robinowitz ◒ www.PeakChoice.org

Fake debate of whether we are causing climate change or not reduced public discussion to partisan divisiveness. The binary approach — climate is or is not being changed by industrial activities — is a dangerous distraction. Admitting that climate change is real is not the goal; it is barely a first step. Scaling back everything, toward a gentler impact on the planet, is a minimal step for mitigation. The categories presented here oversimplify but are a step toward seeing complexities. This map is not the territory. — Mark Robinowitz, September 20, 2019

two types of climate change denial

1. climate and peak denial: blaming environmentalists for fossil energy decline

the five stages of Peak Acceptance:

Peak Denial and Plausible Deniability

Peak Blame: Pique and Scapegoating

Peak Bargaining: techno-fixes and the promised land after oil

Peak Trauma Social Disaster (PTSD)

Peak Acceptance: Nature is abundant and finite

The Republican Party is the epicenter of denial that human caused climate change is happening. A potential antidote could be energy literacy — awareness that fossil fuels are finite and depleting.

Climate denial is partly rooted in the fact that **most people like the benefits of fossil fuels**, including unprecedented transport of ourselves, moving stuff all over the world (including foods out of season), indoor heating in cold climates, high tech communication, advanced medicine, and other concentrated energy dependent activities. These are easier done with fossil fuels than with "renewables" that can be local (dams), intermittent (solar and wind), or hard to scale up (biomass). The difficulty of replacing fossil fuels doesn't mean they aren't changing the climate.

We are approaching the cliff of energy descent, temporarily postponed by fracking, tar sands, offshore drilling and other extreme extraction. As conventional oil and gas continue their decline and the fracking bubble subsides we will enter **the era of permanent shortages, which could trigger energy rationing**. These consequences may be intensely unpopular. **Mitigating the likely backlash will probably require practical responses more than protest of energy companies. Societies unable to meet basic needs seek scapegoats to blame—Germany after the Great Depression is a sobering example.**

2. governments quietly consider climate & peak a permanent state of emergency

in public they disbelieve or downplay climate concerns

in private they plan for collapse

Homeland Insecurity: covert preparation for climate chaos resource depletion societal collapse

Climate movements are calling for governments to declare "climate emergency." These demands fail to recognize that elites have been preparing for disaster but not in compassionate ways.

In private, governments, corporate leaders, militaries consider climate chaos, peak everything and other aspects of ecological overshoot to be a **permanent state of emergency**. The US military and CIA have studied the implications for decades: resource wars and refugee migrations.

One example: **the civil war in Syria had many causes, including extreme drought** that disrupted food production **and Syria's domestic peak oil** which reduced governmental budgets that paid for social programs. These stresses worsened existing problems.

Climate, peak, overconsumption and overpopulation threaten every aspect of industrialized societies, including growth based fiat money and food supplies. The billionaire class and governments encourage distractions and division while building leaky lifeboats for themselves. We could have converted militarism to global cooperation decades ago but ignored the warnings. Brace for impact and help your neighbors.

recommended reads:

Peak Fascism: Peak Energy, Climate Chaos, Civil Liberties
www.oilempire.us/peak-fascism.html

Pentagon bracing for public dissent over climate and energy shocks:
NSA Prism is motivated in part by fears that environmentally-linked disasters could spur anti-government activism
by Nafeez Ahmed, Friday 14 June 2013
www.guardian.co.uk/environment/earth-insight/2013/jun/14/climate-change-energy-shocks-nsa-prism

Non-Binary Climate Concerns ⊕ Mark Robinowitz ◒ www.PeakChoice.org

climate change is real

three views

1. techno-fixes: electric cars, carbon credits, nuclear powered green growth

The Democratic Party admits climate change is real and wants a techno-fix approach to power more "green growth." Voluntarily scaling back the American Way of Life (AWOL) is not considered.

Rep. Ocasio-Cortez says the **"Green New Deal"** should consider **new nuclear power** reactors. Gov. Inslee, briefly the "climate" candidate for President, also wants more nukes. Data For Progress (working with 350.org and Sunrise Movement) says nuclear is **"clean"** even though there is no way to detoxify nuclear waste. Radioactive decay can take a very long time to subside.

Democrats promote **electric cars** while pushing plans for a trillion dollars worth of expanded highways. Making electric cars and building roads requires fossil fuels and mineral ores. Redirecting road efforts to public transit and trains gets only token mention. Relocalizing production and living locally would prevent pollution.

Most official "climate plans" include **carbon offsets and credits** to supposedly achieve carbon neutrality. Here are three resources that refute this greenwashing:
"Cheat Neutral" (hilarious parody)
www.youtube.com/watch?v=f3_CYdYDDpk
"The Story of Cap and Trade"
www.youtube.com/watch?v=pA6FSy6EKrM
"FutureScenarios: "How Communities Can Adapt to Peak Oil & Climate Change" by David Holmgren, permaculture co-originator: *"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."* **FutureScenarios.org**

2. "100% solar & wind instead of fossil fuels" great goal, ignores limits to growth

Grassroots Democrats and most environmental groups want "100% solar and wind" instead of fossil fuels. They claim this is a political choice that could be achieved with protests, elections, lawsuits, investments. The reason we use fossil fuels is not corporate greed. **Fossil fuels are more concentrated than living on our solar budget,** with a much greater Energy Return on Energy Invested (EROEI) than the alternatives.

The goal of **"decarbonization by 2050"** is a sly way to hint that fossil fuels will be mostly depleted by then. We will use much less whether we want to or not.

The International Panel on Climate Change (IPCC) recently warned we have **12 years to fix the climate**, which ignored the 1990 UN Environmental Program warning that the 1990s were the decade of decision and Al Gore's 2006 warning we had a decade.

Just because someone says they are concerned about climate does not mean they are telling the truth.

Climate movement leaders urge a **"World War II" mobilization** to address the countless challenges. I appreciate the intention but also like Albert Einstein's caution that a problem cannot be solved by the mindset that created it. World War II gave birth to the USA Military Industrial Intelligence Congressional Financial Media University Entertainment Complex, including "three letter agencies" that are extrajudicial additions to government. The Manhattan Project during World War II invented atomic bombs. Its legacy includes nuclear waste and our nuked democracy — not a good role model for living without toxic, depleting fossil fuels. **Mitigating climate chaos would require unprecedented cooperation and radical honesty.**

3. climate chaos and peaked everything are part of interconnected crises beyond limits to growth: fossil fuels, minerals, fresh water, forests, fish, food

Climate and peak are interconnected crises that cannot be addressed isolated from the others. Each makes the other harder to solve.

Focus on climate while ignoring peak enabled official greenwashing and the backlash of climate denial.

Focus on peak while ignoring climate led to unconventional extraction (fracking, tar sands), nuclear power, GMO corn ethanol and other toxic practices.

If we combined climate concerns with the math of fossil fuel depletion and density, we might better understand the crises. Seeking to sustain the unsustainable makes it less likely we will avert the worst case scenarios. A solar powered society could be ecological and fairer, powering a smaller, steady state economy — not endless growth on an abundant, round, finite planet.

I have used solar panels since 1990 — they are great but can't replace our "current" consumption.

Our challenge is not whether to phase out fossil fuels, but **how we can adapt to inevitable energy depletion with minimal social chaos.**

details:
www.peakchoice.org/peak-climate.html
www.peakchoice.org/peak-money.html
Peak Money: a permanent change

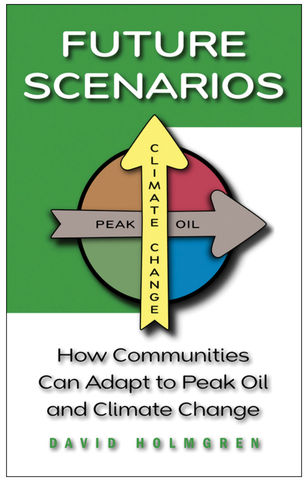
David Holmgren, co-originator of permaculture, is author of *Future Scenarios: How Communities can adapt to Peak Oil and Climate Change.* www.FutureScenarios.org

"The simultaneous onset of climate change and the peaking of global oil supply represent unprecedented challenges for human civilisation.

"Global oil peak has the potential to shake if not destroy the foundations of global industrial economy and culture. Climate change has the potential to rearrange the biosphere more radically than the last ice age. Each limits the effective options for responses to the other.

"The strategies for mitigating the adverse effects and/or adapting to the consequences of Climate Change have mostly been considered and discussed in isolation from those relevant to Peak Oil. While awareness of Peak Oil, or at least energy crisis, is increasing, understanding of how these two problems might interact to generate quite different futures, is still at an early state.

"FutureScenarios.org presents an integrated approach to understanding the potential interaction between Climate Change and Peak Oil using a scenario planning model. In the process I introduce permaculture as a design system specifically evolved over the last 30 years to creatively respond to futures that involve progressively less and less available energy."

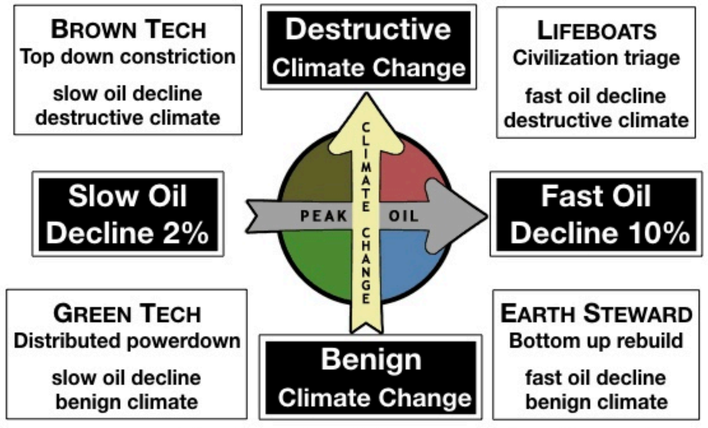


"Awareness of Climate Change by the media and general public is obviously running well ahead of awareness about Peak Oil, but there are interesting differences in this general pattern when we look more closely at those involved in the money and energy industries. **Many of those involved in money and 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,"Money vs. Fossil energy: the battle to control the world"**
http://holmgren.com.au/wp-content/uploads/2013/02/Money_vs_Fossil_Energy.pdf

"**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**."
— Future Scenarios, May 2008



scenario modeling from David Holmgren, *Future Scenarios: How Communities Can Adapt to Peak Oil and Climate Change*