Benefits of a high-speed train in California

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An effective method of transportation that connects the Los Angeles region to the San Francisco Bay area has been a fantasy for all Californians in the past few years. Some have imagined a hyperloop that connects both heavily dense regions. Some would prefer an easier option: to implement a better freeway system that connects both cities. In this paper, a high-speed train option is being analyzed taking into account quantitative data from reports of existing European and American trains. Some of its benefits are safety, economic development, and environmental sustainability.

The issue arises because traveling from Los Angeles to San Francisco is an extremely unpleasant experience. There is only one freeway that connects both cities in reasonable amount of time and it is only two lanes for each direction. If travelers want to fly between Southern California and the Bay Area, the airports are not near the urban cores. The main Los Angeles airport is LAX and it is not accessible using public transportation. Most of people who have to go to the airport prefer to take a shuttle, Uber, or drive to the airport and park their cars in a nearby parking lot. Additionally, the closest airport to San Francisco is SFO located in Southern Francisco. In this case, going to the airport is the same experience as in Los Angeles.

The last option is taking a bus; unfortunately, this trip takes more hours than expected because buses make stops at different towns in Central Valley and traffic is always an issue on the freeway. Therefore, a viable solution is a high-speed train that connects Los Angeles and San Francisco in a reasonable amount of time and cost. Moreover, it should be accessible to the public without relying on a car to get to the train station.

Sustainable Development Definition

A high-speed train that connects the Los Angeles region and the San Francisco Bay Area will further sustainable development by preserving environment and encourage economic development. According to the United Nations General Assembly in 1987, sustainable development emphasizes the importance of intergenerational equity, which is to conserve resources for future generations. This development fulfills the needs of the present without compromising the ability for future generations to meet their own needs. Therefore, sustainable development aims to maintain economic advancement and progress while protecting the environment. As a result, it offers a basis for the integration of development policies with environment policies. This is a major characteristic that differentiates sustainable development policy from traditional environmental policy.

Environmental Benefits

Currently, transportation accounts for over 50% of world consumption of fossil fuels and the forecast is to increase to 60% in 2035. According to reports from the high rail lines from the European Union, high-speed trains replace carbon-intensive air and automobile travel with rail travel that produces less CO2 emissions. High-speed trains generate 17 g of CO2 compared to airplanes 153 g of CO2, which is almost 22 times more than the trains. Additionally, trains emitted 0.6% out of 25.1% of CO2 emissions caused by transportation in the European Union in 2007. Moreover, trains carried over 6% of all passengers and 11% of freight. High-speed trains are powered by electricity; therefore, they do not produce a significant amount of CO2 resulting in a carbon footprint that it is almost zero in their operating zones. As an example, a high-speed train from Paris to Marseille generates 2.7 grams/passenger-kilometer of CO2. In comparison, an airplane generates 153 grams/passenger-kilometer and a car produces 115.7 grams/passenger-kilometer for the same trip.

Safety Guaranteed

In addition to low fossil fuel consumption, the train is a very safe means of transportation since they rarely have accidents. Across the United States, there were a total of 1,241 derailments. However, they did not cause any injury or death. This is due to the fact that the train cars are designed to survive some level of impact. Additionally, the number of derailments has decreased since 1980 from more than 3,000 per year to less than 500 per year in 2010. Nevertheless, 44.9% of the train accidents are caused by track problems while 28.9% are caused by human error. Moreover, statistics from various sources show that European and American rail lines have fewer deaths than motorcycles, cars, ferries, and airplanes.

In Germany 2008, there were 2.77 deaths per billion passengers from car accidents and 0.16 deaths per billion passengers from bus accidents. In contrast, train accidents produced 0.01 deaths per billion passengers. Moreover, in the United States 0.43 deaths per billion passenger-miles from 2000 to 2009. Besides the environmental and safety benefits, 1 high-speed train has the same capacity of 129 cars and 3.5 airplanes. As a way of having a greater passenger density, trains also are a solution for traffic congestion on air and land.

Economic Development

On the economic aspect of sustainable development, a high-speed train between Los Angeles and San Francisco will generate jobs and be a way of collecting money to the state. Some of the jobs generated by the train range from the construction of the infrastructure, maintenance of the facilities, train operators to Engineers who design and oversee the project. Furthermore, if the train stops in small towns between both cities, the train will stimulate economic development in the underdeveloped area of Central Valley. This economic development will be propelled by people who live in the Central Valley and will be able to commute to other cities without having to relocate resulting in the inflow of money to the underdeveloped areas.

Another benefit is that the high-speed rail line will develop central areas of the cities because the proposed plan is to locate the train stations in the urban cores. Therefore, travelers can use public transportation to arrive to the train stations. As opposed to the high-speed train, airports are located in the periphery of Los Angeles and San Francisco resulting on travelers relying on cars to initially start their trip. This model is used in different cities, such as Lyon, France and Rome, Italy. This facilitates the arrival of foreign tourists to the cities because they are able to walk to their hotels. Besides, this also promotes economic development in the surrounding areas of the train station. In the case of Rome, a shopping mall with restaurants has been developed in the train station complex. Also, outside of the train station city buses and shuttles to the airport pick up their passengers.

Air Pollution Reduction

Activist Tommy Trojan made the claim that the train will worsen the air pollution issues in Central Valley without knowing facts of the CO2 emissions produced by the train. In regards of the air pollution rising, it is shown by the aforementioned statistics that high-speed train emits less CO2 than cars. As a result, pollution will not affect the Central Valley region. One of the benefits of the train is that it will help reduce the pollution of Los Angeles and San Francisco because it will decrease the amount of people that migrates to these cities.

Enhanced Traveling Experience

Furthermore, the high-speed train offers a better trip experience than traveling by airplane or car. In the case of the European trains and existing Amtrak trains, they are designed to create a space suitable for work and relaxation. Trains provide a personal space with access to different services, such as Internet, power sockets, headrests, and folding tables. Additionally, they can stroll on board and get food and drinks at the restaurant cars. Also, the use of cell phones is not prohibited. The good quality of the service has increased the number of passengers opting for this mode of transportation. The number of passengers on German, Belgian, Spanish, French, Italian, and British lines has increased from 15.2 billion passenger-kilometers in 1990 to 92.33 billion in 2008.

A significant amount of benefits are mentioned to support the idea of developing high-speed rail lines in California that cross through Central Valley. This project will benefit a significant amount of Californians because it will allow greater transit in the area. One of the major benefits is that commuters could live in one city and commute to a different city for work. Moreover, it will increase tourism in the area because tourist could visit one city without having to worry about buying plane or bus tickets to visit a nearby city. Finally, the high-speed train promotes sustainable development by creating jobs and emitting a small amount of CO2 during operation. Another benefit that will bring the high-speed rail line to the state is that major research facilities, technology industry, and prestigious universities will be able to have more interaction. California is fueled by creativity and by allowing more interaction between the two main regions of the state, and simultaneously developing Central Valley, technology development will be promoted. Thus, economic sustainable development will be achieved.

Resources

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