

**A NEW APPROACH TO SUSTAINABLE TRANSPORT SYSTEMS****M.V. Lowson***University of Bristol and Advanced Transport Systems Ltd, Bristol, UK*

Transport is a critical cause of both energy use and environmental issues. It is often suggested that substantial transfer from car to conventional public transport offers significant mitigation of this problem. Surprisingly, official data shows that the benefits from this approach are modest, even in some cases negative. The difference in energy and emissions level between various existing forms of transport compared on a passenger mile basis is small. A new automatic transport system is described which is both effective and sustainable, offering no waiting, no stopping and no transfers within the system. In most circumstances, it can offer better transport than available by existing means. The system has completed engineering development funded by the UK Department for Transport on a 1 km test track in Cardiff Wales. This culminated in successful passenger trials for which permission to carry the public was received from HM Rail Inspectorate. The system has been designed to demanding sustainability requirements. The electrically powered system gives zero emission in the city, with overall energy and emissions substantially less than other forms of transport. The average primary system energy usage is 0.55MJ per passenger km giving a typical benefit compared with cars of over 75%. Detail studies undertaken for an application in Cardiff show that a net saving of 34.5 million MJ by the projected transfer from current transport. The work suggests that novel approaches to transport systems offer a significant new method for the reduction of energy use and emissions from transport in cities.