# High Speed Rail Affirmative

[High Speed Rail Affirmative 1](#_Toc327195995)

[\*\*1AC\*\* 3](#_Toc327195996)

[Inherency 4](#_Toc327195997)

[Advantage: Economic Growth 6](#_Toc327195998)

[Advantage: Warming 11](#_Toc327195999)

[Advantage: Oil Dependence 14](#_Toc327196000)

[Plan 16](#_Toc327196001)

[Solvency 17](#_Toc327196002)

[\*\*Status Quo Extensions\*\* 21](#_Toc327196003)

[Inherency – FY 2011-12 Cuts 22](#_Toc327196004)

[AT: Obama Plan 23](#_Toc327196005)

[AT: PRIIA/HISPR 24](#_Toc327196006)

[AT: California 25](#_Toc327196007)

[AT: Northeast Corridor 26](#_Toc327196008)

[AT: Florida 27](#_Toc327196009)

[\*\*Economic Growth Extensions\*\* 28](#_Toc327196010)

[Solvency – HSR Solves Growth 29](#_Toc327196011)

[Solvency – HSR Solves Growth 30](#_Toc327196012)

[Solvency – HSR Solves Jobs 31](#_Toc327196013)

[Solvency – HSR Solves Mid-Size Cities 32](#_Toc327196014)

[Solvency – Jobs Key 33](#_Toc327196015)

[Solvency – Infrastructure Investment Key 34](#_Toc327196016)

[Solvency – Infrastructure Investment Key 35](#_Toc327196017)

[Impact – Growth Good – War 36](#_Toc327196018)

[AT: External Factors Control Growth 37](#_Toc327196019)

[AT: Overseas Jobs 38](#_Toc327196020)

[AT: Overbudget 39](#_Toc327196021)

[AT: Freight Tradeoff 40](#_Toc327196022)

[AT: Deficit 41](#_Toc327196023)

[\*\*Global Warming Extensions\*\* 42](#_Toc327196024)

[Solvency – HSR Solves Emissions 43](#_Toc327196025)

[Solvency – HSR Solves Emissions 44](#_Toc327196026)

[Solvency – Transportation Key 45](#_Toc327196027)

[Solvency – Reducing Autos Key 46](#_Toc327196028)

[Solvency – Reducing Airlines Key 47](#_Toc327196029)

[Solvency – Renewable Transition 48](#_Toc327196030)

[Solvency – Renewable Transition 49](#_Toc327196031)

[AT: Construction Emissions 50](#_Toc327196032)

[AT: Construction Emissions 52](#_Toc327196033)

[Yes Warming 53](#_Toc327196034)

[Yes Warming – Satellites 54](#_Toc327196035)

[Yes Warming – AT: IPCC Wrong 55](#_Toc327196036)

[Yes Warming – AT: Idso 56](#_Toc327196037)

[Impact – Warming Bad – Extinction 57](#_Toc327196038)

[Impact – Warming Bad – Species Loss 58](#_Toc327196039)

[Impact – Warming Bad – Timeframe 2020 59](#_Toc327196040)

[\*\*Oil Dependence Extensions\*\* 60](#_Toc327196041)

[Solvency – HSR Solves Dependence 61](#_Toc327196042)

[Solvency – HSR Solves Dependence 62](#_Toc327196043)

[Yes Peak Oil 63](#_Toc327196044)

[Impact – Dependence Bad – Extinction 64](#_Toc327196045)

[Impact – Dependence Bad – Terrorism 65](#_Toc327196046)

[Impact – Dependence Bad – Economy 66](#_Toc327196047)

[\*\*Solvency Extensions\*\* 67](#_Toc327196048)

[Solvency – Fed Key 68](#_Toc327196049)

[Solvency – Fed Key 69](#_Toc327196050)

[Solvency – Fed Key – Centralization 70](#_Toc327196051)

[Solvency – Fed Key – Congress 71](#_Toc327196052)

[Solvency – Fed Key – Legal 72](#_Toc327196053)

[Solvency – Fed Key – Legal 73](#_Toc327196054)

[Solvency – Megaregions Key – NEC, California, Midwest 74](#_Toc327196055)

[Solvency – Megaregions Key – NEC, California 75](#_Toc327196056)

[Solvency – Megaregions Key – California 76](#_Toc327196057)

[Solvency – Megaregions Key – California 77](#_Toc327196058)

[Solvency – Megaregions Key – NEC 78](#_Toc327196059)

[Solvency – Megaregions Key – NEC 80](#_Toc327196060)

[Solvency – City Center Key 81](#_Toc327196061)

[Solvency – Dedicated Rails Key 82](#_Toc327196062)

[Solvency – Concentrated Investment Key 83](#_Toc327196063)

[AT: Improve Incrementally 84](#_Toc327196064)

[AT: Improve “Emerging HSR” 85](#_Toc327196065)

[AT: Improve Freight Rails 86](#_Toc327196066)

[AT: Improve Highways 87](#_Toc327196067)

[AT: Improve Buses 88](#_Toc327196068)

[AT: People Wont Use 89](#_Toc327196069)

[AT: Industry says no 90](#_Toc327196070)

[AT: New Rails Necessary 91](#_Toc327196071)

[AT: Unsafe 92](#_Toc327196072)

[\*\*AddOns\*\* 93](#_Toc327196073)

[\*Land-Use Add-On 94](#_Toc327196074)

[2AC Land Use Addon 95](#_Toc327196075)

[Solvency – HSR Solves Land-Use 96](#_Toc327196076)

[Solvency – Transit Oriented Development 97](#_Toc327196077)

[\*Green Leadership Add-On 98](#_Toc327196078)

[2AC Green Leadership Addon 99](#_Toc327196079)

[Solvency – Green Key Hegemony 100](#_Toc327196080)

[Solvency – US Leadership Key 101](#_Toc327196081)

[\*\*2AC Answers\*\* 102](#_Toc327196082)

[AT: States CP – Fed Key 103](#_Toc327196083)

[AT: States CP – Fed Sets Priorities 104](#_Toc327196084)

[AT: States CP – Congress Rollback (1/2) 105](#_Toc327196085)

[AT: States CP – Congress Rollback (2/2) 106](#_Toc327196086)

[AT: States CP – Fed Oversight Key 107](#_Toc327196087)

[AT: States CP – No Mechanism 108](#_Toc327196088)

[AT: Privates CP 109](#_Toc327196089)

[AT: Privates CP 110](#_Toc327196090)

[AT: Politics DA 111](#_Toc327196091)

[AT: Budget DA 112](#_Toc327196092)

[AT: Budget DA 113](#_Toc327196093)

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### Inherency

#### [A.] Current transportation infrastructure is not sustainable – highways and airways will increasingly cost the government. A major advance in transportation is key to United States economic growth.

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “The Strange Logic of Samuelson’s High-Speed Rail Critique”, Progressive Policy Institute, November 2, 2010

Give Washington Post columnist Robert J. Samuelson credit – he’s a strong believer in recycling. Last year, he loudly [derided](http://www.washingtonpost.com/wp-dyn/content/article/2009/08/23/AR2009082302037.html) the “mirage” of high-speed rail as “the triumph of fantasy over fact.” Yesterday, he [denounced](http://www.washingtonpost.com/wp-dyn/content/article/2010/10/31/AR2010103104260.html) the “absurdity” of fast trains as “a triumph of politically expedient fiction over logic and evidence.” OK, he’s gotten a bit wordier, but you can see that once his mind is made up, it’s fixed in stone. The same kind of thinking comes from nearly all critics of high-speed rail who bunker at the Heritage Foundation, Cato Institute, and other right-leaning groups – they have a curiously static view of transportation. To them, investing in future high-speed rail is an extravagant and illogical expenditure of public money because the lack of prior investment in high-speed rail has done little to change our travel patterns. By that logic, America should never have built a transcontinental railroad. Consider that only a handful of wagon trains made it to California in 1862. Had Samuelson been writing then, he probably would have criticized President Lincoln’s proposal to spend taxpayer money on a steam railroad to San Francisco as a plan that “would subsidize a tiny group of travelers and do little else” – to borrow a phrase from yesterday’s column. What’s missing from Samuelson’s worldview is that major advances in transportation drive economic growth. They have throughout human history. The joining of the Union Pacific and Central Pacific railroads in 1869 ushered in what economic historian Walt Rostow called the “takeoff period” of American industry. Likewise, President Dwight Eisenhower did not justify interstate highways on the basis of established transportation patterns. U.S. railroads – not roads – carried the bulk of interstate freight, military personnel, and civilians during World War II. Instead, he warned that our national security in the Cold War 1950s depended on our ability to establish fast new highways to transport supplies throughout the country. So when Samuelson denounces high-speed rail by citing today’s Amtrak ridership levels, he’s forgetting that rail traffic is far below what it would be if our passenger trains were remotely up to world standards. When we begin opening 200-mph railroads, a new level of traffic will appear very rapidly. It’s been dormant, waiting for a chance to move. It is impossible to predict how much dormant traffic is waiting for a truly modernized rail system. Economic models don’t tell us, and Samuelson fails to even pose the question amid his attacks on high-speed rail as government “pork barrel.” What’s remarkable (though not surprising, if one reads Cato’s [Randal O’Toole](http://www.cato-at-liberty.org/secretary-of-behavior-modification/) and other rail critics) is Samuelson’s utter blindness to the fact that highways and airports require massive government “pork” to build and maintain. They don’t pay for themselves through fuel or ticket taxes, as their backers like to assert. A Texas Department of Transportation [study found](http://www.austincontrarian.com/austincontrarian/2009/05/do-roads-pay-for-themselves.html) that a new section of highway in Houston would generate only 16 percent of its total lifecycle cost from gas taxes. Texas DOT estimated a gas tax of $2.22 per gallon – nearly six times the present state and federal tax of 38.4 cents – reflected the actual cost of building and maintaining the highway. Constructing 800 miles of high-speed rail in California is liable to cost more than $40 billion. Constructing and operating all 13 corridors proposed by the Obama administration could easily approach $200 billion. But these dramatic headline figures need context. The current transportation act allots $300 billion to highways – not for new construction since the interstate system is completed, but just for maintenance and rebuilding. Huge costs loom as America’s highways reach the end of their productive life. Replacing the Tappan Zee Bridge in New York State is estimated to cost $17 billion. That figure is guaranteed to rise. If interstate thoroughfares and vital bridges paid their way, private investors would be clamoring to commit funds to refinance them. They aren’t. All modes of transporting people require subsidies. Amtrak’s direct subsidies of about $1.5 billion a year are transparent and highly publicized. Subsidies for cars and airlines are hidden in trust fund appropriations, user tax breaks, and local and state programs paid for by all taxpayers, including those who rarely drive and never fly. In portraying himself as a hard-nosed realist free of the “fashionable make-believe” of rail advocates, Samuelson would do well to explain how he’d fix congestion, advance mobility, lessen pollution, and reduce our dependence on foreign oil by jettisoning an infrastructure program that directly addresses these issues.

#### [B.] US federal government will not invest any money for High-Speed rail in the 2013 budget despite Administration requests

Joel Fox, Editor of Fox & Hounds and President of the Small Business Action Committee, “You Can’t Build High Speed Rail With No Money”, Fox and Hounds, April 18, 2012. http://www.foxandhoundsdaily.com/2012/04/you-cant-build-high-speed-rail-with-no-money/

The Legislative Analyst’s [“concern”](http://www.lao.ca.gov/analysis/2012/transportation/high-speed-rail-041712.aspx) that funding is not available for the High Speed Rail (HSR) comes at the same time that the federal government – a source counted on for HSR funds — appears to be turning against the High Speed Rail. Yesterday, the subcommittee on Transportation under the Appropriations Committee of the United States Senate put a hold on HSR federal funds for the 2013 fiscal year. Ken Orski, editor and publisher of Innovation [News Briefs](http://www.innobriefs.com/), which follows transportation issues on Capitol Hill, says the full committee usually follows the sub committee’s recommendations. Orski stated, “The Democrat-controlled Senate Transportation Appropriations Subcommittee, which usually marches in lock step with the White House, has disallowed all of the Administration’s FY 2013 request for high speed rail ($4 billion). Of the total $1.75 billion federal rail budget, the Senate Subcommittee has allocated $1.45 billion for Amtrak and $100 million for the High Performance Passenger Rail grant program to assist with the improvement of existing intercity services and multi-state planning initiatives. The House appropriators, of course, have never intended to vote any money for HSR in FY 2013, but the Senate action puts an end to any hopes that a House-Senate conference might provide even a token amount for high-speed rail in the FY 2013 federal budget.”

### Advantage: Economic Growth

#### [A.] Status quo U.S. economy is stalling - lack of jobs and government inaction is killing consumer spending and confidence.

Timothy R. Homan and Shobhana Chandra, Bloomberg Economics Reporters, Confidence Sinks As U.S. Job Market Progress Stalls: Economy, 5/17/2012. <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.

#### [B.] Infrastructure investment key - government funding is matched and multiplied, solves unemployment, and solves debt crisis.

Joseph E. Stiglitz, University Professor at Columbia University, and a Nobel laureate in Economics Stimulating the Economy in an Era of Debt and Deficit, The Economists’ Voice, March 2012. 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.

#### [C.] High speed rail solves - proven ability to substantially increase economic growth

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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 informationexchange 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. A case study in Germany (box 1) exemplifies increased economic benefits associated with high-speed rail, but in other cases the results have fallen short of expectations. This mixed evidence underscores the importance of ensuring that transportation connections, station locations, urban development, and promotional strategies are in place to maximize the economic impact of this capital-intensive investment.

#### [D.] High speed rail solves - sustainable economic growth

Gabriel M. Ahlfeldt and Arne Feddersen, London School of Economic, Dept of Geopgrahy and Environment and University of Hamburg, Department of Economics, “From Periphery to Core: Economic Adjustments to High Speed Rail”, London School of Economic Research Online, September 2010

1 Introduction “A major new high-speed rail line will generate many thousands of construction jobs over several years, as well as permanent jobs for rail employees and increased economic activity in the destinations these trains serve.” US President Barack Obama, Apr 16th, 2009 With the rise of New Economic Geography (NEG) the spatial dimension in economic thinking has celebrated an impressive comeback during the recent decades.1 Not least, the Nobel Prize being awarded to Paul Krugman in 2008 highlights how widely the importance of a deeper understanding of regional economic disparities has been acknowledged among economists. One of the fundamental outcomes of NEG models is that accessibility to regional markets promotes regional economic development due to the interaction of agglomerations forces, economies of scales and transportation costs. Recent empirical research confirms that there is a positive relationship between regions’ centrality with respect to other regions and their economic wealth (e.g. HANSON, 2005) and that there is evidence for a causal importance of access to regional markets for the economic prosperity of regions (REDDING & STURM, 2008). From these findings, a direct economic policy dimension emerges. Centrality is not exogenous to economic policy but, of course, depends on transport infrastructure. Therefore, by (public) investment into infrastructure, accessibility as well as economic growth can be promoted.2 The expectation that transport innovations would lead to sustainable economic growth has long since motivated public investment into large-scale infrastructure investment. The US interstate highway and aviation programs certainly feature among the most prominent examples of the 20th century. In the 21st century, promoted by sustainability requirements and congestion of highways and skyways, which further suffer from terrorism threats and security costs, high speed rail (HSR) systems are increasingly attracting the attention of transport planners and policy makers. Various countries all over the world now plan to develop their own HSR networks, following the examples of Japan and some European countries such as France, Germany, and Spain, which started to develop HSR in the second half of the 20th century.

#### [E.] The impact is global wars – studies prove

Jedediah Royal, Director of Cooperative Threat Reduction at the U.S. Department of Defense 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, 2010. 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.

### Advantage: Warming

#### [A.] Status quo global warming is real and human caused - cutting CO2 emissions from transportation is key to prevent run-away warming.

CER and UIC, Community of European Railway and Infrastructure Companies and International Union of Railways, “Rail Transport and Environment: Fact & Figures”, Novemember 2008

In its latest assessment report (AR4) in November 2007, the Intergovernmental Panel on Climate Change (IPCC) said that warming of the climate system “is unequivocal”. Global greenhouse gas (GHG) emissions due to human activities have grown since pre-industrial times, with an increase of 70% between 1970 and 2004 alone. This development has led to clear changes in temperatures and average sea level compared to the standard period used (1961-1990), as shown in the graph below. An additional temperature rise of between 1°C and 4°C is projected between 2000-2100, depending on the level of stabilisation of GHG emissions. CO2 is the major greenhouse gas contributing to global warming and climate change; it is emitted by both natural and anthropogenic sources. The Kyoto Protocol regulates five GHGs beside carbon dioxide: methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6). In March 2007, the European heads of state agreed to set precise, legally binding targets in a move to reduce Europe-wide emissions by 20% over the 1990-2020 period and keep overall warming below the widely accepted 2 degrees “threshold”. The European Commission put forward legislation on achieving this in January 2008. EU transport sector today Transport causes around one quarter of all EU CO2 emissions. Between 1990 and 2005, EU-15 GHG emissions from domestic transport (journeys inside EU only) increased by 26%. More than 90% of total domestic transport emissions are due to road transport. Rail only accounts for 0.6% for diesel emissions and for less than 2% including emissions for electricity production. EU transport sector tomorrow Despite multiple initiatives the transport sector is projected to remain the fastest growing sector when it comes to CO2 emissions. At the UN meeting (the so-called Conference of the Parties, “COP13”) in Bali (December 2007), the United Nations Framework Convention on Climate Change (UNFCCC) confirmed that total CO2 emission reduction targets cannot be met without limiting transport emissions. Rail CO2 performance From 1990 to 2005 the European railways cut their CO2 emissions by 21% in absolute terms. For specific emissions (i.e. emissions per passenger-km or tonne-km) during the same period, the railways reduced their CO2 emissions per passenger-km by 14%, and per tonne-km by 28%. In May 2008, the members of CER agreed to a target of an average sector-wide cut of 30% in specific emissions over the 1990-2020 period. The table below shows the difference between 1990 and 2005 for rail transport passenger and freight. Freight transport CO2 comparison The table below compares the total CO2 emissions from transporting 100 tons of average goods from Basel, Switzerland to the port of Rotterdam, Netherlands. CO2 emissions from rail are almost 8 times less than lorries and 4 times less than inland waterways ([www.ecotransit.org](http://www.ecotransit.org)). Passenger transport CO2 comparison For passenger transport, going by rail is on average 4 times more efficient than taking the car and more than 3 times better than taking the plane. The table below compares the total CO2 emissions from transporting 1 passenger between Berlin and Frankfurt city centres in Germany.

#### [B.] Transportation changes key – only way to deal with US population growth and meet GHG emissions reduction goals

Urban Land Institute, nonprofit education and research institute supported by its nearly 30,000 members. “Land Use and Driving: The Role Compact Development Can Play in Reducing Greenhouse Gas Emissions – Evidence from Three Recent Studies”, 2010

The Advantages of Compact Development Compact development can: n foster the emergence of vibrant, walkable communities; n make active, healthier lifestyles easier to enjoy; n conserve land by accommodating more people in less space; n support transportation alternatives; n reduce congestion; n lower infrastructure costs for communities, families, and individuals; n reduce household expenses related to transportation and energy; and n make life more convenient by putting destinations closer together. Now, the three studies examined in this report add climate change to the mix. In addition to all of these benefits, compact development can lower greenhouse gas emissions by reducing driving. Compact development becomes all the more compelling given that the United States will grow by more than 130 million people over the next 40 years, with the overwhelming majority choosing to live in metropolitan areas. The Transportation Sector Is Key in Climate Change Climate change, energy efficiency, and overdependence on foreign sources of energy have escalated to become a major center of federal and local policy reform. These reforms have set a goal for significant greenhouse gas (GHG) emissions reduction—often targeted at 80 percent below current levels. But in getting to that goal, the implementation challenge remains enormous. Two trends are pushing against each other. Over the next 40 years, as the total and metropolitan population of the United States climbs, the pressure is on to make overall emissions move in the other direction—down. The transportation sector is a good place to start in the battle against greenhouse gas emissions. It represents about one-third of overall GHG emissions in the United States, and it is the fastest-growing sector in GHG emissions. The growth comes from a history of increasing amounts of driving—and underlying land use patterns can dictate the need to drive.

#### [C.] High speed rail solves – slashes annual CO2 emissions and trades off with less environmentally friendly transportation

Joshua Rogers, J.D., University of Illinois College of Law 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.

#### [D.] High speed rail solves – federal investment would massively reduce fossil fuel emissions.

Sam Schwartz et al, Gerard Soffian, Jee Mee Kim, and Annie Weinstock, President and CEO, Sam Schwartz Engineering (SSE), a multi-disciplinary consulting firm specializing in traffic and transportation engineering, Assistant Commissioner, Division of Traffic Management, New York City Department of Transportation, Vice President, Sam Schwartz Engineering, Senior Transportation Planner for Sam Schwartz Engineering, “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.

#### [E.] The impact is extinction.

Oliver Tickell, The Guardian, “On a planet 4C hotter, all we can prepare for is extinction”, 2008. <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.

### Advantage: Oil Dependence

#### [A.] Status quo dependence on oil will end survival – electrified rail is only solution.

Rail Solution, “The Steel Interstate System – A Uniquely Sustainable and Synergistic National transportation Policy Initiative”, February 2011

Why the Steel Interstate System is a Win/Win/Win from so many perspectives. This section explains in greater detail the Steel Interstate System’s many benefits and interrelationship to so many current national high-priority issues. Much more detail, documentation, and analysis is at www.steelinterstate.org  Electrification & Energy Independence Substituting domestically generated electricity for foreign oil has immense implications for energy independence. The transportation sector of our economy is the largest energy consumer. At this time, with the small exception of Amtrak in the Boston – Washington corridor, it is entirely dependent on oil, most if it imported, much of it from nations unfriendly to the U.S. Not only could the U.S. stop sending billions of dollars annually to these nations, but this money could be retained at home, creating jobs and boosting economic activity in the electric generation and transmission industries, strengthening our national power grid, and broadening the production and market development for renewables. Many proposals have been advanced to enhance America’s energy independence, ranging from more rigorous building codes to tougher CAFE mileage standards for automobiles. All pale in comparison to the oil and energy savings from an electrified Steel Interstate System. U.S. railroads used over 84 million barrels of diesel fuel in 2006. Much of that could be saved by main-line electrification. Medium and long distance trucks should all move in the future aboard speedy and reliable electric-powered trains. This could boost oil savings ten-fold. Currently oil provides more than 40% of all energy consumed in the U.S. and 97% of the oil-based energy is used for transportation. So the Steel Interstate System has a huge potential to alter significantly the current national energy use patterns. The United States’ near total dependence on diminishing oil resources for its transportation sector threatens the mobility of people and goods on which we are so heavily dependent for our quality of life. Oil production worldwide likely has peaked. The Hirsh Report surveyed opinions on this from many petroleum geologists, and the majority said peak world production had occurred or would occur by 2010. [Peaking of World Oil Production: Impacts, Mitigation, & Risk Management, by Robert L. Hirsch, Roger Bezdek, and Robert Wendling, U. S. Department of Energy, February, 2005. See: http://www.netl.doe.gov/publications/others/pdf/Oil\_Peaking\_NETL.pdf ] Some of the Hirsh Report’s findings have direct relevance to the Steel Interstate System: “Oil peaking will create a severe liquid fuels problem for the transportation sector” “As peaking is approached, liquid fuel prices and price volatility will increase dramatically, and, without timely mitigation, the economic, social, and political costs will be unprecedented. Viable mitigation options exist, but to have substantial impact, they must be initiated more than a decade in advance of peaking.” “.Aggressive, appropriately timed fuel efficiency and substitute fuel production could provide substantial mitigation.” Of course, there is no better way to substitute fuel than through electrification. Other commonly mentioned methods, such as shale oil, tar sands, and coal liquefaction face production bottlenecks, environmental problems, or both, making them unsuitable candidates for widespread oil substitution. World population, and oil consumers, continue to grow. On a per-capita basis world oil production peaked several decades ago. New emerging demand from nations such as India and China, and resulting upward price pressures in recent years, exacerbate this international dilemma. We need to wean ourselves from imported oil. We need to begin now the critical national planning required to move goods and people in coming decades when oil becomes prohibitively expensive and ultimately non-available as a transportation fuel. Substituting domestically produced electricity is the key. There are no technical barriers to railroad electrification. The technology is available today and in widespread use around the world. So the Steel Interstate System stands ready to address this need. National Security Implications Because of the huge dependence of our transportation sector on oil, the nation is enormously vulnerable to any disruption in the supply of oil. The USA has 177,000 miles of railroads, with the Department of Defense classifying 32,421 miles as strategic (STRACNET). An electrified Steel Interstate System would protect this core strategic rail network and help protect the nation from a worldwide disruption in oil production. Alan Drake is an independent engineer and researcher who has worked for the Association for the Study of Peak Oil and Gas, a non-profit research and public education initiative to address U.S. peak oil and energy challenges [www.aspo-usa.com] and the Millennium Institute [www.millennium-institute.org] a foundation for world sustainability. He argues convincingly that a reduction of 6 to 7 million barrels per day over 24 to 30 months would cause U.S. food distribution to become erratic and the national economy to collapse. A nation can be defeated through economic collapse as truly as on the battlefield. International geopolitical scenarios are possible that could produce such interruptions in oil availability hypothesized by Drake, including coordinated action by the Arab producing nations and military interdiction of the Straits of Hormuz or Malacca. Another likely cause is that in a post-Peak Oil world, producing nations will naturally begin to preserve more of their production for current and future domestic use, especially since the economies of many such producing nations are booming. Such hoarding can be expected to cause world oil exports to fall even more rapidly than world oil production. Energy economists refer to this as the Export Land Model, and it has been increasingly discussed and debated in recent years. Alan Drake states that in his opinion, “this is the most likely scenario and a very real threat to national security - even survival.” While some may see such scenarios as alarmist, others will see them as realistic concerns. For the most part, the difference is not if, but when, they will hit us. A massive capital spending program on long-lived infrastructure that helps eliminate oil use is an ideal economic stimulus. The majority of spending would be for domestic goods and services. The Steel Interstate System meets this need.

#### [B.] High-speed rail solves - ends US dependence on foreign oil

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

High-speed rail has the potential to provide greater environmental benefits and energy efficiencies than other modes of long distance travel. However, several conditions must be met to obtain these benefits. Energy efficiency and ridership: High-speed rail offers greater operating efficiency on a per passenger mile basis than competing modes, such as single-occupancy automobiles or airplanes that require significant amounts of fuel to get off the ground. For example, Shinkansen trains are estimated to use one-quarter the energy of airplanes and one-sixth that of private automobiles per passenger mile (JR Central 2011a). To achieve environmental benefits, highspeed trains must maximize load factors to realize the greatest efficiencies. As highspeed rail ridership increases, so does its relative energy efficiency, whereas a high-speed train carrying no passengers ceases to be efficient in any sense. In regions where the number of total trips is not growing, high-speed rail can bring about a net reduction of energy use through mode shift by capturing passengers from automobile or airplane trips. In regions like California where population and trips are projected to keep growing, highspeed rail can help reduce the energy and climate impacts on a per passenger basis through a combination of mode shift and attracting new passengers to high-speed rail. 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 petroleum- generated 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.

### Plan

#### United States federal government should substantially increase investment in a phased high-speed rail network in the United States.

### Solvency

#### [A.] Status quo policy will fail – only expanded federal funding in rail infrastructure will enable long-term success.

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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 MANAGEMENT FRAMEWORK 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 CRITERIAFederal 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 MANAGEMENTA 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. PLAN FOR MAXIMUM LAND DEVELOPMENT BENEFITSTo reap the greatest benefits, high-speed rail investments should be coupled with policies that encourage land development around rail stations. Careful planning must be undertaken for track alignment, station location, and connections with other transportation modes. In general, well-connected stations in center-city locations, when coupled with other investments, offer the greatest potential for urban revitalization. Peripheral station locations should be avoided, as they are rarely successful in maximizing transportation and other land development benefits and may have negative impacts on center-city station areas. Although high-speed rail service by itself will not necessarily induce development, it can contribute to the success of a larger urban redevelopment plan that includes collateral investments and policies. FOCUS ON THE NORTHEAST CORRIDOR AND CALIFORNIAThe 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. The need to find a long-term solution for the nation’s transportation funding presents the opportunity to address existing surface transportation needs and high-speed and passenger rail at the same time. When Congress addresses the current shortfall in transportation funding, it should also dedicate funding for passenger rail, such as by raising the gas tax by 15 cents and directing several cents to rail, or considering new approaches entirely—such as an upstream oil tax or VMT fee. A national infrastructure bank could provide loans, grants, and credit assistance for transportation projects at a regional or national scale, covering large upfront costs while encouraging collaboration among state, local, and private investors. Two existing federal loan programs for transportation, TIFIA and RRIF, could be expanded for financing high-speed rail, and new programs such as Build America Bonds and other qualified tax credit bonds could attract a wide range of private investors.

#### [B.] Federal investment is key – reassures state and private investors, necessary for the upfront capital infrastructure costs, and rail will cover the operating and maintenance costs

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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. The challenge of securing revenue for rail investments is closely linked to the chal- lenge of funding the nation’s entire surface transportation program. While in the past revenues from the federal motor fuel taxes were sufficient to cover the nation’s highway and transit priorities, the 18.4 cents per gallon gasoline tax has been fixed since 1993, while the dollar has lost one-third of its purchasing power in that time (RAND Corporation 2011). New sources of sustainable revenue are needed to support not only high-speed and conventional passenger rail but also all of the nation’s surface transportation obligations, including highways and transit. In recent years, Congress has addressed the funding shortfall with short-term fixes by transferring general fund revenues to the highway trust fund. However, the need to find a long-term solution presents the opportunity to address existing surface transportation needs and high-speed and passenger rail all at once. At some point in the near future, Congress must address the shortfall in national transportation funding. At that time legislators could also dedicate revenues for high-speed and passenger rail as part of the surface transportation program, generated by a variety of small increases or reallocations of current transportation- related fees to provide at least $5 billion in annual funds. Several proposals are currently being considered.

#### [C.] Investment solves – irrespective of completion the federal signal helps the environment, jobs, and overcomes obstacles.

Darren A. Prum and Sarah L. Catz, Assistant Professor, The Florida State University \*\* Director, Center for Urban Infrastructure; Research Associate, Institute of Transportation Studies, University of California, Irvine 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

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. ConclusionWith 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.

#### [D.] Investment sovles – it is cost-effective

Phillip Longman, senior fellow at New America Foundation, “Back on Tracks: A nineteenth-century technology could be the solution to our twenty-first-century problems.” Washington Monthly, Jan/Feb 2009

For now, Virginia lacks the resources to build its "steel wheel interstate," but that could change quickly. Thanks to the collapsing economy, a powerful new consensus has developed in Washington behind a once-in-a-generation investment in infrastructure. The incoming administration is talking of spending as much as $1 trillion to jump-start growth and make up for past neglect, an outlay that Obama himself characterizes as "the single largest new investment in our national infrastructure since the creation of the federal highway system in the 1950s." We’ll soon be moving earth again like it’s 1959. By all rights, America’s dilapidated rail lines ought to be a prime candidate for some of that spending. All over the country there are opportunities like the I-81/Crescent Corridor deal, in which relatively modest amounts of capital could unclog massive traffic bottlenecks, revving up the economy while saving energy and lives. Many of these projects have already begun, like Virginia’s, or are sitting on planners’ shelves and could be up and running quickly. And if we’re willing to think bigger and more long term—and we should be—the potential of a twenty-first-century rail system is truly astonishing. In a study recently presented to the National Academy of Engineering, the Millennium Institute, a nonprofit known for its expertise in energy and environmental modeling, calculated the likely benefits of an expenditure of $250 billion to $500 billion on improved rail infrastructure. It found that such an investment would get 83 percent of all long-haul trucks off the nation’s highways by 2030, while also delivering ample capacity for high-speed passenger rail. If high-traffic rail lines were also electrified and powered in part by renewable energy sources, that investment would reduce the nation’s carbon emission by 39 percent and oil consumption by 15 percent. By moderating the growing cost of logistics, it would also leave the nation’s economy 10 percent larger by 2030 than it would otherwise be.\* Yet despite this astounding potential, virtually no one in Washington is talking about investing any of that $1 trillion in freight rail capacity. Instead, almost all the talk out of the Obama camp and Congress has been about spending for roads and highway bridges, projects made necessary in large measure by America’s overreliance on pavement-smashing, traffic-snarling, fossil-fuel-guzzling trucks for the bulk of its domestic freight transport. This could be an epic mistake. Just as the Interstate Highway System changed, for better and for worse, the economy and the landscape of America, so too will the investment decisions Washington is about to make. The choice of infrastructure projects is de facto industrial policy; it’s also de facto energy, land use, housing, and environmental policy, with implications for nearly every aspect of American life going far into the future. On the doorstep of an era of infrastructure spending unparalleled in the past half century, we need to conceive of a transportation future in which each mode of transport is put to its most sensible use, deployed collaboratively instead of competitively. To see what that future could look like, however, we need to look first at the past.

# \*\*Status Quo Extensions\*\*

### Inherency – FY 2011-12 Cuts

#### No high speed rail – congressional budgets

[Dan Schned](http://www.rpa.org/staff/dan-schned.html), Associate Planner, and [Petra Todorovich](http://www.rpa.org/staff/petra-todorovich.html), Director, RPA's America 2050 initiative, “Congressional High-Speed Rail Hearing Misses the Point”, America 2050, December 7, 2011

The Transportation & Infrastructure Committee of the House of Representatives [held a hearing on Dec. 6](http://transportation.house.gov/hearings/hearingdetail.aspx?NewsID=1462) to evaluate the U.S. Department of Transportation's High-Speed Intercity Passenger Rail Program. This hearing follows two successive federal budgets (2011-2012) in which Congress has provided no new funding for the high-speed rail program. Some members of the committee strongly criticized the program's focus, while the Secretary of Transportation, Ray LaHood, gave impassioned testimony in defense of the Administration's strategy.  The concerns that were voiced at the hearing missed the point of this critical program -- which is not only to build new high-speed rail corridors, but to expand and improve service on existing passenger rail corridors -- by focusing excessively on whether funded projects are truly "high-speed." What could have been an opportunity to hear firsthand from state leaders about the progress of passenger rail projects in Washington, Illinois, North Carolina, Maine, Connecticut, Michigan, and others was largely wasted. (A hearing focused on California is scheduled for Dec. 15.) Only Joan McDonald, New York Transportation Commissioner, was there representing a state with a passenger rail project funded by the program.  Critics of the rail program continue to insist that investments in one expensive, world class high-speed rail corridor would have been better than funding projects around the country that will provide benefits in the next five years. However, by making cost-effective improvements in existing corridors across the country, the United States is spending limited rail funding wisely and getting more bang for its buck. Projects in 32 states and the District of Columbia have been awarded planning or construction grants totaling $10.1 billion, bringing improvements such as increased frequency, reliability, faster trip times, and new rail cars. This strategy will also expand passenger rail's constituency beyond the few corridors with dependable service today to create nationwide support.  "From here," Secretary LaHood [wrote on his blog](http://fastlane.dot.gov/2011/12/hsr.html), "the future is bright. During the next six months, more than $1.1 billion of new job-creating construction projects will begin." Investments in the Northeast Corridor infrastructure and rolling stock will increase the top speed of Amtrak's Acela trains from 150 to 186 mph. California's statewide high-speed rail project is set to break ground this summer. Funds awarded to Illinois will cut rail travel times between Chicago and St. Louis to four hours and introduce six new modern trains, purchased through a joint Midwest equipment order. In Connecticut, improvements to the New Haven-Hartford-Springfield Corridor will quadruple the frequency of service, going from 6 to 25 daily round trips when the project is complete.    The network of train service that the program envisions does not, and should not, include only high-speed (220 mph) trains. It includes a variety of passenger rail services operating at different speeds, which meet the needs of local communities, connected at intermodal stations integrated with other transit services. Higher-speed regional trains supporting smaller regions and emerging markets, supported by local transit service act as feeder routes for core, dedicated, high-speed rail. One day, these services may develop the ridership to support an upgrade to dedicated, express service. In the meantime, more Americans will have alternatives to higher gas prices, dangerous roads, and traffic jams, by riding passenger rail.

#### Limited federal funding now - HSIPR

Petra, “Senate Acts to Preserve Rail Funding ... Bill heads to Conference”, America 2050, November 2, 2011.

On November 1 the U.S. Senate voted to approve a "minibus" bill that combined transportation, housing, and other spending bills. The minibus bill included $1.48 billion for Amtrak and $100 million for the High-Speed Intercity Passenger Rail Program (HSIPR) in the Fiscal Year 2012. While the $1.48 billion for Amtrak falls short of its $2.2 billion budget request, the Senate bill avoids the drastic cuts proposed by the House that would cut operating funding by 60 percent and shut down the state-supported lines that serve approximately 9 million passengers in 15 states - almost one-third of Amtrak's passengers - with negative impacts on the communities served by these corridors. Amtrak just posted its most successful year ever, serving 30.2 million passengers in the 2011 fiscal year. The $100 million for the HSIPR program essentially keeps the program alive -- continuing the momentum states are making in planning and building their passenger rail networks. Despite the fact that this Congress slashed funding for the HSIPR program in 2011 it remains popular among the states. Last year, the Department of Transportation received applications from 39 states totaling nearly $75 billion for high-speed and intercity passenger rail grants. The bill now goes to conference committee, where the Senate and House must reconcile the different funding levels. [America 2050 recently gathered 100 signatures](http://www.america2050.org/upload/2011/11/Final%20FY2012%20Amtrak%20and%20HSIPR%20Appropriations%20102011%20with%20signatories.pdf) from organizations, Mayors, and business and civic leaders in a letter sent to the chairmen and ranking members of the House and Senate appropriations committees urging them to preserve the Senate's levels of funding for Amtrak and high-speed rail.

### AT: Obama Plan

#### Obama’s plan halted – congressional budget cuts and republican governor opposition

Steve Kastenbaum, CNN Radio correspondent, “U.S. high-speed rail program hit by deep budget cuts”, April 13, 2011

CNN) -- President Barack Obama's plan for a national high-speed rail network suffered a serious setback as a result of the fight over budget cuts. No money will be allocated for high-speed rail projects for the remainder of 2011. Supporters have pointed to the plan as a job creator and economy booster, while critics have expressed doubts about whether spending billions of dollars on high-speed rail is the best use of federal funds. The news came as a blow to high-speed rail advocates such as Petra Todorovich of the Regional Plan Association in New York. "Obviously, it's a disappointment for many of the states that were seeking funding from the high-speed rail program," Todorovich said, "and it's a loss of momentum as we scale up for the president's ambitious proposal." As details of the budget compromise on Capitol Hill were made available to the public there was confusion over just how much money was being cut from the high-speed rail program. Some published reports put the figure at $2.9 billion, and at least one said it was as much as $4.4 billion. [Experts respond to CNN.com user comments about high-speed rail](http://www.cnn.com/2011/POLITICS/04/13/high.speed.rail.fact.check/index.html) But the U.S. Department of Transportation's figure is significantly lower. Federal Rail Administration officials claim that they lost what amounts to $1.4 billion in funds for high-speed rail. The budget bill says the amount of money for "Department of Transportation, Federal Railroad Administration, Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service shall be $0" for the remainder of fiscal year 2011. Another section of the bill rescinds $400 million from the funds that were already budgeted for high-speed rail in 2010. The cuts will not affect projects already under way across the United States, according to DOT officials. Projects that have been awarded grants will keep their funding. But that's not to say that there aren't concerns about future funding. "It's always worrisome when an important infrastructure initiative becomes politicized," Todorovich said. "It's a big setback." Proponents of California's high-speed rail project are concerned about the cuts and whether they can depend on future funding for a line that will ultimately link Los Angeles with San Francisco. The first phase is moving forward in the state's Central Valley. Todorovich said that so far state officials have secured about $3 billion for a project that will cost about $50 billion. They were counting on federal dollars for the bulk of the remainder. Obama's vision for a national high-speed rail network took some hits even before it became a part of budget negotiations in Congress. Transportation Secretary Ray LaHood redirected high-speed rail funds away from Wisconsin and Ohio after both Republican governors said they would oppose projects in their states. Most recently, Florida Gov. Rick Scott, also a Republican, rejected a plan to link Tampa and Orlando via a high-speed rail line that ultimately would have grown to include Miami and Jacksonville among its stops. As a result, Florida lost $2.4 billion in federal funding. [Now, Scott is taking credit for inspiring Washington to cut the rail program](http://blogs.browardpalmbeach.com/juice/2011/04/rick_scott_takes_credit_for_solving_budget_crisis_rejecting_high-speed_rail.php), according to the Broward-Palm Beach New Times. Twenty-four states submitted requests to the DOT for a portion of Florida's high-speed rail funds. The department was in the process of reallocating the money when the budget cuts were announced. The Obama administration has proposed spending $53 billion over a quarter of a century on a national high-speed rail network. The president's goal is to give 80 percent of Americans access to high-speed intercity trains by 2020.

### AT: PRIIA/HISPR

#### PRIIA wont get it done – uncertainty makes infrastructure planning impossible

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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.

#### 2011 cuts from governors and congress show the need for increased federal support

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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.

### AT: California

#### Increased federal funding to California high-speed rail is key

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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.

#### Federal support is key to finish California HSR

Don Thompson, Associated Press, “Calif. seeks federal high-speed rail commitment”, San Fransico Chronicle, May 16, 2012. <http://sfgate.com/cgi-bin/article.cgi?f=/n/a/2012/05/16/state/n132755D15.DTL>

The leader of California's state Senate wants the [Obama](http://www.sfgate.com/barack-obama/) administration to say it will commit more federal money to the state's high-speed rail project if the president wins a second term. Senate President Pro Tem Darrell Steinberg is pushing skeptical lawmakers to approve $2.7 billion in initial spending by July 1 to meet a federal construction deadline. The federal government has pledged $3.5 billion, on top of the $9 billion authorized by California voters. The total price tag is at least $68 billion. A sticking point is whether more federal money will be available to complete the project once it gets under way. Steinberg, a Democrat, told reporters Wednesday that it would help if the administration commits to future financial support. Federal transportation officials said they could not immediately comment.

### AT: Northeast Corridor

#### No high speed rail – no financing and budgetary concerns

[Dan Schned](http://www.rpa.org/staff/dan-schned.html), Associate Planner, and [Petra Todorovich](http://www.rpa.org/staff/petra-todorovich.html), Director, RPA's America 2050 initiative, “The U.K. Moves Ahead With High-Speed Rail. Can the U.S. Follow?”, America 2050, 2/1/2012. http://www.america2050.org/2012/02/the-uk-moves-ahead-with-high-speed-rail-can-the-us-follow.html

While high-speed rail has struggled to secure adequate financing in the U.S., in Britain, the government has given the green light to begin construction on the country's second bullet train. The U.K. government's decision to move forward with the controversial project offers important lessons as the U.S. pursues its own high-speed rail corridors in California and the Northeast. In proposing the new high-speed line, which will link London to Birmingham in under an hour, the U.K. government sought to emphasize the project's lasting economic and environmental benefits. A government evaluation analyzing the economic costs and benefits of the project showed that every $1 invested in the $29 billion first phase of the London-Birmingham line will generate $1.70 in overall economic benefit. That figure includes a category dubbed "wider economic impacts," a measure used commonly in Europe, but far less often in the U.S., to calculate indirect benefits to society. For example, it might factor in the economic gains that emerge when high-speed rail increases a region's competitiveness and productivity and draws businesses to concentrate along the rail corridor. With that assessment in hand, economists and transportation planners were able to make a case to the general public and business communities that the decades-long project would pay huge dividends over the long term. Including a measure of wider economic benefits in studies in the U.S. would make it easier to make a more complete case for high-speed rail projects. One advantage the U.K. has is that it has already successfully built high-speed rail. The first line, known has High Speed 1, opened in 2007, connecting the Channel Tunnel to London. The line's operations and maintenance responsibilities were sold as a concession in 2010 to a consortium of Canadian pension funds, allowing the U.K. to recoup about one-third of its initial investment. The train operators pay fees to use the tracks, creating a revenue stream that is then used to maintain the infrastructure and provide a return to the investors. This deal demonstrates the feasibility of attracting private financing to high-speed rail projects. In contrast, the U.S. is still awaiting its first high-speed line. The Northeast Corridor stretching from Washington, D.C. to Boston has characteristics similar to the U.K.'s busiest rail route, the West Coast Main Line. The two corridors have comparable lengths: the Northeast Corridor is 455 miles long and the West Coast Main Line stretches nearly 400 miles from London to Glasgow. They also serve similar-size populations and economies: the Northeast megaregion is home to about 52 million people and has an economy valued at $2.9 trillion; England has 52 million residents and a $2.2 trillion economy. In the late 1990's, the U.K. decided to upgrade the West Coast Main Line at a cost of $20 billion, disrupting traffic on the corridor for more than 10 years. When the overhaul was completed in 2008, the line was already near capacity again. To address future demand on the line, the U.K. has now chosen to embark on its High Speed 2 project, building two dedicated tracks connecting London, the West Midlands and northern England, securing much-needed capacity and transforming intercity travel in the U.K. The Northeast Corridor also is operating at or near capacity along several segments and has an enormous backlog of critical infrastructure projects. In 2010, Amtrak and states in the Northeast completed a report that concluded $52 billion of investment is needed to bring the corridor back to a state of good repair (much of the normal maintenance on the corridor has been neglected for years, due to battles over Amtrak funding in Congress) and meet capacity needs over the next 20 years. These improvements would probably take until 2030 to complete on the corridor, which serves nearly three-quarters of a million passengers each day. What the U.K. experience upgrading the West Coast Main Line shows is that incremental improvements alone might not suffice, and that pursuing high-speed rail is the most effective way to deal with capacity constraints on the corridor. In 2011, [Amtrak released a high-speed rail plan for the Northeast](http://www.amtrak.com/servlet/ContentServer/Page/1248542787937/1237405732517), proposing two dedicated tracks to run the length of the corridor. The new line would dramatically increase passenger capacity and reduce travel times to 90 minutes from New York to Washington, D.C. and to 100 minutes from New York to Boston. The project is estimated to cost $117 billion over 20 years and is still in the conceptual phase. Whether the U.S. and the Northeast opt for an ambitious vision of high-speed rail in the Northeast Corridor will be determined by a variety of factors, including the outcome of the presidential and congressional races, progress on the California project, and an environmental impact study on the Northeast Corridor to begin this year. As the U.S. endeavors to introduce high-speed rail, the U.K. government's push for the London-Birmingham line suggests that a concerted effort to explain the economic benefits could jump-start the effort here. But as in the U.K., proponents of high-speed rail in the U.S. will need to overcome major concerns about the country's financial constraints and deep skepticism about infrastructure projects that take decades to complete.

### AT: Florida

#### Rick Scott shut it down

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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.

# \*\*Economic Growth Extensions\*\*

### Solvency – HSR Solves Growth

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

Zhenhua Chen, 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 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, 2011.

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

Malcolm A. Smith, Senate president pro tempore and co-chair of the HSR Working Group, Our economic future lies in high-speed rail. By: Smith, Malcolm A., New York Amsterdam News, 10591818, 2/25/2010, Vol. 101, Issue 9, 2010

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.

### Solvency – HSR Solves Growth

#### High-speed rail promotes economic growth – a substantial increase in federal high speed rail infrastructure is key to completion of current projects.

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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.

### Solvency – HSR Solves Jobs

#### Good for jobs

Phillip Longman, senior fellow at New America Foundation, “Back on Tracks: A nineteenth-century technology could be the solution to our twenty-first-century problems.” Washington Monthly, Jan/Feb 2009

The work involved in constructing overhead wires, or catenary, requires unique skills, but one can imagine laid-off construction workers taking to it far better than, say, to nursing, and with less retraining. Current studies indicate that labor and construction costs would come to about $2 million per mile—and maybe less, if steel prices continue to sink. Wiring the 36,000 miles of mainline track on the nation’s high-density routes would thus come in at a cost of around $72 billion. According to John Schumann, professional engineer at the rail transportation consulting firm LTK Engineering, completing such a project could take as little as six years. Additional funds would be needed, of course, for new locomotives and generating capacity. But building or retrofitting locomotives to operate under the new grid could put lots of laid-off autoworkers back to work. General Motors, until it sold off its Electro-Motive Division in 2005 to private investors, was long the nation’s dominant diesel-electric locomotive maker. The spinoff company is still headquartered in LaGrange, Illinois, though most production has shifted to London, Ontario. General Electric, which remains a world leader in locomotive building, with a big plant in hard-pressed Erie, Pennsylvania, could also use the business and would bring much expertise to it.

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

Joshua Rogers, J.D., University of Illinois College of Law 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.

### Solvency – HSR Solves Mid-Size Cities

#### HSR increases economic growth – mid-sized cities

CNN, CNN.com staff, “U.S. high-speed rail 'myths' debunked”, April 13, 2011

Helping mid-sized cities Comment: "History shows that investment in infrastructure results in economic growth in the future." -- CNN.com user "thenewsjunki" Expert response: That's true Longman, New America Foundation: "It's true in general and particularly true of specific rail projects." Economic connectivity: "One of the biggest and often overlooked advantages of high speed rail, and even of not-so-high-speed rail, is its ability to restore the economic promise of many mid-sized cities where airline service is no longer available or prohibitively expensive. Fast, frequent rail passenger and package express service once provided cities like Lynchburg, Virginia, or Rockford, Illinois, with the connectivity to other markets they needed to thrive as centers of business. Now, as part of "flyover America," they struggle because getting from there to anywhere else requires long auto drives to distant and/or poorly served airports ...

### Solvency – Jobs Key

#### Jobs key to sustained growth and recovery

Leo Hindery, Jr. and Leo W. Gerard, co-chairs of The Task Force on Jobs Creation, 5-15-2012. 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.

### Solvency – Infrastructure Investment Key

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

Sylvain Leduc and Daniel Wilson, Fed reserve bank of San Francisco, “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, 2012.

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.

### Solvency – Infrastructure Investment Key

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

Peter Nijkampa and Jacques Poot, Vrije Universit and Victoria University of Wellington,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

Peter Nijkampa and Jacques Poot, Vrije Universit and Victoria University of Wellington,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.

### Impact – Growth Good – War

#### The impact is global war.

Dominique Strauss-Kahn, Managing Director of the IMF, International Monetary Fund, 2012. 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.

### AT: External Factors Control Growth

#### HSR increases economic growth – market access correlates to a rise in GDP best studies prove

Gabriel Ahlfeld and Arne Fedderson, Dept of Georgraphy and Enviro at LSE and University of Hamburg, “New research shows that high-speed rail does deliver economic growth”, London School of Economics, 2010. http://www2.lse.ac.uk/newsAndMedia/news/archives/2010/09/highspeedrail.aspx

High-speed rail lines bring clear and significant economic benefits to the communities they serve, the first thorough statistical study of the subject has discovered  Economists discovered that towns connected to a new high-speed line saw their GDP rise by at least 2.7 per cent compared to neighbours not on the route. Their study also found that increased market access through high-speed rail has a direct correlation with a rise in GDP – for each one per cent increase in market access, there is a 0.25 per cent rise in GDP.  The findings, from the London School of Economics and Political Science and the University of Hamburg, may be used to support arguments for high-speed networks which are already being planned in the UK, US and across the world. Until now, no one has demonstrated that high-speed rail brings clear economic gains along its routes.  Authors Gabriel Ahlfeld and Arne Feddersen presented their findings at the conference of the German Economic Association. The paper, From Periphery to Core: economic adjustments to high-speed rail, also points to advantages in employment and GDP per capita for towns on the high-speed network.  Their research focused on the line between Cologne and Frankfurt, which opened in 2002 and runs trains at almost 185mph (300 kmh). The authors looked at the prosperity and growth of two towns with stations on the new line – Limburg and Montabaur – and compared them with more than 3,000 other municipalities in the surrounding regions.  The new line brought Limburg and Montabaur within a 40-minute journey of both Cologne and Frankfurt. Over a four-year period, the researchers found that both towns and the area  immediately around them saw their economies grow by at least 2.7 per cent more than their unconnected neighbours.   This effect, say the authors, is entirely attributable to the improved access to markets for Limburg and Montabaur and not to any external factors or inherent growth. They chose the two towns for the study because both were included on the high-speed route due to lobbying by regional government and not because their economies were powerful or expanding.   Dr Ahlfeldt, from the Department of Geography and Environment at LSE,  said: 'One of the problems with identifying the impact of high-speed rail has been that lines tend to get built first between areas with strong and growing economies so that it's difficult for economists to be sure which effects are attributable to the new rail line and which to existing factors. But because there was no economic rationale for building the line to Limburg and Montabaur, they provided the perfect "laboratory" conditions for us to measure the effect of high-speed trains.  'It is quite clear that the line itself brought significant and lasting benefits in access to markets, growth, employment and individual prosperity. One of our key findings is a positive market access elasticity, which means that improvements in  accessibility to other towns, cities and regions, will be reflected in economic growth.  We believe this research develops a new framework for predicting the economic effects of large-scale infrastructure projects and will help governments to define future spending priorities.'

### AT: Overseas Jobs

#### ‘Buy America’ provisions ensure manufacturing is domestically produced

CNN, CNN.com staff, “U.S. high-speed rail 'myths' debunked”, April 13, 2011

Overseas jobs? Comment: "Any rail project in the U.S. will require steel rails imported form Korea or China and train components imported from Germany. Yes, we will need a few locals to put this all together, but the primary jobs will be created overseas." -- CNN.com user "StanCalif" Expert response: Not true Roy Kienitz, under secretary for policy, U.S. Department of Transportation: "The High-Speed Rail Program includes strict Buy America provisions, which require steel, iron and any manufactured goods used in the program to be produced in the United States." Examples: "Already, the steel rail for projects in Maine and Vermont are being cast at a plant in Indiana. Rehabilitation of passenger cars is underway in Delaware, Indiana and New York. And, rail sector manufacturers and suppliers are developing or expanding their operations in the U.S. to accommodate anticipated future demand."

### AT: Overbudget

#### HSR infrastructure projects won’t go over budget – funding transparency, easy to expidite, and increase economic growth more than offsetting costs

CNN, CNN.com staff, “U.S. high-speed rail 'myths' debunked”, April 13, 2011

Budget overruns? Comment: "You know that these projects (like high-speed rail) never end at or under budget." -- CNN.com user "rothana" Expert response: 'Not true' Puentes at the Brookings Institution: "It's not true to say these projects are always over budget since we have no high speed rail in the country currently." Stimulus package: "Things are different today. The federal government's stimulus package places a tremendous emphasis on making sure every dollar was spent in a transparent way. This kind of transparency is very helpful to prevent enormous overruns..." Expert response: 'The reader is correct' GOP Reps. Mica and Shuster: "The reader is correct -- in the past, many of America's transportation projects have run over cost and over budget." Bureaucracy: "The reason for this can largely be found in the cumbersome manner in which federal transportation projects are advanced. The Transportation and Infrastructure Committee has received testimony that simply adding one federal dollar to a transportation project adds 14 years to the delivery time. This is unacceptable and it inflates project costs unnecessarily." Example: "The federal government needs to learn to do more with less. ... The I-35 W bridge that collapsed over the Mississippi River in Minneapolis in 2007 was contracted to be rebuilt in just 437 days, and actually came in ahead of schedule and under budget. There is no reason we can't expedite the process for other projects around the country." Expert response: Proper spending ensured Under Secretary Kienitz, U.S. Department of Transportation: Economic engines: "These projects help build the economy. According to a study by the U.S. Conference of Mayors, a high-speed rail line to Los Angeles would create as much as $7.6 billion a year in new business sales, producing up to 55,000 new jobs and $3 billion in new wages. In Chicago, high-speed rail would produce up to $6.1 billion in yearly sales, 42,000 new jobs, and $2.5 billion in new wages for workers."

### AT: Freight Tradeoff

#### HSR will make freight more efficienct

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 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 commuter 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).

### AT: Deficit

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

Joseph E. Stiglitz, University Professor at Columbia University, and a Nobel laureate in Economics Stimulating the Economy in an Era of Debt and Deficit, The Economists’ Voice, March 2012. http://www.degruyter.com/view/j/ev March, 2012

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

Dave Johnson, Fellow, Campaign for America's Future Transportation and Infrastructure = Immediate Jobs = Deficit Reduction, May 1, 2012. m 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!

# \*\*Global Warming Extensions\*\*

### Solvency – HSR Solves Emissions

#### Transition to rail is key to prevent global warming – conclusive scientist agreement

CER and UIC, Community of European Railway and Infrastructure Companies and International Union of Railways, “Rail Transport and Environment: Fact & Figures”, Novemember 2008

The graph below shows that in the EU-15, road transport receives around 110bn Euros a year in infrastructure funding subsidies, while for rail this figure is around 37bn Euros (EEA 2007b). Aviation receives significant subsides that add up to between 27 and 35bn Euros per year. But as climate change becomes a bigger issue, there has been growing acknowledgement of the need to take greater account of the external costs associated with transport. External costs External costs are the negative effects of transport that are not internalised into the price paid by the user (e.g. pollution, accidents and congestion) and are therefore not taken into account by users when they make a transport decision. However, they cannot be disregarded as they give rise to real costs to society, such as global warming, health bills, and delays. There are various studies that have attempted to put a value on external costs. Differences in figures come mainly from different methodologies and initial values in the estimation of congestion, accidents, and air pollution. However, they all put the external costs of road transport as being significantly higher than rail (see table below). The IMPACT report on internalisation of the external costs of transport carried out for the European Commission in 2007 said: “Although the estimation of external costs has to consider several uncertainties, there is consensus at scientific level that external costs of transport can be measured by best practice approaches and that general figures (within reliable bandwidths) are ready for policy use.” EU transport sector tomorrow The greater internalisation of external costs using market-based instruments would lead to a more efficient use of infrastructure, reduce the negative side effects of transport, and improve fairness between modes. Pricing in this way has already been advocated by the European Commission, including in the “European Transport Policy 2010” (published in 2001) and its 2006 mid-term review. For rail, the internalisation of external costs is currently legally possible. However, the existing Eurovignette Directive forbids the possibility of Member States taking into account external costs when setting road charges.

#### Solves half of auto CO2 emissions

CNN, CNN.com staff, “U.S. high-speed rail 'myths' debunked”, April 13, 2011

Cleaner? Safer? Comment: "High-speed rail is faster, cleaner and safer than driving." -- CNN.com user "Orangecat46" Expert response: I agree Sudhir Chella Rajan, senior associate with the Tellus Institute: Other nations: "In countries where it has been effectively implemented (e.g., China, Japan and France), average speeds above 130 mph have been achieved and at relatively low costs on a per passenger-mile basis." Pollution: "In terms of emissions too, high-speed rail is cleaner, with carbon dioxide emissions (on a per passenger-mile basis) roughly half to a third of what is conventionally achieved by automobiles at normal load factors (passengers/vehicle or wagon)." Safety: "The record is mixed and depends on which countries we're examining. In the United States, for instance, railroad accidents have resulted in far fewer fatalities than highway accidents on a per passenger mile basis, but that the numbers are closer in countries like India and China."

### Solvency – HSR Solves Emissions

#### Rails good for GHG

Phillip Longman, senior fellow at New America Foundation, “Back on Tracks: A nineteenth-century technology could be the solution to our twenty-first-century problems.” Washington Monthly, Jan/Feb 2009

The vision of intermodal transport the railroads were seeking to promote made perfect sense. Rail transport lacks the flexibility of the rubber wheel kind, but it has other advantages that make it far superior when the circumstances allow. The biggest is a unique quality of the technology itself. Steel wheels on steel rails meet with very little rolling resistance. They don’t compress and absorb energy from the surface the way a tire does, and the rail itself is much smoother than any road, so trains have only about one-tenth the rolling resistance of trucks. And because of the way rails absorb and spread the weight of a vehicle over long distances, this advantage increases as freight is added. The more you load up a train, the more efficient it becomes compared to a fleet of trucks carrying the same cargo. The Environmental Protection Agency calculates that for distances of more than 1,000 miles, a system in which trucks haul containers only as far as the nearest railhead and then transfer them to a train produces a 65 percent reduction in both fuel use and greenhouse gas emissions. As the volume of freight is expected to increase by 57 percent between 2000 and 2020, the potential economic and environmental benefits of such an intermodal system will go higher and higher. Railroads are also potentially very labor efficient. Even in the days of the object-lesson train, when brakes had to be set manually and firemen were needed to stoke steam engines, a five-man crew could easily handle a fifty-car freight train, doing the work of ten times as many modern long-haul truckers.

#### Rail dwarfs other means of reducing emissions

Rail Solution, “The Steel Interstate System – A Uniquely Sustainable and Synergistic National transportation Policy Initiative”, February 2011

Pollution reduction The foregoing discussions of energy efficiency and energy independence have shown that huge fuel savings are possible with an electrified Steel Interstate System. The easiest and most direct way to achieve a reduction in pollution is to burn less fuel! The half billion barrel annual oil savings at the cost of less than 1% added electric generation is huge. Again it dwarfs other means of reducing emissions, including greenhouse gases such as CO2, being considered and debated every day in the quest to address global warming and climate change. Think, too, about where the emissions are generated -- fewer trucks spewing diesel exhaust along the highway, and fewer diesel locomotives spewing exhaust along the nation’s rail lines. Huge reductions from these small point sources are transferred to minor increases at electric generating stations. Optimally this power would come from renewables or nuclear where there is no greenhouse gas impact. But even where that is not immediately achievable, there is a large and identifiable benefit from concentrating emissions at power plants that are far more efficient than countless smaller internal combustion engines that their new load replaces. Plus most of such emissions can be captured and treated at the origin before they are passed into the atmosphere. This massive potential to reduce air pollution and greenhouse gases is a corollary benefit of a national investment commitment to the Steel Interstate System. Wind power is an especially promising renewable generating source, but is often hampered by being supplied far from markets and facing transmission hurdles. The rights-of-way of an ubiquitous electrified rail system can help here, too. In an important corollary benefit to powering trains, the wind energy can be moved over the Steel Interstate corridors to distant urban markets.

### Solvency – Transportation 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.

### Solvency – Reducing Autos Key

#### Reducing driving is key to meet emissions reduction goals

Urban Land Institute, nonprofit education and research institute supported by its nearly 30,000 members. “Land Use and Driving: The Role Compact Development Can Play in Reducing Greenhouse Gas Emissions – Evidence from Three Recent Studies”, 2010

These studies provide some answers: Growth patterns can help reduce GHG emissions from business-as-usual projections. By reducing the need to drive, compact development can make a substantive difference. Implementing compact development strategies can help achieve U.S. emissions reduction goals over the next 40 years. If we could go to 2050 and look back, we would see that successfully implemented compact development strategies—even those with only modest increases in land use density and mix—resulted in a win-win: a boon both for the environment and for Americans looking for the healthy and convenient lifestyle benefits associated with this type of quality land use.

#### Reducing vehicle miles traveled creates permanent reductions in GHG emissions

Urban Land Institute, nonprofit education and research institute supported by its nearly 30,000 members. “Land Use and Driving: The Role Compact Development Can Play in Reducing Greenhouse Gas Emissions – Evidence from Three Recent Studies”, 2010

Trends in VMT from Compact Development: Shared Lessons from the Three Studies Growing Cooler, Moving Cooler, and Driving and the Built Environment differ in their methods and the specifics of their conclusions, but they share several fundamental conclusions: n Compact land use patterns result in fewer vehicle miles traveled (VMT), in terms of both the length and the number of vehicle trips, than do sprawling land use patterns. n This reduction in VMT appears incrementally over a long period of time. n As the amount and quality of compact development increases, the reduction in VMT accelerates. n Importantly, this reduction in VMT and corresponding reduction in GHG emissions is permanent. Quantifying VMT Reductions in the Three Studies Each study settles on different estimates of the actual reductions in VMT for compact development versus typical suburban development. Moving Cooler finds that compact suburban development reduces VMT by 20 percent and urban development reduces VMT by up to 60 percent. Growing Cooler concludes that, in comparison to sprawling development patterns, compact development reduces VMT by 20 to 40 percent. And Driving and the Built Environment, after an extensive review of published research, concludes that doubling residential density reduces VMT by 5 to 12 percent, or by as much as 25 percent when combined with other changes.

#### Moving away from auto-oriented suburbs is key to mitigate climate change

Urban Land Institute, nonprofit education and research institute supported by its nearly 30,000 members. “Land Use and Driving: The Role Compact Development Can Play in Reducing Greenhouse Gas Emissions – Evidence from Three Recent Studies”, 2010

The demographic trends between now and 2050 will lead to major metropolitan growth. This development pressure could result in sprawling, automobile-oriented suburbs—the type of development that increases both the need for driving and corresponding GHG emissions. Yet, because this development has not yet been built, it represents an opportunity to shape resulting land use patterns and achieve broader GHG emissions reduction targets. There are many diverse reasons to pursue compact development strategies. From the ability to foster more vibrant places to supporting more active living, compact development appeals in many ways. The market is responding, providing increasing support for compact development. Now, the evidence in *Moving Cooler*, *Growing Cooler*, and *Driving and the Built Environment* makes the case for compact development even more compelling. By providing quantifiable results, these studies make it clear that compact development can help in the fight to mitigate climate change. Although compact development has an important place in any broader package of climate change mitigation strategies, it is just one in a range of comprehensive measures needed to reduce GHG emissions. These include improvements in transitioning to cleaner energy sources, better vehicle efficiency, and an increase in the energy efficiency of buildings.

### Solvency – Reducing Airlines Key

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

Sam Schwartz et al, Gerard Soffian, Jee Mee Kim, and Annie Weinstock, President and CEO, Sam Schwartz Engineering (SSE), a multi-disciplinary consulting firm specializing in traffic and transportation engineering, Assistant Commissioner, Division of Traffic Management, New York City Department of Transportation, Vice President, Sam Schwartz Engineering, Senior Transportation Planner for Sam Schwartz Engineering, “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 for emissions & triggering feedbacks

Jonas Åkerman, Division of Enviro Strategies research at Royal Institute of Technology in Stockholm, 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).

### Solvency – Renewable Transition

#### Railway key to transition to renewable – doesn’t need separate investment

CER and UIC, Community of European Railway and Infrastructure Companies and International Union of Railways, “Rail Transport and Environment: Fact & Figures”, Novemember 2008

Railways' electricity mix Due to its use of electricity, rail is the only motorised mode of transport which is capable of shifting from fossil fuels to renewable energy without any separate investment in the propulsion units, simply by changing the energy sources in the electric energy production. The graph shows the large differences in Europe when it comes to electricity mix for the year 2005. Railways’ emission performance is crucially linked with the energy supply of each country which is decided by the national energy sectors and political objectives. Some railways own dedicated railway electricity production facilities for historic and technical reasons and therefore can have a different mix.

#### Functioning HSR makes carbon taxes more likely

Jonas Åkerman, Division of Enviro Strategies research at Royal Institute of Technology in Stockholm, 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.

### Solvency – Renewable Transition

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

Kamaal R. Zaidi, BSc from Unvieristy of Calgary and JD from University of Tulsa, “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.

### AT: Construction Emissions

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

Jonas Åkerman, Division of Enviro Strategies research at Royal Institute of Technology in Stockholm, 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.

### AT: Construction Emissions

#### Planning minimizes environmental building problems

Kamaal R. Zaidi, BSc from Unvieristy of Calgary and JD from University of Tulsa, “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.

### Yes Warming

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

Mayer Hillman, Snr Fellow Emeritus at Policy studies Institute, 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.

#### Global Warming is happening now – Scientific consensus

Oreskes & Conway 2010

[Naomi & Erik. (A professor of history and science studies at the University of California, San Diego, Her study “Beyond the Ivory Tower” was a milestone in the fight against global warming denial and cited by Al Gore. & Has published four previous books). Merchants of Doubt. Pg 169. //Jamie]

Many scientists felt that respect was overdue: as early as 1995, the leading international organization on climate, the Intergovernmental Panel on Climate Change (IPCC), had concluded that human activities were affecting global climate. By 2001, IPCC’s Third Assessment Report stated that the evidence was strong and getting stronger, and in 2007, the Fourth Assessment called global warming “unequivocal.”2 Major scientific organizations and prominent scientists around the globe have repeatedly ratified the IPCC conclusion. Today, all but a tiny handful of climate scientists are convinced that Earth’s climate is heating up, and that human activities are the dominant cause.

### Yes Warming – Satellites

#### Global warming is happening in the status quo and satellites proves it

Archer 2009

[David. (Professor of geophysical sciences at the University of Chicago & the author of Global Warming: Understanding the Forecast). The Long Thaw: How humans are changing the next 100,000 years of Earth’s climate. Pg 35. //Jamie]

The average temperature of the surface of the Earth has risen overall through the past century. There was an interval of cooling, from the 1940s to the 1970s, and very strong warming since then. Or the 21 hottest years on record, 20 of them have taken place in the last 25 years. That last uptick stands accused of being global warming. Other temperature records corroborate the warming of the last decades seen in the land, surface ocean, and satellite temperature records. The subsurface ocean, for example, is a good place to look for global warming. The ocean has the capacity to store a lot more heat than the atmosphere does, and so it takes the ocean much longer to warm up or cool down. Temperature records from the deep ocean therefore emphasize long-term trends in the atmosphere, by filtering out some of year-to-year variability. Temperatures in the subsurface ocean have been rising measurably over the past few decades. The temperature changes are largest near the surface, and they can be measured to several kilometers depth in some parts of the ocean. The deepest waters of the ocean have not warmed much at all yet.

#### Glacial melting proves global warming & is happening faster than predicted

Archer 2009

[David. (Professor of geophysical sciences at the University of Chicago & the author of Global Warming: Understanding the Forecast). The Long Thaw: How humans are changing the next 100,000 years of Earth’s climate. Pg 36. //Jamie]

Glaciers are melting all around the world. Most glaciers flow from some kind of valley or bowl up in the mountains where snow accumulates. The ice in a glacier begins to melt when it reaches warm air at lower elevation. When the climate warms, glaciers tend to get shorter, melting up from below. Glaciers have been melting since the end of the Little Ice Age, three centuries ago (Chapter 4), but the rate of melting has accelerated in the past decades. The snows of Kilimanjaro are projected to be gone by 2020, and Glacier National Park in the U.S. state of Montana is projected to lose its last glacier in a few decades. Sea ice is melting, in the Arctic in particular. The decrease in the area of ice cover has been faster than any model had predicted. Summer sea ice is projected to melt completely by the year 2050. Shipping companies are happily making plans to exploit the fabled Northwest Passage, a reality at last after three centuries of searching. Polar bears without sea ice face near certain extinction. The Arctic Ocean covers a large area of the Earth's surface, nearby the climate-critical Greenland Ice Sheet and the deep water formation regions in the North Atlantic. Sea ice is some of the most reflective stuff on Earth, and open ocean some of the least reflective. Sunshine in the summertime Arctic is some of the most intense on Earth, if you average over 24 hours, because the Sun never sets at night. Melting of the Arctic sea ice would be a deeply fundamental change in the Earth's climate system, the impacts of which I don't believe climate models can predict very confidently. The melting of Arctic sea ice is the clearest example, to my mind, of a tipping point in global warming.

### Yes Warming – AT: IPCC Wrong

#### Indicts of the IPCC don’t sufficiently disprove their conclusions

Rahmstorf 8 (Stefan, Professor at the Postdam Institute for Climate Research, "Anthropogenic Climate Change: Revisiting the Facts," <http://www.pik> potsdam.de/~stefan/Publications/Book\_chapters/Rahmstorf\_Zedillo\_2008.pdf)

The first quantitative reconstruction for the Northern Hemisphere tempera- ture of the past millennium, including an error estimation, was presented by Mann, Bradley, and Hughes and rightly highlighted in the 2001 IPCC report as one of the major new findings since its 1995 report; it is shown in figure 3-6.39 The analysis suggests that, despite the large error bars, twentieth-century warm- ing is indeed highly unusual and probably was unprecedented during the past millennium. This result, presumably because of its symbolic power, has attracted much criticism, to some extent in scientific journals, but even more so in the popular media. The hockey stick–shaped curve became a symbol for the IPCC, and criticizing this particular data analysis became an avenue for some to ques- tion the credibility of the IPCC. Three important things have been overlooked in much of the media cover- age. First, even if the scientific critics had been right, this would not have called into question the very cautious conclusion drawn by the IPCC from the reconstruction by Mann, Bradley, and Hughes: “New analyses of proxy data for the Northern Hemisphere indicate that the increase in temperature in the twentieth century is likely to have been the largest of any century during the past 1,000 years.” This conclusion has since been supported further by every single one of close to a dozen new reconstructions (two of which are shown in figure 3-6). Second, by far the most serious scientific criticism raised against Mann, Hughes, and Bradley was simply based on a mistake.40 The prominent paper of von Storch and others, which claimed (based on a model test) that the method of Mann, Bradley, and Hughes systematically underestimated variability, “was [itself] based on incorrect implementation of the reconstruction procedure.”41 With correct implementation, climate field reconstruction procedures such as the one used by Mann, Bradley, and Hughes have been shown to perform well in similar model tests.42 Third, whether their reconstruction is accurate or not has no bearing on policy. If their analysis underestimated past natural climate variability, this would certainly not argue for a smaller climate sensitivity and thus a lesser concern about the consequences of our emissions. Some have argued that, in contrast, it would point to a larger climate sensitivity.43 While this is a valid point in principle, it does not apply in practice to the climate sen- sitivity estimates discussed herein or to the range given by IPCC, since these did not use the reconstruction of Mann, Hughes, and Bradley or any other proxy records of the past millennium. Media claims that “a pillar of the Kyoto Proto- col” had been called into question were therefore misinformed. As an aside, the protocol was agreed in 1997, before the reconstruction in question even existed.

### Yes Warming – AT: Idso

#### The Idso’s are paid off by the fossil fuel industry and try to cover it up

Jeff Nesmith, Cox News, 6-2-2003, “Industry promotes skeptical view of global warming”, http://www.heatisonline.org/contentserver/objecthandlers/index.cfm?id=43 09&method=full

The energy industry provides significant funding for groups that employ some of the authors or promote their new study Soon’s four coauthors were Sallie Baliunas, also from the Harvard-Smithsonian center; Sherwood Idso and his son, Craig Idso, both of Tempe, Ariz., who are the former president and the current president of an organization called the Center for the Study of Carbon Dioxide and Global Change; and David R. Legates, a climate researcher at the University of Delaware. The Idsos, who have previously been linked to Western coal interests, do not reveal the sources of financial support for their center, which on its Web site presents summaries of scientific studies purporting to raise questions about prevailing climate change theories. The center had a budget of nearly $400,000 in 2001, the last year for which nonprofit statements to the Internal Revenue Service are available. It operates from a post Office box and offices to the homes of Craig -and Sherwood Idso and a second son of Sherwood Idso, Keith Idso. : Identities of the four donors who provided the organization’s $397,000 contributions in 2001 are blanked out of the Internal Revenue Service filing, and Sherwood Idso declined in an interview to nine them. "We generally do not say anything about our funding,” he said. “The feeling is that what we produce there should be evaluated on its own merit, not where any funding comes from.” Records filed with the IRS by ExxonMobil Foundation show that it provided a grant of $15,000 to the Arizona center in 2000.

### Impact – Warming Bad – Extinction

#### C02 kills humans, decrease agriculture, droughts and species extinction

Calvin 2008

[William H. (Professor emeritus at the University of Washington in Seattle and the author of 14 books). Global Fever. Pg 175-176. //Jamie]

Atmospheric C02 has two parallel effects, global warming and ocean acidification. From each, there is a fan-out of impacts. In the atmosphere, elevated C02 produces warming—and warming in turn may kill people (35,000 Europeans died in the heat wave of 2003), diminish cereal crops, expand the subtropical deserts, set up long‐lasting droughts elsewhere, and cause the largest species extinction event since the demise of the dinosaurs.

#### El Nino from C02 will cause mass extinction by 2020

Calvin 2008

[William H. (Professor emeritus at the University of Washington in Seattle and the author of 14 books). Global Fever. Pg 6-7. //Jamie]

Our window of opportunity appears to be rapidly closing. If we don’t turn around emissions growth by 2020, we’ll never hold the fever down enough to avoid the worst consequences. It’s a catastrophe in slow motion but none‐ theless a tragedy awaiting today’s students. Since we only get one shot at this time bomb, we must allow for contingencies—also rarely discussed. For example, it’s quite likely that another supersized El Niño will occur in coming decades, again with major drought and fires. But suppose it lasts twice as long as usual? We did have a long one from 1986‒87 but it wasn’t also a big one. A big, long El Niño would likely dry out two of the three major rain forests of the world. The resulting fires in Southeast Asia could inject five times the usual yearly increment of anthropogenic CO2 into the atmosphere. If the Amazon burns off, that’s an additional fifteen‐year hit in only a few years. It would cause a mass extinction of both animal and plant species, about half being lost in the aftermath.

#### Anthropocentric global warming accelerates biodiversity loss and causes extinction

Leemans 2010

[Rik. (Wageningen University: Full professor in Environmental Systems Analysis, Interim professor in Earth System Science.) Chapter 4: Ecosystems. Climate Change Science and Policy. Edited by Stephen H. Schneider. Pg 63 //Jamie]

The observed impacts already show that eco-systems will be altered everywhere. Many places will experience future local and regional extinctions; habitats, especially in the polar regions, will disappear. Probably the most vulnerable areas will be those regions with many endemic species, such as mediterranean regions (including the South African Fynbos) and mountainous areas. Forests will also potentially be affected when droughts reduce their resilience and increase fire frequencies. These changes entail grave consequences for the effectiveness of mitigation strategies because they probably release carbon into the atmosphere. This chapter shows that the magnitude and rate of climate change pose a major threat. Human-induced climate change will cause rates of change to species, ecosystems, and biodiversity that are historically unprecedented. This will exceed the ability of many plant and animal species to migrate or adapt and will lead to irreversible impacts. Although some species and ecosystems will profit, most will be adversely affected by climate change, which will accelerate the decline of biodiversity. This phenomenon has been observed in the past when biodiversity declined during periods with rapid climate change, such as the Younger Dryas of 12,000 years ago. The threats of climate change pose large challenges for conservation, especially since effective efforts to protect habitats and create ecological networks require international co-operation and concerted action. Developing successful conservation strategies must include support for developing countries. Only a global climate policy in conjunction with a conservation plan will reduce the threat of a major extinction event.

### Impact – Warming Bad – Species Loss

#### Global warming is real and anthropocentric and causes species extinction

Root & Goldsmith 2010

[Terry L. & Elizabeth S. (Senior Fellow at the Woods Institute for the Environment, and Professor, by courtesy, in the department of Biology & Doctor of Medicine Candidate, Stanford University School of Medicine Masters of Science Candidate, Emmett Interdisciplinary Program in Environment and Resources, Stanford University). Chapter 3 “Wild species and extinction.” Climate Change Science and Policy. Edited by Stephen H Schneider. Pg 44 //Jamie]

Climate has long been recognized as a primary driver of biotic systems.1 It plays a central role in determining which types of species inhabit which parts of the world.2 Between 1750 and 2007, the average global temperature increased by around 0.75 degree Celsius (around 1.3 degrees Fahrenheit).' Human activities have been linked to the rapid warming.4 The rate of warming is expected to continue to escalate throughout the twenty-first century, increasing by a minimum of 1.1 degrees Celsius and potentially rising 6.4 degrees Celsius or more.' Even with a total increase of 1.1 degrees Celsius, many species will exhibit significant changes, making climatic considerations fundamental in a discussion of the status and trends of ecological conditions. Until relatively recently, concerns about declining species densities focused primarily on habitat modification, overharvesting, invasive species, and other human-caused changes. Since the late 1990s, researchers have found that many species are also changing as a result of climate change: moving poleward, for example, and blooming earlier in the spring.6 Meta-analyses of studies from 44 around the globe have found wild species exhibiting consistent responses to global warming. ' Joint attribution research shows that the regional warming to which species respond is due in part to human activities.8 Changes to species are already occurring, and temperatures are expected to escalate, pushing an increasing number of species toward extinction.9 Coordinated policy interventions at many different scales are imperative. Research-informed, strategically comprehensive conservation programs are needed to stave off accelerating rates of extinctions.

#### Increases in Global Warming is increasing extinctions

Root & Goldsmith 2010

[Terry L. & Elizabeth S. (Senior Fellow at the Woods Institute for the Environment, and Professor, by courtesy, in the department of Biology & Doctor of Medicine Candidate, Stanford University School of Medicine Masters of Science Candidate, Emmett Interdisciplinary Program in Environment and Resources, Stanford University). Chapter 3 “Wild species and extinction.” Climate Change Science and Policy. Edited by Stephen H Schneider. Pg 47 //Jamie]

Highly disturbed ecosystems have lowered resistance to nonlinear, dynamic combinations of changes, especially those presented by extreme conditions, as predicted by global climate change scenarios.2' For species in those systems, extinction is the ultimate irreversible outcome. Unless climate change and other disturbances, such as habitat loss, can be slowed, and unless we can enact well-designed adaptation policies and management plans, widespread extinctions are expected.24 The warmer the planet gets, the more extinctions we can anticipate.

### Impact – Warming Bad – Timeframe 2020

#### Must act before 2020

Calvin 2008

[William H. (Professor emeritus at the University of Washington in Seattle and the author of 14 books). Global Fever. Pg 239. //Jamie]

Time has become so short that we must turn around the annual emissions growth before 2020 to avoid saddling today’s students with the world of refugees and genocides that results if we’re too slow. That means not waiting for a better deal on some post‐ Kyoto treaty. It means immediately scaling up technolog‐ ies that we know will work, not waiting for something better that could take decades to debug.

#### The Time Frame on C02 emissions is 10 years!

Calvin 2008

[William H. (Professor emeritus at the University of Washington in Seattle and the author of 14 books). Global Fever. Pg 108. //Jamie]

Experts are now saying that we only have a decade to get carbon emissions under control before we start getting into the zone of triggering major droughts and more rapid rise in sea level farther down the line. We too could lose our maneuvering room and crash.

# \*\*Oil Dependence Extensions\*\*

### Solvency – HSR Solves Dependence

#### Rail is the most energy efficient mode of transportation – cost-effective, reduces GHG emissions, and decreases reliance on imported fossil fuels

CER and UIC, Community of European Railway and Infrastructure Companies and International Union of Railways, “Rail Transport and Environment: Fact & Figures”, Novemember 2008

Energy efficiency offers a powerful and cost-effective tool for achieving a sustainable energy future. Improvements in energy efficiency can reduce the need for investment in energy infrastructure, cut fuel costs, and increase competitiveness. Environmental benefits can be achieved by the reduction of greenhouse gases emissions and local air pollution. Energy security can also profit from improved energy efficiency by decreasing the reliance on imported fossil fuels. Freight transport energy comparison Comparing heavy or spacious cargo, short or long-haul, rail is the most energy efficient transport mode if used appropriately. The table below compares the total primary energy consumption from transporting 100 tons of average goods from Basel, Switzerland to the port of Rotterdam, Netherlands. As can be seen from the graph, rail is more energy efficient than inland waterways and over twice as efficient as lorries. Compared with air transport, rail would be around 20 times more energy efficient.

#### HSR solves GHG and cutting fuel consumption

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Why High-Speed Rail Could Still Get Built in Florida”, Progressive Policy Institute, February 17, 2010

President Obama made a splash in Florida last month when he announced the award of federal stimulus money to start building a high-speed rail (HSR) line between Tampa and Orlando. “I’m excited. I’m going to come back down here and ride it,” he told a cheering audience at a [town hall meeting](http://www.npr.org/templates/story/story.php?storyId=123081477). The president certainly got it right when he said that we must break our dependence on the automobile and imported oil. Safe, reliable, and incredibly fast rail promises a breakthrough that people will be willing to pay for and private investors willing to operate. Passenger trains cruising at 150 miles per hour provide a decisive margin of superiority over highway travel and can compete effectively with commercial air in short- and medium-distance markets while cutting overall fuel consumption and greenhouse gases. But for all the hype surrounding the president’s announcement, this exciting new mode of transportation won’t be arriving in America anytime soon unless the Obama administration and Congress make some “course corrections.” The crux of the problem is that the administration has begun a major civic work without laying down engineering and design protocols that match the standards of fast train lines built elsewhere in the world. Even worse, the distribution of funds from the stimulus package ensures that the most promising projects will remain underfunded.

### Solvency – HSR Solves Dependence

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

Darren A. Prum and Sarah L. Catz, Assistant Professor, The Florida State University \*\* Director, Center for Urban Infrastructure; Research Associate, Institute of Transportation Studies, University of California, Irvine 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

#### HSR solves oil dependence

Daniel Wood, CSM Staff Writer, “GOP critic calls Joe Biden's $53 billion high-speed rail plan 'insanity'” 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."

### Yes Peak Oil

#### Peak oil is inevitable – could have already happened

Kenneth S. Deffeyes, Hubbert’s Peak, p 148-9, 2001.

Now we can use Hubbert's second method: fitting parallel curves to the cumulative production and to discoveries (cumulative produc- tion plus reserves). No educated guesses go in. The constraints are the Gaussian shape of the history and a constant spacing between the cu- mulative production and the discovery curves. The resulting estimate gives a peak production year of 2003 and a total eventual oil recovery of 2.12 trillion barrels. The peak year 2003, is the same year that we got by fitting Campbell's 1.8-trillion- barrel estimate to the production history. Other published estimates, using variations on Hubbert's methods, give peak years from 2004 to 2009. I honestly do not have an opinion as to the exact date for two reasons: (1) the revisions of OPEC reserves may or may not reflect re- ality; (2) OPEC production capacities are closely guarded secrets. If your country has surplus production capacity today, you are A Player in the global oil game. If your wells are currently producing to capac- ity, you are merely a spectator. This much is certain: no initiative put in place starting today can have a substantial effect on the peak production year. No Caspian Sea exploration, no drilling in the South China Sea, no SUV replacements, no renewable energy projects can be brought on at a sufficient rate to avoid a bidding war for the remaining oil. At least, let's hope that the war is waged with cash instead of with nuclear warheads,

#### Global oil will peak in 5 years, radical change is the only option to stop the near inevitable

Dr. J.W. Bently, Expert on Oil, and it’s decline, “Global Oil & Gas Depletion: an overview,” 2002. [www.greatchange.org/ov-bentley,global\_depletion.pdf](http://www.greatchange.org/ov-bentley%2Cglobal_depletion.pdf)

The world ’s production of conventional hydrocarbons will soon decline.Hydrocarbon shortages are inevitable unless radical changes occur in demand,or in the supply of non-conventional hydrocarbons.The details are as follows: Global conventional oil supply is currently at political risk.This is because the sum of conventional oil production from all countries in the world,except the five main Middle-East suppliers,is near the maximum set by physical resource limits. Should Middle-East suppliers decide to substantially curtail supply,the shortfall cannot be replaced by conventional oil from other sources. World conventional oil supply will soon be at physical risk.The Middle-East countries have only little spare operational capacity, and this will be increasingly called upon as oil production declines elsewhere.Large investments in Middle-East production,if they occur,could raise output,but only to a limited extent.(A partial exception is Iraq,but even here,there would be significant delays before prospects are confirmed,and infrastructure is in place.)If demand is maintained,and if large investments in Middle-East capacity are not made,the world will face the prospect of oil shortages in the near term. Even with large investments,resource limits will force Middle-East production to decline fairly soon,and hence also global conventional oil production.The date of this resource-limited global peak depends on the size of Middle-East reserves,which are poorly known,and unreliably reported.Best estimates put the physical peak of global conventional oil production between 5 and 10 years from now. The world contains large quantities of non-conventional oil,and various oil substitutes.But the rapidity of the decline in the production of conventional oil makes it probable that these non-conventional sources cannot come on-stream fast enough to fullycompensate.The result will be a sustained global oil shortage. For conventional gas, the world ’s original endowment is probably about the same,in energy terms,as its endowment of conventional oil.Since less gas has been used so far compared to oil,the world will turn increasingly to gas as oil declines. But the global peak in conventional gas production is already in sight,in perhaps 20 years,and hence the global peak of all hydrocarbons (oil plus gas)is likely to be in about 10 or so years. 2002 Published by Elsevier Science Ltd.

### Impact – Dependence Bad – Extinction

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

LENDMAN 07 Research Associate of the Centre for Research on Globalization

[Stephen Lendman, Unqualified Bigot, “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.

#### Running out of oil risks extinction

David Goodstein, Vice Provost and Professor of Physics and Applied Physics at Caltech 35 yrs, Out of Gas: End of the Age of Oil, 2004. P. 15

The world will soon start to run out of conven- tionally produced, cheap oil. If we manage some- how to overcome that shock by shifting the burden to coal and natural gas, th two other primary fos- sil fuels, life may go on more or less as it has been-until we start to run out of all fossil fuels by the end of this century. And by the time we have burned up all that fuel, we may well have rendered the planet unfit for human life. Even if human life does go on, civilization as we know it will not survive, unless we can find a way to live without fossil fuels.

#### We are at a cross-roads- transition from fossil fuels- or see the death of 95% of the world population

David Goodstein, Vice Provost and Professor of Physics and Applied Physics at Caltech 35 yrs, Out of Gas: End of the Age of Oil, 2004. P. 15

FUTURE SCENARIOS No matter what else happens, this is the century in which we must learn to live without fossil fuels. Either we will be wise enough to do so before we have to, or we will be forced to do so when, the stuff starts to run out. One way to accomplish that would be to return to life as it was lived in the eighteenth cen- tury, before we started to use much fossil fuel. That would require, among many other things, eliminating roughly 95 per- cent of the world's population. The other possibility is to devise a way of running a complex civilization approximating the one we have now which does not use fossil fuel. Do the necessary scientific and technical principles exist?

### Impact – Dependence Bad – Terrorism

#### Oil dependence undermines fight against terrorism

Josef Braml, editor-in-chief of the Yearbook on International Relations at the German Council on Foreign Relations (DGAP) in Berlin.Autumn 2007. The Washington Quarterly. Can The US Shed Its Oil Addiction? <http://www.twq.com/07autumn/docs/07autumn_braml.pdf>

If the United States continues its overreliance on fossil fuels, it will become increasingly dependent on producing nations that are unstable and that pose a risk to its interests and could come into conflict with other consumer states. Although the United States can still count on Canada and Mexico, which are its two most important petroleum providers, its tense relationship with Ven­ezuela illustrates the challenges in securing energy resources even in its own backyard, let alone the Middle East and other volatile areas. Some observers of petropolitics go as far as to describe an “axis of oil” (Russia, China, and eventually Iran) at work that is “acting as a counterweight to American he­gemony” and will deprive the United States of its oil supplies and strategic interests.6 The Persian Gulf, another region the Unit­ed States used to dominate, has become very volatile and unreliable in terms of delivering energy resources. This region will continue to be vital to U.S. interests in reliable oil supply for at least the next two decades.7 The U.S.–Saudi Arabian relationship in particular is well rooted in bilateral economic and political ties. The Saudi monarchy possesses the world’s largest oil reserves and is one of the United States’ main suppliers of oil. U.S. energy dependence, however, undermines the U.S. National Security Strategy’s aim of fighting terrorism by demanding meaningful political reform from authoritarian regimes to become more democratic and market oriented.8 Through interventions in the markets, Saudi Arabia has helped the United States to stabilize the price of oil, allow­ing oil consumers to enjoy relatively steady prices from the mid-1980s to 2003. Nevertheless, because oil production has not kept pace with increased world­wide demand for oil, especially from the United States and China, there has been a sharp increase in the price of oil over the past three years.

### Impact – Dependence Bad – Economy

#### Oil shock causes a double dip

Tasker 11 (Sarah-Jane, writer for the Wall Street Journal "Oil price shock fears as the Middle East crisis worsens" March 5, 2011 http://www.theaustralian.com.au/business/oil-price-shock-fears-as-the-middle-east-crisis-worsens/story-e6frg8zx-1226016133251)

GLOBAL economies are bracing for a new oil price shock caused by political unrest in the Middle East, which could put the brakes on the financial recovery that is driving confidence in world markets. The oil price has jumped sharply as the conflict in Libya has intensified, with leader Muammar Gaddafi refusing to step aside. That has led global economists to warn that further conflict in the oil-producing regions cannot be ruled out. British Energy Secretary Chris Huhne this week joined a growing chorus of experts who believe the threat of an oil shock like that of the 1970s -- which caused prices to surge to $US160 a barrel -- can no longer be ignored. A sustained high oil price poses the greatest risk of a double-dip recession in the US. Credit rating agency Standard & Poor's yesterday raised fresh concerns, outlining in a report that no country in the Middle East and North Africa is immune to contagion from the political unrest.

# \*\*Solvency Extensions\*\*

### Solvency – Fed Key

#### More active federal role – starting with funding – is key

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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.

### Solvency – Fed Key

#### US federal support is a precondition to complete large scale high speed rail infrastructure in the US

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

Since the 1964 inauguration of Japan’s first Shinkansen bullet train connecting Tokyo to Osaka, commercial high-speed rail lines have been constructed in 14 countries. Together these lines provide billions of passenger trips, save many hours of travel time, and provide an exceptional level of safety. Now considered a well-established and proven technology, high-speed rail continues to offer benefits to the nations and regions it serves. This reliable, rapid, and safe ground transportation system offers increased regional mobility and accessibility, reduces fuel use, saves energy, regenerates cities and regions, and increases economic productivity. With the exception of the higher-speed Acela Express service operated by Amtrak on the Northeast Corridor, the United States has failed to develop high-speed rail and fully realize its benefits, despite numerous planning studies and aborted attempts to expand rail service in various regions since the 1960s. As a result, most Americans are unfamiliar with high-speed rail and its potential impacts on our cities, regions, and national landscape. Significant investments in the U.S. Interstate Highway System since the 1950s initially produced excess surface transportation capacity, but congestion is now common on many highway sections, particularly in and around major metropolitan areas. The federal government has also subsidized the aviation industry, but has lacked a comparable federal commitment to funding passenger rail infrastructure (figure 1). Such funding has been a precondition for bringing large rail capital projects to fruition in every other country where they exist. At least 19 countries around the world are building or planning new high-speed rail lines (UIC 2011). China has invested several hundred billion dollars in building the world’s most extensive high-speed rail system by 2012 (Bradsher 2010). Several oil- and gas-producing states in the Middle East are planning to spend billions of dollars on high-speed rail systems linking that region (Independent Online 2011). In Saudi Arabia, construction has already begun on a 276-mile high-speed rail line connecting the Islamic holy cities of Medina and Mecca via Jeddah, and the French engineering group Alstom has announced preliminary plans to build a high-speed rail line connecting Baghdad and Basra in Iraq (Telegraph 2011). Within the European Union system Spain is constructing some 1,500 miles of high-speed rail lines, France is planning more than 2,500 miles of new high-speed rail lines, and England has proposed the second phase of its national high-speed rail network. 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.

### Solvency – Fed Key – Centralization

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

Joshua Rogers, J.D., University of Illinois College of Law 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".

### Solvency – Fed Key – Congress

#### Congressional funding needed

Joshua Rogers, J.D., University of Illinois College of Law 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.

#### Administration & funding are key

Joshua Rogers, J.D., University of Illinois College of Law 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.

### Solvency – Fed Key – Legal

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

Darren A. Prum and Sarah L. Catz, Assistant Professor, The Florida State University \*\* Director, Center for Urban Infrastructure; Research Associate, Institute of Transportation Studies, University of California, Irvine 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

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.

### Solvency – Fed Key – Legal

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

Darren A. Prum and Sarah L. Catz, Assistant Professor, The Florida State University \*\* Director, Center for Urban Infrastructure; Research Associate, Institute of Transportation Studies, University of California, Irvine 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 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.

### Solvency – Megaregions Key – NEC, California, Midwest

#### NEC, California, Midwest are key

Yoav Hagler and Petra Todorovich, Associate Planner and Direcotr of America 2050, “Where High-Speed Rail Works Best”, America 2050, September 2009.

Defining the corridors in America that are most appropriate for high-speed rail service is critical to the long-term success of America’s high-speed rail program. This paper offers one mechanism for assessing which potential high-speed rail corridors will have the greatest ridership demand based on population size, economic activity, transit connections, existing travel markets and urban spatial form and density. The authors evaluate 27,000 city pairs in the nation to create an index of city pairs with the greatest demand for high-speed rail service. The paper provides a list of the top 50 city pairs, which are primarily concentrated in the Northeast, California, and the Midwest, and provides recommendations for phasing corridor development in the nation’s megaregions.

#### Major markets phasing solves best – reduces financial risk and encourages long term public support

Yoav Hagler and Petra Todorovich, Associate Planner and Direcotr of America 2050, “Where High-Speed Rail Works Best”, America 2050, September 2009.

Defining which corridors are most appropriate for high-speed rail development is critical for the long term success of this nascent federal program. The $8 billion appropri­ated for high-speed rail in the ARRA legislation1 is only a small fraction of what will be necessary to fully construct an American high-speed rail network. To maintain public support for a continued federal commitment to high-speed rail, the initial investments must be viewed as a success. Al­though there are many promising projects in smaller travel markets that should be part of a fully constructed network, these will be better positioned for success if the initial $8 billion are invested in projects that can achieve the greatest travel benefits for the largest numbers in the shortest period of time. For this to be true, they need to fund projects in corridors with the appropriate density, economic activity, and existing travel markets to support strong ridership on these new services. There are large potential financial risks inherent in any large scale transportation infrastructure project. However, investing in corridors with the maximum potential to support such systems reduces this risk, increas­ing the probability of success and long term public support.

### Solvency – Megaregions Key – NEC, California

#### High speed rail in US megacities will reduce congestion and be competitive – more federal effort is key

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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 timeand 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 mostprofitable) 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-Zaragoza- Barcelona. 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.

### Solvency – Megaregions Key – California

#### California rail by 2033 and generate 1 million jobs

[Dan Schned](http://www.rpa.org/staff/dan-schned.html), Associate Planner, and [Petra Todorovich](http://www.rpa.org/staff/petra-todorovich.html), Director, RPA's America 2050 initiative, “California Unveils High-Speed Rail Business Plan”, America 2050, November 2, 2011

The California High-Speed Rail Authority has released a business plan for California's statewide high-speed rail program. The business plan makes significant refinements to the previous ridership and revenue projections and cost estimates. The Authority also updated the phasing plan and overall timeline, and established a new funding plan that shows the feasibility of substantial private financing to pay for the design, construction, operation, and maintenance of various segments of the project. The aspect of the business plan that is certain to attract the most headlines is the project's new price tag, which has grown from $43 billion to 65.4 billion in 2010 dollars, or $98.5 billion when accounting for inflation over the life of the project. The business plan also includes a detailed analysis of what it would cost California to accommodate the same amount of growth in travel without high-speed rail - $171 billion over the next 40 years to pay for 2,300 lane miles of new highway capacity, 115 new airport gates, and 4 new runways. With high-speed rail in California, the business plan estimates that the system's construction will generate 100,000 jobs within the first 5 years, and 1 million jobs over time. As described in the business plan, the initial construction segment, currently funded at $5.2 billion will connect Fresno to Bakersfield, the spine of the statewide high-speed rail system, with construction complete by 2017. While these tracks are being built, the Authority will choose an initial operating segment in the Central Valley, which will either be between Bakersfield, Merced, and San Jose or Merced and San Fernando Valley. Subsequent construction will be implemented in phases, including the "Bay to Basin" construction segment - tracks from Fresno to Bakersfield to San Jose and the San Fernando Valley, respectively, and the final track approaches to San Francisco and Los Angeles/Anaheim. The full high-speed rail line from San Francisco to Los Angeles/Anaheim is expected to be operational by 2033. Each phase and segment of the project is intended to function independently if needed, and to generate a net operating profit, giving planners and politicians the flexibility to adapt the scope or phasing to financial realities if necessary. The release of the business plan kicked off a formal public comment period, from November 1st to December 31st, which can be submitted via the Authority's online comment form. America 2050 applauds the California High-Speed Rail Authority for taking this critical step toward a better and more realistic understanding of project costs and benefits.

#### California establishes a precedent for the rest

Jennifer Grzeskowiak, AC and 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."

### Solvency – Megaregions Key – California

#### HSR key in California

Will Oremus, “Requiem for a Train: High-speed rail is dead in America. Should we mourn it?”, Salon, December 7, 2011

For all that, a line in California, connecting Los Angeles to San Francisco, still seemed to stand a chance. Unlike its counterparts elsewhere in the country, the California line would be true, dedicated high-speed rail, with trains running up to 220 mph. It would connect two metropolises of seven-million-plus people that are just far enough apart to make a drive unappetizing (six hours sans traffic) and a plane hop unwieldy. And the plans were already in place; the state had been working on a high-speed rail line for decades and lacked only the money to execute it. It was, it seemed, the perfect showcase for the Obama stimulus. This was more than just [digging holes in the ground](http://www.businessweek.com/blogs/money_politics/archives/2009/02/stimulus_keynes.html)—it was putting people to work building something that the country needed anyway. Not only is California’s Interstate 5 congested and getting worse, but air traffic between San Francisco and Los Angeles is beginning to be a problem as well. Without high-speed trains, the state will need to build more highways, more airports, or both. But for a state that recently passed a law limiting greenhouse gas emissions, electric trains make far more environmental sense. And they’re popular—the state’s voters had approved a $10 billion bond issue for the rail line even before Obama announced his own high-speed plans. So what went wrong?

#### California

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Fast Track to the Future: A High-Speed Rail Agenda for America” Progressive Policy Institute, January 2010

If the Midwest needs to aim higher, California needs to focus on its top priorities. California has applied for $4.7 billion in stimulus money to begin construction next year on an 800-mile HSR network that ties together the state’s major metropolitan areas. The concept is appealing, but the sheer scope of the project coming at a time when the state is approaching fiscal paral­ysis calls for a re-think. Concentrating its efforts on a viable segment of the master plan, such as between Merced and Bakersfield, or San Diego and Anaheim, may be more realistic.25 As part of this redirection, California’s legisla­ture and Gov. Arnold Schwarzenegger need to deal with land-use obstacles that have been erected by NIMBY groups and by the Union Pacific Railroad, which owns right of way that should be incorporated into the HSR line. By developing specific goals for HSR projects and working with state officials to hone their projects in Florida, the Midwest and Califor­nia, the Obama administration would send a signal that it is serious about using government resources to upgrade our frayed transportation network.

### Solvency – Megaregions Key – NEC

#### NEC is in need of high speed rail

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

The 455-mile Northeast Corridor (NEC) between Boston and Washington, DC, is America’s most intensively used rail line, and one of the most heavily traveled corridors in the world, carrying an estimated 260 million rail passengers per year. Eight different commuter railroads and Amtrak’s intercity services share the corridor. Intercity rail passengers on Amtrak’s Acela Express and Northeast Regional services account for approximately 13 million annual passengers, which is 45 percent of Amtrak’s total U.S. intercity ridership (Amtrak 2010a; 2011a). Demand for both commuter and intercity rail services on the corridor is expected to grow as gas prices rise and travelers seek transport alternatives to the automobile. Since November 2009, Amtrak has seen 20 consecutive months of ridership growth and is on pace to set an annual ridership record in 2011 (Amtrak 2011c). Amtrak anticipates that by 2030 ridership will grow 59 percent and train movements 38 percent on the Northeast Corridor (Amtrak 2010b). Despite the Northeast Corridor’s vital role in sustaining mobility in the Northeast Megaregion and supporting a robust intermodal transportation network, several issues undercut its potential for expansion (Amtrak 2010b). · Condition:Although billions of dollars have been spent in recent years to improve the rail corridor, many long stretches have deficient or outmoded tracks, bridges, power, communications, and other systems that need to be upgraded. The whole corridor has an estimated backlog of $8.8 billion to achieve a state of good repair, and an additional $43.5 billion is needed to maintain facilities, replace aging assets, and expand the corridor’s capacity and reliability through 2030 (Amtrak 2011b). · Congestion: Several key segments of the corridor operate at 100 percent capacity. Minor operating problems often cause severe congestion and delays, and repairs on other segments of the corridor also cause backups throughout the system. · Divided ownership and dispatching: While most of the corridor is owned by Amtrak, segments in Massachusetts, Connecticut, and New York are owned by those states’ transportation departments. Trains dispatched from New Rochelle, New York, to New Haven, Connecticut, for example, are controlled by Metro- North Railroad, which prioritizes its commuter trains in this territory. As a result, Amtrak trains must operate at slower speeds in this segment of the corridor. In addition, agreements with the maritime community limit the number of Amtrak trains that can cross coastal bridges in Connecticut to 17 per day in each direction, or just over one train per hour (de Cerreño and Mathur 2006). The Northeast Corridor rail network has evolved over 180 years, beginning in the 1830s, and much of the existing infrastructure was constructed by the Pennsylvania Railroad in the late nineteenth and early twentieth centuries. Key components of the early system included the Baltimore and Potomac Tunnel, the Hudson River tunnels, and Manhattan’s Pennsylvania Station, completed in 1873, 1909, and 1910, respectively. The final section, including the Hell Gate Bridge and New York Connecting Railroad, was completed in 1917. Most of the rail corridor is owned by Amtrak, a private corporation controlled by the federal government. Amtrak was established in 1971 after Penn Central, the last remaining passenger railroad company on the Northeast Corridor, went bankrupt and was forced to sell its assets. Amtrak acquired all of Penn Central’s segments of the corridor that were not sold to public commuter transportation authorities, and it was also charged with providing intercity passenger service throughout the country. In 1976 and again in 1992, Congress passed laws, including the Northeast Corridor Improvement Project (NECIP) and the Northeast High Speed Rail Improvement Program (NHRIP), which mandated Amtrak to reduce trip times on the corridor. Inspired by the success of high-speed rail services in Japan, France, and Spain, Congress appropriated billions of dollars to the Northeast Corridor for improvements that would set the stage for future high-speed rail service. Amtrak introduced Acela Express as a higher speed rail service in December 2000, but it has struggled to obtain enough funding for basic maintenance or capital investments to continue to improve trip times and reliability. The Acela Express service reduced travel times between Boston and New York to about 3 hours and 30 minutes, and between New York and Washington to about 2 hours and 45 minutes. In 2010, Acela trains carried more than 3.2 million passengers and earned $450 million in ticket revenue, which more than covered its operating expenses (Amtrak 2011d, 96). Since 2001, Acela has provided more than 25 million passenger trips on the Northeast Corridor (Amtrak 2011a). Lacking a dedicated track network, Acela trains must operate on congested tracks that also carry Northeast Regional service and eight different commuter rail lines. Accordingly, they have much lower rates of on-time performance and frequency compared with most high-speed rail systems around the world. For instance, Japan’s Tokaido Shinkansen trains can carry more than 1,300 passengers while traveling at over 160 mph, operating on 5–10 minute headways, and keeping the average delay below 30 seconds (JR Central 2011b). By comparison, Acela trains can carry only 300 passengers while operating on 60 minute headways at average speeds of less than 80 mph with a 84.3 percent on-time performance (Railway Technology 2011; Amtrak 2011b). Acela trains are capable of reaching top speeds of 150 mph, but they can reach this speed only on short segments of the corridor due to congestion and tight curves in the track alignment. The average speed of the Acela trains is 62 mph between New York and Boston, and 86 mph between New York and Washington, DC. New Visions for the Corridor In the spring of 2010, a team of planners at the University of Pennsylvania (UPenn) developed a proposal for a dedicated, twotrack high-speed rail right-of-way running the length of the Northeast Corridor from Boston to Washington. The proposal called for frequent, 90-minute service from New York to Washington, DC, and 100-minute service from New York to Boston (figure 12). In a follow-up study in 2011, the UPenn team estimated that the proposal would cost $103 billion, including $14 billion in upgrades to the existing rail corridor, and found that the project had a strong benefit-cost ratio of 1.38 (University of Pennsylvania 2010; 2011). Inspired by the original UPenn proposal, Amtrak developed its own “next-gen highspeed rail” plan that was made public in the fall of 2010. Amtrak also concluded that it would be feasible and beneficial to build a dedicated, two-track high-speed rail rightof- way along the length of the corridor, but choose a different alignment between New York and Boston. The estimated cost of the Amtrak proposal is $117 billion (Amtrak 2010a). Both the UPenn and Amtrak proposals found that high-speed rail would generate a range of economic and mobility benefits for the Northeast Megaregion. The UPenn study also dealt with revitalizing the economies of the Northeast’s weaker market cities. Both studies called for new stations to be developed in Center City Philadelphia and downtown Baltimore, which would create significant economic development potential in those cities. The UPenn study also proposed that some of the capacity created by the new high-speed rail line be used to provide highspeed commuter rail services in the corridor, modeled after the successful Javelin service that utilizes capacity in the HS1 corridor in Southeast England. The combination of high-speed intercity and commuter services could expand and integrate commuter sheds and housing markets across the Northeast, increasing the economic productivity of the megaregion as a whole. 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 stateoperated monopolies due to the challenges of providing multiple maintenance facilities on each route.

### Solvency – Megaregions Key – NEC

#### NEC high speed rail is cost effective

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

Implementation of high-speed rail in the Northeast Corridor will be at least a decade behind the effort in California, where construction is scheduled to begin as early as fall 2012. Infrastructure costs in the Northeast Corridor are also considerably higher, with estimates ranging from $89 to $117 billion for a new, dedicated system, and between $14 and $52 billion for upgrades to the existing corridor (University of Pennsylvania 2011; Amtrak 2010a; 2010b). Nevertheless, the $2.7 trillion economy in the Northeast (Bureau of Economic Analysis 2009), its high population density, and the growing congestion of its existing rails, roads, and runways all make a strong case for these investments. These dynamics also make dedicated high-speed rail in the Northeast financially viable. The UPenn study found that such a system could completely cover its operating costs and a portion of its capital costs through farebox and supplementary revenues (University of Pennsylvania 2011). As in California, the path to high-speed rail in the Northeast Corridor will not be easy, but the federal government commitment to high-speed rail in 2009 and 2010 has inspired planners and policy makers to consider some of the steps that could lead to realizing a dedicated high-speed rail corridor with dramatically enhanced mobility for decades to come.

#### NEC good

Gabriel M. Ahlfeldt and Arne Feddersen, London School of Economic, Dept of Geopgrahy and Environment and University of Hamburg, Department of Economics, “From Periphery to Core: Economic Adjustments to High Speed Rail”, London School of Economic Research Online, September 2010

In the US, the Acela Express along the Northeast Corridor is evidence for the rise in significance of HSR, although these trains only facilitate an average speed of 240 km/h (150mph), a velocity that is relatively modest compared to European and Japanese sys- tems. This line, however, is only the first step toward the development of a true inter-city HSR network across the US. THE US DEPARTMENT OF TRANSPORTATION (2009), recently announced its strategic plan, which would include completely new rail lines that feature velocities of possibly up to 400km/h (250mph). The plan already identifies US$8 billion plus US$1 billion a year for five years in the federal budget just to jump-start the development of the system. Besides the requirement of more energy efficient transport in order to reduce carbon dioxide emissions and oil dependency, the key argument in favor of HSR transport builds on the idea that a faster connection between cities and regions will promote economic development. This is in line with the general theme emerging from spatial economics research, which predicts that more intense spatial interactions between economic agents drive internal returns and human capital spillovers and ultimately productivity through agglomeration economies. Evidence, however, on whether these expectations are met by the reality of existing HSR systems is hardly available.

### Solvency – City Center Key

#### City center and declining area stations are best

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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 activities. But these examples also support a principal finding of the literature: wellconnected 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 (Facchinetti- Mannone 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 postindustrial 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).

### Solvency – Dedicated Rails Key

#### Dedicated tracks are key to HSR in the US

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Fast Track to the Future: A High-Speed Rail Agenda for America” Progressive Policy Institute, January 2010

There’s an old railroad saying that the best way to make a train run fast is to make sure it doesn’t run slow. That is the underlying philoso­phy of HSR. High-speed rail is a type of pas­senger rail transport that operates at uniformly higher speeds than regular rail traffic over short and medium distances (typically 100 to 300 miles), taking advantage of its inherent economy and attractiveness to customers to run frequent train service. This contrasts with the Amtrak model of low-volume, low-speed pas­senger service over nationwide routes. There are two types of HSR based on the kind of infrastructure in place: systems that run on dedi­cated new rights of way and systems that run on existing, upgraded rights of way. For the U.S., the choice is clear: only by committing to dedicat­ed rights of way can we build a true HSR system. The Japanese pioneered such a system when it opened the Shinkansen, or “New Trunk Line,” between Tokyo and Osaka in 1964. The new railway used modern engineering to take the kinks out of 19th-century railroad building, where going around a hill was considered preferable to boring through it. The Shinkansen line required expensive cutting, filling, bridging and tunneling to maintain the straightest pos­sible right of way. Upon this racetrack, bullet trains initially cruised at 125 mph.9 Advances in wheeled-train technology pushed the maximum speeds of dedicated HSR lines to the 200-mph range in France, Spain and Taiwan. China has now convincingly broken the 200-mph barrier on its Wuhan-Guangzhou line. There appears to be no technical barriers that would prevent train speeds from continu­ing to advance to 300 mph or more. Then there are systems that run on upgraded existing rights of way. Slower speed trains (between 110 mph and 150 mph) have been developed on such routes by smoothing out curves and improving trainset and locomotive technology. While Belgium, France, Germany, Italy, Japan, South Korea, Spain and Taiwan have opted for new dedicated lines, Britain, Canada, Finland, Portugal, Russia and Sweden have followed the path of modernizing existing lines. China, meanwhile, has adopted both strategies by constructing a system in which superfast “trunk lines” feed traffic into less speedy regional lines. While faster trains in the 110-mph range would be an improvement for the U.S., the administra­tion should aim higher. The goal for American high-speed rail should be trains that run at an average speed of 150 mph, with the capacity to reach a maximum of 220 mph. Already a reality in other countries, there’s no reason why trains reaching those speeds can’t be built here. Pushing for dedicated new lines is a first step toward achieving that goal.

#### Obama needs to invest in dedicated, internationally competitive HSR

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Fast Track to the Future: A High-Speed Rail Agenda for America” Progressive Policy Institute, January 2010

Before it is too late – the FRA plans to distribute the first round of stimulus money in the next few weeks – the Obama administration needs to narrow its overly broad approach to funding and set out clear goals and specific timetables. The following are focused policy recommenda­tions that the administration should adopt: • Commit to a vision of HSR predi­cated on dedicated lines, rather than merely upgrading existing rights of way. Only with dedicated rights of way can we bring the U.S. up to speed with our global HSR competition. This means separating HSR lines from exist­ing freight lines. The two can run paral­lel in places, but mixing passenger and freight trains on the same track is opera­tionally difficult and poses safety risks. • Set deadlines for national HSR devel­opment. For instance, the administration should set a realistic goal of having the first fully operational HSR line finished by 2016, and 1,000 miles of HSR com­pleted by 2020. • Adopt international standards for HSR design and construction to ensure the highest-quality engineering. As part of this process, the administration should re­write obsolete “crashworthiness” design specifications that now prevent foreign trainsets with unblemished safety records from operating on U.S. track.16 All train­sets should reach a maximum design speed of 220 mph. • Prioritize bridging the “knowledge gap” in this country by tapping into for­eign expertise to help build up our own intellectual and technical capital. Only by bolstering American knowhow can we begin to build a new economy and create new jobs that stay in America.

### Solvency – Concentrated Investment Key

#### Incrementalism will fail – Obama needs to have a bold investment in HSR to ensure its completion which sovles dependence, warming, and econ

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Fast Track to the Future: A High-Speed Rail Agenda for America” Progressive Policy Institute, January 2010

In the next few weeks, the administration will be announcing which states will be awarded funds from $8 billion dedicated for high-speed rail (HSR) development in the stimulus package. Right now, 259 applications from the states valued at $57 billion are chas­ing the recovery plan money.1 The administra­tion’s decision to devote considerable resourc­es to developing HSR underscores its commit­ment to bring bullet trains to the U.S. But unless it makes the right decisions about where to put the money and what policies to follow, the new enthusiasm for HSR could be just the latest false start in a long, disappointing history. Last spring, President Barack Obama unveiled his vision for a national HSR network. The president conjured up an image of a 21st-cen­tury train infrastructure, “a system that reduces travel times and increases mobility…reduces congestion and boosts productivity…reduces destructive emissions and creates jobs.” The administration also put forward a rail policy that, rather than laying track coast to coast, would concentrate on heavily populated cor­ridors where short distances between cities would let faster trains compete effectively with cars and airplanes.2 Since then, the administration has called on states to submit plans for HSR competitive grants. Congress, meanwhile, added $2.5 billion to the HSR pot for fiscal year 2010, and it remains possible that the House and Senate will add billions more in a second jobs stimulus, focusing on infrastructure, likely to be taken up this winter.3 For decades, high-speed rail has been a fan­tasy, mired in bureaucratic, regulatory and market inertia. But with the renewed push for it by the administration, the high-speed rail future is beginning to take shape. The benefits of high-speed rail are enormous. For one, HSR is a big step toward energy independence and a post-carbon future. HSR corridors operated with nonpolluting electric locomotives could reduce carbon emissions by as much as six mil­lion pounds annually. HSR also has a strong track record of jump­starting economic development along its path. Fast, efficient transportation could revital­ize depressed cities and transform regional economies. And while the creation of an HSR network lies in the future, it will put people to work immediately. Eighty percent of the cost of HSR is in infrastructure-building and land acqui­sition, while 20 percent goes for the trainsets and stations that passengers use. New rights of way need to be built now for HSR corridors that are projected to be op­erational in a few years – meaning tens of thou­sands of jobs that can’t be exported. The question that we now face is: How do we get there from here? The choice that the Obama administration and Congress face is simple: modest incre­mentalism versus a truly transformative vision. The administration’s commit­ment to fund high-speed rail is a step in the right direction, but it’s not the end of the process. Lest the allocation of stimu­lus funds to HSR become President Obama’s own “Mission Accomplished,” the administra­tion needs to remain engaged, proactive, and forward-thinking in shepherding high-speed rail to completion. With HSR, President Obama can leave a last­ing imprint on the American landscape and economy. But that legacy can only be secured if the administration is willing to make bold decisions and confront a tired political culture. If we really are serious about making the high-speed rail future a reality, the old ways of do­ing business will not suffice.

#### Concentrated high-speed rail investment is key

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Why High-Speed Rail Could Still Get Built in Florida”, Progressive Policy Institute, February 17, 2010

There is no doubt that President Obama is committed to upgrading intercity passenger rail. But last month his administration failed to exert optimal leadership by spreading federal stimulus funds far and wide rather than concentrating on two or three corridors that would give us trains equal to those in Europe and China. No one said that building a passenger rail network worthy of the 21st century would be easy or cheap. But neither was the transcontinental railroad nor the interstate highway system that transformed overland travel in America in the past. Each required a bold vision accompanied by smart planning, perseverance, and sustained financial support. The administration’s current plans for HSR represent a welcome change from the neglect of years past. But unless improvements to our HSR strategy are made, we risk squandering the renewed momentum for building a true high-speed network.

### AT: Improve Incrementally

#### Focus on shovel-ready projects and incremental focus will fail to produce High-Speed rail

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Fast Track to the Future: A High-Speed Rail Agenda for America” Progressive Policy Institute, January 2010

The Obama administration has been wise in going directly to the states, bypassing Amtrak, to jumpstart the HSR program. This follows the precedent of the Interstate Highway System, for which states planned and built the highways according to standards set by the federal govern­ment. The administration also wants to encourage partnerships with pri­vate industry, bringing railway manufacturers, suppliers, contractors and the private freight railroads into the mix.

But along with this opportunity comes the dan­ger that the HSR stimulus cash will be spread across too many rail corridors. The U.S. De­partment of Transportation and its railway arm, the Federal Railroad Administration (FRA), are under enormous pressure to award grants to “shovel-ready” projects supported by powerful Congressmen and revenue-strapped gover­nors.14

Seeking to appease special interests, FRA administrator Joseph Szabo has indicated in media interviews that federal monies may be spent on small projects, such as double-track­ing an existing freight line or reconstructing a bridge. More worrisome, Szabo has not yet disclosed -- almost a year after the HSR pro­gram was announced -- exactly what criteria the FRA is using to determine which states to fund. Such lack of transparency underscores an apparent lack of vision to get the highest quality HSR up and running, rather than ac­cepting incremental projects that, according to Szabo, have a good chance of being imple­mented in a short time frame.15

#### Temporary fixes wont cut it – must change transportation infrastructure

Gabriel M. Ahlfeldt and Arne Feddersen, London School of Economic, Dept of Geopgrahy and Environment and University of Hamburg, Department of Economics, “From Periphery to Core: Economic Adjustments to High Speed Rail”, London School of Economic Research Online, September 2010

REDDING & STURM (2008) address this point by exploiting Germany’s division and reunification as a source of exogenous variation in market access. They show that the adverse economic performance of West-German border regions during the period of division can entirely be explained by an unexpected loss of market access. Moreover, the estimated pattern of impact resembles the theoretical prediction derived from a simulation based on the HELPMAN (1998) model. The economic policy dimension arising from these findings is immediately apparent given that regional accessibility is essentially shaped by transport infrastructure. From the empirical side a growing body of literature indicates that increasing accessibility due to improved transport infrastructure may have significant effects on urban and regional economic development (e.g. AHLFELDT, in press-a; AHLFELDT & WENDLAND, 2009; BOWES & IHLANFELDT, 2001; CHANDRA & THOMPSON, 2000; GATZLAFF & SMITH, 1993; GIBBONS & MACHIN, 2005; MCMILLEN & MCDONALD, 2004; MICHAELS, 2008). One of the few exceptions is AHLFELDT (in press-b) who, investigating the change in the mainline infrastructure in post-unification Berlin, does not find a significant accessibility impact on commercial and residential property prices. It is worth regarding the potential contribution of a regional economic policy by means of transport infrastructure investment in the realm of the existing theories and evidence on city growth (see e.g. BOSKER et al., 2008; DAVIS & WEINSTEIN, 2002).5 The literature suggests that even large temporary shocks such as the allied strategic bombing during WWII on Japanese (DAVIS & WEINSTEIN, 2002) and German (BRAKMAN, GARRETSEN, & SCHRAMM, 2004b) cities as well as major natural disasters such as earthquakes (IMAIZUMI, ITO, & OKAZAKI, 2008) do not alter the regional distribution of economic activity permanently. These results are disappointing with regard to the prospects of temporary economic policies, e.g. subsidies, having a sustainable impact on regional economic development since the spatial configuration of economic activity seems to be strongly determined by processes of path dependency at best, if not location fundamentals. While (public) investment into the improvement of transport infrastructure also has a temporary character, the resulting increase in accessibility is permanent and, hence, more likely to have a sustainable impact by altering regions’ quasi-fundamental location characteristics.

### AT: Improve “Emerging HSR”

#### Upgrading Emerging HSR can’t solve

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Why High-Speed Rail Could Still Get Built in Florida”, Progressive Policy Institute, February 17, 2010

Defining High-Speed Rail

One thing that’s been little understood by policy makers and the public is that HSR trains operate quite differently from conventional Amtrak trains. First and foremost, they cannot share tracks with much slower freight trains and must be walled off in their own protected corridors. They can climb steeper gradients than regular trains, allowing them to “hug” the landscape and minimize noise and environmental impacts. But in order to maintain top speeds, the lines they travel on must be built with the fewest possible curves. And where curves are unavoidable, they must use larger turning circles to change direction. Trains running at more than 150 mph need to be far more powerful than conventional trains and use overhead electric lines for power rather than diesel engines. Trainsets are lightweight and based on aerodynamic designs that make for quicker acceleration and more economical braking. A regular diesel-powered train running on track shared with freight trains is not high-speed rail. It never will be. It cannot and will not compete with highways and commercial air because it is stuck on a 19th-century right-of-way filled with curves and narrow clearances that reflect a period when trains ran no faster than 60 mph. And yet such projects, designated as “Emerging HSR” by the Obama administration, got far too much of the HSR stimulus pot last month.

### AT: Improve Freight Rails

#### Upgrading low-speed freight systems is the worst possible approach

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Why High-Speed Rail Could Still Get Built in Florida”, Progressive Policy Institute, February 17, 2010

Out of this confluence of modest state applications chasing humble FRA guidelines came a welter of small-scale upgrades – fixing signal systems here and adding a new siding there – that collectively do little to advance a new mode of intercity travel in America. We have to do better. Minor upgrades of low-speed freight systems will give government critics a perfect target to paint HSR as a “runaway spending train” (as the Wall Street Journal dubbed it) that benefits only a small group of people. If the public’s current enthusiasm for HSR turns into disappointment, there will be little political support for the expenditure of hundreds of billions needed to construct real high-speed networks.

#### Upgrading freight tracks fails

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Fast Track to the Future: A High-Speed Rail Agenda for America” Progressive Policy Institute, January 2010

Structural barriers stand in the way of a true high-speed rail system in the U.S. In Europe and Asia, governments directly or indirectly own the railways. Public ownership makes government investment in railways a common-sense, politi­cally acceptable task. In the U.S., however, private freight railroads own 99 percent of the existing rail plant.10 Amtrak pays a fee for the right to move its trains across property owned by companies that are otherwise preoccupied with hauling coal, lumber and consumer goods. Such freight moves in long, heavy, ponderous trainloads that share little in common with passenger trains. Track that keeps passenger trains from accelerating over 79 mph works just fine for freight railroads whose trains aren’t designed to run at higher speeds.11 This presents a huge problem for passenger speed development. In the first place, upgrading old freight-railroad roadbeds to HSR standards is very costly. But even more troublesome, the owners of the track aren’t interested in projects that would divert their atten­tion from the profitable business of freight. Publicly, the railroad industry claims to support the Obama administration’s HSR initiative. But that support comes with the important caveat: so long as it doesn’t interfere with freight traffic. At present, rail companies like CSX Corp. and Union Pa­cific consider even a handful of Amtrak trains a day a tremendous interference with their freight operations. The perils of depending on freight railroads are made evident in a report titled Root Causes of Amtrak Train Delays. The report, prepared by the U.S. DOT Assistant Inspector General, concluded that improper dispatch­ing practices and poor operating discipline by freight railroads were among the key reasons why 58 percent of Amtrak’s long-distance trains and 34 percent of its short-distance trains arrived late at their end terminals in 2007.12 Improving an existing freight line to expand conventional Amtrak service may be a reason­able expenditure of public money, but should it come under the rubric of high-speed rail? At best, such projects have little strategic national purpose; at worst, they subsidize for-profit cor­porations whose operating practices keep rail passengers stuck on the siding.

### AT: Improve Highways

#### Rail is more cost effective than highways – narrower right-of-way and computer controls

CNN, CNN.com staff, “U.S. high-speed rail 'myths' debunked”, April 13, 2011

Highways cost more? Comment: "The cost to build highways actually exceed rail costs." -- CNN.com user "sojoweb" Expert response: It depends [Philip Longman](http://newamerica.net/user/92), senior research fellow, New America Foundation: Terrain: "Trains can't turn corners as tightly as rubber-wheeled vehicles, and they need gentler grades than trucks or cars to maintain speed. This means that in hilly or mountainous areas, building a rail line may require more earthmoving, including tunneling, than building a highway. But this consideration doesn't apply on flatter terrain, and in almost all instances, a rail line can move as many or more people than a highway using a much narrower right-of-way. Because of this, building a rail usually involves far less condemnation of private property than building an Interstate." Technology: "Also, advances in the use of computers to control train movements are now allowing us to run many more trains on the same track than in the past. This is further adding to the cost advantage rail. Someday we may have Interstates where computers control the flow of cars and thereby allow far more cars to operate safely and quickly without building new lanes. But while "smart highways" are still a long way off, computer control of trains is now being rapidly rolled out across the country. Some people even wonder how long we will still need engineers."

### AT: Improve Buses

#### Buses don’t solve – efficiency, pollution, speed, cost and congestion

CNN, CNN.com staff, “U.S. high-speed rail 'myths' debunked”, April 13, 2011

What about buses? Comment: "There are a thousand much better, much cheaper ways to move people than rail. How about a fleet of hybrid buses running in HOV lanes with stops at the same stops that rail would have had? Move the same number of riders at a fraction of the cost and with more flexible times." -- CNN.com user "dawgdays" Expert response: It depends Longman at the New America Foundation: "There are certainly specific places where buses will work better than rail. These are generally where travel distances are short and there are low volumes of riders." Efficiency: "But because of the low friction of steel wheels running on steel rails, railroads are inherently more energy efficient, less polluting, and less expensive to operate than any vehicle carrying the same load using rubber wheels." Speed: "Railroads are also potentially much faster than buses, easily reaching speeds of 150 mph, which is particularly important for being competitive with driving for more than short distances." Congestion: "Also, unless buses run on dedicated right of ways, they contribute to traffic congestion, and must deal with it themselves. In urban settings, they are very difficult to keep running on time because they tend to bunch up while going through congested downtown areas, so that instead of, say, one bus arriving every ten minutes, three arrive every 30 minutes." Existing infrastructure: "Giving buses a dedicated right of way solves this problem, but once you have gone to expense of doing this, you have spent almost as much as it would cost to build a new rail line... In many parts of the country, freight rail lines already exist that have plenty of capacity to add passenger trains with only minimal extra investment." Expert response: Trains 'more effective' GOP Reps. Mica and Shuster: "This question raises a good point, and we believe that no one mode of transportation can meet the nation's needs in every circumstance." Short distances: "Hybrid buses make sense in densely populated urban and suburban environments where buses can relieve highway congestion in short distances. ..." Long distances: "For long distance travel, Americans rely on their cars and the airlines." "This reliance has led to massive congestion along major transportation corridors like I-95 in the Northeast Corridor. Today, businesses and commuters lose $115 million each year in wasted time and fuel and spend four billion hours per year stuck in traffic. 60 percent of the urban road miles of Interstate 95 are heavily congested. 70 percent of our nation's chronically delayed flights originate in the New York-New Jersey airspace. There is simply no more effective way to alleviate congestion of our roads and airways and get people to their destinations than rail."

### AT: People Wont Use

#### Solves 80%

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

Nearly a half-century of international experience with highspeed rail has proven that it is capable of producing a wide range of transportation, economic, and environmental benefits. Every potential high-speed rail corridor requires unique considerations and treatments, based on the characteristics of the megaregion it serves and the metropolitan regional planning context of each station along the route. This chapter outlines the range of benefits that high-speed rail can offer, and suggests how to maximize them. TRANSPORTATION BENEFITS 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).

### AT: Industry says no

#### Industry will accept investment

Phillip Longman, senior fellow at New America Foundation, “Back on Tracks: A nineteenth-century technology could be the solution to our twenty-first-century problems.” Washington Monthly, Jan/Feb 2009

The railroad has long been reluctant to accept government investment in its infrastructure out of fear of public meddling, such as being compelled to run money-losing passenger trains. But now, like most of the industry, it has changed its mind, and it happily accepted Virginia’s offer last year to fund a small portion—$40 million—of the investment needed to get more freight traffic off I-81 and onto the Crescent Corridor. The railroad estimates that with an additional $2 billion in infrastructure investment, it could divert a million trucks off the road, which is currently carrying just under five million. State officials are thinking even bigger: a study sponsored by the Virginia DOT finds that a cumulative investment over ten to twelve years of less than $8 billion would divert 30 percent of the growing truck traffic on I-81 to rail. That would be far more bang for the state’s buck than the $11 billion it would take to add more lanes to the highway, especially since it would bring many other public benefits, from reduced highway accidents and lower repair costs to enormous improvements in fuel efficiency and pollution reduction. Today, a single train can move as many containers as 280 trucks while using one-third as much energy—and that’s before any improvements to rail infrastructure.

### AT: New Rails Necessary

#### Tilting solves the need for all new rails

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

New Technologies Two of the most notable high-speed rail technologies developed over the last few decades are known as a tilting mechanism and magnetic levitation (maglev). In regions where high-speed trains must run on the conventional rail network, sharp curves can create centrifugal forces that cause significant discomfort to passengers. To solve this problem, rail engineers developed a mechanism that counteracts these forces by slightly tilting the trains as they slow down to enter the curves. Many Swedish and Italian high-speed trains, as well as Amtrak’s Acela Express and Cascades services, use this tilting technology while running on conventional tracks. This alternative avoids the high costs of constructing new, dedicated high-speed tracks in areas without sufficient demand to justify such an investment (Givoni 2006).

### AT: Unsafe

#### It’s safe

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

Nuclear power is a significant source of electricity for passenger rail in countries such as Belgium, France, Germany, and Spain. France is by far the largest nuclear power user, with a share of more than 85 percent for railway operations. However, growing concerns about nuclear power following the 2011 Fukushima Daiichi plant accident in Japan raise doubts about its role in the development of a U.S. high-speed rail system in the near future. Spain’s rail network uses renewable energy sources for 18.4 percent of its electricity (IFEU 2008). Japan’s high-speed rail uses geothermal and hydro power to meet up to 56 percent of its energy needs (Tan 2011). Technological innovation: The energy efficiency of different models of high-speed trains also varies considerably. With all other factors being equal, increases in a train’s speed require proportional increases in the amount of energy needed to propel it, compared to a conventional passenger train. Designing trains to be lighter in weight and more aerodynamic can offset these energy requirements. For example, the energy efficiency of Japan’s Shinkansen trains has improved over time. Current models use nearly one-third less energy than those introduced in the mid-1960s, and they travel significantly faster. This energy savings was achieved, in part, by switching from a concentrated traction system to a distributed traction system. The latter system replaces trains using a single locomotive with trains that have powered axles on every passenger car. This change lightens the axle load, increases the reliability of operations, and lessens the impact on the track. These factors have encouraged other nations such as France and Germany to make similar transitions in rolling stock technology (JORSA 2008). U.S. regulations requiring crashworthiness of passenger trains present a challenge for high-speed trains to achieve better aerodynamics and lighter weight. Federal rail safety regulations traditionally have required that passenger and commuter trains be built to withstand a collision with a freight train. The 2008 head-on collision in Los Angeles between a Metrolink commuter train and a freight train occurred because a train operator did not see a red stop signal. The accident killed 25 people, demonstrating the serious risk of this type of incident. European and Japanese guidelines for high-speed trains take a completely different approach, focusing on crash avoidance and providing strict physical or time separation between passenger and freight trains and other system safety precautions. Crash avoidance systems are seen as the preferred approach to safety and are utilized successfully in high-speed rail systems around the world (AHSRA 2011a). The California accident led to the passage of the U.S. Rail Safety Improvement Act of 2008, which requires all passenger trains and certain freight trains to have advanced train control technologies on board by 2015 (Hymon 2008). This new feature ensures that trains remain separated by a safe distance and automatically applies the brakes if trains get too close to each other. The FRA has acknowledged that highspeed trains operating on dedicated tracks with train control systems in place do not require the same crashworthiness standards as a conventional train on a freight network. Recently, FRA officials have indicated a willingness to update their rules to reflect a “system safety” approach, which focuses more on crash avoidance than crashworthiness. However, before changing nationwide safety standards to accommodate high-speed trains, the agency has indicated it will consider issuing waivers on a case-by-case basis, such as for the California system, in which trains will continue to operate on tracks with conventional passenger trains in certain segments, though not with freight trains (U.S. DOT 2009b).

# \*\*AddOns\*\*

## \*Land-Use Add-On

### 2AC Land Use Addon

#### Railways are key to reduce negative consequences of land-use – solves top soil destruction

CER and UIC, Community of European Railway and Infrastructure Companies and International Union of Railways, “Rail Transport and Environment: Fact & Figures”, Novemember 2008

The negative consequences of land use are associated with three factors. Firstly, the actual space taken for infrastructure leads to the sealing of the top soil, as well as disturbances resulting from noise, resource use, waste dumping and pollution. \_Secondly, transport networks which connect cities add to the fragmentation and degradation of the natural or urban landscape due to the “barrier” effects of the infrastructure. Finally, urban sprawl involves the inefficient development and use of urban land. Roads account for 98% of total transport infrastructure compared with rail. EU transport sector tomorrow Transport infrastructure investment should take into consideration the amount of land take and favour rail over road transport. This approach would be similar to that of the Trans European Transport Networks (TEN-T), which in the near future (2010-2020) will have the main proportion of its budget focussed on building rail infrastructure. Rail data Comparison of capacities in an urban setting is shown below. As can be seen from the graph, rail has the highest capacity when comparing throughput per hour and infrastructure width. This is mainly due to efficient traffic management in urban conditions, with many trains that have high carrying capacity passing per hour.

#### Soil erosion will cause extinction

John Ikerd, Professor Emeritus of Agricultural Economics at University of Missouri, 8-2001, “The High Cost of Cheap Food,” Small Farm Today, , http://www.ssu.missouri.edu/faculty/jikerd/papers/SFTcheapfood.html

All life on earth is rooted in the soil. As farmers destroy the natural productivity of the land, they are destroying the ability of the earth to support life. We are destroying the future of humanity to make agriculture more “efficient.” What is the value of the future of humanity? Are we in fact willing to risk the future of human life on earth just so we can have cheap food?

### Solvency – HSR Solves Land-Use

#### HSR reduces destructive land use

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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).

### Solvency – Transit Oriented Development

#### HSR promotes economic development by condensing and increasing access to regional markets

Gabriel M. Ahlfeldt and Arne Feddersen, London School of Economic, Dept of Geopgrahy and Environment and University of Hamburg, Department of Economics, “From Periphery to Core: Economic Adjustments to High Speed Rail”, London School of Economic Research Online, September 2010

This study evaluates the economic effects of high speed rail in the realm of recent economic geography research. As a distinctive feature, the Cologne-Frankfurt German high speed rail track, which is analyzed here, provides variation in accessibility along two intermediate stops that can reasonably be assumed as exogenous. This helps to circumvent endogeneity problems, which are among the key-challenges in establishing causal relationships between access to markets and economic development. Our findings, one the one hand, contribute to the vivid debate on the viability of HSR, e.g. in the US where President Obama recently announced a large-scale investment program. On the other hand, we contribute to the scholarly debate on New Economic Geography, which has reached maturity in theoretical terms, but still is in a comparatively early stage with regard to empirical evidence. Our hypothesis is that by driving economic agents closer together and increasing access to regional markets, HSR should promote economic development. We develop a treatment measure which compares a Harris-type market potential in the situations before and after an HSR has been made available. A non-parametric identification strategy suggests that the increase in market access led to economic adjustments in several indicator variables such as GDP, GDP/capita, employment at workplace within a four-year adjustment period. We find that counties adjacent to two intermediate Stations Limburg and Montabaur, which were exposed most strongly to the (exogenous) variation accessibility, experienced a 2.7% level shift in GDP, compared to the rest of the study area. This effect can be entirely explained by the market access treatment measure. The treatment effect is robust to a range of alternative explanations, e.g. convergence growth, economic density, primary geography, industrial composition, including turnover as well as construction and substitution effects, among others. Throughout our analyses we find a market access elasticity that indicates a 0.25% growth in GDP for any 1% increase in market access. Evidently, the reduction in transport costs in the subject case is driven by passenger traffic only and, hence, improved business, customer and employee relations, as the HSR line is not used for freight transport.21 For highway construction projects, which also facilitate the transport of physical goods in addition, the market access elasticity might be even larger. Our results indicate that the observed growth effects of the HSR line remained persistent as a) growth is not reversed during the subsequent years and b) there is a return to the local growth trends experienced prior to the shock. We do not, however, interpret this permanent level shift as evidence for multiple equilibria as predicted by New Economic Geography (increasing returns) theories. Instead, we argue that we observe a hybrid effect where economic adjustments are driven by mechanisms emphasized by increasing returns theories, but persistency of effects results from the permanent nature of the accessibility shock and hence a permanent change in location quasi-fundamentals. This is the distinguishing element compared to previous studies, which investigated purely temporary shocks such as war destruction and found little evidence for permanent shifts in economic activity.22 From these findings, a potentially powerful application of NEG models emerges. Empirically calibrated models may serve as a tool for predicting the economic effects of new large-scale infrastructure projects and help authorities to define priorities. More studies would be desirable to confirm the generalizability of the presented results qualitatively and quantitatively.

#### High demand for compact development

Urban Land Institute, nonprofit education and research institute supported by its nearly 30,000 members. “Land Use and Driving: The Role Compact Development Can Play in Reducing Greenhouse Gas Emissions – Evidence from Three Recent Studies”, 2010

Consumer Demand for Compact Development Will Help Determine How Much Is Built Compact development is a relatively low-cost yet promising long-range strategy to mitigate climate change and reduce energy consumption. Its promise, though, is dependent on how well it can leverage the momentum of changing market demand. To have a significant effect on GHG emissions nationally, compact development must make up a significant proportion of future development—at least 60 percent or even more. This would entail reversing decades-long trends of sprawling development patterns. All three studies are dependent on trends data that end in about 2000—and each study notes that little evidence through the 1990s indicates that Americans had changed course on sprawl. Whether recent trends have started the United States down the path of more compact development is still unclear. While the studies caution that research on recent trends is inadequate, they also point out reasons to believe that demand for more compact development is on the rise. Growing Cooler’s survey of changing demand and preferences in housing concludes that compact development is already undersupplied. Demographic and cultural trends, moreover, indicate that by 2025 there will be an excess of large-lot, single-family houses; demand for new housing will be defined by smaller houses on small lots, townhomes, and apartments.

## \*Green Leadership Add-On

### 2AC Green Leadership Addon

#### That’s key to primacy, preventing extinction from warming and great power wars

Louis Klarevas, Ph.D. in International Relations from the School of International Service at American University, NYU coordinator of graduate Transnational Security studies, former Defense Analysis Research Fellow at the London School of Economics, former research associate at the United States Institute of Peace, "Securing American Primacy While Tackling Climate Change: Toward a National Strategy of Greengemony," 2009. [www.huffingtonpost.com/louis-klarevas/securing-american-primacy\_b\_393223.html](http://www.huffingtonpost.com/louis-klarevas/securing-american-primacy_b_393223.html), accessed 4-13-11

As national leaders from around the world are gathering in Copenhagen, Denmark, to attend the United Nations Climate Change Conference, the time is ripe to re-assess America's current energy policies - but within the larger framework of how a new approach on the environment will **stave off global warming** **and** **shore up American primacy**. By not addressing climate change more aggressively and creatively, the United States is squandering an opportunity to **secure its global primacy for the next** few **generations** to come. To do this, though, the U.S. must rely on innovation to help the world escape the coming environmental meltdown. Developing the key technologies that will **save the planet** from global warming will allow the U.S. to outmaneuver potential great power rivals seeking to replace it as the international system's hegemon. But the greening of American strategy must occur soon. The U.S., however, seems to be stuck in time, unable to move beyond oil-centric geo-politics in any meaningful way. Often, the gridlock is portrayed as a partisan difference, with Republicans resisting action and Democrats pleading for action. This, though, is an unfair characterization as there are numerous proactive Republicans and quite a few reticent Democrats. The real divide is instead one between realists and liberals. Students of realpolitik, which still heavily guides American foreign policy, largely discount environmental issues as they are not seen as advancing national interests in a way that generates relative power advantages vis-à-vis the other major powers in the system: Russia, China, Japan, India, and the European Union. Liberals, on the other hand, have recognized that global warming might very well become the greatest challenge ever faced by mankind. As such, their thinking often eschews narrowly defined national interests for the greater global good. This, though, ruffles elected officials whose sworn obligation is, above all, to protect and promote American national interests. What both sides need to understand is that by becoming a lean, mean, green fighting machine, the U.S. can actually bring together liberals and realists to advance a collective interest which benefits every nation, while at the same time, securing America's global primacy well into the future. To do so, the U.S. must re-invent itself as not just your traditional hegemon, but as history's first ever green hegemon. Hegemons are countries that dominate the international system - bailing out other countries in times of global crisis, establishing and maintaining the most important international institutions, and covering the costs that result from free-riding and cheating global obligations. Since 1945, that role has been the purview of the United States. Immediately after World War II, Europe and Asia laid in ruin, the global economy required resuscitation, the countries of the free world needed security guarantees, and the entire system longed for a multilateral forum where global concerns could be addressed. The U.S., emerging the least scathed by the systemic crisis of fascism's rise, stepped up to the challenge and established the postwar (and current) liberal order. But don't let the world "liberal" fool you. While many nations benefited from America's new-found hegemony, the U.S. was driven largely by "realist" selfish national interests. The liberal order first and foremost benefited the U.S. With the U.S. becoming bogged down in places like Afghanistan and Iraq, running a record national debt, and failing to shore up the dollar, the future of American hegemony now seems to be facing a serious contest: potential rivals - acting like sharks smelling blood in the water - wish to challenge the U.S. on a variety of fronts. This has led numerous commentators to forecast the U.S.'s imminent fall from grace. Not all hope is lost however. With the impending systemic crisis of global warming on the horizon, the U.S. again finds itself in a position to address a transnational problem in a way that will benefit both the international community collectively and the U.S. selfishly. The current problem is two-fold. First, the competition for oil is fueling animosities between the major powers. The geopolitics of oil has already emboldened Russia in its 'near abroad' and China in far-off places like Africa and Latin America. As oil is a limited natural resource, a nasty zero-sum contest could be looming on the horizon for the U.S. and its major power rivals - a contest which threatens American primacy and global stability. Second, converting fossil fuels like oil to run national economies is producing irreversible harm in the form of carbon dioxide emissions. So long as the global economy remains oil-dependent, greenhouse gases will continue to rise. Experts are predicting as much as a 60% increase in carbon dioxide emissions in the next twenty-five years. That likely means more devastating water shortages, droughts, forest fires, floods, and storms. In other words, if global competition for access to energy resources does not undermine international security, global warming will. And in either case, oil will be a culprit for the instability. Oil arguably has been the most precious energy resource of the last half-century. But "black gold" is so 20th century. The key resource for this century will be green gold - clean, environmentally-friendly energy like wind, solar, and hydrogen power. Climate change leaves no alternative. And the sooner we realize this, the better off we will be. What Washington must do in order to avoid the traps of petropolitics is to convert the U.S. into the world's first-ever green hegemon. For starters, the federal government must drastically increase investment in energy and environmental research and development (E&E R&D). This will require a serious sacrifice, committing upwards of $40 billion annually to E&E R&D - a far cry from the few billion dollars currently being spent. By promoting a new national project, the U.S. could develop new technologies that will assure it does not drown in a pool of oil. Some solutions are already well known, such as raising fuel standards for automobiles; improving public transportation networks; and expanding nuclear and wind power sources. Others, however, have not progressed much beyond the drawing board: batteries that can store massive amounts of solar (and possibly even wind) power; efficient and cost-effective photovoltaic cells, crop-fuels, and hydrogen-based fuels; and even fusion. Such innovations will not only provide alternatives to oil, they will also give the U.S. an edge in the global competition for hegemony. If the U.S. is able to produce technologies that allow modern, globalized societies to escape the oil trap, those nations will eventually have no choice but to adopt such technologies. And this will give the U.S. a tremendous economic boom, **while simultaneously providing it with means of leverage that can be employed to keep potential foes in check.**

### Solvency – Green Key Hegemony

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

CRAWFORD 11 Wake Forest University School of Law, J.D.

[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 – US Leadership Key

#### The US should be the leaders on climate change

Calvin 2008

[William H. (Professor emeritus at the University of Washington in Seattle and the author of 14 books). Global Fever. Pg 16. //Jamie]

Climate change is a moral issue as well as a political one. Though we have turned a blind eye on our invisible pollution of others, the United States has risen to ethical challenges many times in the past, from abolishing slavery, to women voting, to civil rights. It would now be appropriate for the U.S. to take the lead in replacing coal‐ fired plants, doubling fuel efficiency for cars, and provid‐ ing clean power and vehicles for the developing countries. We must get our political leadership to pay attention before our society becomes too weak to move effectively.

#### The US not leading on Global Warming, but we should

Calvin 2008

[William H. (Professor emeritus at the University of Washington in Seattle and the author of 14 books). Global Fever. Pg 29. //Jamie]

The first rule of kindergarten remains “Clean up your own mess.” Yet the U.S. government fails to lead, and seems overwhelmed by the special interests. It has taken the lead in delaying effective action with its quibbles about the Kyoto Protocol, with obstruction and foot‐dragging tactics at every climate conference since 1997. The U.S. ought to be using its technological proficiency to solve the CO2 problems, creating a good example for developing countries to follow, rather than setting them up to feel that their accomplishments will be dwarfed by the profligate waste of the world’s leading polluter.

# \*\*2AC Answers\*\*

### AT: States CP – Fed Key

#### Sustained federal commitment is key – every other nation needed strong national leadership

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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.

#### Federal governmet key

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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.

#### Federal government is key to inspire confidence among states and private sector

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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 publicprivate partnerships, a proper allocation of risk among the parties is critical to a successful project.

### AT: States CP – 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

Darren A. Prum and Sarah L. Catz, Assistant Professor, The Florida State University \*\* Director, Center for Urban Infrastructure; Research Associate, Institute of Transportation Studies, University of California, Irvine 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.

### AT: States CP – Congress Rollback (1/2)

#### Congress will rollback states energy efforts

Darren A. Prum and Sarah L. Catz, Assistant Professor, The Florida State University \*\* Director, Center for Urban Infrastructure; Research Associate, Institute of Transportation Studies, University of California, Irvine 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

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

### AT: States CP – Congress Rollback (2/2)

[CONTINUES]

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.

### AT: States CP – Fed Oversight Key

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

Brian Kingsley Krumm, Harold A. Shertz Aware Winnder for Legal Writing, JD at University of Tennessee College of Law, “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.

#### Feds key to economic and infrastructure revolution

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Fast Track to the Future: A High-Speed Rail Agenda for America” Progressive Policy Institute, January 2010

Making HSR happen in the U.S. will take dedicated effort and smart decision-making in Washington. At present, old habits threaten the creation of a viable HSR program. The admin­istration may commit federal funds to upgrade existing rights of way under the guise of “high­er speed” rail, repeating the mistake that has made Amtrak’s Northeast Corridor a mishmash of good and poor track segments. The first milepost of the administration’s journey will come soon when the FRA and U.S. DOT announce the recipients of the $8 billion stimu­lus funds. The administration needs to back its vision of rail passenger service – far different from the obsolete Amtrak model – with the boldness to make the necessary hard choices. An economic and infrastructure revolution – and the president’s own legacy – are at stake. “This is not some fanciful, pie-in-the-sky vision of the future,” President Obama observed when introducing his plan for high-speed rail corridors last April. “It’s been happening for decades. The problem is it has been happen­ing elsewhere, not here.”26 The president is right – HSR is no longer a pipe dream but an achievable goal. Now it’s up to the administra­tion to seize the opportunity and bring Ameri­can rail into the 21st century.

### AT: States CP – No Mechanism

#### NEC has no mechanism to act

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

California’s 2008 bond measure acted as a statewide referendum on high-speed rail, but there is no similar single mechanism for achieving a corridor-wide vote of confidence across the eight states and the District of Columbia in the Northeast Corridor. Building consensus among these jurisdictions and the federal government will require substantial research and public outreach, starting with studies that estimate the economic benefits of this project. Options for different alignments of the railroad also need to be evaluated for their relative ability to leverage rail investment for economic growth and minimize environmental impacts.

### AT: Privates CP

#### Federal investment is not a choice – private investors ignore rail infrascture because they don’t care about public benefits and see potential gains as too long-term

Phillip Longman, senior fellow at New America Foundation, “Back on Tracks: A nineteenth-century technology could be the solution to our twenty-first-century problems.” Washington Monthly, Jan/Feb 2009

Why don’t the railroads just build the new tracks, tunnels, switchyards, and other infrastructure they need? America’s major railroad companies are publicly traded companies answerable to often mindless, or predatory, financial Goliaths. While Wall Street was pouring the world’s savings into underwriting credit cards and sub-prime mortgages on overvalued tract houses, America’s railroads were pleading for the financing they needed to increase their capacity. And for the most part, the answer that came back from Wall Street was no, or worse. CSX, one of the nation’s largest railroads, spent much of last year trying to fight off two hedge funds intent on gaining enough control of the company to cut its spending on new track and equipment in order to maximize short-term profits. So the industry, though gaining in market share and profitability after decades of decline, is starved for capital. While its return on investment improved to a respectable 8 percent by the beginning of this decade, its cost of capital outpaced it at around 10 percent—and that was before the credit crunch arrived. This is no small problem, since railroads are capital intensive, spending about five times more just to maintain remaining rail lines and equipment than the average U.S. manufacturing industry does on plant and equipment. Increased investment in railroad infrastructure would produce many public goods, including fewer fatalities from truck crashes, which kill some 5,000 Americans a year. But public goods do not impress Wall Street. Nor does the long-term potential for increased earnings that improved rail infrastructure would bring, except in the eyes of Warren Buffett—who is bullish on railroads—and a few other smart, patient investors. The alternative is for the public to help pay for rail infrastructure. Actually, it’s not much of a choice. Unlike private investors, the government must either invest in shoring up the railroads’ overwhelmed infrastructure or pay in other ways. Failing to rebuild rail infrastructure will simply further move the burden of ever-increasing shipping demands onto the highways, the expansion and maintenance of which does not come free. The American Association of State Highway and Transportation Officials (hardly a shill for the rail industry) estimates that without public investment in rail capacity 450 million tons of freight will shift to highways, costing shippers $162 billion and highway users $238 billion (in travel time, operating, and accident costs), and adding $10 billion to highway costs over the next twenty years. "Inclusion of costs for bridges, interchanges, etc., could double this estimate," their report adds.

#### Government investment is key to quid pro quo private use

Phillip Longman, senior fellow at New America Foundation, “Back on Tracks: A nineteenth-century technology could be the solution to our twenty-first-century problems.” Washington Monthly, Jan/Feb 2009

If the public helps railroads make these investments in electrification and other infrastructure improvements, it will, of course, earn important quid pro quos. Railroads, for example, could be required to apportion a certain amount of their increased capacity to public use, such as for commuter trains, which the railroads might or might not operate themselves. (Some have shown interest.) It should also be possible to negotiate open access to publicly financed rail infrastructure. This would allow outside companies to rent the rails and run their own freight, package express, fast mail, or passenger trains on them. It would also be a good check on any tendency toward monopoly pricing and provide for many other synergies as well. In Great Britain, a subsidiary of Virgin Airlines called Virgin Trains operates passenger trains on publicly financed infrastructure, as do other private passenger and freight companies. Following this example would create something very much like the current interstate highway system: publicly financed transportation infrastructure maintained for the benefit of private operators. America’s major railroads are wary of the full, open-access model and want to retain ownership of their track. But with the promise of enough public capital and the threat of re-regulation, deals can be struck that will bring profound benefits across the economy. For example, there is no reason we cannot again have fast, efficient express freight service of the kind the Railway Express Agency once provided. For cities as far apart as New York and Chicago, trains can beat planes on next-day mail service. As consulting engineer Alan Drake points out, when passengers and express freight or mail are borne by the same train, the economics of passenger rail improve dramatically, making possible far wider service. We also have the chance to reduce drastically the cost and huge carbon footprint of using trucks and planes almost exclusively to ship perishables across the country. Until the 1970s, railroads handled nearly all fresh food movement from California and Florida, and could again, making healthy winter fruits and vegetables cheaper, and less hard on the planet.

### AT: Privates CP

#### Perm

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

Any of these options will face the difficult reality of the current political climate centered on austerity, in which large new infrastructure investments are easy targets for trimming government budgets. Under these conditions, direct government funding alone will not be sufficient to develop high-speed rail. Innovative financing solutions will require both the expansion of government subsidized financing options and private financing initiatives.

### AT: Politics DA

#### Plan popular

Phillip Longman, senior fellow at New America Foundation, “Back on Tracks: A nineteenth-century technology could be the solution to our twenty-first-century problems.” Washington Monthly, Jan/Feb 2009

Is all this politically feasible? Certainly more so than a year ago, before the consensus formed that we must invest massively in infrastructure of some kind. Importantly, too, we’re not talking about bailing out a failing industry, but about helping an expanding, more energy-efficient one to grow fast enough to meet pressing public needs. Nor would we be making big bets on unproven technology. Also, it’s important to remember that big trucking companies, facing acute driver shortages and mounting highway congestion, are increasingly shifting their containers to rail and so have an interest in improved rail infrastructure. With trucking companies morphing into logistics companies, it’s a new day in the special interest politics of freight. Finally, the proposal has an additional political advantage: it doesn’t involve pricing or guilt-tripping people out of their automobiles. Electrifying and otherwise improving rail infrastructure would indeed facilitate the coming of true high-speed rail passenger service to the United States, a goal Obama committed to as a candidate. But its success wouldn’t depend on persuading a single American to take the train instead flying or driving. Indeed, with its promise of making driving more enjoyable and less dangerous, the proposal bridges the divide between auto-hating, Euroland-loving enviros and those who see access to the open road as an American birthright. What could be more post-1960s? Mr. President, this is change we can believe in.

#### Plan popular – bipartisan consensus

Mark Reutter, former editor of Railroad History and author of Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might, “Fast Track to the Future: A High-Speed Rail Agenda for America” Progressive Policy Institute, January 2010

Is Washington at last getting serious about implementing a fast train program? Yes and no. The growing bipartisan consensus in Congress that population growth and en­ergy concerns make HSR an attractive mode of travel in 200- to 600-mile intercity markets is good news. This represents a historic shift in U.S. transportation policy, which has focused almost exclusively on air­ports, highways and the family car since the 1920s.13

#### Politically popular – ever major area benefits

David M. Levison, Networks, Economics, and Urban Systems Research Group, University of Minnesota, Department of Civil Engineering research was funded by New York University “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.

### AT: Budget DA

#### Money will be used efficiently and smart investment in high potential ridership areas will maximize fare recovery and minimize risk

Yoav Hagler and Petra Todorovich, Associate Planner and Direcotr of America 2050, “Where High-Speed Rail Works Best”, America 2050, September 2009.

Although investments in “mega” infrastructure projects are necessary to accommodate future population and eco­nomic expansion, they are inevitably fraught with great risks because of the sheer scale of these investments. As the GAO recently observed, each of these high-speed rail systems will cost tens of billions of dollars of upfront costs to build the infrastructure before a single passenger pays a fare.16 The FRA’s focus on project readiness, local matching funds, and organizational capacity will help ensure that the first round of federal funding is awarded to agencies that are capable of delivering the projects on time and on budget. The success of early projects will help pave the way for the continued growth and expansion of the program by building public confidence and support. Yet, another factor in building public confidence and support is investing in corridors where the services will be in high demand. As discussed in this report, investing in corridors with the highest potential ridership—places with the appropriate density, economic activity, supportive transit, and existing travel markets—will maximize fare recovery and minimize project risk. The $8 billion appropriated for intercity rail projects represents a major commitment to intercity rail by the fed­eral government. It will take many more of these appropria­tions, however, to realize the ultimate goal. These initial federal investments in intercity rail should be directed toward corridors with the greatest demand for intercity travel. In general, this demand occurs in city pairs located 100 – 500 miles from each another, with large populations, economies, and the presence of regional and local transit networks that can provide connections for intercity pas­sengers. America’s 11 emerging megaregions—networks of metropolitan regions connected by linked economies, travel patterns, and shared environmental resources—are among the prime areas suited for intercity rail investment. The success of these investments in attracting sufficient ridership to offset operating expenses and the ensuing public support for the projects selected for the first round of funding, will determine whether this is a one-time expenditure or a sus­tained commitment by the federal government. Ultimately the FRA will need to develop a comprehensive strategic plan that details the federal role in the future high-speed rail network. The forthcoming National Rail Plan being prepared by the FRA and due to Congress on October 16 could serve this purpose. In the meantime, the FRA must have a mechanism for assessing the corridors with the great­est potential return on this investment—the ranking system detailed in this report offers one such mechanism.

### AT: Budget DA

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

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

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

Petra Todorovich et al, Daniel Schned, and Robert Lane, director of America 2050, associate planner for America 2050 and senior fellow for urban design at Regional Plan Association and founding principal of Plan & Process LLP, “High-Speed Rail International Lessons for U.S. Policy Makers”, Lincoln Institute of Land Policy, 2011

 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.