

# Public transportation



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Public transportation presents itself as a solution to many problems that exist in the urban centers of the world. Within these densely populated areas, high levels of air pollution can be found to exist. In addition to this, traffic congestion problems usually exist to a very high degree. People tend to enjoy driving in their individual cars and this leads to build-up of traffic in a relatively small space. Yet public transportation has the ability to solve these issues, as it provides a way to reduce emissions into the atmosphere while facilitating easier travel for the vast amounts of people that populate urban centers.

In order to improve the quality of life in these densely populated areas, therefore, it is necessary for people to increase their usage of public transportation in favor of traveling in their individual vehicles. Public transportation can be defined vehicles (or system governing such vehicles) that facilitate the collective travel of a number of unrelated persons to and from particular destinations at any given time. The term also includes the idea of mass transport, which modifies the definition to include the transportation of large numbers of persons all at once.

The key word in this extended definition is the use of the modifier “ mass. ” According to the Environmental Law and Policy Center, the more persons who use public transportation, the more efficient will be the solution to the problems of traffic congestion and global warming (ELPC, 2006). Vehicles used for public transportation include buses, trains, airplanes, and ferries (ELPC, 2006). One of the most important aspects of such vehicles is that they are able to carry much larger numbers of passengers than regular cars,

minivans, and sports utility vehicles. The number of seats on a bus varies depending on the type of bus in question.

However, if the number is taken as 30—which is toward the lower end for buses—then when compared to a car that seats 5 persons, it can be seen that a bus holds at least six times as many persons as a car is able to hold. Trains are known to seat tens of times more passengers than buses, depending on the number of cars being carried by the engine. The use of buses and trains for small and long commutes would provide even more reprieve in the areas of traffic congestion and global warming (ELPC, 2006). This fact has important implications for both traffic congestion and global warming.

If this proportion were to be used as a rough estimate of the reduction in traffic congestion that might be reaped from having full buses, this reduction in traffic would be dramatic. The amount of traffic on the road would decrease to approximately one-sixth ( $1/6$ ) of its current levels in the major cities. Furthermore, it is evident that cars that travel within these cities are not usually full. In fact, it is very often the case that cars hold only one person, namely the driver. This fact may cause the reduction in traffic build-up to be even greater should buses and trains start receiving enough commuters to fill them.

Increased use of public transport would have a domino effect, in that many of the problems caused by traffic congestion would be reduced. Several problems occur as a result of traffic congestion. This phenomenon of densely populated areas forces citizens to spend large amounts of time in traffic

every day. This contributes to much of the tardiness in the workforce and also usurps time that might be spent doing more productive things, such as working or spending time with family. A lot of stress has been attributed to traffic, as people often find themselves trapped in their cars under confined and immobile situations (Gee & Takeuchi, 405).

Many of these people are sleep deprived because, among other things, they have to wake up early or go to bed late in order to make up for time that must be spent in traffic on their way to and from work. Such sleep deprivation has even contributed to many fatal traffic accidents (Peters et al. 1999). The ability to go to and from work with efficiency would also reduce the amount of time taken off from work during lunch breaks or due to tardiness. This would in turn increase the productivity levels of employees in many sectors of the work force.

It would also improve the family relationships of many citizens of these areas, as they would have more time to spend performing quality activities with their loved ones. Increased public transportation could, in addition, have the effect of improving the health of many persons who must compensate for long commutes to and from work by rising earlier than usual and/or going to bed later than usual. It is important to see that this method is best, especially in light of the fact that some might consider carpooling as an effective alternative to public transportation.

However, even this seems inadequate, as smaller private vehicles are still able to carry only a small number of passengers. Public transportation has the ability to provide a much more significant level of reduction in traffic

congestion and the problems this causes. Another problem with which public transportation can offer tremendous help is with the issue of global warming. This has been a concern for the international community for decades now. In fact, the earth has been experiencing dramatic increases in its average temperatures since 1970 (“Kyoto” 437).

It has been known to many that one of the major contributors to this problem is the increased levels of carbon dioxide found in the atmosphere as a result of the burning of fossil fuels (437). Automobiles and other means of transportation are significant producers of carbon dioxide as a result of fossil fuel consumption, totaling 42 per cent of the United States’ annual fuel consumption and greenhouse gas emission (Klare, 2007). The daily and yearly levels of carbon dioxide emission in the atmosphere is therefore directly related to the number of cars, trucks, buses, minivans, and trains that run every day or every year.

The reliance of passengers on buses, trains, ferries, and other forms of public transportation would reduce the number of cars, trucks, and minivans necessary to transport people from one place to another on a daily or yearly basis. This would mean that the usage of a large proportion of the machines that contribute to the emission of greenhouse gases will be decreased. One astounding fact quoted by the Environmental Law and Policy Center is that “A bus with just 7 passengers is more fuel efficient than the average car.” The ELPC goes on to note what was estimated above, that a full bus gives six times as great fuel efficiency as a car.

If a train is filled up, then that means of transportation becomes 15 times more fuel efficient than one car (ELPC). The implications for the environment are astounding. At this point in time, the United States emits approximately 6 billion metric tons of carbon dioxide into the air, and this is calculated to reach 8.1 billion in 2035, according to current trends (Klare, 2007). If the citizens of the United States were to cut down on this amount by beginning to take the bus on a regular basis, this amount could be reduced to 1/6th of its current value. This would become 1 billion metric tons—a reduction of 5 billion tons.

If trains were consistently filled with passengers, this amount would be reduced to 400 million metric tons—a 5.6 billion metric tons decrease. These figures are very convincing arguments in favor of public transportation. Arguments against this rationale include the idea that switching to public transportation does not eliminate the problems, as buses, trains and other means of public transport are less fuel efficient when compared to the typical private vehicle. Others might argue that some cities might not have enough people to fill these buses and trains.

However, the fact that more persons are able to travel in these large, public vehicles makes the aggregate emission much smaller for the bus/train than for the several private vehicles that would be necessary to take all the persons that fit into these public vehicles (ELPC, 2006). In addition, though it might be true that cities may not have the number of passengers it requires to fill buses for every route, the efficient running of these means of public transport nevertheless have the power to wipe emissions that come from cars even if only seven passengers ride a bus.

This means that a bus less than a quarter full is still more efficient than a car (ELPC, 2006). The implications of increased usage of public transportation within large cities are many and largely positive. The use of public transportation has a dual benefit of reducing the amount of traffic congestion experienced by commuters. This is especially true within the larger cities of the United States. It also has the ability to reduce the amount of carbon dioxide that is released into the environment—and such an achievement would have a profoundly positive effect on global warming.

Though it might seem inconvenient to commuters to be bound by fixed bus and train routes, this is a minor cost compared with the benefits that can accrue as a result of increased usage of this amenity. Furthermore, many cities' transportation planning boards have created very varied routes and flexible schedules for these services. Therefore, consumers are now more able to enjoy satisfaction in their usage of public transportation, knowing that their actions are benefiting not just the local, but the global environment.