# Free research paper on sustainability and public transportation

Transportation, Public Transport

In recent years, there has been a tremendously huge debate on whether public transportation is more sustainable than privately owned vehicles such as cars. There are those who believe that public transportation like buses, trains, and airplanes are more sustainable than cars because they operate at full capacity while cars only carry few passengers at a time. However, while taking into account sustainability and public transportation, some people argue that buses and trains do not run at full capacity. Each mode of major public transportation affects the environment in various ways, and plays a role in land use patterns encouraged by investment.

Public provision of urban transportation is socially desirable. For several decades, growth and economic development in the United States and other parts of the world has been subject to escalated use of motor vehicle and increasing miles of travel per vehicle. Public transport continues to compete with the automobile. The rates at which people own cars around the world have continually increased as per capita income arise and cars become more affordable than before. Continual decentralization of cities into exurban and suburban areas has created a land use pattern that proves difficult for public transport to serve. The need and demand for public transport declined significantly immediately following the end of the Second World War. This began from North America and the decline soon set feet in Western Europe. There has been an increase in the use of public transport in North America from the 1960s and 1970s. Although the increase varies significantly from one state to another, the market share of public transport in the United States has stabilized in most states. The steady increase and stability of the use of public transport in the United States is contradictory in a mega sense.

In spite escalating car ownership sprawling from increasing per capita income and car-oriented suburban sprawl, there is consistent use of public transport. The consistent users of public transport is, however, small. In California, for example, only 3% of the total workforce population uses public transport.

Despite recurrent hikes in fuel prices in the country, there are always a higher number of people preferring private transports over public transport. Economic woes of the present day moderate the increase rates of use of privately owned cars. However, there is always a population growth factor that keeps the use of VMT on an upward scale. Private automobiles totally dominate the transport industry. Small proportion of urban populations bike or walk to work on a regular basis. For trip purposes such as shopping and tours, automobiles are the most preferred.

One of the most evident reasons why automobile transport is the most dominant is because it is the most convenient means of transport. For most travelers, cars provide speed higher than the competition, protects travelers from external elements, and provides a door-to-door service. These benefits become far better during congestion hours. Low density land development seen soon after the end of the Second World War creates conditions where biking or walking is too long given distances between facilities and residential areas. Single-use of cars offers the best option and most convenient means to traverse these areas.

In order to advance sustainability in the transport sector, aggressive demand-side initiatives should be put in place. It is imperative that demand management covers a broad array of strategies. This allows measures to be

matched to particular opportunities and needs. Strategies for managing demand could range from expanded mobility options to greater use of time scheduling. Time scheduling strategies could include four-day workweeks, telecommuting and flextime. Expanded mobility strategies include car-sharing, transit pass programs and shuttle services. In addition, stakeholders could use pricing strategies that include carbon fees, congestion pricing and parking fees. Further, coordinated land use could be the other strategy to create sustainability of the transport system. Using this strategy, the stakeholders could put in place pedestrian-friendly policies and transit-oriented development. The core idea is to fully utilize the scarce available resources. The scanty resources include fuel suppliers, people's times, and clean air, modes of transport and locations of urban activities.

Private-public partnership is one of the approaches that are applicable to all the approaches in ensuring sustainable public transport. Public-private partnership that encourages and invests in commuting by transit, carpool, travelling on foot and biking transforms commuting opportunities for travelers. Commercial building managers, employers, office park developers and other organizations funded by the private sector would labor to ensure their employees use company busses, carpools, public transport, and cycle or walk to work. Urban centers could also allow organizations to adhere to flexible parking standards. This would lead to the provision of fewer parking spaces while deploying these enhanced mobility options. Reducing parking fees could reduce expenditures and in turn the funds could be diverted to alternative modes of transport. The approach would also make housing more affordable for willing to stay near the transit stations thus increase transit

ridership in the process.

Private partners in the public-private partnership could introduce free transit passes or deep discounts. The private sector could provide shuttle services to and from significant destinations and transit stops. It could, in addition, introduce commuter allowances and pricing parking to balance out commute options for more sustainable modes of transportation. The private sector could use private shuttles to transport their staff to and from work. The sector could make car-sharing options available to its employees for emergencies and midday breaks. This reduces the need for each employee to own and drive a car to work. Benefits of such a move could be far-reaching. Reduced demand for cars reduces emission of greenhouse gases and congestion. In addition, the approach maintains good access and mobility for travelers while reducing traffic-related problems. Pro-active employer participation in this effort could lead to increased productivity for the employer. However, some financial incentives would go a long way in prodding them into action. Corporate tax write-offs and carbon tax exceptions are examples of the incentives that could have strategies working.

Whereas the private sector initiatives could contribute to sustainable public transport on their own, incorporation of public efforts spurs these results to the highest level. Public agencies could invest in development of infrastructure that would make transit use, walking and car-pooling excellent options for travelers. The public sector could incorporate policies that give preference treatment of high-occupancy vehicles and transit buses. This could enhance high frequency using direct transit services to significant

employment centers. The sector could also construct good links for pedestrians and bikers between important transit centers and employment areas. The superb links should provide excellent linkage to employment centers, restaurant districts, transit stations, residential areas and other desired destinations. In the land use front, the public administration could lead by example through establishment of their offices near transit stations. I addition, it could use the example of Maryland which enforced the policy " Live near Work". State governments of various cities could emulate this example and provide relocation allowances and financial incentives to their civil servants.

Rewarding high performance employment centers is the other means the public sector could use to improve reliability and sustainability of public transport. State governments in charge of various urban centers could fund employers who meet a threshold cost of their travel expenses by means other than drive-alone mode. The government could fund part of the work-place based programs for such employers. As commute and transit alternatives grow and ridership improves, the government could increase the incentives and provide larger rewards. This should be consistent with escalating rigorous targets for reduction of greenhouse effects. In the same spirit, local governments could offer offsets ad credits against exactions for projects and impact fees for projects situated in mixed-used communities, walk-able and locations with good networks of public transit. These are the workplaces that nullify the need for vehicles and nullify the need to develop the roads.

Another option of stabilizing public transit is by joint provision of shuttle

services by both the government and the private sector. Such a move does not only target the employees, but also serves the local communities in which the shuttles operate. Community partnerships are helpful to hotel guests, visitors and community residents to get access to their desired destinations all day long. The employees get to their work destinations in the morning and everyone else gets a chance to travel to the restaurants, doctors' appointments, shopping and gyms. An example of such a shuttle service is the Emeryville-Go-Round that is paid for by retail establishments, employers and hotels. Its transit services are free. Using the strategy, employers can keep track of their implementation of telecommuting and flextime. It is of essence that a firm reduces travel of its employees at rush hours and peak time to enhance time management. Local governments could work with key employers to adjust work schedules in coherence with shifted or additional public transit schedules. The employers and the government should work with employees to spread the days of the week when the workers work from home for four-day work schedules.

Public sector forges a valuable partnership for transport sustainability by rewarding successes in the mentioned fields with public investment. An example of the cities where these initiatives have shown preeminent success is California. Transportation bottlenecks in the country's most populous cities threaten economic development of the metropolis. Pricing strategies provide no incentives for more effective use. It is not easy for any of the strategies to get the price right and still maintain mobility and access for everyone. The strategy is, however, proving to be the most efficient for the United States and the rest of the world. Evidence for the preference for the pricing strategy

is presented in congestion pricing in London, Singapore and Stockholm. Charging more for peak hour travels generates funds for road infrastructural developments. Roads, transit and alternative commuter transits can thereafter be developed using the extra charges at peak time. This is one of the strategies that governments can employ to discourage congestion as well as collect revenues necessary to develop good infrastructure for alternative modes of transport.

There are three strategies that the government of the United States and other governments abroad continue to use in ensuring sustainable and efficient public transport. These include high occupancy/toll lanes (HOT), cordon pricing and cordon pricing. HOT lanes aid vans, carpools, buses and shuttles to travel fast during peak hours. This avoids congestions. Solo drivers who feel they could be in a hurry could also use the HOT lanes. The solo drivers pay tolls to use the HOT lanes. The payments help cover the costs of the HOT lanes and help maintain the carpools, buses and vans on the road. As observed in California, the use of the HOT lanes is not exclusive to the wealthy. All sorts of economic class use the HOT lanes when late for work or when their levels of stress are high. Urban centers could also allow the organizations to adhere to flexible parking standards. This would lead to the provision of fewer parking spaces while deploying these enhanced mobility options. Reducing parking fees could reduce expenditures and in turn the funds could be diverted to alternative modes of transport. The approach would also make housing more affordable for willing to stay near the transit stations thus increase transit ridership in the process.

Parking pricing is employable by both the public and private sector. The

method enables the public and private sectors pay for the costs of expensive facilities. In addition, the local governments are able to collect funds to finance alternative commuting modes. In addition, the strategy helps mitigate environmental problems such as water run-offs. In congested metropolis and cities such as San Francisco and Livermore Pass, the strategy helps the population that lives and works in the cities travel faster and more reliably. This helps local business people meet deadlines to business meetings and workers get to arrive on time at their work stations. The levies collected as toll help in supporting transit services within the state and other counties.

Whereas urban growth faces major challenges, growth of the cities presents opportunities to reshape them and surrounding regions for a sustainable future. New directions must be found to reduce the effects of greenhouse gases and maintain a sustainable public transport. Other than new technologies for the transport sector, there should be greater coordination and management for transport in urban settings. It is imperative to employ innovative private-public initiatives for commuting. There should be use of pricing for parking and road use. In addition, improved transit coordination and services help maintain the public transport. While pricing strategies help reduce, shift and moderate transportation demands, it also helps in offsetting gasoline taxes.

Proper management of growth associated with new transportation infrastructure and transit-oriented developments are crucial strategies to ensure sustainable public transport. These are only feasible if there is no reduction in mobility and access of the travelers. Provision of direct

discretionary funds towards these goals is necessary to jumpstart sustainability of public transport. The funds directed to these ends are useful in assisting transit agencies and local governments in designing and planning land use frameworks. The local governments of urban settings should take a leadership role in coordinating urban development near high speed rails and other core intercity transport investments. Further, the national government should grant MPOs, cities and congestion management agencies the authority to test and evaluate road tolling and pricing in the areas where public transport has the potential to develop.

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