
How Public Transit Undermines Safety

BY JOHN SEMMENS

Everyone knows that automobile travel is dangerous. This naturally leads to the assumption that public transit ought to be encouraged as a means of improving travel safety. However, the issue is more complex than this simple assumption allows. In some respects, introducing more transit vehicles into the mix of urban transportation options will increase the risk.

Travel as a passenger on public transportation is safer than travel by private cars. The fatality risk for a person traveling in a car is almost 100 times higher than that for a person traveling in a bus (American Public Transportation Association's *Public Transportation Fact Book*). Passengers traveling in rail-transit vehicles probably face a similarly low risk.

However, the onboard risk is not the only safety issue of concern. Pedestrians face risks prior to boarding transit vehicles. Further, rail-transit vehicles operating on rights-of-way that intersect streets may collide with persons, vehicles, or objects that come into the path of the transit trains. Fatality rates by vehicle type (Table 1) were compiled from the National Highway Traffic Safety Administration's *Traffic Safety Facts 2000*, the Federal Highway Administration's *Highway Statistics*, and the

American Public Transportation Association's *Public Transportation Fact Book*. These statistics are revealing.

As can be seen from the data, rail transit has severe safety deficiencies when compared to other modes of urban travel. The aggregate fatality rate for auto travel is around 15 persons per billion vehicle-miles of travel. However, this includes rural travel, where the fatality rate per billion vehicle-miles is 23. The nationwide fatality rate per billion vehicle-miles of urban automobile travel is 11, and when passengers are included, it drops to 10. Thus we find that light rail's 14 fatalities per billion passenger-miles of travel and commuter rail's 12 fatalities per billion passenger-miles of travel are actually higher than the rate for privately operated automobiles.

Since rail transit has a worse safety record than automobiles, the notion that safety can be improved by spending tax dollars to lure some automobile users to switch to rail travel is not supported by the crash data. Auto drivers who support tax-subsidized rail on the

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Table 1: Urban Travel Fatality Rates by Mode, 1991–2001 Averages

| | Bus | Commuter Rail | Heavy Rail | Light Rail | Urban Auto |
|------------------------------------|-----|---------------|------------|------------|------------|
| Fatalities/Billion Vehicle-Miles | 55 | 391 | 133 | 359 | 11 |
| Fatalities/Billion Passenger-Miles | 6 | 12 | 6 | 14 | 10 |

Sources: *Public Transportation Fact Book* (American Public Transportation Association), *Highway Statistics* (Federal Highway Administration), *Traffic Safety Fact* (National Highway Traffic Safety Administration)

assumption that their lives will be made better when others leave their cars to ride trains may want to reconsider their position. Light rail's fatality rate of 359 per billion vehicle-miles of travel and commuter rail's 391 per billion vehicle-miles of travel make rail trains extraordinarily dangerous to be near. Occupants of automobiles routinely get the worst of it in any collision with a train.

Traffic crashes are not the only safety issue in public transportation. Crime is also a matter that must be considered in evaluating decisions to implement transit systems. Many cities have been or are seeking to add light-rail lines to their transit mix. One of the arguments used for replacing bus service with light-rail service is the perceived potential for light-rail stations to attract real-estate development. This may well be true, but it is not an unmixed blessing. Light rail also appears to attract an unusually high number of criminals.

Of all the transit modes, light rail has the worst crime rate (Table 2). Light rail's violent-crimes-against-persons rate (murder, rape, robbery, and assault) of 284 per billion passenger-miles is almost 50 percent higher than heavy rail (195) and three times higher than the rate for bus transit (97). Light rail's crimes-against-property rate (larceny, theft, burglary, and arson) of 779 per billion passenger-miles is 20 percent higher than heavy rail (641) and five times higher than the rate for bus transit (144). Consequently, it looks as though a decision to replace

buses with light rail is very likely a decision that will bring more crime to an area.

There is nothing in the published literature that attempts to explain the higher crime rate for light rail. One can only speculate as to the possible causes. One hypothesis would be that since trains must stop at every station, criminals can be more assured of access to potential victims. In contrast, a bus driver may bypass a stop if he thinks it may be dangerous. Train stations may be more isolated, putting waiting victims in a known location that may not be easily visible to prospective witnesses. Rail also is more apt to involve so-called "park-and-ride" trips. The parking lots may be convenient locations for robberies. Cars parked for the whole day may invite break-ins. The possible reasons for these high crime rates cry out for more study.

Much of the energy put into transit has been to raise taxes in order to obtain more resources to implement more transit options. The focus has been on trying to provide the type of service that might attract drivers out of their cars and onto transit vehicles. Overlooked in this quest has been the potential negative impact on public safety. The data gleaned from published sources indicate that there are serious safety issues surrounding the operation of transit in our cities. Inasmuch as government is generally expected to promote public safety, the extraction of more tax dollars to build more rail-transit systems would appear to be undermining this key responsibility. 

Table 2: 2001 Public Transit Serious-Crime Statistics

| | Murder/Rape/ Robbery/Assault | | Larceny/Theft/ Burglary/Arson | | Combined | |
|------------------------------------|---------------------------------|-------|----------------------------------|-------|----------|-------|
| | TOTAL | RATE* | TOTAL | RATE* | TOTAL | RATE* |
| Bus | 2,114 | 97 | 3,171 | 144 | 5,285 | 240 |
| Commuter Rail | 260 | 27 | 2,508 | 263 | 2,768 | 290 |
| Demand Response[†] | 13 | 15 | 13 | 15 | 26 | 30 |
| Heavy Rail | 2,765 | 195 | 9,084 | 641 | 11,849 | 836 |
| Light Rail | 408 | 284 | 1,120 | 779 | 1,528 | 1,063 |

*per billion passenger miles

[†]vans operating on variable routes and times

Sources: 2003 Public Transportation Fact Book (American Public Transportation Association), Tables 6 & 45.