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The Need for High Speed

Railroads made expansion into the American West possible. Some brave people ventured westward in wagons, but the real migration started after the transcontinental railroad was completed. Trains allowed for easy and fast travel that greatly reduced the dangers of moving through an unsettled land. American railroads would thrive well into the 1920s, but soon after, Americans would trade their train tickets for the independence of a personal automobile. At present, highways in our cities are jammed everyday by the huge number of people commuting from suburban homes to central offices and back again. All of these cars cause massive amounts of pollution, which results in smog. Perhaps we are now over dependent upon our cars and it is time to return to the rails. Projects for new passenger rail are planned throughout the United States and supporters claim that this will help reduce highway congestion, lessen environmental problems, save precious fuel, and give everyone a safer commute. However, opponents of new rail initiatives claim that it would take too much money to make these projects a reality. Naysayers further claim that the drivers of today will never give up the independence of their cars for mass transportation such as high-speed rail. Passenger rail in America is a viable alternative to congested highways. The construction of a high-speed rail network will successfully lessen the demands on our highway system by providing drivers with an alternate method of travel.

The United States is a nation stuck in gridlock. One set of figures shows that the average American is stuck in traffic jams over 36 hours per year. This translates into 4.5 billion hours of wasted time, $78 billion in lost productivity, and 6.8 billion gallons of gas wasted each year (Pawelski). This has happened because people are choosing to live further away from their jobs so that they can have more security, a larger home, and better schooling for their children. Unfortunately, this means more cars on the highways for longer periods of time. This growth in auto travel in many cities has already resulted in highways that sometimes carry 12 lanes or more of traffic. The growth in highways cannot keep up with the growth in traffic. Congestion on our freeways is expected to increase by 400% by 2020 (Jones). In some areas of the country, such as Florida, transportation officials are warning that congestion will only get worse and there is no way they will be able to build enough roads to meet the rising demands (Peirce). A different method of transportation is needed to transport commuters efficiently into and out of our cities. Commuter rail lines, specifically high-speed rail lines, would be a great solution to the problem of gridlock on our highway systems.

Several areas of the United States already embrace rail travel for moving between the city and the suburbs. New York City has a vast network of subways that are used by millions of commuters each month. Likewise, Washington, D.C. has a system that combines both subway and ground level commuter rail lines to bring people into the city from the many distant suburbs. Chicago has built a large system of elevated and standard passenger trains. These light rail commuter systems have shown that they are efficient at moving passengers from the suburbs to the cities and that they help to alleviate traffic congestion on the highways. While these systems are still needed, this shows a base on which we can build a larger rail network that can transport passengers at much higher speeds.

Studies have shown that high-speed rail is preferred over air travel for trips of 300 miles or less. This means that connecting city pairs, especially economic centers, makes sense. In the Midwest alone, plans are being prepared to connect Chicago to more than a dozen surrounding cities, including Cleveland, St. Louis, Detroit, Milwaukee, and Minneapolis (Economist Article). Further rail connections would connect other cities, such as a link between Cleveland, Columbus, Dayton, and Cincinnati. Locally, this could mean that the hour-long drive from Akron to Cleveland would be reduced to a mere 20-30 minutes by rail. If a Cleveland businessman has a meeting in Columbus, he has to drive two hours. If that same businessman could take high-speed rail, the trip would take only 60-70 minutes. In the car, that means two hours of nothing but driving, meanwhile with rail, the businessman would still be able to work throughout his hour-long trip because he need not worry about driving.

Supporters of high-speed rail are not against highway or air travel. The goal is simply to build a more balanced transportation network that utilizes road, rail, and air together. The three types of transportation should work together and each support their own sector of America's transportation needs. For instance, high-speed rail lines should run directly into all major airports to make it easy for air travelers to get from the airport to the city center and back. In addition, park-and-ride lots should be built periodically along the high-speed lines to allow those living in rural areas a better method of transportation into the cities. In France, for example, there are typically stations every 40 to 50 miles on high-speed rail lines (TGV Thalys). The combination of these three modes of transit will allow each to be used separately or in any combination. Since roads are best suited for short trips, railroads for medium-length trips, and air travel for lengthy distances, this would allow for a perfect balance in our national transportation network.

High-speed rail is not without opposition. Opponents claim that population densities in the United States are not high enough to support the ridership that would be needed to make high-speed rail profitable. It is pointed out in a study by the Madison Institute that population densities in the United States are much lower than in Europe and Japan, two countries where high-speed rail is thriving. In America, urban areas have at most 6,000 people per square mile. In Europe or Japan, 15,000 people per square mile is a small amount for an urban area. However, this report fails to account for the fact that the United States has the highest travel volume of any country in the world. It also fails to account for the tremendous successes of high-speed rail in Europe and Japan. For instance, within three years of opening a high-speed line from Paris to Lyon, the number of airline passengers on the route fell by 40% and the amount of auto traffic on the highways fell by 30% while the number of riders on the trains increased by 500% (Reasons for). Another European line, from Paris to Brussels, was converted to high-speed in 1997 and by 2001 Air France had stopped running planes between the two cities because passenger counts had fallen to only 450 per day. Thalys, the high-speed line between the two cities, however, was carrying nearly 14,000 passengers per day (TGV Thalys). Population growth models have shown that the United States will have almost as many dense population corridors in 2010 as could be found in Europe in 2000 (Towards a National). As the cities and urban areas of the United States continue to thrive and grow, the need for more mass transportation will only increase. Looking at the success of high-speed rail in Europe and the speed with which it has taken root, the United States must take the idea of high-speed rail more seriously.

As with anything political, funding for high-speed rail is controversial. Many people oppose spending the billions of dollars it would take to build a high-speed rail network because

they are afraid the system would not be used by enough people to justify the cost. Many critics point to Amtrak, America's national passenger rail system, and the sad state of affairs in which it has found itself. However, they fail to analyze why Amtrak is doing so poorly today. For too long, Amtrak has been pressured to run on a budget so small that it only allows for repairs and services that are absolutely needed. This has led to deferred maintenance, maintenance that is delayed until funds become available. The problem with deferred maintenance is what starts as a small problem such as a wire with cracked insulation can turn into a major problem such as a fire. In fact, at least three locomotives have caught fire due to cracked insulation in the wiring. In this case, a repair that would have cost only a few thousand dollars and a few days of downtime to fix turned into more than $100,000 in repairs and over a month of downtime (Gunn 12). Amtrak knew of the deterioration in the wiring systems, but money was not available for repairs. When the fires occurred, the emergency repairs were funded by pulling money away from other projects that were then deferred until the next round of funding. If Amtrak were given the amount of funding it requested for just a few years, it would have its equipment back into good repair and would operate efficiently enough to cut back on its federal funding requirements and possibly even show a profit. Deferred maintenance is not a choice made by Amtrak, it is a decision forced upon Amtrak by Congress when they appropriate fewer funds to our national passenger rail system than requested. Amtrak does the best that it can with what little funding it is given. The current condition of Amtrak should not be used when judging Amtrak's ability to operate a safe and effective railroad. If given proper and consistent funding, Amtrak could easily build and maintain a safe, efficient, and effective high-speed rail network.

Further attention should be directed to the comparison of funding between Amtrak and our highway system. In 2003, the United States spent $29.7 billion on highways and $1.6 billion

on air traffic control systems. However, Amtrak received only $1.2 billion to operate its entire 22,000-mile rail network (Will Gunn Shut Down 9). These figures do not include the billions of dollars given to American airline companies to keep them in business during a downturn in the economy. At the same time our government is bailing out private airlines, Amtrak's foes complain that the quasi-public passenger rail system has lost too much money and should be cut completely. These same people fail to realize that the highways, which receive the majority of the federal transportation funding, generate absolutely no revenue at all.

Additional study into the costs of high-speed rail proves that it is more cost effective than highways, which is the exact opposite of what opponents claim. "The Big Dig," Boston's massive project to move a two-mile section of highway underground, cost Americans $14.6 billion (Stern). Compare that to Florida's high-speed rail project that would have linked Miami, Orlando, and Tampa, which could have been built for a projected cost of $6 billion (High-Speed Rail). Add in the fact that a single railroad track has the capacity to carry as many people as a 12-lane highway, and this makes high-speed rail far cheaper due to the railroad's narrower right-of-way (Reasons for High-Speed). The fact that train tracks take up less space than a highway and can carry more passengers deserves more attention. While our highways are an important part of our transportation infrastructure, for them to occupy a strip of land over 130 feet wide cutting straight through a city is a true waste of space. A perfect solution would be to tear out the middle two lanes and run the high-speed tracks right down the median strip. This is already done in several locations, such as Washington, D.C. with medium-speed passenger rail. The smaller footprint required by train tracks would require less property to construct and gives the opportunity for more development or parks along the right-of-way.

For high-speed rail to work efficiently, it must have its own tracks that are not shared with slower speed freight railroads. This is a major obstacle that Amtrak faces since most of the Amtrak network runs on tracks owned by freight railroads, often causing bumpy rides and late arrivals. Even though Amtrak offers the freight rail companies bonuses to keep their trains on schedule, the Amtrak trains are still at the mercy of the freight dispatchers. This has caused late arrivals to become a part of everyday life at Amtrak, further harming the railroad's credibility. This could be corrected with the construction of a dedicated network of passenger rails. The costs of this project are high, but so are the benefits. For instance, France opened their first high-speed line from Paris 334 miles south to Lyon in 1981. Within a few years, the line had generated enough profit to pay off the construction debt (TGV System Maps). Throughout Europe, Asia, and Australia, high-speed rail is being implemented on new tracks, separate from all other rail traffic. This is necessary because any movement on the lines at less than average track speed will slow down the entire network.

High-speed rail opponents claim that Americans will never give up the independence, convenience, or luxury of a personal automobile. Studies, however, have proven this myth incorrect. "A 1997 Marist poll of New York state residents found that 82% of respondents thought 'improved and expanded' passenger train service was just as important, or more important, than 'having good highways and airports'" (High-Speed Rail). As for convenience, railroads are much more convenient than planes because the trains deliver passengers directly into the center of the city rather than at an airport built at the edge of the city. Passenger rail has always given at least a hint of luxury and high-speed rail is no different. Typical high-speed trains offer the freedom to get up and walk around. Snacks are always served in the bistro car. Power outlets are available at every seat for plugging in a laptop or other electronic device.

Cellular coverage is always available the entire length of the line, allowing passengers a stable communication method. Each and every seat offers a plush, comfortable cushion, plenty of legroom, and the ability to recline. Many trains even offer headphones and a variety of music and news to suit everyone's tastes. The designers of high-speed trains have gone to great lengths to give a smooth, convenient, and enjoyable ride.

In 1991, the United States Congress requested a report detailing the costs and benefits of high-speed ground transportation. This report was released in late 1996 by the Federal Railroad Administration. The report studied multiple types of high-speed rail ranging from 90 mile per hour diesel trains to 200 mile per hour electric trains to 300 mile per hour magnetic levitation systems. These systems were evaluated by comparing the estimated costs of implementation to the benefits that would be received, such as reduced highway congestion, improved air quality, tax savings due to less highway maintenance, time savings due to higher travel speeds, and effect on public safety. These conditions were considered for several corridors around the nation that are considered prime targets for high-speed rail. In all nine regions studied, the FRA found that at least one of the high-speed systems would provide more benefits than its implementation would cost. Many of the areas, such as the Chicago hub idea that was discussed earlier, would provide benefits more than double the costs (FRA Study). The research has been done and polls have been taken, proving that many Americans want to escape the gridlock on our highways and would gladly accept high-speed rail transit into their lives if given the opportunity.

Rail transit has several additional advantages over other modes of transportation. Trains are rarely affected by weather. While planes are often grounded in Chicago due to high winds, Seattle due to heavy rains, and Washington, D.C. due to snow, trains keep right on rolling down the tracks. Even fog does not slow down high-speed rails because of the innovative in-cab

signaling system. Besides weather, safety is another major factor. High-speed trains have been used since 1964 in Japan and since 1981 in Europe and there has never been a fatality due to an accident (TGV System Maps). This safety record is possible because of the intense stress placed on passenger safety during the design process. Trackside signaling has been replaced by signals in the cab that alert the engineer to any possible problems on the tracks ahead. On-board computers monitor the entire train to ensure that all systems are operating safely. The cars are not coupled together as with a standard train, they are permanently mounted together to prevent the train from jackknifing during a derailment. The trains run on their own dedicated high-speed tracks that have very few road crossings and are fenced on both sides to keep out wild animals. Finally, the train's center of gravity is very low, decreasing the risk of the train tipping over during a derailment. From the initial design of high-speed rail systems, safety has always been one of the highest priorities.

High-speed rail is already being used by Amtrak. Amtrak's Acela service runs between Washington, D.C., Baltimore, New York City, and Boston. This train design is based loosely on the French TGV system of high-speed rail, but uses conventional track that it shares with slower commuter and freight trains. The Acela trains run at a maximum speed of 150 miles per hour, but the average track speeds are much less. To Americans, these speeds are spectacular; however, the French high-speed trains routinely travel at 190 miles per hour (Acela Express). Ridership on Acela has increased steadily since its introduction in late 2000. However, the system is still plagued by delays caused by the lack of a dedicated high-speed track. In February 2004, the Acela trains reached their destinations on time just 76.5% of their trips, compared to 99.9% in France (Amtrak and Transit). Although unimpressive by global standards, Acela is a major step forward for high-speed rail in the United States.

The design and implementation of a high-speed network will require years of planning and construction. Simply put, if we build high-speed lines out from several regional hubs, for example, Chicago, Atlanta, Denver, and Dallas, we will have a very good start on a national network. Over time, as the construction continues, these regional networks can be connected together to eventually allow limitless travel within the United States on high-speed rail lines.

While highway and air travel must remain a major part of our American transportation system, we must invest more in high-speed rail to help alleviate congestion on our highways and at our airports. A truly unbiased look at the current transportation network in the United States compared to those in Europe or Asia shows that a proper mix of highway, air, and rail is necessary for efficiency, economy, and environment. High-speed rail is an all-weather mode of transportation, making it perfect for any area of our widespread country. Independent surveys have found that Americans would use high-speed trains for medium distance trips. Europe and Asia have both demonstrated the overwhelming possibilities of success for high-speed rail and continue to expand their systems year after year. Traffic planners have shown that our highway system cannot be expanded enough to meet the expected demands over the next decade. Even the Federal Railroad Administration, in their report to Congress, detailed how beneficial a high-speed railroad network would be to our country. Our urban and suburban populations are increasing and our travel problems will only get worse. It will take years to implement a high-speed rail system, so now is the time to start building, before gridlock takes an even bigger chunk of our lives. If we start today, by the year 2015, we will have a truly balanced transportation system of which we can be proud. We can hope that by then, we will have a transportation system that will involve cruising the rails in luxury at 200 miles per hour.

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