# Resolved: The United States Federal Government should substantially increase its investment in high-speed rail.

#### Overview

High-speed rail is used by China, Japan, and many European countries to connect networks of faraway cities through incredibly fast trains. The systems are able to achieve trains with speeds of greater than 125 miles per hour through the use of train tracks that are solely dedicated to the high speed rail system and specialized technology. These systems provide an efficient alternative to travelling by car or plane. However, the United States does not currently have any high speed trains. As a result, there have been calls for the US to invest in high speed rail.

These calls are complicated by high speed rail failures in the US. California began a project to build a bullet train in 2008, but it has faced serious difficulties, including huge hikes in the needed budget, construction problems, land acquisition problems, and changes in design. Many opponents of high speed rail use the California case as a prime example.

However, there are also many potential benefits to high speed rail. The investment would lead to economic growth and more jobs in the areas connected by the railway. High speed rail would also increase mobility within the United States, and if consumers switch from planes and cars to trains, it could reduce congestion and environmental degradation.

Outside of the example of California’s failures, opponents are highly concerned with the large costs to build a high speed rail system in the US. This system also may have an unequal impact by harming the economies of areas not served by the high speed rail or in between the ends of lines.

#### Additional Sources

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https://kstp.com/associated-press/ap-us-international/first-chinese-made-high-speed-train-cars-arrive-in-indonesia/

# Pro

#### We stand in affirmation of the following:

The United States Federal Government should substantially increase its investment in high-speed rail.

### Definitions

#### High-speed rail

High Speed Rail Alliance 19

High Speed Rail Alliance (a nonprofit association that advocates for linking US cities with high speed rail trains), “What is High-Speed Rail?”, September 22, 2019, https://www.hsrail.org/what-high-speed-rail

There is no fixed definition of high speed rail. It can be loosely defined as trains operating at speeds of at least 125 mph, with the fastest modern trains reaching speeds of about 220 mph. HSR is also defined by dedicated tracks and separated grade crossings, which dramatically reduce delays. And HSR is almost always part of a network of conventional and commuter trains, as well as transit systems. When all of these pieces are tightly coordinated and working in harmony, HSR creates a paradigm shift in travel options. High-speed rail is a proven technology, with operating networks in over 20 countries. We can draw upon those experiences to build networks that meet our needs. High-speed trains are a lot like regular trains, with steel wheels traveling over steel rails, but they use dedicated high-speed tracks and specialized train equipment to go really fast. Today's fastest trains regularly travel at 220 mph. (A French test train reached 357 mph, the current record.)

### Framework

#### Cost-benefit analysis

The framing for today’s round ought to be cost benefit analysis. If we demonstrate that substantially increasing the US Federal Government’s investment in high speed rail produces more good than harm, we should win the round.

### Contention 1: Reducing Congestion

#### Americans waste substantial time in congested traffic, even taking COVID-19 into account.

INRIX 2021

INRIX (INRIX is a private company that provides location-based data and analytics, such as real-time and historical traffic conditions), “INRIX: Americans Lost 3.4 Billion Hours Due to Congestion in 2021, 42% Below Pre-COVID,” December 7, 2021, https://inrix.com/press-releases/2021-traffic-scorecard/

The average American driver lost 36 hours due to congestion, costing $564 in wasted time Chicago (104 hours), New York (102 hours) and Philadelphia (90 hours) lost the most time to traffic congestion in the U.S. despite being -27% to -37% below 2019 levels Las Vegas (28 hours) saw the one of the largest increases in congestion, 76% over pre-COVID; Washington, D.C. remained -65% below normal, the largest decline of U.S. metros San Francisco (-49%), Detroit (-41%), and Washington, D.C. (-38%) have continued to see significant reductions in downtown trips, yet San Antonio (-5%), Tampa (-6%) and Phoenix (-7%) inched closer to pre-COVID levels. KIRKLAND, Wash., – December 7, 2021 – INRIX, Inc., a world leader in transportation analytics and connected car services, today published the 2021 Global Traffic Scorecard that identified and ranked congestion and mobility trends in more than 1,000 cities, across 50 countries as economic and social disruption continued due to the COVID-19 pandemic. On average, the average American driver lost 36 hours due to congestion, a 10 hour increase from 2020 yet 63 hours below pre-pandemic levels. Drivers in Chicago (104 hours), New York (102 hours) and Philadelphia (90 hours) lost the most time to traffic congestion in 2021 despite being -27% to -37% below 2019 levels. Fourth-ranked Boston (78 hours), ranked first in 2019 Traffic Scorecard with 101 hours lost, lagged pre-COVID levels by -47%. Washington, D.C.’s congestion levels remained -65% below normal, the largest decline of U.S. metros. “COVID-19’s impact on transportation has continued through 2021, transforming when, where and how people move. Although congestion climbed 28% this year, Americans still saved 63 hours compared to normal,” said Bob Pishue, transportation analyst at INRIX. “The most notable change to commuting during the pandemic – other than reduced travel times and volumes – was the lack of downtown travel.” Many employees have continued to work remotely throughout 2021, leading to high rates of telecommuting and fewer trips to downtowns. Throughout the pandemic, San Francisco (-49%), Detroit (-41%), and Washington, D.C. (-38%) have continued to see significant reductions downtown trips, yet San Antonio (-5%), Tampa (-6%) and Phoenix (-7%) inched closer to pre-COVID levels. Nationwide, trips to downtowns decreased -22% versus pre-COVID levels.

#### Traffic jams lead to large economic losses.

Clark & Smith 19

Brian Clark (reporter for CNBC) and Jordan Smith (reporter for CNBC), CNBC, “How traffic jams cost the US economy billions of dollars a year”, December 24, 2019, https://www.cnbc.com/2019/12/24/traffic-jams-how-they-form-and-end-up-costing-the-us-economy-billions.html#:~:text=That%20traffic%20comes%20at%20a,the%20Texas%20A%26M%20Transportation%20Institute.

If you’re like the 76% of Americans who drive to work alone, you’ve probably commuted in stop-and-go traffic with no end in sight. Then, when the road finally clears, you realize there was no reason for traffic to be stopped in the first place. Experts call them “phantom traffic jams,” moments when traffic grinds to a standstill for no apparent reason. That traffic comes at a big cost, in both time and money. A new study found the average urban commuter spends about 54 hours each year sitting in traffic. It also costs the U.S. economy a grand total of $179 billion each year, according to the Texas A&M Transportation Institute.

#### High-speed rail would reduce congestion.

Malott & Lorenz 20

Paige Malott (Chair of Cascadia Rail and Founder of TrainExplainer.com, an organization providing educational information about high speed rail) and Bella Lorenz (Guest Contributor to the Urbanist), The Urbanist, “Fast Trains, Cleaner Air, and Less Congestion: Envisioning a Post-Pandemic Pacific Northwest,” May 20, 2020, https://www.theurbanist.org/2020/05/20/fast-trains-cleaner-air-and-less-congestion/

As a result of the mandatory stay-at-home orders, fewer people are flying, fewer people are commuting to work, and fewer people are using their cars for recreational purposes. Seattle experienced a noticeable reduction in emissions, as stay-at-home orders led to 40% fewer car trips. The congestion that plagues the entire region has been on the minds of many locals and legislators for quite a while. If you’re enjoying the speedy freeway travel times right now, you may want to check out Washington State Deprartment of Transportation’s Cascadia High Speed Rail project. On a typical day, the average traffic delay in Seattle rush hour is 40 minutes, the equivalent to a 34% increase compared to free flow rates. The state of Washington estimates that congestion costs over $3.2 billion annually. High speed rail in the Pacific Northwest would absorb at least 20% of intercity trips including auto, air, and bus travel. That means reduced congestion, and faster travel times for both high-speed rail passengers and those using the highway, including freight. The project is also expected to reduce the region’s carbon emissions by six million metric tons. With the help of a 2019 business case study released by the Washington Department of Transportation, we can start to imagine our cities in the Pacific Northwest connected by high speed rail, perhaps by incorporating tracks along highway corridors in Seattle, Portland, and Vancouver, British Columbia. A high-speed rail line can transport 32,000 people per hour, which is more efficient and economically sustainable than expansion of highway infrastructure.

### Contention 2: Economic Activity

#### High speed rail promotes economic growth.

Momenitabar et al. 21

Mohsen Momenitabar (Doctorate candidate in the Trasportation and Logistics Program at North Dakota State University), Raj Bridgelall (Ph.D. and program director of Upper Great Plains Trasnportation Institute’s Center for Surface Mobility Applications & Real-time Simulation environments), Zhila Dehdari Ebrahimi (Ph.D. Candidate at North Dakota State University), and Mohammad Arani (Department of Industrial Engineering, Faculty of Industrial and Mechanical Engineering, Islamic Azad University). Sustainability. “Literature Review of Socioeconomic and Environmental Impacts of High-Speed Rail in the World.” September 14, 2021. https://www.mdpi.com/2071-1050/13/21/12231/pdf?version=1636122461

2.2.3. Land The effects of HSR on urban growth include interactions with land use and land price . Studies associate investments in transport infrastructure with an increase of nearby land value. The theory posits that greater accessibility for people and goods will increase urbanization, and the value of the nearby real estate, which in turn will increase property tax revenues. Conversely, there are several adverse consequences such as noise and an increase in crime. 2.2.4. Economy HSR promotes competition and economic cohesion. The convergence of HSR with traditional railways can accelerate urban growth. HSR has the potential to enable more rapid output flows and to optimize the distribution of resources to sustain economic growth. HSR can help to increase productivity and interdependency among companies and cities. The HSR effects of space-time compression can accelerate economic growth by reducing the transport and trading costs between cities. The employment and knowledge economy will also grow because HSR can help to enhance the flow of information. 2.2.5. Health The rapid and systematic urbanization from HSR deployments presented challenges such as the depletion of limited land resources, environmental degradation, air pollution, noise pollution, congested roadways, and poor living conditions, which ultimately affected public health. 2.2.6. Resilience HSR infrastructure is vulnerable to various threats, including the wearing of parts, terrorist attacks, natural disasters, and spikes in demand. Even minor disturbances from wind speed variations can affect the normal operation of HSR.

#### California’s high speed rail project has supported the economy.

CA.GOV 22

California High-Speed Rail Authority (CA.GOV), “NEWS RELEASE: Investments in High-Speed Rail Continue to Lift California’s Economy,” February 16, 2022. https://hsr.ca.gov/2022/02/16/investments-in-high-speed-rail-continue-to-lift-californias-economy/#:~:text=High%2DSpeed%20Rail%20contributed%20%24840,jobs%20supported%20by%20the%20project.

Investments in clean, electrified high-speed rail continue to generate positive impacts for the economy in California’s Central Valley and beyond. The California High-Speed Rail Authority’s 2021 Economic Analysis Report, issued earlier this year, illustrates the economic benefits of the high-speed rail program on a national, statewide and regional level, showing a rise in jobs and economic investment. “The new analysis shows the continued progress of the nation’s first high-speed rail project as a strong economic driver,” said Authority CFO Brian Annis. “We’re proud of the work this project is doing to help disadvantaged communities, put men and women to work statewide and create opportunities for small businesses.” Since 2006, the project has invested more than $8.5 billion in the planning and construction of the nation’s first clean, electrified high-speed rail system. More than one of every two of these dollars have been invested in California’s disadvantaged communities, spurring economic activity in these areas. “The high-speed rail project is creating new opportunities for good paying jobs in the Central Valley, which is essential to keeping us on the path towards recovery from the COVID-19 pandemic,” said DeeDee Myers, Director for the Governor’s Office of Business and Economic Development. “California is proud to be a major creator for green jobs – leading the way on the nation’s largest, greenest infrastructure project.” High-Speed Rail contributed $840 million in California in labor income in the form of employment income (wages, benefits, payroll taxes, etc.) and supported 10,100 job-years of employment last year. Job-years are defined as the equivalent number of one-year-long, full-time jobs supported by the project. For example, if one full-time job is supported for two years, it represents two job-years. Additionally, the project contributed an economic output of $2.2 billion last year. From vendors and contractors to local California businesses benefitting from the investment, the analysis highlights the value of indirect and induced benefits. The project’s total labor income earned by workers on the project is $5.2 billion since 2006, and the project’s total economic activity is calculated to be $13.7 billion. As of July 2021, more than 630 certified small businesses throughout the state are also building high-speed rail. To date the Authority has also paid more than $950 million to certified Small Businesses, Disadvantaged Business Enterprises and Disabled Veteran Business Enterprises in California for their work. The project has created more than 7,300 labor jobs, with 119 miles of the project underway across 35 active construction sites in California’s Central Valley. Nearly 300 miles of the 500-mile Phase 1 System from San Francisco to Los Angeles/Anaheim has also been environmentally cleared, which allows the Authority to position itself to advance construction in Northern and Southern California with additional federal funding opportunities and local partnerships. The Authority’s economic impact analysis is updated annually and reflects data as of June 2021.

### Contention 3: Environment

#### High Speed Rail reduced greenhouse gas emissions in China.

Nature Asia 21

Nature Asia (Nature Asia is a part of Springer Nature Group, which publishes peer reviewed journals), “Environment: High-speed rail networks help reduce China’s carbon emissions,” October 26, 2021, https://www.natureasia.com/en/research/highlight/13853

Expansion of the high-speed rail network in China between 2008 and 2016 led to a significant reduction in carbon emissions from its transport sector, according to a paper published in Nature Climate Change. The study suggests that this reduction comes mainly as a result of the transportation of goods shifting from highways to conventional rail because high-speed networks free up capacity on conventional railways. High-speed rail (HSR) is an important form of long-distance public transport that is well-established across East Asia and Europe. Although HSR is believed to be more energy-efficient and environmentally-friendly than road and conventional rail, it is unclear to what extent new rail routes could reduce carbon emissions from the transport sector. Using national traffic-monitoring data and statistical approaches, Yu Qin and colleagues provide evidence that the expansion of the Chinese HSR network between 2008 and 2016 has led to a reduction in annual greenhouse gas emissions equivalent to 14.76 million tons of carbon dioxide through reductions in both highway passenger and freight traffic in response to HSR. This substitution effect is the major contributor to the overall reduction of greenhouse gas emissions by HSR. This figure corresponds to 1.75% of the total greenhouse gas emissions in China’s transport sector. The authors suggest that this mitigation mainly comes from freight transport switching from road to conventional railways, which are indirectly freed up by passengers using HSR. The authors also project that greener electricity conditions could further increase the climate benefits of HSR. In an associated News & Views, Armin Schmutzler notes the ‘very useful insights’ this paper presents in what ‘appears to be the first contribution identifying greenhouse-gas reduction effects of high-speed rail systems’.

#### High Speed Rail is expected to reduce emissions in Seattle.

WSDOT 18

Washington State Department of Transportation (WSDOT), “Ultra High‐Speed Ground Transportation Study.” February 2018. https://www.wsdot.wa.gov/publications/fulltext/LegReports/17-19/UltraHighSpeedGroundTransportation\_FINAL.pdf

The greenhouse gas (GHG) emissions reduction analysis was conducted using the Federal Transit Administration’s (FTA) calculation spreadsheet for New Starts projects under the Capital Investment Grants Program. This spreadsheet uses the travel demand forecast by mode to estimate the environmental benefits of the project, among other evaluation metrics. This analysis will focus solely on the environmental benefits, specifically GHG reduction. One limitation of the spreadsheet is that it does not include air travel as a mode. Reductions in GHG emissions for air travel would require air service to decrease by entire planeloads; this is a difficult factor to estimate and would require a significant amount of air passengers to switch to rail to impact the air service. Since GHG reductions associated with travelers switching from air are not included, the GHG reduction estimate below is conservative. This analysis was conducted for four scenarios: Low Ridership – 2035 Maglev Scenario 1A – 2055 Maglev Scenario 1A High Ridership – 2035 Maglev Scenario 1A – 2055 Maglev Scenario 1A The inputs required for calculating the reduction in GHG attributed to the project includes the VMT by each mode (auto, intercity bus, and intercity rail) for the No Build and Build scenarios(which are estimated as described in the Economic Impact Analysis section). As this spreadsheet is typically used to evaluate regional transit projects, air travel is not included in the analysis, which would increase the environmental benefit of the project. As this scenario is using the Maglev technology, it is assumed that there are no emissions associated with the project, and conventional rail usage is assumed to maintain a similar level of usage, therefore there is no increase or reduction in emissions due to rail. The emissions factors by fuel type come directly from the FTA New Starts spreadsheet, and are calculated differently for the two horizon years (2035 and 2055). Table 6Error! Reference source not found. and Table 7 provide the detailed calculations for the GHG reduction by mode due to travelers switching to the project. For the year 2035, emissions are reduced by approximately 28,000 to 30,000 metric tons per year, while the year 2055 reduction ranges from 36,000 to 39,000 metric tons per year. This reduction is primarily driven by auto trips switching over to using the project, and the associated reduction in auto VMT.

## Extra Cards:

### Extension: Revenue v. Cost

#### Investing in High Speed Rail had a high return in Hong Kong.

Tao et al. 11

Ran Tao (Sun Hung Kai Properties), Chun Huang (Beijing University of Technology), Shai Liu (Dalian University of Technology), and C. M. Tam (Professor at City University of Hong Kong). Journal of Engineering Project and Production Management. “Cost-Benefit Analysis of High-Speed Rail Link between Hong Kong and Mainland China.” July 2011. https://www.researchgate.net/publication/267407217\_Cost-Benefit\_Analysis\_of\_High-Speed\_Rail\_Link\_between\_Hong\_Kong\_and\_Mainland\_China

Each mode of passenger transportation has its own advantages and disadvantages. The evaluation of the HSR investment should not focus on the sum of NPV only, but the comparison of the other relevant transport alternatives (i.e. the existing roadway and conventional railway) as well. In this section, HSR is set as a benchmark to examine and compare with the existing roadway (Lo Ma Chou, LMC) and conventional railway transports (Kowloon-Canton Railway, KCR) linking Hong Kong to the mainland (Guangzhou Termini). For the cost estimation: first, compared with the new investment of HSR, both the LMC and KCR do not require infrastructure cost/ initial outlay. Second, the operation cost of roadway is about USD$1606.06 km per year and conventional railway is just 40% of that of HSR (Chang, 2008). Hence, the annual operation cost of LMC and KCR is USD$0.35 million and USD$336.63 million respectively. In addition, the external cost of LMC is about four times that of HSR and KCR requires the same amount as that of HSR. For the social benefits: first, the passenger flow volume of LMC and KCR is about 118,000 and 10,000 per day with average fares of USD$5.14 and USD$25.05 respectively (Mass Transit Railway, 2010). So, the annual ticket revenue (Btr) is USD$221 million for LMC and USD$91.45 million for KCR. Second, the total travel time of LMC and KCR is about 3.5 hours and 100 minutes respectively. Compared with the HSR, KCR has a zero annual benefit of travel time savings (Bts) and LMC, which requires a much longer travel time, has a negative Bts (- USD$1.23 billion). Third, compared with the HSR, LMC has a zero annual benefit of pollution reduction (Bpr), reliability improvement (Bri) and safety improvement (Bsi). On the other hand, the KCR has approximate 60% Bpr, 75% Bri and 85% Bsi of those of HSR (Highway Department of HKSAR, 2010). The results of the cost, benefit and NPV comparison among HSR, LMC and KCR are summarized in Table 6. As shown in Table 6, despite of the highest capital cost, the investment of HSR still provides the largest positive NPV with more than USD$ 2068.49 million among the three passenger transportation modes. Conventional railway also has a positive NPV (about USD$177.60 million) due to its balance performance in all kinds of aspects. Roadway transport is the only alternative that has a negative NPV (-USD$15885.60 million). This is mainly due to its longest travel time which causes a large negative impact on the benefit of travel time savings. 6. Conclusion Investing in high-speed rail is a significant social decision. One of the major drawbacks of HSR is its high capital cost. However, the public decision makers should not only focus on the financial cost, but also the potential positive impacts on the society. HSR can bring about some social benefits in terms of ticket revenue, travel time savings, pollution reduction, reliability and safety improvement, etc. A cost-benefit analysis of HKM-HSR line is provided in this paper. The results show that this project has a positive NPV up to USD$2068.49 million, which fully demonstrates that the investment of this HKM-HSR is worth to be carried out. Moreover, other relevant transport alternatives (i.e. the existing roadway and conventional railway) are also examined and compared with the investment of HSR. Because of the excellent performance in ticket revenue, travel time savings and safety improvement, HSR has the largest positive NPV among these three passenger transportation modes. In conclusion, HSR is the most cost-effective solution among the above three alternatives for the intercity transport between Hong Kong and Canton.

#### Debt is not as large of an issue as people think.

Andolfatto 20

David Andolfatto (former Senior Vice President for the St. Louis Federal Reserve), Federal Reserve Bank of St. Louis, “Does the National Debt Matter?,” December 4, 2020, https://www.stlouisfed.org/publications/regional-economist/fourth-quarter-2020/does-national-debt-matter

In the second quarter of 2008, U.S. federal debt held by the public totaled about $5.3 trillion, or 35% of gross domestic product (GDP). This figure grew to $20.5 trillion—or 105% of GDP—by the second quarter of 2020. To put it another way, the national debt has increased 400% in 12 years, while over the same period, national income has grown by only 30%. Since the Congressional Budget Office projects that federal budget deficits of 4%-5% of GDP will persist in the foreseeable future, a growing number of analysts and policymakers are raising alarms about whether this fiscal situation is sustainable.1 Most people have a very personal view of the nature of debt. We know that high levels of debt and deficit spending at the household level are not sustainable. At some point, household debt has to be paid back. If a household is unable to do so, its debt will have to be renegotiated. It is natural to think that the same must hold true for governments. But this “government as a household” analogy is imperfect, at best. The analogy breaks down for several reasons. Debt Issuance While a household has a finite lifespan, a government has an indefinite planning horizon. So, while a household must eventually retire its debt, a government can, in principle, refinance (or roll over) its debt indefinitely. Yes, debt has to be repaid when it comes due. But maturing debt can be replaced with newly issued debt. Rolling over the debt in this manner means that it need never be “paid back.” Indeed, it may even grow over time in line with the scale of the economy’s operations as measured by population or GDP. Unlike personal debt, the national debt consists mainly of marketable securities issued by the U.S. Treasury as bonds. It is of some interest to note that the Treasury Department issued some of its securities in the form of small-denomination bills, called United States Notes, from 1862-1971 that are largely indistinguishable from the currency issued by the Federal Reserve today. Today, U.S. Treasury securities exist primarily as electronic ledger entries.2 These securities are used extensively in financial markets as a form of wholesale money. The cash management division of a large corporation, for example, may prefer to hold Treasury securities instead of bank deposits because the latter are insured only up to $250,000. If cash is needed to meet an obligation, the security can either be sold or used as collateral in a short-term loan called a “sale and repurchase agreement,” or repo, for short. Because investors value the liquidity of Treasury securities, they trade at a premium relative to other securities. So, investors are willing to carry Treasury securities at relatively low yields, the same way we are willing to carry insured bank deposits at very low interest rates, or the same way we are willing to carry securities that bear zero interest like the ones displayed above. Ultimately, the federal government has control over the supply of the nation’s legal tender. Both of the notes above have been legal tender since the gold recall of 1933. Now, consider the fact that the national debt consists of U.S. Treasury securities payable in legal tender. That is, imagine the national debt consisting of interest-bearing versions of the U.S. Note shown above. When the interest comes due, it can be paid in legal tender—that is, by printing additional U.S. or Federal Reserve Notes. It follows that a technical default can only occur if the government permits it. The situation here is similar to that of a corporation financing itself with debt convertible to equity at the issuer’s discretion. Involuntary default is essentially impossible.3 This aspect of U.S. Treasury securities renders them highly desirable for investors seeking safety—a property which again serves to drive down their yields relative to other securities.

### Extension: China

#### China has rapidly expanded its high speed rail network.

Jones 22

Ben Jones (journalist for CNN), CNN, “Past, present and future: The evolution of China's incredible high-speed rail network,” February 9, 2022, https://www.cnn.com/travel/article/china-high-speed-rail-cmd/index.html

At the beginning of the 21st century China had no high-speed railways. Slow and often uncomfortable trains plodded across this vast country, with low average speeds making journeys such as Shanghai-Beijing a test of travel endurance. Today, it's a completely different picture. The world's most populous nation has -- by some distance -- the world's largest network of high-speed railways. No fewer than 37,900 kilometers (about 23,500 miles) of lines crisscross the country, linking all of its major mega-city clusters, and all have been completed since 2008. Half of that total has been completed in the last five years alone, with a further 3,700 kilometers due to open in the coming months of 2021. The network is expected to double in length again, to 70,000 kilometers, by 2035. With maximum speeds of 350 kph (217 mph) on many lines, intercity travel has been transformed and the dominance of airlines has been broken on the busiest routes. By 2020, 75% of Chinese cities with a population of 500,000 or more had a high-speed rail ink. Spain, which has Europe's most extensive high-speed network and occupies second place in the global league table, is a minnow in comparison with just over 2,000 miles of dedicated lines built for operation at over 250 kph. In contrast, the UK currently has just 107 kilometers while the United States has only one rail route that (just about) qualifies for high-speed status -- Amtrak's North East Corridor, where Acela trains currently top out at 240 kph on expensively rebuilt sections of existing line shared with commuter and freight trains. A symbol of economic power China's ambition is to make high-speed rail the mode of choice for domestic long-distance travel, but these new railways have a much greater significance. Much like Japan's Shinkansen in the 1960s, they are a symbol of the country's economic power, rapid modernization, growing technological prowess and increasing prosperity. For China's ruling Communist Party and its leader Xi Jinping, high-speed rail is also a powerful tool for social cohesion, political influence and the integration of disparate regions with distinct cultures into the mainstream. "The building of these new railways forms part of Xi Jinping's grand plan of 'integrating the vast national market,'" says Dr. Olivia Cheung, research fellow at the China Institute of the University of London's School of Oriental and African Studies (SOAS). "It is also meant to be reflective of his 'new development philosophy,' of which 'coordinated development' is a key concept. "His scheme is grand in that it extends beyond just simply connecting existing towns, but existing towns with new mega-towns that are being constructed from scratch. A famous example in which Xi takes a lot of pride is the Xiong'an New Area in Hebei province, around 60 miles southwest of Beijing." In that sense, it could be argued that China is repeating railway history; many early railways in North America, Europe and the colonies of the European empires were built with similar goals. The development of railway networks in Russia -- most notably the Trans-Siberian Railway -- Prussia, France, Italy and the British Empire, among others, were strongly influenced by political and military demands as well as economic development. However, what took decades in the 19th and early 20th centuries is being achieved in just a few years by China. With 37,900 kilometers of lines, China has the world's largest network of high-speed railways. With 37,900 kilometers of lines, China has the world's largest network of high-speed railways. "The Chinese have created an entire high-speed rail network on an unprecedented scale -- often faster and certainly more reliable than Chinese domestic flights," says rail travel expert Mark Smith, better known as "The Man in Seat 61." "It's hard not to be impressed by the sheer size of some of the new stations, and by the efficiency with which the system moves vast numbers of people, all with a reserved seat and increasingly without the need for paper tickets, just a scan of an ID card or passport at the ticket gates." China initially relied on high-speed technology imported from Europe and Japan to establish its network. Global rail engineering giants such as Bombardier, Alstom and Mitsubishi were understandably keen to co-operate, given the potential size of the new market and China's ambitious plans. However, over the last decade, it is domestic companies that have developed into world leaders in high-speed train technology and engineering, thanks to the astonishing expansion of their home network.

#### High Speed Rail has reduced air pollution in China.

Guo et al. 20

Xiaoyang Guo (Affiliated with the China State Construction Engineering Corporation), Weizeng Sun (Professor at the School of Economics at Central University of Finance and Economics in Beijing), Shuyang Yao (Professor at the Hang Lung Center for Real Estate, and Department of Construction Management, Tsinghua University), and Siqi Zheng (Faculty Director at the MIT Sustainable Urbanization Lab). Transportation Research. “Does high-speed railway reduce air pollution along highways? —— Evidence from China.” December 2020. https://www.sciencedirect.com/science/article/pii/S1361920920307938

Since the end of the 20th century, HSR has attracted support in many countries because of its advantages in speed, convenience and safety. The existing literature mainly focus on the economic effects of HSR, but pay little attention on its environmental impact, especially from the perspective of travelers’ inter-city travel mode choice switch. This paper takes the opening of HSR in 2015 and 2016 as a quasi-natural experiment. The DID approach assists in quantifying its impact on the air quality along the affected highways, using micro-level data from 1406 air monitoring stations in China. Our hypothesis is that the opening of HSR will encourage travelers to switch from driving to taking a HSR for inter-city trips, and thus result in a reduction in the traffic flow and associated air pollution along highways affected by HSR. To test for this hypothesis, we use the optimal route planning function of Gaode Map to identify the affected highways, and then we collect the air monitoring data within 10 km of affected highways and unaffected highways for empirical estimation. Our empirical analysis yields three main findings. At first, CO pollution, an essential automotive emission type, reduced by 0.047 mg/m3 (4.3% of the mean) in the areas within 10 km of affected highways, compared to areas around unaffected highways, following the opening of HSR. Secondly, HSR do not affect the PM or ozone along nearby highways. We also show that the findings above are robust to alternative specifications and subsamples, whether for HSR mainline or extension lines, and for different time windows. Finally, based on our study about the heterogeneous effect of HSR, air pollution reduces to a larger extent for downwind stations, during work days, inside the hours of HSR operation, and on highway toll-free days (when traffic volume on highways is high), and for longer travel time difference between HSR and driving. Taken together, people have switched from the highway driving to the HSR, thereby improving the air quality along affected highways. Given that air pollution negatively affects people’s life quality and social welfare, more and more public investment projects regard environmental impact assessment as equally important as economic impact assessment. The key issue here for the government is how to not only promote economic growth, but also improve environmental air quality by investing in transportation infrastructure. The environmental benefit of HSR quantified in this paper is accompanied by the abundant evidence that HSR can promote economic growth, and this provides an option to achieve a “win–win” results in terms of economic growth and environment sustainability.

#### There are high returns for high speed rail, as demonstrated by China.

World Bank 19

The World Bank, “China’s Experience with High Speed Rail Offers Lessons for Other Countries,” July 8, 2019, https://www.worldbank.org/en/news/press-release/2019/07/08/chinas-experience-with-high-speed-rail-offers-lessons-for-other-countries

China has put into operation over 25,000 kilometers of dedicated high-speed railway (HSR) lines since 2008, far more than the total high-speed lines operating in the rest of the world. What type of planning, business models, and approaches to construction enabled this rapid growth? In an era when many railways face declining ridership, what pricing and services make high-speed rail attractive to this large number of passengers and maintain financial and economic viability? A new World Bank study seeks to answer these and other questions. “China has built the largest high-speed rail network in the world. The impacts go well beyond the railway sector and include changed patterns of urban development, increases in tourism, and promotion of regional economic growth. Large numbers of people are now able to travel more easily and reliably than ever before, and the network has laid the groundwork for future reductions in greenhouse gas emissions,” said Martin Raiser, World Bank Country Director for China. The World Bank has financed some 2,600 km of high-speed rail in China to date. Building on analysis and experience gained through this work and relevant Chinese studies, China's High-Speed Rail Development summarizes key lessons and practices for other countries that may be considering high-speed rail investments. A key enabling factor identified by the study is the development of a comprehensive long-term plan to provide a clear framework for the development of the system. China’s Medium- and Long-Term Railway Plan looks up to 15 years ahead and is complemented by a series of Five-Year Plans. In China, high-speed rail service is competitive with road and air transport for distances of up to about 1200 km. Fares are competitive with bus and airfares and are about one-fourth the base fares in other countries. This has allowed high-speed rail to attract more than 1.7 billion passengers a year from all income groups. Countries with smaller populations will need to choose routes carefully and balance the wider economic and social benefits of improved connectivity against financial viability concerns. A key factor keeping costs down is the standardization of designs and procedures. The construction cost of the Chinese high-speed rail network, at an average of $17 million to $21 million per km, is about two-thirds of the cost in other countries. The study also looks into the economic benefits of HSR services. The rate of return of China’s network as of 2015 is estimated at 8 percent, well above the opportunity cost of capital in China and most other countries for major long-term infrastructure investments. Benefits include shortened travel times, improved safety and facilitation of labor mobility, and tourism. High-speed networks also reduce operating costs, accidents, highway congestion, and greenhouse gas emissions as some air and auto travelers switch to rail. This report is the first of a series of five studies of transport in China—high-speed rail, highways, urban transport, ports, and inland waterways—produced by TransFORM, a knowledge platform developed by the World Bank and China’s Ministry of Transport to share Chinese and international transport experiences and facilitate learning in China and other countries.

#### High speed rail (HSR) has led to environmental benefits in China.

Jiang & Liu 22

Changjun Jiang (Professor with the Department of Computer Science and Engineering, Tongji University) and Xiaoxuan Liu, Sustainability, “Does High-Speed Rail Operation Reduce Ecological,” March 8, 2022, https://www.mdpi.com/2071-1050/14/6/3152/pdf

Environment Pressure?—Empirical Evidence from China Currently, the problem of degradation of the ecological environment has gradually become an important factor restricting the sustainable development of society. In rapid urbanization, it is essential to protect the ecological environment effectively. We are fully aware of the important role of HSR construction in alleviating pressures on the ecological environment. Based on the panel data of 284 cities in China from 2003 to 2018, we have constructed an EEP evaluation that evaluates the EEP of different areas according to the TOPSIS model and uses spatial analysis tools to explore the temporal and spatial evolution characteristics of EEP. Then, based on the DID and PSM methods, we have quantitatively calculated the impact effect of HSR operations on EEP and analyzed the action mechanism of HSR operations on EEP combined with the analysis of the interaction between the DIT, DET and the operations of HSR. During the study period, the EEP in China decreased significantly. HSR in the eastern and central regions played a significant role in reducing the EEP. However, due to the small number of HSR stations in the western region, HSR did not play a significant role, and the effect is not apparent. For resource-based cities, the HSR operation has a significant effect on alleviating the EEP. in the central region. Through the analysis of the action mechanism of HSR on EEP, it can be seen that the synergy or interaction between industrial transformation and upgrading, employment structure optimization and HSR construction policies can significantly reduce the EEP to varying degrees. Industrial transformation and upgrading and employment structure optimization, combined with HSR construction policies, can significantly reduce the EEP. The research in this article shows that the operation of HSR will reduce the pressure on the ecological environment and make relevant recommendations. However, the protection of the ecological environment requires effective measures from multiple angles. The results of this study, combined with other research results, also show that HSR can improve a single ecological environmental indicator, reduce the pressure on the ecological environment, and improve the overall quality of the ecological environment. The construction of evaluation indicators is essential for the current comprehensive evaluation. Therefore, subsequent research will be carried out from the perspective of optimizing the index system. At the same time, some ecological environment indicators are related to the atmospheric environment in reality, and ocean currents, monsoons, and rainfall will also affect some single indicator performance in selected study areas. The causes of ecological damage and environmental pollution are complex and particular. It is challenging to achieve systematic and effective governance with a single discipline, single technology and single method. It is necessary to continue to increase the innovation of ecological and environmental protection technologies while attaching great importance to promoting related technologies. The association and integration of technology innovation, industrial innovation, and business model innovation will promote the accelerated development of energy-saving, resource recycling, and environmental protection.

### Misc

#### Demand for travel has been rising.

Zamora 22

Gigi Zamora (Journalist for Reuters), Reuters, “U.S. hotels spin travel demand into gold as airlines struggle,” August 5, 2022, https://www.reuters.com/business/us-hotels-spin-travel-demand-into-gold-airlines-struggle-2022-08-05/

Staff shortages, airport chaos and higher fuel costs have caused earnings at U.S. airlines like JetBlue Airways to land below analysts' expectations while hotel chains including Marriott International are reporting double-digit profit growth. Despite cutbacks in other categories due to recession worries, consumers eager to travel after the pandemic continue to book flights and hotels. Hotels have been able to turn this demand into increased profitability far more effectively than airlines. David Tarsh, spokesperson for travel data analytics company Forward Keys, said the problems faced by airlines and airports are harder to resolve than those in the lodging industry. "In the case of labor in hospitality, your shortage is probably more with less-skilled workers than in the case of the aviation industry," he said. "If you're short of cabin crew and you're short of security people in the airport, you can't just increase wages and suddenly fill these roles. People also need to be trained." U.S. carriers are struggling to offset higher costs such as fuel even as booming travel demand has given them strong pricing power. JetBlue Airways Corp (JBLU.O) on Tuesday reported a quarterly adjusted loss of 47 cents per share compared to analysts’ predictions of an 11-cent loss. United Airlines Holdings Inc (UAL.O), American Airlines Group Inc (AAL.O) and Delta Air Lines Inc last month reported quarterly profits below analysts' expectations. Meanwhile, hotel bookings are surging. Marriott International Inc (MAR.O) on Tuesday topped Wall Street estimates for quarterly revenue and profits, helped by higher occupancy levels and room rates as travelers booked more group travel and longer stays. read more Last month, Hilton Worldwide Holdings (HLT.N) saw profit rise above pre-pandemic levels. On Wednesday, MGM Resorts International (MGM.N) reported profit 25% higher than in the second quarter of 2019 and said staff shortage problems seemed to be easing. “Generally speaking, we're in decent shape. We are not running around with our hair on fire, if you will, anymore,” said MGM Resorts CEO Bill Hornbuckle in Wednesday's earnings call. Host Hotels & Resorts Inc (HST.O), which operates hotels under the Four Seasons, Grand Hyatt and Ritz Carlton brands, reported profits of 36 cents per share, higher than analysts' predictions. "We're up into the double digits in terms of total revenue (growth) for Thanksgiving. And actually, for Christmas, we are seeing a solid pickup as well,” said Host CEO Jim Risoleo on a call for analysts on Thursday.

#### High speed rail may be a better option than air travel.

Dalla Chiara et al. 17

Bruno Dalla Chiara (Professor at the Polytechnic University of Turin), Davide De Franco, Nicola Coviello, and Dario Pastrone. Transportation Research. “Comparative specific energy consumption between air transport and high-speed rail transport: A practical assessment.” May 2017. https://www.sciencedirect.com/science/article/pii/S1361920916302929

The attention of society towards energy consumption due to transportation systems is becoming more and more pressing. The present work focused on the comparison of high speed trains (HST) and air transport in terms of specific energy consumption, namely kW h/pass km. Specifically, the authors considered four Italian routes for HST. This choice does not affect the generality of the results obtained, since railways and trains present very similar features all over the world, at least when HSR and HST are considered. As far as air transport is concerned, different aircraft sizes and propulsion systems have been considered. Results here presented show that HSTs are more convenient than air transport from a specific energy point of view. As a consequence, HSTs appear to be appealing when the time to reach a city-center from another one is comparable with air transport equivalent connection time. Moreover, air transport has to face challenging issues, such as airport and airspace capacity. Thus, keeping in mind the current environmental constrains, the large use of HSR on routes of up to 800 km, or even up to 1000 km, appears to be a viable option that would allow a sustainable development of transportation systems. As a matter of fact, several countries have made significant efforts over the last few decades to extend their HSR networks. On the other hand, when the route length is increased, the specific energy gap between HSR and air transport diminishes, and the higher aircraft speed makes the real difference. Moreover, HSR undoubtedly requires expensive infrastructures that air transport does not require. This means significant maintenance costs and in turn additional energy consumption associated to them. On occasion, further energy consumption is induced due to the introduction of air conditioning of long tunnels, constructed underneath hundreds of meters of rocks, which results in a geothermal gradient. Furthermore, HSR are subject to capacity constraints. Several factors that play a role (e.g. travel time, economic and political factors) have not been considered here and further analyses are needed to provide a more complete vision of this topic. Nevertheless, this paper presents an almost unique overview of actual and specific consumption data concerning the two transport modes and is a good point for future works. Moreover, a main conclusion can be drawn on the basis of such results in the analysed markets: a close integration between high-speed rail stations and airports would be profitable, as an overall lower specific energy consumption could be obtained on longer distances than on those where trains result to be still competitive. In this way, a well performing and sustainable transportation chain would be obtained, which takes into account the comparable capacity of the two considered transport modes

#### High speed rail connects different cities, allowing for more mobility and a higher standard of living.

Lorenz 20

Bella Lorenz (Guest Contributor to the Urbanist), The Urbanist, “High-Speed Rail Benefits Small Towns and Large Cities”, July 30, 2020, https://www.theurbanist.org/2020/07/30/high-speed-rail-benefits-small-towns-and-large-cities/

There are many ways a high-speed rail system can benefit the urban hubs of a megaregion, but small towns along the alignment can also benefit and grow economically. According to Representative Seth Moulton (D-Massachusetts), who authored a white paper on American High-Speed Rail, “Economic development is not limited to the major city pairs that will likely serve as terminals in initial high-speed passenger rail corridors across megaregions: intermediate communities with access to HSR service will also benefit, perhaps even more dramatically.” Major cities and small towns within in a clustered network are characterized as a megaregion; the Pacific Northwest megaregion stretches from Eugene, Oregon all the way up to Vancouver, British Columbia, encompassing Portland and Seattle as well as smaller cities along the I-5 corridor such as Bellingham, Olympia, and Surrey. High-speed rail will provide a fast, affordable, and sustainable mode of transportation between larger cities and for commuters in smaller towns–optimizing travel times, boosting innovation opportunities, and providing economic growth to all cities in the region. Live Where You Want In his proposal for American High-Speed Rail, Rep. Seth Moulton explains that the mobility that comes with high-speed rail, “opens new housing markets to workers, reduces the cost of living, and shares economic growth with nonurban areas.” Building high-speed rail in the Pacific Northwest will ease highway congestion, cutting travel times between city centers and suburbs. For example, a commute between Seattle and Everett could be reduced from 90 minutes at peak to 15 minutes with fast trains, which would save employees 650 hours of time spent in traffic each year–that’s an extra 27 days of free time that people can spend with their families. Residents of smaller cities like Bellingham would be able to commute to a job in Seattle in 45 minutes by high-speed rail, while living closer to nature and reducing the high cost of residing in the city. Workers from nearby metros can also benefit from fast train journeys. Families who are established in Portland may be willing to work in Seattle, but not be willing to move house. High-speed rail would transform a three hour drive to one hour train trip between the metropolitan areas, expanding collaboration and connecting innovation hubs such as universities, nonprofits, and corporations.

#### The US has pushed for High Speed Rail investments in the past.

McFarland 21

Matt McFarland (Journalist for CNN Business), CNN Business, “Secretary Pete Buttigieg wants fast trains. He'll have to succeed where Obama couldn't,” February 9, 2021, https://www.cnn.com/2021/02/09/economy/pete-buttigieg-high-speed-rail/index.html

Transportation Secretary Pete Buttigieg wants the United States to lead the world on high-speed rail, a goal that's easier said than done. American transportation investments been car-dominated since hundreds of billions were spent to build the Interstate Highway System in the 20th century. But Buttigieg, echoing his boss, President Joe Biden (who is sometimes called "Amtrak Joe," thanks to his habit of riding the train between his home state of Delaware and Washington) has spoken recently of upgrading American rail. "We gotta take things to the next level," Buttigieg said on MSNBC last week. "I think we have a real opportunity to do that especially with the bipartisan appetite for real investments that we have before us this year." Buttigieg has a history of thinking differently on transportation. As mayor of South Bend, Indiana, he led an effort to re-orient its downtown around pedestrians and cyclists, rather than motorists. Now he's working on a bigger stage, and will try to succeed where others have fallen short. America had the fastest passenger trains in the world in 1959, according to Amtrak, but now 18 nations are faster than its highest-speed option, the Acela, which runs between Boston and Washington DC. "We've been asked to settle for less in this country," Buttigieg said in the MSNBC interview. "I just don't know why people in other countries ought to have better train service and more investment in high-speed train service than Americans." A decade ago, Biden and the Obama administration pushed for high-speed rail nationwide, but they lacked needed funding and political support. In 2010, the administration unveiled an $8 billion initial investment, as well as $5 billion to be invested over five years. For comparison, Amtrak generally receives less than $2 billion each year. Obama's initial funding was a significant increase in rail funding, but only a small step toward paying for a national network. Biden will need to invest far more to meet Buttigieg's talk of leading the world. A plan from Democratic Congressman Seth Moulton to build a national high-speed rail network called for $205 billion over five years. (For context, the US spends roughly $50 billion a year on highways.) Obama's talk of faster trains wasn't well-received in Republican-led states. Governors in Wisconsin, Ohio and Florida turned down billions in federal funding, scuttling high-speed rail projects in those states. "A huge, huge disappointment," was how Ray LaHood, who served as Obama's first transportation secretary, described Florida turning down $2.3 billion to build high-speed rail in 2011, in a CNN Business interview this month. LaHood said the project was ready to go, but then Florida Governor Rick Scott declined the funding. Scott, now a US Senator, said in a statement to CNN Business that he rejected the funding because Florida taxpayers would have to pay hundreds of millions for the project. The Obama administration instead found interest in California. Construction is underway to connect San Francisco and Los Angeles. But the initial construction is limited to Central California, far from the major cities of San Francisco and Los Angeles. The project has been dogged by challenges, including increasing costs, pushed deadlines and funding cuts from the Trump administration. Additional funding will be needed to connect the major cities. Brian Kelly, CEO of California High Speed Rail Authority, has expressed optimism that the project will attract private sector funding once key hurdles are overcome, such as environmental approvals and land to build on. The private sector has shown an increased interest in high-speed rail in recent years, with projects underway to connect Houston and Dallas, as well as Las Vegas and greater Los Angeles. High-speed rail advocates believe the Biden administration is better positioned to succeed given what was learned at the Department of Transportation during the Obama years, when there was less experience in high-speed rail projects. "A lot of people had to learn a lot of stuff really fast. They did the best they could," Rick Harnish, executive director of the High Speed Rail Alliance told CNN Business. LaHood thinks more US governors would be accepting of funding now, and estimates as many as half would take funding. He feels the biggest hurdle is if the Biden administration can get Congress to fund high-speed rail. That path will be challenging, according to Moulton, who introduced his bill last year to invest billions in high-speed rail. "There will be a lot of lawmakers who just want to repair their local potholes or old bridges rather than invest in 21st century technology," Moulton told CNN Business. "We can't squander a generational opportunity by investing in the last generation's infrastructure."

# Con

#### We stand in negation of the following:

The United States Federal Government should substantially increase its investment in high-speed rail.

### Definitions

#### High-speed rail

High Speed Rail Alliance 19

High Speed Rail Alliance (a nonprofit association that advocates for linking US cities with high speed rail trains), “What is High-Speed Rail?”, September 22, 2019, https://www.hsrail.org/what-high-speed-rail

There is no fixed definition of high speed rail. It can be loosely defined as trains operating at speeds of at least 125 mph, with the fastest modern trains reaching speeds of about 220 mph. HSR is also defined by dedicated tracks and separated grade crossings, which dramatically reduce delays. And HSR is almost always part of a network of conventional and commuter trains, as well as transit systems. When all of these pieces are tightly coordinated and working in harmony, HSR creates a paradigm shift in travel options. High-speed rail is a proven technology, with operating networks in over 20 countries. We can draw upon those experiences to build networks that meet our needs. High-speed trains are a lot like regular trains, with steel wheels traveling over steel rails, but they use dedicated high-speed tracks and specialized train equipment to go really fast. Today's fastest trains regularly travel at 220 mph. (A French test train reached 357 mph, the current record.)

### Framework

#### Cost-benefit analysis

The framing for today’s round ought to be cost benefit analysis. If we demonstrate that substantially increasing the US Federal Government’s investment in high speed rail produces more harm than good, we should win the round.

### Contention 1: Costs

#### California’s High Speed Rail project has proved more costly than expected.

Ronayne 22

Kathleen Ronayne (Journalist for the Associated Press), AP News, “Costs climb again for California’s high-speed rail project”, February 8, 2022, https://apnews.com/article/business-california-san-francisco-4af722f953e89fa1d775f50aa891e620

Another $5 billion has been added to the cost of California’s ambitious but long delayed high-speed rail line, according to estimates released Tuesday that show it could take $105 billion to finish the route from San Francisco to Los Angeles. The figures were included in the California High Speed Rail Authority’s latest biennial business plan. The increases are partly due to commitments aimed at minimizing community disruption, such as distancing the train from the Cesar E. Chavez National Monument in the Central Valley and tunneling tracks near the Burbank airport, project officials said. The project's price tag has steadily risen since voters first approved nearly $10 billion in bond money for it in 2008, when the total cost was pegged at $40 billion. In the years since, the costs have kept climbing amid struggles to obtain the necessary land and other delays. Today, the rail authority is far short of the money it needs to complete the full project. The first part of the line will run through the Central Valley; construction is underway on a 119-mile segment where the trains will first be tested before the track is extended to take passengers from Merced to Bakersfield. No track has yet been laid, but the authority has obtained 90% of the land parcels it needs for the first segment and more than half the full 500-mile (804-kilometer) route is now environmentally cleared, according to the business plan. Chief Executive Officer Brian Kelly said Tuesday the possibility of a fresh infusion of cash from the federal government puts the project on a stronger path. California should be in a good position to compete for as much as $6 billion in grant money under the federal infrastructure bill Congress passed last year, he said. During the Obama administration, California won roughly $3.5 billion for the project, then former Republican President Donald Trump revoked about $1 billion of that. It's been returned by the Biden administration. Receiving billions more in federal dollars would allow the project's first operational track to be a double track, not a single one, and help the project move forward on design and other work, Kelly said. “We just think that this is a great opportunity to really move the project forward," he said. Republican Assemblyman Jim Patterson of Fresno, a longtime critic of the project whose district it will run through, was unimpressed by the business plan's hopes for receiving more federal money to build a double track. “Given the embarrassing failures this project has racked up, I’d be surprised if the feds decide to throw more money at it," Patterson said in a statement. As the project waits for more funding from the Biden administration, the rail authority is also fighting for money from the state. Last year, the Legislature did not agree to Gov. Gavin Newsom's budget request to release $4.2 billion that's left in the voter-approved bond fund for the project. Democratic leaders in the state Assembly have been hesitant to release the money due to skepticism about the project's overall approach and lack of sustained funding. Last fall, Assembly Speaker Anthony Rendon and Assemblywoman Laura Friedman suggested the rail authority delay plans to electrify the first leg of track. Neither responded to requests for comment on Tuesday. Newsom, a Democrat, proposed releasing the money again in his January budget proposal as part of a transportation package that also includes billions of dollars for local rail and transportation projects. “Although the administration was disappointed that the transportation package didn’t get done last year, we continue to move forward and are working to achieve funding in this year’s budget," Newsom spokesman Daniel Lopez said in a statement. Beyond the bond money and federal dollars, the rail project is funded by revenue from California's cap-and-trade program, which requires polluters to buy permits to emit carbon.

#### China has incurred unsustainable amounts of railway debt.

Tang 21

Frank Tang (Correspondent for the South China Morning Post focusing on the economy), South China Morning Post, “China’s railway investment loses steam as government turns from debt-fuelled building boom,” January 12, 2021, https://www.scmp.com/economy/china-economy/article/3117264/chinas-railway-investment-loses-steam-government-turns-debt

China’s railway authority will prioritise restructuring its operations to enhance efficiency and revenue this year, rather than continuing to expand track mileage, in the latest example of Beijing moving away from debt-fuelled growth. Annual railway investment, which often reflects government enthusiasm for infrastructure investment, dropped to 781.9 billion yuan (US$120.7 billion) last year, falling below 800 billion yuan for the first time since 2013, according to data released at the annual China State Railway Group conference last week. No annual investment target has been disclosed for 2021, but the planned launch of 3,700km of rail lines this year compared with 4,933km last year, fewer new projects, and changing government spending priorities signal a further decline in the coming years. Instead, the state railway company vowed last week to reform its transport schedule to maximise the benefits of its massive existing rail network and restructure its businesses to boost productivity. 3 The company is targeting 1.177 trillion yuan of revenue this year, an increase from 1.13 trillion yuan last year, based on a 43.7 per cent rise in passenger traffic to 3.1 billion, and a 3.4 per cent increase in cargo deliveries to 3.7 billion tonnes. Infrastructure construction played an important role in stabilising the economy after the coronavirus outbreak caused a record contraction of 6.8 per cent in the first quarter of last year. It helped lift gross domestic product (GDP) growth back to 4.9 per cent in the third quarter and potentially 2 per cent for 2020 as a whole. Nevertheless, growth in China’s rail network mileage slowed to 2 per cent per cent in the first 11 months of last year, down from 3.8 per cent in 2019 and 19 per cent in 2017. But the price of this expansion has been high: railway debt rose to 5.49 trillion yuan (US$847.6 billion) at the end of 2019, or 65 per cent of the value of the railway system’s assets. Railway investment is expected to fall this year as the government focuses on boosting consumer spending, while budgeting more for people’s livelihoods and new infrastructure projects that fit strategic goals. In an interview with state media last week, Finance Minister Liu Kun said the government would prioritise spending on employment, education, social welfare and public health, after an unprecedented rise in the fiscal deficit ratio to 3.6 per cent last year to combat the pandemic. Government spending needs to be “more sustainable” and debt as a proportion of GDP should be kept “basically stable”, Liu said. Analysts estimate that China’s budget deficit ratio could fall to about 3 per cent this year, while the quota for the issuance of local government special purpose bonds, which mainly fund infrastructure projects, could drop to 3 trillion yuan from last year’s 3.75 trillion yuan. “The policy focus would shift from supporting infrastructure projects to improving people’s livelihoods and reducing income imbalances,” Morgan Stanley said in a research note. The augmented fiscal deficit – the broad measurement of government spending including the budgeted fiscal deficit, local bonds, and other expenditures – could narrow to 12 per cent of GDP in 2021 from a record high of 15.4 per cent last year, it said. Efforts to reduce the level of national debt, which began rising again in 2020 after falling in previous years due to a government debt-reduction campaign, is expected to dominate Beijing’s agenda over the next five years. Government enthusiasm for investment will continue in the first year of the new five-year plan for 2021-25, although most will be guided into key industrial projects. Several provinces have already released investment plans. Hubei, which was hit the hardest by the pandemic last year, announced 427.4 billion yuan of new projects this year, including 130 billion yuan for new infrastructure, as well as 488.1 billion yuan for existing projects. Shanghai, the country’s economic hub, will launch 64 projects with a total investment of 270 billion yuan, with a focus on supporting the integrated circuit, pharmaceutical and artificial intelligence sectors. The northwestern province of Shaanxi has budgeted 2.19 trillion yuan for 542 key industrial projects over the next five years, including 429.5 billion yuan for this year. “Traditional infrastructure construction is a short-term countercyclical measure to offset economic decline. But China can no longer walk the old road,” said Wang Jun, chief economist of Zhongyuan Bank. “It’s more important to invigorate manufacturing investment by improving the business environment and lowering their burdens,” he added.

### Contention 2: Unequal Impact

#### High Speed Rail investment harmed economic growth in other counties when pursued in China.

Qin 13

Yu Qin (an economics PhD student at Cornell University), World Bank Blogs, “High-Speed Rail Upgrade Leads to Economic Slowdown in Counties: Guest Post by Yu Qin,” December 13, 2013, https://blogs.worldbank.org/impactevaluations/high-speed-rail-upgrade-leads-economic-slowdown-counties-guest-post-yu-qin

We economists generally believe that infrastructure investments promote overall economic growth. However, these investments are not distributed evenly, such that regions or sectors more “local” to the investment will benefit more than the non-targeted regions or sectors. The distributional consequences will be even more pronounced if investments biased toward one sector or region hurt the non-targeted sectors or regions. In my job market paper, I ask a specific question: to what extent would investments biased toward the urban sector hurt the non-targeted rural sector? I try to answer this question using the high-speed rail upgrade in China as a case study. Specifically, I focus on the outcomes of the non-targeted counties who were quasi-randomly affected by this railway upgrade due to their location in between the largest cities, and compare them with the non-affected counties locating on other railway lines, before and after the upgrades. These two groups of counties had a similar growth trend before the upgrade. However, the affected counties suffered a 4-6 percent reduction in GDP and GDP per capita following the upgrade, which was not driven by population changes, but by the reduction in investments. I also find that the GDP reduction is significant in the service sector and not in the manufacturing sector. As the first paper studying the distributional impact of high-speed rail, my research is tightly related to previous literatures detecting the causal relationship between access to railroad and various aspects of economic development in both developing and developed countries (Ahlfeldt, 2011; Atack et al. 2010; Banerjee et al. 2012; Donaldson 2013; Donaldson and Hornbeck 2013; Zheng and Kahn, 2013). In addition, it is especially related to the papers estimating the distributional impact of public infrastructure (Duflo and Pande 2007; Baum-Snow 2007; Baum-Snow et al. 2012; Faber 2013).

#### Intermediate areas that are connected to the high speed rail line suffer.

Koster 21

Hans Koster (Professor of Urban Economics and Real Estate at Vrije Universieit), Takatoshi Tabuchi (Faculty Fellow at Research Institute of Economy, Trade and Industry, Professor at the Graduate School of Economics at University of Tokyo), and Jacques-Francois Thisse (Professor at the University of Louvain in Belgium). VoxEU CEPR, “High-speed rail may hurt intermediate places: The role of long-haul economies,” May 9, 2021, https://cepr.org/voxeu/columns/high-speed-rail-may-hurt-intermediate-places-role-long-haul-economies

In 2014 Vox column, Bernard et al. (2014) argue that high-speed rail is crucial for the development of firm supply networks, while Charnoz et al. (2016) show how the decrease in passenger travel time between headquarters and affiliates has allowed management functions to be concentrated in headquarters. In a recent Vox column, we discussed the general equilibrium effects of large-scale investments in high-speed rail (HSR), showing that the local effects can be large and depend on a complex interplay between the relative position of municipalities within the network as well as the underlying location fundamentals (Hayakawa et al. 2021). In a recent paper (Koster et al. 2020), we focus specifically on whether intermediate ‘in-between’ areas benefit from investments in high-speed rail. This is important because it is commonplace for local governments and regional interest groups to lobby the federal/national government (and international bodies such as the European Commission or the World Bank) for their region to be connected to the new infrastructure.1 The question, however, is whether these intermediate areas benefit or lose from this connection. It appears that existing research shows fairly mixed results. We argue that an important reason for differences in results is, at least to a certain extent, the presence of ‘long-haul economies’ (LHEs). Long-haul economies imply that it becomes cheaper to travel once your trip is longer. To put it more formally, the marginal travel costs decrease with trip length. To see how this affects firms’ location decisions, we develop a simple model with four regions where we aim to investigate the effects on employment in intermediate regions. We then compare connected regions (region three in the figure below) to unconnected regions (region two in the figure below). Our results show that whether ‘region three’ benefits in terms of employment relative to ‘region two’ (which remains unconnected), depends on (i) the strength of the long-haul economies effect and (ii) the size of the intermediate region. When there are no long-haul economies effect and region three is large, this region always benefits from the connection. By contrast, when the long-haul economies effects are substantial and region three is small, this region may actually lose out from being connected to the infrastructure network. The explanation for these seemingly conflicting findings is that there is a trade-off between a ‘hub effect’ and a ‘market size effect’. In presence of long-haul economies, the hub effect implies that a connection to the new infrastructure makes it easier to reach other places through lower transport costs. This in turn attracts more firms and employment. By contrast, the market size effect implies that if a region is small, it is easier for firms to set up a business in a core region and to transport goods or people to the small, connected region instead. We then bring this model to the data by investigating the effects of high-speed rail on intermediate areas in Japan. The high-speed rail network in Japan is commonly referred to as the Shinkansen, which means ‘new trunk line’. The figure below provides a map of Japan's transportation networks in 2014. There are several reasons why studying the Shinkansen is important. First, one of the main objectives of the Shinkansen was to promote economic growth and development outside Tokyo – in smaller ‘intermediate’ places (Sato 2015). Second, we show that the Shinkansen displays strong long-haul economies. Our estimations show that a 1% increase in travel distances increases travel time by only 0.8%. Long-haul economies in the Shinkansen are found to be stronger than for travel on the Japanese road network or the Dutch rail or road network. Third, out of 160 million passengers per year, a very large share (approximately 65% in 2010) are technical workers and business travelers. Such a high number suggests that the Shinkansen may be considered as a transportation mode that affects significantly firms' location choices, through the travel of non-production workers (whose share in Japan has increased from 22% to 41% between 1952 and 2015). Last, the first Shinkansen lines were built more than 50 years ago, meaning their long-run effects should have materialised by now. All of this makes the Shinkansen a natural candidate to study the impact of long-haul economies on the location of firms. We only keep municipalities that are outside ‘central’ cities – as defined by Kanemoto and Tokuoka (2002) – and compare the change in employment between 1957 (before the first Shinkansen line was opened) and 2014. Our empirical strategy addresses the issue that the most attractive and dense places may receive infrastructure investments and may be the first places that are connected. Our results deliver a consistent picture: intermediate areas lose employment when they are connected to the Shinkansen. The effects range from about 10-40%. While this effect may seem large, it is very much in the same order of magnitude as Faber (2014) and Baum-Snow et al. (2017) have found in their studies of the impact of new highways in China. Our findings have an interesting political economy implication as they indicate that lobbying for intermediate places to receive a station may actually hurt the area. More specifically, they explain why the construction of a highway ramp or a high-speed rail station does not necessarily deliver its sought-after payoffs. Even though casual evidence suggests that our results are not out of the ordinary, the finding that intermediate areas may lose from being connected also depends on the attributes (e.g. the size, the type of employment etc) of the region that is connected, and the strength of long-haul economies in the transport mode considered. For example, a small and highly productive region which is part of an international trade network may benefit from connection.

### Contention 3: US Failures

#### California’s attempt at building high speed rail has been a failure.

Gumbel 22

Andrew Gumbel (journalist for the Guardian), The Guardian, “Train to nowhere: can California’s high-speed rail project ever get back on track?”, May 29, 2022, https://www.theguardian.com/us-news/2022/may/29/california-high-speed-rail-bullet-train

In the depths of the 2008 recession, Californians were sold on a beautiful dream: a bullet train that would whisk them between Los Angeles and San Francisco in less than three hours. The project was to be the start of a new era of high-speed rail that would eventually stretch the full length of the west coast, from San Diego to Vancouver, across the desert to Las Vegas, and, eventually, all across the continental United States. California voters that year approved the sale of $9bn in state bonds, on the understanding that the LA to San Francisco line would be up and running by 2020. It was not long before the incoming Obama administration upped the ante, with a national plan for 8,600 miles (13,840 km) of high-speed rail lines, later increased to 12,000 miles (19,312 km), that would help kick-start a dormant economy and wean a highly mobile nation off the fossil fuels threatening to destroy the climate. Fast-forward to the present, and the dream is all but dead. The Obama plan collapsed, falling victim to a combination of inexperience, mismanagement and furious opposition from several key Republican legislators and state governors. The California project is still technically up and running, but it is so far behind schedule that it has yet to lay a single mile of track, despite 14 years of work and about $5bn spent. California’s governor, Gavin Newsom, is no longer talking about the 500-mile stretch from LA to San Francisco, because the projected price tag has skyrocketed far out of reach. Instead, his office is focusing on a 172-mile segment connecting a handful of medium-sized cities in the flat agricultural Central Valley. Even if the stars align, though, and a restive legislature can be persuaded to release the necessary funds, the segment still might not start serving passengers until 2030. Reviving rail in a country built on it The optimistic view for the project’s future – espoused most vigorously by California’s high speed rail authority, its consultants and its lobbyists – is that the stretch from Merced to Bakersfield will, once finished, provide proof of concept and thus convince state and federal authorities to shell out the many tens of billions of extra dollars it would take to extend the line north and south. Yes, the project is expensive, they argue, but so were the public investments in the highway system and the passenger airline industry, and the economic benefits of those are inarguable. The boosters also sense a unique opportunity, since California is currently running a $97.5bn budget surplus and the White House, led by “Amtrak Joe” Biden, has been offering billions more, largely thanks to last year’s Infrastructure Investment and Jobs Act which allocated up to $108bn for public transport projects. “All we need is one system up and running. The rest will follow,” the editor of the industry publication Railway Age, William C Vantuono, all but pleaded in a recent article. “California right now is our only hope,” he added. The more pessimistic view is that the project has turned into a boondoggle, the proverbial “train to nowhere”, and no good can come of continuing to throw money at it. The Merced to Bakersfield stretch is projected to cost more than $20bn – several billion dollars more than a previous projection made in 2019 and likely to grow only more expensive. It is also far from clear who would ride on it since it largely duplicates an existing Amtrak rail route. “It’s dreamland. It’s unrealistic. It will never cover its own expenses from the farebox,” said Quentin Kopp, a retired former legislator and judge who led the charge for an LA-San Francisco high speed line for two decades, starting in the 1990s, but has now lost hope that it will ever see the light of day. “Who cares about going from Merced to Bakersfield? I am appalled and angry over the bastardization of the promise to taxpayers … It’s a stupid waste of money. All this is doing is making contractors and engineers and bureaucrats fat and happy.” The high speed rail authority said it was “simply untrue” to suggest that its timeline and budget projections were unrealistic. Authority spokeswoman Annie Parker stopped short of predicting that the Merced-Bakersfield leg would break even, however, saying only: “We see a robust demand and a profitable system in our future.” Newsom is making his second attempt in two years to jump-start construction by persuading the legislature to release the remaining $4.2bn left in the 2008 bond fund and combine it with federal money to jump-start construction. “This is the future of transportation in California,” he said in a promotional video released when he first launched his funding campaign in March 2021. When completed, he promised, the high-speed line through the Central Valley would take 400,000 cars off the roads, clean up the air, and create new jobs. Even if Newsom gets his money, though, it is far from clear what it will buy. The state’s legislative analyst complained earlier this year about a lack of up-to-date budgetary information, making it “very difficult for the legislature to make informed decisions”. The legislature, for its part, has shown a particular reluctance to electrify the line from Merced to Bakersfield up front, and if that decision sticks it would reduce the line, at least temporarily, to a conventional track unable to meet the promise of 220-mph speeds. The rail authority, meanwhile, has developed its own plan to start with just 119 out of the 172 miles – a plan that among other things, would leave riders 19 miles short of Bakersfield and oblige them to complete the journey by bus. Authority chief executive Brian Kelly acknowledged in the most recent business plan that this is “not an ideal operating segment”. As legislative leaders haggle with Newsom over high-speed rail and the rest of California’s latest budget, they are not tipping their hands about possible outcomes. But a number of them went into the talks skeptical if not downright hostile. “The idea that you would spend all your money on a train that doesn’t connect to anything and just hope you’re going to get more money, I find a really frightening business proposition,” the chair of the California Assembly’s transportation committee, Laura Friedman, told the policy news site Cal Matters earlier this month. Many of the skeptics, including Friedman, are big-city Democrats, legislators one would usually expect to embrace public investment in high-speed rail. So their skepticism – and the failures, delays, cost overruns and broken promises that lie behind it – is a particularly heavy blow to those Americans who love the idea of reviving rail travel in a country that was largely built on it. These are people who have ridden the Eurostar, or darted through the Tuscan countryside en route from Rome to Milan, and want nothing more than to see similar systems in place at home. “When people experience this in the United States,” industry consultant and unabashed train lover Eric C Peterson said, “they’re going to say: why couldn’t we have had this earlier?” Doomed from the beginning High-speed rail in California was always going to be a moon shot. Many transportation experts point out that high-speed rail systems are tricky to deliver because of high start-up costs and long construction schedules, and the costs are often compounded by the complications of purchasing land, building stations, blasting through mountains and bridging rivers. Countries that have moved fastest on such systems tend to have a highly centralized governmental system, like France’s, if not an out-and-out authoritarian one, like China’s. The United States, by contrast, has a highly decentralized system of government, with multiple competing jurisdictions jostling over land, water, electricity and other vital resources, and a political tradition, especially in the west, that celebrates personal freedom and private property over collective enterprises in the public interest. In the decades after the second world war, inter-city train travel faded fast because of the boom in car ownership, cheap gasoline and the interstate highway system. Today, it has a meaningful presence only on the northeastern seaboard, where Amtrak trains remain a popular, traffic-beating option between Boston, New York and Washington. In most places, Tom Zoellner writes in his 2014 book Train, the American railroad “is still regarded as a charming antique, an object of art for eccentrics and a last resort for the poor. Approximately 98% of the American public has never set foot on a city-to-city train.” While European countries have developed high-speed systems with a lot of accumulated expertise and a pre-existing base of regular riders, the US flew almost completely blind in the years after 2008. California’s leaders didn’t want to finance a high-speed rail line without voter approval, and when Quentin Kopp chaired the effort to craft a successful ballot initiative he found himself boxed in by requirements deemed politically necessary that arguably doomed the project from the outset. The initiative promised a journey time between LA and San Francisco of two hours and forty minutes – a timeframe that demanded exceptionally high speeds if the train was to stop anywhere along the way and greatly complicated the engineering. The initiative also promised that the service would pay for itself, with no operating subsidy, a promise that now seems near-impossible to keep. After voters approved Proposition 1A, narrowly, the High-Speed Rail Authority found itself woefully understaffed and spent a small fortune on outside consultants, who wrote lots of reports and hired lots of other consultants but did not get the line built. Even today, progress consists of just a handful of new viaducts and bridges, along with most (but not all) of the necessary land purchases and environmental approvals. That’s still better than the rest of the country, where every last high-speed rail project proposed during the Obama era has been dropped, in large part because of furious resistance from Republican governors and legislators. By now, Republican party orthodoxy is hotly opposed to high-speed rail, in line with a 2021 Cato Institute study that called it “an obsolete technology because it requires expensive and dedicated infrastructure that will serve no purpose other than moving passengers who could more economically travel by highway or air”. When Newsom first announced he was paring back the California project, in 2019, it prompted the Trump administration to yank back nearly $1bn in federal funding. While the money has since been restored by the Biden administration, many California legislators worry that if the Republicans take back Congress after this November’s mid-term elections or – worse – if they take back the White House in 2024, it could kill whatever is left of the country’s last surviving high-speed rail project, regardless of what gets decided in Sacramento. A growing number of critics thinks California may have made a strategic mistake with its“high-speed rail or bust” approach and should have put more money into lower-cost projects to link the disparate parts of the existing state rail network. Kopp, still formidable and furious at the age of 93, agrees with that approach. He thinks the only responsible thing to do at this point is declare high-speed rail a failure and devote the remaining money in the bond fund to extension projects in the Los Angeles and San Francisco metropolitan areas. “I think it’s done,” he said. “Nobody else in the United States is wasting money on this. The legislature should stop the funding again this year, and Newsom should wise up before it becomes part of the historical record that he threw our money away.”

#### High Speed Rail has also failed in Texas multiple times.

Melhado 22

William Melhado (Journalist for the Texas Tribune), Texas Tribune, “After a decade of hype, Dallas-Houston bullet train developer faces a leadership exodus as land acquisition slows,” August 30, 2022, https://www.texastribune.org/2022/08/30/texas-high-speed-rail-dallas-houston/

Ten years ago, a company calling itself Texas Central High-Speed Railway announced plans for a trailblazing bullet train that would whisk passengers between Dallas and Houston in 90 minutes. Company leaders exuded confidence that the trains would be running up to 205 miles per hour by 2020. The potential for an American high-speed rail line captured the imagination of Texans and national train enthusiasts alike. At one point during an event celebrating the unbuilt high-speed rail line, then-Vice President Joe Biden told a Dallas crowd, “You’re going to lead this country into an entirely new era of transportation.” But a decade on, there are still no new tracks between Dallas and Houston. Through multiple business entities who often use some version of the Texas Central moniker, developers of the project spent years raising hundreds of millions of dollars for construction, fighting conservative lawmakers’ attempts to dampen their plans and buying land needed to lay the tracks. Perhaps the biggest battle, though, came from legal challenges to the company’s claims that state law allows it to forcibly purchase property when owners aren’t willing to voluntarily sell. In June, the Texas Supreme Court settled the matter and handed the company what could be a watershed victory, ruling that Texas Central can use eminent domain for its high-profile project. By the time the court ruled, though, Texas Central’s board had reportedly disbanded and its CEO and president had resigned. The project’s original timeline had already gone off the rails (at one point the construction was slated to begin in 2017). And land acquisition seems to have all but stopped in the last two years, according to land records reviewed by The Texas Tribune. A spokesperson for the company, who is employed by a consulting firm that handles Texas Central’s media requests, says the project is still in the works. “Texas Central is continuing to seek further investment, and is moving forward with the development of this high-speed train,” Tom Becker, a senior managing director with FTI Consulting, said in a statement. “We appreciate the continued support of our investors, lenders, and other key stakeholders, as we continue to advance this important project.” But the company and Becker have declined to answer specific questions about the leadership exodus, apparent slump in land acquisition, funding prospects and status of permits Texas Central would need to move forward. A federal transportation agency says it hasn’t had contact with the company in two years. The portion of Texas Central’s website that once listed executive leaders is now blank — as is the list of current job openings. Texas Central’s relative silence on the recent developments has left supporters of the project, who would like to see two of the state’s largest economic engines more easily connected, in limbo. Opponents, who have long railed against the idea of a private company using eminent domain to seize Texans’ land, are cautiously hoping Texas Central won’t rebound. Even if the company resurges, there remain major obstacles ahead to acquire land and finance an increasingly expensive project described as “shovel ready” as recently as 2020. The stakes of the high-speed rail project extend beyond the company and Texas. The 240 miles of relatively flat land between Dallas and Houston has long been heralded as the ideal location for what Texas Central and its supporters say could be the first leg of a national high-speed rail system that transforms the country. There are few infrastructure projects in the country that can compare in size to the Texas rail line. A California high-speed rail project between Los Angeles and San Francisco also faces significant political, financial and legal hurdles. But Michael Bennon, the program manager at Stanford University’s ​​Global Infrastructure Policy Research Initiative, hangs a lot of hope on the Texas project given the relatively short distance, estimated frequency of travel and the landscape between the two cities. “If you can’t do high-speed rail in that corridor, it’s hard to imagine it working anywhere else,” Bennon said. A decade in the making The announcement of the Dallas-Houston bullet train came more than two decades after another, failed high-speed rail project in Texas that collapsed after $70 million in investments in the early 1990’s. The most recent attempt at high-speed rail drew widespread attention and support. Texas Central has long billed the project — modeled after the Japanese Shinkansen bullet train — as an accessible, safe alternative to car travel in Texas. Among the selling points: an estimated $36 billion in economic benefits, an environmentally friendly solution to plane travel and a revolutionary step forward for large-scale infrastructure in America. The hype cast the train as a game changer for Texas and America. “There’s no doubt once people ride this train, they will want trains like this to go other places,” Holly Reed, Texas Central’s former managing director of external affairs, said in 2018. In addition to Biden’s 2015 endorsement, plans for high-speed rail in Texas saw formal support from former President Donald Trump, several state leaders and close to 100 businesses and organizations. The company’s board and advisors featured a plethora of prominent names, like billionaire and former Houston Astros owner Drayton McLane and Ron Kirk, the former Dallas mayor and former Texas secretary of state. But Republican state officials, who have long controlled the Legislature and state government, were caught between the collision of two things they and their voters support — minimal restraints on the private industry and protecting Texas landowners’ property rights. In the summer of 2016, Texas Central began its efforts in earnest to acquire land along the route of the line, contacting property owners and submitting documentation to retain the option to purchase acres in the 10 counties the rail line would cross. Along the way, Texans’ free-market enthusiasm often clashed with private property advocates who criticized the efforts of the company to push the railroad through rural land to benefit two already bustling urban behemoths. Donovan Maretick, a Navy veteran who lives in Harris County, has fought the company’s efforts to survey and purchase his land. He moved to a more rural area of the state to seek some quiet for his family — and he doesn’t intend to give that up so a private entity can build an intercity bullet train. “I rose to the occasion to fight for the country, and I’ll be damned if I’m not gonna rise to the occasion to fight for my little piece of country. And that’s what we’ve had to do as individual landowners for the last six years.” Maretick told the Tribune. Throughout multiple legislative sessions, some Republican lawmakers sought to limit how the project could be developed or financed. Others tried to kill it outright. But Texas Central’s project repeatedly emerged largely unscathed. State Sen. Royce West, D-Dallas, has maintained his support for the development endeavor, though he’s well aware of how rural and urban interests are often at odds on the matter. “The time has come for us as Texans to recognize that we need another mode of transportation to get people around the state,” West said in an interview with the Tribune. “Just like anything else, you have to build this for the future.” In October 2020, with another legislative session on the horizon, Republican Gov. Greg Abbott threw his “full support” behind the project in a letter to Yoshihide Suga, then the prime minister of Japan. By then, the Japan Bank of International Cooperation had loaned the venture $300 million. “Public support and momentum are on our side, and this project can be completed swiftly,” Abbott wrote. The governor also claimed Texas Central had “all the necessary permits to begin construction” — something the Tribune found was not, and still isn’t, true. Lawmakers representing Texans who own land in the project’s path expressed disappointment at the letter. Abbott’s office later said the “information it was provided was incomplete” and it would review the matter, but did not respond to multiple follow-up questions from the Tribune at the time. And the governor still isn’t talking. This month, Abbott’s office did not return multiple requests for comment about the matter. After Abbott’s 2020 letter to the Japanese prime minister, Carlos Aguilar, Texas Central’s CEO at the time, also declined to answer specific questions, but said the company was “focused on finalizing financing and getting ready for execution." A plan derailed In June, the Texas Supreme Court ruled that Texas Central Railroad & Infrastructure and Integrated Texas Logistics, a partner in the rail project, have eminent domain power because they are “interurban electric railway companies.” The decision, based on the Texas Transportation Code, enables the high-speed railway project to move forward with surveying and forcibly buying private property. Trey Duhon, president of Texans Against High-Speed Rail, said the decision surprised him and set a dangerous precedent. “You’re not supposed to be able to exercise this authority or power without some checks and balances,” he told the Tribune. “This opinion really opens the door and allows anyone who wants to build an electric railway anywhere in the state of Texas the ability to do so.” But having the ability to use eminent domain doesn’t mean the process will be easy — or cheap. And one expert in eminent domain law said the company may still face a major legal hurdle in exercising its eminent domain authority. Luke Ellis, an Austin lawyer who teaches eminent domain law at the University of Texas School of Law, told the Tribune that project opponents could still mount legal challenges that hinge on what’s called a “public use” clause. That provision of law requires that an entity using eminent domain can only do so when creating something for “public use.” Ellis said there remains an outstanding question whether the train qualifies as “public use.” The Texas Supreme Court didn’t rule on that question, leaving it open to future legal challenges. What’s more, eminent domain isn’t a fast and clean operation. If a landowner doesn’t want to sell, Texas Central would likely have to sue and kick off what’s called a separate condemnation process — complete with arguments and hearings — for each landowner who won’t voluntarily give up their land and doesn’t agree that the money Texas Central offers is adequate compensation. These two legal obstacles could stall Texas Central’s momentum if construction gets underway, Ellis said, but only up to a certain point. Entities with eminent domain authority can take possession of private property once a designated commission determines the land’s value and that amount is paid into an account. While both parties can appeal the decision and take it to a jury, entities like Texas Central have an advantage. “There’s a legal mechanism that allows them to begin construction of the project even before the eminent domain lawsuit has fully resolved,” Ellis said. Texas Central has long said it would use eminent domain only as a last resort and it would prefer to amicably buy the land needed for the project. How many parcels it needs has long been a mystery. While Texas Central has released a map of the line’s route, it has remained mum for years on how many purchases it would take to amass the land needed for the project. The company has negotiated with landowners to reserve the option to purchase land along the route. In some instances, the railroad developer acquired those parcels of land. Yet in others, the purchase options expired or the company agreed to release those contracts, allowing landowners to sell to another buyer. According to a Tribune review of public land records, the company ramped up land acquisition efforts in 2016. But since 2020, there’s been a steep decline in options filed and deeds amassed on behalf of Texas Central. In several counties in the past two years, Texas Central has resold property it had purchased to other buyers. Texas Department of Transportation officials confirmed the state agency purchased a handful of acres from the railroad company in Madison County for $75,000. Public documents filed between May 2021 and April 2022 showed that the railroad company sold off more than 170 acres in Navarro County. The Tribune reached out to McLane, the board of directors’ former chair; several former advisors, including Kirk; and the company’s listed partners. They either did not respond or they directed inquiries to Katie Barnes, the director of right of way at Texas Central, who declined to answer questions. Continued resistance Meanwhile, the cost of the project will likely continue to grow. Initially estimated to cost $12 billion, McLane expected the project to cost $30 billion by 2020. In 2019, Texas Central announced it had raised $450 million in capital commitments for the project, which included the $300 million loan from the Japan Bank of International Cooperation. In written testimony to Congress in 2021, Aguilar, the CEO at the time, said the company had made $700 million in private investments into the project. Just before the Supreme Court ruling this year, Aguilar explained his resignation via a LinkedIn post after Spanish news outlet La Información reported that the board had disbanded and he was leaving. Aguilar said he “could not align our current stakeholders on a common vision for a path forward,” but spoke highly of the plans — and Texas Central employees. “Most of the ‘graduates’ of our effort will continue to contribute to our economy through their roles at other companies,” he wrote. During Aguilar’s tenure, the project cleared two key regulatory hurdles. The Federal Railroad Administration approved the bullet train between the two Texas cities and released an environmental impact statement for the project in 2020. While those were stepping stones needed to keep the project on track, they didn’t completely clear the way for the company to begin building. The Surface Transportation Board, a federal agency that primarily regulates freight trains, ruled in 2016 that it did not have jurisdiction over Texas Central’s plan to build a rail line between Dallas and Houston because it would not be part of an interstate rail network. Texas Central appealed, and STB said in July 2020 the company could submit another application for consideration. But the agency hasn’t heard back from the would-be railroad builders, a STB spokesperson told the Tribune. Many proponents of the project still stand behind it, even if there are few, if any, details about its future. “The Texas Association of Businesses fights for policies that help employers make the largest impact on their communities. High speed rail would not only expedite business operations but would connect job creators to talent in other areas. With an estimated economic impact of $36 billion, TAB maintains its support of this project,” Rebecca Grande, TAB policy manager, said in a statement. Texas Central’s critics and opponents are cautious about declaring the project dead, even if it appears the company has lost necessary momentum to bring its ambitions to life. Maretick, the Harris County landowner, says Texas Century might have won the battle in the Texas Supreme Court, but he won’t give up the war for his property. He hopes the burden of future legal battles will hinder the project to such a degree that the power of eminent domain will be but a “pyrrhic victory” for Texas Central. “A victory that they won, but it came at too high of a cost,” he said.

## Extra Cards:

### Extension: Labor shortage

#### The construction industry is facing a severe labor shortage.

Dean & Schlitz 21

Grace Dean (Journalist for Business Insider) and Heather Schlitz (Business news fellow at Insider), Business Insider, “The construction industry needs a 'staggering' 2.2 million more workers to keep up with booming demand for houses amid the labor shortage,” November 5, 2021, https://www.businessinsider.com/construction-industry-needs-staggering-22m-more-workers-2021-11

The construction industry needs over 2 million more workers over the next three years to keep up with booming demand for new houses amid the labor shortage, according to the Home Builder Institute. HBI said in a labor-market report Thursday that a lack of skilled construction labor was a crucial limiting factor for expanding home construction and improving housing inventory and affordability. HBI is the National Association of Home Builders' nonprofit partner that provides training for the building industry. The industry needs 61,000 new workers per month over the next three years to keep up with demand, totalling 2.2 million new hires, the report said. The institute based the figure on the average annual number of occupational openings in construction, which NAHB calculated by analyzing Bureau of Labor Statistics data. "That's a staggering number," HBI president and CEO Ed Brady said in a press release accompanying the report. Demand for construction boomed during the pandemic thanks to a wave of home improvements, but the industry's workforce shrank, plummeting from 7.65 million workers in February, 2020, to 6.53 million just two months later, BLS data shows. On top of construction workers, the BLS figures for the industry include other professions like carpenters and electricians. "Hiring has been a challenge for a decade but the pandemic exacerbated it to the extreme," Matthew Messer, the owner of New York Solar Maintenance, told Insider in July. "We're all competing for an already small labor pool." More workers are returning to the industry as construction companies offer higher wages and sign-on bonuses to attract more staff. Around 7.45 million Americans worked in the industry in September per preliminary BLS data, up from 7.26 million in September of last year. But finding skilled labor is still a problem. The owner of an understaffed construction company in Arkansas said that he was so desperate for employees that he had to hire workers with zero experience in the industry. The US is suffering from a labor shortage as record numbers of Americans quit their jobs in search of better wages, benefits, and working conditions. In 2020, construction laborers earned an average hourly wage of $20.92 and an average annual wage of $43,520, according to the BLS. The labor shortage is wreaking havoc in the housing market, which was already tight because of a lack of starter homes. As baby boomers retire and are move into smaller homes, the US supply of starter homes is at its lowest point in 50 years. In the meantime, 1.7 million people retiring ahead of schedule during the pandemic and millenials reaching peak years of household formation are fueling surging prices and demand for affordable homes. "The US is experiencing a historically low supply of homes for sale, especially at the lower price points that newly formed households tend to need," Brady said in the HBI press release. "For residential construction to expand and housing affordability to increase, more skilled building trade workers must be recruited and trained for the home building sector," he added.

#### Transportation projects are costlier because of higher labor costs.

Bykowicz 22

Julie Bykowicz (journalist for WSJ), WallStreet Journal, “Labor Shortage Stymies Construction Work as $1 Trillion Infrastructure Spending Kicks In,” June 20, 2022, https://www.wsj.com/articles/labor-shortage-stymies-construction-work-as-1-trillion-infrastructure-spending-kicks-in-11655722801

Construction projects across the U.S. are running short on labor just as $1 trillion in federal infrastructure money starts to kick in, leading companies to get creative in their quest to attract and retain workers. In Southern states, contractors advertise sunny weather and 12 months of work on help-wanted websites in the frostier Northeast and Midwest, where highway construction goes dormant during the winter months. Project managers in remote areas are luring employees with signing and referral bonuses and per diems for housing, knowing they won’t be able to find enough workers locally. Central Florida Transport, one of the state’s largest aggregate haulers, created a full-time driver advocate position to help its truck drivers with tasks that are tough to do during a busy workday, such as scheduling healthcare appointments or finding a loan broker. “We wanted to do whatever possible to help solve their problems because we can’t afford to lose any drivers,” said Myron Bowlin, the company’s vice president. Historically low U.S. unemployment, the economic rebound from Covid-19 and about $600 billion in transportation-specific funding expected from the roughly $1 trillion bipartisan infrastructure law have combined to exacerbate existing employee shortages in the construction industry. Associated General Contractors of America, which represents more than 27,000 construction companies, said publicly funded transportation projects are routinely coming in at least 20% higher than government officials anticipated because of added labor costs, as well as inflationary factors such as higher prices for fuel and raw materials. “The severity of the labor shortage means you’re paying workers more and your construction schedules are longer, both of which are big drivers in overall cost,” said Brian Turmail, the industry group’s vice president of public affairs and strategic initiatives. Moody’s Analytics projects that the bipartisan infrastructure law’s peak impact will be in the fourth quarter of 2025, when there will be about 872,000 more jobs as a result of all the projects across the country. The higher labor costs could sap some value from what has been President Biden’s signature legislative achievement. Administration officials are working to address the workforce shortages, including hosting a “talent pipeline challenge” last week to develop workforce training programs for jobs in construction as well as broadband and electric-vehicle charging infrastructure. “A lot of my lifetime, the big constraint on infrastructure work has been just a lack of funding and a failure to invest,” Transportation Secretary Pete Buttigieg said. “We got the funding. Now we have got to make sure that we have the raw materials, the technical capacity and the workforce to actually get it done.” Industries from food service to software development have been pinched for workers as the pandemic ends and the economy revives. Infrastructure, which includes specialty trades such as welding and heavy machinery operation, has an extra set of challenges. The workforce is on average older and retiring, while younger potential workers are reluctant to sign up for jobs they consider dirty and dangerous, which may not always offer the same flexibility or pay to work from home or an air-conditioned office, said Joseph Kane, an infrastructure researcher at the Brookings Institution. Average hourly wages for craftworkers, those considered production and nonsupervisory, climbed 6.2% in March from a year earlier, according to the Bureau of Labor Statistics and data from Associated General Contractors of America cited in a report by FMI Corp., a management consultant specializing in the built environment. That is the fastest rate since 1982. Construction wages are rising slightly faster than in other sectors, said Priya Kapila, a partner at FMI who analyzes compensation and rewards. “The wage pressure, especially among the building trade, is a function of a constrained supply.” Ms. Kapila said. “That has led companies to say, ‘What else can we do?’”

#### Currently, labor markets are expanding, calling into question the need for the creation of more jobs.

Horsely 22

Scott Horsely (NPR’s chief economics correspondent), NPR, “The job market stays red-hot with the unemployment rate near a pre-pandemic low,” June 3, 2022, https://www.npr.org/2022/06/03/1102676411/job-labor-market-unemployment-rate-inflation

The U.S. job market remained tight last month as employers struggled to find people to wait tables, staff factories and guard swimming pools. The Labor Department said Friday that U.S. businesses added 390,000 jobs in May, as the unemployment rate held steady at 3.6%. Job gains for March and April were revised down by a total of 22,000 jobs. The Holiday World & Splashin' Safari theme parks in Santa Claus, Ind., typically hire about 2,200 seasonal workers for the summer, but so far this year the parks are about 30% short of that total. "We're not panicking," said Matt Eckert, the parks' president and CEO. He added that year-round staffers help fill the gaps. "I've made my share of pizzas. I've powdered my share of funnel cakes. We jump in and do whatever we've got to do to make sure that we get the job done." Lifeguards and ride operators are particularly scarce this year, so the parks are offering a $1,000 bonus for those positions. With the school year ending, Eckert hopes to see more students and teachers applying for summer positions. For teenagers, this could be the best job market in over a decade. Recreation and entertainment businesses, including amusement parks, added 16,000 jobs last month. The demand for labor also has some employers hoping that older workers who left the workforce earlier in the pandemic will come out of retirement, especially after the recent drop in the stock market put a dent in their 401(k)s. The number of workers age 55 and older grew last month by 181,000. Tim Fiore, who surveys manufacturing managers each month for the Institute for Supply Management, says factories had somewhat more success filling jobs in May than the month before. But they're still struggling with heavy turnover. Factories added 18,000 jobs in May. "There is some improvement but it's a long way to go," Fiore says. "And I think on the employment side here, it's going to be a slow slog because there just isn't that much labor out there." The labor force grew by 330,000 workers last month, not quite keeping up with the pace of hiring. The hot labor market comes at a time of hot inflation In order to attract scarce workers, employers have been offering more flexible schedules, better benefits and higher wages. Average hourly wages in May were 5.2% higher than a year ago — a slight moderation from the month before. But even those fatter paychecks aren't keeping pace with rising prices. And the Federal Reserve is concerned that rising wages could fuel stubbornly high inflation. At 8.3% in May, inflation is already near a four-decade high. The central bank has begun raising interest rates aggressively in an effort to regain control over prices. The Fed raised rates by half a percentage point in early May. Two more, similar-sized rate hikes are expected in June and July. Former Treasury Secretary Larry Summers is skeptical the Fed can curb inflation without triggering a recession and the higher unemployment that comes with it. "I don't think there's a durable reduction in inflation without a meaningful reduction in wage growth," Summers said this week during an online interview with the The Washington Post. "And right now with the labor market so tight, I don't see such a meaningful reduction in wage growth taking place." The construction industry is typically one of the first to feel the effects of rising interest rates, but that wasn't evident in the May hiring report. Construction companies added 36,000 jobs last month. Freddie Mac says the average rate on a 30-year fixed mortgage this week was 5.09% — down slightly from last week but more than 2 percentage points higher than this time last year. Retail was one of the weakest spots in the jobs report, with retailers shedding nearly 61,000 jobs in May.

### Extension: Environment

#### Building high speed rail requires emitting large amounts of CO2.

Lin et al. 19

Jianyi Lin (Key Lab of Urban Environment and Health, Institute of Urban Environment, Chinese Academy of Sciences), Shihui Cheng (University of Chinese Academy of Sciences), Huimei Li (Key Lab of Urban Environment and Health, Institute of Urban Environment, Chinese Academy of Sciences), Dewei Yang (School of Geographical Sciences, Southwest University), and Tao Lin (Key Lab of Urban Environment and Health, Institute of Urban Environment, Chinese Academy of Sciences). Interntional Journal of Environmental Research and Public Health, “Environmental Footprints of High-Speed Railway Construction in China: A Case Study of the Beijing–Tianjin Line,” December 22, 2019, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6981942/

Only CO2 was considered for greenhouse gases during the construction of the Beijing–Tianjin intercity HSR. At this stage, CO2 emissions were mainly derived from the upstream production of the materials and energy consumption of the construction equipment. As depicted in Figure 2, the CO2 emissions from the different subsystems and sectors were calculated, and the total emission caused by the construction period was 3451.7 kt. Among the different subsystems, bridges contribute the largest CO2 emissions in the entire stage with 2186.4 kt CO2, accounting for 63.3%. Considering the straight route, road settlement, and land savings, the construction of HSRs results in a large number of bridges. The Beijing–Tianjin intercity HSR line used 100.6 km of bridges to overcome the above factors, corresponding to 83.8% of the length, thereby leading to large volumes of materials and energy consumption. Rail systems rank second, with 518.6 kt CO2, accounting for 15.0%. The emissions from EMUs rank third, with 339.3 kt CO2, accounting for 9.8%. The remaining subgrade, station, and electric subsystems contribute 131.9, 228.8, and 46.6 kt CO2, respectively, accounting for a total of 11.8%. For the emission sources, the CO2 emission caused by the upstream production of materials was 3094.5 kt, accounting for 89.7%. The metal smelting and rolling industry sector was the largest emitter with 1775.5 kt CO2, accounting for 51.4%. The non-metallic mineral production sector was the second largest emitter with 736.4 kt CO2, accounting for 21.3%. The third largest emitter was the transport equipment manufacturing sector with 450.2 kt CO2, accounting for 13.0%. A large number of metal products, organic raw materials, and earth and stones were used in the construction, leading to huge amounts of CO2 discharge in these sectors. Direct energy uses emit 357.2 kt CO2, accounting for 10.3% in the construction stage. The direct energy uses of bridges contribute the highest CO2 emission with 295.1 kt CO2, accounting for 82.6% of the entire direct energy uses. Subgrades rank second with 33.6 kt, accounting for 9.4%. The third largest contributor was rail systems with 18.0 kt CO2, accounting for 5.0%, and the remaining subsystems emitted a total of 10.5 kt CO2, accounting for 3.0%.

#### There are environmental problems with proposed US high speed rail lines.

Pelton 21

Tom Pelton (a journalist for NPR/WYPR, named one of the best environmental reporters in America by the Society of Environmental Journalists), WYPR, “Fight Over Environmental Impact of ‘Maglev’ High-Speed Rail,” March 4, 2021, https://www.wypr.org/show/the-environment-in-focus/2021-03-04/fight-over-environmental-impact-of-maglev-high-speed-rail

Developers are proposing to build a high-speed, magnetic levitation train line between Baltimore and Washington. The $13 billion Maglev project is designed to cut the hour-long train trip to a mere 15 minutes, with trains travelling at more than 300 miles an hour. The train line – to be funded in part by the Japanese government and built by a company called Baltimore-Washington Rapid Rail -- would use cutting-edge technology pioneered in Japan. Maglev trains use magnets to suspend a train in a U-shaped concrete guideway, so they travel without friction. The proposal is being reviewed by the Federal Railroad Administration. Supporters praise the Maryland Maglev project -- which would run mostly underground along the Baltimore Washington Parkway corridor -- as a way to reduce highway traffic and emissions. It could also potentially boost the lagging economy of Baltimore, by making it easier for people to work in DC and commute to buy homes in Charm City. But opponents criticize the rail line in part because its path could cut through the edge of Patuxent Research Refuge and other protected federal lands, disrupting wildlife habitat and wetlands. Another possible route, running north of the Baltimore Washington Parkway, would run through a more suburban area. An intense clash over the rail project has found a stage in the Maryland General Assembly. There, state Delegate Julian Ivey, a Democrat from Prince George’s County, has introduced a bill called the Stop Maglev Act of 2021. Ivey testified during a recent hearing on the bill. “The proposals (for the Maglev train line) only include stops in Washington D..C, the City of Baltimore and at BWI,” Ivey said. “The project severely neglects the urgent need for updated and affordable public transportation in the area. However, the privately-proposed project does provide an alternative for high-income residents of Washington D.C. and Baltimore that commute between the two cities.” Susan McCutcheon is with a citizens group called Bladensburg Residents Against the Maglev. “I support House Bill 704 (the Stop Maglev Act of 2021) because the siting proposed for this transportation project will irrevocably impinge on valuable and protected property,” said McCutcheon. Wayne Rogers is Chairman of Baltimore Washington Rapid Rail. He said the “Not in My Back Yard” suburban effort to block the project – as expressed in the state legislation – is off-track, because the decision will be made, by law, at the federal level, by the Federal Railroad Administration, not by state lawmakers. “The Stop the Maglev Act is an affront to a majority of Marylanders who seek opportunity and a future driven by superior infrastructure, a clean environment, and not traffic congestion, air pollution and climate change,” said Rogers. Because the train line would end in the long-neglected, majority African American Cherry Hill neighborhood of south Baltimore, some civil rights organizations, including the NAACP, are supporting the construction project for its economic development potential. This is Jason Rodriquez of the National Action Network, founded by the Rev. Al Sharpton. “It represents jobs, businesses, development opportunities, community growth for millions along the Northeast corridor,” said Rodriquez, alluding to the fact that the next phase of the Maglev project could connect Baltimore to New York City. Although it remains unclear whether the Maglev project will ever receive funding or approval, supporters say its potential to disrupt some wildlife habitat needs to be balanced against its greater potential to boost human lives, jobs and communities in the economic wilderness of Baltimore. The Maryland General Assembly has yet to vote on the Stop Maglev Act. The Federal Railroad Administration is now accepting public comment on a draft environmental impact statement about the project through April 22.

### Misc:

#### Amtrak tickets are already expensive.

Kim 19

Jasmine Kim (contributor for Insider), Business Insider, “Amtrak has lost money every year since 1971. Here's why train tickets are so expensive.” March 27, 2019, https://www.businessinsider.com/amtrak-why-so-expensive-america-train-system-2019-3

Amtrak is the only passenger railroad service that operates throughout the continental US. With about 500 destinations, the service has been operating since 1971. But with high ticket costs, Amtrak is becoming a less viable mode of transportation. In fact, it's often more expensive to take an Amtrak train from New York City to Boston than to fly. Why does the US, a country that created billionaire railroad tycoons, have such an expensive and inefficient train system? Amtrak has had a long history of financial instability since its formation. Passenger trains used to be owned by private companies that operated freight trains. At the start of the 20th century, nearly 42 million passengers traveled by rail as their primary mode of transportation. However, by the 1940s, railroads began to become less popular as buses, planes, and cars grew in popularity. And by the 1960s, many railways, such as Penn Central and Atchison, Topeka & Santa Fe Railway, all discontinued most of their trains. Passenger trains were no longer profitable, especially when the US Post Office began shipping mail by truck and air. In an attempt to rescue the service, then President Nixon signed a law in 1970 that ensured government funding. This act created the National Railroad Passenger Corp., which eventually became Amtrak. Of the 26 railroads offering passenger service, six declined to join Amtrak. Although the railroad service continued, its problems with ridership and financial instability remained. Amtrak competed with other railway companies for train stations and tracks. On its first day of service, passenger trains had to be rerouted from seven train terminals in Chicago into just one. Amtrak also had to pay and maintain multiple train stations in one city because of the lack of track connections. Throughout the early 2000s, the US government attempted to make Amtrak financially self-sufficient by trying to increase ridership and implement the Acela Express, which runs at a maximum speed of 150 mph. But their plans failed, as Amtrak still had a large sum of debt from years of underfunding. To this day, trains still have a low profit margin and rely heavily on subsidies to operate. According to the company's 2017 fiscal year report, Amtrak had a total revenue of $3.3 billion. Unfortunately, this wasn't enough to make Amtrak profitable. It still had a total operating loss of $194 million. Many of the lines don't make any money or are operated at a loss. To accommodate the money-losing routes, Amtrak uses profits from its popular lines, such as the Northeast Corridor. Since this is one of the most popular routes, Amtrak can charge higher prices and send those profits to other, less profitable lines. Additionally, the USA is a very big country. It's the fourth largest, with about 3.8 million square miles of land. In comparison to Japan, which is smaller than the state of California, the US requires a lot more rail to cover its land. Amtrak trains run on 21,400 miles of track and only owns about 630 miles of it. For example, between New Rochelle and New Haven on the Boston-New York route, the tracks are owned and operated by Metro-North Railroad. This means Amtrak needs to pay Metro-North Railroad to run their trains over these tracks, which adds extra costs to passengers' tickets. According to Amtrak's company profile, it operated some 300 trains a day in 2017. In comparison, SNCF, the French National Railway Co., operated 14,000 trains daily. That's about 47 times as many trains, serving a nation that has a quarter of the population of the United States. France is also even smaller than the size of Texas. While Amtrak has lost money every year since 1970, it does intend to return a profit some day. Despite losing $194 million in 2017, it was still 15% less than 2016, and the company has been reducing its losses every year since 2012. Hopefully, consumers won't have to bear the brunt of reducing those losses even more.

#### Car culture limits the switch to high speed rail.

Luk 17

Glenn Luk (15 years of experience of PE/VC and Public Market Investing Experience), Forbes, “Why Doesn't The United States Have High-Speed Bullet Trains Like Europe And Asia?”, March 11, 2017, https://www.forbes.com/sites/quora/2017/03/11/why-doesnt-the-united-states-have-high-speed-bullet-trains-like-europe-and-asia/?sh=5a24e5a7c080

First, let me state that I am a huge fan of high-speed rail. My first experience with high-speed rail was on Taiwan's high-speed rail line in 2008 which shortened the time it took to traverse the island from five hours to two. My second was on my honeymoon when my wife and I traversed continental Europe on its clean and efficient high-speed rail network. It kills me to think that for the amount of money and resources we have spent on the second Iraq war, we could have built the backbone of a nationwide high-speed rail network and subsidized its use for a number of years while it ramped up to optimal capacity. If that is not a lesson in the opportunity cost of war -- and why we should take going to war and sending our young men into harm's way very seriously -- I don't know what is. However, I am also a student of Economics and I am fully aware of the realities that make the economics of high-speed rail far less attractive than they are in Europe and East Asia. These include: Population density or lack thereof Our unique model of urban and suburban development The strength of our property rights Car culture, or America's lingering obsession with the automobile The lasting power of network effects An existing rail network is geared towards long-haul commercial freight traffic Last but not least, I am a natural optimist and I believe that America will ultimately figure out how to utilize certain emerging technologies to overcome the obstacles to implementing efficient, environmentally friendly and safe transportation for the masses. I do believe high-speed rail in some form will ultimately be part of this solution. Complex issues like high-speed rail cannot be solved by looking at anecdotes -- we need to look at and analyze more comprehensive data sets. As such I put together a list of all the high-speed railway lines in the world and then added a select group of countries that did not have high-speed rail for comparative purposes. I then appended data across a number of metrics and ordered them from top to bottom in terms of "high speed rail intensity", my own metric that is simply based on the length of HSR lines per million inhabitants: My conclusions on the prevalence of high-speed rail systems in Europe and East Asia, and the lack of such systems in the United States today are largely based on this set of data. Note: I threw Democracy Index in there more to show how little high-speed rail has to do with political orientation. Population density. When you fly across the United States, look down on a non-cloudy day and you'll quickly realize how empty and different it is compared to when you fly across most Asian and European countries. And even our denser cities are more "suburban sprawl" than the concentrated type of urban living you see in Asia and Europe. For instance, Dallas (our 4th-largest metropolitan area) has lower population density than Hebei province and Hebei is not even considered a particulary dense Chinese province. This is probably the largest single factor making the economics of high-speed commuter rail very difficult. Suburban sprawl vs. Town squares. Most Americans live in suburbs which are dominated by single-family homes sitting on single tracts of land extending for miles (i.e. "suburban sprawl"). This contrasts sharply with the way towns were developed in the pre-automobile era, which is when most European towns and villages first came into existence -- these were designed around the primary mode of transportation of the era, a.k.a. "your feet". One consequence of this is the greater use of mixed-use development strategies where commercial and residential interests are located in close proximity i.e. the traditional European village/town square. For most of America, this makes what should be a fairly easy decision quite difficult: Where the heck do you put the train station? Furthermore, in the U.S., even if you arrive at your destination via train, you still need a car because most cities don't have convenient metro systems in place that can comfortably ferry people around to the places they need to go. Property rights. One of the most expensive parts of building new rail lines these days is securing land along a relatively straight path (you can't run trains at high speeds along too sharp a curve). The U.S. has strong property rights which makes securing land exceedingly expensive. Back when it was cheap to secure land, the U.S. had no problem building train tracks across the country. In China, land is still largely controlled by the State which makes it much easier to secure. Culture. The automobile is deeply ingrained into the core fabric of American culture. Watch American Graffiti or its modern-day counterpart, The Fast and the Furious, and you will start to get a sense of why. Even though this might be changing over time due to concerns about things like carbon footprint and the environment, our transportation future will most likely still revolve around cars. Case in point -- our most celebrated entrepreneur at the moment is a guy that runs a car company: The investment of hundreds of billions of dollars into the Interstate Highway System also reinforces the critical role of the Automobile in American culture. Much of the suburban sprawl-type development discussed above was a direct offshoot of this massive investment. Unlike the U.S. most other countries are far more willing to place heavy taxes on vehicles in an effort to curb demand. For example, in Singapore car buyers must pay an additional 150% on top of the price of the car in excise and registration duties. In Taiwan, taxes are not as high but still more than doubles the effective price of this beaut: This all results in car ownership rates that are much higher compared to almost every other major country (as you can see in the data table above). Lower car ownership rates create greater demand for alternative transportation options and makes high-speed rail a much more attractive proposition in those countries. Network effects. Another important facet of high-speed rail is the value of network effects. It is a far more attractive proposition to build a HSR system that looks more like a web instead of a point-to-point line. This is because webs tend to result in much higher utilization than point-to-point systems. And utilization is the most important determinant behind the economics of high fixed-cost businesses like high-speed rail. For example, look at the HSR rail map of Europe: That's one tangled and messy spider web and is surely one contributor to the more favorable economics behind high-speed rail in Europe. Now let's look at China: Again -- especially if you factor in the gray lines, many of which are candidates to be upgraded to high-speed rail lines -- this is a pretty intricate web of cities, and once again supports the economics of high-speed rail. Now you will notice a few lines (such as the ones extending out across the Silk Road to Urumqi or towards Lhasa) that are more point-to-point in nature. But these lines are probably subsidized to a large extent by the much more highly utilized lines in the Eastern half of the country. Finally, let's look at the United States: Much less web-like, for sure. I can probably count on two hands the amount of demand for a 1,000 mile rail trip from Omaha to Salt Lake City that cannot be served better by existing options. I simply cannot see how many of these proposed routes -- especially in the middle of the country -- can sustain the minimum economics needed to justify the tens of billions per year necessary upkeep and operating costs let alone the hundreds of billions of dollars needed to build those lines in the first place. The densest regions of the United States are located along the Eastern Seaboard. Based on this, running a single line from Boston down through New York and onto Washington D.C. makes the most economic sense. Indeed, this is where our limited high-speed lines exist as well as our most highly utilized regular passenger rail lines. However, I believe one of the limiting factors behind the economics of passenger rail in the United States is simply that we cannot take advantage of the network effects conveyed by web-like networks you see in Europe and China.

#### Farmers were harmed in California’s project.

Vartabedian 19

Ralph Vartabedian (National correspondent for the LA times and Pulitzer finalist), LA Times, “High-speed rail route took land from farmers. The money they’re owed hasn’t arrived,” June 10, 2019, https://www.latimes.com/local/california/la-me-bullet-train-cash-20190610-story.html

John Diepersloot squinted under a bright Central Valley sun, pointing to the damage to his fruit orchard that came with the California bullet train. He lost 70 acres of prime land. Rail contractors left mounds of rubble along his neat rows. Irrigation hoses are askew. A sophisticated canopy system for a kiwi field, supported by massive steel cables, was torn down. But what really irritates Diepersloot is the $250,000 that he paid out of his own pocket for relocating wells, removing trees, building a road and other expenses. “I am out a quarter-million bucks on infrastructure, and they haven’t paid a dime for a year,” he said. “I don’t have that kind of money.” Up and down the San Joaquin Valley, farmers have similar stories. The state can take land with a so-called order of possession by the Superior Court while it haggles over the price. But farmers often face out-of-pocket costs for lost production, road replacement, repositioning of irrigation systems and other expenses, which the state agrees to pay before the final settlement. Those payments and even some payments for land have stretched out to three years. State officials have offered endless excuses for not paying, the farmers say. Eminent domain, the legal process by which government takes private land, is complicated enough, particularly in California with a maze of agencies involved. But the rail authority’s constantly changing plans, thin state staff and reliance on outside attorneys have made it more difficult, some say. “They are bogged down,” said Mark Wasser, an eminent domain attorney in Sacramento who has represented more than 70 farmers and other businesses losing land to the rail project. “I would draw an analogy to Napoleon’s invasion of Russia.” Many government highway and rail projects end up seizing private land for the greater good, leaving owners angry about the disruption to their lives and the loss of something they worked hard to build. In California, the slow payments are adding to the farmers’ frustration. Tim Raven, a walnut and almond grower, is owed $500,000, he told The Times. John Tos, a big grower who has waged a legal battle against the project, says the state owes him $150,000. Wasser says Brenda Church, a former client, has been owed $1.9 million for three years. Ray Carter, who voluntarily sold his farmland, says he has been owed $630,000 for three years. Carter’s brother-in-law, Vince Carter, also could not collect money for farm property that the California High-Speed Rail Authority took, which gave him a “lot of frustration,” Ray Carter said. “He died of a heart attack. I think it played a role in what happened.” Asked about the allegations of nonpayment, the rail authority issued a statement, though it did not explain why the problem existed. “We understand the concerns of private property owners affected during the acquisition of their property … and construction of the high-speed rail system,” wrote Don Odell, the agency’s director of real property. He added that the authority tried to minimize effects on farmers, cover their expenses and ensure they got fair-market value for land. One problem was the agency’s decision to issue construction contracts with only 15% of the rail design completed, a so-called design-build approach. With only preliminary designs of highway bridges, rail structures and utility relocations, it was difficult to know how much land would be needed and the degree to which farms would be hit. In fact, the rail authority has had to go back to landowners hundreds of times for additional land or to discuss unforeseen effects on farms. In Diepersloot’s case, the authority is building two perpendicular highway bridges to go over its rails along his property. That has created a 70-acre triangle that is inaccessible. And it had to pay in perpetuity a walnut farmer next door to allow Diepersloot to use his private farm road for access. “I don’t dislike trains,” he said. “I use them. But this one is a boondoggle.” Some of these direct costs could have been avoided if the rail planners had paid closer attention a decade ago to what lay in the path of the planned rail route. A multimillion-dollar rendering plant is being rebuilt in Kings County. A possible redesign to avoid an oil terminal in Kern County could cause a $19-million delay. A cold packing house had to be relocated in Fresno. And other examples abound in just the first 119 miles of the route. “They shouldn’t have run this through the breadbasket of the state,” Wasser said, echoing a sentiment of the rail system’s critics that the state should have aligned the route adjacent to Interstate 5 and not through the nation’s richest agricultural belt. California farmers grow more than half of the fresh peaches and almost all of the canned peaches that Americans eat. The state relies on outside contractors to provide land agents, appraisers and surveyors, along with many other crucial functions necessary to buy farmland. The legal negotiations are handled by attorneys on loan from the California Department of Transportation, spread throughout the state. “It does not work well. There are interagency tensions,” Wasser said. The rail authority’s unusual relationship with consultants is another issue. The agency appointed attorney Odell as director of real property in September. Odell reports to a consultant, Kristina Assouri of WSP, whose title is chief of real property. Assouri reports up the line to WSP’s Roy Hill, who is on suspension pending an ethics review. Hill reports to Chief Operating Officer Joe Hedges, a state employee. Rail authority Chief Executive Brian Kelly said he had initiated a job-by-job review of such complicated lines of authority and hoped to streamline the organization, putting state employees in charge of key functions. Neither Odell nor Assouri can sign a check. That function resides with the state controller after a payment goes through a tangled state bureaucracy. Responding to an aggrieved businesswoman about a late payment this year, Assouri wrote an email that illustrated the cultural divide between Central Valley farm families and bureaucrats. “Of paramount importance is the Authority’s commitment and responsibility for ensuring that funds expended under any state contract are in compliance with the requirements and provisions of the stated contract, which includes but is not limited to state and federal law and the Authority’s documented policies and procedures,” Assouri wrote. Raven, the walnut and almond grower, is getting hit harder than many others. He had to replace wells, lost a 100-acre crop of table grapes and had other costs, totaling about $500,000, he said.

“There is nobody to make a decision,” he said. “Nobody wants to make a mistake. Everybody wants to talk to somebody else. That’s where we are.”

Ultimately, the ranch will have a 200-foot-wide scar. “They are going through five miles of our property at an angle,” Raven said. As a result, he and his crews will have to drive their tractors, sprayers and harvesting equipment up to five miles along county roads to get from one side of a field to the other.

“It is like cutting your house in half and having to go around the back to get to your kitchen,” Raven said.

Tos, the farmer who is waging a legal fight against the project, said that state agents during negotiations had shown a surprising lack of knowledge about agriculture. When the rail authority wanted a strip of his land for a temporary construction easement, an agent suggested that Tos transfer his mature walnut trees to pots for five years and then put them back in the ground.

“They don’t know what a walnut tree is,” Tos said.

The farmers feel their way of life is being upended. Diepersloot helped pioneer growing golden kiwi in the Central Valley, erecting a 20-acre canopy with a misting system that kept the fruit cool. About half of the ripe fruit was jetted overnight to Tokyo and other Asian cities, where he said it sold for top dollar. But the rail authority needed part of the land for its rail route and was willing to pay him to reengineer it. In January, he pulled down the canopy.

Diepersloot is a third-generation farmer. His three children attended top universities and then started their own Central Valley farms. He said the slow payments had forced him to tap his “crop note,” a bank loan that is used by almost every grower to cover operating costs.

“The bank knows what is going on and doesn’t like it,” he said. “I have never done litigation. I am a farmer.”

#### Differences between the US and other countries with HSR systems makes US investment in HSR difficult.

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Richard Nunno (previously worked as a technology policy analyst for the Congressional Research Service and has an MA in public policy from George Washington University), Environmental and Energy Study Institute, “Fact Sheet | High Speed Rail Development Worldwide,” July 19, 2018, https://www.eesi.org/papers/view/fact-sheet-high-speed-rail-development-worldwide

In the United States, there is not yet a fully high-speed train line, and none are being built except in California. The Acela Express, running between New York and Washington D.C., reaches a top speed of 150mph on limited portions of its route, but its average speed is only about 66 mph. California is in the process of building an HSR system, but the first phase, connecting San Francisco to Los Angeles and Anaheim, is not expected to be completed until 2029 (although some of the infrastructure is already being used). No other state or local jurisdiction has, at this time, allocated the funding to begin construction of high-speed rail. In Texas, studies are being conducted for a “Bullet Train” between Dallas and Houston, and advocates say that construction should begin in a year or so. In Florida, the Brightline service between Miami and Orlando is operational, but with an average speed of 80 mph, it does not meet the minimum speeds to be considered HSR (although plans for increased speeds are underway). In addition, Florida’s governor recently announced another potential HSR line between Orlando and Tampa. Several reasons can be listed for this disparity between U.S. and foreign HSR developments: the lower population density of U.S. cities compared to those in Europe and Asia makes it difficult to give high-speed rail large enough numbers of people to make it economically viable; stronger property rights in the United States compared to other countries, which make it difficult for governments to purchase land for new railroads; America’s car culture and emphasis on driving (total automotive marketing spending in the United States is about $35 billion per year and climbing); the difficulty of shifting to public transit once city/county infrastructure has already been built and been designed for automobile accessibility rather than train stations; U.S. long distance railways are mostly owned by freight companies, forcing passenger rail carriers to yield priority to freight trains; the greater distance between many U.S. cities allows many transportation needs to be more conveniently served by commercial airlines; and political interference by some extremely wealthy individuals who want to suppress interest in railroads to maximize fossil fuel use.

#### California’s project experienced major political setbacks and debates.

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Kathleen Ronayne (journalist for Associated Press), AP News, “California bullet train’s latest woe: Will it be high speed?”, October 13, 2021, https://apnews.com/article/business-gavin-newsom-san-francisco-california-high-speed-rail-authority-state-budgets-d6667f05a1ae22989bb63ceb8aaf4f7c

A new and fundamental debate has emerged in the battle over California’s high-speed rail project that could again significantly downgrade the troubled effort: Should the trains even be high speed when the system launches? That’s a conversation Democrats in the state Assembly want to have amid negotiations over whether to release about $4 billion in bond money for the project. The California High-Speed Rail Authority said it needs that money to continue construction beyond next summer. Democratic Gov. Gavin Newsom included it in his state budget, but negotiations between his administration and the Legislature have stalled. They’re hoping to reach an agreement when the Legislature returns for session in January. It’s the latest setback for the project, originally expected to cost $33 billion and be completed last year. Today the vision of shuttling passengers between Los Angeles and San Francisco in less than three hours is a distant dream. The first leg of rideable track, connecting two cities in the Central Valley, won’t start until at least 2029, and the project’s costs have ballooned to $98 billion. Little political will seems to exist to either kill the project outright or to give it more resources, leaving construction to continue without a long-term plan. At the center of the latest dispute is how soon to electrify the line, which rail officials say is a necessity to make the train high speed — the whole idea of the project that voters were sold on. They want to enter into a contract next year for a firm to design and construct an electrified track and system and to maintain it for 30 years, effectively locking in the state for the long haul. Current plans call for the first rideable leg to go from Bakersfield to Merced, where passengers would ideally be able to hop on another transit line to head into the San Francisco Bay Area in a roundabout way. Rail officials and local transit agencies plan to partner to create a single station in Merced, where riders could get off the high-speed train and onto another system, but the construction of it is not fully funded. That’s prompted Democratic Assemblywoman Laura Friedman, chair of the transportation committee and a lead negotiator on funding, to ask whether it makes sense to fully electrify the line right away. She thinks the authority’s money might be better spent ensuring that there’s a single station at Merced. That would ensure passengers can get to the coastal job hubs from the Central Valley, even if it’s on a diesel train. Overheard electrification could be finished later if there’s more money. “I’m not arguing that that’s an optimal solution, but I think that people need to be honest about what we have the money to do right now,” Friedman said. High-speed rail officials and supporters say running anything less than an electrified train goes against what voters endorsed and wouldn’t bring the clean energy benefits. “How does that show that you’ve made a good investment in the infrastructure if you continue to run the same equipment that we’re running today, at relatively similar speeds?” said Dan Leavitt, manager of regional initiatives for the San Joaquin Regional Rail Commission, Altamont Corridor Express and San Joaquin Joint Powers Authority, all of which are partnering with the high-speed rail. The $4.2 billion in bond money rail officials are seeking to access is the last of the $10 billion fund voters created in 2008, and some lawmakers are hesitant to give it away all at once. Friedman has proposed releasing $2.5 billion now and requiring rail officials to come back for approval before they enter into a track and systems contract. She wants more of the high-speed rail money, though her proposal didn’t say how much, for projects in the Los Angeles area that she represents. The state Senate has not shared any spending proposals. Newsom’s administration wants electrification. “We believe the time for slow, diesel-emitting rail is over, and we remain committed to a transportation future that moves people quickly and does so without further polluting our environment,” spokesman Daniel Lopez said in a statement. How to approach the bond money, and what strings to attach, mark a critical decision point around the project’s future, said Lou Thompson, chair of the rail project’s peer review group, which independently evaluates the funding plans. “If we are going to build the entire system as (the ballot initiative) requires, then a Bakersfield to Merced high-speed rail line is a perfectly valid piece of the system,” he said. “If we’re not going to finish the system in its entirety then I think you would think long and hard about electrifying the line just from Merced to Bakersfield.” The ambitious project has been closely watched nationwide as a test of whether the United States can move away from its car culture and catch up with other nations on high-speed rail. Supporters say the completed project would radically change how people travel, while cutting down on carbon emissions. Detractors say it’s a taxpayer-funded boondoggle. “The idea of high-speed rail has become a little bit toxic because of the California project,” said Ethan Elkind, an expert on transit projects at the University of California, Berkeley. In some ways, the project was set up to fail when voters were given a low-ball cost estimate for the project. Later, President Barack Obama’s administration conditioned federal funding on starting construction in the Central Valley, he said. Elkind said the project is still viable, but if it’s not electrified, California’s ability to compete for money if Congress passes President Joe Biden’s infrastructure plan, which includes tens of billions of dollars for rail projects. “The federal government is going to say: ‘Look, California’s opted out of high-speed rail.’ That’s the message it’s going to send,” he said. The project just won back $1 billion in federal money that President Donald Trump’s administration revoked, and the new contract specifically mentions an electrified train. Democratic Sens. Alex Padilla and Dianne Feinstein in July urged lawmakers to release the bond money, particularly with new federal dollars on the line. “Now is not the time for California to step back from its commitment to high-speed rail,” they warned. The project has already spent $2.5 billion in federal money and received more than $3.7 billion from California’s auction program for carbon pollution credits, known as cap-and-trade. That program is set to end in 2030. Electrified or not, the project is still short tens of billions of dollars — one reason rail officials cite for building the project in pieces. “We don’t have that much money and we never have,” said Melissa Figueroa, a spokeswoman for the rail authority.