

Discuss the effectiveness of different methods used by economists to attach monetary values to the external costs and benefits arising from the use of transport

A variety of approaches may be employed in attaching monetary values to the negative and positive externalities that arise from the use of transport. These monetary values are also known as Shadow Prices, which try to attach a monetary cost to our decisions to produce and to consumer. However these Shadow Prices are only ever approximations and estimates of the value of the externality. The methods used to obtain this monetary value include, Increased User Costs, Compensation, Cost incurred to local residents, Revealed Preferences Approach, Lost Output (cost of accidents). There are many externalities that arise from transport use, these include noise pollution which is especially prominent in the air travel industry which leads to the depreciation of house equity, air pollution associated with heavy and congested roads which leads to an increase in the risk of respiratory problems such as Asthma which are especially problematic for elderly people and young children. Other negative externalities include accidents, increased NHS costs, decreased working hours and visual blight, all of which we can attach a monetary value to.

One of the most used methods to calculate the Shadow costs of transport use is Increased User Cost. This method is obtained by calculating the current total cost of transport use for road users. For example this may be £5, this cost increases when with each additional road user, the marginal cost increases. This occurs because for each car added to the road congestion levels increased, therefore vehicles travel at below optimal speed, using more fuel and depreciating faster as well as more vehicles on the road increase in the speed of road depreciation, therefore the marginal external increases. For example, for the first 1000 extra vehicles on the road the individual user cost may increase to £5.05, this means that the external cost equates to 5p. The external cost is then multiplied by the number of extra users, in this instance 1000: 1000 times 5 equals £50. The Value of this externality can therefore be calculated as £50, this shadow price allows economists in the cost benefit analysis when deciding transport policies for the road in question. The government currently estimate that congestion cost £25bn each year, this has a significant opportunity cost and will affect decision on subsidies and service provision in order to try to encourage modal switch to more sustainable modes of transport.

Lost Output and the cost of accidents is currently the most used method by economists for determining whether or not the benefits of increasing road capacity outweigh the costs. Both the external and casualty costs are taken into account in RTC. The casualty costs include the costs to the NHS in providing emergency treatment and the scene, ambulance costs, doctor time in A&E and long term treatment. Additionally the suffering and distress of the family are also quantified, especially if the accident is fatal, this may in terms of the cost of therapy or the time they have to take from work to mourn. Moreover, if the accident is fatal then to come up with a Shadow Price the forgone earnings of the deceased is calculated by looking at the years of work lost multiplied by the average annual salary of the people. These costs are totalled up to create the final estimate for the casualty costs. This cost is then added to the external cost. The external cost of the accident is quantified by assessing the cost of damaged property, such as the cost of the damaged cars, road barriers or road side sign posts. Also included in the external cost is the cost to the police in processing the data and overseeing processing both at the accident site and after, this can be very costly and has a significant opportunity cost in terms of the time that the police could spend investigating theft and murder cases. The cost to the insurance company is also taken into consideration. Therefore taking all these costs into account the total monetary value can be obtained.

Furthermore, by adding totalling up the cost of required compensation and/or the cost of removing the negative externalities the total value of compensation is achieved, this is another important method used to find the Shadow Price of transport. There is a significant number of negative externalities associated with transport usage than need to be and can be removed or at least reduced. Houses that are located in close proximity to major airports such as Heathrow suffer considerably with noise pollution from the aircraft taking off and landing all day. Therefore these houses need to be sound proofed and