An Unrealistic Dream:

Why a Railway Won't Solve I-70 Traffic Problems

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Anyone who has ever tried to drive home to Front Range through the Western I-70 Corridor on a winter Sunday evening knows: you're in for a long trip. Traffic through the Western I-70 Corridor has been increasing at a rate of 6% per year over the past decade.[1] On average 30,000 cars pass between Idaho Springs and Silverthorne every day, and on winter weekends, that number can double.[2] The worst ski-traffic occurs in the morning between 7:00am and 10:00am and in the evenings between 3:00pm and 6:00pm, and it gets much worse if there is snow on the roads or there has been an accident. I-70 services most of Colorado's most popular ski resorts, including Vail, Breckenridge, Keystone, Arapahoe Basin, Copper, Winter Park, Loveland, and Beaver Creek. During the 2006-2007 season, these resorts saw over 7 million visitors, the majority of whom are day-trip skiers.[3] This number is not expected to go down any time soon. Colorado legislators have recognized ski-traffic as a major problem, but unfortunately they are facing difficulties agreeing on a proper solution.

One proposed solution that has gained popularity among some is the construction of a railway system through the corridor. This project has a number of justifications for its implementation; however, it is not free of several major issues and obstacles. According to Miller Hudson, former executive director of the Intermountain Fixed Guideway Authority, estimates place the railway at a cost of 5 billion dollars.[1] Also, the

corridor has a number of problem areas where the valley narrows drastically or has a very steep grade, which poses large difficulties for the project. Even if construction on a ski train began immediately it would be more than five years until the system would be in operation, and according to I-70 coalition chairman and Frisco Town Manager Michael Penny, legislative issues could force construction of a train to be "decades away."[4] Because of the enormous project costs and potential for major problems, Colorado legislators are carefully researching every project, so they can confidently invest in a sensible solution. Though a high speed train sounds like a promising solution to traffic problems on I-70, in reality a number of major issues prevent it from being a practical option.

Feasibility

The Western I-70 Corridor is a unique stretch of highway. Unlike many other interstates throughout Colorado, I-70 west passes through some very challenging terrain. Between Golden and the Eisenhower Tunnel, the interstate climbs over 5,000 feet in elevation. In four areas, the road reaches a grade of 6-7%, the steepest of any interstate in Colorado. The road also winds through sections of terrain that allow for no simple place to lay train tracks. The two most notable problem areas are at the bottom of Floyd Hill, where I-70 dips into Clear Creek Canyon, and at the Eisenhower Tunnel, which has space for only 4 lanes of traffic. A railway system would have to effectively overcome these obstacles.

A major problem for trains would be the extremely steep grade. Grades steeper than 3.3% are almost never encountered on main lines in North America.[5] With sections

along the corridor almost twice that steep, only a few newer systems exist that could conquer these grades at reasonable speeds. Jon Esty, president of the Colorado Rail Passenger Association, stated that the FLIRT (Fast Light Innovative Regional Train) used in areas of Germany and Switzerland can be "powered to take the grades that are present along the I-70 alignment."[4] However, the I-70 corridor is a unique area, and speculation related to other systems in use cannot be relied upon. The Rocky Mountain Rail Authority just recently submitted a feasibility study in February of 2008, and has not received any specific feedback as to what systems will be able to handle the terrain through the corridor.[6]

Moreover, even if the grades could be overcome, a number of terrain-related challenges still exist. Space is an issue through the corridor. A railway system would require a number of tunnels to be dug, particularly a major tunnel where the Eisenhower currently goes through the continental divide. As a reference, the Eisenhower tunnel took five years to dig during its construction.[7] Though tunnel digging is not an impossible endeavor, it adds a high amount of cost and construction time to the railway project.

Emissions

Aside from traffic on I-70 being annoying for travelers, it also creates another problem that concerns Colorado citizens and legislators: emissions. Cars are responsible for releasing tons of gasses into the air that are detrimental to the environment, the most notable of which is carbon dioxide (CO2). More and more cars are traveling up to the mountains, and this translates to more and more emissions. Carbon dioxide emissions for different types of transportation are measured in pounds of CO2 per passenger mile, and,

because they are more efficient at carrying large numbers of people, forms of public transportation generally release far fewer emissions than cars per passenger mile. Many proponents of a railways system argue that it would release fewer emissions during use and therefore would be more environmentally friendly. However, it must be considered that a majority of skiers and vacationers driving on I-70 carpool, often with three or more passengers per car. According to the Center for Clean Air Policy and Center for Neighborhood Technology, an average car traveling with three passengers releases 0.28 lbs CO2 per passenger mile, while conventional railway achieves a number of 0.21 lbs CO2 per passenger mile. Comparatively, buses and airplanes have figures of 0.14 and 0.62 lbs CO2 per passenger mile, respectively.[8] Though trains release fewer emissions compared to cars, the difference is not large enough to justify the argument of implementing a railways system.

One must consider many other factors when analyzing carbon dioxide emissions. The construction of the entire railway will release thousands upon thousands of pounds of carbon dioxide into the atmosphere. Also, the figures do not reflect potential advancements in car technology. Even current hybrid cars would release only .16 lbs CO2 per passenger mile with 3 passengers.[9] A railway simply does not offer a significantly better solution to this environmental problem. When considering emissions, the real problem is single occupant cars. Encouraging carpooling or penalizing single occupants would decrease emissions as well as noticeably help with traffic problems.

Cost

For many skiers there is more to be considered than just the emissions of their mode of travel; there is also the cost. Skiing is an expensive pastime, and with ticket prices approximately $80 per day, skiers look to save money in every other aspect of their trip. In order for a railway to be an option for skiers, it must compete with car travel in terms of the cost of a trip. According to Amtrak.com, a ticket costs $36 for a round trip from Denver to Fort Morgan, a trip of comparable distance to that of an I-70 train to Summit County.[10] This is a steep price for travel, considering that even with $4 per gallon gas prices, one person in a car that gets 22 mpg can make a round trip for about $24. If two people drive together, it cuts the price in half to $12, which is a third of the train ticket cost. A train ticket would have to cost around $10 round trip in order to come close to competing with cars; unfortunately this is just unachievable.

It must also be considered that the price quote from Amtrak is for a ticket on an existing and well-established train. A ski train would have millions if not billions of dollars to recoup from construction, not to mention simply the cost of daily operation. The ski train would never come close to covering its own cost, let alone making a profit, if it had to keep ticket prices so low. The only way an I-70 train could stay in operation and keep ticket prices competitively low would be to receive subsidizing from an outside source. A tax throughout the state would never pass because a majority of Coloradans do not travel to the mountains on a daily basis, and taxing skiers and tourists would be no better than charging more for train tickets. Another option would be for the ski resorts,

the entities making money off of ski visits, to help make the cost of a train trip a realistic option.

Ski resorts are businesses, and in order for a business to invest in something it must have the potential to make a profit. It is not a primary concern for ski resorts how skiers get up to the mountains, just that they do. In the case of ski resorts defraying train ticket costs, the money just doesn't add up. In order to compete with a car with just two passengers, a train ticket would have to cost $12, requiring a $24 decrease in the average price of a train ticket. In order for resorts to justify helping lower the train ticket price by this amount, the number of skiers visiting the resorts would have to increase substantially. Because $24 is about one-quarter the cost of a lift ticket, resorts would have to see a 25% increase in ticket sales in order to make a profit. Though a train would stand to increase the number of skier visits to resorts, a 25% increase is quite unlikely, especially considering that resorts have seen only a 5% increase in the last decade.[3] Resorts would not gain anything from helping lower train ticket prices. Without any aid, a railway system cannot offer comparable prices to carry passengers to the mountains. Skiers and other travelers will quite often chose transportation based on cost, and a train would not come close to being cheaper than driving.

Convenience

There is another way that travelers choose their mode of transportation, and that is based on convenience. In many situations, railway travel is much more convenient than the alternatives. A great example is subways. In a crowed metropolitan area, a subway can quickly and easily take passengers to their destination while staying clear of the

congested streets above. In order to be effective, however, subway systems must have an intricate web of trains that service all parts of a city. If a subway did not offer well-located and convenient routes, people would not use it. The issue of accessibility is one the I-70 railways system faces.

In order for ski travelers to choose it, a ski-train must be more convenient than driving up in a car. A major consideration for the I-70 railway project is that it must service more than just the I-70 corridor. A train fixed to just the I-70 route could service only Loveland, Copper, and Vail directly. A large number of resorts including Breckenridge, Keystone, Arapahoe Basin, Beaver Creak, and especially Winter Park are located several miles from I-70. In order for skiers to access these resorts, an extensive system of shuttle busses or connecting trains would have to be put in place. This greatly increases the complexity and cost of the project. The cost of taking any shuttles would also have to be included in the price of the initial ticket, because skiers are not going to want to pay an extra cost to access the other resorts. Skiers will choose to take a train up to the mountains only if they know they will be able to get to whatever resort they wish. If an effective shuttle system is not set up, skiers who choose to ride the train will begin to overcrowd the three resorts along the route. Shuttles must be viewed as part of the project from the beginning and not left to develop after a main railway is put in place. A train is not a viable option for skiers if it cannot access the same places that are accessible with a car.

There is an inherent freedom for a traveler using a car rather than a public transportation system. First, a traveler can use a car on his or her own schedule and is not forced to necessarily plan out his or her entire day. Even the most effective public

transportation systems cannot offer service times every minute of every day. The second major drawback is that public transportation cannot offer direct service to everywhere in an area. Currently, the public transportation system in Summit County, a major area of ski resorts and tourist activities, is not sophisticated enough to handle a drastic increase in tourists relying on public transportation. The summit stage currently offers one bus (capable of holding about 50 passengers) from Breckenridge to Frisco every 30 minutes during the day; a bus from Frisco to Copper comes every 20 minutes, and a trip from Breckenridge to Keystone (the largest resorts in the area) requires three bus transfers.[11] A railway project must include with it an extensive improvement in this system in order to be a reasonable choice for travelers.

Even with improved local public transpiration, problems can still arise for travelers without a car. It must be considered that visitors to Summit County are interested in activities in more remote areas outside of towns, particularly in the summer. Hiking, mountain climbing, camping, and mountain biking are all activities that take place in areas that a simple public transportation system would not reach. It is not feasible for any public system to provide travelers access to the multitude of out of town destinations. Travelers would not choose to ride a train up to Summit County if they lacked a reasonable way to get to their desired destination after leaving the train. The option of rental car services at main railway drop off points is a possibility. However, this would be used only by out of state tourists who would rent cars anyway; an in-state visitor would most likely never want to add to the already high cost of a trip by renting a car.

Conclusion

It is a fact that traffic though the I-70 corridor will only get worse as time goes on if solution programs are not instated. The Colorado legislature must come to a decision as to how to effectively address this issue as soon as possible. Cost and feasibility issues require that any possible solution project be thoroughly evaluated to make sure it is the best choice. Cost, feasibility, and convenience issues combined with negligible benefits prohibit a railway system from being a viable solution. Instead, projects should focus on ways to make the current highway system more efficient, especially during problem times, in order to reduce the I-70 traffic problems. The I-70 Coalition offers several reasonable and cost-effective examples of these solutions, such as

- Adding HOV lanes as an incentive for skiers and travelers to carpool.
- Educating travelers on the best times to travel in order to avoid ski traffic.
- Improving bus routes between mountain towns

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