# AFFIRMATIVE

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### Observation One – the environment

#### Global warming is real & human caused – catastrophes are coming. Decreasing fossil fuel use & other emissions from transportation is key.

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Lee Chapman, Transport and climate change: a review, Journal of Transport Geography, Volume 15, Issue 5, September 2007, Pages 354–367

1.1. Climate change

Natural forces ensure that the Earth has experienced a changing climate since the beginning of time. However, during the last century, anthropogenic (human) activity has threatened significant climate change over a relatively short time period (Karl and Trenberth, 2003). The term ‘global warming’ is well documented and refers to the measured increase in the Earth’s average temperature. This is caused by the build-up of key greenhouse gases in the atmosphere accumulated from continual combustion of fossil fuels and landuse changes over the 20th century (Weubles and Jain, 2001). The anthropogenic signal has now become increasingly evident in the climate record where the rate and magnitude of warming due to greenhouse gases is directly comparable to actual observed increases of temperature (Watson, 2001). Any change to the composition of the atmosphere requires a new equilibrium to be maintained; a balance ultimately achieved by changes to the global climate.

Radiative forcing, the change in the balance between incoming solar radiation and outgoing infrared radiation caused by changes in the composition of the atmosphere, is investigated by using global climate models (GCMs) that represent the interactions of the atmosphere, land-masses, oceans and ice-sheets. By predicting how the global climate will respond to various perturbations, projections can be made to determine how global climate will change under different conditions. Under the six illustrative emission scenarios used by the IPCC (Intergovernmental Panel on Climate Change), CO2 levels are predicted to increase over the next century from 369 parts per million, to between 540 and 970 parts per million (Nakicenovic and Swart, 2000). This translates to an increase in globally averaged temperatures of between 1.4 and 5.8 °C (Watson, 2001), in turn leading to an increase in extreme weather events and a rise in sea levels. However, predictions made with GCMs need to be viewed with caution (Lindzens, 1990), as they are an oversimplification of what is a complicated and dynamic system. Indeed, the large number of emission scenarios considered underlines the uncertainty in making predictions so far into the future as it is unclear as to what extent technological and behavioural change will help the situation. Nevertheless, the growth in CO2 emissions is unsustainable and will soon exceed the level required for stabilisation (currently estimated to be in the region of 400–450 parts per million; Bristow et al., 2004). Furthermore, the radiative forcing experienced from CO2 today is a result of emissions during the last 100 years (Penner et al., 1999). It is this inertia that means that some impacts of anthropogenic climate change may yet remain undetected and will ensure that global warming will continue for decades after stabilisation.

1.2. The role of transport

Oil is the dominant fuel source for transportation (Fig. 1a) with road transport accounting for 81% of total energy use by the transport sector (Fig. 1b). This dependence on fossil fuels makes transport a major contributor of greenhouse gases and is one of the few industrial sectors where emissions are still growing (WBCSD, 2001). The impact of transport on the global climate is not limited to vehicle emissions as the production and distribution of fuel from oil, a ‘wells to wheels’ approach, produces significant amounts of greenhouse gas in itself ( [Weiss et al., 2000], [Mizsey and Newson, 2001] and [Johannsson, 2003]). For example, consideration of total CO2 emissions from an average car showed that 76% were from fuel usage where as 9% was from manufacturing of the vehicle and a further 15% was from emissions and losses in the fuel supply system (Potter, 2003).

Transport was one of the key sectors highlighted to be tackled by the 1997 Kyoto protocol. The aim was to reduce worldwide greenhouse gas emissions by 5.2% of 1990 levels by 2012. Therefore, since 1997, transport has featured heavily in the political agendas of the 38 developed countries who signed the agreement. Fig. 2a shows that the transport sector accounts for 26% of global CO2 emissions (IEA, 2000), of which roughly two-thirds originates in the wealthier 10% of countries (Lenzen et al., 2003). Road transport is the biggest producer of greenhouse gases in the transport sector, although the motor car is not solely responsible for all these emissions (Fig. 2b). Buses, taxis and inter-city coaches all play a significant role, but the major contributor is road freight which typically accounts for just under half of the road transport total. Away from road transport, the biggest contributor to climate change is aviation. Aviation is much more environmentally damaging than is indicated solely by CO2 emission figures. This is due to other greenhouse gases being released directly into the upper atmosphere, where the localised effects can be more damaging then the effects of CO2 alone (Cairns and Newson, 2006). Although, the actual energy consumption and CO2 emissions from aviation appear relatively low when compared to the motor car (Fig. 2b, Table 1), it is the projected expansion in aviation which is the biggest concern. Air transport shows the highest growth amongst all transport modes (Lenzen et al., 2003) and is predicted to be as high as 5% per annum for the next decade (Somerville, 2003).

All transport sectors are experiencing expansion (Table 1 and Table 2) and unfortunately there is a general trend that the modes which are experiencing the most growth, are also the most polluting. Fig. 3a shows a breakdown of CO2 emissions per passenger kilometre. Aviation and motor cars are increasingly the favoured modes for passenger transport, but are also significantly the most damaging. A similar picture is shown for freight in Fig. 3b where again, aviation and road freight are both the sectors with the biggest growth and highest CO2 emissions. Hence, there is a need to break the relationship between the current preferred movements of passengers and freight with the most polluting modes. Either the favoured modes need to be made less polluting through technological change or alternative modes need to be made more attractive via behavioural change driven by policy (DfT, 2005a). Clearly, the biggest challenges are car usage, the rapid expansion of aviation and the increase in road freight ( [Lenzen et al., 2003] and [DfT, 2004a]). Hence, this review focuses on the impact of growth in car use, aviation and freight with respect to climate change inducing greenhouse gas emissions and discusses ways in which society can adapt to reduce the impacts.

#### High Speed Rail would slash annual CO2 emissions. Trades off with less environmentally friendly transportation

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[Joshua Rogers, NOTE: THE GREAT TRAIN ROBBERY: HOW STATUTORY CONSTRUCTION MAY HAVE DERAILED AN AMERICAN HIGH SPEED RAIL SYSTEM, University of Illinois Journal of Law, Technology & Policy, Spring, 2011]

American transportation will become more efficient, if high speed rail is [\*222] used. Of the three major forms of land transportation (automobile, airplane, and passenger rail), traditional passenger rail already expends the least amount of energy per passenger mile n54 and, despite moving two to three times faster, high speed rail is actually more energy efficient than traditional passenger rail. n55 Also, with every passenger mile serviced by high speed rail, the other forms of transportation service less passenger miles. n56 It is estimated that a high speed rail network would annually reduce automobile travel by 29 million trips and reduce air travel by approximately 500,000 flights. n57 For automobile travel, less cars on the road, means less wasted energy spent in traffic and for air travel, this means less wasted energy through delays. In other words, less transportation congestion and, thus, increased efficiency across all modes of intercity passenger travel.

A high speed rail network would reduce the U.S.'s negative impact on the environment. As recently as 2006, the U.S. emitted 5,902.75 million metric tons of carbon dioxide (CO2) annually, n58 placing the U.S. second, behind China, among the world's countries in total annual CO2 emissions. n59 Moreover, the U.S. placed second, behind Australia, in per capita CO2 emissions among countries with a population of more than 10 million. n60 As the largest CO2 emitter among end-use sectors, n61 transportation constitutes approximately one-third of all CO2 emissions in the U.S. n62 High speed rail employs "green" technologies that consume one-third less energy per passenger mile than automobile travel. n63 Also, high speed rail would transport passengers closer to their city center destinations, thereby, reducing unneeded energy consumption by additional travel to and from airports. n64 It is estimated that a high speed rail network would result in an annual reduction of 6 billion pounds of CO2 emissions for the U.S. n65 These statistics have led several [\*223] environmental groups, such as the Center for Clean Air Policy n66 and the Sierra Club n67 to endorse a U.S. high speed rail system.

#### Independently it would reduce foreign oil dependence and allow us to change our planning. Studies have shown

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

Energy mix: High-speed rail is the only available mode of long-distance travel that currently is not dependent on motor fuels. High-speed rail is powered by electricity, which is not without environmental problems depending on its source (see table 2). If it is powered by electricity generated from fossil fuels, such as coal or natural gas that discharge harmful greenhouse gas emissions, then its environmental beneﬁts are limited. However, electricity is generally considered an improvement over petroleumgenerated power **and provides a crucial advantage as the United States aims to reduce its dependence on foreign oil**. Amtrak’s Northeast Corridor and parts of the Keystone Corridor (connecting Harrisburg, Pennsylvania to Philadelphia) are electriﬁed. Most other conventional passenger trains in America operate on freight rail lines and are powered by diesel fuel.

 Energy planning needs to be a part of the planning for high-speed rail to ensure the reduction of greenhouse gases and other harmful pollutants. Even with the current energy mix that includes fossil fuel sources, however, high-speed rail can yield signiﬁcant environmental beneﬁts. A recent study by the University of Pennsylvania (2011) found that a new high-speed line in the Northeast Corridor, powered by electricity from the current energy mix, would divert nearly 30 million riders from cars and planes, attract 6 million new riders, and still reduce car emissions of carbon monoxide by more than 3 million tons annually. The system would also result in a reduction of carbon dioxide emissions if the energy mix were shifted to low carbon emitting sources.

#### Oil Dependence makes wars inevitable. The U.S. has to intervene and fight wars to secure access. Armageddon is the impact

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[Stephen Lendman, “Resource Wars - Can We Survive Them?,” rense.com, 6-6-7, pg. <http://www.rense.com/general76/resrouce.htm>]

With the world's energy supplies finite, the US heavily dependent on imports, and "peak oil" near or approaching, **"security" for America means assuring a** sustainable **supply of what we can't do without**. It includes waging wars to get it, protect it, and defend the maritime trade routes over which it travels. **That means** energy's partnered with predatory New World Order globalization, militarism, **wars, ecological recklessness, and** now **a**n extremist **US** administration **willing to risk Armageddon** for world dominance. Central to its plan is first controlling essential resources everywhere, at any cost, starting with oil and where most of it is located in the Middle East and Central Asia.

The New "Great Game" and Perils From It

  The new "Great Game's" begun, but this time the stakes are greater than ever as explained above. The old one lasted nearly 100 years pitting the British empire against Tsarist Russia when the issue wasn't oil. This time, it's the US with help from Israel, Britain, the West, and satellite states like Japan, South Korea and Taiwan challenging Russia and China with today's weapons and technology on both sides making earlier ones look like toys. ***At stake is more than oil. It's planet earth with survival of all life on it*** issue number one twice over.

Resources and wars for them means militarism is increasing, peace declining, and the planet's ability to sustain life front and center, if anyone's paying attention. They'd better be because beyond the point of no return, there's no second chance the way Einstein explained after the atom was split. His famous quote on future wars was : "I know not with what weapons World War III will be fought, but World War IV will be fought with sticks and stones."

 Under a worst case scenario, it's more dire than that. There may be **nothing left but resilient beetles and bacteria** in the wake of a nuclear holocaust meaning even a new stone age is way in the future, if at all. **The threat is real** and once nearly happened during the Cuban Missile Crisis in October, 1962. We later learned a miracle saved us at the 40th anniversary October, 2002 summit meeting in Havana attended by the US and Russia along with host country Cuba. For the first time, we were told how close we came to nuclear Armageddon. Devastation was avoided only because Soviet submarine captain Vasily Arkhipov countermanded his order to fire nuclear-tipped torpedos when Russian submarines were attacked by US destroyers near Kennedy's "quarantine" line. Had he done it, only our imagination can speculate what might have followed and whether planet earth, or at least a big part of it, would have survived.

#### Transportation alternatives are key to successfully combat climate change and oil dependence

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[Darren A. Prum\* and Sarah L. Catz\*\*, ARTICLE: GREENHOUSE GAS EMISSION TARGETS AND MASS TRANSIT: CAN THE GOVERNMENT SUCCESSFULLY ACCOMPLISH BOTH WITHOUT A CONFLICT?, Santa Clara Law Review, 2011, 51 Santa Clara L. Rev. 935]

In a swift change in public policy and to comply with a United States Supreme Court mandate, n2 the Obama Administration altered the course of the federal government by addressing climate change and greenhouse gas emissions quickly after taking office. In looking to the transportation sector to return meaningful and rapid results, one of the components that could create a dual impact arises out of dependable, affordable, and convenient public transit alternatives. By encouraging the public to reduce their driving habits and to switch modes for their various [\*936] transportation needs, the government could accomplish many different goals, such as reducing greenhouse gases, reducing congestion, and improving our national security by depending less on foreign oil.

Transportation agencies across the country, however, are sharply cutting services in the face of harsh fiscal constraints from all levels. n3 These measures are the latest sign of the fiscal woes in many state and local agencies across the country that threaten to derail the Obama Administration's policy change. n4

#### Warming causes multiple environmental problems – results in human extinction

TICKELL 08 Climate Researcher

[Oliver Tickell, The Gaurdian, “On a planet 4C hotter, all we can prepare for is extinction”, <http://www.guardian.co.uk/commentisfree/2008/aug/11/climatechange>]

We need to get prepared for four degrees of global warming, Bob Watson told the Guardian last week. At first sight this looks like wise counsel from the climate science adviser to Defra. But the idea that we could adapt to a 4C rise is absurd and dangerous. Global warming on this scale would be a catastrophe that would mean, in the immortal words that Chief Seattle probably never spoke, "the end of living and the beginning of survival" for humankind. Or perhaps the beginning of our extinction. The collapse of the polar ice caps would become inevitable, bringing long-term sea level rises of 70-80 metres. All the world's coastal plains would be lost, complete with ports, cities, transport and industrial infrastructure, and much of the world's most productive farmland. The world's geography would be transformed much as it was at the end of the last ice age, when sea levels rose by about 120 metres to create the Channel, the North Sea and Cardigan Bay out of dry land. Weather would become extreme and unpredictable, with more frequent and severe droughts, floods and hurricanes. The Earth's carrying capacity would be hugely reduced. Billions would undoubtedly die. Watson's call was supported by the government's former chief scientific adviser, Sir David King, who warned that "if we get to a four-degree rise it is quite possible that we would begin to see a runaway increase". This is a remarkable understatement. The climate system is already experiencing significant feedbacks, notably the summer melting of the Arctic sea ice. The more the ice melts, the more sunshine is absorbed by the sea, and the more the Arctic warms. And as the Arctic warms, the release of billions of tonnes of methane – a greenhouse gas 70 times stronger than carbon dioxide over 20 years – captured under melting permafrost is already under way. To see how far this process could go, look 55.5m years to the Palaeocene-Eocene Thermal Maximum, when a global temperature increase of 6C coincided with the release of about 5,000 gigatonnes of carbon into the atmosphere, both as CO2 and as methane from bogs and seabed sediments. Lush subtropical forests grew in polar regions, and sea levels rose to 100m higher than today. It appears that an initial warming pulse triggered other warming processes. Many scientists warn that this historical event may be analogous to the present: the warming caused by human emissions could propel us towards a similar hothouse Earth.

### Observation Two – the economy

#### The U.S. economy is stalling. Lack of jobs and government inaction is killing consumer spending and confidence. No sustainable growth now

HOMAN & CHADRA 5 – 17 – 12 Bloomberg Economics Reporters

Timothy R. Homan and Shobhana Chandra, Confidence Sinks As U.S. Job Market Progress Stalls: Economy, <http://www.bloomberg.com/news/2012-05-17/jobless-claims-in-u-s-were-unchanged-at-370-000-last-week.html>

Consumer confidence fell last week to the lowest level in almost four months and more people than forecast filed claims for unemployment benefits, showing a lack of progress in the job market is rattling Americans.

The Bloomberg Consumer Comfort Index dropped in the week ended May 13 to minus 43.6, a level associated with recessions or their aftermaths, from minus 40.4 in the previous period. Jobless applications were unchanged at 370,000 in the week ended May 12, Labor Department figures showed today in Washington

Diminishing employment gains, falling stock prices and the prospect of government gridlock over the budget heading into the November presidential election may continue to hurt household sentiment. The lack of a sustained rebound in hiring damps the outlook for consumer spending, which accounts for about 70 percent of the world’s largest economy.

“A mix of policy questions and some ongoing softness in employment growth” is weighing on confidence, said Sam Coffin, an economist at UBS Securities LLC in Stamford, Connecticut. “We’re hearing more and more about fiscal negotiations. Last year that talk seemed to derail confidence, and that’s coming up as a topic again.” Coffin and the UBS team, led by Maury Harris, were the most accurate in forecasting the unemployment rate for the two years through April, according to data compiled by Bloomberg.

Other reports today showed manufacturing in the Philadelphia region unexpectedly shrank this month and the index of leading indicators dropped in April for the first time in seven months.

Shares Drop

The disappointing data and growing concern over the European debt crisis sent the Standard & Poor’s 500 Index down for a fifth day. The gauge dropped 1.5 percent to 1,304.86 at the 4 p.m. close in New York, the lowest closing level since January, amid reports that Moody’s Investors Services was about to downgrade shares of Spanish banks.

Elsewhere today, a report from the National Statistics Institute in Madrid showed Spain’s gross domestic product declined 0.3 percent in the first quarter from the previous three months, when it fell the same amount, signaling the nation succumbed to its second recession since 2009.

Japan’s economy expanded at an annualized 4.1 percent pace in the first quarter, faster than estimated, from the previous three months, data from the Cabinet Office showed. The rate was boosted by spending on projects to rebuild areas devastated by last year’s earthquake and tsunami.

One-Month Drop

The Bloomberg U.S. consumer comfort index’s 12.2-point decline over the past four weeks has erased almost all of this year’s gains. The gauge began the year at minus 44.8 and reached a four-year high of minus 31.4 in the week ended April 15.

The Thomson Reuters/University of Michigan sentiment gauge reached a similar four-year high with this month’s preliminary reading, led by gains among upper-income Americans, a report on May 11 showed. The group’s final reading is due May 25.

Readings lower than minus 40 for the Bloomberg index are correlated with “severe economic discontent,” according to Gary Langer, president of Langer Research Associates LLC in New York, which compiles the index for Bloomberg. The gauge has averaged minus 15.3 since its inception in December 1985.

All three of the Bloomberg Consumer Comfort Index’s components declined last week, today’s report showed. The gauge of personal finances fell to minus 12.9, the fourth straight drop and the weakest reading since November, from minus 11.2 in the prior week. A measure of whether consumers consider it a good or bad time to buy decreased to minus 48.2, a three-month low, from minus 45.8. Americans’ views on the state of the economy fell to a 10-week low of minus 69.6 from minus 64.2.

Customers ‘Struggling’

“I do not feel like the economy has come back,” James Reid-Anderson, chairman and chief executive officer of Grand Prairie, Texas-based theme-park operator Six Flags Entertainment Corp., said during a May 16 investor conference. “Every week there is a different story. One week we’re up. Next week we’re down, but there isn’t that confidence yet that the economy is back. We’re assuming that our guests might be struggling financially.”

Employers added 115,000 workers to payrolls last month, the weakest gain since October, according to Labor Department figures released May 4. The same report showed the unemployment rate fell to 8.1 percent as more Americans left the labor force.

The trend in jobless claims indicates little improvement in job-market conditions since then. The four-week moving average, a less volatile measure than the weekly figures, fell to 375,000 last week from 379,750.

Survey Week

Last week included the 12th of the month, which coincides with the period the Labor Department uses in its survey of employers to calculate monthly payroll growth. The employment report for May will be released on June 1. The four-week average for this month’s survey week was little changed from the 375,500 during the corresponding period in April.

An increase in applications for jobless benefits last month and a drop in consumer expectations about the economy depressed the index of leading indicators. The Conference Board’s gauge of the outlook for the next three to six months decreased 0.1 percent after a 0.3 percent gain in March, the New York-based group said today.

“The economy is in a midst of a soft patch, but I don’t think it’s going to be anything worse than that,” Ryan Sweet, a senior economist at Moody’s Analytics Inc. in West Chester, Pennsylvania, said before the report. “Economic growth this quarter will come right around where it came in last quarter.”

Slower Growth

The economy grew at a 2.2 percent annual pace in the first three months of 2012, down from 3 percent the prior quarter. The rate of growth from April to June will probably be the same as last quarter, according to the median estimate of economists surveyed by Bloomberg from May 4 to May 9.

A report from the Federal Reserve Bank of Philadelphia today cast doubt on the outlook for manufacturing. The central bank’s general economic index fell to minus 5.8 this month, the lowest reading since September, from 8.5 in the previous month. Economists forecast the gauge would rise to 10, according to the median estimate in a Bloomberg survey. Readings less than zero signal contraction in the area covering eastern Pennsylvania, southern New Jersey and Delaware.

The report was at odds with other regional data. Manufacturing in the New York area expanded at a faster pace in May, a report this week from the New York Fed showed.

“We’re in a choppy and uneven recovery,” said Sean Incremona, a senior economist at 4Cast Inc. in New York, who had the lowest estimate in the Bloomberg survey. “The recovery as a whole isn’t gathering any momentum.”

Government gridlock may hold back growth. Washington policy makers remain at a standoff over the debt ceiling after President Barack Obama met with House Speaker John Boehner yesterday. Their impasse raises the prospect of an election-year showdown on the federal debt.

#### Investment in high speed rail spurs economic growth in multiple ways – empirical support and studies prove. [6 ways: 1. higher wages & productivity; 2. Deeper labor pools; 3. Expanded tourism; 4. Creates jobs; 5. Area development; 6. Spatial agglomeration]

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

E C O N O M I C B E N E F I T S

High-speed rail’s ability to promote economic growth is grounded in its capacity to increase access to markets and exert positive effects on the spatial distribution of economic activity (Redding and Sturm 2008). Transportation networks increase market access, and economic development is more likely to occur in places with more and better transportation infrastructure. In theory, by improving access to urban markets, highspeed rail increases employment, wages, and productivity; encourages agglomeration; and boosts regional and local economies.

Empirical evidence of high-speed rail’s impact around the world tends to support the following theoretical arguments for high-speed rail’s economic beneﬁts.

**Higher wages and productivity**: The time savings and increased mobility offered by high-speed rail enables workers in the service sector and in information- exchange industries to move about the megaregion more freely and reduces the costs of face-to-face communication. This enhanced connectivity boosts worker productivity and business competitiveness leading to higher wages (Greengauge 21 2010).

**Deeper labor and employment markets**: By connecting more communities to other population and job centers, highspeed rail expands the overall commuter shed of the megaregion. The deepened labor markets give employers access to larger pools of skilled workers, employees access to more employment options, and workers access to more and cheaper housing options outside of expensive city centers (Stolarick, Swain, and Adleraim 2010).

**Expanded tourism and visitor spending**: Just as airports bring visitors and their spending power into the local economy, high-speed rail stations attract new tourists and business travelers who might not have made the trip otherwise. A study by the U.S. Conference of Mayors (2010) concluded that building high-speed rail would increase visitor spending annually by roughly $225 million in the Orlando region, $360 million in metropolitan Los Angeles, $50 million in the Chicago area, and $100 million in Greater Albany, New York.

**Direct job creation**: High-speed rail creates thousands of construction-related jobs in design, engineering, planning, and construction, as well as jobs in ongoing maintenance and operations. In Spain, the expansion of the high-speed AVE system from Malaga to Seville is predicted to create 30,000 construction jobs (Euro Weekly 2010). In China, over 100,000 construction workers were involved in building the high-speed rail line that connects Beijing and Shanghai (Bradsher 2010). Sustained investment could foster the development of new manufacturing industries for rail cars and other equipment, and generate large amounts of related employment.

**Urban regeneration and station area development**: High-speed rail can generate growth in real estate markets and anchor investment in commercial and residential developments around train stations, especially when they are built in coordination with a broader set of public interventions and urban design strategies (see chapter 3). These interventions ensure that high-speed rail is integrated into the urban and regional fabric, which in turn ensures the highest level of ridership and economic activity. For example, the city of Lille, France, experienced greater than average growth and substantial ofﬁce and hotel development after its high-speed rail station was built at the crossroads of lines linking London, Paris, and Brussels (Nuworsoo and Deakin 2009).

**Spatial agglomeration**: High-speed rail enhances agglomeration economies by creating greater proximity between business locations through shrinking time distances, especially when the locations are within the rail-friendly 100 to 600 mile range. Agglomeration economies occur when ﬁrms beneﬁt from locating close to other complementary ﬁrms and make use of the accessibility to varied activities and pools of skilled labor High-speed rail has also been described as altering the economic geography of megaregions. By effectively bringing economic agents closer together, high-speed rail can create new linkages among ﬁrms, suppliers, employees, and consumers that, over time, foster spatial concentration within regions (Ahlfeldt and Feddersen 2010). This interactive process creates net economic gains in addition to the other economic beneﬁts described here.

#### It would immediately boost the economy and stabilize future growth. Creates millions of jobs

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[Joshua Rogers, NOTE: THE GREAT TRAIN ROBBERY: HOW STATUTORY CONSTRUCTION MAY HAVE DERAILED AN AMERICAN HIGH SPEED RAIL SYSTEM, University of Illinois Journal of Law, Technology & Policy, Spring, 2011]

High speed rail will also boost the economy immediately and help stabilize the economy in the future. The construction of high speed rail is estimated to create 1.6 million U.S. jobs. n68 Still, that number could grow significantly if, as has been proposed by some, the U.S. contracts with American companies to build the high speed rail trainsets. n69 Beyond the immediate creation of jobs, passenger rail is predicted to reduce America's dependence on foreign oil imports. n70 That reduction could also be augmented if the high speed rail system employs electric propulsion in lieu of the traditional diesel propulsion of passenger rail. n71

Thus, the U.S. would benefit from a viable high speed rail system through increased efficiency, reduced environmental impact, and economic growth and stabilization.

#### Infrastructure Investments sustain and save the economy – government funding is matched and multiplied, solves unemployment, and solves debt crisis. Award winning economists vote aff

STIGLITZ 12 University Professor at Columbia University, and a Nobel laureate in Economics

[Joseph E. Stiglitz, Stimulating the Economy in an Era of Debt and Deficit, The Economists’ Voice http://www.degruyter.com/view/j/ev March, 2012]

Any diagnosis of the current economic situation should focus on the fact that the shortfall between actual and potential unemployment is huge and that monetary policy has proven ineffective, at least in restoring the economy to anything near full employment. Under these circumstances, the traditional economists’ solution has been to advocate the use of fiscal policy—tax cuts and/or spending increases. There is an especially compelling case for increasing public investments because they would increase GDP and employment today as well as increase output in the future. Given low interest rates, the enhanced growth in GDP would more than offset the increased cost of government spending, reducing national debt in the medium term. Moreover, the ratio of debt to GDP would decrease and the ability of the U.S. economy to sustain debt (debt sustainability) would improve.

This happy state of affairs is especially likely given the ample supply of high-return investment opportunities in infrastructure, technology, and education resulting from underinvestment in these areas over the past quarter century. Moreover, well-designed public investments would raise the return on private investments, “crowding in” this additional source of spending. Together, increased public and private investment would raise output and employment in the short run, and increase growth and debt sustainability in the medium and long run. Such spending would reduce (not increase) the ratio of debt to GDP. Thus, the objection that the U.S. should not engage in such fiscal policies because of the high ratio of debt to GDP is simply wrong; even those who suffer from deficit fetishism should support such measures.

Critics of this standard Keynesian prescription raise two objections: (a) government is not likely to spend the money on high return investments, so that the promised gains will prove elusive and (b) the fiscal multipliers are small (perhaps negative), suggesting that the shortrun gains from fiscal policy are minimal at best. Both of these objections are easily dismissed in the current economic environment.

First, the assertion that government is incapable of making high return investments is just wrong. Studies of the average returns on government spending on investments in technology show extraordinarily high returns, with returns on investments in infrastructure and education returns well above the cost of borrowing. Thus, from a national point of view, investments in these areas make sense, even if the government fails to make the investments with the absolute highest returns.

Second, the many variants of the argument that the fiscal multiplier is small typically rest on the assumption that as government spending increases, some category of private expenditure will decline to offset this increase. 1 Certainly, when the economy is at full employment and capital is being fully utilized, GDP cannot increase. Hence, under the circumstances, the multiplier must be zero. But today’s economic conditions of significant and persistent resource underutilization have not been experienced since the Great Depression. As a result, it is simply meaningless to rely on empirical estimates of multipliers based on post-World War II data. Contractionary monetary policy is another reason why multipliers may be markedly larger now than they were in some earlier situations of excess capacity. In these cases, monetary authorities, excessively fearful of inflation, responded to deficit spending by raising interest rates and constraining credit availability, thus dampening private spending. But such an outcome is not inevitable; it is a result of policies, often guided by mistaken economic theories.

In any case, such an outcome is irrelevant today. This is because the Federal Reserve is committed to an unprecedented policy of maintaining near-zero interest rates through at least the end of 2014, while at the same time encouraging government spending. With interest rates at record lows and the Federal Reserve committed to keeping them there, crowding out of private investment simply will not occur. On the contrary, as I have noted, public investment— for instance, in better infrastructure—is more likely to increase the returns to private investment. Such public spending crowds in private investment, increasing the multiplier. Sometimes economists claim that consumers, worried about future tax liabilities in the wake of government spending, would contract their spending. However, the applicability of this notion (referred to as Ricardian equivalence) is contradicted by the fact that when George W. Bush lowered taxes and massively increased the deficit, savings plummeted to zero. But even if one believed in the applicability of Ricardian equivalence in today’s economy, government spending on investments that increase future growth and improve the debt-toGDP ratio would induce rational to spend more today. Consumption would also be crowded in by such government expenditures, not crowded out.

Indeed, if consumers had rational expectations, the multiplier would increase even more in a long-lived downturn like the current one. The reason is that some of the money that is saved this year will be spent next year, or the year after, or the year after that—periods in which the economy is still well-below capacity. This increased spending will lead to higher employment and incomes in these later years. But if individuals are rational, the realization that their future incomes will be higher will lead them to spend more today. Deficit spending today crowds in not just investment, but also consumption.

Thus, a careful look at the current situation suggests that the impact of well-designed government programs will be to stimulate the economy more than is assumed to be the case in standard Keynesian models (which typically assume a short-lived downturn and yield a shor run fiscal multiplier of around 1.5). Even in the current period, fiscal policy results in greater output increases because investment and consumption is crowded in, because: (a) the Federal Reserve is unlikely either to increase interest rates or reduce credit availability; (b) public investments are likely to increase the returns to private investments; and (c) rational consumers/ taxpayers may recognize that future tax liabilities will decline and that future incomes will rise as a result of these measures.

#### Economic Growth is good for the world. It solves conflicts and avoids global wars – economies that are growing are peaceful

STRAUSS-KAHN 09 Manging Director of the IMF

[Dominique Strauss-Kahn, International Monetary Fund, http://www.imf.org/external/np/speeches/2009/102309.htm]

Securing stability

Let me stress that the crisis is by no means over, and many risks remain. Economic activity is still dependent on policy support, and a premature withdrawal of this support could kill the recovery. And even as growth recovers, it will take some time for jobs to follow suit. This economic instability will continue to threaten social stability.

The stakes are particularly high in the low-income countries. Our colleagues at the United Nations and World Bank think that up to 90 million people might be pushed into extreme poverty as a result of this crisis. In many areas of the world, what is at stake is not only higher unemployment or lower purchasing power, but life and death itself. Economic marginalization and destitution could lead to social unrest, political instability, a breakdown of democracy, or war. In a sense, our collective efforts to fight the crisis cannot be separated from our efforts guard social stability and to secure peace. This is particularly important in low-income countries.

War might justifiably be called “development in reverse”. War leads to death, disability, disease, and displacement of population. War increases poverty. War reduces growth potential by destroying infrastructure as well as financial and human capital. War diverts resources toward violence, rent-seeking, and corruption. War weakens institutions. War in one country harms neighboring countries, including through an influx of refugees.

Most wars since the 1970s have been wars within states. It is hard to estimate the true cost of a civil war. Recent research suggests that one year of conflict can knock 2-2½ percentage points off a country’s growth rate. And since the average civil war lasts 7 years, that means an economy that is 15 percent smaller than it would have been with peace. Of course, no cost can be put on the loss of life or the great human suffering that always accompanies war.

The causality also runs the other way. Just as wars devastate the economy, a weak economy makes a country more prone to war. The evidence is quite clear on this point—low income or slow economic growth increases the risk of a country falling into civil conflict. Poverty and economic stagnation lead people to become marginalized, without a stake in the productive economy. With little hope of employment or a decent standard of living, they might turn instead to violent activities. Dependence on natural resources is also a risk factor—competition for control over these resources can trigger conflict and income from natural resources can finance war.

And so we can see a vicious circle—war makes economic conditions and prospects worse, and weakens institutions, and this in turn increases the likelihood of war. Once a war has started, it’s hard to stop. And even if it stops, it’s easy to slip back into conflict. During the first decade after a war, there is a 50 percent chance of returning to violence, partly because of weakened institutions.

### Plan

#### The United States federal government should invest in the planning and completion of a national High-Speed Rail system.

### Observation Three – Solvency

#### The federal government should invest in high speed rail. Doing so creates a stable market, invigorates private investment, and overcomes current obstacles. Only a federal approach mobilizes a megaregional focus to complete rails

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

U.S. Policy and Programs for High-Speed Rail Investment

Each country that has developed high-speed rail has done so with strong national government leadership. Prior to President Barack Obama’s recent embrace of high-speed rail, federal government support had been a missing ingredient in U.S. passenger rail development. However, signiﬁcant federal investments in high-speed rail in 2009–2010 put the federal High-Speed Intercity Passenger Rail (HSIPR) Program on a solid initial footing. Whether that commitment can be sustained in a difﬁcult ﬁscal environment will determine whether high-speed rail in the United States can become a reality.

The federal commitment to high-speed rail began in 2008, when Congress passed the Passenger Rail Investment Improvement Act (PRIIA), which authorized funding for Amtrak and state-led efforts to develop highspeed rail corridors between 2009 and 2013. In February 2009, just months after PRIIA was signed into law at the end of 2008, the act became the vehicle for appropriating $8 billion for high-speed rail under the American Recovery and Reinvestment Act (ARRA). An additional $2.5 billion for high-speed rail was appropriated by Congress in the Fiscal Year (FY) 2010 budget (ﬁgure 8).

 These appropriations, totaling $10.5 billion for high-speed and passenger rail, transformed the preservation-focused program established by PRIIA into a highly visible high-speed rail initiative that later became the centerpiece of the Obama administration’s infrastructure agenda. However, this sudden infusion of funding also revealed PRIIA’s limitations and the challenges of creating an ambitious highspeed and intercity passenger rail program virtually overnight.

 The subsequent Congressional appropriation for FY 2011 stripped the program of any funding in 2011 and rescinded $400 million from the FY 2010 budget. **This abrupt reversal underscores the program’s vulnerability to shifting political winds as long as it has to rely on annual Congressional appropriations for its funding**.

T H E C U R R E N T L E G I S L A T I V E A N D F U N D I N G F R A M E W O R K

The current federal policy framework for high-speed rail was shaped in response to both the history of unreliable and minimal federal contributions for passenger rail and the efforts of individual states acting on their own initiative and with their own funding to improve rail corridors. While PRIIA is an improvement over the previous lack of a U.S. passenger rail policy, it is not well-suited to a more ambitious, sustained federal commitment to building dedicated, multistate high-speed rail corridors.

Unlike the U.S. highway and transit programs, which rely on dedicated revenue streams from the federal motor fuels tax, passenger rail has no dedicated source of revenue and thus relies on Congress for general fund appropriations. Prior to the passage of PRIIA, most passenger rail appropriations were made directly to Amtrak each year, but with no multiyear authorization since 2002. Numerous Amtrak ofﬁcials have testiﬁed to Congress over the years that the uncertainty of these annual, often politicized, appropriations makes planning and operating the railroad difﬁcult.

 In the absence of consistent federal support for passenger rail, states including California, North Carolina, Pennsylvania, and Washington have established dedicated funding streams to improve conventional passenger rail corridors operated by Amtrak. Other states, such as Illinois, Maine, and Vermont, have directed state general funds or ﬂexible federal funds to subsidize and supplement their passenger rail service (U.S. GAO 2010).

 These state investments have led to the purchase of new rail cars in Washington, track upgrades for and re-electriﬁcation of the Keystone Corridor in Pennsylvania, and more frequent, reliable service and higher ridership on all state-sponsored lines. State funding for rail has come from various sources, including portions of state gas and diesel taxes, ﬂexible funding from the federal Congestion Mitigation and Air Quality Improvement Program, state rental car taxes, and proceeds from specially branded Cash Train scratch lottery tickets in Washington state.

T H E H I G H - S P E E D I N T E R C I T Y P A S S E N G E R R A I L P R O G R A M

In recognition of these and other state initiatives, PRIIA established a competitive federal grant program to assist the states and Amtrak in making capital improvements to existing passenger rail corridors that could enhance service, relieve congestion, and develop new high-speed rail services on either existing or new rights-of-way (table 3). These statutes provide the basis for the HSIPR Program, administered by the U.S. Department of Transportation. The program began in June 2009 with an announcement of funding availability and interim guidelines (U.S. GAO 2011). The FRA was charged with administering the program, selecting applicants, awarding grants, negotiating funding agreements, and writing a national passenger and freight rail plan. These new responsibilities required the FRA to increase its planning staff quickly, since most of its existing employees were focused on the traditional roles of the agency—safety and regulatory enforcement of freight and passenger rail services. The HSIPR Program has three funding categories to which states, groups of states, interstate compacts, public agencies, or Amtrak are eligible to apply. One of the programs, the High-Speed Rail Corridor Development Program, is restricted to the 11 federally designated high-speed rail corridors, although grants can be obtained through the other two funding categories for projects on other corridors.

The sudden $10.1 billion in funding for high-speed rail in ARRA and the FY 2010 budget was welcomed with great enthusiasm by states nationwide, 39 of which applied for rail planning or construction grants. But it required a rapid increase in capacity at the federal level and within state transportation departments to administer and participate in the program. This new program relied on the states to submit applications for eligible projects. Given the previous lack of federal commitment to passenger rail, only a few states had staff capacity for rail planning or the expertise to develop proposals for Core Express high-speed rail. States with previous commitments to rail planning and funding generally were able to put together successful proposals in the 2009 and 2010 rounds of grant making (ﬁgure 9).

 The two states that had already developed plans for Core Express high-speed rail were the most successful in the competition for federal funding. California voters had passed a $9 billion bond act in 2008 to fund a Core Express high-speed rail project connecting Northern and Southern California, and the state was awarded federal grants of approximately $3.6 billion. Florida, which was able to resubmit its high-speed rail proposal from the 2000s, was awarded a total of $2.4 billion for the initial Tampa–Orlando segment of the statewide high-speed rail project. However, this project was cancelled in early 2011 by newly elected Governor Rick Scott. The remaining federal grant awards went to conventional rail projects, such as those in Washington and Illinois, for projects to increase the speed, reliability, and frequency of passenger rail services on shared passenger and freight corridors.

 By mid-2011, the distribution of grants largely reﬂected the status of rail planning efforts across the country, with some attention to geographic equity. The FRA’s grantmaking process was criticized for a lack of transparency by Chairman John Mica of the House Transportation and Infrastructure Committee. However, a U.S. Government Accountability Ofﬁce (GAO) report that he commissioned states: “The FRA established a fair and objective approach for distributing these funds and substantially followed recommended discretional grant award practices used throughout the government” (U.S. GAO 2011, 22).

 By August 2011, two years after the launch of the HSIPR Program, nearly 75 percent of the awarded funds had been released to 25 states, the District of Columbia, and Amtrak, allowing them to start work. However, the program continues to face criticisms, largely focused on the perceived high cost of rail investments; unimpressive trip time savings; and the lengthy timeline for rail planning, engineering, environmental review, and construction.

F E D E R A L R A I L P O L I C Y C H A L L E N G E S

Even though PRIIA is authorized through 2013, stakeholders in the rail industry, including one of the drafters of PRIIA, have remarked on the need to adjust federal rail policy to respond to current circumstances, including greater political instability in the Middle East and its implications for America’s dependence on foreign oil; growing international and private sector interest in helping to ﬁnance high-speed rail in the United States; and the president’s own ambitious proposals for a national high-speed rail network to give 80 percent of Americans access to high-speed rail over the next 25 years (Gardner 2011).

 Such a vision requires a stronger and more active federal commitment that must start with secure funding. The most recent setback of zero funding for high-speed rail in the FY 2011 budget underscores the need for a sustainable revenue source as reliable as funding for highway and transit programs in the past. President Obama’s proposal to include a $53 billion, six-year high-speed rail program as part of the surface transportation bill would help to achieve this kind of equity among transportation modes.

 In conjunction with a funding strategy, the role of high-speed rail in America’s larger transportation network needs to be better deﬁned (U.S. GAO 2009). A sharper, more narrowly focused program directed at corridors that meet clearly articulated objectives for high-speed rail service would address criticisms that the program is diffuse, ineffective, and dependent on ongoing subsidies. Nationally available data could help to evaluate the most promising regions for attracting ridership and enhancing economic and other beneﬁts. A phasing plan and funding allocation strategy could help develop the full build-out of a national network by helping states secure rights-of-way for high-speed rail corridors.

Another challenge is to clarify the differences between conventional and high-speed rail corridors. PRIIA provides federal grants for both conventional passenger rail and new high-speed corridors, although the media has tended to focus on the high-speed program. Neither PRIIA nor ARRA speciﬁed the share of federal funding to be used for high-speed Core Express corridors versus conventional passenger rail. In fact, the dearth of highspeed rail projects in the planning pipeline means that grants will be shared among various types of rail projects.

 A more active role by the federal government could help clarify the respective roles of high-speed Core Express corridors and conventional Regional and Emerging/Feeder routes, including funding them through separate programs and clearly deﬁning the objectives for each type of rail service. Funding for maintaining and upgrading existing rail corridors could be provided through formula funds based on passenger train movements, track miles, or ridership. President Obama’s FY 2012 budget proposal for the Department of Transportation moved in this direction by establishing different competitive grant programs, including network development for constructing new corridors and system preservation for maintaining safety and reliability on existing corridors (White House 2011).

 The national high-speed rail program also must overcome a lack of effective institutions and administrative structures for building and operating multistate corridors. Public beneﬁt corporations capable of entering into public-private partnerships could develop and maintain high-speed rail infrastructure across megaregional, multistate, and even binational territories. These corporations would be responsible for the tracks, while separate public and private entities would operate the trains. Federal legislation could be developed to enable the creation of these public infrastructure corporations.

 International examples of publicly chartered infrastructure corporations include the High Speed 1 (HS1) and High Speed 2 (HS2) companies in the United Kingdom, Spain’s state-owned Administrator of Railway Infrastructures (Adif), and Réseau Ferré de France (RFF), the French Rail Network. Regional public beneﬁt corporations could be created in the United States to develop and manage track infrastructure, receive federal high-speed rail grants, and enter into contracts with private consortia for design, construction, and maintenance.

S U M M A R Y

The PRIIA legislation enacted in 2008 provided a transition from an era with no federal partner for high-speed and passenger rail to a period of active federal partnership with the states. Thirty-two states, the District of Columbia, and Amtrak have been awarded funding through the HSIPR Program and are moving ahead to plan or build high-speed and conventional rail projects. Given the quick start-up nature of the program, the FRA did an admirable job of responding to many simultaneous new duties, but also faced challenges in both laying the groundwork for a foundational program and implementing it at the same time. The setbacks experienced in 2011, when several governors cancelled rail projects and Congress appropriated zero dollars for highspeed rail, provide an impetus to reset the program in a way that will better position it for long-term success. Federal policy initiatives could set the program on ﬁrmer footing for a long-term commitment and restore public conﬁdence in an era of ﬁscal austerity

#### Investing in rails would massively reduce fossil fuel emissions – that’s key to combatting global climate change and avoiding the worst impacts. Only federal action matters

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[Sam Schwartz, Gerard Soffian, Jee Mee Kim, and Annie Weinstock, Symposium: Breaking the Logjam: Environmental Reform for the New Congress and Administration: Panel V: Urban Issues: A Comprehensive Transportation Policy for the 21st Century: A Case Study of Congestion Pricing in New York City, New York University Environmental Law Journal, 2008, 17 N.Y.U. Envtl. L.J. 580]

Transportation funding at the Federal level plays a direct role in environmental protection as cars and other vehicles contribute significantly to urban air pollution by producing CO2, the primary pollutant attributed to global climate change. Pricing strategies that consider the true costs of travel, such as congestion pricing measures in urban areas, as well as increased aviation fees and rail investment, particularly between well-traveled metropolitan areas, are direct measures that could reduce VMT while funding transit and rail.

To achieve reductions in VMT between metropolitan areas less than 500 miles apart, rail needs to become a more affordable and convenient alternative to flying. This is a significant challenge as the cost of flying has become cheaper and more affordable in recent years due to the rise of bargain airlines and shrinking rail subsidies. Despite the Federal trend steering some funding away from traditional highway projects, the table below shows that the annual lion's share of Federal funding is directed at highways ($ 34 billion), with air travel receiving a little less than half that amount ($ 13.8 billion) (see Table 5). Meanwhile, rail funding is just a meager $ 360 million, or 1 percent of highway allocation and 3 percent of air funding. Of the $ 13.8 billion in air travel funding, $ 2.4 billion was allocated towards infrastructure development, capital improvements and efficiency. In fact, there are more than [\*606] one hundred locales in the U.S. that receive federally subsidized airline service. n44

In contrast, funding for passenger rail in 2001 was at its lowest level in over ten years. Adjusted for inflation, passenger rail in 2003 received less than two-thirds of what it was getting twenty years ago, while funding for highways and aviation have doubled. n45

Air travelers contribute little to the cost of providing public services. Some critics have proposed imposing an aviation tax to offset some of these externalities. In fact, Britain's Department for Transport suggested in December 2000 that if these hidden costs were included, air travel demand would decrease by 3 to 5 percent, equal to a tax of about £ 1 billion. Further, the European Environment Agency has suggested that total external cost of [\*607] British aviation alone is about £ 6 billion per year.

Advisor to the British government on the economics of climate change, Sir Nicholas Stern, has argued that if, for example, the environmental cost of each ton of CO2 emitted were priced at $ 85, one London-Miami return flight emitting approximately two tons of CO2 per passenger would need to add $ 170 to the current price. n46 Similar pricing strategies have been proposed (beyond congestion pricing) to account for the true cost of driving. Although it is impossible to calculate the precise cost of these externalities, some conservative estimates show them adding up to 22 cents for every mile Americans drive. At 22 cents per mile, a gas tax of $ 6.60 a gallon would be necessary to make drivers fully pay for the cost that car travel imposes on the economy. n47

To increase public usage of rail, Federal subsidies must increase, including investments to infrastructure, as well as the development of new high speed rail service. To further institute a system where travel is more accurately priced to reflect its true cost, the cost of flying must increase.

In recent years, Americans have become increasingly enlightened to the problems facing the environment and are likely to be more open than ever to changes in the functioning of their transportation system. In facing the lead-up to the 2009 reauthorization of the federal transportation bill, Congress now has the opportunity to provide leadership on a host of transportation reforms. Measures such as congestion pricing and an increased investment in regional rail could be instrumental in reducing overall VMT and, as a result, in decreasing emissions. Such steps are imperative in addressing global climate change and the long-term impacts of man on the environment.

#### It isn’t about the types of rails or their completion – it is about investing on the federal level to help the environment and jobs. Investment overcomes obstacles

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[Darren A. Prum & Sarah Catz, “High Speed Rail in America: An Evaluation of the Regulatory, Real Property, and Environmental Obstacles a Project will Encounter,” North Carolina Journal of Law & Technology, 2012]

After electric generation, transportation in the United States is the second largest as well as the second fastest growing source of greenhouse gas emissions.164 Smarter transportation policies could reduce congestion and emissions and help revitalize the economy jointly.165

As a result, HSR often receives mention as a solution to reducing congestion, increasing mobility, and helping clean up the environment through the reduction of greenhouse gas emissions; yet in most jurisdictions, transportation policies fail to take on this issue.166 Colin Peppard, the deputy director of Federal Transportation Policy at the National Resource Defense Council, echoed this sentiment when he stated, “Most states’ transportation departments seem to be ignoring their important role in stopping climate change. If states considered all their transportation policy options, they could tap into tremendous potential to reduce carbon emissions, even with limited resources.”16

Supporting this notion, a recent report released by Smart Growth America, concluded that most states do not make any effort to connect transportation policy with climate change and energy goals; some even put in place systems that effectively sabotage these goals. 168 The report found that current transportation policy in most states will likely worsen greenhouse gas emission trends in the United States.169 As such, if we want to strive for a better transportation system that can reduce carbon emissions at the same time, state and federal transportation policies cannot work at odds with carbon reduction efforts.170 Otherwise, states are at risk both environmentally and economically.171

Keeping these perspectives in mind, both direct and indirect economic and environmental benefits of HSR represent an important convergence of policy objectives and an opportunity to shift the terms of the debate by demonstrating how a transformative, large-­‐scale infrastructure project would contribute favorably to both desired outcomes. A project’s positive economic impact deserves a more thorough analysis and understanding by not only regional planners and policymakers but also the public at large.

While many of the states planning for HSR systems have run out of highway capacity and have seen their mobility almost completely diminish, creative solutions still exist; but they require ingenuity, flexibility, prospective outlook and, most importantly, political will to overcome the financial hesitancies. In order to gain and maintain political will, the HSR projects will need to develop a visionary strategy. The projects will also need to form collaborative partnerships with the business, environmental, and community leaders who will come forward in support of the goal.

For example, a project will need to select a particular technology for use on its routes. Many factors will play a role in this decision, since maglev and steel wheel technology present different positives and negatives to each set of circumstances. Often, the steel wheel technology receives more consideration over maglev due to its ability to operate on existing track; however, the present rail infrastructure owned by the freight railways will not allow for the higher speeds. The existing track will need upgrades in order to allow for the equivalent speeds of the maglev system, which will erase many of the steel wheel advantages of using the existing infrastructure

With this premise in mind, the amount of development surrounding the rail line will shape the technological approach. Because the maglev system requires a dedicated guideway, the installation of track within less developed regions of the country or where more wide-­‐open spaces occur correlates very similarly to that of the steel wheel technology making the two options comparable. However, the steel wheel approach fits better within an urban setting since it can utilize existing rail infrastructure with minimal retrofitting needs albeit at a much slower speed.

In other situations where geography plays a role, the additional infrastructure requirements may produce a different analysis. For instance, some parts of the country can benefit from maglev’s ability to overcome mountain passes with little need for additional infrastructure like tunnels, while the terrain in other areas can utilize steel wheel technology because of its more level geography.172 Accordingly, the country’s diversity on both urban and rural settings in conjunction with its geographic variety demonstrates that neither technology provides a superior choice in all settings.

Furthermore, the ROW issues will also present a hurdle to HSR projects not associated with Amtrak. Because Amtrak chose to indemnify the track owners for possible torts claims, a nongovernmental project choosing to utilize existing freight track will need to overcome this precedent while securing access and possibly the right to upgrade and maintain a better quality of rail line infrastructure. A project will also need to either obtain new ROWs where possible or share track with existing infrastructure in other locations to fulfill its high-­‐speed mission. As such, both of these hurdles provide significant concerns towards accomplishing the HSR goal, but the financial model used to operate the HSR can resolve many of these economic issues associated with ROW.

Finally, the concluded Stage 1 NEPA analysis in both the southeast and California-­‐Nevada corridors opted for HSR instead of other choices like improving highways and airports or taking little to no action.173 The fact that two independent macro level studies for different projects concluded that HSR offered a better solution over the traditional highway and aviation solutions shows the strength of the overall benefits provided by HSR on both the transportation and environmental aspects.

Thus, the missing element to successfully implementing HSR across the country comes from a lack of political will in Congress and at the state level to foster the appropriate setting; since most, if not all, of the identifiable obstacles can be remedied in the comprehensive operating plan and on a financial level.

VII. Conclusion

With the foregoing in mind, none of the issues outlined are insurmountable to accomplish the goal of bringing HSR to the United States. However, HSR will not occur in this country if the different levels of government do not start to align their transportation, environmental, and economic policies into a unified direction.

Unfortunately few of the enumerated benefits will occur if transit budgets remain slashed and if states continue to lack a nexus between their transportation, environmental, and economic policies. A HSR system will not reach its potential if rail feeder buses and light and commuter rail services are abandoned. If our leaders are sincere about implementing climate change initiatives, transit should be recognized as the most essential component lending to the reduction of greenhouse gas emissions instead of treated as a mere afterthought. In practical terms, adequate funding must be preserved to promote all modes of public transportation

To this end, the foundational elements that justify HSR’s existence need continued support by all levels of government. In order to successfully implement a HSR system in this nation, the many opponents will need proof that HSR is a system that not only can be built in a sustainable, responsible, and efficient manner but also follows the environmental guidelines of NEPA and relevant state laws while lowering travel times, increasing mobility, as well as reducing congestion and emissions

Hence, the Obama Administration created the initial momentum to take control of some of the many global warming issues, while pushing for a cleaner energy policy throughout the country by investing in a smarter and greener transportation infrastructure such as HSR that creates multiple benefits simultaneously.

## FYI

### Key Terms & Glossary

#### Brief Discussion

The Obama administration recently announced the vision to have high speed rail available for 80% of Americans by 2025. The stimulus that passed in 2009, the ARRA, included funding for High Speed Rail. There were 4 major problems –

a. it wasn’t enough money to fully fund a high speed rail project. It was intended as a downpayment but wasn’t enough

b. political problems against High Speed Rail – congress hates funding. States like Florida just rejected the money they had received and said no. There has also ben push back to the completion.

c. no funding remaining. The most recent budget from congress gives ZERO dollars for high speed rail. It was starting to move forward but having received no money, planning is slowing to a halt.

d. the legislation didn’t specify high speed rail. Instead it made money available for a litany of programs like freight rail, highway improvements, etc.

So, to solve those four problems there is very good evidence calling for more committed money explicitly for high speed rail.

Two major advantages for the aff – although there is plenty of research ground for expanding the aff.

The environment – high speed rail is far less energy intensive, and relies on energy production from power plants instead of oil. That allows a massive decrease in carbon emissions upon completion of a high speed rail. There is also a component to the advantage that relies on aviation bad. Airlines emit vapor into the atmosphere at a higher level and are more dangerous. Cars and planes are also far more oil reliant than a high speed rail would be which allows us to make changes to our oil dependent foreign policy – another impact to the advantage.

The Economy – we need more jobs pushed into our economy. A high speed rail would create millions of jobs and infuse a bunch of cash into the economy. The defenses of the government spending money on infrastructure are the most important debate to be had on the topic. The aff’s ability to defend the Stiglitz evidence will determine wins and losses.

#### FAQ

1. What type of high speed rail do we build?

Depends on each location. The solvency evidence speaks to the need to have an open process where each region or mega-region chooses the train system and land-use that is best for them. The government just helps invest in whatever programs are best suited.

2. How much money?

Lots and lots and lots. There are several cards that say hundreds of billions of dollars. The important debate answer is that the plan would get investors involved that would cover a good portion of the money as the USFG is only investing, not handing out checks.

#### Acronyms

HSR = High Speed Rail

ARRA = The American Recovery and Reinvestment Act of 2009. The stimulus as you know it.

DOT = Department of Transportation

CO2 = carbon dioxide

### What is HSR

#### High Speed Rail is . . .

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

W H A T I S H I G H - S P E E D R A I L ?

The term high-speed rail refers to a variety of modern railway technologies that allow passenger trains to reach higher velocities than conventional trains. Due to advanced signaling systems, these high-speed trains can also operate with greater frequency, thus creating greater capacity to move more passengers. However, high-speed rail is more than just upgraded tracks and new trains. It is a complex system of rail operations and maintenance technologies and procedures, commercial and management policies and approaches, and innovative ﬁnancing sources and mechanisms. Each component of this system contributes to high-speed rail’s utility and competitiveness (UIC 2010a).

 How fast is high-speed rail? The internationally recognized deﬁnition of high-speed refers to rail operations at or above 155 miles per hour (mph). In 1996 the European Union (EU) ofﬁcially adopted Directive 96/48, which deﬁnes high-speed rail as trains capable of reaching speeds of 155 mph on dedicated, high-speed tracks or 125 mph on conventional tracks. As of January 2011, trains in 11 countries already operate at speeds up to 185 mph, and several can reach 215 mph— the current international standard for new lines. The world’s fastest passenger train in commercial operation, in Shanghai, China, reaches top speeds of 260 mph using magnetic levitation technology (Givoni 2006; UIC 2011).

### Maglev

#### Maglev is awesome – has trains up to 360mph

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

Maglev technology is completely different from traditional steel-wheel-on-steel-rail technology. It involves using an electromagnetic force stored in very powerful magnets embedded in the guideways and underbody of the trains that cause the train to hover and propel it forward at extremely high velocities. Test maglev trains in Japan have achieved speeds over 360 mph (Takagi 2005). This dedicated track technology means that maglev trains are incompatible with other passenger and freight rail tracks, and conventional and freight trains are incompatible with the maglev guideways. China is currently the only country with an existing maglev train in commercial operation (Givoni 2006).

## Inherency

### Not built now

#### Not happening now – lacks universal support

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The United States has been slow to invest in high-speed rail, but planning and policy making are now being pursued more seriously. In 2009 and 2010, the U.S. Congress appropriated $10.1 billion toward a new, competitive grant program for high-speed rail, and President Barack Obama’s 2012 budget proposal assigns $53 billion over the following six years to begin developing a national high-speed and conventional passenger rail network that could connect up to 80 percent of Americans.

Broad support for the program across the country is evident in the 39 states that applied for funding since 2009, yet that support is not universal. Some critics have labeled it wasteful, lacking focus, or failing to aim for “true” high-speed technology (Laing 2011a). The ﬂedging program has experienced its share of growing pains because the recent $10.1 billion infusion has required simultaneous planning, policy making, and grant administration by the U.S. Department of Transportation Federal Railroad Administration (FRA). The agency has adapted quickly, but these tasks are far outside FRA’s traditional role of enforcing safety regulations on America’s railroads.

To build and sustain support for a longterm commitment to develop a national high-speed rail network in America, proponents will need to lay out a compelling case for its beneﬁts, particularly those related to U.S. travel behaviors, land use patterns, and urban and regional economies. Chapter 2 outlines potential beneﬁts based on the experiences of other countries in building and operating high-speed rail systems since the 1960s, and the following sections introduce some characteristics of high-speed rail.

### No funding now

#### ZERO money for HSR

HURST 11 – 21 – 11 CQ Staff

[Nathan Hurst, CQ WEEKLY – WEEKLY REPORT APPROPRIATIONS, Nov. 21, 2011 – Page 2448, Obama Initiatives on Infrastructure, High-Speed Rail Are Zeroed Out]

House and Senate conferees provided no funding for two of President Obama’s signature initiatives: high-speed rail and a national infrastructure bank

Obama has requested $53 billion over six years for high-speed rail. The Senate Appropriations Committee agreed to set aside $100 million in fiscal 2012.

Overall, the three-bill minibus (HR 2112) that the Senate cleared Nov. 17 would provide $109.4 billion for the departments of Transportation and Housing and Urban Development (HUD). Just $55.6 billion of that is discretionary appropriations; most of the funding in the bill comes from obligations for the Highway Trust Fund. (Minibus, p. 2445

The discretionary funding is virtually the same as in fiscal 2011, but it is $19.4 billion less than Obama sought

Senate Majority Whip Richard J. Durbin, D-Ill., said he was “disappointed that the final bill did not include funding specifically for high-speed rail,” but he expressed optimism that projects such as the one in his state aiming to provide faster rail links between Chicago and St. Louis would continue under a different grant program.

### ARRA wasn’t enough

#### ARRA wasn’t enough

ROGERS 11 J.D., University of Illinois College of Law, 2011; B.A., Economics, University of Utah

[Joshua Rogers, NOTE: THE GREAT TRAIN ROBBERY: HOW STATUTORY CONSTRUCTION MAY HAVE DERAILED AN AMERICAN HIGH SPEED RAIL SYSTEM, University of Illinois Journal of Law, Technology & Policy, Spring, 2011]

C. Does ARRA Fund a System Which Holds True to the Purposes and Vision of High Speed Rail?

ARRA high speed rail funding represents the largest single federal funding allocation for passenger rail in U.S. history. n112 Distribution of the $ 8 billion allocated by ARRA was subject to interested applicants submitting a pre-application to the FRA by July 10, 2009. n113 In total, 259 grant applications were submitted by 37 states and the District of Columbia, requesting almost $ 57 billion total. n114 On Jan. 28, 2010, President Obama announced the recipients of ARRA high speed rail funds. n115 The ARRA funds were distributed throughout four regions, including several large metropolitan areas. n116 The announcement was met with the praise of high speed rail advocates and criticism of high speed rail detractors, much in the same way as the debate proceeded prior to the announcement. However, the announcement may have created more questions than answers for those who follow the development of high speed rail closely. The ARRA awards left some of the predetermined high speed rail corridors conspicuously absent and identified only two of the thirty awards as high speed rail projects. n117

#### ARRA doesn’t establish enough funding

ROGERS 11 J.D., University of Illinois College of Law, 2011; B.A., Economics, University of Utah

[Joshua Rogers, NOTE: THE GREAT TRAIN ROBBERY: HOW STATUTORY CONSTRUCTION MAY HAVE DERAILED AN AMERICAN HIGH SPEED RAIL SYSTEM, University of Illinois Journal of Law, Technology & Policy, Spring, 2011]

3. Does ARRA Funding Provide a Sufficient Beginning for U.S. High Speed Rail?

A conservative estimate of developing true high speed rail in all of the designated corridors would range somewhere between $ 400-$ 800 billion. n132 While the funding from ARRA has never been purported to fund the entire cost of a U.S. high speed rail network, it has been stated that the President intended for the $ 8 billion investment to act as a down payment on such a network. n133 It is unclear what is meant by down payment in this context; however, some additional text may inform the context. In conjunction with the statement that [\*231] the funding was intended to be a down payment, the President explained that it was intended to "jump-start" the development of a comprehensive high speed rail network. n134 Thus, the ARRA funding is expected to establish the beginning of a high speed rail network.

ARRA funding fails to establish the beginnings of a high speed rail network, because it is too modest. Considering the total funding of $ 400-$ 800 billion that U.S. high speed rail will require, the $ 8 billion allocated by ARRA would amount to only a 1%-2% down payment on a national network. Furthermore, if each of the eleven designated corridors was to receive an equal share in the ARRA funds, it would amount to $ 720 million per corridor, falling below 5% of total project cost for even the cheapest of the corridors. Thus, it would seem that the only way that the $ 8 billion could significantly "jump-start" development in any of the high speed rail corridors would be to allocate the full amount between one or two corridors.

Moreover, too much of the intended funding is diverted to non-high speed rail improvements for the ARRA funds to "jump-start" high speed rail. According to the funding provisions of ARRA, the Secretary of Transportation is only required to "give priority to projects that support the development of intercity high speed rail service." n135 This weak language allows projects laying foundation for high speed rail to receive priority along with actual "shovel-ready" projects. n136 Through this language $ 4.5 billion of the awards that were granted under ARRA actually went to non-high speed projects, n137 while $ 3.5 billion of the awards were distributed between California and Florida high speed rail projects. n138 Thus, even though only two high speed rail projects were actually funded with ARRA allocations, the amounts of those awards were drastically diluted by non-high speed projects almost to the equivalent of an equal share allocation among all eleven corridors.

Therefore, it appears significantly unlikely that ARRA provides sufficient funding to even begin a U.S. high speed rail network.

### Cali coming now

#### Only California will have an actual HSR

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

In awarding the projects, the FRA developed a new deﬁnition that distinguishes three tiers of high-speed and intercity passenger rail service, which differ somewhat from international deﬁnitions of high- speed rail (ﬁgure 2). The top tier U.S. service, termed Core Express, operates at speeds above 125 and up to 250 mph on dedi- cated tracks.

According to the U.S. Department of Transportation, the “FRA’s vision for a national high-speed rail program is to develop tiered passenger rail corridors that take into account the different markets and geographic contexts found throughout the United States” (U.S. DOT 2010, 10). This is consistent with the recommendation in this report that investments in Core Express corridors be directed toward the largest markets in the country, where population density and congestion on competing modes of transportation justify the level of investment in dedicated high-speed rail. Lesser investments in Regional or Emerging/ Feeder corridors could serve smaller networks of metropolitan regions and emerging markets, using an incremental approach to making improvements over time. Under these deﬁnitions, the planned California high-speed rail system is the only project awarded a federal grant to date that is designed to be a Core Express service with top speeds of 220 mph on new, dedicated tracks. The existing Acela Express service in the Northeast Corridor currently meets the FRA’s deﬁnition of Regional service, though plans for the Northeast Corridor would bring the service up to Core Express (see chapter 5). Most other passenger rail services operating on freight rights-of-way in the United States fall into the category of Emerging/Feeder service.

### Needs More Investment

#### Yes, there has been lots of money for High Speed Rail in the past – but it isn’t getting done. Need sustained investment on the federal level

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

High-speed rail has been adopted throughout the world, and is now being planned and developed in the United States. Over the past 50 years, U.S. transportation spending has favored the development of interstate highway and aviation systems. In the meantime, countries such as China, Japan, Spain, France, and Germany have been investing in modern high-speed rail systems to satisfy the travel demands of current and future generations. As the United States embarks on the High-Speed Intercity Passenger Rail Program launched in 2009, it can learn from the experiences of other countries in planning, constructing, and operating high-speed rail

In 2009–2010, the U.S. Congress appropriated $10.1 billion for a new high-speed and intercity passenger rail program. Applications from 39 states requested nearly $75 billion, demonstrating broad interest in and support for this program. The available funds were awarded to dozens of conventional intercity passenger rail projects and a few dedicated high-speed rail projects in 32 states and the District of Columbia, and those projects are now moving forward.

The U.S. Department of Transportation, which manages the passenger rail program, has adopted a tiered approach, which emphasizes investments appropriate to the different markets and geographies in the United States. It deﬁnes three categories of passenger rail service that are intended to work together as a network: Core Express refers to high-speed trains operating on dedicated tracks with frequent service; Regional service operates at moderately high speeds and high frequency on shared corridors; and Emerging/ Feeder service is less frequent and connects smaller and emerging markets to major markets located along Regional and Core Express routes.

Decades of international experience with high-speed rail suggests that it could create similar transportation, economic, environmental, and safety beneﬁts in American cities and regions. While it requires high upfront investment, high-speed rail promotes economic growth by improving market access, boosting productivity of knowledge workers, expanding labor markets, and attracting visitor spending. When planned thoughtfully with complementary investments in the public realm, high-speed rail can promote urban regeneration and attract commercial development, as shown in several European examples. High-speed rail has greater operating energy efﬁciency than competing modes and takes up less land than highways.

The initial investment of $10.1 billion in the U.S. High-Speed Intercity Passenger Rail Program, after years of minimal federal investment, required that the federal government and participating states quickly scale up to the challenge of laying the groundwork for a foundational program and implementing it at the same time. Those states that had the staff capacity, expertise, and experience in rail planning, such as Illinois, North Carolina, and Washington, were successful in securing high-speed rail grants. However, carrying the momentum of this initial investment forward has proven to be a struggle in a difﬁcult ﬁscal environment, and California is currently the only federally funded Core Express high-speed rail project moving forward. In 2011, Congress voted to strip funding from the program. The expiration of the legislation authorizing the high-speed rail program in 2013 may provide an opportunity to consider policy changes.

This report describes several funding strategies that have proven to be successful in other countries, and makes speciﬁc policy recommendations to better position the federal high-speed rail program for success.

Strengthen the federal policy and management framework by expanding the federal role in planning and prioritizing high-speed rail corridors and working with the states to secure rights-of-way.

Prioritize corridors that meet investment criteria by clarifying the objectives and desired outcomes of the federal program and promoting investments in those corridors that exhibit the characteristics that are indicative of success.

Establish new mechanisms for corridor management by developing legislation that enables the creation of public infrastructure corporations that can operate across state and national borders and attract private investment.

Plan for maximum land development beneﬁts by coupling high-speed rail station investments with policies that encourage land development around station areas. In general, well-connected stations in center-city locations offer the greatest potential for urban revitalization.

Focus initially on the Northeast Corridor and California, which offer the best opportunities for Core Express high-speed rail service in the United States, by addressing the management and ﬁnancing challenges each region faces.

Secure adequate and reliable funding by drawing on a full complement of potential federal, state, and private sources. Such sources could include increasing existing transportation related fees (such as a portion of the gas tax or ticket surcharges), creating an infrastructure bank, forging public-private partnerships, and expanding existing credit assistance programs.

### Tech is proven

#### Lots of HSR now – works well

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

HIGH - SPEED RAIL’S TRACK RECORD

High-speed rail is hardly a new transport technology. Japan has been the global pioneer since 1964, when the Shinkansen Tokaido line opened as the world’s ﬁrst highspeed rail service. It had an initial speed of 130 mph, but the maximum speed has risen to 168 mph, bringing Tokyo and Osaka within a three-hour rail journey of each other (JR Central 2011c). The Tokaido line has served more than 5 billion passengers and is by far the world’s busiest high-speed rail line (Envoy Media 2010). Thus, 1964 marked the beginning of what Banister and Hall (1993) term the world’s second railway age.

 High-speed rail did not catch on right away, however. It was not until 1981 that France introduced its TGV Sud-Est line, Europe’s ﬁrst high-speed rail line, connecting Paris with Lyon, France’s second largest urban area. Operating at a speed of 168 mph, the line reduced travel time to two hours for the 280-mile journey. France was able to lower construction costs by adopting a mixed high-speed rail system that utilizes conventional tracks on the approaches to main stations to avoid major disrup- tions due to construction and unnecessary scarring of the urban fabric (Chen and Hall 2011). Italy was the only other country to develop high-speed rail in the 1980s

 In 1991, Germany’s Deutsche Bahn opened its ﬁrst Inter-City Express (ICE) service between Hamburg and Munich via Frankfurt. Originally the system was designed to be fully compatible for passenger and freight trains, but this model has shifted in favor of segments with limited or no freight service, including those from Cologne to Frankfurt and from Cologne to Berlin via Hannover (Chen and Hall 2011). Spain’s Alta Velocidad Española (AVE) line between Madrid and Seville began running in 1992 at speeds of 199 mph. The only other country to construct a high-speed rail service in the 1990s was Belgium, which connected Brussels to London and Paris in 1997 via the Eurostar system (UIC 2011).

 Since 2000, high-speed rail service has been introduced in England, South Korea, Switzerland, Taiwan, The Netherlands, Turkey, and the United States. The eighth and by far most notable recent entry into high-speed rail is China, which opened its ﬁrst high-speed rail line in 2003. Shortly thereafter it had already built the world’s most extensive high-speed rail network. According to the International Union of Railways (UIC 2011), by January 2011 China had opened 3,914 miles of high-speed rail (nearly 40 percent of the world total), had over 2,696 miles under construction, and was planning another 1,802 miles (table 1).

## Econ – Adv

### Stimulates the econ

#### HSR system would stimulate the economy in the short term – more action key

ZHENHUA 11 PhD student at the George Mason University, School of Public Policy, and is currently working as a graduate research assistant under the supervision of Prof. Jonathan Gifford in the area of transportation policy [Zhenhua Chen, Transportation Law Journal, Article: Is the Policy Window Open for High-Speed Rail in the United States: A Perspectives from the Multiple Streams Model of Policymaking, Summer, 2011, 38 Transp. L. J. 115]

IV. Conclusion

In this study, we followed John Kingdon's Multiple Stream Mode to record the different political factors that affect the HSR's agenda setting into three streams - problem, policy and politics. The findings show that in the United States, HSR is primarily addressed as an alternative to provide [\*143] sustainable medium distance travel service over a long-term. While in the short-term, HSR goals are creating jobs and stimulating the economy. The idea of HSR hasn't just emerged in recent years. On the contrary, it has been promoted by rail stakeholders, as well as Democratic lawmakers for almost a half century. Many kinds of planning, preliminary studies and policy proposals have been prepared, waiting for a window to open. However, the recent economic recession as well as the transition of the federal government administration finally opened the window for HSR. The short-term objective of the current national HSR promotion is political more than any other reason. Under such scenario, those states with substantial political advantages, such as Florida and California, have naturally waited in the front of the line to gain federal support. Moreover, as the catalysts in the process of policymaking, policy entrepreneurs' coupling activities have further advocated connecting their prepared proposals to politics and problem streams, which finally helped achieve their political outcome. The initial award of $ 1.25 billion of federal funding for Florida's HSR corridor project has proven that their success is largely attributed to the contributions of HSR policy entrepreneurs.

To conclude, the promotion of HSR in the United States is more a product of the American political game than the demand of transportation mode. Whether current HSR policy will truly make President Obama's national HSR strategy plan become reality is still hard to predict because the current open window for HSR may close soon. The current proposals for HSR from the legislative perspective are more likely to be seen as solutions for job creation and as ways to stimulate the economy. However, this perspective may be risky if only the short-term objective is addressed. USDOT reports that the whole national HSR system would cost no less than $ 500 billion. n186 Compared to this figure, the current thirteen billion dollars (eight billion dollars plus the pledged future five billion dollars) HSR fund is only a seed. The goal of creating jobs may be achieved through the ARRA in the short term, but whether the long term objective of building a cost effective HSR system can be achieved is still unknown. However, one thing that is obvious: if a truly efficient and reliable national HSR system is desired in the United States, more consideration should be put on the long-term objectives instead of the short-term. The implementation of an efficient national HSR system should not solely depend on political and problem windows. It must also be technically and economically feasible. This means the current focus of HSR development should be on fundamental research instead of any [\*144] hasty on-site construction. This research should include: project funding, corridor route planning and design, rider-ship forecasts, cost-benefit estimations, operation and management design, and national HSR publicity campaigns. Only by eliminating irrational political reactions to HSR will America get on the right track for future mobility, both stimulating the economy and achieving a new era of sustainable transportation.

#### Key to economic growth – revives economic life, sustains population growth

SMITH 10 Senate president pro tempore and co-chairman of the High-Speed Rail Working Group of the National Conference of State Legislatures

[Sen. Malcolm A. Smith, Our economic future lies in high-speed rail. By: Smith, Malcolm A., New York Amsterdam News, 10591818, 2/25/2010, Vol. 101, Issue 9]

Numerous studies depict the inability of airports and roads to accommodate our population growth, and the devastating environmental and international (oil, for example) consequences of trying. High-speed passenger rail can no longer be viewed as another nostalgic revival of our storied rail past or a wistful attempt to emulate Europe and Asia's high-speed rail triumphs. It must be seen as a potential centerpiece of a revival of American infrastructure.

High-speed rail can provide a direct stimulus to economic life in upstate cities like Niagara Falls, Buffalo, Rochester, Syracuse, Utica, Albany and Plattsburgh.

This nation is no stranger to bold effort, even in times of stress. Obama recently reminded us of Lincoln's decision to build a transcontinental railroad during the Civil War. Decades earlier, New York built the Erie Canal for the then-staggering sum of $15 million, along the same east-west corridor as the proposed high-speed rail line. The Erie Canal set the stage for New York's explosive growth as the center of the nation's commerce.

### Billions of jobs

#### Infrastructure projects create jobs

JOHNSON 5 – 1 – 12 Fellow, Campaign for America's Future

[Dave Johnson, Transportation and Infrastructure = Immediate Jobs = Deficit Reduction, http://www.huffingtonpost.com/dave-johnson/transportation-infrastruc\_b\_1469356.html]

President Obama spoke Monday at the AFL-CIO's Building and Construction Trades Department Legislative Conference in Washington, asking Republicans to stop blocking infrastructure and transportation projects. (See transcript here.) These projects would immediately create jobs, which would immediately start reducing the country's deficit -- which is probably why Republicans are blocking them

There are millions of infrastructure jobs that absolutely need doing. There are millions of people out of work who really, really need jobs. On top of that the cost of financing is the lowest ever. So maintaining and modernizing our infrastructure would immediately put millions of people to work. But wait, there's more! Modernizing our infrastructure would make our economy more efficient and our businesses more competitive, bringing returns for decades. So, of course, with all these points going for it Republicans are blocking it.

The Obstruction

We have been deferring infrastructure maintenance since the Reagan years, but in recent years Republicans have doubled down on blocking public investment, calling it "just more government spending" and even "socialism." And, they complain, construction projects help union members.

So Republicans have blocked bill after bill to repair and modernize the infrastructure, or to maintain and modernize our aging transportation system, build high-speed rail, etc. The president discussed this obstruction in his speech

... over the last year, I've sent Congress a whole series of jobs bills that would have put your members back to work. But time after time, Republicans have gotten together and said "no." I sent them a jobs bill that would have put hundreds of thousands of construction workers back to work repairing our roads, bridges, schools and transit systems, along with saving the jobs of cops, teachers, and firefighters, and creating a new tax cut for businesses. They said "no." Then, I sent them just the part of that bill that would have created those construction jobs. They said "no." And we're seeing it again right now. As we speak, House Republicans are refusing to pass a bipartisan bill that could guarantee work for millions of construction workers. Seeing a pattern here? That makes no sense. Congress should do the right thing and pass this bill right away.

#### Creates jobs

DORSETT 10 CNN Reporter

[Katherine Dorsett, Is the U.S. turning a corner on high-speed rail?, CNN, <http://www.cnn.com/2010/TRAVEL/08/18/us.high.speed.rail/index.html>]

High-speed rail also has many supporters.

The United States Conference of Mayors, American Association of State Highway and Transportation Officials and America 2050 -- a coalition of regional planners, scholars and policy-makers -- back high-speed rail plans. The U.S. High Speed Rail Association is also among the supporters.

"Experts in the oil industry have been saying for a number of years now that there is not enough oil left in the ground to continue our current level of consumption, not to mention no way to meet growing demand, and we can expect half as much oil available to us in the next 20 years," said Andy Kunz, president and CEO of the rail association.

"If we are to continue economic development and prosperity, we will need to greatly reduce our daily oil consumption, and high-speed rail is the only possible solution that can scale up to meet the growing demand of American mobility while greatly reducing our oil consumption," said Kunz.

High-speed rail supporters say the industry would stimulate the economy by creating millions of jobs across numerous sectors.

"Based on our company's 45 years of experience with high-speed rail in Japan, bringing high-speed rail to the United States will translate into jobs," said Mike Finnegan, an executive with US-Japan High Speed Rail and US-Japan Maglev.

"Importantly, these jobs pay well and they cannot be shipped overseas."

"The $8 billion investment in high-speed rail for America is just the beginning," said Szabo. "We know that it won't be built overnight, but the federal government is committed to the long-term development of the program. Of course, the Department of Transportation will fund projects that have the best chances to succeed and have instituted rigorous requirements to ensure successful completion of these projects."

### Jobs key

#### Jobs key to sustained growth and recovery

HINDERY & GERARD 5 – 15 – 12 co-chairs of The Task Force on Jobs Creation. Hindery is also founder of Jobs First 2012 and a member of the Council on Foreign Relations. Gerard is international president of the United Steelworkers and a member of the executive council of the AFL-CIO

[Leo Hindery, Jr. and Leo W. Gerard, http://www.huffingtonpost.com/leo-hindery-jr/job-creation\_b\_1517730.html]

The big immediate opportunity, however, is the pending highway bill and the projected 2.9 million jobs it would almost immediately create before the summer and fall construction seasons bleed away. This bill is, in fact, such an obvious massive, immediate job creator that if the Republicans in Congress continue to stall it from passing out of conference, there can be no better example of just how extremist in their governance they have become

Unless the real unemployment jobs crisis -- with 26.7 million women and men still unemployed in real terms and a real unemployment rate of 16.6% -- is frontally challenged by pursuing all of the low-hanging job-creating initiatives -- of which four has now become seven -- it's not possible to anticipate a sustained economic recovery that fully revitalizes the middle class. But when they are picked and enacted, then the engines of economic growth will start to turn over and really roar.

### Infrastructure Spending boosts Growth

#### Infrastructure spending on a national level boosts growth - spillsover

NIJKAMPA & POOT 04 a. Vrije Universiteit, De Boelelaan b. Victoria University of Wellington

[Peter Nijkampa, Jacques Poot,Meta-analysis of the effect of fiscal policies on long-run growth, European Journal of Political Economy, Volume 20, Issue 1, March 2004, Pages 91–124]

The next type of fiscal policy to be considered is public infrastructure. The sample included 39 observations on this topic. There are broadly two types of studies with respect to infrastructure. The first type, which is the more common, compares the productivity of the stock of public capital such as roads, dams, airports etc. with the productivity of private capital. The often-cited articles by [Aschauer, 1989a], [Aschauer, 1989b] and [Aschauer, 1989c] provided a major boost to research in this area. The estimated coefficients of public capital in the production function provide then the means through which the effect of growth in public capital on growth in output can be calculated.8 The second approach is to consider directly the impact of the flow of current government expenditures on infrastructure in growth regressions. With either approach, the evidence is relatively strongly supportive of a positive effect of public infrastructure on growth. In total, about 72% of the studies on the relationship between infrastructure and growth suggested a positive effect, while about one fifth was inconclusive. After research on the effect of education expenditure discussed below, this is the relatively most conclusive body of research.

However, it is also hard to make firm quantitative generalisations here. Button's (1998) meta-analysis reports a range of output elasticities of between 0.03 and 0.39. These elasticities appear to be related to the level of geographic aggregation. The output elasticity of public capital becomes less, the smaller the geographical area that acts as the unit of observation. The most obvious reason for this is that due to leakages, small regions cannot capture the full payoff to infrastructure investment. Moreover, the rest of the economy may reap any dynamic spillover effects. Indeed, we found in our sample that studies with national data were more likely than regional studies to identify benefits from infrastructure.

#### Infrastructure investment boosts growth and spillover – happens for multiple years

NIJKAMPA & POOT 04 a. Vrije Universiteit, De Boelelaan b. Victoria University of Wellington

[Peter Nijkampa, Jacques Poot,Meta-analysis of the effect of fiscal policies on long-run growth, European Journal of Political Economy, Volume 20, Issue 1, March 2004, Pages 91–124]

The information in Table 5 reinforces what was concluded in Section 3. All but one of the reported rules (the exception is rule 8) relate to a specific type of government policy. Positive impacts are found for infrastructure policy (rules 1 to 3 and 5) and education policy (rule 4). Negative impacts are found for defence policy (rules 6 and 7). No rules relate to inconclusive impacts regarding fiscal policy.

Rule 1, the rule with highest relative strength, says that among infrastructure studies, those using time series analysis have found a positive effect of infrastructure spending on growth. Twelve observations supported this rule. As the total frequency of studies concluding a positive effect of fiscal policy was 47, the proportion is 25.5% (also referred to as the relative strength). This rule was particularly robust to sensitivity analysis and may therefore be considered the main finding of the rough set analysis. Rule 1 highlights that the full impact of infrastructure is not likely to be measured immediately after the investment is made. Rough set analysis reinforces here the observation made in Section 3 that the probability that a study in the sample detected a significantly positive effect of public infrastructure on growth was the greater, the longer the time span of data used in the econometric analysis. New infrastructure may lead to a dynamic process of growing trade, firm relocation, household migration, etc. It may take several years for a new steady state to be reached and studies that capture such effects require time series data. In order to capture spatial spillover effects, a multi-year panel of regional cross-sections is essential.

#### Infrastructure spending is positive for the economy – studies prove

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[Jacques Poot, A Synthesis of Empirical Research on the Impact of Government on Long-Run Growth, Growth and Change Vol. 31 (Fall 2000), pp. 516-546]

The final area of public expenditure considered in this paper is public infrastructure. Table 6 classifies 39 cases on this topic. There are broadly two types of studies. The first type, which is the more common, compares the productivity of public capital such as roads, dams, airports etc. with the productivity of private capital. The often-cited articles by Aschauer (1989a, 1989b, 1989c) provided a major boost to research in this area. Button (1998) discusses a meta-analysis of such studies that aim to estimate the output elasticity of public capital. The second approach is to consider the impact of the flow of current government expenditures on infrastructure. With either approach, the evidence is relatively strongly supportive of a positive impact of infrastructure on growth. Table 7 shows that 72 percent of the studies on the relationship between infrastructure and growth suggest a positive impact. After the impact of education and health, this is the relatively most conclusive body of research. However, it is also here hard to make firm quantitative generalizations. Button (1998) reports a range of output elasticities of between 0.03 and 0.39. These elasticities appear to be related to the level of geographic aggregation. The output elasticity of public capital becomes less, the smaller the geographical area that acts as the unit of observation. As noted by Munnell (1992), the most obvious reason for this is that due to leakages, small regions cannot capture all of the payoff to infrastructure investment. Moreover, any dynamic spillover effects may also be primarily reaped by the rest of the economy.

### Immediate Benefit

#### Infrastructure Spending impacts immediately & multiplies – studies prove

LEDUC & WILSON 12 Federal Reserve Bank of San Francisco – a. Research Advisor for International Research b. Research Assistants

[Sylvain Leduc and Daniel Wilson, Roads to Prosperity or Bridges to Nowhere? Theory and Evidence on the Impact of Public Infrastructure Investment, (FRB San Francisco), Paper Prepared for 2012 NBER Macroeconomics Annual Conference]

VI. Concluding Remarks

This paper analyzed the dynamic economic effects of public infrastructure investment. The prior literature on dynamic fiscal multipliers generally has shied away from studying this type of government spending because of several unique and challenging features of public infrastructure investment. First, how much and where the public sector invests in infrastructure often is a complicated, partially-decentralized process. In the United States and many other countries, infrastructure investment is administered primarily by lower-level governments, though the federal government provides much of the funding.

Second, infrastructure investment typically involves long implementation lags between when funding decisions are made – hence when agents may begin acting on the knowledge of forthcoming spending – and when actual government outlays show up. This feature makes the standard measure of government spending, outlays, particularly unsuited for the purpose of identifying shocks to government infrastructure investment.

Third, and related, in order to give agents (especially local governments and private contractors) a sense of how much infrastructure funding will be available down the road, federal governments often lay out the levels of nationwide funding and/or the mechanism by which that funding is distributed geographically for several years in advance. This raises the possibility that government infrastructure spending could have macroeconomic effects even before the exact distribution of infrastructure funding is known, and potentially well before actual infrastructure production begins.

Finally, a defining characteristic of government infrastructure investment is that it is at least intended to increase the economic efficiency or productivity of the private sector. Productivity-enhancing government spending should have different macroeconomic effects than other types of government spending. For instance, the standard Neoclassical effect of increased government spending leading households to increase labor supply as they recognize the burden that spending has on the government’s budget constraint is potentially offset if agents also recognize the positive wealth generated by the resulting productivity gains.

Given these unique features of public infrastructure investment, our paper utilized the institutional details behind public highway spending in the United States. Many aspects of the institutional mechanism behind how federal highway funds are distributed to U.S. states allow us both to avoid the potential pitfalls posed by the features above and to turn them to our advantage in providing strong identification of exogenous shocks to infrastructure spending. In particular, federal funds are distributed to states based on strict formulas which are set many years in advance and make use of formula-factor data that are several years old, making these distributions exogenous with respect to current local economic conditions. Furthermore, rather than simply use changes in these distributions directly as a measure of spending shocks, we constructed forecasts of these distributions based on information available to agents in the years prior to the distributions. We measured spending shocks as changes between last year and this year in the expected present value of highway spending from this year forward in a given state.

Using these shocks to estimate dynamic panel regressions following the direct projections approach of Jorda (2005), we found that highway spending shocks positively affect GDP at two specific horizons. There is a significant impact in the first couple of years and then a larger second-round effect after six to eight years. Yet, we find no permanent effect, as GDP is back to pre-shock levels after ten years. The multipliers that we calculate from these IRFs are large, roughly 3 on impact and even larger six to eight years out. Other estimates of local fiscal multiplier tend to be between 1 and 2. In an extension, we found that the initial impact occurs only for shocks in recessions, while later effects are not statistically different between recessions and expansions.

A natural hypothesis is that the direct channel by which federal highway funding to a local area affects local economic activity is that federal highway grants lead local governments to spend more on highways. We confirmed that, at least in our data sample, there does appear to be a strong, equi-proportional effect of federal highway grants on state government road construction spending.

### A2 deficit

#### Focus on debt increases is flawed – poor economic model – no risk of US collapse that way

STIGLITZ 12 University Professor at Columbia University, and a Nobel laureate in Economics

[Joseph E. Stiglitz, Stimulating the Economy in an Era of Debt and Deficit, The Economists’ Voice http://www.degruyter.com/view/j/ev March, 2012]

concluding comments

The first priority of the country should be a return to full employment. The underemployment of labor is a massive waste and, more than anything else, jeopardizes our country’s future, as the skills of our young get wasted and alienation grows. As the work of Jayadev5 as well as the IMF6 convincingly shows, austerity in America will almost surely weaken growth. Moreover, as the work of Ferguson and Johnson7 shows, we should view with suspicion the claim (e.g. by Rogoff and Reinhardt) that exceeding a certain a debt-to-GDP ratio will trigger a crash. Even if this notion were true on average, the U.S. is not an average country. It is a reserve currency country, with markets responding to global instability—even when caused by the U.S.—by lowering interest rates. The U.S. has managed even bigger deficits. Unlike the countries of Europe, there is no risk that we will not pay what we owe. To put it bluntly, we promise to repay dollars, and we control the printing presses.

But a focus on the ratio of debt-to-GDP is simply economic nonsense. No one would judge a firm by looking at its debt alone. Anyone claiming economic expertise would want to look at the balance sheet—assets as well as liabilities. Borrowing to invest is different from borrowing for consumption. The failure of the deficit hawks to realize this is consistent with my earlier conclusion that this debate is not about the size of the deficit, but about the size of the government and the progressivity of the tax system.

#### Jobs from infrastructure solve deficit concerns

JOHNSON 5 – 1 – 12 Fellow, Campaign for America's Future

[Dave Johnson, Transportation and Infrastructure = Immediate Jobs = Deficit Reduction, http://www.huffingtonpost.com/dave-johnson/transportation-infrastruc\_b\_1469356.html]

Jobs Fix Deficit

Jobs fix deficits. People are paying income taxes instead of collecting unemployment benefits or food stamps, they are spending their paychecks and the stores are paying taxes, etc. So government revenues are up and payouts are down.

This is why the deficit is jobs, but there is a deficit of jobs.

If you want to fix the deficit problem you have to get people working again. And since we have to maintain and modernize the aging infrastructure anyway, then let's get people working on... maintaining and modernizing the aging infrastructure!

### Urban Revitalization

#### HSR creates urban revitalization and economic growth

TODOROVICH, SCHNED, & LANE 11 1. director of America 2050, a national urban planning initiative, assistant visiting professor at the Pratt Institute Graduate Center for Planning and the Environment and a member of the Board of Advisors of the Eno Transportation Foundation, Masters in City and Regional Planning from the Bloustein School of Planning and Public Policy at Rutgers University 2. associate planner for America 2050 at Regional Plan Association part-time lecturer at the Edward J. Bloustein School of Planning and Public 3. senior fellow for urban design at Regional Plan Association and a founding principal of Plan & Process LLP. Loeb Fellow at the Harvard Graduate School of Design

[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

TAKING ADVANTAGE OF REDEVELOPMENT OPPORTUNITIES

These case studies demonstrate that it is possible for any of the four station location types to create a redevelopment dynamic between the existing center and new acti- vities. But these examples also support a principal ﬁnding of the literature: well- connected stations in center-city locations, when coupled with other investments, offer the greatest potential for urban revitalization (Ribalaygua and Garcia 2010).

 Our analysis of aerial photos of 52 stations in Spain and France supports the ﬁnding that larger cities are more likely to bring high-speed rail service to stations in the city center than smaller cities with smaller markets and fewer resources (FacchinettiMannone 2009). The Tarragona case study suggests that center-city locations may not always be justiﬁed.

 High-speed rail can alter the dynamic between a city and its larger neighboring economic hubs by shrinking the travel time between them and creating a shift in economic geography (Chen and Hall 2011). Lille, a city in the north of France, is cited frequently for its signiﬁcant redevelopment activity after 1994, when a station opened on the new high-speed rail line connecting Paris to London or Brussels.

 The Lille station, on the site of a former military barracks at the edge of the historic town center, was developed into a major mixed-use center, including ofﬁces, hotels, housing, a shopping center, a conference center with exhibition hall, and a public park. The high-speed rail station at the new rail junction for three major European capitals sparked a complete reorganization of land use and development in the city (Nuworsoo and Deakin 2009).

 In declining neighborhoods and post- industrial areas, high-speed rail service can offer beneﬁts by reactivating properties that previously had not attracted investment for redevelopment. New high-speed rail stations in these cases can bring economic vitality and redevelopment to land and historic structures that would otherwise remain idle (Bertolini and Spit 1998).

### Wealth Redistribution

#### HSR access insures a redistribution of wealth – gives more people access to opportunities

LEVINSON 12 Networks, Economics, and Urban Systems Research Group, University of Minnesota, Department of Civil Engineering research was funded by New York University

[David M. Levison, “Accessibility impacts of high-speedrail,” Journal of Transport Geography, Volume 22, May 2012, Pages 288–291. Special Section on Rail Transit Systems and High Speed Rail]

Accessibility does two things, first it increases total wealth. Agglomeration economies caused by new infrastructure make aggregate output larger. But second, **it redistributes wealth**, as the locations where the accessibility gains are larger gain more of that aggregate wealth. Places which do not increase accessibility at least as much as average may find themselves losing economic opportunities which will relocate to take advantage of the accessibility benefits

Hubs, because of their respective positions, will capture accessibility benefits disproportionate to their already relatively large share of the population. First order beneficiaries are New York, Chicago, Los Angeles, Seattle, and Orlando, as they will be hubs of the new HSR networks. Places where the network branches will also see some benefits, but not as great. Second order beneficiaries are Atlanta and Dallas, which are hubs of the second generation networks. Third order beneficiaries are cities like New Orleans, Kansas City, Louisville and Raleigh which tie together multiple hub networks. Other cities on the networks will also see absolute accessibility gains, people in those cities will be able to reach more people in less time (or with higher quality, or at less out-of-pocket cost). However, while they may achieve absolute gains in accessibility, they may lose in relative position, as a greater share of the now larger total accessibility is accumulated by the hub cities.

### Econ Growth stops wars

#### Studies prove

ROYAL 10 Director of Cooperative Threat Reduction at the U.S. Department of Defense

 [Jedediah Royal, 2010, Economic Integration, Economic Signaling and the Problem of Economic Crises, in Economics of War and Peace: Economic, Legal and Political Perspectives, ed. Goldsmith and Brauer, p. 213-215]

Less intuitive is how periods of economic decline may increase the likelihood of external conflict. Political science literature has contributed a moderate degree of attention to the impact of economic decline and the security and defence behaviour of interdependent stales. Research in this vein has been considered at systemic, dyadic and national levels. Several notable contributions follow. First, on the systemic level. Pollins (20081 advances Modclski and Thompson's (1996) work on leadership cycle theory, finding that rhythms in the global economy are associated with the rise and fall of a pre-eminent power and the often bloody transition from one pre-eminent leader to the next. As such, exogenous shocks such as economic crises could usher in a redistribution of relative power (see also Gilpin. 19SJ) that leads to uncertainty about power balances, increasing the risk of miscalculation (Fcaron. 1995). Alternatively, even a relatively certain redistribution of power could lead to a permissive environment for conflict as a rising power may seek to challenge a declining power (Werner. 1999). Separately. Pollins (1996) also shows that global economic cycles combined with parallel leadership cycles impact the likelihood of conflict among major, medium and small powers, although he suggests that the causes and connections between global economic conditions and security conditions remain unknown. Second, on a dyadic level. Copeland's (1996. 2000) theory of trade expectations suggests that 'future expectation of trade' is a significant variable in understanding economic conditions and security behaviour of states. He argues that interdependent states arc likely to gain pacific benefits from trade so long as they have an optimistic view of future trade relations. However, if the expectations of future trade decline, particularly for difficult to replace items such as energy resources, the likelihood for conflict increases, as states will be inclined to use force to gain access to those resources. Crises could potentially be the trigger for decreased trade expectations either on its own or because it triggers protectionist moves by interdependent states.4 Third, others have considered the link between economic decline and external armed conflict at a national level. Mom berg and Hess (2002) find a strong correlation between internal conflict and external conflict, particularly during periods of economic downturn. They write. The linkage, between internal and external conflict and prosperity are strong and mutually reinforcing. Economic conflict lends to spawn internal conflict, which in turn returns the favour. Moreover, the presence of a recession tends to amplify the extent to which international and external conflicts self-reinforce each other (Hlomhen? & Hess. 2(102. p. X9> Economic decline has also been linked with an increase in the likelihood of terrorism (Blombcrg. Hess. & Wee ra pan a, 2004). which has the capacity to spill across borders and lead to external tensions. Furthermore, crises generally reduce the popularity of a sitting government. "Diversionary theory" suggests that, when facing unpopularity arising from economic decline, sitting governments have increased incentives to fabricate external military conflicts to create a 'rally around the flag' effect. Wang (1996), DcRoucn (1995), and Blombcrg. Hess, and Thacker (2006) find supporting evidence showing that economic decline and use of force arc at least indirecti) correlated. Gelpi (1997). Miller (1999). and Kisangani and Pickering (2009) suggest that Ihe tendency towards diversionary tactics arc greater for democratic states than autocratic states, due to the fact that democratic leaders are generally more susceptible to being removed from office due to lack of domestic support. DeRouen (2000) has provided evidence showing that periods of weak economic performance in the United States, and thus weak Presidential popularity, are statistically linked lo an increase in the use of force. In summary, rcccni economic scholarship positively correlates economic integration with an increase in the frequency of economic crises, whereas political science scholarship links economic decline with external conflict al systemic, dyadic and national levels.' This implied connection between integration, crises and armed conflict has not featured prominently in the economic-security debate and deserves more attention.

## Enviro - Adv

### Warming Real & Coming – FF cause

#### Climate change is real and coming – fossil fuel consumption is the cause

HILLMAN 07 Senior Fellow Emeritus at Policy Studies Institute

Mayer Hillman, Limiting climate change: the changing role of public transport, Thursday, June 14, 2007, ATCO Summer Conference, Llandudno, Wales, 14 -15 June 2007. <http://www.mayerhillman.com/Articles/EntryId/35/Limiting-climate-change-the-changing-role-of-public-transport.aspx>

A realistic future for any aspect of policy cannot be determined without reference to key factors that could substantially limit or enlarge its scope. The future role of transport is an obvious case in point. Consider the implications of the key factor that is now being widely recognised as the most pressing issue of our time, that is the one stemming from the near-consensus in the scientific community that global warming is occurring. Greenhouse gas emissions from human activity are relentlessly accelerating global climate change. Mountain glaciers are retreating, sea levels rising, and weather patterns, especially temperatures, altering alarmingly. A very real threat to life on earth is in prospect as the planet has only a finite capacity to absorb greenhouse gas emissions without serious, probably irreversible damage.

A major source of the problem is our engagement in far too high a level of fossil fuel-based activities. Annual per capita carbon emissions from burning coal, oil and gas in the UK are roughly 10 times higher than our fair share will have to be if the climate is not to be destabilised and an ecological catastrophe avoided. If we do not agree to restrict these very sharply, a devastating intensification of climate change is almost certain, resulting in a shrinking habitable land mass and a rapidly declining quality of life for a growing proportion of the world’s burgeoning population.

However, we continue to avoid evidence on this. Instead of adopting lifestyles based on extreme thriftiness in the consumption of fossil fuels, we maintain ones that are resulting in the production of hugely excessive greenhouse gas emissions. If we are to act as responsible ‘stewards’, the ecological imperative of protecting the planet for present and future generations must represent an essential – not a preferred ‑ background against which our decisions are made.

Government policy on this crucial issue is derisory. Wholly inadequate targets for reducing our concentration of carbon dioxide emissions – 60% by 2050 ‑ have been set. These are based on the hope that the necessary cuts in emissions can largely be achieved through a combination of more efficient use of fossil fuels and increased investment in technology, particularly in renewable energy. This approach is sufficient neither on the scale nor on the timescale required. At the heart of the matter lies the need to question the continuing view that growth is sustainable and that an adequate response to climate change does not have to, nor must not be allowed to, limit it. This is what nearly everyone would liketo believe.

It is clearly wishful thinking to imagine a future in which most people will be prepared voluntarily to dispense to a sufficient extent and in sufficient time with the attractions of the current lifestyles to which they have grown accustomed. Yet a relaxed judgement has been reached that the 21st century can maintain fairly similar directions to those of the last century. This is reflected in the near-universal state of denial, close to collective amnesia, about the significance of climate change for these lifestyles and a complacent pre-disposition to avoiding facing reality by burying collective heads in the sand on this most awesome of issues. We try to escape our responsibilities for doing what we can to avert an otherwise impending disaster by glibly wheeling out specious statements on the subject ‑ ‘technology will find the answer’; ‘the Americans are far worse than we are’; ‘our vehicles are much more fuel efficient than their equivalents 20 years ago’; ‘it’s for someone else to sort out ‑ that’s what we elect Government to do’; and so on.

### Cut C02 emissions

#### Rail massively reduces carbon output

GLAESER 09 economics professor at Harvard

Edward L. Glaeser, How Big Are the Environmental Benefits of High-Speed Rail?, <http://economix.blogs.nytimes.com/2009/08/12/how-big-are-the-environmental-benefits-of-high-speed-rail/>

How big is the reduction in carbon-dioxide emissions associated with switching from cars to rail?

Cars average 22 miles a gallon, and contain an average of 1.63 people. Each gallon of gas is associated with 19.56 pounds of carbon dioxide. That comes to 0.545 pounds of carbon dioxide for each passenger mile, but I’ll increase that by 20 percent to reflect emissions from refining and delivering the gas.

All told, a 240-mile car trip produces 157 pounds of carbon dioxide.

Domestic air flights in the United States average 0.022 gallons of fuel for each passenger mile, and using a gallon of jet fuel is associated with 21.095 pounds of carbon dioxide. I’ll again increase that by 20 percent to reflect refining, and that comes to a total of 133.7 pounds of carbon dioxide on a 240-mile plane trip. This number is close to a Center for Clean Air Study figure based on flying a regional jet.

A classic study pegged high-speed rail in Europe as using from 6.1 to 11.1 kilowatt hours for every 100 passenger miles. The Center for Clear Air Policy also gives electricity use figures for a number of high-speed rail lines that run from 5.6 kilowatt hours for every 100 passenger miles for German intercity trains to 15.6 kilowatt hours for every 100 passenger miles for a Japanese bullet train.

Taking a middle figure of 8.6 kilowatt hours for every 100 passenger miles, and using the North American Electric Reliability Corporation estimate of 1.555 pounds of carbon dioxide for each kilowatt in Texas means 13.37 pounds of carbon dioxide for every 100 passenger miles, or 32.1 pounds of carbon dioxide for a 240-mile trip.

If I assume, relatively arbitrarily, that one-half of the rail riders used to take cars and one-half used to take planes, and that there is no extra travel generated by the rail line, then each 240-mile train trip eliminates 113 pounds of carbon dioxide for each passenger in our atmosphere. These estimates suggest that trains are green, which differs from the studies, which include the emissions from building the rail system, cited by Eric Morris at Freakonomics

#### HSR decreases emissions – even if construction has output

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[Brenda Changa, Alissa Kendallb, Transportation Research Part D: Transport and Environment, Volume 16, Issue 6, August 2011, Pages 429–434, Life cycle greenhouse gas assessment of infrastructure construction for California’s high-speed rail system]

Construction is expected to take seven years. The construction emissions calculated in this study (2.4 Mt CO2e) are averaged over the seven-year time horizon, so yearly emissions are modeled to be constant from groundbreaking to completion. Fig. 2 shows construction emissions, avoided emissions (1.15 Mt CO2e per year), and the net global warming effect over time.

Seven years after groundbreaking, the CRF profile begins to decrease because of emissions offsets from avoided auto and air travel emissions. The recuperation time occurs when net-CRF is zero, and is achieved in a approximately six years after operation begins, or 13 years after groundbreaking. While six years is a nearly threefold increase over simple CO2e recuperation time estimates, it is short compared to the 60–100 year design life of the HSR infrastructure. Estimates of avoided emissions during operation are uncertain. Recuperation times assuming lower estimates for avoided emissions non-linearly increase using the CRF approach. If avoided emissions halve to 0.575 Mt CO2e per year, recuperation time increases by only 3.3 years. However, if avoided emissions decrease to one quarter of CARB’s estimate, recuperation time increases by nearly 20 years. Because of the nonlinearity of CRF calculations, if avoided emissions are drammatically lower than current CARB estimates, recuperation time may not occur for many decades.

#### HSR reduces emissions – trades off

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[Jonas Åkerman, The role of high-speed rail in mitigating climate change – The Swedish case Europabanan from a life cycle perspective, Transportation Research Part D: Transport and Environment, Volume 16, Issue 3, May 2011, Pages 208–217]

The challenges of confronting climate change and potential oil scarcity are increasingly seen as major policy issues. To reduce transport emissions and oil dependency, a wide array of system changes have to be applied together, including more fuel-efficient vehicles, less carbon-intensive fuels, urban planning to support cycling and public transport, information and communication technology (ICT) to replace some physical transport and improved attractiveness of transport modes with a low climate impact. A key to achieving climate targets is carbon pricing. However, to gain acceptance for pricing measures and maintain a well functioning society, it is also necessary to improve alternatives with a lower climate impact

High-speed rail (HSR) – trains with a maximum service speed that exceeds 250 kph – is an alternative that has increased its share considerably since the first service started between Tokyo and Osaka in 1964. High-speed rail travel in Europe amounted to about 90 billion passenger km in 2006, which meant a doubling in less than 10 years (Eurostat, 2009). This mode of travel has demonstrated the potential to attract travellers who formerly travelled by air and car, in most cases leading to reduced direct emissions of greenhouse gases from vehicle propulsion. However, to make a full assessment of the net climate benefits, a wider perspective must be applied, including indirect emissions. For example, the construction of high-speed rail tracks might be associated with significant energy use and emissions.

#### Rail cuts emissions

CENTER FOR CLEAN AIR POLICY 06 along with the Center for Neighborhood Technology

High Speed Rail and Greenhouse Gas Emissions in the U.S., January 2006, <http://www.cnt.org/repository/HighSpeedRailEmissions.pdf>

Results

We calculated a total emissions savings of 6 billion pounds of CO2 per year (2.7 MMTCO2)23 if all proposed high speed rail systems studied for this project are built (Table 2). Overall, high speed rail is estimated to generate approximately half of the gross emissions it saves by enabling passengers to switch from other modes. Savings from cancelled automobile and airplane trips are the primary sources of the emissions savings; together these two modes make up 80 percent of the estimated emissions savings from all modes. The total emissions savings vary greatly by corridor, however, as do the source of those savings, as shown in Figures 3 and 4. Figure 4 looks at the emissions for every corridor except California, because its large potential savings overshadows the other corridors studied when the corridors are considered together.

### Decreases FF use / Oil Dependence

#### HSR solves oil dependence

WOOD 2 – 8 – 11 CSM Staff Writer

[GOP critic calls Joe Biden's $53 billion high-speed rail plan 'insanity'. By: Wood, Daniel B., Christian Science Monitor, 08827729, 2/8/2011]

Wise investment or money pit?

Critics agree. Only two rail corridors in the world – France's Paris to Lyon line and Japan's Tokyo to Osaka line – cover their costs, says Ken Button, director of the Center for Transportation Policy at George Mason University in Fairfax, Va.

"Both of these are the perfect distance for high-speed rail, connect cities over flat terrain with huge populations that have great public transportation to get riders to the railway," he says, dismissing French claims that other lines make money. He says they calculate costs in ways which ignore capital costs.

To supporters of high-speed rail expansion, however, US transportation must move beyond its reliance on oil. High-speed rail is the only form of intercity transportation that has a 45-year record of moving people without oil, says Anthony Perl, professor of political science at Simon Fraser University in Vancouver, Canada, and a fellow at the Post Carbon Institute.

"That's why 30 countries around the world have done this and the US and Canada are just laggards," he says. "If people want to get where they are going between cities they are going to need high-speed rail because flying and driving will only become more and more costly."

### Less pollution

#### Environmentally beneficial – less pollution, less consumption

ZAIDI 07 BSc from the University of Calgary & J.D. from the University of Tulsa

[Kamaal R. Zaidi, ARTICLE: High Speed Rail Transit: Developing the Case for Alternative Transportation Schemes in the Context of Innovative and Sustainable Global Transportation Law and Policy, Temple Journal of Science, Technology & Environmental Law, Fall, 2007, 26 Temp. J. Sci. Tech. & Envtl. L. 301]

In the transportation sector, with every new technology comes the question of how that technology will impact the environment. Given that conventional modes of transportation, which use fossil-fuels, contribute to rising levels of air, noise, and land pollution, alternative forms of energy such as wind energy and solar energy are gaining popularity. This rising popularity of "greener" technologies such as high-speed rail transit includes some form of environmental impact assessment to determine whether or not such technology is applicable. Currently, there are several environmental impacts by railway transport, including air pollution (e.g. idling of stationary vehicles during traffic), noise pollution, and water pollution. n49 Modern efforts to combat noise pollution have focused on noise abatement.

High-speed rail transit has the distinct advantage of being more environmentally friendly in terms of requiring less fuel than conventional forms of travel like air or road travel. n50 For example, while idling cars contribute to higher levels of air pollution during traffic congestion, high-speed rail transit operate mainly on electrification and signaling systems that produce very little emissions. Moreover, traveling vehicles produce excessive noise for surrounding communities, while high-speed trains run on tracks specially manufactured for noise abatement. For these reasons, several nations are actively promoting high-speed transit to protect the environment, including wildlife and rural communities.

Perhaps the most significant environmental benefits associated with high- [\*311] speed rail transit can be summarized as follows:

- Decreased energy consumption;

- Reduced air pollution;

- Using less land to expand highways and airports; and

- Fewer impacts on sensitive habits and water resources such as floodplains, streams, and wetlands n51

### Fed Key 🡪 alternative energies

#### HSR key to environmental improvements – insures alternative energies are used – needs federal support

ZAIDI 07 BSc from the University of Calgary & J.D. from the University of Tulsa

[Kamaal R. Zaidi, ARTICLE: High Speed Rail Transit: Developing the Case for Alternative Transportation Schemes in the Context of Innovative and Sustainable Global Transportation Law and Policy, Temple Journal of Science, Technology & Environmental Law, Fall, 2007, 26 Temp. J. Sci. Tech. & Envtl. L. 301]

VII. Conclusion

High speed rail transit is quickly gaining popularity as a key alternative in transportation policy planning. With concerns over traffic congestion, longer commute times, and increasing levels of pollution, public pressure has mounted and caused a noticeable thawing in legislators' reluctance to introduce major reforms to passenger rail service in order to break free from the technological fixation with existing transportation schemes such as airplanes, cars, and buses. Several nations are actively promoting cleaner forms of transportation technology to enhance the modern travel experience for its citizens. Given the rise of other forms of alternative energy such as wind, solar, and biomass energy, it is no wonder that alternative energy has met with success in the transportation sector.

The evolution of high-speed trains has involved growing partnerships between federal and local transportation authorities, along with technology companies, to help establish newer high-speed rail projects to modernize the transportation sector. This public-private partnership allows funding for various projects, but also helps create economic integration among various regions. Interestingly enough, many high-speed rail projects around the world were created as a means to promote international events. Here, tourism has played a key role in developing high-speed rail service. Given the demographic pressures placed upon existing transportation sectors, the tourism industry can serve major international airports and tourist destinations by transporting commuters to connecting hotels and train stations, while reducing dependence upon existing transport carriers that would reduce traffic congestion.

Efforts at promoting high-speed rail transit also signal the environment's importance. High-speed rail transit now represents an alternative to existing forms of transportation that have traditionally relied heavily upon fossil fuel technology. As many nations have found, the advantage of adopting high-speed rail transit is that its energy derives from cleaner forms of nuclear energy, and not from traditional fossil fuels. Environmental assessments are routinely conducted prior to establishing high-speed rail projects, mainly because of the need to protect local communities and wildlife from adverse effects. These environmental assessments supplement feasibility studies that are often reviewed by transportation authorities. So important are these environmental considerations that many jurisdictions around the world are enacting legislation with strict environmental compliance measures.

 [\*340] The recent success of high-speed rail transit has much to do with the woefully inadequate services of existing transportation sectors and demographic pressures on the world's cities and towns. But this success will largely depend upon the political will of nations to promote high-speed rail transit. Together with the private sector and transparent administrative procedures that incorporate strong environmental considerations, high-speed rail transit will continue to grow, and soon will become a fixture in the context of transportation law and policy planning.

### A2 building hurts the environment

#### Construction emissions assume no other infrastructure is built

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[Jonas Westina, Per Kågesona, Can high speed rail offset its embedded emissions?, Transportation Research Part D: Transport and Environment, Volume 17, Issue 1, January 2012, Pages 1–7]

The method used in this paper does not capture all aspects of its subject. As already mentioned, the indirect effect on emissions of greenhouse gases from being able to use existing rail infrastructure for new types of traffic, after opening a new high speed line, is not covered. This aspect is analyzed in Åkerman (2011). However, to be able to make up for any sizeable carbon deficit of a new high-speed line that does not attract enough traffic, the indirect climate benefits of making new use of the existing line would have to be significant. If so, it may be better to focus on how to accommodate those types of railway services rather than investing in a new line dedicated to high speed passenger transport.

Another aspect not considered is the possibility that, in the absence of investment in high speed lines, growing demand for rail services would require investment in other kinds of additional capacity where construction would also affect climate change. However, there may also exist other types of response to a growing imbalance between supply and demand that give rise to fewer emissions, e.g. congestion charges and incentives to improve the utilization of inland waterways and/or short sea shipping routes, and the partial replacement of business travel by telecommunication.

#### Construction & maintenance tradeoff – building HSR means roads don’t have to be built & rebuilt – reduces c02 emissions

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[Jonas Åkerman, The role of high-speed rail in mitigating climate change – The Swedish case Europabanan from a life cycle perspective, Transportation Research Part D: Transport and Environment, Volume 16, Issue 3, May 2011, Pages 208–217]

5.3. Construction, maintenance and operation of roads and airports

The reduced car and truck traffic owing to Europabanan could reduce the need for road investment and maintenance. However, it is difficult to assess the amount of road building that would be avoided by building the high-speed line. The rough estimate we make here, based on existing national plans for road building in the affected corridors, is that road investments of different kinds, corresponding to 100 km of four-lane new motorways, would be avoided. According to Karlsson and Carlson (2010), building and maintaining these motorways would entail emissions of 4800 tons of CO2 per annum over a 40-year period. The permanent reduction in carbon storage due to deforestation of a 50-m wide corridor would produce another 1750 tons per annum. Operation is estimated at 1280 tons per annum. The data used entails some underestimation of emissions reductions, since no bridges and tunnels have been included. Investing more in high-speed rail might reduce investments in roads because of public budget limitations, but this has not fully been accounted for.

The data on construction of airports per passenger are from Uppenberg et al. (2003). The resulting annual emissions reductions is comparatively small, 2600 tons, which could be expected due to the limited need for air infrastructure compared with road and rail. Regarding operation of airports, the data used are for Arlanda Airport (2008), which would be the airport most affected by Europabanan. The resulting emissions reductions is 9500 tons, a figure that includes internal transport, heating, electricity production and some maintenance of aircraft. The majority of emissions are caused by electricity production, given the assumption of a carbon intensity of 160 g/kWh.

6. Greenhouse gas emissions and sensitivity analysis

Greenhouse gas emissions are presented in Fig. 2 as the annual change in emissions in 2025/2030 comparing the HSR and Freight measures and the reference scenario. The annual emissions reductions are 0.55 million tons with nearly 60% coming from a shift from truck to rail freight, as old tracks are released, and 40% is due to a shift from air and road to high-speed rail travel. The reduction can be compared with the 6 million tons from Swedish domestic long-distance transport in 2005.

Fig. 2. Annual changes in greenhouse gas emissions in the HSR and Freight measures scenario 2025/2030 compared with the reference scenario 2025/2030. Note: The six bars on the left refer to emissions from propulsion and fuel production, while the three on the right refer to vehicles and infrastructure effects. Railway construction etc. also includes maintenance and operation.

Emissions associated with the construction and maintenance of the new railway are around 4 million tons, of which emissions for construction stand for 51%. Widening the perspective to all parts of the transport system reveals a reduced need for, e.g. cars, roads and airports, which in turn means that emissions are avoided. These system effects are seldom considered in studies of new railways. Although the extent of these emissions reductions is uncertain, together they may offset nearly half the emissions increase associated with construction, maintenance and operation of the new railway, as indicated in the figure. The HSR and Freight measures scenario 2025/2030 also gives significant reductions in oil use, which in the base case amount to 2.5 TWh annually.

#### Planning minimizes environmental building problems

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[Kamaal R. Zaidi, ARTICLE: High Speed Rail Transit: Developing the Case for Alternative Transportation Schemes in the Context of Innovative and Sustainable Global Transportation Law and Policy, Temple Journal of Science, Technology & Environmental Law, Fall, 2007, 26 Temp. J. Sci. Tech. & Envtl. L. 301]

Along with the possibility of building high-speed rail transit is a host of environmental legal issues, including rights-of-way, the building of boundaries to provide safety fencing, the impact upon agricultural communities, and noise pollution. n52 Other considerations include the impact on water and natural resources, including wildlife and other biotic communities are considered. Methods to reduce noise pollution generally include specially-designed train equipment, train wheels, continuous welded rail, and noise barriers. n53 Such noise abatement measures, as prominently featured in the U.S., would follow federal, state, and local guidelines to plan for final designs of high-speed rail projects. n54

Protecting water quality in communities adjacent to the high-speed rail line involves environmental practices such as silt fencing as well as stabilizing and seeding of soils. n55 Long-term maintenance of high-speed rail lines may produce temporary discharge of pollutants. n56 In applying environmental protection, local authorities often work with the government to review construction plans involving bridge abutments, pier placements, and timing of developmental activities to avoid impacts on aquatic species. n57 Track replacement, embankment repairs, and new freight siding construction would directly affect wetlands. n58

The impact on wildlife can be reduced by clearing, excavating, filling, and re-grading the railroad line in various locations along the track. n59 Upon thorough review of local environments, it may be determined that the construction and maintenance of high-speed rail lines may have minimal impact upon wildlife, as improvements to the corridor may be isolated. n60

Concerns about the impact upon endangered animal and plant species in protected habitats are relevant because high-speed rail lines may adversely affect [\*312] areas with documented cases of rare species. n61 For instance, rare species associated with sensitive aquatic environments like streams or lakes may be affected by construction activities at water-crossings. n62 Here, constant vigilance is required by coordinating construction activities with federal or state agencies to protect listed species from extinction.

In assisting with environmental protection, the manufacturing and design of high-speed trains becomes significant. Various high-speed train manufacturers are advancing new technologies to reduce noise pollution and its effects on surrounding communities and natural habitats. n63 For instance, Hitachi introduced interior and exterior noise reduction, hybrid aerodynamic analysis, micro-pressure wave reduction, and a rolling stock propulsion system dynamic simulator, which tests the effects of vibration and noise generated during high-speed travel n64 Exterior noise reduction involves isolating various sound sources emanating from the train by using microphones when the train travels at top speed. n65 Hybrid aerodynamic analysis involves testing through wind tunnels and numerical analysis in order to deal with the problem of noise produced by highly accelerated vehicles. n66 This type of research from the private sector influences the selection of design among various high-speed rail cars such as Maglev and tilting trains.

### Transporation Alternatives key

#### Transportation responsible for huge percentage of GHGs

DOT 12 Department of Transportation - Transportation and Greenhouse Gas Emissions

http://climate.dot.gov/about/transportations-role/overview.html

Virtually all human activities have an impact on our environment, and transportation is no exception. While transportation is crucial to our economy and our personal lives, as a sector it is also a significant source of greenhouse gas (GHG) emissions

Based on current GHG emission reporting guidelines, the transportation sector directly accounted for about 28 percent of total U.S. GHG emissions in 2006, making it the second largest source of GHG emissions, behind only electricity generation (34 percent). Nearly 97 percent of transportation GHG emissions came through direct combustion of fossil fuels, with the remainder due to carbon dioxide (CO2) from electricity (for rail) and Hydrofluorocarbons (HFCs) emitted from vehicle air conditioners and refrigerated transport. Transportation is the largest end-use sector emitting CO2, the most prevalent greenhouse gas. Estimates of GHG emissions do not include additional "lifecycle" emissions related to transportation, such as the extraction and refining of fuel and the manufacture of vehicles, which are also a significant source of domestic and international GHG emissions.

When emissions from electricity are distributed to economic sectors, industry accounts for the largest share of U.S. greenhouse gas emissions (nearly 29 percent), followed closely by emissions from transportation activities (28 percent of total emissions). The commercial and residential sectors are also responsible for a substantial portion of emissions, each responsible for 17 percent of the total when emissions from electricity are distributed, due to their relatively large share of electricity consumption

Since 1990, transportation has been one of the fastest-growing sources of U.S. GHGs. In fact, the rise in transportation emissions represents 48 percent of the increase in total U.S. GHGs since 1990.

The largest sources of transportation GHGs in 2006 were passenger cars (34%) and light duty trucks, which include sport utility vehicles, pickup trucks, and minivans (28%). Together with motorcycles, these light-duty vehicles made up about 63% of transportation GHG emissions. The next largest sources were freight trucks (20%) and commercial aircraft (7%), along with other non-road sources (which combined, totaled about 7%). These figures include direct emissions from fossil fuel combustion, as well as HFC emissions from mobile air conditioners and refrigerated transport allocated to these vehicle types

It is important to note that fuel consumed in international travel by aircraft and marine sources is not counted in national greenhouse gas inventories. However, international trade has been growing rapidly, thus increasing the role of transportation as a source of global emissions

Aircraft can have some unique and complex effects on the atmosphere due to the release of emissions and water vapor at high altitude. For instance, jet aircraft create condensation trails, or contrails, at cruise altitude in the upper atmosphere due to the combination of water vapor in aircraft engine exhausts and the low ambient temperatures that often exist at these high altitudes. Contrails affect the cloudiness of the earth's atmosphere, and therefore might affect atmospheric temperature and climate.

### Trades-off with Airlines

#### Switching to rail key – airlines uniquely dangerous for warming

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[Sam Schwartz, Gerard Soffian, Jee Mee Kim, and Annie Weinstock, Symposium: Breaking the Logjam: Environmental Reform for the New Congress and Administration: Panel V: Urban Issues: A Comprehensive Transportation Policy for the 21st Century: A Case Study of Congestion Pricing in New York City, New York University Environmental Law Journal, 2008, 17 N.Y.U. Envtl. L.J. 580]

Pricing has proven to be an effective means of altering consumer behavior. But intracity travel is not the only place where pricing is appropriate. In intercity travel, the relationship between air, road, and rail needs to be modified to reduce congestion, oil dependence, and pollution. In air travel, budget airlines have increased demand and have also contributed to congestion in the skies. Whether it is through charging congestion fees for driving through the central city or offering bargain fares for air travel, travel modes shift based on the cost of the product.

Despite the wide public recognition that climate change is a serious threat, consumer travel choices are less influenced by environmental reasons than by economics. A recent survey conducted by the British holiday camp operator, Butlins, asked travelers why they chose to vacation at home rather than abroad. Of the 1,500 respondents, only one percent selected "to save the planet" as their main reason. Most respondents attributed airport delays (39 percent), luggage restrictions (27 percent), driving on the wrong side of the road (11 percent), foreign food (9 percent), and fear of flying (7 percent). n34

Aviation is a significant contributor to greenhouse gases. Indeed, the industry's projected rapid growth rate coupled with the proportionally slower rate of technological improvement results in the airline industry being the fastest growing contributor to global warming. Further, aircraft emissions at high altitudes are particularly damaging: pollutants including nitrous oxide and water vapor contain approximately three times the radiative forcing effect on climate change than are expected to result from aircraft carbon dioxide (CO2) emissions alone. Scientists have suggested that a 60 percent reduction in flights is necessary to stabilize CO2 levels, even taking into account improvements to aircraft fuel efficiency. n35

Air and auto travel generate about one and a half times the energy consumed per passenger than rail. As shown in Table 1, [\*599] energy consumption for domestic airlines per passenger mile is about 3,890 British Thermal Units (BTU's). Autos expend a similar unit amount, or 3,597 BTU's per passenger mile. BTU's expended for rail is lowest at 2,100 BTU's for Amtrak. According to USDOT, Amtrak is over 40 percent more energy efficient than either commercial airlines or automobiles on a per-passenger-mile basis. n36

Thus, to achieve a national goal of reducing greenhouse emissions, improving infrastructure and service, mitigating congestion, and improving health, one clear solution is the reduction in vehicle miles traveled (VMT). A straightforward method of reaching this goal is through pricing - a pricing strategy that absorbs externalities and limits outright subsidies to special interests.

### Aviation Uniquely bad

#### Aviation uniquely bad for emissions & triggering feedbacks

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[Jonas Åkerman, The role of high-speed rail in mitigating climate change – The Swedish case Europabanan from a life cycle perspective, Transportation Research Part D: Transport and Environment, Volume 16, Issue 3, May 2011, Pages 208–217]

Global aviation emissions measured as Global Warming Potential during a 100-year period (GWP-100) are estimated to be 1.9 times those from only carbon dioxide, due to emissions of nitrogen oxides and water vapour at high altitudes (Lee et al., 2009). For the short flights considered in the present study the uplift factor should be lower, however, since a lower proportion of the flights is spent at high altitudes. The uplift factor used here is 1.3, in accordance with Arvesen and Hertwich (2007). Given the risk that anthropogenic emissions may trigger positive feedback mechanisms in the climate system, e.g. release of methane from melting tundra areas, it may well be appropriate to consider a shorter time frame. When emissions are measured as GWP-20, the uplift factor can be as high as 4.3 (Lee et al., 2009).

### Makes Carbon Tax possible

#### Functioning HSR makes carbon taxes more likely

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[Jonas Åkerman, The role of high-speed rail in mitigating climate change – The Swedish case Europabanan from a life cycle perspective, Transportation Research Part D: Transport and Environment, Volume 16, Issue 3, May 2011, Pages 208–217]

Passenger transport volumes are based on KTH (2010), but with modifications. The shift from air to rail is adjusted downwards by 20%. The travel time between Stockholm and Gothenburg with HSR will be 2 h with direct trains and 2 h 34 min including 5–6 stops. A market share for HSR slightly above 80% is assumed. The travel time between Stockholm and Malmö will be reduced to 2 h 27 min for direct trains and about 3 h for trains with 5–6 stops. It is here assumed that rail will reach a share of the air/rail market of about 65%. The assumed shares for both lines of Europabanan are consistent with Steer Davies Gleave (2006) that have reviewed eight European routes on behalf of the European Commission, and with Jorritsma (2009). Two specific cases may be mentioned. The market share for Madrid-Seville with a travel time of 2 h 30 min reached 84% in 2003 (López-Pita and Robusté, 2005) and the market share for Paris-Lyon with a travel time of 2 h reached above 90% already in 1984 (Givoni, 2006), and has since increased even further.

Another factor is that such short travel times by HSR will increase the acceptance for introducing a carbon tax and full value added tax (at present 6%) on domestic aviation, which would further diminish air market share. The implementation of such taxes has, however, not been taken into account here.

### Improves Transporation

#### Lots of transportation benefits – shortens travel times; trades off with other forms; reliable; safe; more capacity; efficient environmental land use

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

T R A N S P O R T A T I O N B E N E F I T S

High-speed rail is ﬁrst and foremost a transportation improvement that provides a framework for other secondary beneﬁts.

Shorter travel times: High-speed rail can create travel time savings for those who would have used a different mode of transportation between urban centers. It improves overall access to many destinations in the megaregion and brings those places closer together, a phenomenon referred to as the “shrinking continent” (Spiekermann and Wegener 1994).

Mode shift: Where it is competitive with other intercity transportation modes, high-speed rail can capture a large share of passenger volume. International experience suggests that high-speed rail usually captures 80 percent of air or rail trips, if the travel time by high-speed train is less than two and a half hours (UIC 2010a). Mode shift to rail provides the greatest beneﬁt in regions where road and air capacity is constrained. Safety: High-speed rail systems around the world have experienced excellent safety records. Until a deadly accident in China in July 2011, high-speed rail operations on dedicated tracks had never experienced a single injury or fatality (UIC 2010b). If high-speed rail is built in the United States and meets historic safety standards, one result could be fewer transport-related deaths as more passengers choose rail for intercity travel.

Reliability: Dedicated high-speed rail services usually operate at greater frequencies than conventional rail, and have fewer delays and better on-time performance than cars and airplanes. The average delay of a Shinkansen train on the Tokaido line is only 30 seconds (JR Central 2011b). Spain’s AVE provides a full refund to passengers if their train is more than ﬁve minutes late (RENFE 2011).

Capacity: By adding capacity to the railway network, high-speed rail can divert a large share of passenger rail service to new, dedicated tracks, thus freeing up capacity on the conventional rail network for freight and other intercity and com- muter rail services. For example, the United Kingdom has chosen to address capacity constraints on its West Coast Main Line with the implementation of the proposed High Speed 2 (HS2) line. In Japan, the main motivation for implementing the Tokaido line between Tokyo and Osaka was to provide additional capacity to the transportation network, rather than to reduce travel times (Givoni 2006).

Efﬁcient land use: A typical highspeed rail line has the ability to transport approximately the same number of people in the same direction as a three-lane highway, but on a fraction of the land area. The right-of-way width of a typical two-track high-speed rail line is about 82 feet—onethird the width of a standard six-lane highway (246 feet). This difference in land use amounts to a savings of 24.3 acres per mile of high-speed rail. Such a savings could be particularly signiﬁcant in environmentally sensitive areas that need protection and in urbanized areas where land for highway expansion is costly to acquire (UIC 2010a).

### Green Tech key to Heg

#### Going green key to sustaining US leadership – alternative is faltering foreign policy

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[Colin S. Crawford, COMMENT: GREEN WARFARE: AN AMERICAN GRAND STRATEGY FOR THE 21ST CENTURY, Wake Forest Journal of Business and Intellectual Property Law, 2010 – 2011, 11 Wake Forest J. Bus. & Intell. Prop. L. 243]

The United States is in desperate need of such farsighted leadership. This country is in the midst of an identity crisis, having struggled to define itself since the end of the Cold War. As the world's lone superpower, the United States has learned the hard way that along with its strong standing comes immense responsibility in terms of leading efforts to eliminate climate change, nonproliferation, and global poverty. n7 Recent developments in international affairs, sustained economic woes, and partisan gridlock have divided the nation's attention and resources. Lawmakers are currently playing whack-a-mole with America's priorities, n8 lacking both the vision and direction needed to combat the long-term challenges that await.

However, all is not lost. Despite increasing (and oftentimes overblown) fears of "American decline," the United States remains the world's top dog in terms of economic and military power. n9 What these fears reflect, however, is the very real sentiment that the United States can no longer sustain itself as the head of a purely unipolar world. n10 Economies in emerging markets such as China, India, and Brazil have shaken off their lethargy and are growing in a manner which suggests a global realignment of wealth is beginning to take place, shifting from West to East and from North to South. n11 Because [\*245] this new wealth begets power, it is clear that the United States will face increasing competition in the coming decades. n12

This is a departure point in American history. Increasingly burdened by the prosecution of two wars, a historic financial crisis, and ever-mounting interest on the national debt, the United States faces deep and painful cuts in spending in order to restore its fiscal health. n13 Yet American politicians must take care not to sacrifice long-term programs in pursuit of short-term political gains. It is said that the most dangerous animal in the woods is the wounded one; as the U.S. begins to recapture its economic momentum, it will be poised to make radical changes in terms of aligning the nation's policy objectives.

President Obama presented a vision of "Winning the Future" in his 2011 State of the Union address, offering a feel-good story that was ultimately short on detail and made vague calls for investment in high-speed rail and clean energy. n14 As the United States emerges from this economic crisis, it should not fall back on piecemeal measures and disjointed policies. This is a time for a fundamental realignment of American resources toward a defined and overarching national objective. n15 The crafting of a grand strategy for the United States will require radical thought and near-panoramic insight. This Comment seeks to offer a glimpse of what such a grand strategy could look like, drawing on the strengths of the American model to fundamentally reshape the way the U.S. produces, supports, and defends its way of life.

In short, this Comment advocates an Apollo Program-type mentality in terms of "greening" American society from the top [\*246] down--beginning with the military--in order to break the country's addiction to fossil fuels. In embracing a broad-based "green" strategy, the United States can weave together a number of priorities heretofore thought irreconcilable: national security, environmental protection, and economic growth. In defining a clear "enemy" - our dependence on fossil fuels--the U.S. can unite various segments of society around a value-neutral and universally beneficial policy objective. By calling upon the resources of academia, the military, and the business community, the government can harness the institutions in which America has traditionally had the most palpable innovative advantages. n16 By becoming the international leader in green technology invention, production, and deployment, the United States can help ameliorate the effects of its last industrial revolution while triggering a new one in the process.

Disagreement exists as to whether the U.S. should be run more akin to a business. Regardless of whether it is governed as a corporation or as a state, America direly needs to redefine its brand. "Going Green" should be more than just a slogan - it should be a national business model. Implementing a grand strategy of this magnitude will require confronting institutional biases across multiple levels of governance, and this President utilizing the bully pulpit to continue framing the debate. n17 Such an undertaking will not come without its difficulties, as overcoming orthodoxy demands not only intellectual rigor but unshakable political courage. The United States cannot view the goals of military superiority, environmental protection, and economic growth as mutually exclusive any longer. Indeed, as F. Scott Fitzgerald put it, "The test of a first-rate intelligence is the ability to hold two opposed ideas in the mind at the same time and still retain the ability to function." n18 Keeping this [\*247] sentiment in mind, the engine that will drive American business growth in the coming decades must, by design, be a hybrid one.

## Solvency

### Fed Key – complete Cali

#### Federal investment key to Cali completion – establishes an example for future HSR

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

In 2008 California voters approved a bond act that will direct $9 billion toward building a statewide high-speed rail system. In making the case for the project, the California High-Speed Rail Authority (2010) estimated that to meet the same level of demand for intercity trips in the future, California would need to add roughly 3,000 highway lane miles and ﬁve new airport runways throughout the state, at twice the cost of high-speed rail investments.

 As evidence of the demand for travel between northern and southern regions of the state, California has the largest short – haul air market in the nation, with approximately 3.14 million annual passengers between northern and southern California airports (ﬁgure 11). The state also suffers from some of the worst trafﬁc congestion in the nation, particularly in and around its metropolitan areas. California already hosts the largest existing intercity rail market in the country outside the Northeast Corridor, with 2.6 million and 1.6 million annual passengers on the Paciﬁc Surﬂiner Corridor and Capitol Corridor, respectively (Amtrak 2011d).

Construction of the ﬁrst phase of an 800-mile high-speed rail system connecting San Francisco to Anaheim/Los Angeles is expected to start in fall 2012, at an estimated cost of $43 billion. Upon completion, the California system will operate trains at speeds up to 220 mph, reducing the travel time to 2 hours and 40 minutes for the 432-mile trip. In addition to the state bond act, the federal government has awarded California approximately $3.6 billion in high-speed rail grants. The state anticipates closing its funding gap with additional federal grants and ﬁnancing through public- private partnerships.

 As the only U.S. example of Core Express high-speed rail, the California project would, if fully realized, inspire conﬁdence in America’s high-speed rail program, while its failure would conﬁrm skeptics’ doubts. The project faces several challenges, the greatest obstacle being the state’s signiﬁcant budget deﬁcit, estimated at approximately $20 billion annually through 2016 (California Legislative Analyst’s Ofﬁce 2010). This situation could create competition between long-term high-speed rail investment and annual budget priorities, such as education, healthcare, and public employee pensions. California is also facing resistance to building rail infrastructure from local communities in densely populated areas, where new high-speed rail tracks may require elevated structures and increase visual or noise impacts.

 Despite federal commitments of $3.6 billion to date, the uncertainty of future federal funding for the project is a variable over which the state has little control. The California rail authority’s 2009 business plan estimates that approximately $17 to $19 billion of total project costs will be needed from the federal government. However, recent federal actions to defund the HSIPR Program, including the $400 million rescission in the FY 2011 budget, have raised doubts about whether the federal program will be able to meet California’s future high-speed rail funding needs. California will have a difﬁcult time convincing its own voters and state legislators to support continued state funding for the project until a stronger, multiyear federal commitment can be made.

#### California getting done now – needs federal funds – establishes a precedent for the rest

GRZESKOWIAK 4 – 13 – 11 AC & CE Insight Staff

[California seeks federal boost for high-speed rail. By: Grzeskowiak, Jennifer, American City & County Exclusive Insight, 4/13/2011]

In early April, California applied to the U.S. Department of Transportation for the entire $2.4 billion that Florida returned in March to use for a proposed high-speed rail line from San Francisco to Los Angeles. In a letter accompanying the application, Gov. Edmund Brown referred to California as "the only state moving forward to fulfill President Obama's promise of trains traveling over 200 miles per hour [mph] to connect significant portions of our population."

Florida's discarded funds would allow the California High-Speed Rail Authority (CHSRA) to move forward with the "backbone" of its project, which would run from Merced to Bakersfield with trains reaching speeds of 220 mph, as well as extend the line either north or south. California aims to create a high-speed, long-distance line that would connect the state's major cities and be competitive with airfare, says Jeffrey Barker, deputy executive director for communications, policy and public outreach for CHSRA. "We don't want to make a mistake where we attempt to do high-speed rail, but it's only planned for 85 miles," Barker says. "We are approaching this with a long-term vision."

CHSRA is optimistic about securing at least a portion of the funding. "We got half of Wisconsin's and Ohio's returned funds, and that was when Florida was a competitor," Barker says. However, dozens of other states and Amtrak also are vying for the returned money. In April, U.S. Department of Transportation Secretary Ray LaHood declared the Northeast Corridor an official High-Speed Rail Corridor, allowing Amtrak to apply for the funding. The declaration came after lawmakers from states in the area appealed to LaHood for the change. On the April 4 deadline, Amtrak requested $1.3 billion, with the money designated for overhauls of current infrastructure and new construction.

With a $43 billion price tag for the San Francisco to Los Angeles segment, California's timeline for the project is heavily dependent on funding, Barker says. CHSRA so far has secured $5.5 billion in state and federal funds. It also has access to nearly $10 billion in general obligation bonds approved by voters in 2008, as long as the amount is matched by federal money. The state is continuing the project's environment review process and plans to begin construction next year.

Success in California could lead to more rail projects in the rest of the country, says John Robert Smith, president and CEO of Washington-based Reconnecting America. "You have Republican and Democratic mayors and governors seeing the wisdom of being involved in high-speed rail," Smith says. "As with the Interstate Highway System, it starts somewhere and creates the vision for how it can unfold in their own state."

### Fed Key – multiplies investment

#### Federal funding inspires confidence – leverages additional revenue streams

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

S U M M A R Y

A sustainable funding strategy, including reliable federal commitments, is needed to put the HSIPR Program on a ﬁrm footing and inspire conﬁdence among states and the private sector. This strategy can make use of a variety of public and private ﬁnancing tools that leverage net revenue streams generated by high-speed rail operations. When approaching public- private partnerships, a proper allocation of risk among the parties is critical to a successful project.

#### Federal funding key – assures future investment

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

Like other modes of transportation and public goods, high-speed rail generally does not pay for itself through ticket fares and other operating revenues. Reliable federal funding is needed for some portion of the upfront capital costs of constructing rail infrastructure, but operating revenues frequently cover operating and maintenance costs. Two well-known examples of highly successful high-speed rail lines—the Tokyo– Osaka Shinkansen and Paris–Lyon TGV—generate an operating proﬁt (JR Central 2010; Gow 2008). German high-speed trains also have been proﬁtable on an operating basis, with revenues covering 100 percent of maintenance costs and 30 percent of new track construction (University of Pennsylvania 2011). Moreover, as long as the HSIPR Program combines funding for both high-speed and conventional rail, federal grants, not loans, will be required to support its initiatives. Since conventional rail services are likely to need continued operating subsidies, it is even more important to secure a federal funding source for capital infrastructure costs. A small but reliable transportation tax for high-speed and conventional passenger rail would demonstrate the federal government’s commitment to a comprehensive rail program, giving states the assurance they need to plan high-speed rail projects and equipment manufacturers the conﬁdence they require to invest in the industry.

#### Federal funding key – insures private and state involvement

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SUMMARY

Both California and the Northeast Corridor present strong cases for investment in high-speed rail in their large and growing economies. However, the path to realizing that vision is not yet clear. It will require securing reliable funding commitments based on credible evidence that beneﬁts exceed costs. Without federal support, these and other regional high-speed rail projects are unlikely to secure the necessary state and private funding commitments needed to proceed.

#### Reliable federal funding key – attracts other investors

GRZESKOWIAK 11 Author, American City & County Journal

[Grzeskowiak, Jennifer. “High-speed rail struggles to build steam” American City & County, Apr2011, Vol. 126 Issue 4, p22-22, 1p]

Reliable federal funding is needed to maintain a viable plan for national high-speed rail, says Jeffrey Barker, deputy executive director for communications, policy and public outreach for the California High-Speed Rail Authority. "High-speed rail isn't something that can be built from year to year," Barker says. "We can't keep hoping to get funding every year. We need a long-term plan." He says that guaranteed federal funding would help attract private investors. "The good thing is that there is demand out there for Florida's money," says John Robert Smith, president and CEO of Washington based Reconnecting America. Smith says that at least 10 other states have applied for the money. "It will certainly be oversubscribed," he says. In returning his state's funds, Scott expressed concern that taxpayers would have to pay operating costs not covered by ridership fees. Smith says that many rail lines likely will require additional investment from the federal and state governments and the private sector. "[However,] no transportation system pays for itself out of the fare box." Smith says. "So, to expect high-.speed rail fees that is nol fair."

#### Federal support key to implementation – insures private involvement and multiplies funding

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[Joshua D. Prok, Article: High Speed Rail: Planning and Financing the Next Fifty Years of American Mobility, Transportation Law Journal, Spring, 2009, 36 Transp. L. J. 47]

IV. The Transition from Planning to Implementation

The staggering costs involved in transforming existing rail infrastructure to accommodate high speed service, or building dedicated lines from the ground up, is a major stumbling block for implementation of the planning activities described above. n143 Even with the recent increases in federal attention to and funding of high speed rail development, n144 the capital necessary to construct new national high speed rail projects, or renovate existing rail infrastructure to accommodate high speed service, easily exceeds the billions already allocated. n145 China, for example, has committed "a quarter-trillion dollars" to continue developing its high speed rail services. n146 In addition to public funding, therefore, other financing [\*63] sources are critical to bridge the gap from planning to implementation

A) The California Business Plans

An example is California, where the California High-Speed Rail Authority devised a Business Plan ("2000 CHSRA Plan") in June 2000 that estimated funding requirements of $ 24.97 billion under a "phased financing" plan. n147 In contrast to a "full financing" alternative, the phased plan would have funded the project over time, recognizing the incremental nature of the development process required by the strictures of federal environmental law and funding requirements. n148 Revised financial estimates, however, put the figure near $ 45 billion for the system linking major cities from Sacramento to San Diego. n149

The 2000 CHSRA Plan would have relied on "1/4-cent statewide sales tax revenue," "sales tax bond net proceeds," "commercial paper net proceeds," "other funding sources," and interest to fund its high-speed rail system. n150 Federal funding under the Transportation Infrastructure Finance and Innovation Act (TIFIA) is another potential resource. n151 The CHSRA Plan also remarked, "freight revenues could be a source of funding for constructing and operating the high-speed train system, if sufficient freight operations were to occur." n152

Subsequent to the passage of Proposition 1A in 2008, the largest chunk of financing will come from bonds backed by the State of California. n153 Such "private activity bonds" may be tax-exempt under federal law. n154 "High-speed intercity rail facility bonds are exempt facility bonds if 95% of the net proceeds of the bond issue are used to provide a high-speed intercity rail facility, and all of the property financed by the issue is owned by a governmental unit." n155 Owners of any remaining property financed by the bonds must make an "irrevocable election not to claim depreciation or any tax credit with respect to the bond-financed property." n156 [\*64] All proceeds from tax-exempt bonds must be spent within three years of issuance, or applied toward redemption of outstanding bonds. n157 As is the case in California, a high speed rail agency's ability to issue debt may be constrained by legislative, executive, or popular control. n158

Based on "conservative estimates," the 2000 CHSRA Plan promised to "return twice as much financial benefit to" California in its first twenty years, generating "$ 900 million in annual revenues" and "an annual operating surplus of more than $ 300 million." n159 Expectations from the CHSRA's most recent 2008 Business Plan further project an overall economic impact of "$ 150 billion in measurable present value benefits - approximately three times the present value of the train's capital and operational costs over the next 40 years." n160 Accordingly, some $ 11 billion in "direct benefits to Californians" are expected in 2030, such as: "320,000 permanent jobs," "12 billion pounds" of avoided carbon dioxide emissions, and some 55 million passenger trips generating revenues of some $ 2.4 billion. n161

B) Attracting Private Investment

This confidence in revenues also suggests that project financing may be attractive for private investors. n162 As such, the CHSRA 2008 Business Plan envisions "public private partnerships" and "local support" to round out financing sources in addition to the State and federal funds already discussed. n163 Specifically concerning private investment, "non-recourse project financing" is a type of financing in capital-intensive industries in which a project's financial backing is based upon the ability of the project's potential cash flow to pay off project debt, rather than relying upon the credit-worthiness of the project sponsors. Under this type of project financing, the debt, equity, and credit enhancement are combined for the construction and operation of a facility. The assets of the facility, including the long-term revenue producing contracts, become the collateral or the lenders. n164

[\*65] Federal guarantees may also be necessary to enhance private interest in undertaking the risk of operating losses entailed in project financing. n165 Increased private investment, and complementary private operation, may also allay critics who cite Amtrak's lack of profitability to discourage future public investment in high speed rail. n166

#### Federal Involvement key to getting financing and political motivations

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[Joshua D. Prok, Article: High Speed Rail: Planning and Financing the Next Fifty Years of American Mobility, Transportation Law Journal, Spring, 2009, 36 Transp. L. J. 47]

VI. Conclusion: Regional High Speed Rail in 2050

As the second decade of high speed rail regulation continues in the U.S., current market forces and inadequate infrastructure capacity may turn the public's favor back to trains, with the help of the government. Since the 1930's, the federal government has steadily moved the U.S. away from its trains, starting with the efforts of Franklin Roosevelt to thin "fat-cat railroad barons." n218 The liquid fuel industry, as well as manufacturers of individual automobiles, later had great influence on the steady realization of Dwight Eisenhower's interstate highway vision disfavoring passenger rail. n219 Today, congestion in all modes is commonly documented, especially on the highways. n220 To wit, Kenneth Hoffman, a member of the Transportation Lawyers Association, recently commented that the highway congestion problem is so bad in certain areas that trips on the interstate highway take longer now than before the interstate system [\*72] was built. n221

Advancing from the current situation, America 2050: A Prospectus (Prospectus) provides a vision of the U.S. halfway through the 21st century as a patchwork of "globally competitive megaregions" connected by "a world class multimodal transportation system," forming a "national framework for prosperity, growth, and competitiveness." n222 The Prospectus identifies confronting land use strategies that "force reliance on personal automobiles" and creating "new capacity ... in roads, rails, airports, seaports and other systems" as major challenges for the years ahead. n223 To pay for these improvements, the Prospectus envisions:

new financing methods that leverage private capital to build strengthened, expanded transportation networks of high-speed rail, improved metropolitan commuter rail, smart highways, seaports and airports connected at multimodal transportation hubs. Congestion pricing and user fees will reinvest transportation-generated revenue into maintaining and expanding the systems. n224

This sentiment that the government must work with the private sector to fund infrastructure improvements, including high speed rail, promises to "create economic integration among various regions." n225 Recognizing this benefit, many States have been working to attract private investment through bond initiatives, by encouraging development around new high speed rail services, and by joining compacts to leverage their administrative and financial resources.

Thinking on a regional level will furthermore provide long-term stability via strength in numbers and economic leverage. Operating new railways will provide jobs to fuel our economy through the recessions of the next fifty years. Moving to rail will democratize transportation by enhancing choices for the public. Enhancing choice will insulate our national economy from the adverse economic consequences of systemic reliance on the volatile fossil fuel markets. Efficiency benefits from rail can also be reaped in both passenger and freight services.

A) The Rocky Mountains and the West: A 2050 Vision

Recently, "representatives of the Colorado Department of Transportation, communities along [Interstate 70] from Golden to Glenwood Springs, the trucking and ski industries, and transit and highway advocates" [\*73] approved an "historic agreement" to widen the highway and provide for a new mass transit system by 2025. n226 Traffic on the Interstate 70 corridor between Denver and several world class ski areas, mostly in the westward Summit and Eagle Counties, has increased steadily over the last two decades. n227 To pay the "$ 5 billion to $ 10 billion" price tag on these corridor improvements, including high speed rail, congestion pricing mechanisms suggested by local lawmakers have encountered intense political opposition. n228 Therefore, the public demands better assurance that such short-term sacrifices will fund infrastructure improvements with long-term benefits. Given the capital intensiveness of high speed rail development, supporting it is necessarily an investment in the future.

Following the template of similar high speed rail projects in the U.S., the Interstate 70 corridor needs high speed rail assistance in the form of necessary funds and FRA expertise to guide its high speed rail planning. The Rocky Mountain Rail Authority began studying the feasibility of high speed rail development in Colorado in 2008. n229 To date, however, the entire Rocky Mountain region, including Denver and the Interstate 70 corridor, lacks recognition as a designated high speed rail corridor. n230 Until the political will supporting high speed rail in this area gains the federal government's attention, Colorado would do well to prepare taxation plans including tax incentives for associated development and improvements of existing track, while attracting other private financing for the Interstate 70 project by creating an agency to administer direct grants and guarantees, and control issuing tax exempt long bonds. In the event that a National Infrastructure Bank becomes a reality, exerting pressure in Congress should also be a chief concern among the State's representatives therein.

Assuming federal spending continues, as exemplified by the recent doling out of some $ 8 billion for high speed rail in the ARRA, building coalitions across state lines to will be essential to enhance the lobbying power within Congress for the Interstate 70 project, and others in the Rocky Mountain West. Additionally, if the communities supporting high speed rail along Interstate 70 expand their vision westward, they may find eager partners in Utah for an interstate compact. Regional planners have already shared a vision for connecting the "Front Range" from Laramie [\*74] County, Wyoming down to Albuquerque, New Mexico. n231 Accordingly, Denver's Union Station would be converted into a world class transit port, instead of a museum; n232 as this author can attest, several gates in the current terminal, like the gate for the Portland Rose line, are merely facades. Furthermore, high speed rail development along Amtrak's California Zephyr line, through the Rocky Mountains to Northern California, provides the vision for a more trans-continental Interstate 70 expansion starting from Denver. n233

Given the current market forces favoring high speed rail development, the problem on Interstate 70 reiterates that financing is the fundamental challenge of building the next transcontinental railroad in the U.S. As the private railroads are already eagerly investing in corridor improvements, they should be viewed as valuable partners in developing high speed rail. Other industries should consider partnerships as well, particularly those that depend on tourism and travel. Coordinated efforts among neighboring communities and States, to effectively use their combined resources to enhance and improve rail services, can be accomplished through new interstate compacts aimed at implementing existing plans

B) A New Multimodal Balance

 Meanwhile, the federal government should continue to follow the lead of China, and make its financial commitment to high speed rail projects in the States meaningful and long-term. If high speed rail is to compete with automobiles and airplanes, it should be funded at a commensurate level. Such a commitment would help realize the larger vision of making the multimodal transportation system in the U.S. the envy of the world for safety and efficiency. The ARRA is a strong starting point for this long-term commitment. As this commitment continues to develop, transportation industries must brace themselves for new business niches, and transportation lawyers must prepare their clients for a dynamic future in the multimodal business of moving people and freight.

### Fed Key – mobilizes others

#### Federal funding crucial – establishes others willingness to get involved

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[Darren A. Prum\* and Sarah L. Catz\*\*, ARTICLE: GREENHOUSE GAS EMISSION TARGETS AND MASS TRANSIT: CAN THE GOVERNMENT SUCCESSFULLY ACCOMPLISH BOTH WITHOUT A CONFLICT?, Santa Clara Law Review, 2011, 51 Santa Clara L. Rev. 935]

ii. Funding

As the most crucial aspect to accomplishing the twin goals of reducing greenhouse gases while encouraging transit alternatives, funding from the federal government ultimately will set the stage for success or failure. With this in mind, we propose changes to federal funding so local agencies are not given new equipment without the operational budget, that equity occurs amongst jurisdictions so that areas contributing the tax revenue receive equivalent financial benefits instead of becoming "donor" states or regions, and that the seed money from the stimulus bill does not get wasted on projects that will never get completed.

 [\*978] Accordingly, the federal government needs to revisit its decades-old policy that funds capital requests, but leaves financing of operations to local agencies. While this federal policy aims to prevent state and local governments from becoming reliant on continual subsidies, it also creates situations where an agency may obtain new or more environmentally friendly equipment despite not having sufficient backing to operate them.

With the recent economic situation, many state and local governments face daunting budget shortfalls, rising operational costs, a historically high unemployment rate, and the inability to generate revenue to operate capital improvements. Such circumstances put transit officials into decision-making circumstances that can be avoided by allowing flexibility with the funding contingencies. As a result, many of the opportunities to promote transit alternatives whereby the transportation sector could reduce traffic and help decrease greenhouse gas emissions are squandered by an arcane and inflexible policy set forth by Congress.

Moreover, we urge that federal funding should provide for a direct one-for-one regional correspondence between the generation of transportation funds and their distribution. No jurisdiction should be considered a donor state and asked to foot the bill of another's transportation needs on a federal basis.

While some locations with aging and established systems may need more money for maintenance and upkeep, other parts of the country experiencing rapid and unanticipated growth face the equally daunting challenges in just starting or expanding mass transit options. Those regions dealing with growth issues need more investment by the federal government to overcome the population migration because their political clout will lag the reality of their expansion.

Finally, the federal government needs to continue funding transportation initiatives started under the stimulus bill. In January 2010, President Obama announced the recipients of an unprecedented $ 8 billion federal stimulus grant that will jumpstart high-speed rail service on thirteen corridors across the United States. California is to receive the largest share of any state, $ 2.34 billion, with $ 2.25 billion allocated to a dedicated high-speed rail system (to be matched [\*979] by state funds), and the remainder allocated toward regional transit projects. n230 Secretary of Transportation Ray LaHood recently asserted in a press release that high-speed rail will "not only ... create good jobs and reinvigorate our manufacturing base, it's also going to reduce our dependence on fossil fuels and help create livable communities. I have no doubt that building the next generation of rail service in this country will help change our society for the better." n231

Excited by the potential of this investment for their constituents, many key political leaders are already touting the myriad of benefits of a fast, convenient, and efficient intercity rail system, including lower carbon emissions, improved mobility, jobs and economic revitalization, and less dependence on foreign oil. These benefits will strengthen our national security. The policies for the country must ensure that money and effort are not wasted because encouraging transit options like high-speed rail further numerous objectives at once.

Hence, these changes to the existing federal funding methods provide a starting point for easing budgetary restrictions on state and local governments. These changes will also help create a level playing field for all jurisdictions that need financial assistance. Moreover, this approach completes the leadership direction taken by our elected officials to encourage transit alternatives and reduce greenhouse gas through projects like high-speed rail. Therefore, the federal government may set the tone for other jurisdictions to follow by altering our national policies and funding strategies to get the biggest impact out of both the transportation sector and greenhouse gas emissions reductions.

### Fed Key – investment

#### Federal involvement key – allows investment in Megaregions. Allows the most production and investment

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

Focus on Megaregions

The factors conducive to high-speed rail ridership, such as population density and congestion on competing modes of travel, are found primarily in 11 large megaregions that contain 75 percent of America’s population and jobs (ﬁgure 3). In the most recent draft of the National Rail Plan, the U.S. Department of Transportation highlights the growing population, road congestion, and air congestion in U.S. megaregions as important challenges that could be addressed by investments in passenger and freight rail (U.S. DOT 2010).

Megaregions are large networks of metropolitan areas linked by overlapping commuting patterns and business travel, economic activity, urbanization, and cultural resources. They stretch over hundreds of miles with populations of greater than 10 million people (America 2050 2008). They provide an ideal setting for high-speed rail networks because they concentrate multiple metropolitan areas and their central business districts within corridors or networks of 100 to 600 miles (America 2050 2011). As ﬁgure 4 illustrates, this is the distance at which high-speed rail trips are more time- and cost-effective than trips by automobile or airplane (Steer Davies Gleave 2004). Sir Peter Hall (2011, 352) has recently commented favorably on the potential for high-speed rail in the California and Northeast Megaregions, although he is less sanguine about the megaregions further from the coasts.

[T]he spatial scale of these regions is ideally suited to HSR as a competitor to air, with the major cities spaced along linear corridors over distances up to 500 miles, served by some of the world’s most trafﬁcked (and hence most-proﬁtable) short haul air corridors. Elsewhere— ﬁrst in Japan and now in Europe—HSR has quickly seized the lion’s share of trafﬁc along analogous corridors: Tokyo-Nagoya-Osaka, Paris-Lyon-Marseille, London-Manchester, Paris-Brussels-Amsterdam and Madrid-ZaragozaBarcelona. There is no reason to believe that the result will be different on corridors such as Washington-New York-Boston or San Francisco-Los Angeles. (Hall 2011, 352) Many U.S. megaregions, including those in California, the Northeast, the Midwest, Cascadia, and Texas, contain corridors of comparable length and connect metropolitan regions comparable in size to successful high-speed rail corridors around the world (ﬁgure 5). The distances between urban centers in these corridors are also long enough for trains to reach high speeds, making them time-competitive with other modes. For example, to reach 200 mph, high-speed trains require about 16 miles of straight and ﬂat track to accelerate (Amtrak 2010a). Highspeed trains also need signiﬁcant distances to brake and come to a stop, so stations must be well-spaced along high-speed rail corridors to maximize reductions in travel time.

 As envisioned by the FRA, a national passenger rail network would be built around investments in high-speed, high-capacity Core Express corridors that connect major metropolitan centers in the nation’s megaregions and are fed by Regional and Emerging/ Feeder service on routes collecting passengers from smaller markets (U.S. DOT 2010). For distances greater than 600 miles, the aviation system will continue to provide the most cost-effective and energy-efﬁcient transportation options between megaregions and to more remote places.

Decisions about where to invest in Core Express corridors versus Regional and Emerging/Feeder services will require a more robust planning and decision-making framework at the federal level than has been possible to date. Recent research by America 2050 (2011) provides a potential starting point for understanding which rail corridors may justify different levels of investment and service. That study rated potential existing rail corridors nationwide on a scale of 0 to 21 based on factors contributing to rail ridership demand, such as population density, employment concentrations, transit connections, existing air markets, and congestion on parallel road corridors (ﬁgure 6). A similar approach should be adopted by federal decision makers to prioritize investments in high-speed rail corridors, combined with a study of construction and operating costs for each corridor.

### Fed Key – centralization good

#### Funding & creation of a centralized system key to HSR

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[Joshua Rogers, NOTE: THE GREAT TRAIN ROBBERY: HOW STATUTORY CONSTRUCTION MAY HAVE DERAILED AN AMERICAN HIGH SPEED RAIL SYSTEM, University of Illinois Journal of Law, Technology & Policy, Spring, 2011]

IV. Recommendation

Following the previous analysis, the biggest problems facing development of a U.S. high speed rail network are lack of funding, overly demanding time requirements, and lack of central organization. These problems are nearly identical to the problems faced by the interstate highway system prior to the creation of the Federal Highway Administration. In the years following the passage of the 1956 Highway Act, n140 officials and [\*232] concerned citizens complained of a lack of funding, impatience in planning and construction, and a lack of organization. n141 Unfortunately, with the inclusion of high speed rail funding in ARRA, it appears as if Congress is set to repeat the mistakes of the past, by underestimating the pending scope of high speed rail. The high speed rail money from ARRA may have already been awarded, but it is not too late for Congress to correct itself and create a future system of high speed rail development that harmonizes with the benefits and vision of a U.S. high speed rail network.

Congress should apply the lessons of the past and begin by establishing a federal high speed rail administration under the department of transportation to ensure the future commitment to American high speed rail. Along with the creation of a new administration, Congress should specifically address its ARRA mistakes by appropriating $ 75-$ 100 billion as a true "down payment" on high speed rail. Additionally, construction of all designated high speed rail corridors should begin and comprehensive system planning should be undertaken. Moreover, Congress should amend current rail laws to reflect a commitment to truly high speed rail, by requiring that any service operate at average speeds of 150 mph or more to be considered high speed rail. The combination of these corrections and the creation of a federal high speed rail administration would place high speed rail on the road to dethroning the federal highway system as "the greatest public works project in history".

### Fed Key – Congress key

#### Funding & Congressional support key

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B. Policy Stream

In Kingdon's theory, the policy stream represents a short list of proposals. n56 This short list does not gain consensus from the policy community because one proposal does not meet their criteria to solve a problem; rather, the availability of multiple potential solutions drives policymakers. n57 When considering a policy stream or a short list of proposals, concrete ideas are favored by governmental policymakers because of their technical feasibility and capacity for actual implementation. n58 A detailed development plan and a clear project purpose can be very helpful for policymakers to make decisions. In order to gain legislative supports, HSR proposals were submitted with a variety of contents and focuses (See Table 1).

Among these focuses, the most dominant issues are legislative support and allocated financing. Legislative support is important because it demonstrates authorization for HSR development, while financing allows HSR projects to begin. These two elements are key to HSR development in the United States. n60 Furthermore, post 9/11 efforts to improve safety and security on rail travel have also driven public sector stakeholders to improve cooperation in the development and oversight of domestic rail travel. n61 Considered in conjunction with statistical indicators, emphasizing that rail rider-ship increases when gasoline prices rise and that rail travel can maintain rider-ship after gasoline prices level off, a healthy environment for developing HSR exists. n62 A confluence of circumstance and opportunity lead to the proposed Program for Real Energy Security [\*126] Act, sponsored by Representative Steny H. Hoyer's in 2007. n63 The bill proposed a series of solutions to promote energy independence by several means, including supporting passenger rail travel. n64 The bill sought to improve passenger vehicle fuel technology and efficiency and provided the financial means to bolster the American rail infrastructure. n65 In particular, the bill added specific sections that created high-speed rail infrastructure bonds and provided tax incentives to bond holders to stimulate high speed rail development. n66

#### Congressional funding needed

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[Joshua Rogers, NOTE: THE GREAT TRAIN ROBBERY: HOW STATUTORY CONSTRUCTION MAY HAVE DERAILED AN AMERICAN HIGH SPEED RAIL SYSTEM, University of Illinois Journal of Law, Technology & Policy, Spring, 2011]

2. Making a Sufficient Down Payment on an American High Speed Rail Network

Only slightly more complicated than correcting the speed standard discrepancies would be correcting the initial investment shortfall left by ARRA. Admittedly, the 150 mph standard is somewhat arbitrary, n146 but, so long as the speed standard falls within a range of acceptable speeds, it is the [\*234] uniformity that truly benefits high speed rail development. In contrast, when discussing a federal funding allocation in the tens of billions of dollars, an arbitrary amount will not suffice. The next steps in securing a down payment sufficient to jump start development of a high speed rail network are planning and cost estimation. Those are exactly the types of projects that a newly formed federal high speed rail administration would need to start with. That being said, given the previous analysis in part III.C.3., we know that a reasonable down payment would range between $ 75-$ 100 billion for construction of the eleven designated high speed rail corridors. Thus, Congress can appropriate an amount in that range to the new federal high speed rail administration, requiring that no more than 10% be allocated to planning and that, other than planning, the funds only be used for construction.

3. Constructing Targeted Corridors and Creating a Plan for Comprehensive High Speed Rail in the Futur

With an allocation of $ 75-$ 100 billion, construction on every federally designated high speed rail corridor could start relatively soon. Planning and analysis of high speed rail in most of these corridors has been ongoing for nearly two decades. n147 At the same time, contemplation of a comprehensive system should not generally require a delay in construction of the several corridors because the contemplation can be something as simple as drawing lines on a map until a comprehensive network appears. Some say that is even how the interstate highway system began. n148 Even better, give the new federal high speed rail administration 90 days to prepare a map of what high speed rail could look like in fifty years, if America later chooses to develop a comprehensive system, and use that projection to ensure that the comprehensive system could naturally develop from the corridor system.

### Fed Key – legal

#### Federal action key – holds the legal trump card

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VI. Conclusion

To accomplish the national and local goals of reducing greenhouse gas emissions through the transportation sector, government at all levels and industry must attempt to change course. Mass transit options are the most effective tools available to promote aggressive environmental policies within the transportation sector. However, the approach to mass transit requires new strategies and changes to long established processes.

While the federal government appears as a late participant, many states have taken leadership positions to forge ahead towards a solution. The approaches taken by Florida and California to force local governments to directly evaluate and determine environmental impacts from transportation sources that require reductions in VMTs demonstrate that the dual goals are compatible. California takes these requirements a step further by monitoring compliance against identifiable targets. The approaches of both Florida and California show regulatory actions can start the process of identifying the best opportunities for mass transit alternatives and reducing greenhouse gas emissions.

Likewise, the regional "cap-and-trade" initiatives demonstrate the willingness across international borders and amongst states to work collectively to affect climate change. While the current targets for decreasing greenhouse gas emissions mainly focus on electricity generators, the indirect benefit for some mass transit alternatives, such as fixed guideway systems, will also contribute.

Meanwhile, the federal government still holds all of the cards from a legal perspective. Upon considering the constitutional aspects, Congress could easily render the actions taken by states meaningless by passing its own [\*987] legislation and then enforcing it by either the commerce clause or preemption. Likewise, many of the federal agencies may do the same through their regulatory functions and by setting policies that conflict with aggressive actions taken by the states.

Depending on the mode selected for implementation, naysayers will undoubtedly criticize such projects by citing the exorbitant capital costs required to complete these projects and the lack of reductions in greenhouse gases. n256 In some cases, their arguments will prove truthful; but, in other situations, their points will merely impede needed infrastructure investments, as demonstrated by The Brookings Institute's study on the Intermountain West. n257 Many parts of the country need the investment now as the population migration occurs and when entry costs and access right of ways are relatively easy to obtain at affordable prices.

Interestingly, this debate centers around the fact that successful mass transit systems are obtainable without advancements in technology. Current technology will adequately satisfy the mass transit needs; however, the real prerequisite for success will come from desire. The public and government must have a desire to achieve serious greenhouse gas reductions from the transportation sector. This desire will derive from the personal gains that are made from trading an automobile for a mass transit solution. Ultimately, however, there is much work still to do to accomplish both goals successfully.

#### Only federal solves – current legal rights for rail companies undermine all non Amtrak rail operators

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[Darren A. Prum & Sarah Catz, “High Speed Rail in America: An Evaluation of the Regulatory, Real Property, and Environmental Obstacles a Project will Encounter,” North Carolina Journal of Law & Technology, 2012]

In other circumstances, the organization operating the HSR might need to gain access to privately owned freight railroad track. If the operator is Amtrak, it may utilize its unique authority pursuant to the Rail Passenger Service Act of 1970 that relieved the existing railroads of passenger service requirements in exchange for giving the new passenger rail company the statutory right to force its way onto any existing line if warranted based on the public’s demand for a given route.96 However, this authority is solely reserved for Amtrak and not other passenger railroad operators.97 This leaves all other operators at the mercy of the freight track owners to gain access, especially in densely populated urbanized locations.

Moreover, a passenger rail organization looking to utilize condemnation proceedings to gain an existing ROW will find preemption by federal law if the action unreasonably burdens the ability of the freight railroad operator to complete its common carrier responsibilities associated with interstate commerce.98 As a result, any organization other than Amtrak looking to enter an agreement with an existing freight railroad operator for use of its ROW starts from a weakened bargaining position.

To this end, the freight railroad track owners require indemnification from the passenger rail operators for liability in case an injury occurs.99 They do so because Amtrak voluntarily set the standard in the past and for the reason that no adverse consequences will occur to them if they fail to allow access to their tracks. Furthermore, by taking these actions, the freight track owners shift the financial liability and the associated costs to passenger operators.

Absent a change in policy, these costs and liabilities placed on a non-­‐Amtrak operator may have serious financial impacts to the viability of the HSR operator while giving Amtrak the opportunity to later enter a market with distinct cost advantages.

### Funding & Oversight key

#### Administration & funding are key

ROGERS 11 J.D., University of Illinois College of Law, 2011; B.A., Economics, University of Utah

[Joshua Rogers, NOTE: THE GREAT TRAIN ROBBERY: HOW STATUTORY CONSTRUCTION MAY HAVE DERAILED AN AMERICAN HIGH SPEED RAIL SYSTEM, University of Illinois Journal of Law, Technology & Policy, Spring, 2011]

V. Conclusion

Passenger rail has a long and storied history in the U.S., beginning with leading the world in both technology and scope and eventually reaching insolvency and federal management. The reasons for this decline cannot be entirely attributed to the technology of passenger rail, because it continued to serve as a central mode of transportation for advanced countries throughout the world. Due to the decline in ridership, the U.S. has missed out on many of the exciting technological advances in passenger rail and now it will virtually have [\*235] to start from scratch, if it wishes to develop a viable passenger rail network. There are several efficiency, environmental, and economic benefits that will come from taking the opportunity and creating a top-tier high speed rail system. However, to ensure that those benefits materialize the U.S. must develop a grander vision for high speed rail that involves competitive service speeds and high volume routes (or possibly a comprehensive national network). The funding required for such an endeavor is astronomical, but compares favorably with the funding required to build the U.S. interstate highway system and other high speed rail networks throughout the world. The statutory construction of ARRA's high speed rail allocations may actually be driving the U.S. further from a true high speed rail network. ARRA allows a great deal of the designated high speed rail allocations to fund traditional passenger rail improvements, nullifying the opportunity to catch up to other high speed rail systems in one instance. Moreover, ARRA's participation requirements do not fit well with development of high speed rail because they demanded too much planning and research too fast and those programs that could get ARRA funds remained severely underfunded. The answer is to develop a federal high speed rail administration and provide a continual stream of financing similar to that of the creation of the Federal Highway Administration.

### TIFIA solvency mechanism

#### TIFIA Solvency Mechanism

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

Two existing federal loan programs for transportation also could be expanded for high-speed rail ﬁnancing. The Transportation Infrastructure Finance and Innovation Act (TIFIA) provides long-term loans and credit assistance through the U.S. Department of Transportation to ﬁnance large infrastructure projects with dedicated revenue sources that allow repayment. The program is designed to leverage private co-investment, and can cover up to 33 percent of the project costs (U.S. DOT 2011b). TIFIA could encourage even greater private investment if the program were enhanced to increase the maximum funding allowed to reﬂect current demand; permit more ﬂexibility in the project costs that can receive funding; and offer a simpliﬁed application and review process (Yarema 2011). These enhancements would be beneﬁcial for funding high-speed rail since the costs are large and lead times are already long, even before the time for required review processes is added.

### RRIF solvency mechanism

#### RRIF Solvency Mechanism

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 The Railroad Rehabilitation and Improvement Financing (RRIF) Program provides direct federal loans and loan guarantees to ﬁnance the development of railroad infrastructure. It is beneﬁcial for high-speed rail because it can supply direct loans for up to 100 percent of project costs, with repayment periods up to 35 years and low interest rates locked in for the life of the loan term. To date, the program has been utilized primarily by small and medium-sized private railroads (U.S. DOT 2011c). Rail advocates have suggested modifying the stringent collateral requirement and credit risk premiums to make RRIF work for high-speed rail, as well as making high-speed rail’s eligibility explicit in the criteria (AHSRA 2011b).

### DOT can do it

#### DOT would do the plan

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[Darren A. Prum & Sarah Catz, “High Speed Rail in America: An Evaluation of the Regulatory, Real Property, and Environmental Obstacles a Project will Encounter,” North Carolina Journal of Law & Technology, 2012]

Thus the federal government recognizes the DOT as the primary governmental branch capable to complete the HSR vision for the country despite constraints by the permissible bounds set forth by the EPA with respect to the environmental impacts of such an endeavor.

#### Secretary of Transportation can do the aff

GAO 11 CONGRESSIONAL DIGEST - High-Speed Rail Overview System Components, Potential, and Cost Issues

[From the Library of Congress, Congressional Research Service, report High Speed Rail (HSR) in the United States, http://www.bafuture.org/sites/default/files/High%20Speed%20Rail%20%20in%20US%20CRS%2012.8.09.pdf]

■ What GAO Recommends

To ensure effective implementation of provisions of the PRIIA related to high-speed rail and equitable consideration of high-speed rail as a potential option to address demands on the Nation’s transportation system, we recommend that the secretary of transportation, in consultation with Congress and other stakeholders, take the following three actions:

● Develop a written strategic vision for high-speed rail, particularly in relation to the role high-speed rail systems can play in the national transportation system, clearly identifying potential objectives and goals for high-speed rail systems and the roles Federal and other stakeholders should play in achieving each objective and goal.

● Develop specific policies and procedures for reviewing and evaluating grant applications under the highspeed rail provisions of the PRIIA that clearly identify the outcomes expected to be achieved through the award of grant funds and include performance and accountability measures.

● Develop guidance and methods for ensuring reliability of ridership and other forecasts used to determine the viability of high-speed rail projects and support the need for Federal grant assistance. The methods could include such things as independent, third-party reviews of applicable ridership and other forecasts, identifying and implementing ways to structure incentives to improve the precision of ridership and cost estimates received from grant applicants, or other methods that can ensure a high degree of reliability of such forecasts.

## OFF CASE ANSWERS

### A2 Spending – public/private partnerships

#### Public-Private partnerships cover funding & start up for investments

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P U B L I C - P R I V A T E P A R T N E R S H I P S

Public-private partnerships (sometimes referred to as P3s) generally constitute any arrangement between a government sponsor and a private sector entity in which the private entity provides one or more stages of the project delivery process—designing, building, operating, owning or leasing, maintaining, and ﬁnancing parts of the infrastructure. These partnerships offer the beneﬁt of ﬂexibility to suit the speciﬁc needs of the public sector while encouraging different models of private involvement and investment (Geddes 2011).

 Public-private partnerships are considered an especially attractive solution for ﬁnancing infrastructure projects. For example, the Florida Department of Transportation was already in the process of ﬁnding a private partner to design, build, operate, maintain, and ﬁnance the state’s high-speed

rail line before the project was cancelled in February 2011 (Haddad 2010).

#### Public-private partnerships work

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 While public-private partnerships are likely to increase in popularity as an option for cash-strapped governments, applying this approach to high-speed rail must be done carefully, with a realistic understanding of the beneﬁts and challenges.

 Sharing risk: Partnerships allow the public sector to share project risks related to construction, environmental review, system performance, and ridership with their private partner. Properly assigning risk to the party best able to manage it is critical to a successful project. In general, private partners are better able to control construction and ﬁnancing risk, and public partners are better able to manage political and entitlement risk. Ridership risk is shared by both parties, with the opportunity for both to beneﬁt when ridership exceeds expectations. Attention to the private entity’s susceptibility to market downturns is also important. The private entity should not shoulder so much risk that it could endanger its ability to live up to the terms of the contract.

Leveraging public investment: Leveraging public investment with private capital, either through the use of federal ﬁnancing tools or availability payments, can help pay for high-speed rail’s large upfront costs. These mechanisms make large projects feasible without the need for the government to provide 100 percent public funding in advance. Federal ﬁnancing tools include quali- ﬁed tax credit bonds such as Build America Bonds, which can draw a wide variety of investors to contribute to transportation projects. Availability payments allow teams of construction and ﬁnance ﬁrms to begin construction of infrastructure projects through their own debt and equity. They later receive reimbursements from the government as particular milestones are reached.

Faster project delivery: Private entities can draw on experience to deliver projects on time and on budget. They are also motivated by ﬁnancial incentives for performance (including availability payments), which can be written into the structure of the deal.

### A2 States – fed sets priorities

#### Federal changes key – current federal funding programs will incentivize highways at the expense of other infrastructure. States will choose the cheapest option

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[Darren A. Prum\* and Sarah L. Catz\*\*, ARTICLE: GREENHOUSE GAS EMISSION TARGETS AND MASS TRANSIT: CAN THE GOVERNMENT SUCCESSFULLY ACCOMPLISH BOTH WITHOUT A CONFLICT?, Santa Clara Law Review, 2011, 51 Santa Clara L. Rev. 935]

b. Regulatory and Funding Issues

In looking at other obstacles posed by the government with regard to reducing greenhouse gas emissions and their impact on transit, both funding and regulatory issues have an [\*969] impact and need to be addressed. This begins with the manner in which the federal government distributes money, both as a carrot for incentives and as a stick in requiring outcomes.

Customarily, Congress funds transportation across the country via legislation that distributes money directly to the states. n187 This approach tends to either implement the process of planning too late to become a factor, or focus on procedures in lieu of outcomes. n188 Federal dollars spent on transportation do not generally require performance standards from those receiving the federal monies. n189 The regulations put forth by the DOT require states and MPOs to consider certain planning aspects during their analyses, but do not make them compulsory. n190 This creates a situation where the DOT is unable to demand a particular outcome or result, which essentially becomes an open-ended check on the State or MPOs by the federal government. n191 The States or MPOs must certify to the government that the planning factors received consideration, but the DOT's supervision of compliance with these requirements receives little enforcement, if any. n192

Furthermore, past allocations of transportation funds to the states generally occurred based on VMT, fuel used, and lane miles. n193 This policy ends up promoting VMT because, the more of each of these factors a state can demonstrate, the more federal funding they will receive. n194 In turn, more VMT increases states' collection of gas taxes, which then intensifies the counterproductive and endless cycle of revenue generation, the need for more infrastructure, and again, an [\*970] increase in VMT. n195 This formulaic funding system favors highways, which ultimately results in greater greenhouse gas emissions, rather than promoting less VMT, reduced emissions, or transit alternatives. n196

In addition, past funding by the federal government with regard to transportation strongly prefers new road projects over other options. n197 For example, when state and MPOs received a choice between getting 80 or 90 percent funding from the federal government versus far less for transit alternatives, the decision makers easily chose the government incentive for new or expanded roads. n198 While the Intermodal Surface Transportation Efficiency Act tried to address this inequity by leveling the funding gap between highways and transit choices, the legislation came up short by not making this requirement compulsory. n199 As a result, the DOT continues its funding formulas with highways usually receiving 80 percent while transit alternatives seldom achieve the 50 percent level. n200 Thus, the current system used to develop and fund transportation on a federal level provides systemic difficulties through the planning process, as well as financial disincentives to consider and utilize transit options as a tool or alternative in reducing greenhouse gas emissions.

### A2 States – fed oversight key

#### Multi-state implementation without the government fails – fights over priorities, no regulation

KRUMM 94 Harold A. Shertz Award Winner for legal writing – JD at U of Tennessee College of Law

[Brian Kingsley Krumm, Notes: High Speed Ground Transportation Systems: A Future Component of America's Intermodal Network?, Transportation Law Journal, 1994, 22 Transp. L. J. 309]

The legislation also contemplates that two or more states might cooperate in establishing a high speed rail corridor. n81 From a national transportation planning perspective and in order to achieve the efficiency and effectiveness objectives of intermodalism, it would seem almost imperative that such joint ventures be pursued. However, from a very practical perspective, such collaboration, if not presenting an inherent conflict of interest, may prove difficult to manage. Federal transportation funds are not allocated to all states in a uniform fashion. In addition, individual states often must fund some projects over others based on such factors as technical merit, necessity, and political considerations. Unlike the state coordination necessary to implement the interstate highway system, the [\*323] requirements to implement a high speed rail corridor would demand joint investment in such things as rolling stock and a long term partnership for operations and maintenance. Conflicts might arise, for example, if one state were forced to forgo the full investment and associated economic development benefits of the construction of an international airport in order to participate with an adjoining state on a HSGT project. Combining such a multi-state venture with private sector participation would, out of necessity, require some sort of coordinating and management organization. This would most certainly add complexities to the implementation process, since the management organization would most likely fall within the regulatory jurisdiction of the Interstate Commerce Commission.

### A2 States – multi-state rails

#### Federal investment key – allows multi-state rail systems

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

Recommendations for High-Speed Rail in the United States

The United States is in a position to learn from many countries that have planned, built, and operated high-speed rail systems over the past four decades. Their experiences, coupled with an analysis of the potential beneﬁts of high-speed rail for U.S. travel behaviors, land use patterns, and urban and regional economies, contribute to the following policy recommendations.

STRENGTHEN THE FEDERAL POLICY AND MANAGEMEN TFRAME WORK

The Passenger Rail Investment Improvement Act (PRIIA) is well-suited to support incremental investments in conventional passenger rail corridors, but it does not provide a sufﬁcient policy or management framework to achieve the potential beneﬁts of Core Express high-speed rail. Building on that act, an expanded federal role is needed to plan, prioritize, and commit to investments in high-speed rail and overcome the challenges of managing multistate capital programs and operations. Rather than wait for states to submit applications for federal funding for high-speed rail, the federal government should identify corridors with the greatest chance of meeting its goals and work with the states to secure rights-of-way for implementation.

PRIORITIZE CORRIDORS THAT MEET INVESTMENT CRITERIA

Federal decision makers should prioritize high-speed rail investments in corridors that exhibit regional characteristics that contribute to ridership demand, including population density, employment concentrations, transit connections, existing airline markets, and congestion on parallel road corridors. Federal planners should analyze both the beneﬁts expected to be generated in speciﬁc corridors and the cost estimates for construction and ongoing operations. The respective roles of high-speed Core Express corridors and conventional Regional and Emerging/ Feeder routes need to be clariﬁed, with well-deﬁned objectives for each type of rail service.

ESTABLISH NEW MECHANISMS FOR CORRIDOR MANAGEMENT

A successful national high-speed rail program requires the involvement of entities capable of planning, ﬁnancing, building, and operating multistate corridors. Federal legislation should be developed to enable the creation of publicly chartered infrastructure corporations capable of entering into public-private partnerships for corridors that span multiple states and even binational territories.

FOCUS ON THE NORTHEAST CORRIDOR AND CALIFORNIA

The Northeast Corridor and California offer the best opportunities for initial highspeed rail service, but management and ﬁnancing challenges remain.

 In the Northeast, it may be desirable to separate the corridor’s operations and infrastructure functions in order to attract private capital and create a single-purpose entity capable of carrying out an ambitious high-speed rail plan. A Northeast Corridor infrastructure corporation would design, build, and maintain tracks, stations, dispatching, and other systems, while one or more train operators would pay track access fees to operate intercity high-speed trains once the new line is built. The infrastructure corporation could enter into long-term lease arrangements for portions of the right-of-way, and publicprivate partnership agreements could be developed for major pieces of infrastructure, such as tunnels and bridges. Finally, the infrastructure corporation could contract with Amtrak and private operators to provide competing high-speed intercity and high-speed commuter services in the corridor, offering travelers a range of price-points and services.

SECURE ADEQUATE AND RELIABLE FUNDING

While passage of the American Recovery and Reinvestment Act in 2009 marked a new period of federal funding for highspeed and passenger rail, the elimination of funds for the HSIPR Program in the FY 2011 budget underscores the need for a sustainable revenue source to ensure long-term success. Such a commitment will not be possible with unpredictable appropriations, which have ranged widely from $8 billion in 2009 to negative $400 million in 2011.

### A2 States – shared bad

#### Shared responsibility bad – one entity better

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[Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail: International Lessons for U.S. Policy Makers, September 2011, Lincoln Institute of Land Policy, Policy Focus Report]

Governance and Operational Challenges

Two of the challenges facing the Northeast Corridor are its pattern of fragmented governance among eight states and the District of Columbia and the competing intercity and commuter rail services that share infrastructure and create congestion. The corridor has neither the capacity nor the alignment that would permit it to be used for Core Express high-speed rail service. At the same time, the existing infrastructure requires several billion dollars annually for necessary repairs and enhancements to increase capacity to meet projected demand for rail travel by 2030. Achieving both goals—to provide true high-speed rail service and meet the growing demand for commuter rail service —will require major new management structures and new investment.

 To respond to these needs, PRIIA authorized the creation of the Northeast Corridor Infrastructure and Operations Advisory Commission, which is composed of representatives of the nine jurisdictions served by the corridor, U.S. DOT, FRA, and Amtrak, to collaborate on infrastructure and operational decisions on the corridor. While the new commission provides a venue for collaborative decision making, it does not restructure or consolidate ownership of the corridor or appear to fundamentally change the way the corridor is operated. Reforms in the administration and operation of European high-speed and intercity rail services suggest an alternative approach for the Northeast Corridor. The EU requires that national railroads unbundle their operating and infrastructure functions and provide open access to their rail lines, making it possible for public and private operators to offer competing services on the same lines. In most European examples, each country’s national railroad has beneﬁtted from its established position in the marketplace, although budding competition from new operators has encouraged entrepreneurial innovations. In practice, however, many routes continue to function as state- operated monopolies due to the challenges of providing multiple maintenance facilities on each route.

Spain’s high-speed rail network separates operations and infrastructure responsibilities between RENFE, the national rail operator, and Adif, a company that has successfully developed over 2,000 miles of high-speed tracks and facilities. The United Kingdom’s HS1 also provides an example of splitting operations from infrastructure management. In the Northeast Corridor it may be advantageous to take a similar approach of separating operations and infrastructure, particularly if the region chooses to embark on an ambitious plan of building two dedicated tracks for high-speed trains, as proposed by Amtrak and UPenn. Creating a publicly chartered infrastructure corporation for the Northeast Corridor to carry out this mission would relieve the dual burden currently borne by Amtrak to develop highspeed rail infrastructure and operate a sprawling national train network. A megaproject of this magnitude is also likely to require a single-purpose entity with the appropriate staff expertise, ﬁnancial transparency, and ability to attract private capital to carry out its mission. This entity would charge neutral and fair access fees to all train operators on the corridor, which would also provide a steady revenue stream that could be used to pay back infrastructure bonds and loans and to reinvest in the corridor.

### A2 States – Congress rollsback

#### Congress will rollback states energy efforts

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While reducing greenhouse gas emissions across the nation appears to be a national priority, many of the country's past policies and methods of regulating and incentivizing the public provide actual and potential pitfalls. These obstacles occur through the United States Constitution and arise as a result of past policy decisions as well as through the systems devised at federal and state levels to regulate and fund environmental and transportation priorities.

a. Constitutional Issues

In the struggle to combat greenhouse gas emissions and climate change, the dark cloud of Congress forever looms over state actions. Congress can immediately overturn a state's actions by merely inserting language into legislation asserting its superior authority through the Commerce Clause or invoking its preemption powers. n156

i. Commerce Clause

Under its enumerated powers, Congress may, "regulate Commerce with foreign Nations, and among the several States ... ." n157 From its numerous interpretations of this clause, the Supreme Court created definitions from two different perspectives: federal regulation of state and local commerce, and state and local regulation of interstate commerce. n158 Consequently, the Supreme Court has struggled to define "interstate commerce" over the years; n159 however, in recent opinions on the subject, the Court repeated its present viewpoint that "where economic activity [\*964] substantially affects interstate commerce, legislation regulating that activity will be sustained." n160

As applied to the area of environmental law, three cases directly impact Congress's authority to rightfully enact legislation via the commerce clause. n161 While Congress actively passed ecologically friendly legislation during the 1970s and 1980s, n162 the main case to test Congress's authority for the plethora of subsequent regulations associated with all of the environmental laws was Chevron v. Natural Resources Defense Council. n163 Known mainly for its administrative law implications, this case instructs a court first to ascertain the ambiguity of a statute. n164 Should this inquiry reveal that the statute is unambiguous, the inquiry ceases and the regulation obtains the effect and intent given by Congress. n165 Otherwise, the court must give deference to the regulations unless "they are arbitrary, capricious, or manifestly contrary to the statute." n166 As a result, Chevron lessened the number of administrative reversals and became a primary means for upholding regulations that interpret environmental legislation where the Commerce Clause provided the main basis for authority. n167

More recently, the Supreme Court revisited this area in a case examining the Migratory Bird Rule of The Clean Water Act. n168 In SWANCC, the Court held that "where an otherwise acceptable construction of a statute would raise serious constitutional problems, the Court will construe the statute to avoid such problems unless such construction is plainly contrary to the intent of Congress." n169

 [\*965] Following this approach, the EPA declined to regulate greenhouse gases until ordered to do so based on the lack of an explicit directive from Congress. n170 Nonetheless, the Supreme Court determined that Congress gave the EPA statutory authority to regulate the emissions from vehicles under The Clean Air Act to address global warming, and that the agency must comply with its legislative mandate. n171

From this Court directive, new efforts from the EPA to regulate greenhouse gas emissions with regard to all forms of transportation becomes a logical progression. The EPA already began lowering emission standards on locomotives and could easily fill the gap between its current proposal for the automobile/light trucks category and heavy-duty trucks/buses group. This type of movement will further the EPA's approach in targeting individual emitters, but lacks a comprehensive solution to a complex national issue.

Nevertheless, Congress and the EPA will need to look for a more comprehensive approach, which will undoubtedly affect interstate commerce. With this in mind, Congress could pass legislation to create its own unique solution given that greenhouse gas emissions correlate very strongly to interstate commerce. For example, a national "cap-and-trade" program would create uniformity across the country because the regulatory environment of the Bush Administration encouraged the development of a patchwork of regional initiatives.

Another option is that the federal government could adopt the California model with AB 32 and SB 375 on a national basis. n172 The federal government already sets regional clean air standards and requires Regional Transportation Plans (RTPs) from the Metropolitan Planning Organizations (MPOs), so an additional document explaining how to meet greenhouse gas emission targets appears as a logical step within the constructs of the current regulatory structure.

Therefore, by virtue of the directive from the Supreme Court relating to greenhouse gas emissions, followed by the [\*966] EPA's recent determination, Congress and the EPA's authority under the commerce clause will provide an avenue to directly regulate all types of transportation emissions and give the agency the wherewithal to overturn any state actions contrary to the direction the federal government wishes to proceed.

ii. Preemption

Another constitutional obstacle in tackling these issues includes the Preemption Doctrine, which creates complications for state and local regulation. n173 This doctrine traces its roots to the Supremacy Clause in Article VI of the Constitution that makes the federal law the "supreme law of the land." n174 Congress may preempt state legislation in three different ways, n175 and the executive branch of the government may trigger preemption while conducting foreign affairs.

The first and most direct approach occurs when Congress chooses to insert language into a statute that directly and expressly preempts state laws concerning a specific area of regulation. n176 Another type of preemption may occur if Congress passes all-encompassing legislation that leaves no room for additional regulations, such that a court will find that the federal government exclusively occupies the field. n177 Lastly, preemption may take place when a conflict occurs between federal and state laws that makes it impossible to comply with both. n178 In such circumstances, the Supreme [\*967] Court explains that the state laws "stand[] as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." n179

Notwithstanding any type of congressional engagement, preemption may also occur in the context of foreign affairs by the executive branch. The Supreme Court explained that in the scope of traditional areas of foreign policy, a state must yield to the valid "exercise of the federal executive authority ... where ... there is evidence of clear conflict between the policies adopted by the two." n180

Accordingly, the state and local governments must enact laws with stronger requirements or apply them in a broader manner while not disturbing the existing federal legislation that was set as a base level to avoid the effects of the preemption doctrine. n181 Recognizing these possible threats, and in conformity with these requirements, many states enacted legislation to protect their economies and natural environments. n182

However, given the recent finding by the EPA that greenhouse gases pose an endangerment to the public health and welfare, n183 the EPA could effortlessly invoke the preemption doctrine through regulations that make state compliance an obstacle to complying federally, or by asserting the preemption doctrine through the Clean Air Act. As the lead agency in this area, the EPA could expand the endangerment finding very easily into many different aspects of industry and daily life. While unintended consequences will occur in other areas, the epicenter will start with the transportation sector because the original finding began with the emissions of greenhouse gases from vehicles.

Moreover, as Congress continues to evaluate the priority for creating a national "cap-and-trade" system for dealing [\*968] with greenhouse gas emissions, n184 a countrywide mandate could easily force a different solution upon the states and supplant any system already in place through preemption. Any of the three preemption approaches in direct legislation would most likely withstand constitutional muster, but it could also allow an agency to occupy the entire field or create regulations that turn the state approaches into an obstacle to accomplishing the federal goal.

### Politics - Plan popular

#### Politically popular – ever major area benefits

LEVINSON 12 Networks, Economics, and Urban Systems Research Group, University of Minnesota, Department of Civil Engineering research was funded by New York University

[David M. Levison, “Accessibility impacts of high-speedrail,” Journal of Transport Geography, Volume 22, May 2012, Pages 288–291. Special Section on Rail Transit Systems and High Speed Rail]

These hub networks in the Federal High-Speed Intercity Passenger Rail Program includes the top 47 metropolitan areas of the United States (and many smaller ones), the largest city not in the Program (but apparently in the Vision) is Salt Lake City, Utah, at 50, with just over 1 million people in the metro area.2

The political genius of the intercity passenger proposal is that it includes lines in all but 8 of the 50 states.3 This is a practice learned in transportation from previous national packages, the Interstate Highway System (with miles in all 50 states, including special routes in Alaska and Hawaii) and Amtrak (nearly so), helping ensure strong support in the US Congress, especially the Senate.