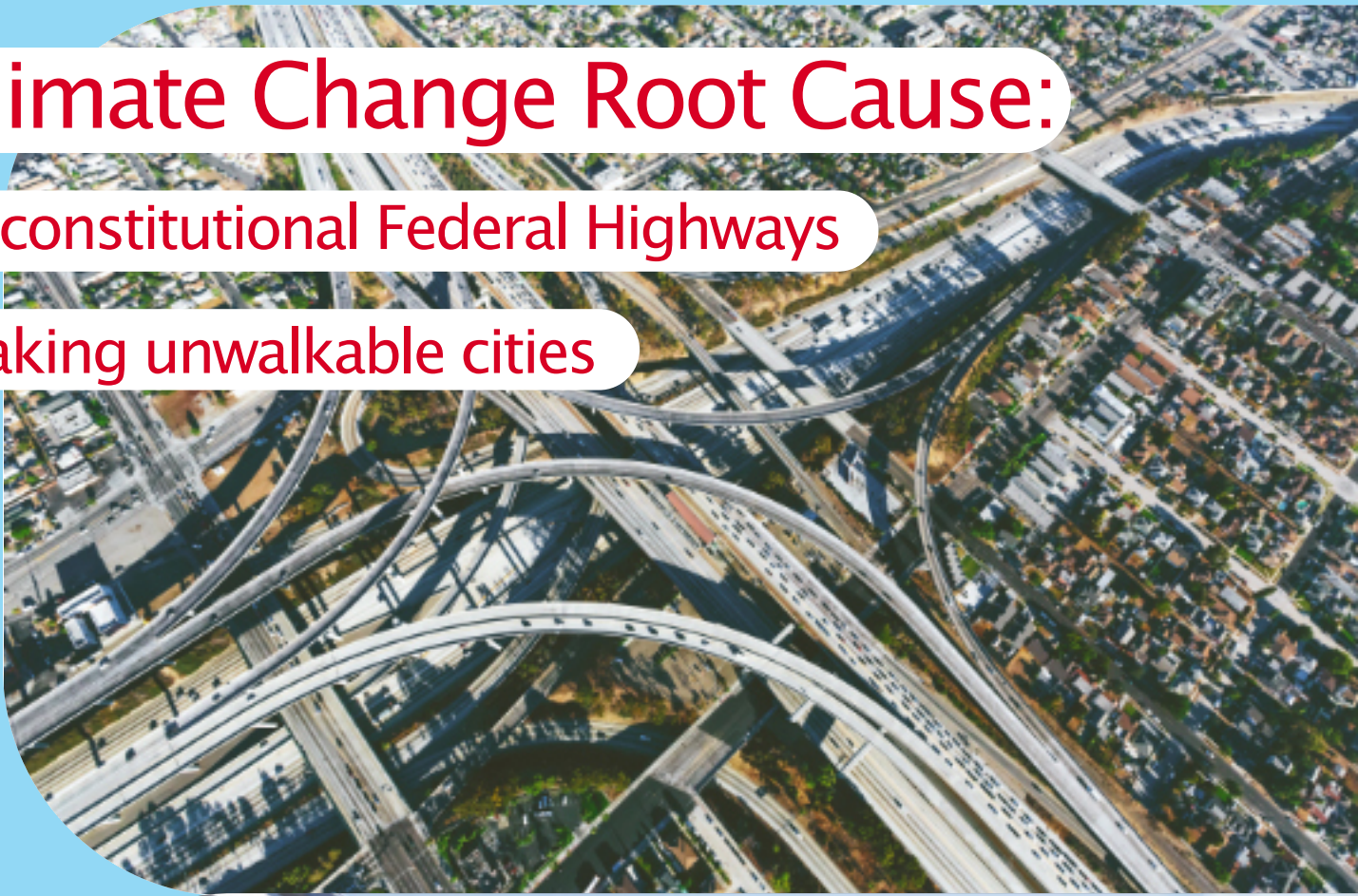


Climate Change Root Cause:

Unconstitutional Federal Highways

making unwalkable cities



Restore liberty to innovate walkable cities



JPods

Bill James

# Climate Change Root Cause:

Unconstitutional Federal Highways

making unwalkable cities

Restore liberty to innovate walkable cities

Bill James

Abstract:

Since The Federal-Aid Highway Act of 1916 began violating the Constitution's "post Roads" enumerated limit, Federal highway policies made American cities unwalkable.

This booklet:

- Outlines that wealth generation is a pedestrian activity.
- Notes NASA's finding that highways are the prime cause of Climate Change.
- Documents why Federal highways are unconstitutional.
- Documents that failure to answer calls to actions by Presidents to correct Federal highways resulted in oil-wars.
- Lists the Civilization Killers we face and must mitigate.
- Offers the 5X5 Standard as a means of converting traffic costs into solutions for oil-wars, debt, and Climate Change.



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## DEDICATION

To Rufus King and George Mason for forbidding the Federal government from taxing to build "highways and canals."

To US Presidents Madison, Monroe, Jackson, Van Buren, Tyler, Polk, Fillmore, Pierce, Buchanan, and Johnson for issuing veto messages enforcing the Constitution's "post Roads" enumerated limit in taxing to build "internal improvements." ([link](#))

To the Soldiers, Sailors, Airmen, and Marines that have traded blood to buy time in oil-wars since 1991 for America to end its foreign oil addiction.

To the many people who contributed time, effort, talent, money, and creativity to restore transportation to free markets so solar-powered mobility networks can displace urban highways; so unwalkable cities can be made walkable again.

## URGENCY

Life requires energy. Less affordable oil mandates less life. US Peak Oil was in 1970. In 2024, we will see the last gasps of affordable oil ending.

## UNANSWERED CALLS TO ACTION

President Nixon, 1974, *"At the end of this decade, in the year 1980, the United States will not be dependent on any other country for the energy we need. We will hold our future in our hands alone."*

President Obama, 2010, *"For decades we have known that the days of cheap and easily accessible oil were numbered..."*

## JPODS OBSERVATION OF THE PROBLEM

The on-demand mobility of the personal car meets the need. Urban highways are the wrong network. Urban highways create linear barriers to commerce while making walking and biking unsafe. Burning energy moving 2-tons to move a person mandates foreign oil addition, oil-wars, debt, and Climate Change.

## JPODS ' INTENT

In the urban niche of payloads less than 500 kg (1,100 pounds) implement grade-separate JPods network to provide on-demand personal service without traffic, without pollution, and powered by the sunshine that shines on JPods networks. Provide on-demand cleaner, faster, safer, affordable mobility of people and cargo regardless of age, ability, or wealth at 10X lower costs.

## WANT TO CONTRIBUTE?

Urban highways and mass transit are failed networks. More of what is failing will fail. Look at what we are doing and provide your improvements, corrections, and/or alternatives. [bill@JPods.com](mailto:bill@JPods.com)

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## OBJECTIVE

3 Retool transportation to create walkable cities. In those cities, cut oil use by 60% in 6 years to mitigate the Civilization Killers created by Federal highways.

### 5 PROBLEM: FEDERAL HIGHWAY POLICIES DRAIN COMMUNITY WEALTH

- 5 • NASA: "Road Transportation Emerges as Key Driver of Warming" ([link](#)). Burning energy moving 2-tons to move a person is Climate Change Root Cause.
- 6 • Wealth generation is a pedestrian activity.
- 7 • US Highway designs kill pedestrians 400% the rate in Europe.
- 8 • US and Europe road designs diverged after 1973 with Europe focusing on walkable cities that reduce oil use and costs by 60% of US.
- 9 • Traffic costs Americans \$2.76 trillion per year. 69% of those costs are urban. 95% of urban traffic costs are waste relative to freight railroad efficiencies.
- 10 • [\\$9,282/year](#) is the average cost of a car and it is [parked 95% of the time](#).
- 14 • 85% of car expenses leave the local economy.
- 14 • Federal highway cost American families 15% of their income to fill 5% of their time needs.
- 16 • The last 10 Presidents issued unanswered calls to action to cut US oil consumption by 1/3<sup>rd</sup> ([link](#)).
- 20 • 21 Presidential veto messages explain why Federal highways violate the Constitution ([link](#)).

### 26 JPODS MISSION

27 JPods was founded by veterans to cut US oil consumption by 60% to end the perpetual oil-wars, defund oil-dollar funded terrorists, and defend liberty for Posterity. Urban highway networks are unsustainable.

31 JPods' niche is urban transport networks providing on-demand mobility for people and cargo in payloads the same as size as cars and pickups.

### 37 WEALTH INCREASES IN WALKABLE CITIES

37 JPods are ultralight self-driving pods suspended from overhead guideways. Solar collectors deployed over the guideways power the networks:

- 41 • JPods are personal, non-stop origin to destination approaching the 188-times greater efficiency of freight railroads.
- 43 • JPods implement the 3,000-times better safety record of [Morgantown PRT](#) and theme park rides.
- 45 • Displacing highways traffic makes walkable cities. Walkable cities are wealthier.

### 49 URGENCY: 2008 WILL REPLAY IN LATE 2024

- 49 • 2010, President Obama, "For decades we have known that the days of cheap and easily accessible oil were numbered..."
- 50 • Dallas Fed, Sept 2022, forecasts a return to the high gas prices and crisis of 2008 in late 2024 ([link](#)).
- *Changing World Order*, Ray Dalio documents risks of a dollar collapse, loss of using dollars to import 1/3<sup>rd</sup> of the oil we use each day, and wars ([link](#)).

## JPODS ARE:

- **Cleaner**
  - Solar-powered, no pollution.
- **Faster**
  - You travel non-stop from your origin to your destination.
  - Available 24X7, no waiting at stations.
- **Safer**
  - Injuries per million people.
    - 11,200 on roads.
    - 3.4 complying with ASTM International F24 standards (JPods).
  - JPods are personal, you do not travel with strangers.
- **Affordable**
  - 20 times more efficient than roads.
  - Moves people and cargo.
  - Deploy quickly with minimum construction interference and no linear barriers to commerce.
  - Stops the 85% of car costs draining the local economy, foreign oil, etc....
  - Immune to rising gas prices.
- **Equitable**
  - On-demand mobility regardless of age, ability, or wealth.

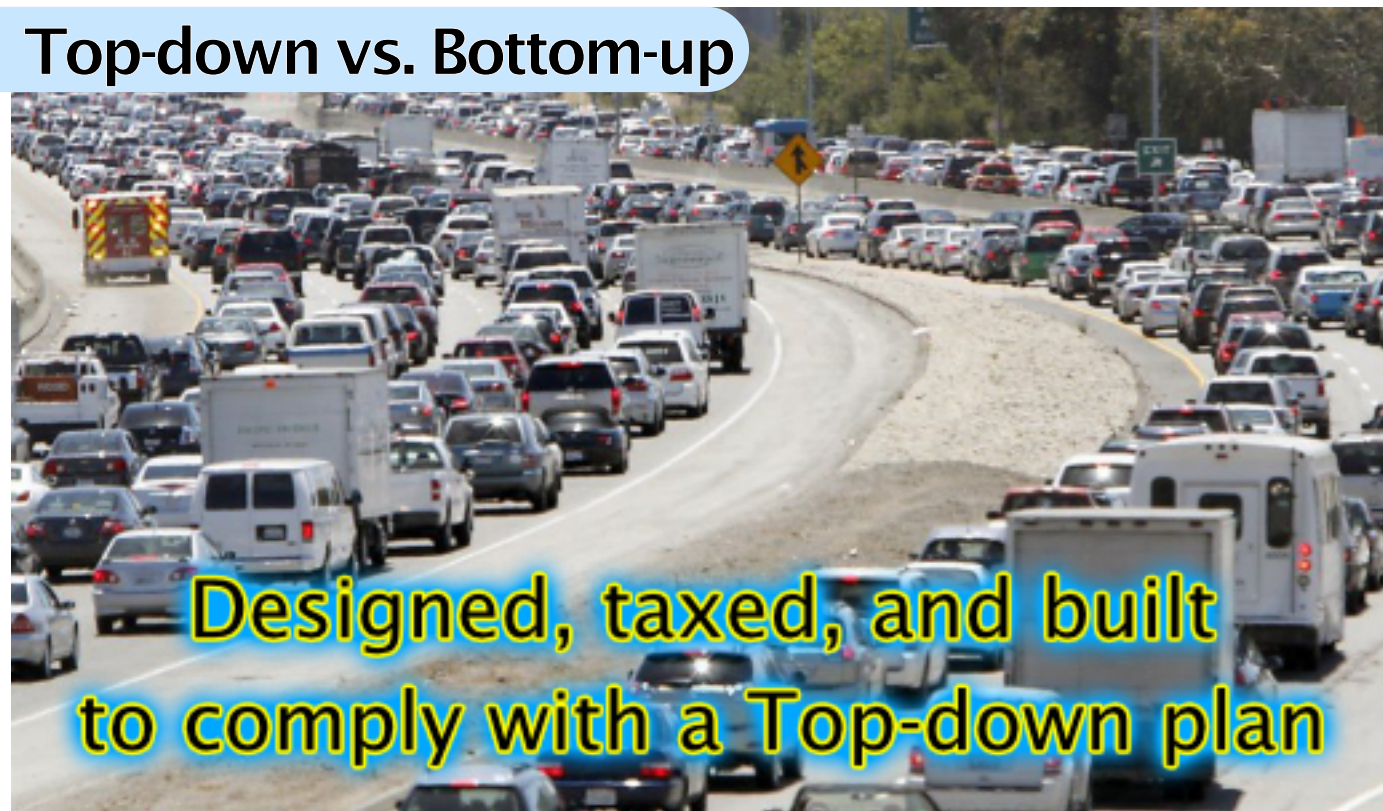


## BACKGROUND:

- [TEDx Atlanta](#)
  - [https://youtu.be/PgXHMHw\\_r4A](https://youtu.be/PgXHMHw_r4A)
- [Red Bull TV Documentary](#) (JPods starts at 9:30)
  - <https://www.redbull.com/int-en/episodes/transportation-liquid-science-s01-e06>
- [90 second summary video](#)
  - <https://jpods.com/90secmavideo>

**JPods**

## Top-down vs. Bottom-up



Designed, taxed, and built to comply with a Top-down plan

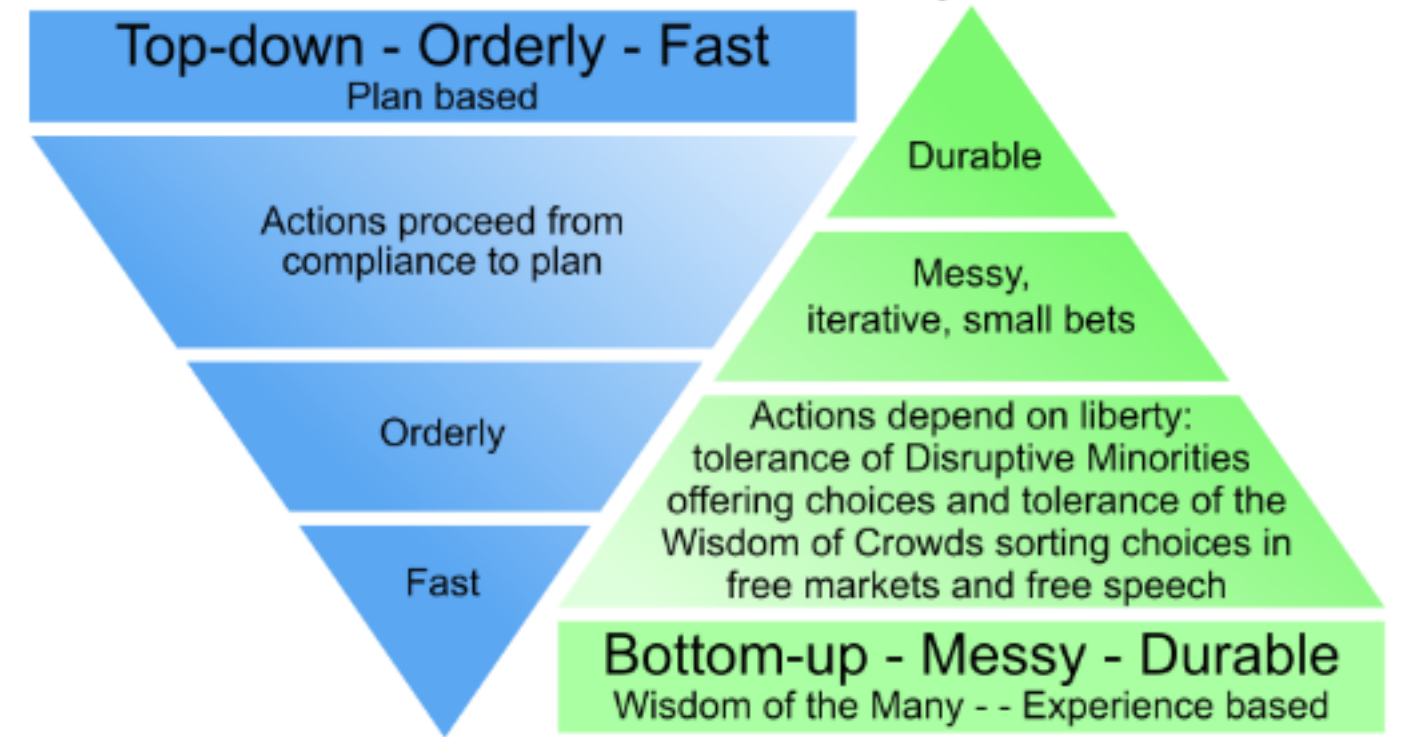
Federalist #62 (Madison) - Top-down "is the unreasonable advantage it gives to the sagacious [shrewd, inside knowledge], the enterprising, and the moneyed few over the industrious and uniformed mass of the people. Every new regulation concerning commerce or revenue, or in any way affecting the value of the different species of property, presents a new

harvest to those who watch the change, and can trace its consequences; a harvest, reared not by themselves, but by the toils and cares of the great body of their fellow-citizens. This is a state of things in which it may be said with some truth that laws are made for the few, not for the many."



Evolved Bottom-up to answer the wants and needs of people

## Human institutions behave in only 1 of 2 modes



### WHY TRAFFIC SUCKS FOR A CENTURY

The Left wants more Federal highway spending to promote socialism and the Right wants more Federal highway spending to promote the oil-powered mercantile economy. The political motives differ but the choice to use the police powers of government to force **Top-down** plans causes the same traffic jams, parking problems, oil-wars, and Climate Change.

### FEDERAL-AID HIGHWAY ACT OF 1916

The Federal-Aid Highway Act of 1916 ended transportation free markets consolidating powers reserved to the people and states. A **Top-down** plan based on Federal highways and the 25 mpg efficiency of the Model-T.

West Point's Systems Engineering text:

"In fact, one of the most significant failings of the current U.S. transportation system is that the automobile was never thought of as being part of a system.... So long as it outperformed the previous equine technology, it was considered a success.

The Federal Top-down plan:

- Mandates the 25 mpg Model-T efficiency.
- Burns oil moving 2-tons to move a person, the Climate Change Root Cause ([NASA](#)).
- Replaced 45% of 470 ton-mpg freight railroads with 25 mpg roads.
- Funded terrorists with oil-dollars.
- Triggered oil-wars since 1991.
- Blocks innovation. The Morgantown PRT had no serious injuries in 50 years; in that same period road kills were 1.8 million Americans, nearly 1/3rd

of a Holocaust. Road seriously injure about 2.2 million people per year.

- Infantry saying: "If you are going to be stupid, you better be tough." **Unaffordable oil is coming.**

### COMMUNICATIONS MONOPOLY 1918

By Executive Order, President Wilson created a similar Top-down Federal communications network that blocked innovation for most of century:

- [1926](#) interview with Collier's magazine: Nikola Tesla, "When wireless is perfectly applied the whole earth will be converted into a huge brain, .... We shall be able to communicate with one another instantly, irrespective of distance. Not only this, but through television.... A man will be able to carry one in his vest pocket."
- [1942](#): Hedy Lamarr patented the technology of Wi-Fi and Bluetooth.
- [1968](#): Mother of All Demos documents most aspects of the Internet and modern computing. Start at minute 30 for 4 minutes to watch the "mouse", video conferencing, clicking on URLs, etc....
- 1982: Courts declared this "Top-down" monopoly unconstitutional. With "Bottom-up" free markets restored the long dormant technologies of the Internet commercialized.

Liberty is required to innovate. **Liberty is Bottom-up.**

The success of restoring communications to free markets can be repeated in transportation and energy networks. Providing models are privately funded railroads for 2 centuries and the Morgantown PRT for half a century.

# Arctic Infantry

Since an Infantry commander in Alaska in the 1970's, I have watched the 95% decline in Arctic multi-year sea ice.



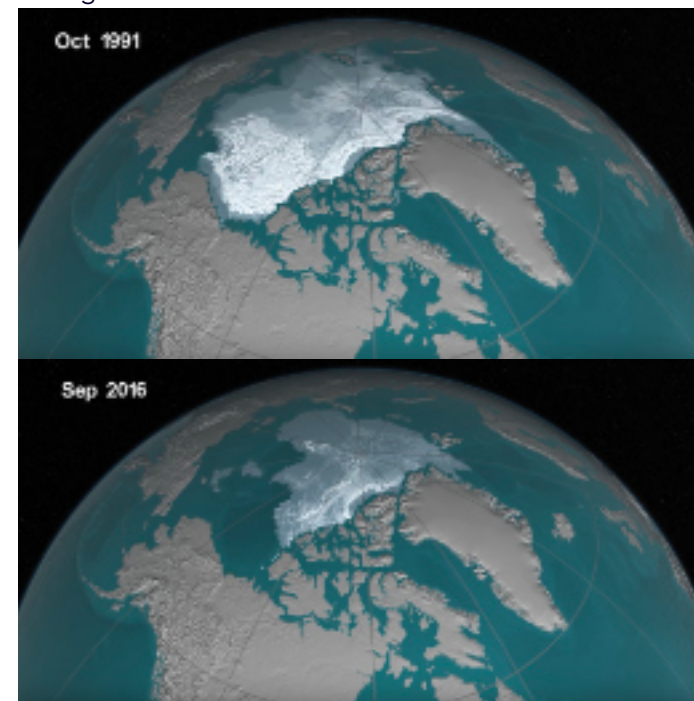
My intuition, not backed by any proof, is that degrading of sea ice contributes to the destabilizing of the arctic vortex, jet stream and weird weather patterns.

With certainty, I know only fools pee in their only well. The Pentagon's report: *An Abrupt Climate Change Scenario and Its Implications for United States National Security*, October 2003, documents threats to the Liberty and survival of Posterity ([link](#)). NASA identified highways as the primary source titling the balance of nature ([link](#)).

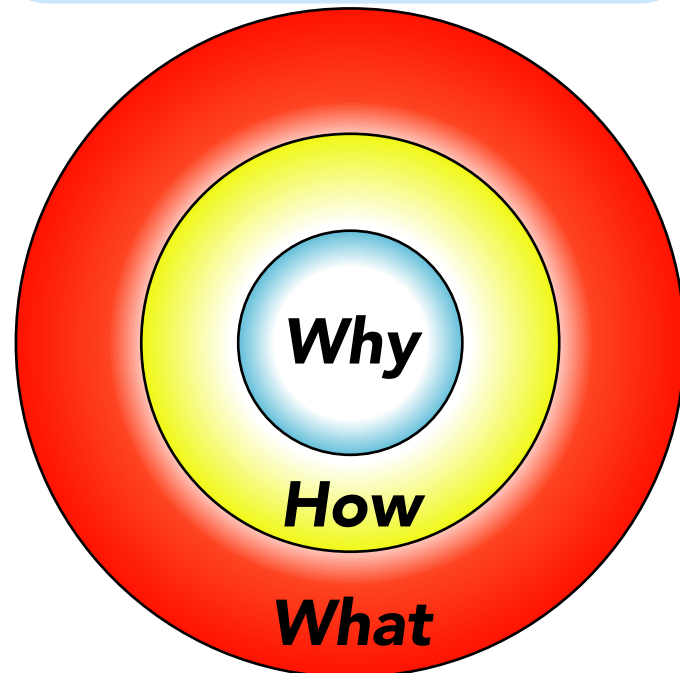
Jefferson explains our duty to Posterity in his letter to Madison, *The Earth Belongs to the Living*:

*"Then no man can by \_natural right\_ oblige the lands he occupied, or the persons who succeed him in that occupation, to the payment [sic] of debts contracted by him. For if he could, he might during his own life, eat up the usufruct [to use for profit without harm] of the lands for several generations to come, and then the lands would belong to the dead, and not to the living, which would be reverse of our principle."*

The Constitution's mandates we defend Liberty for Posterity. Unless there is certainty that we are not risking Liberty for Posterity we have a usufruct duty to preserve the Balance of Nature. Profligate burning of oil to move 2-tons to move a person denies children access to affordable oil and tilts the Balance of Nature into Climate Change.



# Start with WHY



Simon Sinek's book *Start with Why* ([link](#)) outlines three organizational aspects in the Golden Circle::

### WHAT

"Every organization on the planet knows WHAT they do. These are the products and services."

### HOW

"Some organizations know HOW they do it. These are the things that make them special or set the apart from their competition"

### WHY

"Very few organizations know WHY they do what they do. WHY is not about making money. That's a result. WHY is a purpose, cause, or belief. It's the very reason your organization exists."

### WHAT: OIL-WARS AND CLIMATE CHANGE

Nothing substantial has been accomplished to address oil-wars or Climate Change because most efforts are focused on WHAT and HOW:

- WHAT: Most efforts are focused on measuring Green House Gases.
- HOW: Blaming oil companies as the source of CO2.

*"The oil industry has been aware of climate change for decades. They've known, and they've lied about it."* - Al Gore, former Vice President of the United States

*"ExxonMobil is the leading producer of greenhouse gas emissions in the world. They are the poster child for climate denial."* - Bill McKibben, environmental activist and author

*"The oil companies have known about climate change for decades, and they have spent billions of dollars to cover it up."* - Bernie Sanders, US Senator

# Federal Highways

### WHY OF CLIMATE CHANGE

Oil companies do not create and only fill demand created by Federal highways. It is the sprawl of Federal highways that mandate Americans burn energy moving 2-tons to move a person. Federal highway designs discourage walking and biking by killing Americans at 4 times the rate of European road designs. Federal highways are WHY we have Climate Change and oil wars.

We should be concerned with those buying influence. **We should be much more concerned with politicians and bureaucrats selling influence:**

- The Left's plan seeks equal outcomes in a socialist utopia. *"We need to invest in our infrastructure, including our roads and bridges."* Senator Bernie Sanders
- The Right's plan seeks expansion of favored businesses and empire. *"We are going to invest in our infrastructure, including our roads and bridges."* President Trump

Both are Top-down. Both use the same tax collectors. Both use the same prisons for those resisting their plans. Both support unconstitutional Federal highways that are the Root Cause of oil-wars, Peak Oil, oil-dollar funded terrorism, \$33 trillion in Federal debt, and Climate Change.

The purpose of this booklet is to document:

- WHY Federal highways are unconstitutional.
- HOW the 5X5 Standard enforces Federal and State Constitutions to restore free markets. With liberty to innovate restored oil use will be cut 60% in 6 years and trigger powering our economy within a solar budget.
- WHAT we need is walkable and bikeable cities. Federal highways designs kill pedestrians at 4 times the rate of road designs in Europe, have rebuilt 3 known Paths to War, and created 2

### Year 1900: One Motor Vehicle



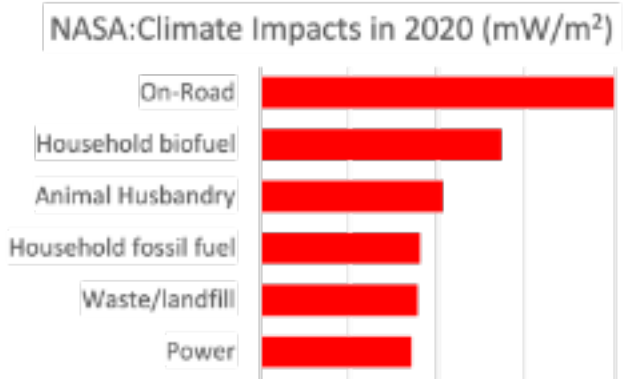
### Year 1913: One Horse & Carriage



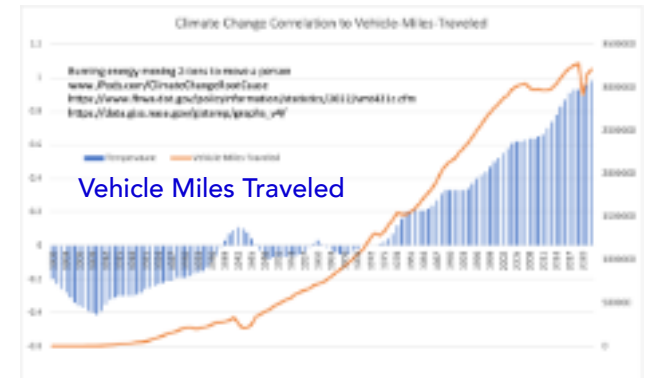
**RAPID CHANGE IS POSSIBLE IN A FREE MARKET**

- Civilization Killers.
- WHEN is a half century late. US Peak Oil was in 1970. Unaffordable oil collapsed the oil-powered economy in 2008. The resurrected Fracking Zombie Economy will decline rapidly after 2024.

NASA: "Road Transportation Emerges as Key Driver of Warming" ([link](#), [EPA](#), [DOT](#)).



Temperature and Vehicle-miles-traveled [link](#).



### LAMENT AND CONDEMN

Federalist #63 (Madison): *"So there are particular moments in public affairs when the people, stimulated by some irregular passion, or some illicit advantage, or misled by the artful misrepresentations of interested men, may call for measures which they themselves will afterwards be the most ready to lament and condemn."*



# Monopoly of Violence

## PURPOSE OF GOVERNMENTS

Who eats lunch and who is lunch illustrates the violent nature of life seeking energy.

Governments are created to minimize violence from war and crime by coercing compliance with law. They provide a means to transition from the state of nature, "the war of all against all (Hobbes)," to civil rights.

"Violence monopoly of the state," Max Weber.

"In fact, the state is a human community that (successfully) claims the monopoly of the legitimate use of physical force within a given territory." Max Weber.

"Covenants, without the sword, are but words and of no strength to secure a man at all." Thomas Hobbes.

"War made the state, and the state made war." Charles Tilly.

'Supreme power to coerce, a monopoly of violence within a territory.'" Francis Fukuyama documents how human societies transitioned from egalitarian tribes to more coercive states to survive and better wage war.

"SOME writers have so confounded society with government, as to leave little or no distinction between them; whereas they are not only different, but have different origins. Society is produced by our wants, and government by our wickedness; the former promotes our happiness POSITIVELY by uniting our affections, the latter NEGATIVELY by restraining our vices. The one encourages intercourse, the other creates distinctions. The first is a patron, the last a punisher." Thomas Paine, in *Common Sense* rallied Americans to revolt.

Governments do not care for us. Governments are

soulless institutions of power. They are essential to minimize war and crimes through coercing compliance with law. Their nature is Top-down. Liberty and creativity are Bottom-up compliance failures. We need both.

## FLOW OF HUMAN EVENTS

Human events flow in only one of two directions.

- 'Top Down' is orderly, characterized by compliance to the Plan enforced by coercion.
- 'Bottom Up' is community. It is a messy decentralized approach dependent on liberty.



## DEFINITION OF LIBERTY

Specifying Bottom-up, the Declaration of Liberty, defined liberty and the role of government.

"We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.— That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, —That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness."

## DEMOCRACY: ESSENTIAL AND FLAWED

Democracy is essential and flawed tool with two aspects, one brilliant and one vile. A compound republic makes democracy useable by Divided Sovereignty.

Brilliant is the Bottom-up Wisdom on the Many. The aggregated self-interest of all of us, with each of us acting in our own self-interest is wiser than the wisest of us at choosing between choices. Ref *Wisdom of Crowds*, by James Surowiecki ([link](#)).

Vile is Top-down *Tyranny of The Majority*. It is Tyranny of the Majority that accounts for slavery, Jim Crow, the annihilation of the Indians, internment of Japanese Americans, mortgaging the future labor of children with \$33 trillion in debt, Peak Oil, and Climate Change, Democracy is "swallowed up in the present" with no concern for children, Posterity.

The Framers wrote better documents than they could politically deliver. They clearly understood Tyranny of

the Majority as many were slave holders under a democratic government.

Benjamin Franklin: "Democracy is two wolves and a lamb voting on what to have for lunch. Liberty is a well-armed lamb contesting the vote!"

John Adams: "Remember, democracy never lasts long. It soon wastes, exhausts, and murders itself. There never was a democracy yet that did not commit suicide."

John Quincy Adams: "Democracy has no forefathers, it looks to no posterity ; it is swallowed up in the present, and thinks of nothing but itself."

Federalist #10 (Madison): "Hence it is that democracies have ever been spectacles of turbulence and contention; have ever been found incompatible with personal security or the rights of property; and in general have been as short in their lives as they have been violent in their deaths."

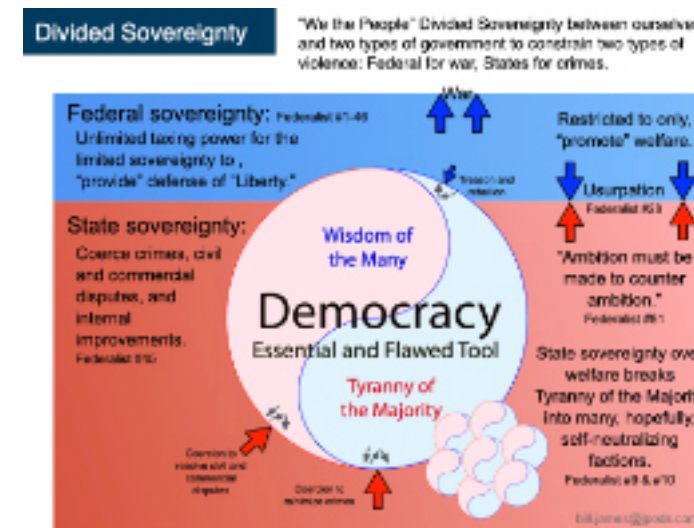
# Divided Sovereignty

*We the People*

Federalist #10: "AMONG the numerous advantages promised by a well constructed Union, none deserves to be more accurately developed than its tendency to break and control the violence of faction [Tyranny of the Majority]."

We the People are sovereigns. We ratified the Constitution to create a compound republic to make democracy's Wisdom of Crowds useful and while splitting the risks of Tyranny of the Majority between ourselves and two types of governments, and many states, "Ambition must be made to counter ambition":

- Ourselves holding all power and violence not enumerated as sacrificed in written constitutions. Ratifying the Constitution, we gave the Declaration's definition of Liberty legal force in the Preamble. The Preamble is so Important, Amendments 9, 10, and 14 restate it.



- The Federal government is granted unlimited taxing powers for the enumerated and limited powers to minimize war, to "provide for the common defence (sic)" to "secure the Blessings of Liberty to ourselves and our Posterity." The Federal government is limited by enumeration to only "promote the general welfare." The Federal government may tax for war but not welfare.
- The States and ourselves retain all powers not enumerated as sacrificed in the Constitution. States may tax for welfare but not war.

[Federalist Papers](#) #1-46 explain this compound republic. Federalist #9 and #10 focus on constraining Tyranny of the Majority.

[Divided Sovereignty](#) is used instead of "Federalism" because non-lawyers have no idea what Federalism is. Nor do courts when they fail to honor that We the People are the sovereigns with standing to enforce usufruct violations of Liberty.

Similarly, "States Rights" is not used because states are soulless, with rights; States have sovereignty, a monopoly of violence as specified in written Constitutions. Further, "States Rights" is corrupted by its use in defense of slavery, Jim Crow, and other violations of Citizen Liberty by states.

## 3 PARADOXES

Defending our compound republic and having a sustainable economy and ecology seems to require we manage at least 3 paradoxes.

**The Stockdale Paradox:** "Unwavering faith that we will prevail while facing the most brutal facts of our current reality." This is from Jim Collins book *Good to Great*. FACT: Life requires energy. Cheap oil is ending.

**The Lifeboat Paradox:** "If you are self-disciplined to own and be skilled in the use of a lifeboat you are not likely to need one." Lacking self-discipline to be energy self-reliant creates Civilization Killers and paths to war.

**The 'general welfare' Paradox:** "Liberty and two types of Coercion are required to create the general welfare." Following are explanations.

# Liberty

Liberty is Bottom-up. Two aspects of liberty intertwine in a Darwinian Crucible of creative destruction to create the general welfare:

- Tolerance of Disruptive Minorities offering choices.
  - Disruptive Minorities, as tiny as a single inventor, sometimes creates better choices that eclipse an entire industry.
  - Disruptive Minorities rallied Americans to the Declaration of Independence, to end slavery, and to end Jim Crow.
- Tolerance of the Wisdom of the Many sorting those choices in free markets and free speech.
  - Adam Smith's "invisible hand" is not invisible, just

tiny. It is the vast accumulation of our individual acts of liberty as we choose between choices.

- The aggregated wisdom of all of us, with each of us acting in our own self-interest, is wiser than the wisest of us at choosing between choices.

# Coercion

## COERCION OF MEN

Federalist #51: "If men were angels, no government would be necessary." But men are not angels. Who eats lunch and who is lunch illustrates the violent nature of life seeking energy. To minimize war and crimes governments are granted sovereignty, a monopoly of violence, to coerce compliance with law.

Private men attempting to use violence or to monopolize an economic activity thru voluntary contracts should be subjected to legal action. There are existing laws for this. Similar to manslaughter, accountability should be based on outcome not intent. Private men profiting from unconstitutional government programs should not be allowed to use sovereign immunity as a defense.

## COERCION OF MEN WHO GOVERN

Experienced by wars since 1754, the failure of

### "just powers from the consent of the governed"

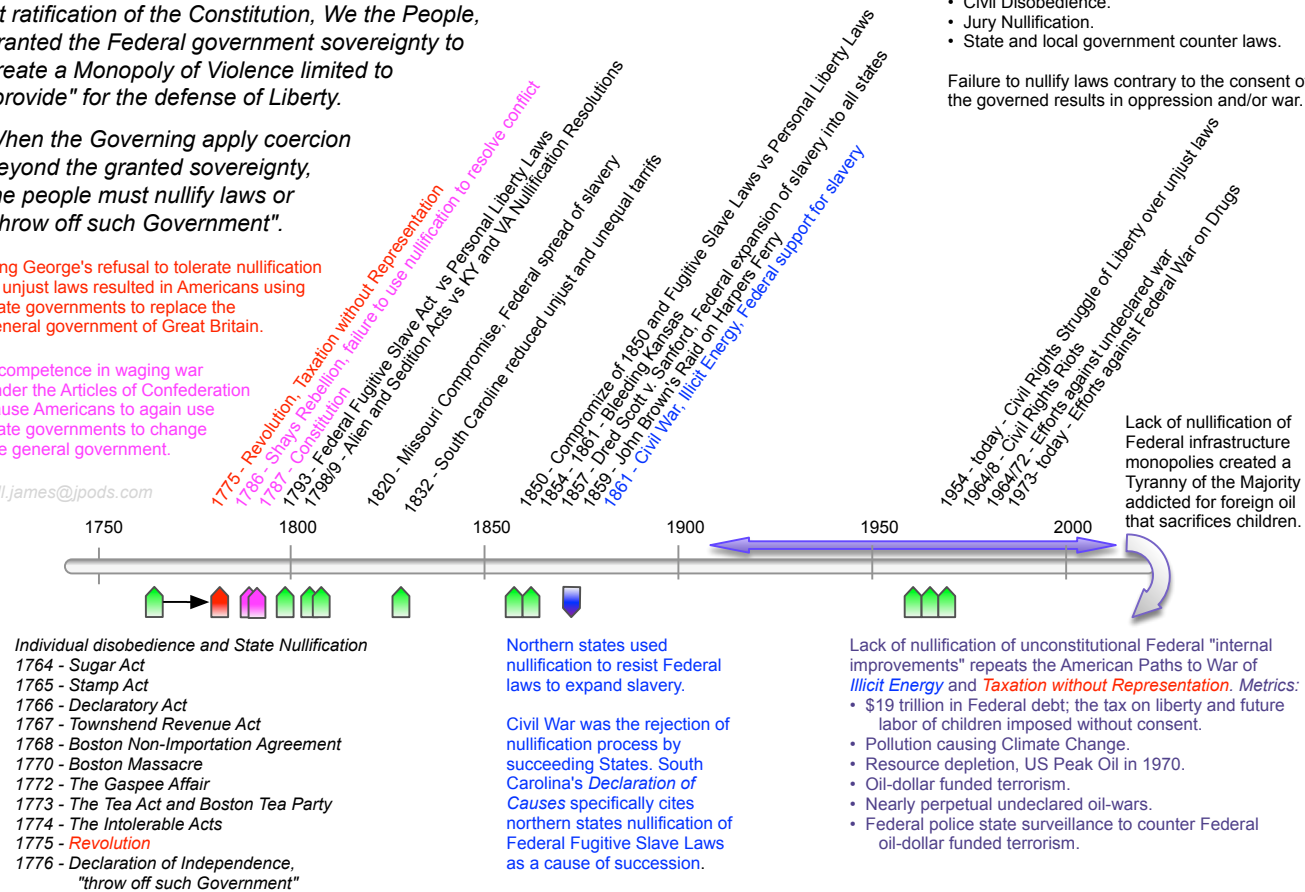
At ratification of the Constitution, We the People, granted the Federal government sovereignty to create a Monopoly of Violence limited to "provide" for the defense of Liberty.

When the Governing apply coercion beyond the granted sovereignty, the people must nullify laws or "throw off such Government".

King George's refusal to tolerate nullification of unjust laws resulted in Americans using state governments to replace the general government of Great Britain.

Incompetence in waging war under the Articles of Confederation cause Americans to again use state governments to change the general government.

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Parliament to respect the Constitution of England in Colonies, and the awakening of the Enlightenment, America's Founders waged a Revolution. Writing and rewriting Constitutions and Declarations documented their experiences.

A great insight was Divided Sovereignty, "Ambition must be made to counter ambition."

Thomas Jefferson, Letter to Joseph C. Cabell, "The way to have good and safe government, is not to trust it all to one, but to divide it among the many, distributing to every one exactly the functions he is competent to. Let the national government be entrusted with the defense of the nation, and its foreign and federal relations; the State governments with the civil rights, law, police, and administration of what concerns the State generally; the counties with the local concerns of the counties, and each ward directs the interests within itself. It is by dividing and subdividing these republics from the great national one down through all its subordinations, until it ends in the administration of every man's farm by himself; by placing under every one what his own eye may superintend, that all will be done for the best. What has destroyed liberty and the rights of man in every government which has ever existed under the sun? The generalizing and concentrating all cares and powers into one body."

Peaceful coercion of those lusting for power frequently

fails. The chart above documents the recurring need to have Divided Sovereignty with State and Federal governments, both armed, to wage war on the abuses of each other.

Federalist #28 (Hamilton): "Power being almost always the rival of power, the general government will at all times stand ready to check the usurpations of the state governments, and these will have the same disposition towards the general government. The people, by throwing themselves into either scale, will infallibly make it preponderate. If their rights are invaded by either, they can make use of the other as the instrument of redress. How wise will it be in them by cherishing the union to preserve to themselves an advantage which can never be too highly prized!"

To minimize this recurring need for war, the Constitution Divided Sovereignty between two types of government and ourselves. The Federal government may tax for warfare but not welfare. State governments may tax for welfare but not warfare. We the People judge the laws on juries and in elections.

With modern communications and transportation, Divided Sovereignty can be reinforced to constrain the lust for power of many who seek to govern.

## 10TH AMENDMENT COUNCIL (LINK)

The 10<sup>th</sup> Amendment Council is intended to create "Circular Letters" between the states to jointly enforce their duty to "support this Constitution." There can be Federal welfare programs, but taxing for welfare is state sovereignty, with the states funding Federal programs and holding their efficacy accountable. State taxing for welfare would prevent Federal borrowing against welfare taxes to fund undeclared wars and the excessive defense spending of \$797 billion in 2023.

## DECADE CONSTITUTIONAL CONVENTIONS

Wisdom does not come from inexperience. Holding regular Constitutional Conventions on every year ending in 9 will build Bottom-up skills in adapting the Constitution. The "living Constitution" is no more than a Tyranny of the Majority.

The requirements of Article 5 Amendments are rigorous enough and well enough established to prevent most foolish Amendments. The lesson of the 18<sup>th</sup> Amendment will not be soon forgotten.

## 9TH AMENDMENT COUNCIL (LINK)

The objective of the 9<sup>th</sup> Amendment Council is to create jury awareness of the citizen power to interpret and enforce the Constitution; to enforce in courts that We the People are the sovereigns with standing to enforce usufruct violations (exploitation harming Posterity). Juries and rebellions are our tools to coerce our servants who govern. Only one is bloodless.

## JURY REBELLION

In his Report of 1800, Madison explained the importance of states nullifying Federal suppression of free speech in the Alien and Sedition Acts. But he gave

no mechanism for the states to nullify unconstitutional Federal laws. He gave no mechanism, likely because only a few years earlier, states waged war to nullify the acts of Parliament and the King.

Juries can nullify laws. Jury nullifications are tiny, case specific, bloodless revolts. They are a Bottom-up means of correcting Top-down government plans.

Jury trials are mandated, Amendment 7: "In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved."

Recently, for the first time, a group of young people in Montana (link) were granted standing and successfully sued the Montana government for violating their constitutional right to an un-depleted environment. Standing should be the norm. We the People are the sovereigns. As sovereigns, we have standing to sue when the Constitution and usufruct requirements are being violated. We need to force courts to recognize our standing.

# post Roads

## HIGHWAYS ARE STATE SOVEREIGNTY

The Boston Tea Party was a demonstration against the general government's mercantile transportation monopoly that triggered a war.

On Sept 14, 1787, in the Constitutional Convention, Dr. Franklin moved that after "post Roads" the Federal government be enumerated a power to tax and build internal improvements. King and Mason brought up the issue of mercantile monopolies (Top-down). To prevent the Federal government from rebuilding that path to war, the Convention voted 8 states to 3 to deny Federal powers to build "internal improvements."

## ARTICLE 1, SECTION 8:

"To establish Post Offices and post Roads;"

The written Constitution specifically enumerates a limit of "post Roads." If no other means is practical for letters to be delivered in defense of free speech, the Federal government might build a road to carry letters.

## ARTICLE 1, SECTION 9:

"No Preference shall be given by any Regulation of Commerce or Revenue to the Ports of one State over those of another."

Further, "No Preference" can be taxed and provide by the Federal government in the facilities of commerce of one state over another (Article 1, Sections 8 and 9).

## PREAMBLE

The Preamble states the Federal mission. We the People limited by enumeration that the Federal government is limited to only "promote the general welfare." The Federal government may tax for warfare but not welfare. It is limited to only be a cheerleader, to "promote the

general welfare.

We the People Divided Sovereignty between ourselves and two types of governments to coerce two types of violence. The Federal government may tax for war, but not welfare. State governments may tax for welfare but not war. "Ambition must be made to counter ambition."

### ENUMERATED NATURE OF THE CONSTITUTION

Article I, Section 1 of the U.S. Constitution: "All legislative powers herein granted shall be vested in a Congress of the United States." The use of the term "herein granted" underscores the enumerated nature of Congress's powers.

Chief Justice John Marshall in *McCulloch v. Maryland* (1819): "This government is acknowledged by all to be one of enumerated powers. The principle, that it can exercise only the powers granted to it, would seem too apparent to have required to be enforced by all those arguments which its enlightened friends, while it was depending before the people, found it necessary to urge."

Justice Joseph Story, *Commentaries on the Constitution of the United States* (1833): "The constitution was, from its very origin, contemplated to be the frame of a national government, of special and enumerated powers, and not of general and unlimited powers."

### INTERNAL IMPROVEMENTS

During ratification the issue of state sovereignty over "internal improvements" was clearly understood.

Federalist #45: "The powers delegated by the proposed Constitution to the federal government are few and defined. Those which are to remain in the State governments are numerous and indefinite. The former will be exercised principally on external objects, as war, peace, negotiation, and foreign commerce; with which last the power of taxation will, for the most part, be connected.

The powers reserved to the several States will extend to all the objects which, in the ordinary course of affairs, concern the lives, liberties, and properties of the people, and the internal order, improvement, and prosperity of the State." extend to all the objects which, in the ordinary course of affairs, concern the lives, liberties, and prosperity of the State."

### GENERAL WELFARE

The powers of Congress in Article 1 are subordinate to the powers granted to the entire Federal government. Madison underscored this on when Congress rejected the bill for Bounty Payments for Cod Fisheries, [6 February] 1792.

James Madison:

"those who ratified the constitution conceived, that this is not an indefinite government deriving its powers from the general terms prefixed to the specified powers—but, a limited government tied down to the specified powers, which explain and define the general terms."

"The gentlemen who contend for a contrary doctrine are surely not aware of the consequences which flow from it, and which they must either admit, or give up their doctrine."

[[Civilization Killers and Paths to War facing children]].

"It will follow, in the first place, that if the terms be taken in the broad sense they maintain, the particular powers, afterwards so carefully and distinctly enumerated, would be without meaning, and must go for nothing. It would be absurd to say, first, that Congress may do what they please; and then, that they may do this or that particular thing. After giving Congress power to raise money, and apply it to all purposes which they may pronounce necessary to the general welfare, it would be absurd, to say the least, to superadd a power to raise armies, to provide fleets, &c. In fact, the meaning of the general terms in question must either be sought in the subsequent enumerations which limits and details them, or they convert the government from one limited as hitherto supposed, to the enumerated powers, into a government without any limits at all."

"If Congress can apply money indefinitely to the general welfare, and are the sole and supreme judges of the general welfare, they may take the care of religion into their own hands; they may establish teachers in every state, county, and parish, and pay them out of the public treasury; they may take into their own hands the education of children, establishing in like manner schools throughout the union; they may assume the provision for the poor; they may undertake the regulation of all roads other than post roads; in short, every thing, from the highest object of state legislation, down to the most minute object of police, would be thrown under the power of Congress; for every object I have mentioned would admit the application of money, and might be called, if Congress pleased, provisions for the general welfare."

### 21 PRESIDENTIAL VETO MESSAGES

[Presidential veto messages](#) explain that states and cities are sovereign over "internal improvements," the "post Roads" enumerated limit.

President Madison, Bonus Bill veto:

"An act to set apart and pledge certain funds for internal improvements,...pledges funds 'for constructing roads and canals' does not appear that the power proposed to be exercised by the bill is among the enumerated powers."

President Monroe, Cumberland Road veto:

"sovereignty for all the purposes of internal improvement...is said to be derived:"First, from the right to establish post-offices and post-roads; second, from the right to declare war; third, to regulate commerce; fourth, to pay the debts and provide for the common defense and general welfare; fifth, from the power to make all laws necessary and proper for carrying into execution all the powers vested by the

Constitution in the Government of the United States or in any department or officer thereof; sixth and lastly, from the power to dispose of and make all needful rules and regulations respecting the territory and other property of the United States."

According to my judgment it can not be derived from either of those powers, nor from all of them united, and in consequence it does not exist."

President Jackson, Maysville Road Bill veto:

"It does not, in my opinion, possess it; and no bill, therefore, which admits it can receive my official sanction."

President Tyler (1842): "I cannot but regard the bill as asserting the right to apply the funds and credit of the Federal Government to works of internal improvement of a local character..."

President Polk (1847): "Many of the works provided for by the bill are, in my opinion, wholly local in their character, and it appears to me that the local interests which are sought to be promoted might be more appropriately, as well as more justly, provided for by the States immediately interested."

President Fillmore (1850): "I can find no authority in the Constitution for making appropriations of the public money for such purposes, and I cannot approve a bill which in my judgment violates that instrument."

President Pierce (1854): "The practice of the Government has been far from uniform on this subject, but I might refer to a large number of acts to show that the attention of Congress has been constantly turned to the local interests and convenience of certain ports..."

President Buchanan (1859): "Among the powers expressly granted to Congress by the Constitution, there is no one which authorizes appropriations from the Treasury for internal improvements, for the purposes of commerce or otherwise, within the limits of a State."

President Buchanan, St. Clair Flats veto:

"And Mr. Madison, in his veto message of the 3d March, 1817, declares that--'The power to regulate commerce among the several States can not include a power to construct roads and canals' What a vast field would the exercise of this power open for jobbing and corruption!"

President Johnson (1867): "The Constitution does not expressly give Congress the power to make appropriations for purposes of this kind, and I am not aware that it possesses such power unless by implication."

### CONFEDERATE CONSTITUTION

Senator Henry Clay's American System repeatedly tried to build highways prior to the Civil War. When the Confederate States wrote their constitution, they moved the "post Roads" and "No Preference" clauses into their version of the Commerce Clause, "To regulate commerce with foreign nations, and among the several

States, and with the Indian tribes; but neither this, nor any other clause contained in the Constitution, shall ever be construed to delegate the power to Congress to appropriate money for any internal improvement intended to facilitate commerce;"

The Constitution's enumerated nature, Preamble, post Roads, Commerce, Necessary and Proper, and No Preference Clauses forbid Federal highways. Mixing of taxing for welfare and warfare breaks the "Ambition must be made to counter ambition" ratified in the Divided Sovereignty of the US Constitution.

Violation of the Constitution since The Federal-Aid Highway Act of 1916 create 2 Civilization Killers and rebuilt 3 Paths to War.

### PARCHMENT BARRIERS FAIL

Since The Federal-Aid Highway of 1916 Federal Top-down plans implemented an illicit advantage that sacrifices Posterity, children. It is not a Right or Left issue:

- Left: Al Gore's father, Albert, wrote and expanded The Federal-Aid Highway Act of 1956.
- Right: President Eisenhower signed the The Federal-Aid Highway Act of 1956.
- The clear text of the Constitution and Presidential veto messages were ignored.
- The fact that US Peak Oil was geologically certain in 14 years was ignored.
- Interstates sprawled American cities, making them unwalkable, unbikeable, and addicted to foreign oil.
- Children had no voice and were sacrificed for short term political advantage.

To enforce usufruct capitalism, We the People need more than to vote. We need regular Constitutional Conventions, States to nullify unconstitutional Federal actions, the 9<sup>th</sup> Amendment Council to coordinate efforts, and jury nullification to overthrow unconstitutional laws one trial at a time until common law enforces the Constitution's Divided Sovereignty.

Federalist #48 (Madison): "Will it be sufficient... to trust to these parchment barriers against the encroaching spirit of power? ...But experience assures us, that the efficacy of the provision has been greatly overrated; and that some more adequate defense is indispensably necessary for the more feeble, against the more powerful, members of the government."

### DUTY

The duty to enforce the Constitution and our usufruct duty to our children falls to We the People. Only we can use the Federal and state governments to constrain the ambitions of those controlling each. Only we can use juries to nullify actions when the men controlling either, or both, types of governments fail their obligations.

By the early 1900's the lessons Framers learned between 1754 (French and Indian War) and 1817 (end of the War of 1812 and Madison leaving office) were lost. A wave of socialism on the Left and desire for empire on the Right consolidated **Top-down** government plans that resulted in Federal consolidation of police powers taxing for both welfare and warfare. Mixing welfare and warfare rebuilt 3 Paths to War and created 2 Civilization Killers.

Three Constitution Amendments were adopted in this wave that replaced our compound-republic with a consolidated Federal democracy, unleashed a Tyranny of the Majority against children.

### THE 16TH AMENDMENT

The 16th Amendment, income tax, empowered taxing income. As ratified it did not change the enumerated prohibition on Federal taxing beyond defense. It gave the Federal government ability to tax rich people more than poor people. To me, that makes sense as rich people have more to lose if we lose a war than poor people do. And, working class people make up the bulk of soldiers that must sacrifice in war. Yet, declaring a "living Constitution," men controlling the Federal government began taxing and borrowing to fund highways, to "provide" welfare, and borrowing against future welfare taxes to fund undeclared wars.

### THE 17TH AMENDMENT

Advantages of state governments being represented in the Senate of the Federal government, Federalist #62 (Madison): "Another advantage accruing from this ingredient in the constitution of the Senate is, the additional impediment it must prove against improper acts of legislation. No law or resolution can now be passed without the concurrence, first, of a majority of the people, and then, of a majority of the States."

"It is a misfortune incident to republican government... that those who administer it may forget their obligations to their constituents, and prove unfaithful to their important trust. In this point of view, a senate, as a second branch of the legislative assembly, distinct from, and dividing the power with, a first, must be in all cases a salutary check on the government."

The 17th Amendment removed State representation in the Federal government. Representation was lost to minorities in the nation, which could be a majority in a state.

The intent of replacing state legislatures electing Senators with popular elections of Senators was to reduce corruption ([link](#)). Montana had provided an example of such corruption. The corruption was public and messy.

Two unintended consequences of popular election of Senators:

- The cost of buying influence decreased from buying half state legislature to merely contributing to a senate campaign.
- Corruption became invisible to people.

Money from auto makers, auto unions, highway lobby, etc...poured into campaigns to elect Senators who would tax all Americans to build roads to help sell cars and oil.

### THE 18TH AMENDMENT

The 18th Amendment empowered Federal policing of citizen economic activities.

Although the 18th Amendment was repealed by the 21st Amendment, the police and taxing institutions created were retained and used to even punish a farmer for growing wheat for his own use ([Wickard v. Filburn](#)).

The Federal government has grown from about 2% of GDP in the 1920 to about 24% of GDP in 2022 ([link](#)). Police powers are applied to nearly every aspect of life from healthcare, to farming, to expanding roads. Top-down planning disrupts price signaling required for the Upside-down Pyramid to adapt to changes in resources. Our subsistence is controlled by Top-down planning.

Federalist #79: "In the general course of human nature, A POWER OVER A MAN'S SUBSISTENCE AMOUNTS TO A POWER OVER HIS WILL."

Federal taxing to build highways created a "needful" majority with Federal highways controlling "SUBSISTENCE ." A majority of Americans vote for more highway, more debt, more Climate Change, more oil-wars with the consequences falling on Posterity, children.

### Federal Consolidation

### TYRANNY OF THE MAJORITY

The Federal Highway Administration, "The Greatest Public Works Project in History produced the greatest decade in the history of highways. And problems to match" ([link](#)). The Federal highway network created civilization killers and replaced Jim Crow in racist outcomes ([link](#)). Boston Globe, 2017: "That was no typo: The median net worth of black Bostonians really is \$8." The article goes on to note that the average net worth for white families in Boston is \$247,500. The primary driver of this racist outcome is a century of Massachusetts and Federal transportation construction through low-income neighborhoods that repeatedly destroyed businesses, built linear barriers to commerce, and moved jobs to the suburbs for the outsized benefit of the politically powerful at the expense of the politically weak.

Harms to black Americans is exceeded only by harms to children.

## Defenseless Minority

### MINORITY BEING SACRIFICED, CHILDREN

With Federal support for slavery, the minority sacrificed was by race.

Despite the Constitution mandating the Federal government "provide for the defence (sic)... of Liberty to ourselves and our Posterity," Federal highways created a Tyranny of the Majority sacrificing children.

Federal Highways rebuilt 3 Paths to War:

1. Taxation without Representation
2. Illicit Energy
3. Transferring wealth from the Many to the Few.

Federal Highways created 2 Civilization Killers:

1. Oil Famine
2. Climate Change



## Paths to War

### TAXATION WITHOUT REPRESENTATION

Taxation without Representation built the path to the Revolutionary War.

Debt is the tax on future labor. Debt beyond 19-years repayment is a tax on the future labor of children imposed without consent.

A majority of us voted for the men who govern to mortgage the future labor of children so we can have \$33 trillion more in benefits than we were willing to pay in taxes. [Oct 16, 2023, each child born in America today has a burden of \\$99,952 on their future labor.](#) The only difference between selling a man's labor into slavery because of skin color and mortgaging the future labor of children because of age, is the use of government debt to delay and confuse accountability. Debt is the tax on future labor. As Jefferson noted in his letter *The Earth Belongs to the Living,* "

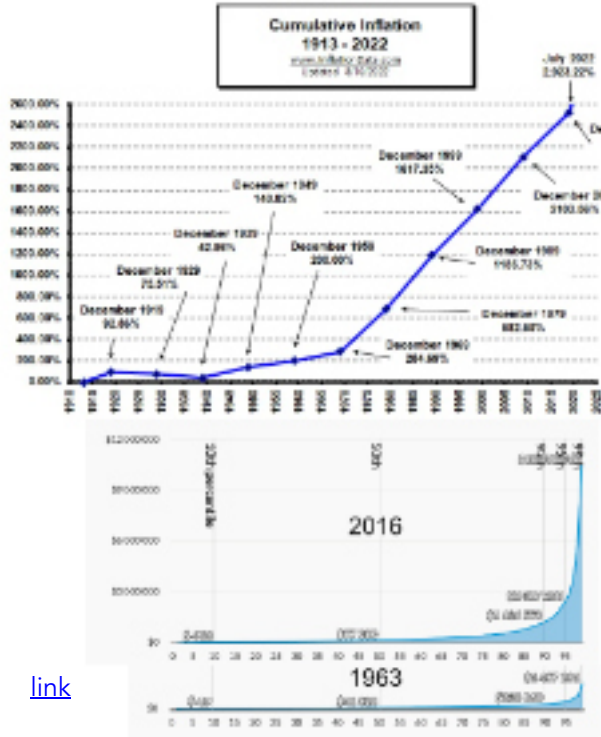
"Then no man can by \_natural right\_ oblige the lands he occupied, or the persons who succeed him in that occupation, to the payment [sic] of debts contracted by him. For if he could, he might during his own life, eat up the usufruct [to use for profit without harm] of the lands for several generations to come, and then the lands would belong to the dead, and not to the living, which would be reverse of our principle."

National debt increased in tandem with oil imports and funding oil-wars since US Peak Oil in 1970.

**TRANSFERRING WEALTH FROM THE MANY TO THE FEW**

Transferring wealth from the Many to the Few built the path to the French Revolution. As governments print money and spend borrowed money they transfer wealth from the many to the few. The wealthy, those holding assets, see property values increase with inflation.

The young and the poor, those who must trade their labor to buy assets, see the value of their labor debased.



[link](#)

**ILLICIT ENERGY**

Illicit Energy built the path to the Civil War.

Illicit Energy is dependence on energy outside self-reliance. Liberty is sacrificed as we fail to exercise the self-discipline to be energy self-reliant. Our "SUBSISTENCE" is controlled by others.

Following US Peak Oil in 1970, as US oil production decreased, national debt increased in tandem. Oil-wars and oil-dollar funded terrorism became perpetual since 1991.

10 of the last 10 Presidents documented that foreign oil addiction mandated by Federal highways is a direct threat to national security:

President Nixon, 1974, "At the end of this decade, in the year 1980, the United States will not be dependent on any other country for the energy we need. We will hold our future in our hands alone."

President Ford, 1975, "First, we must reduce oil imports by 1 million barrels per day by the end of this year and by 2 million barrels per day by the end of 1977. Second, we must end vulnerability to economic disruption by foreign suppliers by 1985."

President Carter, 1979, "This intolerable dependence on foreign oil threatens our economic independence and the very security of our Nation. The energy crisis is real. It is worldwide. It is a clear and present danger to our Nation. These are facts and we simply must face them."

President Reagan, 1981, "While conservation is worthy in itself, the best answer is to try to make us independent of outside sources to the greatest extent possible for our energy."

President Bush, 1992, "There is no security for the United States in further dependence on foreign oil."

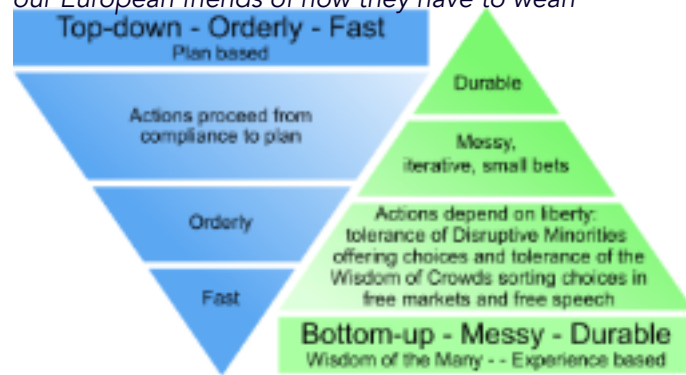
President Clinton, 1995, "The nation's growing reliance on imports of oil ... threatens the nation's security ... [we] will continue efforts to ... enhance domestic energy production."

President W. Bush, 2006, "Keeping America competitive requires affordable energy. Here we have a serious problem. America is addicted to oil, which is often imported from unstable parts of the world."

President Obama, 2010, "For decades we have known that the days of cheap and easily accessible oil were numbered...."

President Trump, 2017, "We will become, and stay, totally independent of any need to import energy from the OPEC cartel or any nations hostile to our interests."

President Biden, 2022, "Second, this crisis is a stark reminder: To protect our economy over the long term, we need to become energy independent. I've had numerous conversations over the last three months with our European friends of how they have to wean



Top-down bureaucracies ignore orders from Presidents, ignored the blood sacrifice of soldiers, prevented free markets from adjusting to changing resources, and rebuilt 3 known Paths to War and 2 Civilization Killers. DOTs ignored President Nixon sending his daughter to open the Morgantown PRT. They ignored finding of Congressional Study PB-244854, that PRT is the solution to urban traffic and foreign oil addiction. DOTs ignored that following the 1973 Oil Embargo European countries shifted road designs to be 4 times safer for pedestrians and bikes with a 60% reduction in oil per person use (see Walk/Bike section).

themselves off of Russia — Russian oil. It's just not — it's just not tenable. It should motivate us to accelerate the transition to clean energy."

I recommend reading [The Fiery Trial](#) to see how Illicit Energy from slavery built the path to the Civil War.

Federal highways laws expanding foreign oil addiction mirror Federal laws expanding the addiction to slave labor in the Kansas-Nebraska Act, Missouri Compromises, Fugitive Slave Law, and Dred Scott.

Skirmish wars in Iraq and Afghanistan are similar to Bleeding Kansas. Steps building the path to general war. Slavery sacrificed liberty based on race. Foreign oil addiction sacrifices the liberty of Posterity, children.

Diversity of state economies pushed back against Federal expansion of slavery into the western territories. Conflicting "ambitions" between "free-labor" and "slave-labor" states forced a crisis. At the cost of 600,000 American soldiers, the Preambles mandate the Federal government "secure the Blessings of Liberty" was enforced.

American soldiers have been buying time with blood in oil-wars since 1991 so America can exercise the self-discipline to be energy self-reliant.

The dollar cost of oil-wars so far is \$8 trillion.

We the People, State, and local governments can enforce the Constitutions Divided Sovereignty against the Federal government. The "general welfare" is the sovereignty of We the People. Taxing for welfare is limited to State and local governments. Cities and states allowing alternative transportation networks to Federal urban highways will convert traffic costs into value. Enclosed in this booklet is the 5X5 Standard.

**Peak Oil**

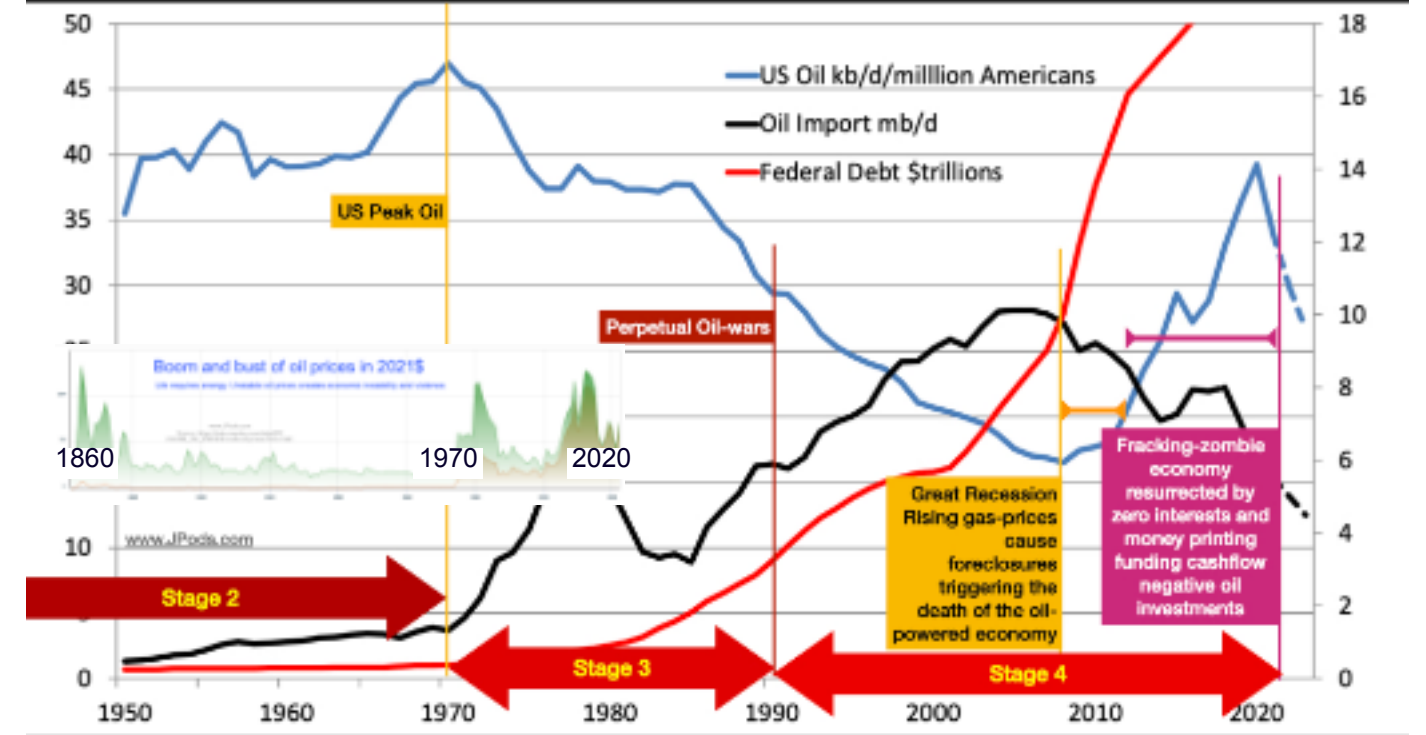
Life require energy. Less energy, less life. Peak Oil is the first of two Civilization Killers children face.

Knowing that US Peak Oil would be in 14 years, yet catering to a Tyranny of the Majority, the Federal-Aid Highway Act of 1956 built infrastructure to be powered by oil while ignoring the Constitution. Survival of Posterity was bound to a known, depleting, un-renewable resource. "Hubris born of success, the undisciplined pursuit of more [link](#)."

John Quincy Adams (1814): "Democracy has no forefathers, it looks to no posterity ; it is swallowed up in the present, and thinks of nothing but itself."

**Five Stages of Decline, How the Mighty Fall (Jim Collins) [link](#)**

- 1. Hubris born of success:** 17th & 18th Amendments usurped the Constitution's Divided Sovereignty with Federal taxing to provide welfare and war on citizens (alcohol/drugs). Violating the "post Roads" restriction built an economy powered by burning oil to move two tons to move a person. Consume more, faster, to drive up GDP.
- 2. Undisciplined Pursuit of More:** Foreign oil will make up for depleting US oil production; US Peak Oil in 1970.
- 3. Denial of Risk and Peril:** "Oil-wars since 1991 are about democracy." "National debt is just money we owe ourselves."
- 4. Grasping for Salvation:** Fracking oil and mortgaging the future labor of children for \$27 trillion to delay consequences.
- 5. CAPITULATION TO IRRELEVANCE OR DEATH**



## PEAK OIL WAS UNDERSTOOD IN 1956

In 1956, Dr. Hubbert published the Peak Oil forecast for 1970. As forecast, US Peak Oil occurred in 1970 followed by unstable oil prices, debt increasing with foreign oil purchases, and oil-wars.

Admiral Rickover's 1957 Energy Slave speech: "Fossil fuels resemble capital in the bank. A prudent and responsible parent will use his capital sparingly in order to pass on to his children as much as possible of his inheritance. A selfish and irresponsible parent will squander it in riotous living and care not one whit how his offspring will fare."

"For it is an unpleasant fact that according to our best estimates, total fossil fuel reserves recoverable at not over twice today's unit cost, are likely to run out at some time between the years 2000 and 2050. It will be wise to face up to the possibility of the ultimate disappearance of automobiles, trucks, buses, and tractors. Today the automobile is the most uneconomical user of energy."

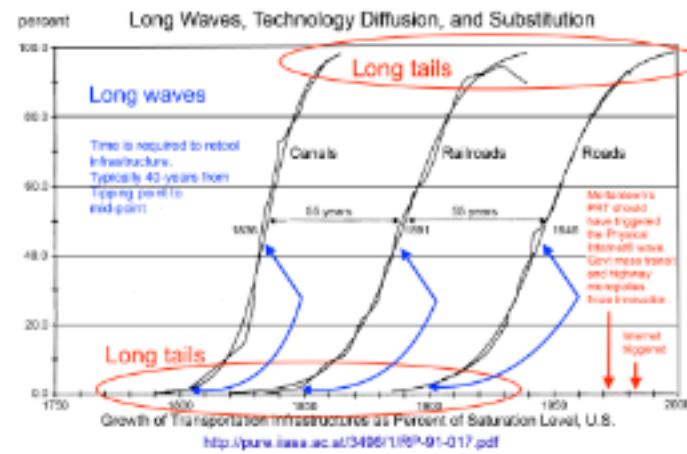
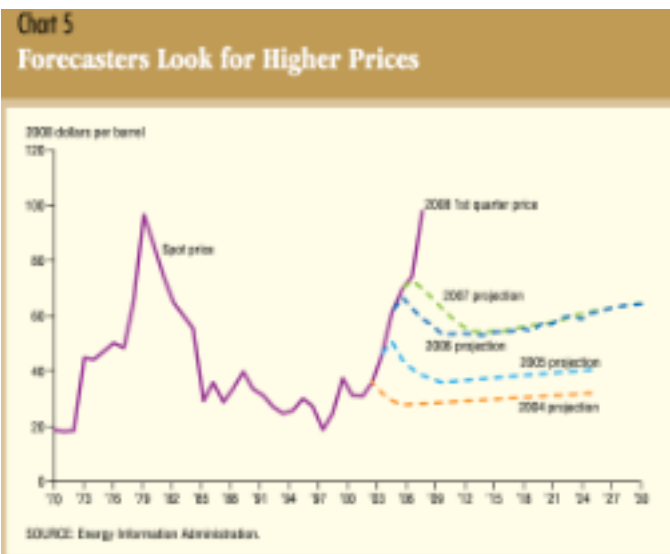
After a century of stable prices, oil prices destabilized following US Peak Oil in 1970.

Denying Risk and Peril, EIA reports ignore US Peak Oil in 1970 and the destabilization of oil prices.



## 2008

In May 2008, the Dallas Federal Reserve published, *Crude Awakening: Behind the Surge in Oil Prices* ([link](#)). This report shows the repeated failure of US DOE to warn policymakers of the growing risks of foreign oil addiction. Since US Peak Oil in 1970, the political and even weather issues can trump the slow moving geological components of oil prices. Without the self-discipline to be self-reliant, we have no idea of risks.



## OTHER EIA FATALLY FLAWED METRICS

Life requires energy. Yet EIA reports oil production in Thousand Barrels per Day (tb/d, [link](#)), as if people depending on that energy are irrelevant.

- In 1970 US oil production was 10,044 tb/d to support 203 million lives - 49.5 tb/d/million people.
- Last reported production was 12,991. Not reported is the need to support 331 million Americans - 39.2 th/d/million people. A decrease of 26% per life.
- If lives to do not matter, then the 12,991 tb/d is a new peak.
- If lives do matter, then 12,991 tb/d supporting 331 million Americans underscores the catastrophe created by Federal highways that mandate the 25 mpg efficiency of the Model-T.
- EIA also reports oil production without regard for Net Energy. In 1970 Net Energy was 20:1. With Fracking Net Energy is closer to 5:1 ([Energy Economics link](#)).
- EIA fails to underscore the fact that so long as America imports 6.5 million barrels of foreign oil per day ([link](#)), the survival of the US economic system is outside any control, every day.
- **Disposable Energy** metric was created to address some of these EIA failings.
- Note also DOE and DOT silo efforts so there is no reported metric of **Economic Work** such as *energy consumed per passenger-mile by mode* (see ROI section).
- Neither DOE, DOT, nor DOD emphasize how European nations changed policies after 1973 to cut per capita oil use from the same as the US to 60% less than the US (see Walk/Bike section).
- Neither DOE or DOT report the costs of oil-wars in their data ([\\$8 trillion](#)) nor the growing risk of Oil Famine since US Peak Oil in 1970.
- We the People and the States also bear responsibility for allowing the Federal government to consolidate powers sustainably managed locally.

Stockdale Paradox: Brutal fact, life dependent on affordable oil has been approaching famine since 1970.

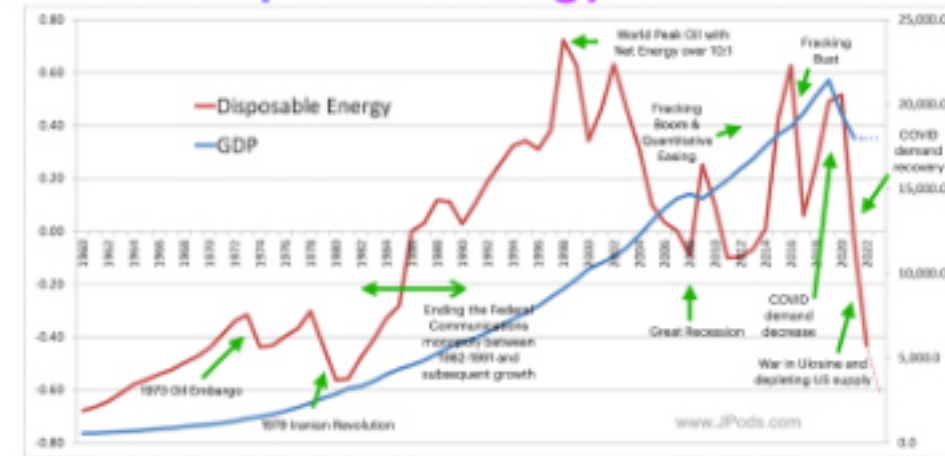
## Senators Obama and McCain

The metric of Disposable Energy (updated graph follows) was created to support briefings of Senate staffs for McCain and Obama, and Bud McFarlane (former National Security Advisor) for the McCain campaign, on the issues of:

- Peak Oil
- Rising oil prices impact on foreclosures.
- Morgantown's PRT networks and modern versions such as JPods mitigating risks.

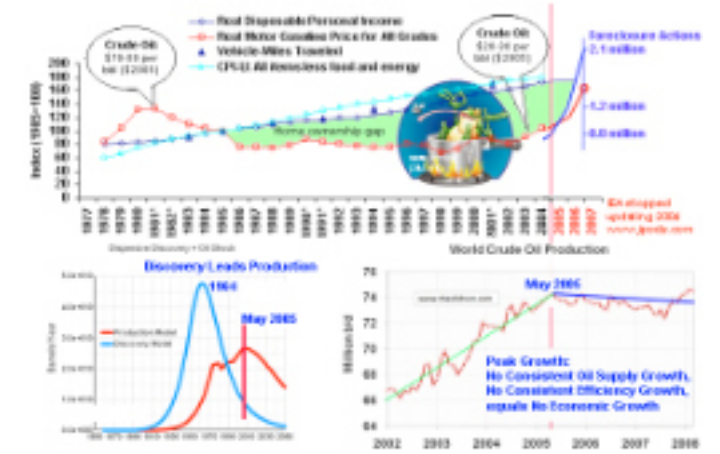
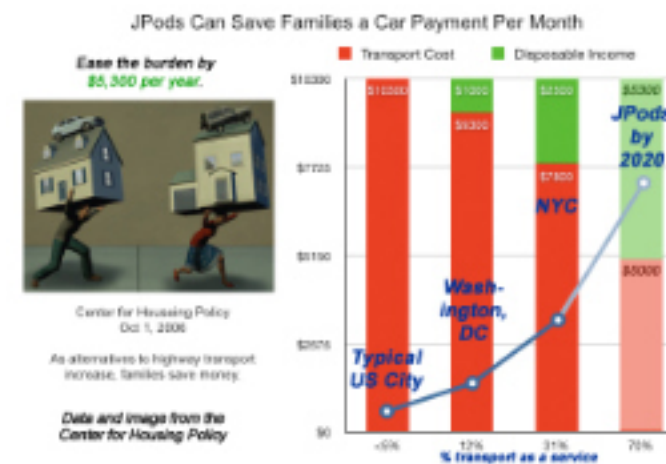
Life requires energy. Disposable Energy is a very simple metric of how much energy people can buy with their take-home pay. How much energy can people access to support their pursuit of happiness. Disposable Energy began warning of the 2008 Great Recession in 1998. GDP barely registered the crisis.

## Metrics: Disposable Energy - 2022-06



Disposable Energy developed by combining data from the following graphs also provided to these staffs.

Rising gasoline prices decreasing family Disposable Income. As Disposable Income decreased, families, especially those who "drove to qualify," were forced to use mortgage payments to buy gas to keep their jobs.



The top graph shows foreclosures increasing with rising gasoline prices; the frog in a pot of water.

Bottom right graph shows Peak Oil Discovery was in 1964 and US Peak Oil was in 1970. National debt increased in tandem with rising oil imports (red and black lines).

Bud McFarlane understood the risks but could not get the campaign staff to make it an issue. Both Senate staffs stated that existing Federal programs could manage the foreclosure issue.

The collapse of the banking system in September 2008

documents their misunderstanding of the problem.

They were provided the Dallas Fed, May 2008 report, *Crude Awakening: Behind the Surge in Oil Prices* ([link](#)).

## FRACKING ZOMBIE ECONOMY

The secure, affordable oil economy ended with Peak Oil in 1970. As conventional oil depleted after US Peak Oil 1970, the Top-down, oil-powered economy degraded and required oil-wars to sustain it until it collapsed in 2008.

Instead of retooling to make cities walkable, bikeable, and sustainable (see Walk/Bike section), a Fracking Zombie economy was resurrected:

- To continue more of what just failed.
- Based on the Federal highway monopoly and bailing our car companies with the 25 mpg efficiency of the Model-T.
- Zero interest rates gave private capital few choices. Approximately [\\$300 billion](#) was invested into Fracking.
- At a to cost taxpayers \$6-14 trillion (Dallas Fed: *Bottom-line cost of 2007-09 financial crisis estimated at \$6 trillion to \$14 trillion, [link](#)*).

The Fracking Zombie Economy is the walking dead.

Investing [\\$300 billion](#) at a loss on each barrel of oil, Rig Count jumped to 1,500. Blue line in the graph below shows the Rig Count. Green arrow shows the 3-8 year lag between investments and increasing oil supply. Gold line shows increasing supply. Rig Count is a primary metric of the future supply of oil.

### Metrics: Rig Count



So affordable gasoline between 2014 and 2023 resulted from President Obama's economic policies that cost taxpayers \$6-14 trillion. The ecological harms from fracking and 2015 collapse of Rig Count also belong to Mr. Obama.

Energy policy failures under President Trump resulted in massive oil bankruptcies in [2019](#) and [2020](#). Mr. Trump's policies failed to restore Rig Count and failed to initiate the shift to electrically powered vehicle and was generally hostile toward exercising the self-discipline to implement renewable and diversified energy sources.

The Rig Count is 622 on Oct 16, 2023. We are certain that the future supply of oil will be much less than what we are used to and prices will be much higher.

Currently, President Biden's policies for the shift to solar power are significant. The DOE Loan Program is implementing a model similar to the 1862-4 Pacific Railroad Act ([link](#)). Private companies may borrow to scale sustainable energy projects and are obligated to repay the loans or risk forfeiture of their assets. This use of the public's balance sheet backed by an asset complies with the Constitutional limit to only "promote the general welfare". The Federal government is not taxing to "provide," to fund the project. The book *Nothing Like It in the World* provides a case study.

We are in a race between replacing urban highways to become sustainable and Oil Famine.

### DALLAS FEDERAL RESERVE

In Sept 2022, the Dallas Fed surveyed 153 oil companies asking:

- "Do you expect a significant tightening of the oil market by the end of 2024, given the current underinvestment in exploration?"
- 85% of those responding agreed.
- Cited comment: "Shale core exhaustion and inventory concerns are mainstream and well-documented issues. Shale will likely tip over in five

years, and U.S. production will be down 20 to 30 percent quickly. When it does—this feels like watching the steam roller scene in Austin Powers. Oil prices in the late 2020s will be something to behold."

People who think a sudden collapse of the oil industry will be good for solving Climate Change are wrong. Starving people do not care about Climate Goals and will burn whatever gives them survival energy. Life requires energy.

We can power cities within a solar budget if we act while oil is still affordable to power the supply chains depended on oil to work.

### OIL FAMINE

Life requires energy.

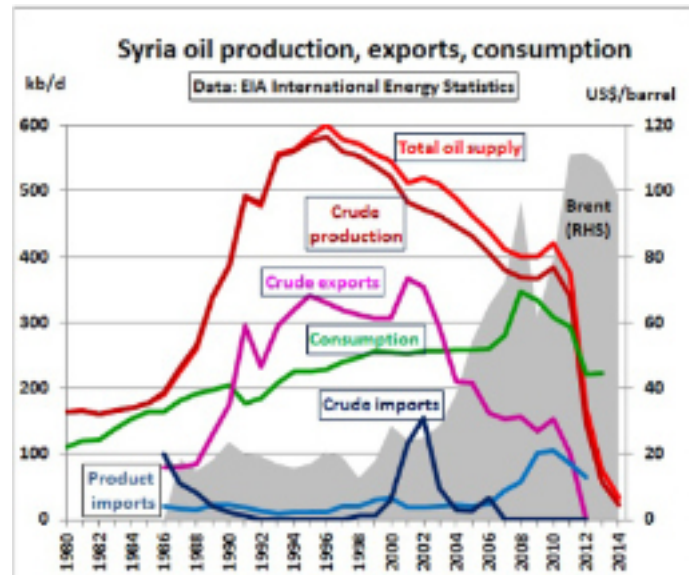
A blight hitting a monolithic dependence on a variety of potatoes in Ireland in the 1840's resulted in Potato Famines forcing mass migrations and loss of 25% of population ([link](#)).

Populations larger than the state of nature obtain energy by price-signally to trust, transact, and transport. Churn and instability require constant work to route supply chains. Top-down degrades signaling.



Government policies that disrupted signaling caused or aggravated many of the worst famines of the 20<sup>th</sup> Century ([link](#)).

Syria's Peak Oil was in 1996. Their Upside-down Pyramid collapsed in 2010 with access to oil dropping 95% and population forced to decrease 4.5%. Syria has oil reserves. Oil Famine is not caused by a lack of oil. Oil Famine occurs when the logistic and capital supply chains collapse delivery of oil.



The US has avoided Oil Famine so far by using the dollar's reserve currency status to buy foreign oil with printed dollars and our military to wage wars to secure access to foreign oil.

Any crisis in the value of the dollar might cause an immediate 1/3<sup>rd</sup> reduction in access to oil. See *Changing World Order* for this risk ([link](#)).

### RESOURCES

- [JPods data](#)
- [Changing World Order, Ray Dalio](#)
- [Crash Course, Chris Martenson](#)
- [Energy Economics](#)
- [Peak Cheap Oil](#)
- [Shale Oil](#)
- [Energy and the Economy](#)

## Climate Change

Only a fool pees in his children's only well.

If you borrow your neighbors lawnmower, would you return it empty and broken? It would be a usufruct violation to do so.

Profligate burning of oil moving 2-tons to move a person is depleting oil resources need by our children and tilting the balance of nature into unknowable consequences of Climate Change. Usufruct violations of the liberty and survival of children.

### NASA

"Road Transportation Emerges as Key Driver of Warming" ([link](#), [EPA](#), [DOT](#)).

Burning energy to move 2-tons to move a person is the Climate Change Root Cause. This is 188 times more wasteful than railroads. The 140,000 miles of freight railroads in the US average about [470 ton-mpg](#).

Question: Why are we moving a person at 25 mpg when we clearly understand how to move a ton at 470 mpg?

Answer: Top-down decisions are based on political influence, not efficiency. Since The Federal-Aid Highway Act of 1916, 45% of 470 ton-mpg freight railroads have been replaced by roads with 25 mpg Model-T efficiency.

Climate Change Root Cause is Federal highways.

Oil-wars Root Cause is Federal highways.

Prior to 1950, Americans did not have to own a car to hold a job. With the Interstate Highways, sprawl mandates car ownership with:

- 278 million cars in the US ([link](#))
- Each car driving 12,749 on average ([link](#)).
- At 24.9 mpg to produce 19.2 pounds of CO2/gal, or about .79 pounds of CO2 per car mile ([link](#)).
- About 2,786,955,865,060 pounds of CO2/year.

At JPods we look at urban niche networks to replace 60% of car-miles. Data per 100,000 cars:

- Save .79 pounds of CO2 per car-mile or 273,000 tons of CO2 savings per year.
- Save people \$115 million in gasoline purchases/year.
- Save people \$1.3 billion car capital costs.
- There are 278 such 100,000 car units in the US.

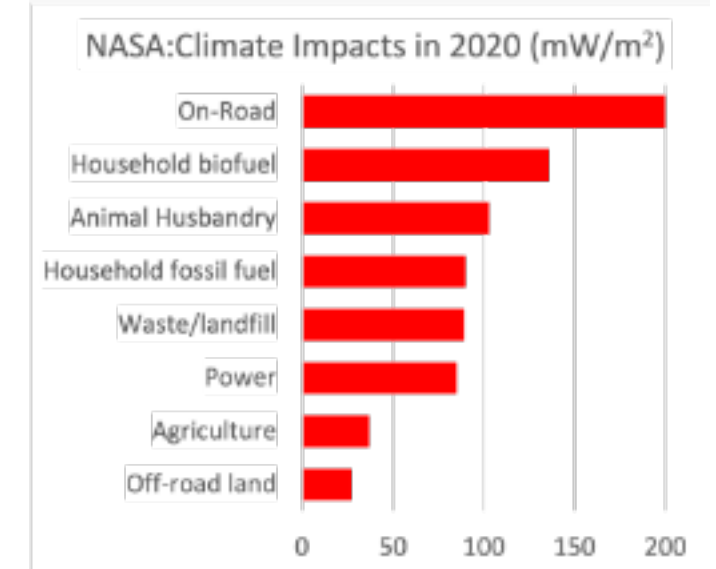
Bottom-up, free markets convert costs into profits, jobs, and customer savings.

It is hard to grasp the savings. Two visualizations might put numbers in human terms:

- A dog poops less than .79 pounds. Consider how disgusting your city would look if dog poop were piling up, for every car, for every mile, for every day, for a century.
- 133 ping pong balls weigh .79 pounds. Consider how high the drifts of ping pong balls would be from a century of every car, every mile, added 133 ping pong balls. 371 trillion ping pong ball per year.

Since an Infantry commander in Alaska in the 1970's, I have watched the catastrophic decrease in multi-year sea ice. My personal experience is just anecdotal, not scientific. But it provides personal experience that our usufruct duty to Posterity requires the burden of proof of no-harm falls on our actions.

Children in the future are defenseless against our usufruct violations today.





## Federal Highways: Climate Change Root Cause

### METRICS OF WASTE AND WEALTH CREATION

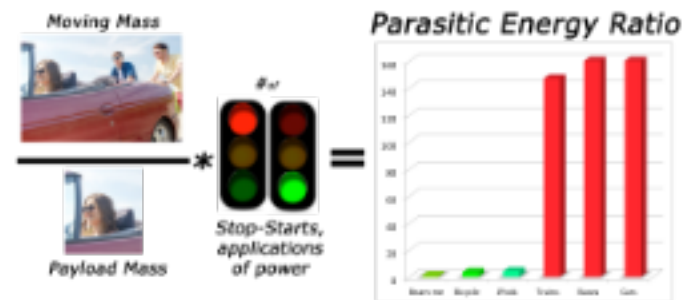
Following pages are metrics intend to be inclusive of the Left and Right to make our cities more sustainable.

#### PUSH YOUR CAR

The importance and value of oil is hard to imagine.

Consider a thought experience to put into perspective the waste of moving 2-tons to move a person mandated by Federal highways:

- Parking your car empty of gas in your driveway.
- Put a single gallon of gas in your tank.
- Have 5 of your strongest friends get in the car with you.
- Drive until you run out of gas.
- Now, you and your friends get out and push your car home.
- Assuming your team can maintain 2 mph, it will take you 12.5 hours to push your car home, or 75 man-hours of hard work. Gasoline is incredibly valuable. Highways are incredibly wasteful.



### ENERGY RATIO (PER)

The Parasitic Energy Ratio (PER) metric developed out of the above thought experiment.

Parasitic Energy Ratio provides a simple ratio to judge the relative efficiency of transport modes.

Divide the Moving Mass (vehicle and passenger) by the Payload Mass (passenger) and then multiply by the number of times power must be applied, the number of start-stops on a typical trip. Accelerations and braking consume most of the power (repetitive stop-starts).

"Beam me up, Scotty" would be a perfect 1. No vehicle mass and only one start-stop. Riding a bike, most people avoid stopping at every stop sign. Accelerations and Parasitic Mass drive power consumption.

Electric cars, buses, and trains do not change the fundamental defect of moving 2-tons of Parasitic Mass to move a person.

	Parasitic Mass	Payload	Moving	Start-stops	Ratio
Beam Me	0	200	200	1	1
Bike	30	200	230	8	9
JPods	500	200	700	1.6	6
Train	4,500	200	4,700	6	141
Bus	3,300	200	3,500	9	158
Car	3,300	200	3,500	9	158

### ECONOMIC WORK PER UNIT ENERGY

Instead of moving 2-tons to move a person, JPods networks strive to move only the person with one start-stop:

- Grade-separating the networks removes start-stops.
- Suspended vehicles remove 75% of the Parasitic Mass.
- Use the structure of the guideways to deploy the solar collectors to power the networks.

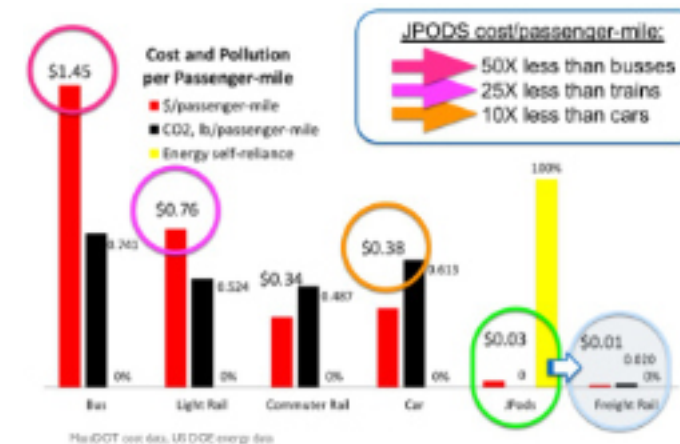


- Energy per passenger-mile Oak Ridge National Laboratory, 2019 (link). Similar 2012 date was used in the cost graph.
- Pounds of CO2 are calculated using gasoline as a fuel source.
- Commuter rail produces half the CO2 per passenger-mile as cars.
- Buses are 2X worse CO2 producers per passenger-mile than cars.
- Trains and buses are not "green." Since Mass Transit loses approximately 80 cents per operating dollar the carbon footprint of car drivers subsidizing Mass Transit should be added.

Mode with Wh/passenger-mile	Wh/mi
Cars	817
Personal trucks	941
Motorcycles	694
Demand response	4,551
Buses, Transit	1,358
Air	657
Rail, Amtrak	441
Rail, Transit	249
Rail, Commuter	464
JPods	80
Walking	30
Bikes	15

Removing Parasitic Mass and repetitive start-stops cuts cost per passenger-mile by 10 to 50 times.

Children are sacrificed by politicians making Climate



Change, Peak Oil, and debt contentious political issues. They seek power by dividing us on issues that harm our children.

All are usufruct violations against children with the same Root Cause, Federal consolidation of powers reserved to the people and states. We allowed Federal "internal improvements" to take control of 24% of our "SUBSISTENCE."

This issue goes back to Hamilton in Federalist #79: "In the general course of human nature, A POWER OVER A MAN'S SUBSISTENCE AMOUNTS TO A POWER OVER HIS WILL."

Those on the Left and those on the Right can have their separate beliefs AND work together to address

### ACTIONS

Albert Einstein, "We cannot solve our problems with the same thinking we used to create them."

There are many Bottom-up things we can do:

- Bikes can cut oil requirements 60% as already demonstrated by Europe since 1973.
- During the COVID-19 Pandemic US oil consumption dropped 41%. We have experienced that we can live within domestic oil production.
- Streets can be redesigned to make it safe to walk and bike.
- Set up fuel rationing before the crisis. Software to accomplish rationing is straightforward.
- Prioritize oil uses for agriculture and critical supply chains.
- Refill the Strategic Petroleum Reserve (SPR). Do not use it to affect elections.
- Adopt the 5X5 Standard so that solar-powered mobility networks can be built and the supply chains on-shored. It will take time to replace urban highways with sustainable networks. The sooner we start, the more likely we can mitigate the worst of unaffordable oil.
- Voters can replace Federal politicians who do not immediately stop all Federal highway projects.

There are Top-down things we can do:

- President Biden could order the US military to immediately cut oil use by 1/3<sup>rd</sup>, to within domestic production. The military can exercise the self-discipline to be energy self-reliant.
- Repeal the 17<sup>th</sup> Amendment to reduce Tyranny of the Majority. It was intended to prevent people buying a senate seat thru a state legislature. In reality, it decreased the cost of political corruption from buying half a state legislature to merely contributing to a senate campaign.
- It will likely require a 5-10 year transition, but states can enforce their sovereignty to collect welfare taxes. States collecting all welfare taxes and then states funding Federal programs would restore Divided Sovereignty, prevent Federal borrowing against welfare taxes to fund undeclared oil-wars.

# Bragdon Committee

Bragdon Committee Reports to President Eisenhower (1957-1959)

The defects of centrally planning the economy around Federal highways was recognized. The program was too popular underscoring the risks of Tyranny of the Majority. The Constitution's "post Roads" and "No Preference" clauses mandating Divided Sovereignty of Federalism were ignored.

Below are concerns raised. Over time these concerns have become \$2.76 trillion/years in traffic costs, unwalkable cities, racism, foreign oil addiction, oil-wars, oil-dollar funded terrorism, \$35 trillion in Federal debt increasing in tandem with oil imports and oil-wars, resource depletion, and Climate Change. Three paths to war and two civilization killers have been created by central planning the US economy around Federal highways. Book: Climate Change Root Cause, Unconstitutional Federal Highways making unwalkable cities

Carpet bombing cities:

DOT links: slides, meeting summary

## 1. Urban Sprawl and Decentralization

Quote: "The rapid expansion of the Interstate System could lead to the dispersion of population and industry, weakening the economic vitality of urban centers."

Long-Term Consequence: The Interstate System did contribute to significant suburban sprawl, leading to the hollowing out of many American cities, urban decay, and the rise of "bedroom communities" with little economic activity.

Commerce and community are pedestrian activities. Top-down building of highway harms both commerce and community.

Video illustrating how Federal highways made unwalkable cities.

Only 1.2% of land area in the 35 largest US cities are walkable land and generate 20% of GDP.

CNBC: How Suburban Sprawl Weighs On The U.S. Economy

How Suburban Development Makes American Cities Poorer [ST02]

Why American Cities Are Broke – The Growth Ponzi Scheme [ST03]

How Bankrupt American Cities Stay Alive – Debt [ST04]

Suburbia is Subsidized: Here's the Math [ST07]

How Bankrupt American Cities Stay Alive – Debt [ST04]

This Ponzi Scheme Might END Suburban Prosperity

How highways wrecked American cities.  
Highways Destroyed our Cities, Let's Tear them down  
2. Increased Car Dependency

Quote: "The overemphasis on highway construction risks undermining public transportation systems, leading to an over reliance on personal vehicles."

Long-Term Consequence: Public transit systems in many U.S. cities declined significantly, and car ownership became a necessity rather than an option, contributing to increased oil consumption and greater environmental impact.

Only 1.2% of land area in the 35 largest US cities are walkable land and generate 20% of GDP.

Newsweek: "Americans needed an annual income of at least \$100,000 to afford a car. That means that more than 60 percent of American households currently cannot afford to buy a new car. For individuals, the numbers are even worse, with 82 percent of people below the \$100,000 line"

Car costs a family about \$9,282, is parked 95% of the time with ~85% of car costs leave the local economy. 2.24 cars per household (278.06 million cars, 124.01 million households) 4.6 tons of CO2/car/year

## 3. Environmental Degradation

Quote: "Large-scale highway construction could have unforeseen impacts on the natural environment, including the disruption of ecosystems and increased pollution."

Long-Term Consequence: The Interstate Highway System contributed to significant environmental degradation, including deforestation, habitat destruction, and increased air and water pollution due to vehicle emissions.

Resource depletion:

Admiral Rickover warned in 1957, "energy slave speech":

"For it is an unpleasant fact that according to our best estimates, total fossil fuel reserves recoverable at not over twice today's unit cost, are likely to run out at some time between the years 2000 and 2050,"

"Fossil fuels resemble capital in the bank. A prudent and responsible parent will use his capital sparingly in order to pass on to his children as much as possible of his inheritance. A selfish and irresponsible parent will squander it in riotous living and care not one whit how his offspring will fare."

US Peak Oil was in 1970.

Crash Course, Energy Economics, Cheap Peak Oil, Shale Oil, parts of the Crash Course by Chris Martinson  
Dallas Federal Reserve warning of 2022: "Shale core exhaustion and inventory concerns are mainstream and well-documented issues. Shale will likely tip over in five years, and U.S. production will be down 20 to 30 percent quickly. When it does—this feels like watching the steam roller scene in Austin Powers. Oil prices in the

late 2020s will be something to behold."

Climate Change

4. Economic Imbalance

Quote: "The Federal highway program could exacerbate economic inequalities by diverting resources from urban infrastructure to suburban and rural development."

Long-Term Consequence: The shift in economic activity to the suburbs contributed to the decline of urban economies, increased economic inequality, and underinvestment in city infrastructure.

US Federal debts has increased in tandem with foreign oil imports and the cost of oil imports to \$25 billion



Asthma: Living near highways is associated with a higher risk of asthma, particularly in children. A study found that children living within 75 meters (about 246 feet) of a major road had a 50% higher risk of developing asthma compared to those living farther away.

Cardiovascular and Respiratory Hospitalizations: A study in Los Angeles found that people living near freeways had a 2.5 times higher risk of hospitalization due to respiratory problems. Additionally, long-term exposure to traffic-related pollution was linked to a 70% increase in the risk of cardiovascular disease.

Premature Deaths: The Health Effects Institute reported that long-term exposure to traffic-related air pollution contributes to 30,000 to 45,000 premature deaths annually in the United States, with a significant portion of these deaths occurring in urban areas.

Chronic Stress: Chronic exposure to traffic noise has been linked to increased stress levels, leading to anxiety, depression, and other mental health issues. A study found that people living near high-traffic roads were 25% more likely to suffer from depression compared to those living in quieter areas.

Sleep Disturbance: Noise pollution from highways can disrupt sleep, leading to a cascade of negative health outcomes, including impaired cognitive function, cardiovascular issues, and a weakened immune system. Studies show that long-term exposure to traffic noise increases the risk of hypertension by 7% for every 10 decibel increase in noise level.

Obesity:

www.ClimateChangeRootCause.com

1950: ~10-15% obesity rate among adults.

1980: ~23% obesity rate.

2000: ~30% obesity rate.

2010: ~35-40% obesity rate.

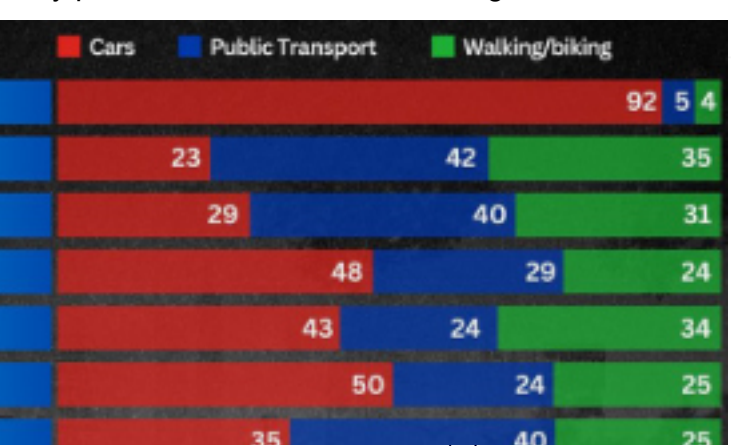
2024: ~42-44% obesity rate.

## 6. National Security Risks

Quote: "The concentration of transportation infrastructure in the form of highways could present significant risks to national security by creating critical vulnerabilities."

Long-Term Consequence:

Link to every President from Nixon issued unanswered



Foreign oil 43.1%.

President Reagan, 1981, "While conservation is worthy in itself, the best answer is to try to make us independent of outside sources to the greatest extent possible for our energy."

President Bush, 1992, "There is no security for the United States in further dependence on foreign oil."

President Clinton, 1995, "The nation's growing reliance on imports of oil ... threatens the nation's security ... [we] will continue efforts to ... enhance domestic energy production."

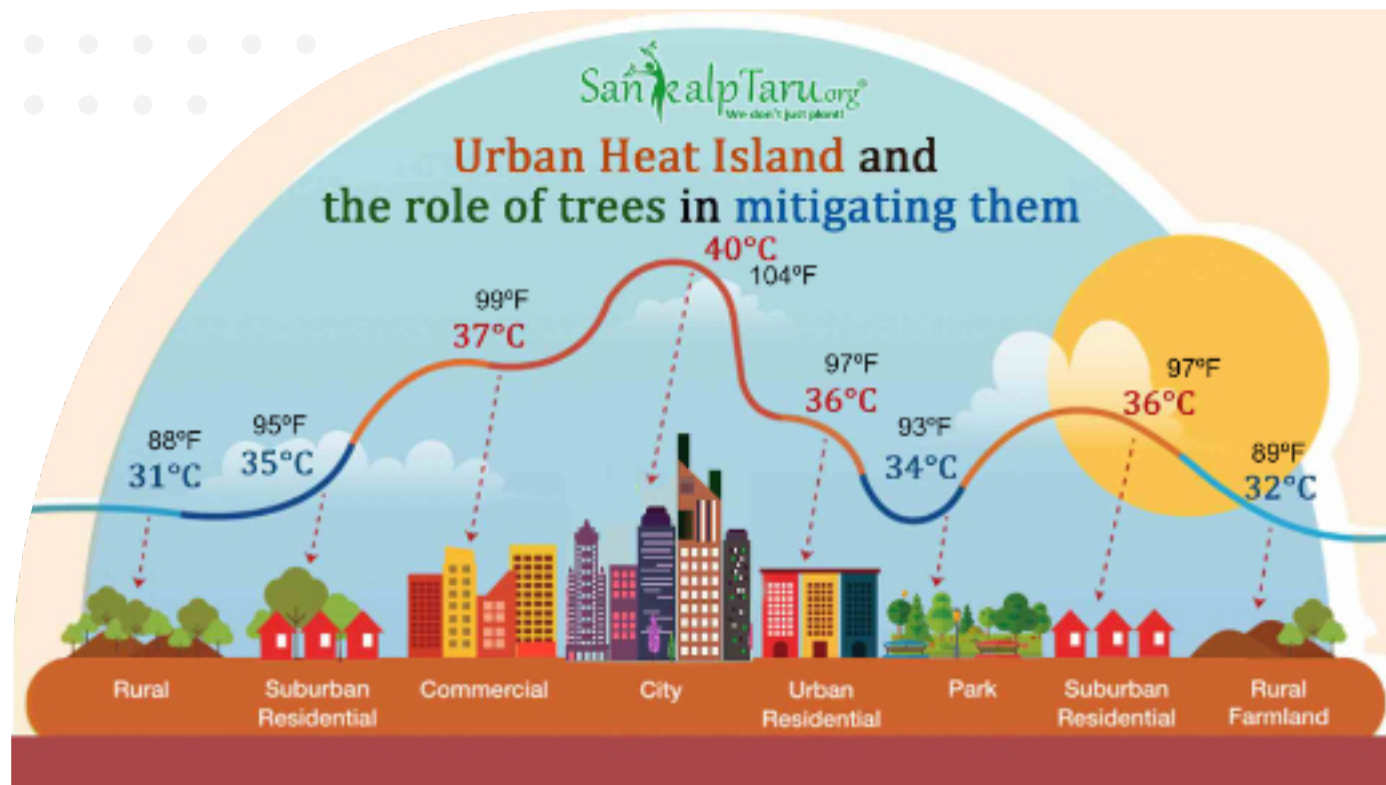
President W. Bush, 2006, "Keeping America competitive requires affordable energy. Here we have a serious problem. America is addicted to oil, which is often imported from unstable parts of the world."

President Obama, 2010, "For decades we have known that the days of cheap and easily accessible oil were numbered...."

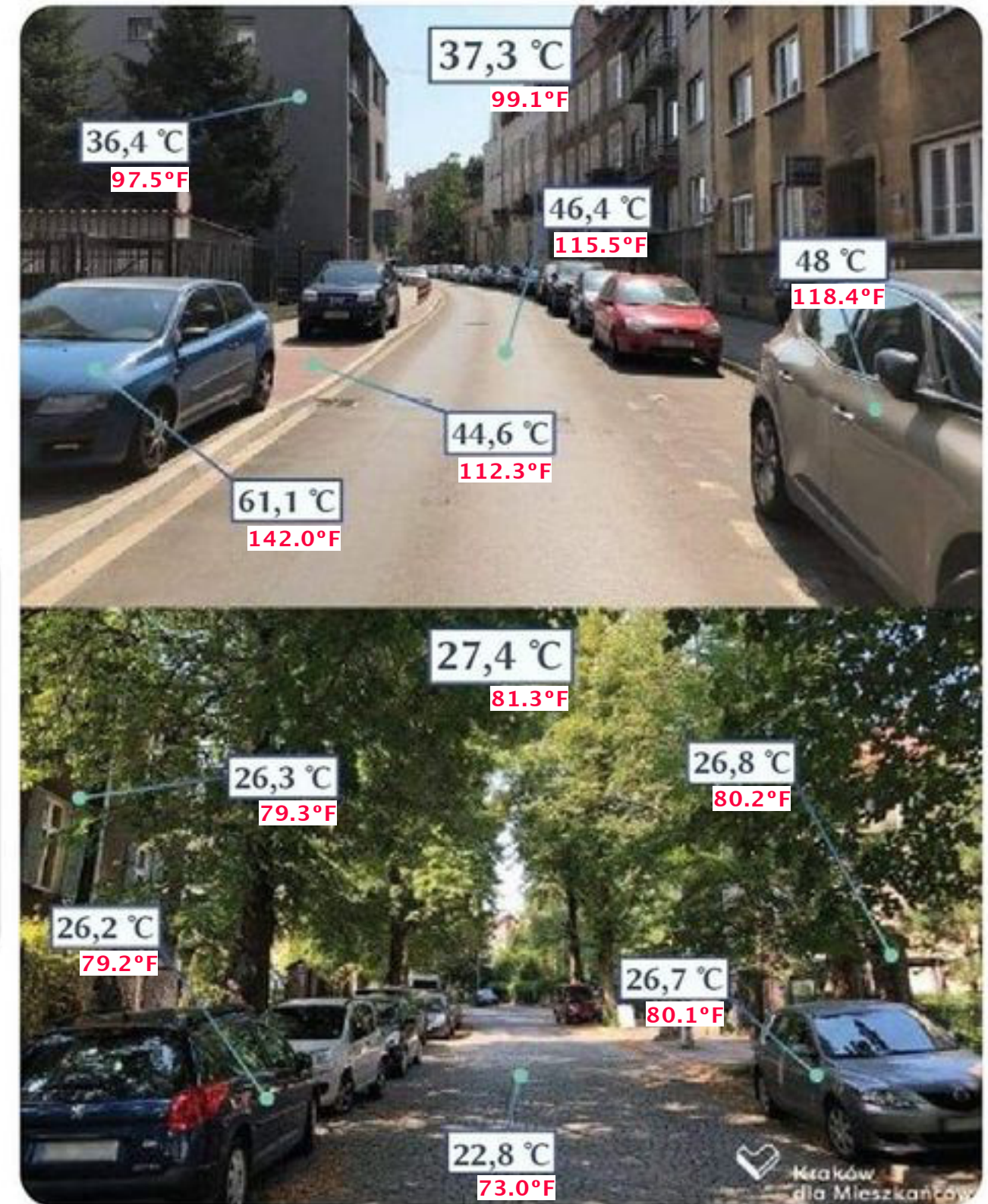
President Trump, 2017, "We will become, and stay, totally independent of any need to import energy from the OPEC cartel or any nations hostile to our interests."

President Biden, 2022, "Second, this crisis is a stark reminder: To protect our economy over the long term, we need to become energy independent. I've had numerous conversations over the last three months with our European friends of how they have to wean themselves off of Russia — Russian oil. It's just not — it's just not tenable. It should motivate us to accelerate the transition to clean energy."

That addiction funded terrorists with oil-dollars and committed the US to oil-wars since 1991.



Same city, same day, same time:  
two different streets.



## Heat Islands

### SOLAR-POWERED AND COOLING

JPods networks are solar-powered. As a side benefit, we provide shade and reduce Heat Islands that decrease commerce.

JPods networks provide an alternative that turns 3.4 parking spaces per car into revenue producing street cafes, shops, and green space.

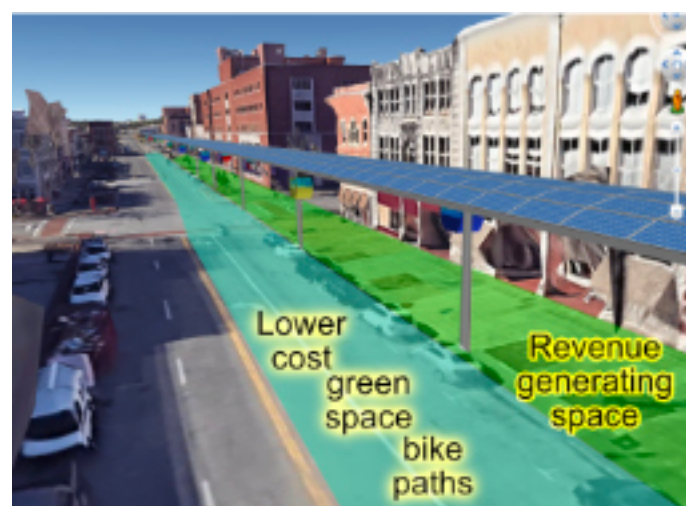
- USDA, "10% increase in tree canopy was associated with a roughly 12% decrease in crime."  
"Shoppers in business districts with robust tree canopy will spend 9 to 12% more for products, travel further and spend more time there" ([link](#))

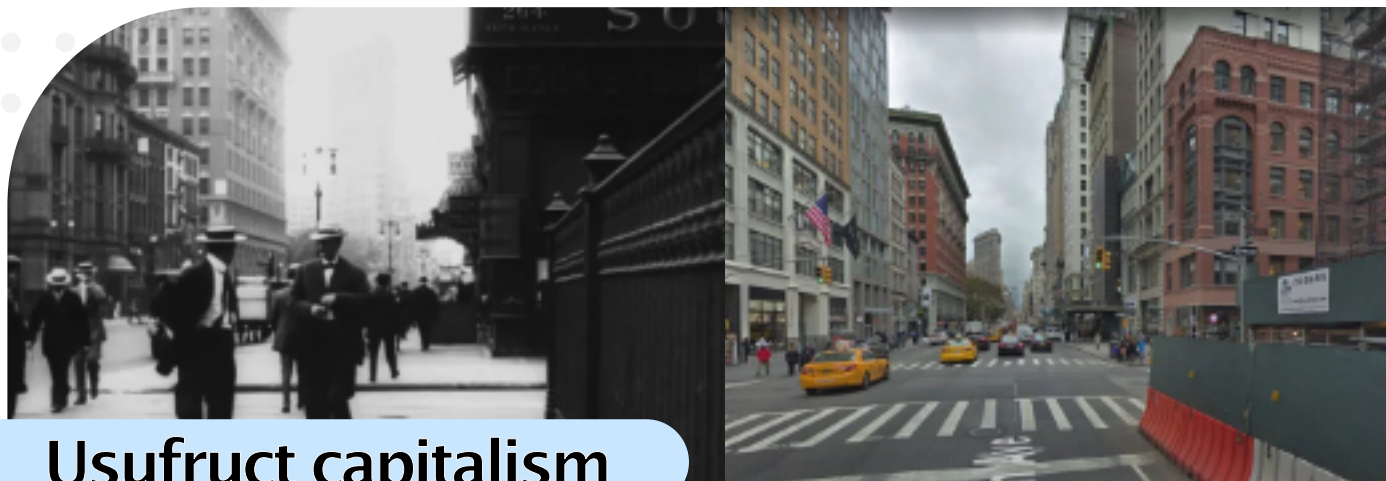
Questions:

- Would you like a choice to get around your city without having to drive and park?
- Would you like your city streets to be safe to bike on?
- Would you like more trees and less asphalt in your city?
- Would you like side-walk cafes with fewer cars rushing by?



2NS STREET, MACON, GA





## Usufruct capitalism

### USUFRUCT

Usufruct means "to use for profit without harm."

I first saw this word in Thomas Jefferson's letter, "The Earth Belongs to the Living." He wrote it on Sept 6, 1789, as he watched French revolution shift from being about liberty into a blood bath of class war:

*"Then no man can by \_natural right\_ oblige the lands he occupied, or the persons who succeed him in that occupation, to the payment of debts contracted by him. For if he could, he might during his own life, eat up the usufruct [to use for profit without harm] of the lands for several generations to come, and then the lands would belong to the dead, and not to the living, which would be reverse of our principle.*

*"...nor the nation itself can validly contract more debt, than they may pay within their own age, or within the term of 19 Years."*

### WEALTH CREATION

Wealth creation is a Bottom-up pedestrian activity.

### UPSIDE-DOWN PYRAMID

JPods ' model for the economy is an Upside-down Pyramid with wealth stored as Flywheel Momentum.

Life requires energy. We, as individuals, consume energy and resources to produce value. The Upside-down Pyramid model shows our feet as consumption and our out-stretched arms as our value-added.



Community builds as we transact, transport, and trust. Our Upside-down Pyramid provides more energy, to sustain more life, than is available in the state of nature. Bottom-up, we must constantly adjust to churn created with every change in supply and demand. Price-signaling alerts us to changes, Adam Smith's "invisible hand."

Top-down plans, whether caused by crimes or police powers of government, hinder our capacity to adapt.

Destabilizing this Upside-down Pyramid creates stress and distrust. Too much distrust forces an exponential collapse back towards the state of nature, a Malthusian civilization killer.

### FLYWHEEL MOMENTUM IS WEALTH

As we buy and apply resources, labor, and energy to satisfy our wants and needs, our consumption is a drag on the Flywheel. The surplus value-added by our labor and capital contributes to the Flywheel's economic momentum.

Governments are net consumers of wealth. Necessary to minimize war and crimes, police and military cost. They consume more value than they produce.

### PROFIT

Profit is the difference between the value people willing pay minus the cost to compete. The greater the value appreciated by customers with the fewer resources consumed, the more profitable and more sustainable the effort.

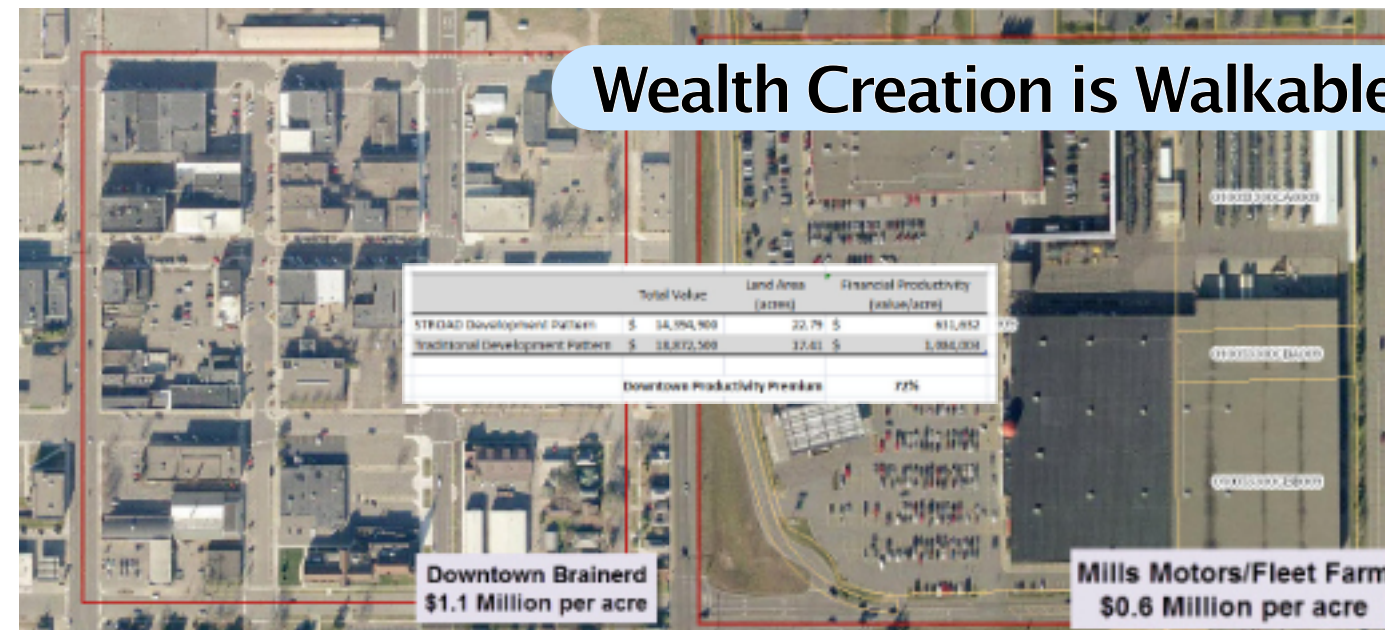
### USUFRUCT CAPITALISM

Usufruct is Bottom-up. Usufruct means we must carry our own weight and add value, so others pay us a profit for our contributions above our consumption of resources.

Usufruct capitalism embraces both the need for liberty and the need to police exploitation that harms Posterity:

- Bottom-up free markets to facilitate price signaling, adapting to the constant change in available resources.
- Top-down application of police-powers to punish those who harm the duty to secure Liberty for Posterity. Sustainability requires courts respect that citizens are sovereigns with standing to sue for usufruct violations, when harms are to Posterity. The burden of proof is on those profiting that they do not harm children in the future. Children in the future are defenseless against our harms today.

## Wealth Creation is Walkable



### FEDERAL HIGHWAY & WEALTH CREATION

Violating usufruct obligations, Federal highways fund sprawl while depleting non-renewable oil, and driving Climate Change.

Harm to wealth creation can be measured in sales tax per acre. The above example is from Strong Towns for Brainerd, MN.

- On the Left is a relatively run-down, unsubsidized section of the old downtown. It is walkable. It produces a value of \$1.1 million per acre.
- On the Right is a typical "big box" subsidized mall on a Federally funded bypass around the city. It produces a value of \$0.6 million per acre.
- The Bottom-up old parts of cities are subsidizing the Top-down expansions.

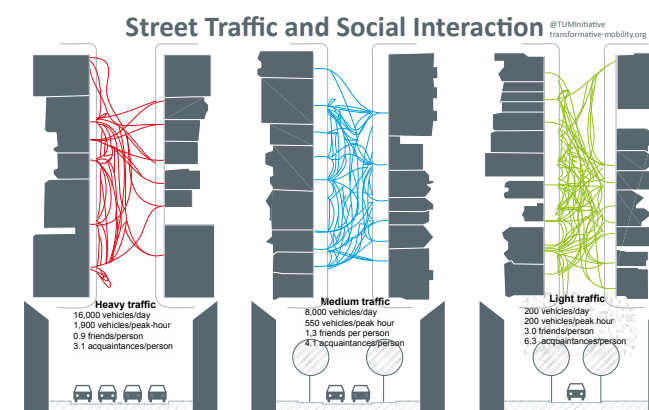
JPods ' mesh networks put stations within walking and biking to mitigate the sprawl of the built environment. This offers working people an alternative to car travel. Following resources are provided for getting a deeper understanding of how road and parking requirements massively harmed wealth creation and safety:

- [How Suburban Sprawl Weighs On The U.S. Economy](#)
- [City ROI by type of design: Here's the Math](#)
- [How Suburban Development Makes American Cities Poorer \[ST02\]](#)
- [Why American Cities Are Broke – The Growth Ponzi Scheme \[ST03\]](#)
- [How Bankrupt American Cities Stay Alive – Debt](#)
- [Stroads are Ugly, Expensive, and Dangerous](#)
- [Introduction to the 85th Percentile Speed The Wrong Way to Set Speed Limits \[ST06\]](#)
- [How Forgiving design in roads kills pedestrians](#)
- [High Cost of Free Parking](#)
- [The Death and Life of Great American Cities](#)
- [Paved Paradise](#)
- [Walkable City](#)
- [Strong Towns](#)

### INTERACTIONS: TRUST AND TRANSACT

Wealth creation requires human interactions. Wealth creation is a pedestrian activity.

Below is TUMI graphic that illustrates how social interactions (trust and transact) increase with walkability. Cities designed for pedestrians are cities designed for connections between people and wealth creation ([link](#)).



Federal highway standards are hostile to pedestrians with a kill rate 400% greater than in Europe.

After the 1973 Oil Embargo, Europe shifted towards sociable, walkable cities. Federal highways promoted sprawl. "In 1974, nearly a third of Americans reported spending time with their neighbors at least twice a week. Forty years later, that number had been cut in half. Over the same period of time, the number of Americans reporting zero interactions with their neighbors has grown from 20% to almost 35%" ([FastCompany](#))

JPods networks providing an alternative to driving a car can speed US cities becoming walkable again.

# Walk/Bike

## START WITH WHAT WE KNOW

For the same economic outcome, the people in Sweden and Denmark pay 60% less for oil than Americans because of policy changes in 1973.

Before the 1973 Oil Embargo the US, Sweden, and Denmark were on the same path to highway dominated cities.

Following 1973 Denmark and Sweden shifted policies to design their roads to be safe to walk and bike.

By 1990, Swedish and Danish oil consumption had dropped to 60% below that of the US.

## SAME CITY, DIFFERENT POLICIES

Which of these streets would you rather live on?

Images of the street:

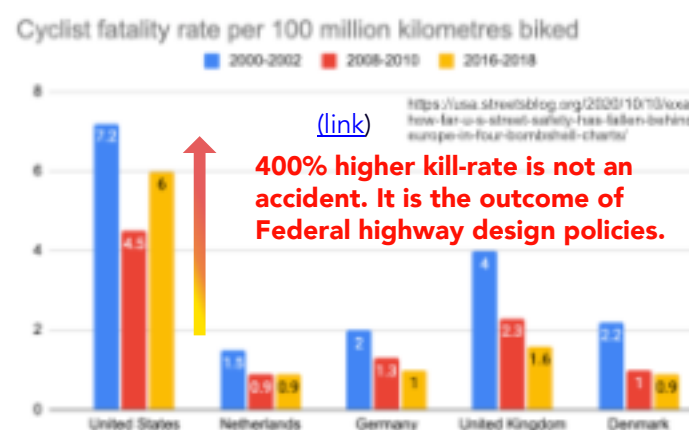
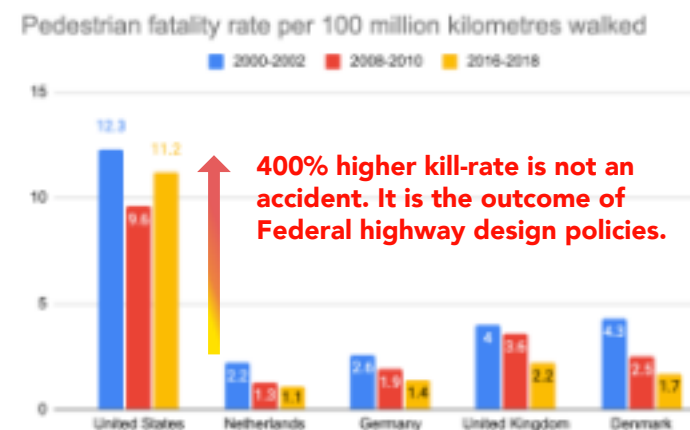
- 1971 was highway-centric where government prioritized cars over people.
- 2020 is human-centric where government prioritizes people and economic activity generated by people on foot over highways.



# Killer Designs

Complying with Top-down plans and specifications, US road designs knowingly and intentionally kill 400% more Americans than Danish and Swedish road designs. Since the Morgantown PRT opened it has had no serious injury. In that same period of time, US highways killed 1.8 million Americans; nearly 1/3<sup>rd</sup> of a Holocaust. Who is killed is fairly random. Designed in is that 40,000 people will be killed and 2.2 million seriously injured this year.

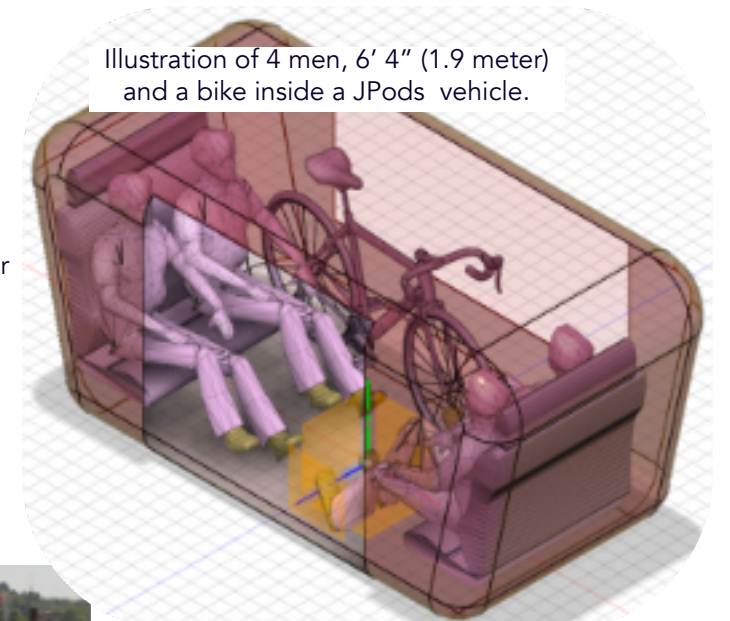
- Stroads are Ugly, Expensive, and Dangerous. ["Stroads" is a term coined by Chuck Marohn of Strong Towns.](#) "Stroad," US highway policies turning city street into high speed roads.
- [Introduction to the 85th Percentile Speed. The Wrong Way to Set Speed Limits](#)
- [How Forgiving Design in roads kills pedestrians](#)



## 60% LESS CAR-MILES AND 4X ROAD SAFETY

We at JPods know grade-separation of solar-powered transport networks will support:

- Cities reducing oil use by 60% in 6 years, ending foreign oil addiction. We currently [import 6.7 million barrels of oil a day](#). Required is for cities to restore liberty to innovate (see 5X5 Standard) so alternative transport networks can displace highways traffic from streets.
- Making streets safe to walk and bike. We enjoy walking and biking when it is safe. We are healthier when walking is intrinsic to our daily lives.
- Making roads safer by removing density from roads and giving drunk and distracted drivers an alternative to driving a car.
- Travel safety on JPods networks is 3,000 times that current highway standards. Standards JPods comply with have 3.7 injuries per million. US roads have 11,200 serious per million.



We have known grade-separation is the solution to urban traffic for half a century. In 1972, President Nixon sent his daughter Tricia to open the Morgantown PRT. It is an electrically power urban transportation networks with 3,000X better safety (link).



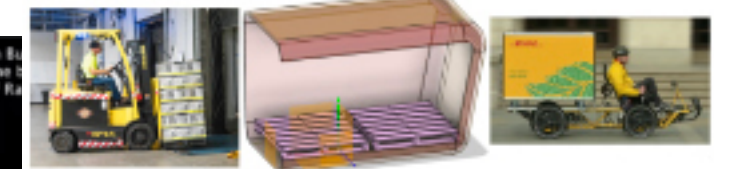
Illustration of pallets fitting inside a JPods vehicle. JPods provide Middle Mile™ cargo carrying from warehouses to neighborhoods. Last-mile will be provided by Local Use Vehicles

We have known for 2 centuries that grade-control on 140,000 miles of freight railroads is 188 times more efficient (link). Warren Buffett:

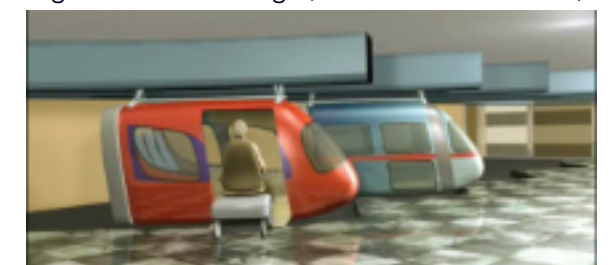


- "It [railroad industry] moves a ton of goods 470 miles on one gallon of diesel."
- "A train replaces 280 trucks on the road."
- "It emits far less into the atmosphere that is damaging."
- "It [rail industry] moves 40% of the goods."

JPods grade-separated networks approach freight railroads efficiencies moving people and cargo in cities.



Because there is no pollution, stations will be integrated into buildings (Horizontal Elevators™).



# Why & How

## TOP-DOWN HIGHWAYS ARE EXPENSIVE

- Oil-wars since 1991 in Iraq and Afghanistan cost **\$8 trillion**.
- Oil-dollar funded terrorists cost \$52 billion.
- 1.8 million Americans were killed on roads in the same period as Morgantown PRT had no serious injuries. Roads have ~2.2 million seriously injured per year.
- Federal debt increased to \$33 trillion in tandem with importing oil and waging oil-wars.
- Climate Change: Roads produce 1.5 billion tons CO2/year.

Traffic costs Americans \$2.76 trillion/year:

- \$756 billion per year for oil.
- \$871 billion per year in accidents.
  - 40,100 road-deaths in 2017.
  - 2.31 million injuries in 2013.
- \$305 billion per year in congestion.
- \$109 billion per year in car damage from poor road maintenance.
- \$723 billion per year in land use at \$1 per square foot per year (cost of a garden plot, apartments are normally \$2-5 square foot per month).

## OBJECTIVE: ENDING OIL-WARS

Oil-wars since 1991 caused West Point graduates to look for how to end importing up to 2/3<sup>rd</sup> of our oil. We had studied Nuclear Engineering and were veterans. We worked the physics.

As a child, I cleaned a barn using a half-barrel suspended from an overhead guideway. Grade-separation enabled a child to move tons. In the Infantry helicopters with cargo nets were used to pin-point deliver logistics.



Grade-control enables freight railroads to average 470 ton-mpg. At JPods, we use grade-separation to simplify and bypass road traffic problems. We added robots to remove human error. We added solar collectors to use the distributed nature of transport networks to gather the distributed solar energy to power them.

## THE MORGANTOWN PRT

Personal Rapid Transit (PRT) is well understood technology. Electrically-powered, self-driving vehicles travel on grade-separated guideways. The Morgantown PRT was so important, President Nixon sent his daughter, Tricia, to open it in 1972.

Walter Cronkite opened the news coverage with, "One of the big problems in this country is something many of us run into every day, traffic jams." Tricia Nixon said it was "more fun than Disneyland." We learned we can make cities as safe as theme parks.



The Morgantown Mayor summarized the success of the network in a 2013 letter:

- "It has proven to be a reliable system of automated transit that is relatively inexpensive to operate.
- It has offered on-time service rates far better than the bus system it replaced, boasting a 98% reliability and availability rating.
- It has eliminated much of the gridlock of traffic which existed in the hub of downtown Morgantown.
- It has proven to be safe, with no serious injuries reported since the operation began in 1975."

## PATENT FOR SOLAR-POWERED TRANSPORT

Our team applied extensive manufacturing and factory automation experience to patent new unique combinations of known technologies (6,810,817):

- JPods robots replace the central computer controls: "A method of controlling a transportation System for moving people, freight, and any combination whereof using a distributed network of intelligent devices without requiring the aid of a human driver"
- Networks are solar-powered: "The method... providing... Solar and wind power generators integrated into the physical Structure of Said transportation System...."

Many more patents are coming.

## TOP-DOWN BARRIER TO INNOVATION

Congress initiated Study PB-244854, "Automated Guideway Transit" to identify solutions to the 1973 Oil Embargo. Published in 1975, it identified the Morgantown PRT as the likely solution and that "institutional failures" had blocked innovation for "four to six decades (aside from some relatively minor cosmetic changes)...."

## LEARNING FROM ROTARY TELEPHONES

Courts declaring the Federal communications monopoly unconstitutional in 1982 shifted the process from Top-Down to Bottom-up. The Bottom-up process restored liberty; tolerance of Disruptive Minorities offering choices and tolerance of the Wisdom of Crowds sorting choices in free markets.

We designed the 5X5 Standard so local governments can restore liberty for innovators to solve local traffic. Privately funded networks 5 times more efficient pay 5% of gross revenues to use the airspace over public roads.

## WHY OF JPDS

Delayed by Top-Down barriers, we used the years of efforts to polish the Why, How, and What of JPods. Once Bottom-up is restored the cascade will demand enduring culture to keep pace.

### 3 circles of the JPods Hedgehog Concept:

We have a passion for liberty. Personal, on-demand mobility regardless of age, ability, or wealth is physical liberty.

We can be the best in the world at moving people and cargo in commuter-range travel with payloads less than 500kg (1,100 pounds).

Our metric is profit per customer trip. Profit is the difference between the value customers willingly pay minus the cost to compete. The more we delight our customers and the fewer resources we consume to produce value, the more profitable and sustainable JPods becomes.



## EXCELLENCE AND POWER

Start small, iterate relentlessly. Implement our definitions for Excellence and Power.

Excellence is the process of relentlessly improving. Start by adhering to what you know. Test your assumptions. Plan to disrupt what you know with what might be learned. Execute. Relentlessly repeat.

The difference between knowledge and wisdom is scars.



Power is the will and ability to win applied to achieving an objective. The will to win comes from people. The ability to win comes from resources and managing them well. Leadership is what gives the will and ability direction to who, does what, why, when, where.



## HOW OF JPDS

How does an ant eat an elephant? Small bites, lots of friends. If you want to help build solar-powered networks in your city, let us know.

Ambrose's book *Nothing Like It in the World* documents how the transcontinental railroads were financed and built.

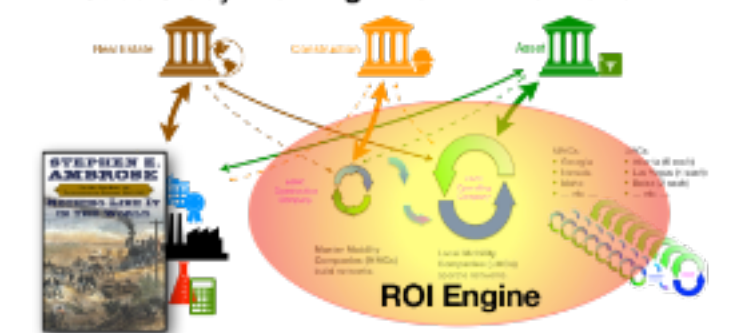
Building the railroads started with a 20-year effort to correctly write the regulations. The Pacific Railroad Act of 1862 authorized the railroad but had an un-fundable default clause. This was corrected in 1864. Construction began in California in 1863 and Nebraska in 1865.

As supply chains ramped up, so did the rate of construction. By 1869 rails were being completed at a rate of up to 10 miles per day per crew. In 4 years, 1,912 miles were opened.

JPods will at least match the speed of deployment of the Transcontinental Railroads by:

- Using the 5X5 Standard and private funding to remove bureaucratic delays.
- Implement networks with single-purpose companies, tech, construction, operating.
- [Link, https://JPods.com/why/](https://JPods.com/why/)

## Case Study: Nothing Like It in the World



# JPods Networks

## PHYSICAL INTERNET®

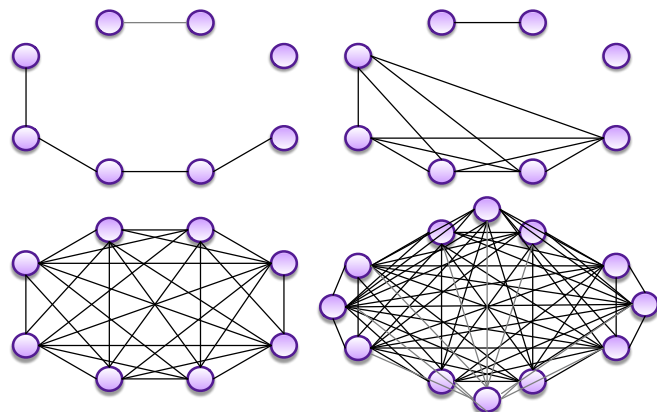
Free markets will allow transport and energy networks to digitize like communications. All were monopolized in the early 1900s. Courts restored liberty to innovate communications in 1982 ([link](#)). In 2022, the North Central Texas Coalition of Governments voted to restore liberty to innovate transport networks in free markets in the Dallas-Fort Worth 16 counties ([link](#)).

As the Internet started in niches, the digitizing of transport and energy networks into the Physical Internet® will start in niches and scale based on the quality of offerings by Disruptive Minorities and sorting by the Wisdom of Crowds.

## PRIME LAW OF NETWORKS

At JPods we generalized Metcalfe's Law to include account for how congestion degrades networks and physical packets.

Prime Law: The value of a network increases exponentially based on the number of interconnected nodes and decreases as those nodes are saturated.



We experience this law when driving a car. Each parking space is a node. When there is little traffic and little competition for parking spaces, the value of the road network is amazing. With traffic and unavailable parking, the value of the road network decreases.

## STATIONS

More small stations amplify network value. Unlike train stations, JPods stations can be dispersed and even integrated into buildings.



## JPODS NICHE

JPods niche is dense urban areas where traffic is often congested, and parking is difficult. In this niche, JPods' grade-separated networks provide the on-demand service of a chauffeured car. Unlike streets, travel is non-stop from origin to destination.

## NETWORK LAYERS

Consider that the Internet has roughly 4 layers:

- Fiber optics for high speed and heavy traffic.
- Wi-Fi for local area networks.
- Bluetooth for last-device.
- Satellites, SD cards, and a vast number of other devices to fill other niches.

The Physical Internet® will have similar layers:

- High speed and heavy lift: Airline, freight rail, and trucking for transport between cities.
- Commuter: JPods /PRT, Transportation as a Service (TAAS), transit, and cars/trucks provide commuter-range transport of people and cargo.
- Last-mile: Bikes, walking, scooters, Uber, drones, Local Use Vehicles, etc... provide the last device.
- Off network vehicles such as existing cars and trucks.

Bottom-up digital communications networks displaced most analog networks. Bottom-up TAAS will incrementally replace cars of roads based on the value perceived by customers.

The average car costs about [\\$9,282/year](#), is [parked 95% of the time](#), with [85% of car costs draining out of the local economy](#). Oil imports are 6.7 mb/d of foreign oil at \$87, a yearly drain of \$213 billion.

[American Public Transportation Association](#) notes:

*"The average household spends 16 cents of every dollar on transportation, and 93% of this goes to buying, maintaining, and operating cars, the largest expenditure after housing."*

*A household can save nearly \$10,000 by taking public transportation and living with one less car."*

## GENERAL: CONNECT WALKABLE

As JPods network connect walkable areas to each other. JPods networks can be built one street away from highly walkable streets. The optimum packet size for moving people is between one pedestrian and a family of them.

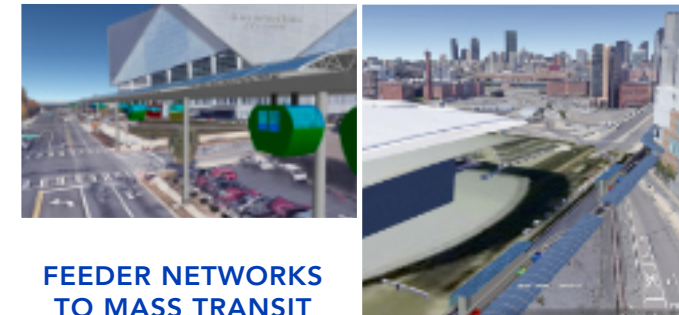
Design walkable networks for your community. [Link](#), <https://JPods.com/design-your-own-JPods-network/>



## ENTERTAINMENT / NIGHT LIFE

DUI's are unnecessary. Social life is enhanced by on-demand transportation to and from events. Illustrated is a network connecting Six Flags to the water park and to hotels in Arlington, TX.

Stadium in Atlanta and convention center in Boston.



## FEEDER NETWORKS TO MASS TRANSIT

Example JPods station connecting a DART station to hotels, the Merchandize Mart, and Love Field.

The Prime Law of Networks applies. As JPods cross-connects the spokes of existing mass transit lines to each other, the value of their network increases exponentially. People no longer have to travel to the center of the city to access stations on other spokes.



## LINEAR BARRIERS

Nearly every shopping area is crisscrossed by un-walkable roads. Cross connecting these walkable areas can generally be funded.

## AIRPORTS

Airports and their surrounding economic community are ideal locations for JPods network. Connecting terminals to terminals, to hotels, to car rental, to parking, to trains, to convention centers, etc... provides travelers with personal on-demand service between their walkable destinations.

Atlanta



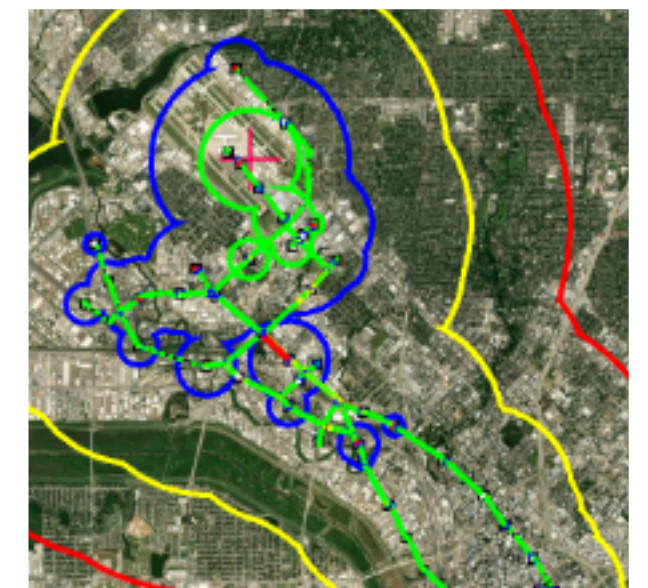
Boston



Love Field, Dallas. Walk-ride-walk  
Green is 5-10 min  
Blue is 10-20 min  
Yellow is 20-20 min

## MESH NETWORKS

With frequent stations in a mesh network, you can be to your destination in less time than the 17 minute average wait time for mass transit.





## What are JPods

### GRADE-SEPARATION:

Having JPods guideways elevated above the roads preempts safety risks and simplifies the complexity of mixing existing traffic with self-driving vehicles.

### CLEAN ENERGY

JPods guideways provide both a means to cut travel costs and a mounting system for solar collectors. The collectors gather 40,000 vehicle-miles of oil-free power per mile of guideway per day. Your city's mobility is powered by your city's sunshine. JPods provides both clean and secure access to energy. Life requires energy. Foreign oil addiction is a threat to survival.

### EQUITY

On-demand mobility regardless of age, ability, or wealth. You are not forced to ride with others, eliminating crime and contagion risks of mass transit. The family-size packet of JPods vehicles provides the same on-demand service of the family car without the capital costs of owning a car or the land consumption of cars.

### CONTAGION SUPPRESSION

MIT Study, "Subways Seeded the Massive Coronavirus Epidemic in New York City," documents the contagion risks of queuing and transfers. Dr. Gosce's similar London Tube study documents queuing and transfers amplifying flu contagion by 6 times. JPods eliminate queuing with on-demand entry. Additionally, between uses, JPods vehicles can be disinfected with UV and other means before being used again. If needed, vehicles move to a cleaning center between uses.

### ACCESS

Family-size pods enable stations to be as tiny as a single parking space. Small, inexpensive stations make it possible to have many more access points. In contrast, buses and trains require large stations, reducing the number of access points and quality of service.

### FLEXIBILITY

Analogous to the internet packet-switching data, JPods packet-switch people, cargo, garbage, etc.

### TIME AND ENERGY

JPods travel non-stop from origin to destination to eliminate the energy wasted by repetitive start-stops of cars, trains, and buses. This also reduces travel time.

### PEDESTRIANS

Reducing car traffic will make walking and biking safer. As networks expand, stations will be within walking distance.

### TOURISM

People will come from around the world to experience JPods. Time and money saved will be spent on more shopping, dining, and entertainment.

### OPERATING COSTS

JPods are 10X less expensive to operate than cars, 25X less than trains, and 50X less than buses.

### CAPITAL COSTS

JPods typically cost about \$20 million per mile versus \$50 million to \$1 billion per mile for light rail. JPods construction is privately funded.

### SAFETY

JPods networks comply with the ASTM-International F24 standards. This standard provides a 3,000 times better safety record than roads.

### PERSONAL

JPods are personal, you do not ride with strangers.

### NOISE

Removes the engine and road noise associated with cars and trucks on roads.

### NO WAITING

No waiting at bus stops. JPods wait for people.

### Scorecard of alternatives.

	More Personal Cars	More Rental Cars	More Ride Services	Light Rail	Buses	Gondola	JPods
Safety (Grade-Separated)	●	●	●	●	●	●	●
Energy Efficiency	●	●	●	●	●	●	●
Solar Powered	●	●	●	●	●	●	●
Privacy /Security	●	●	●	●	●	●	●
Contagion Suppression	●	●	●	●	●	●	●
Access (Frequent Stations)	●	●	●	●	●	●	●
Travel Time (Wait +Travel)	●	●	●	●	●	●	●
Congestion	●	●	●	●	●	●	●
Boarding Ease	●	●	●	●	●	●	●
Station Cost	●	●	●	●	●	●	●
System Cost	●	●	●	●	●	●	●
Land Use	●	●	●	●	●	●	●
Overall (Scale of 10)	5.0	5.0	4.2	1.7	1.7	6.3	10.0



## Your Experience

### YOUR RIDE



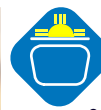
Your ticket is your JPods App on your phone, a prepaid card, or your finger-recognition.

The JPods App lets you know the travel and arrival times for trips.

When you walk into a station, JPods are waiting for you. As you approach a JPods your phone is chatting with the vehicle. It opens for you. As soon as you are settled in, you ride non-stop to your destination.

There is lots of headroom and foot room. You can bring your bike. If you are in a wheelchair, the vehicle will lock your wheels for you.

JPods stations are radically different from bus and train stations. Bus and train stations force people to wait for machines. JPods networks adapt to demand so machines are waiting for people. As a vehicle leaves, it is replaced by a vehicle waiting for the next person or family.



### TRAVELING IN YOUR JPODS

Your time is your own while you travel:

- You select the heating and air conditioning choices.
- You select if you wish to connect to the on-board Wi-Fi.
- You select if you wish to use your phone, voice, and/or the on-board computer during your ride.
- Unlike being forced to watch advertising on buses and trains, unless you request it, there is no advertising. It is your choice with credits being applied directly to your account.

During your trip you can ask the JPods team for information about your trip, or other interests.

You can speak to JPods in your language.

If a you want to change your destination en route, want to get off, or have any emergency, you can use voice command, App, or Emergency Call Button on the computer screen to make adjustments or connect to a system operator.

In an emergency, our team will keep you company via the on-board computer screen until the issue is resolved.

You may not notice at first, but riding in a JPods vehicle is quiet. The grade-separated steel guideway and specially designed wheel minimize noise. Gone are road noises of riding in a car. Gone are potholes in the road and horns of stressed drivers.

You are alerted as you approach your destination. You might note that the trip was much quicker than a car, bus, or train.

As your JPods vehicle stops at your station, there is no loudspeaker blaring "mind the gap." There is no gap. The opening of the vehicle is aligned within 1/2 of an inch of the floor of the station. This facilitates safety and easy access by wheelchairs and baby strollers.



### THE SYSTEM ELEMENTS

JPods are personal, just like your private car.

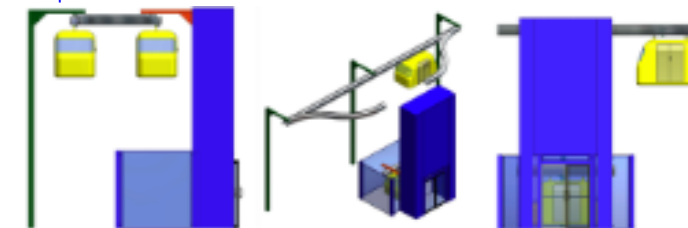
You get in JPods at a station where one is waiting for you. Once in, the JPods vehicle merges onto the traveling guideways to take you non-stop to your destination. It knows how to get there.

Approaching your destination, your JPods exits the traveling guideway to the Station guideway, just like an automobile on a freeway.

The offline Stations can be built into a building or free-standing, depending on the best fit with a business or municipal need.

Illustrated below are example stations. Some lower vehicles. Other have an elevator, stairs, guardrails and other security and support features.

<https://vimeo.com/99893372>



Stations have multiple berths so passengers can more easily load and unload without lines or queuing.

Because JPods are like a chauffeured car, stations are small. It is highly likely in the future, many businesses and living complexes will have stations built directly into their buildings.

Temporary stations can be added to increase capacity during special events. Everything is tailored to provide immediate and on-demand mobility from origin to destination.

Stations can be as small as a couple of parking spaces.



# Cargo

## PACKETIZED CARGO

The 140,000 miles of freight railroads in the US move 40% of the freight between cities.

To a great extent, and with great added efficiency, this transport of cargo between cities has been packetized into standardized railroad and aircraft containers (McLean).



## MIDDLE MILE™ MESS

Currently the Middle Mile™ transport is a messy batch process with repeated cross-loadings.

Once cargo is delivered by containers, it gets cross loaded one or more time to be transported from ports, airports, railheads, and warehouses to other warehouses to again be cross loaded and/or to the final retail outlet to serve customers.

Delays occur as each truck is loaded with multiple deliveries. Each oversized truck then incrementally stops to make multiple deliveries.



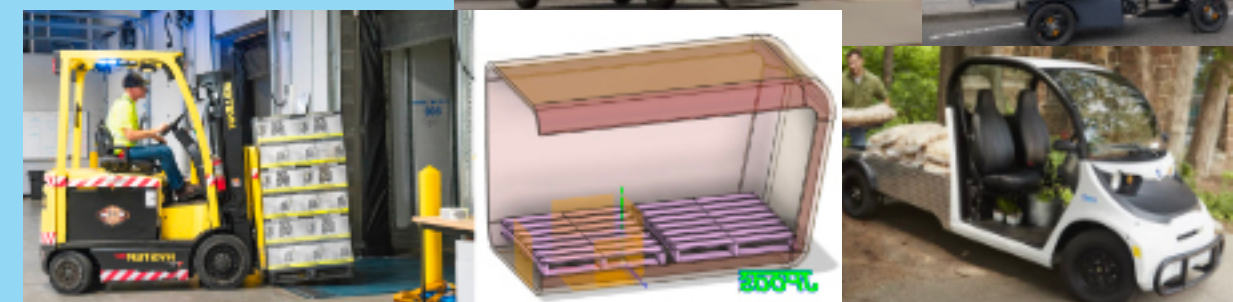
Middle Mile™  
JPods stream cargo,  
from railhead to neighborhood

## MIDDLE MILE SOLVED BY JPODS

JPods CargoPods™ reduce costs for Middle Mile™ transport by streaming cargo from railheads and airports to the neighborhood in packets.

We estimate that UPS, FedEx, Post Offices, grocery stores, and other neighborhood delivery points will pay to be connected to JPods stations.

There will similarly be local Ride-Hail supporting last-mile needs of people.



Many options exercised Bottom-up by people



Mom and Pop stores within walking and biking will again become common. They are provided last-mile delivery by Local Use Vehicles (LUVs).  
No more porch pirates; the entire internet can be pickup by you from a neighborhood store.





Transportation is the catalyst for changing energy systems

### THOMAS EDISON NOTED

1910: "Sunshine is spread out thin and so is electricity. Perhaps they are the same, Sunshine is a form of energy, and the winds and the tides are manifestations of energy... Do we use them? Oh, no! We burn up wood and coal, as renters burn up the front fence for fuel. We live like squatters, not as if we owned the property.... There must surely come a time when heat and power will be stored in unlimited quantities in every community, all gathered by natural forces. Electricity ought to be as cheap as oxygen...."

1931: "I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait 'til oil and coal run out before we tackle that."

## Within a Solar Budget

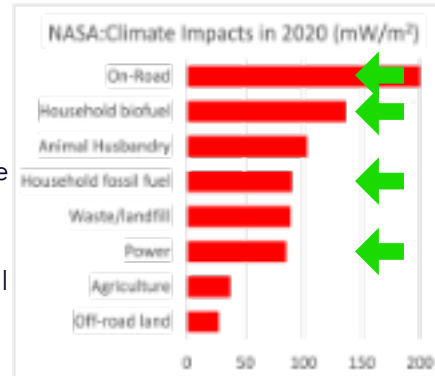
### CATALYST FOR CHANGING ENERGY SYSTEMS

Oil has been used sporadically for thousands of years. Building 216,000 mile of Railroad in the 1800's was the catalyst for changing energy systems from biofuels to fossil fuels. With transportation as a steady commercial customer, the fossil fuel industry scaled. High oil prices in 1850 stabilized by 1880's.



As JPods networks deploy 1 MW of solar collectors per mile of guideway on 500,000 miles of guideways, the cost of solar collection and microgrid storage will drop exponentially. Solar energy will replace most uses of fossil fuels, not just those in transportation.

NASA's list of primary drivers of Climate Change (On-Road, Household biofuel, Household fossil fuel, and Power) are all likely to be cut by 60-80% as manufacture to support JPods networks builds.



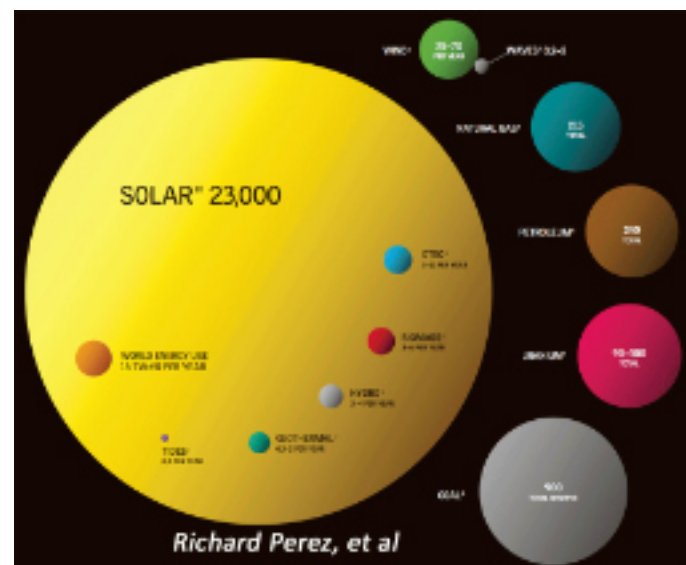
JPods networks will be the urban logistic capillaries.



Our guess that 500,000 miles of JPods networks will be needed. This guess is based on:

- ~1/16<sup>th</sup> the 8 million lane miles of roads.
- ~4 times the 140,000 miles of freight railroads

### EDISON WAS CORRECT



Richard Perez, et al

Edison is right, the sun is an incredible resource.

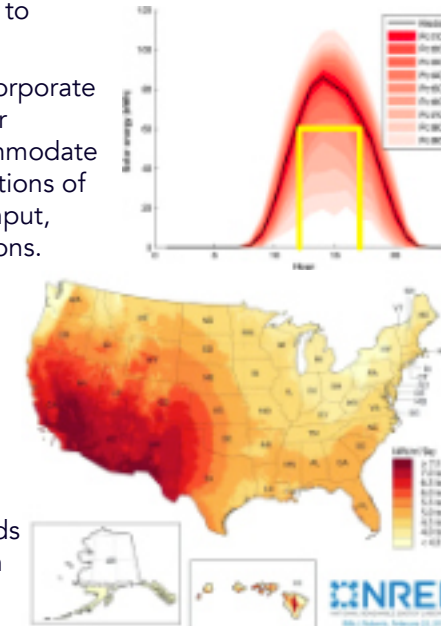
### "BUT THE SUN IS INTERMITTENT"

NO!! Only politicians who do not understand farming, science, or engineering think the sun is intermittent.

The sun is pretty constant. Life evolved adapting to a rotating earth, changing seasons, and weather. Trees do not die at night. Farmers do not lose their crops at night. Both must be attentive to the seasons. We can and must be self-disciplined to adapt.

At JPods, we incorporate microgrids into our networks to accommodate the normal fluctuations of collectable solar input, weather, and seasons.

We must accommodate the sun's normal distribution of power inputs and the inputs by geography.



In most cases JPods will deploy 1 MWh of solar collectors per mile of guideway. Collectors 4 meters wide over the guideway gather 25,000 to 65,000 vehicle-miles of power per mile per day.

The variabilities we experience can be simplified to "hours of noon-day sun." Instead of curves varying by day of year, time of day, and cloud cover, you have a single number based on where you are at.

### DO THE MATH

Solar inputs into the canopy over JPods guideway (link):

- 170-300 watts/square meter of solar collectors
- 4-5 hours of Noon-Day Sun
- Width of JPods collection array 4 meters
- 1609 meters per mile
- $170 * 4 * 4 * 1609 = 2,574 \text{ kWh/day/mile}$
- Sunshine provides 100%+ of JPods requirements:
- .1 kilowatts/vehicle-mile
- 25,000 vehicle-miles of power/mile/day

### 1936 - - TOP-DOWN ELECTRICITY

Defects of Federal Top-down planning since 1916 in highways was repeated in energy networks with The Rural Electrification Act of 1936. The Top-down plan favored centralized coal-burning power plants. It wiped out the wind industry that was making 80,000 windmills/year. Without a supporting industry 600,000 windmills were abandon over time.

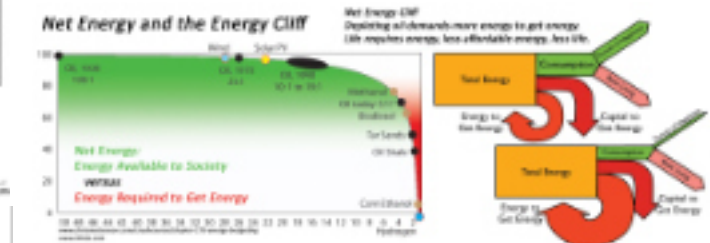
Renewables are now recovering with a Bottom-up deployment. Electricity from wind supplies 62% in Iowa, 34% in Oklahoma, 24% in Texas (link).

Climate Change is a consequence of unconstitutional Federal policies.

### LIFE REQUIRES ENERGY

Life requires energy. Yet our survival has been bound by Federal highway policies to depend on depleting oil and the central grid burning coal.

Net Energy is a critical metric of how much energy is available to the economy relative to how much energy must be expended to get that energy.



Plant a garden, pluck the weeds, water it, kill the bugs, chase away the rabbits and deer. At the end of the season harvest the food. Net Energy is how much food energy is harvested relative to the energy you expended to grow it.

In subsistence farming Net Energy is about 1.1: 1. Or you get about 10% more energy out than the energy you put in. That was the Net Energy in agrarian societies. It is the Net Energy of biofuels today.

### TOP-DOWN PLANS

By 1890, tools and skills had developed to extract oil with a Net Energy of 100:1. As the richest fields have depleted, the Net Energy has dropped. At Peak Oil in 1970 it depleted to 25:1. With fracking Net Energy is dropping below 5:1.

Oil is becoming more expensive and consuming more of its output to obtain the next barrel.

The Federal highway monopoly binds survival to oil whose Net Energy is decreasing exponentially. [Energy Economics](#).

Life requires energy. So, energy should be reported based on how many lives depend on that energy source.

### 5X5 STANDARD, BOTTOM-UP

In 2022, Macon, GA and the North Central Texas Coalition of governments have signed or voted to allow solar-powered mobility networks to be deployed. Solar has a Net Energy of 20:1. Solar's Net Energy will not decrease with consumption.

Hopefully in 2023 the first solar-powered transport networks will be built, and a cascade will follow.

It is 10X less expensive to exercise the self-discipline to be energy self-reliant. oil-wars and Climate Change result from Top-down, unconstitutional Federal plans put in place in 1916.

# 5X5 Standard

## ACTION

States and cities are sovereign over "internal improvements." The 5X5 Standard was created to document that states and cities are correcting a Federal usurpation of their sovereignty since The Federal-Aid Highway Act of 1916. Traffic congestion is a local problem created by unconstitutional Top-down Federal plans.

## BARRIER

In 1975, Congressional Study PB-244854, "Automated Guideway Transit" documents innovation has been blocked for "four to six decades" because of regulations (page 41).

Once governments violate Constitutions by implementing mercantile monopolies it is very difficult to correct their Top-down plans. The problem is not the corrupt barriers of vested interests resisting changes. It is the nature and purpose of government to minimize war and crime by coercing compliance with law. Innovation is a compliance failure. Ref: *Crossing the Chasm* by Geoffrey Moore ([link](#)).

## PROGRESS

Cities are leading on restoring liberty to innovate solutions to local traffic problems:

- Morgantown PRT's 2010 *Cost Benefit Analysis* documents the many benefits of the Morgantown PRT ([link](#)).
- Princeton University published a detailed plan for New Jersey ([link](#))
- The New Jersey Legislature passed a law requiring NJDOT to study PRT:
  - [Link to law.](#)
  - [Link to study.](#)
  - [Link to slide deck](#)
- Secaucus, NJ [passed the 5X5 Standard](#) but then NJDOT blocked crossing state highways, killing the funding which had been committed.
- Shaxian, China [signed the full franchise agreement](#) and is waiting for the US manufacturing base to be established.
- Macon, GA has [signed the full franchise agreement](#) but will not pass it until capital raised. Capital will not invest if the city is not committed.
- The North Central Texas Coalition of Governments [voted to allow cities of the DFW](#) area to request and build JPods, Transpod, and SwyftCities networks. Efforts are underway with cities to sign franchise agreements.
- Atoka, OK has [signed the 5X5 Standard Memorandum of Understanding \(MOU\)](#) to build a JPods network.



- Pending, [Massachusetts Legislature, S.2159](#), An Act relative to solar-powered mobility networks

## STATES AND LOCAL GOVERNMENTS

State are sovereignty over "internal improvements" and approximate 34 specifically forbid the government transportation monopolies we have today.

Federalist #45 (Madison): "The powers delegated by the proposed Constitution to the federal government are few and defined. Those which are to remain in the State governments are numerous and indefinite. The former will be exercised principally on external objects, as war, peace, negotiation, and foreign commerce; with which last the power of taxation will, for the most part, be connected."

"The powers reserved to the several States will extend to all the objects which, in the ordinary course of affairs, concern the lives, liberties, and properties of the people, and the internal order, improvement, and prosperity of the State."

**Arkansas:** Article 2, Bill of Rights, 19. "Perpetuities and monopolies. Perpetuities and monopolies are contrary to the genius of a republic, and shall not be allowed; nor shall any hereditary emoluments, privileges or honors ever be granted or conferred in this State."

**Georgia:** Article I, Bill of Rights, Section VI, Paragraph V: "Shall not have the power to authorize any contract or agreement which may have the effect of or which is intended to have the effect of encouraging a monopoly, which is hereby declared to be unlawful and void."

**Maryland:** Article. 41. "That monopolies are odious, contrary to the spirit of a free government and the principles of commerce, and ought not to be suffered."

**Massachusetts,** Article 6: "No man, nor corporation, or association of men, have any other title to obtain advantages, or particular and exclusive privileges."

**North Carolina:** Article 1, Sec. 34. Perpetuities and monopolies. "Perpetuities and monopolies are contrary to the genius of a free state and shall not be allowed."

**Oklahoma:** Article II, Bill of Rights, SECTION II-32. "Perpetuities and monopolies are contrary to the genius of a free government, and shall never be allowed, nor shall the law of primogeniture or entailments ever be in force in this State."

**Texas:** Article 1, Bill of Rights, Sec. 26. PERPETUITIES AND MONOPOLIES; PRIMOGENITURE OR ENTAILMENTS. "Perpetuities and monopolies are contrary to the genius of a free government, and shall never be allowed, nor shall the law of primogeniture or entailments ever be in force in this State."

**Wyoming:** Art. 1, 30. Monopolies and perpetuities prohibited. "Perpetuities and monopolies are contrary to the genius of a free state, and shall not be allowed."

## REGULATORY CERTAINTY

The 5X5 Standard does for transportation what the courts did for communications in 1982. Technically, no new regulation is required. Constitutions requires free markets. However, as with the Internet, few will invest without knowing government will honor constitutions. The 5X5 Standard is a means to affirm constitutions.

Federalist #62 (Madison): "What prudent merchant will hazard his fortunes in any new branch of commerce when he knows not but that his plans may be rendered unlawful before they can be executed? What farmer or manufacturer will lay himself out for the encouragement given to any particular cultivation or establishment, when he can have no assurance that his preparatory labors and advances will not render him a victim to an inconstant government? In a word, no great improvement or laudable enterprise can go forward which requires the auspices of a steady system of national policy."



## 5X5 STANDARD

### WhereAs:

1. Mobility is physical liberty. Access to mobility should be equitable and sustainable.
2. Traffic congestion, pollution, and rising gasoline prices require liberty to innovate solutions.
3. The Boston Tea Party was a demonstration against a government transportation monopoly that triggered a war. To prevent Federal monopolies the US Constitution enumerates a limit of "post Roads" with "No Preference" in the facilities of commerce of one state over another; and,
4. (Example citing of state constitution) The Oklahoma Constitution forbids transportation and other monopolies: Article II, Bill of Rights, SECTION II-32. "Perpetuities and monopolies are contrary to the genius of a free government, and shall never be allowed, nor shall the law of primogeniture or entailments ever be in force in this State."

### Therefore:

The FRANCHISE AGREEMENT implements a 5X5 Standard, restoring liberty to innovate transportation networks in free markets:

- Network construction must be privately funded.
- Networks operate without government subsidies.
- Networks must exceed 5 times the efficiency on existing roads (125 mpg or equivalent energy efficiency).
- Networks pay 5 percent of the gross transportation revenues to the aggregate rights-of-way holders.
- Networks exceed safety performance of transportation modes already approved for use in the Rights of Way.
- Networks (optional) gather more than 2 megawatt-hours of renewable energy per network mile per typical day.
- Governments will grant Rights of Way access using the existing Rights of Way policies for communications and energy networks.
- Governments will use existing state laws to regulate safety of grade-separated guideways. Networks must be designed, fabricated, installed, insured, and inspected in compliance with existing Oklahoma Department of Labor (generally ASTM International F24). This provides a 3,000X better safety record than roads.

## JPODS SPECIFIC MOU FOR JPODS TO INVEST IN A CITY:

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is entered into as of the \_\_\_\_\_, by and between the CITY OF \_\_\_\_\_, (CITY) and JPods LLC. (JPods), or assigns ("TBD"), each Party" and collectively the "Parties."

This MOU is intended to enumerate the general terms for the future FRANCHISE AGREEMENT ([link](#)) to implement JPods patent for solar-powered transportation networks. This MOU is non-binding on the Parties. Patent aspects:

- Grade-separated networks of self-driving cars: "A method of controlling a transportation System for moving people, freight, and any combination whereof using a distributed network of intelligent devices without requiring the aid of a human driver."
- Solar-powered mobility networks: "The method... providing... Solar and wind power generators integrated into the physical Structure of Said transportation System.... (Insert the 5X5 Standard from above)

## FULL FRANCHISE AGREEMENT:

This agreement is based on those currently used by cities for granting access to cell towers, communications, and energy networks ([link](#)).

# ROI

We at JPods are working class people. We cannot afford anything that does not have a return on investment. We must justify each project to capital funding sources.

Lucky for us, JPods networks are competing against a Top-down highway monopoly put in place in 1916 that is 188 times less efficient than railroads. JPods provide multiple 10X ROI by approaching freight railroads efficiencies and achieving theme park safety.

## START WITH WHAT IS KNOWN

At JPods we start by focusing on what we know can be achieved:

- The 140,000 miles of freight railroads are 188 times more efficient than roads. They average 470 ton-mpg while we move a 200 pound person at 25 mpg on roads. Note that Top-down Federal planners replaced 45% of railroads with roads since 1916. Roads are the primary driver of Climate Change.
- 3,000 times better safety record is required to comply with ASTM-International F24 standards. This is the standard used by most state governments to enforce safety on grade-separated thrill rides. Improving safety lowers costs.
- Average car costs about [\\$9,282/year](#) and is [parked 95% of the time](#).
- 85% of car costs drain out of the local economy.
- Traffic costs Americans approximately \$2.76 trillion/year. 69% of those costs are urban. So, the US urban transport market is \$1.9 trillion/year. Bikes and walking will likely replace 80% of trips less than 2 miles. Still, the market is very large with many niches, such as around airports having very high rates of return.
- [Study from Harvard](#) estimates the per car cost to the economy at \$14,000/year. Once free markets are restored, it will be easy to compete against the current level of waste.

## LAND USE (LINK)

JPods networks will change real estate values just as railroads and transit have done.

- Each car is allocated about 2,642 square feet of real estate (% of lane-miles and 3.4 parking spaces, [link](#))
- Highways are profligate land use.



## OPERATING COSTS (LINK)

In a car we are repeatedly accelerating and braking while moving 2-tons to move a person; mass transit moves 2-3 tons per person.

- Grade-separating the guideway by building above roads and automating with robots simplifies the ability to move people and cargo non-stop from origin to destination.
- Grade-separation simplifies the technology and preempts most safety problems experienced on roads.
- Suspending the vehicle from the guideway removes 75% of the Parasitic Mass. Replace the 2-ton car with a 500 pound pod.

Removing repetitive start-stop and cutting the mass 75% reduces cost per passenger-mile to nearly freight railroad efficiencies in cities.

Efficiencies provide 10-50X lower operating costs.

## CARGO COSTS

JPods networks cannot provide last-mile. But no other form of urban transportation can match the low operating cost of JPods' Middle Mile™ delivery between warehouses and neighborhoods. Cargo can be sorted at warehouses before being streamed to neighborhoods.



## CAPITAL COSTS

Driving down the vehicle mass constrains capital costs:

- Light rail averages \$202 million/mile in the US ([link](#)).
- Urban roads cost \$8-10 million/mile. This does not include the capital cost of the car nor that cars are parked 95% of the time. A typical \$1 billion suburban JPods network would replace \$1.3 billion in cars and save \$120 million/year in gasoline costs (7-10 year payback). This is a mesh network of 1-2 miles between guideways.
- JPods cost \$20 million/mile and are privately funded. Example costs:
  - Stations with elevator, 1-2 each mile at \$2 million each.
  - Piers, 33.3, \$47,000.
  - Truss, 33.3, \$130,000.
  - Pods, 12, \$18,000.
  - Solar, 4 meters wide, \$1.7 million.
  - ...Construction and other costs.

## HEALTH (LINK)

- In 1969 48% of children walked to school. This has dropped to 11% ([link](#)). Children who bike to school are 22 times more likely to be injured by a car.
- Obesity in children increased 500% since 1963 ([link](#)).
- Roads is the leading cause of death Americans between 1 and 54 years old ([CDC link](#)).
- These are just a few examples of vast health costs caused by Top-down highway designs.

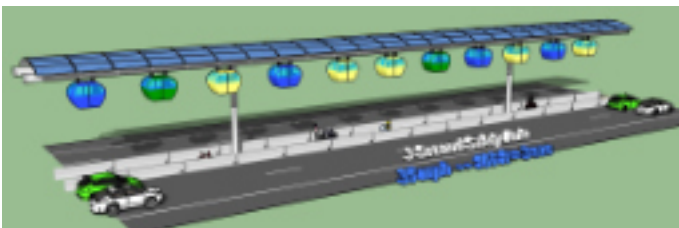
## CAPACITY

What is most important to the Prime Law of Networks is the number of interconnected nodes. Number and proximity of stations and frequency of availability drive quality of service. But this is not how mass transit network capacities are usually compared.

Because passenger loads vary radically by time to time and by location, for comparison, we use seats per hour:

- Trains with 1,000 seats every 6 minutes move 10,000 seats per hour. In the middle of the night most seats are empty, or they are shut down.
- Buses with 50 seats every 5 minutes move 600 seats per hour. Buses have the same defect of having to cut service or move with empty seats.
- Cars with 4 seats and 3 seconds between cars move 4,800 seats per lane per hour.
- JPods with 4 seats and .5 second between pods (6 meters between vehicles, 20 feet) move 28,800 seats per hour.

Paybacks are generated by JPods high capacity, personal on-demand service, not moving empty seats when there is no demand, and 24x7 service.



## CO2 SAVINGS

Europe cut oil use by 60% below the US between 1973-1988 using bikes, walking, and transit. A \$1 billion JPods network servicing a city with 100,000 cars, roughly, Macon, GA, can achieve the same outcome in 6 years. Following is summary of current costs and savings.

100,000	Cars in Network
\$28,000	Car Value ( <a href="#">link</a> )
\$2,800,000,000	Car capital value
\$648	New Car Payment per month ( <a href="#">link</a> )
\$503	Used Car Payment per month ( <a href="#">link</a> )
0.80	Capital savings factor
13,476	mile per year per car ( <a href="#">link</a> )
1,347,600,000	mile per year
24.9	miles per gallon ( <a href="#">link</a> )
54,120,482	gallons of gas
19.6	pound CO2 per gallon ( <a href="#">link</a> )
1,059,679,036	pounds of CO2
2,205	pounds per metric ton
480,663	metric tons of CO2 per year
0.79	pounds of CO2 per car mile
\$3.758	Gasoline \$/gal
\$2.49	2020, Carbon Credit price per ton ( <a href="#">link</a> )

	Change car-miles	CO2 Savings in tons	Carbon Credits	Gasoline savings	Capital savings
10%	134,760,000	48,066	\$119,685	\$20,338,477	\$224,000,000
20%	269,520,000	96,133	\$239,370	\$40,676,954	\$448,000,000
30%	404,280,000	144,199	\$359,055	\$61,015,431	\$672,000,000
40%	539,040,000	192,265	\$478,740	\$81,353,908	\$896,000,000
50%	673,800,000	240,331	\$598,425	\$101,692,386	\$1,120,000,000
60%	808,560,000	288,398	\$718,110	\$122,030,863	\$1,344,000,000
70%	943,320,000	336,464	\$837,795	\$142,369,340	\$1,568,000,000
80%	1,078,080,000	384,530	\$957,480	\$162,707,817	\$1,792,000,000

## TIME

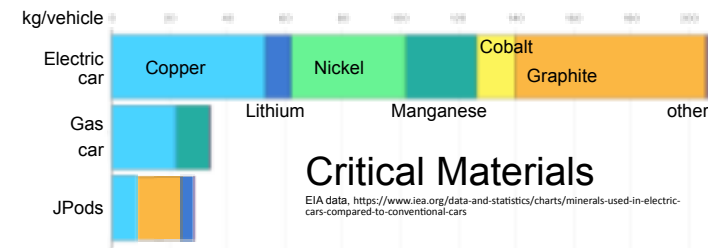
People in major U.S. cities wait approximately 40 minutes per day for public transit, costing them 150 hours per year, according to a new report by leading public transit app Moovit. This accounts for 31% of their commute time ([link](#)).

No waiting, JPods networks provide on-demand, personal service. The ability to carry bikes and scooters in the pod facilitates last-mile mobility. This quality of service and ability to integrate with micro-mobility reduces the miles of guideways required while still providing a high quality of service.



# Critical Metals

Shortages of critical metals is often cited as THE barrier to electrically powered transportation networks. There



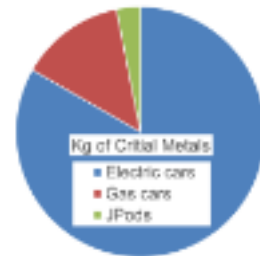
## Critical Materials

EIA data, <https://www.eia.org/data-and-statistics/charts/minerals-used-in-electric-cars-compared-to-conventional-cars>

are approximately 278 million cars in the US that would require 6 times more Critical Metals.

This Critical Metals issue is a "red herring," a misleading clue for multiple reasons:

1. It assumes that highways are the required network. The purpose of the book is to show that alternative networks to highways provide multiple 10X savings over highways.
2. It ignores the case study provided by Sweden and Denmark following the 1973 Oil Embargo (page 27). Prior to the 1973 Oil Embargo road designs in the US, Denmark and Sweden were car-centric. Policies in all three countries required the same oil consumption of 43 MWh per person per year. Following the 1973, US policies continued sprawl while Denmark and Sweden redesigned roads to be walkable and bikeable. Over the next 15-50 years, with similar economic outcomes as in the US, road designs and transit improvements reduced per capita oil consumption in Sweden and Denmark by 60%.
3. It ignores the success of the [Morgantown PRT](#).
4. It ignores findings of Congressional Study [PB-244854](#), "Automated Guideway Transit."
5. It assumes personal cars that are [parked 95% of the time](#), active 5% of the time. Estimating that JPods shared vehicles will only be parked 25% of the time. Critical Metals required for Jpods are 22.8% of what is required for conventional gas cars and 3.7% of what is expected for electric cars.



- It assumes that people can afford to replace their cars. Newsweek published an article that [60% of Americans cannot afford a new car](#). Barron's published that [65% of Americans live "paycheck to paycheck."](#)

## DESIGN TO MEET NEEDS

Approximately 93% of urban trips are less than 25 miles. Highways mandate 2-ton cars with 300 mile range. Highways are the wrong network. 2-ton cars are the wrong devices.

JPods Mesh Networks™ of grade separated, ultralight vehicles are designed to meet the need for trips less than 25 miles. Reducing vehicle mass by 75%, and eliminating repetitive start-stops cuts power requirements by 95%.

A 50 mile range with swapped batteries at stations meets the need with radically lower Critical Metal requirements.

## SCALE OF THE EFFORT CREATES RISKS

Although the Critical Metals required for JPods are smaller than electric or gas cars, the scale of the effort is huge and requires attention.

[Approximately 260,000 miles of railroads were built](#) in the late 1800s. A wild guess is that 500,000 miles of JPods and other podcar networks will be built over the next 8-12 years. This is about:

- ~1/16th the 8 million lane miles of roads.
- ~4 times the 140,000 miles of freight railroads.

Privately funded at \$20 million per mile, this is roughly \$10 trillion. These digital transport networks seem expensive until compared with analog highways:

- Current traffic costs are \$2.76 trillion/year.
- \$.8 trillion/year defending access to foreign oil.

As a rough estimate of how many podcar are required:

- There are approximately 278 million cars in the US.
- [69% of car-miles are in cities.](#)
- [73% of Americans commute to work in cars.](#)
- Roughly, 70% of US cars equals 200 million cars.
- Cars are parked 95% of the time. So if cars were in use 100% of the time only 5% of cars would be required, or 10 million cars.
- Podcars can be shared, but will likely require 5 times 100% utilization to account for rush hours. So it is likely that 50 million podcars will be required.

Although there are multiple 10X savings in podcar networks, the scale of the effort requires focus on the logistics required. Retooling is not trivial.

## LOCALIZING SUPPLY CHAINS

The [Dallas Fed indicates an oil supply crisis](#) similar to 2008 is likely to start in 2025, Critical Metals and supply chains create a risk to retooling sustainable networks. It seems important that we:

- Exercise the self-discipline to be energy self-reliant.
- Get our supply chains under our own feet.
- Create and train people for jobs.

Cities allowing innovation will attract innovators and investors to locate manufacturing facilities in your city.

## MESH NETWORKS: COLLIN COUNTY TEXAS

Networks will likely start at airports, connecting hotels, to car rental, to terminals, to parking, to trains, etc...

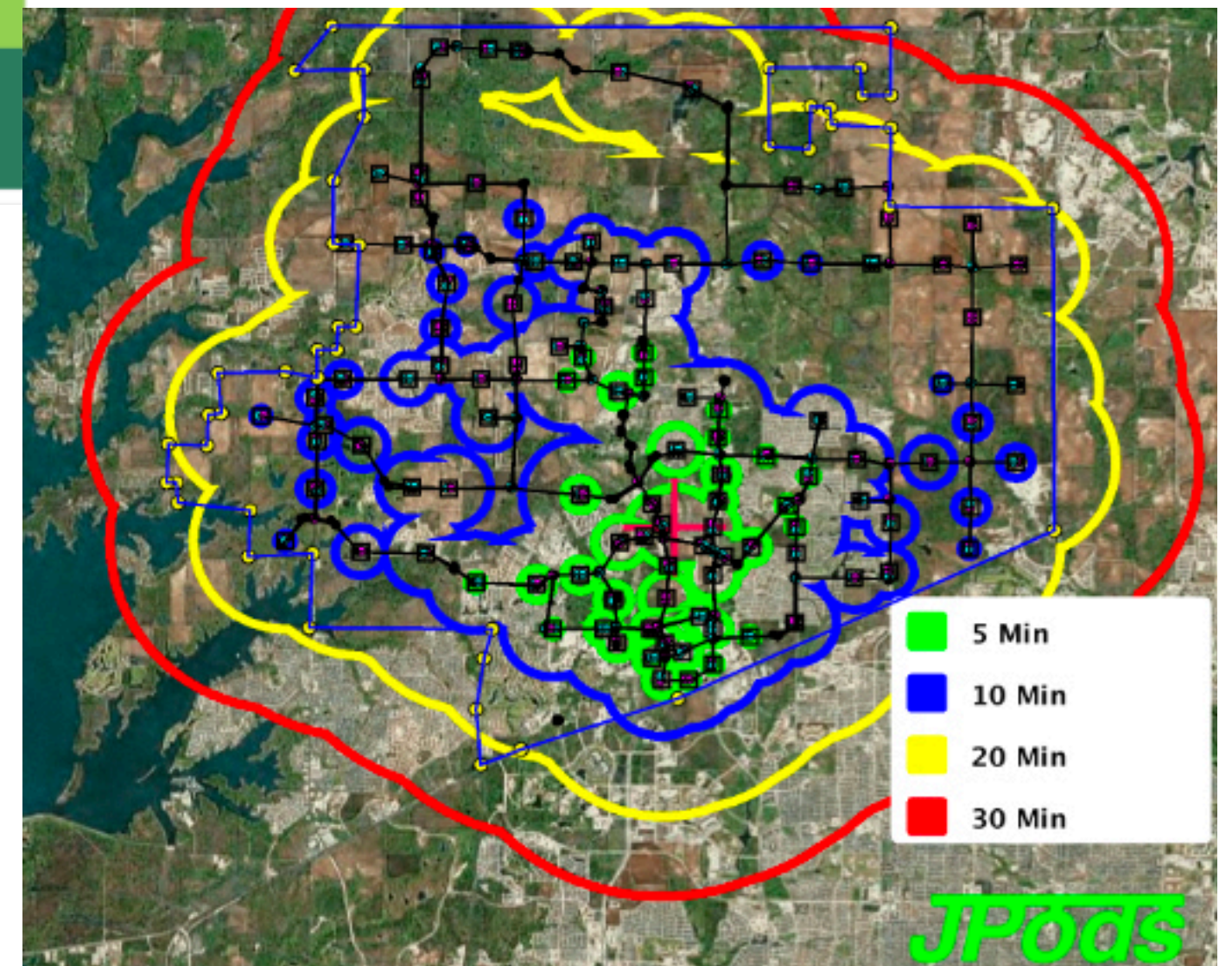
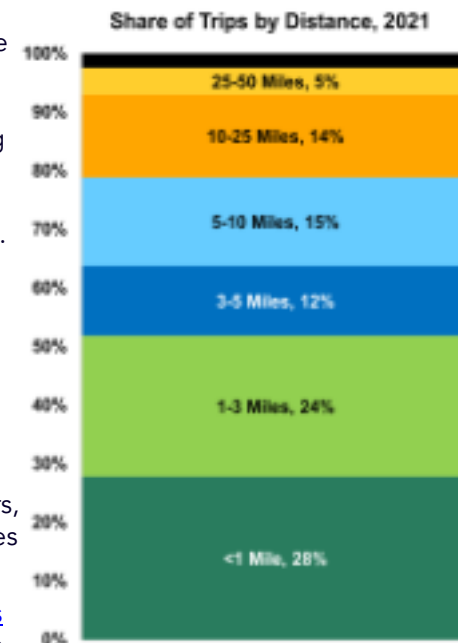
Sustainability requires networks quickly expand to convert car-centric cities into walkable cities.

[Collin County, Texas has 912,175 cars registered](#) to 383,675 households, 2.4 cars per household, population of 1.1 million. Frisco' population is 210,000, 20% of Collin County. Frisco is currently car-centric. Below is an 11 mile by 11 mile Route-Time™ map of an 85 mile JPods Network designed for Frisco, TX ([link](#)).

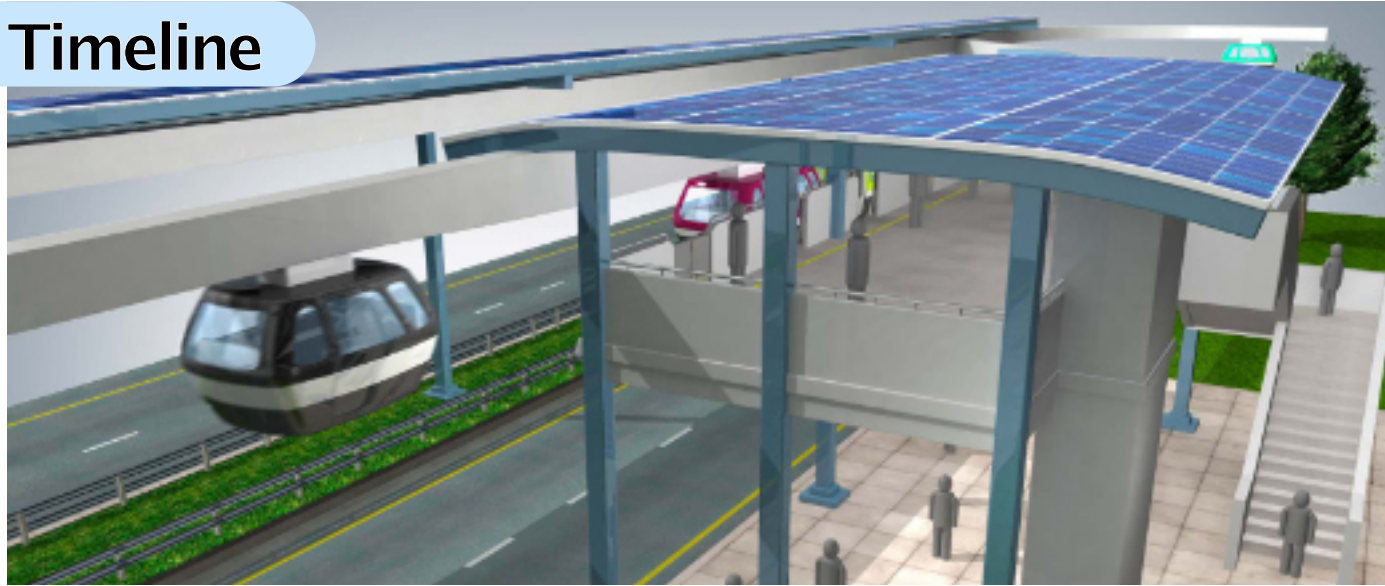
JPods are not an exact replacement for the car. JPods take people between neighborhoods, not door to door. They connect walkable areas to walkable areas. In residential areas, stations are generally within 1/2 mile of most houses. Last-mile mobility will be provided by walking, bikes, scooters, ride-hail, golf carts and other last-mile alternatives. JPods are the WiFi, not the Bluetooth of the Physical Internet. These "mesh networks" provide access at a fraction of miles and cost of roads.

In the map below, from the Red Cross, time required to walk/bike to a station, traveling on the network to another station, and walk/bike from that station is illustrated in colored circle around each station. Most places in Frisco would be accessible within 20 minutes, 24x7, without a car. There is no waiting at stations, no riding with strangers. This level of service is expected to reduce car-miles by 60% and increase pedestrian/bike safety by 400%.

The networks are adaptable and can be added to or removed based on the wants and needs of customers. Networks in all Collin County cities can be connected, expanding the value of each.



# Timeline



## INITIAL BUILD

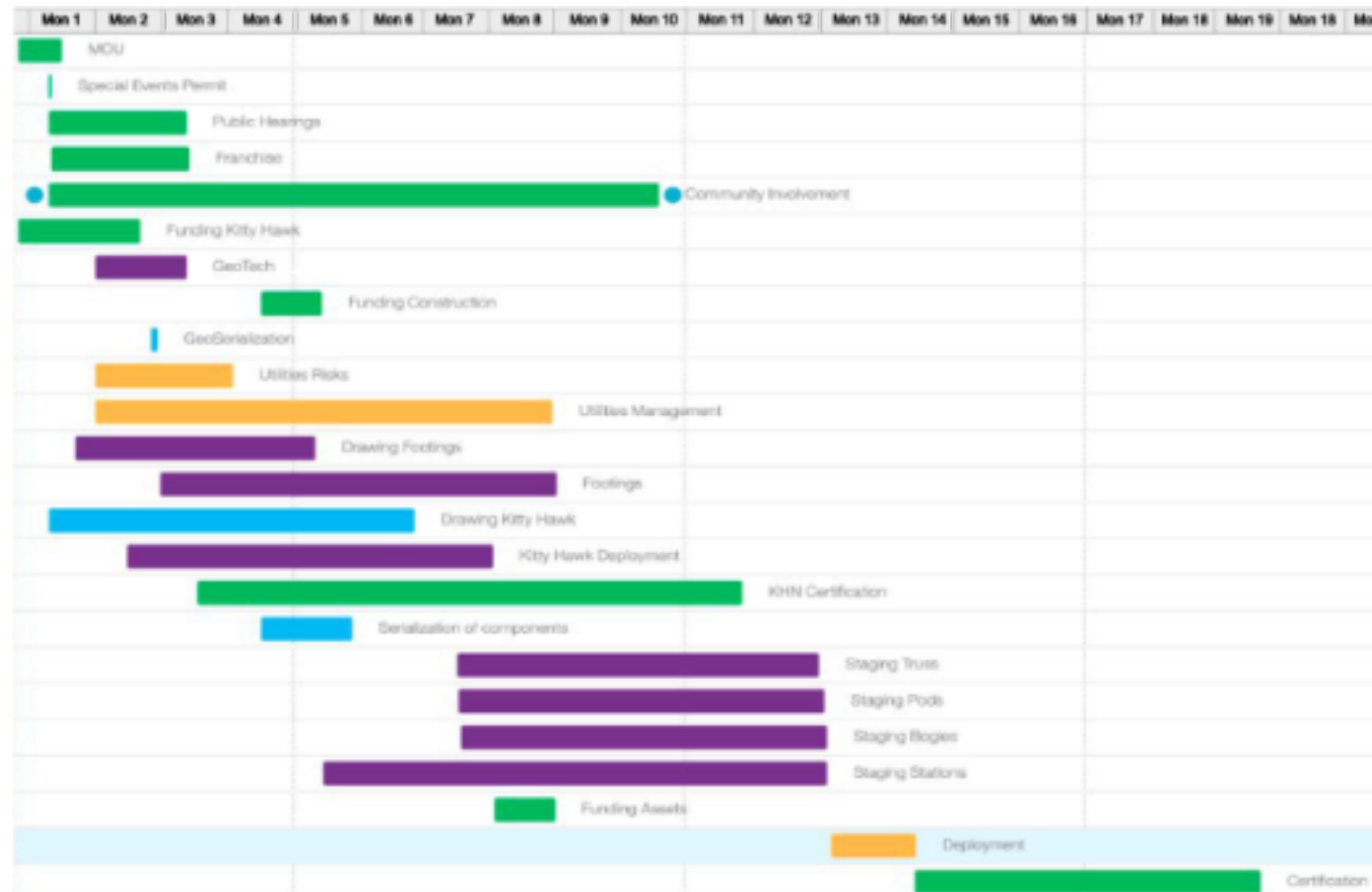
There is a need to organize and ramp up the supply chain. The initial build will take about 18 months under normal costs. This can be accelerated at additional costs.

As the supply chains come up to speed, network construction will take about 9 months from survey to certification. Crews building the Transcontinental Railroads in the 1860s were thousands strong spread over a similar 9 month and moving at about 3 to 10 miles

per day. The railroads had 2 crews. JPods will have many crews.

Between building JPods networks and JPods networks making it safe to walk and bike, US oil use in cities can be cut by 60% in 6 years.

Climate Change objectives can be achieved while cutting costs by 10X. Solving Climate Change is less expensive than the unconstitutional, oil-powered Federal Highway monopoly. Pollution is lost profits.

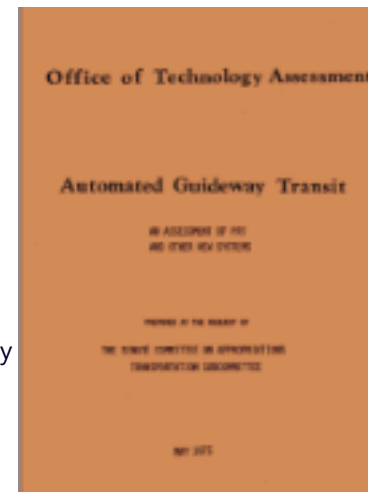


## KNOWN COST OF REGULATION

Following the 1973 Oil Embargo Congress initiated a study for solutions, PB-244854, "Automated Guideway Transit."

As its name implies, it found that:

- Automated guideway transit networks such as the Morgantown PRT were the solution to both urban traffic problems and the hardships of the Oil Embargo.
- "Proponents of PRT view this concept as a reasonable supplement to the private automobile in high density urban areas and claim that PRT can provide a very much higher level of service than other modes of public transportation. Thus, it is argued that PRT systems would attract a significant percentage of the rides now being made in private automobiles and offer obvious benefits."
- "institutional failures" blocked urban transportation innovation for "four to six decades (aside from some relatively minor cosmetic changes)... Compared with many other areas of entrepreneurial endeavor, the environment for innovation in transportation should be favorable. Urban transportation needs are extensive... In retrospect, the new systems efforts have served not to stimulate interest in new technology but to discourage already reluctant local transit operators from considering it."



## TRAFFIC

Traffic and energy issues cited in this 1975 study are the same traffic and energy issues we face today. Federal "institutional failures" caused a century with the 25 mpg efficiency of the Model-T.

## BREAKING REGULATORY BARRIERS

State regulations for grade-separated rides (ASTM F24) provide a known cost of regulating, existing insurance industry, existing enforcement agencies, existing inspection industry, and a safety record 3,000 times better than roads.

Regulating safety using this standard is fundable.

Rights of Way regulations for cell towers and other networks that serve the public good are used.

## NEW TAX REVENUE SOURCE

As with communications networks, Networks pay 5% of gross revenues for non-exclusive use of Rights of Ways granted. As 50% car traffic is replaced by JPods, for every 100,000 cars a new source of local government revenues of \$12-22 million/year is expected to evolve.

# Private Funding



## FUNDING AND CONSTRUCTION PROCESS

Pods funding of projects is very similar to houses and hotels. Construction funds are used by construction companies to build. The certified guideways are then sold to operating companies to service customers. There are four basic steps in this funding cycle:

1. Define a project and the Franchise Agreement for Rights of Way and safety certification.
2. The construction company, JPods Mobility Company, builds the network.
3. JPods LLC certifies the operational networks complying with defined regulations.
4. The Local Mobility Company® buys and operates the certified networks (local ownership).

Praetor Capital in 2021, [estimated the PRT industry capital value at \\$31-58 billion.](#)

Goldman Sachs provided a Letter of Interest for funding JPods networks. Each project must justify itself.



# 10X Benefits

A paradigm shift requires a 10 times benefit, "10X."  
Benefits greater than 10X are generally listed as 10X.

Costs	Cars/Mass Transit	JPods	Times	Background
Capital, light rail	<a href="#">\$202</a>	\$20	10X	\$million per mile to build light rail verses JPods
Car costs	<a href="#">\$9,282/year</a>	0	10X	JPods provide Mobility As a Service.
Operating, \$/mile	<a href="#">\$0.72</a>	.04¢	10X	
Traffic accident costs/American/year	<a href="#">\$1,035</a>	\$0.00	10X	<u>Morgantown's PRT has had no serious injuries in 50 years. Roads have 2.2 million serious injuries per year.</u>
Injuries/million people/year	<a href="#">11,200</a>	3.7	10X	Injury count compares roads regulated by US DOT and grade-separated rides regulated by states (ASTM-International F24).
Drain on economy	<a href="#">85%</a>	15%	5X	Source: Walkable City identified that 85% of money spent on cars leaves the local economy
Parasitic Energy Ratio (PER)	140	6	10X	Burning energy moving two tons to move a person is the Root Cause of Climate Change and oil-wars. PER is a ratio of the Moving Mass divided by Payload Mass times the applications of power (start-stops). It is not a precise metric, but an easily calculated ratio.
Capacity, Cars	4800	28,000	6X	*4 seats every 3 sec for cars and .5 sec for JPods
Capacity, Bus	600	28,000	10X	*Bus 5 minutes apart with 50 seats verses JPods
Capacity, Trains	10,000	28,000	3X	*Trains 6 min apart with 1,000 seats verses JPods
<b>Equity</b>				
Access	Own a car	Everyone	10X	
<b>Environmental</b>				
Pollution per passenger-mile	<a href="#">avg .5 pound</a>	0	10X	Reduction to zero from about .5 pounds of CO2 per passenger-mile by cars, buses, and trains.
Land Use	2,642	29	10X	Square feet per vehicle.
<b>Security</b>				
Oil-wars	<a href="#">\$8 trillion</a>	0	10X	Iraq and Afghanistan Wars
Trade Deficit	<a href="#">\$861 billion</a>	Exporter	10X	2006 Trade Deficit for cars and oil
Threat to dollar	Root Cause	0	10X	Foreign oil addiction weakens the dollar
Peak Oil	Root Cause	0	10X	US Peak Oil was in 1970
Climate Change	Root Cause	0	10X	Mobility within a solar budget



# Conclusion

## SOLUTIONS

Restore Bottom-up liberty to innovate the general welfare.

Mobility is physical liberty, the ability to go where you want, when you want regardless of age, ability or wealth.

Mobility must be sustainable and equitable.

## RESTORE BOTTOM-UP FREE MARKETS

Cities and states are sovereign over "internal improvements." Adopting 5X5 Standard allows privately funded transport networks 5 times more efficient than roads to compete with road for 5% of gross revenues.

## 6 YEAR OBJECTIVE

- A 60% reduction in car-miles by a combination of riding in JPods , walking and biking.
- A 60% reduction in transportation costs.
- A 400% improvement in pedestrian safety.

## 10X BENEFITS

- It is 10 times less expensive to solar-power urban transportation networks.
- Private funding will pay for retooling.
- Cleaner, faster, safer, affordable.
- 24x7 Service.
- Personal, on-demand.
- Energy security.
- Walkable communities.

## PROBLEM: CIVILIZATION KILLERS

Life requires energy. Affordable oil is ending. Civilizations collapse exponentially when the energy powering them destabilizes the Upside-down nature of the economy.



## END OF AFFORDABLE OIL

US Peak Oil was in 1970. Since Peak Oil, oil prices have destabilized. The banking collapse of 2008 is repeating. Dallas Fed's 2022 survey on the future supply of oil ([link](#)) indicates that unaffordable oil will return in 2024.

## MERCANTILE MONOPOLY - CLIMATE CHANGE

Unconstitutional Top-down Federal highway policies:

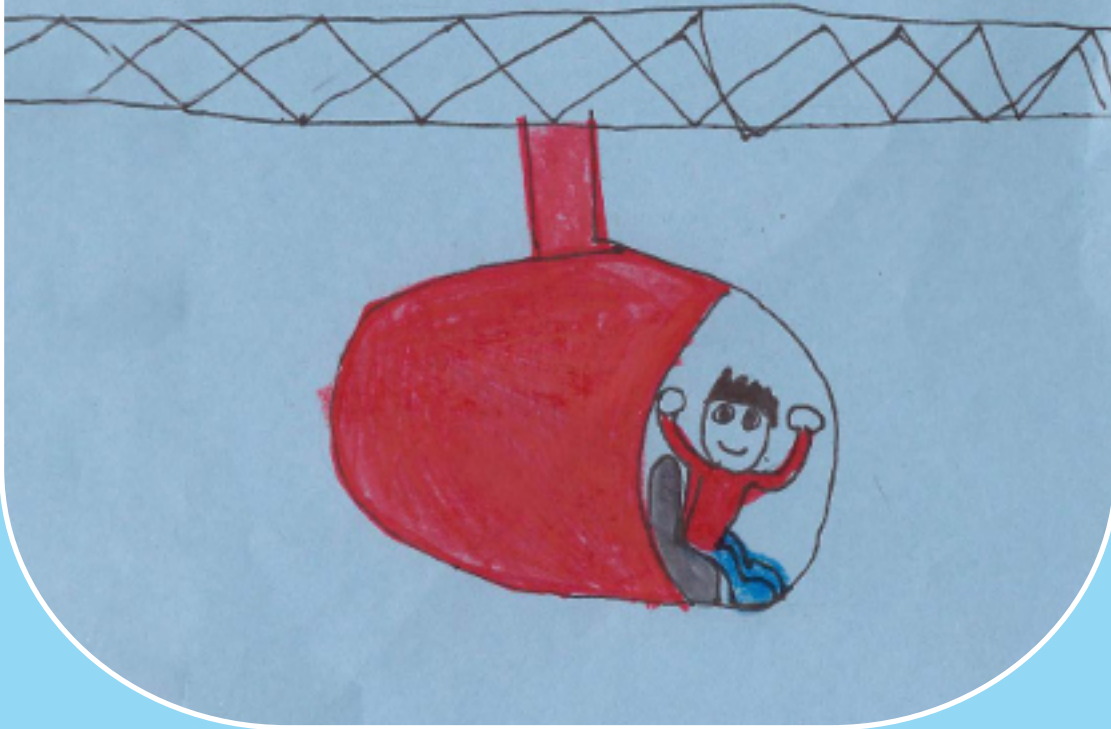
- Created the sprawled road designs that make American cities unwalkable and kill pedestrians at 4 times the rate in Europe.
- Created the profligate consumption of oil, foreign oil addiction, and mandates oil-wars.
- Created \$33 trillion in Federal debt.
- NASA identified highways as the current primary driver of Climate Change ([link](#)).

## CHANGING WORLD ORDER

Federal empire policies required for oil-powered highways is repeating the collapse of empire pattern as explained by Ray Dalio in his book *Changing World Order* ([link](#)).

The diagram consists of two inverted triangles. The left triangle is blue and labeled 'Top-down - Orderly - Fast' with 'Plan based' below it. It contains the text 'Actions proceed from compliance to plan' and 'Orderly' and 'Fast'. The right triangle is green and labeled 'Bottom-up - Messy - Durable' with 'Wisdom of the Many - Experience based' below it. It contains the text 'Durable', 'Messy, iterative, small bets', and 'Actions depend on liberty: tolerance of Disruptive Minorities offering choices and tolerance of the Wisdom of Crowds sorting choices in free markets and free speech'.

Thank you!



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Unhappy with traffic?

Look at what we are doing and provide your improvements, corrections, and/or alternatives.

