

A Report on the Benefits of Transportation Types

For

PSB445
Infrastructure Planning

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1 Introduction

The issues of public transport versus private transport are being debated due to the trends that are changing the decision on how we operate as a society. The rise of environmentalism and sustainable development has created a need that the direction of public and private transport must cater for this.

Firstly, in this report, Wallace Wu will discuss the need for public transport. Secondly, Kari Sinkko will discuss the need for private transport. A conclusion displaying their strengths and weaknesses and a future in which each will be balanced, will follow.

Transport is defined as a completed change in location (trip) of persons or goods and is described in each case in terms of item carried and its origin and destination. (This also includes modes).

(Matalon, Noortman and Diederich, 1971)

2 Private Transport, Physical determination?

The private mode, i.e. a private car, bicycle, taxi, is a mode of transport which is beyond the reach of the public realm. There is no contact from other people in society, only the social acquaintances and family. This is in vast contrast to public transport that caters for all. So why has private transport arisen? This has arisen from the historical trend of a need to live away from your place of work, and a choice of habitation. So, you choose where you live, and you choose where you work. If you are wealthy, you can afford to choose where you live and how you get to work, whereas if you are poor, the choices are limited to the amount you can spend in travelling, and you distance to work. Not everybody has access to a vehicle. This “Transportation Disadvantage”

“In improving the patronage of public transport, the impacts of pollution from vehicle emissions on public health and the environment would reduce, and the economic benefits would be far reaching. The key is to integrate future development with public transport, and ensure common trip generators, such as employment; school and retail are easily accessible by walking and cycling.” - Gregory Clark

It is a case that our economic built environment has created a situation where the vehicle has dominated the design of villages, towns and cities. There appears to be a system where there is a point A, which leads to a point C. Point B is the trip. Point B is the main reason why there is an issue. It is a matter of moving people rather than vehicles. The issues of pollution, snarled freeways, urban sprawl and personal choice has been given to the user because they have the economic will to follow it. Private transport has been born of trade and commerce. The problem with “Urban sprawl” is that it doesn’t have the case of being “Empty world” economics. It has led to job foundation industries such as the automotive industry, tourism, postal services, taxi’s and transport companies. Is it simply a case that the engine itself is the polluter? Emissions from these sources are one issue that needs a solution to create a sustainable



Sydney's Urban sprawl can be seen as bad design, in a world of sustainability

vehicular population. There is now a near-consensus within the scientific community that carbon dioxide build-up in the atmosphere is causing global climate change, and that the long-term effects could be catastrophic (Intergovernmental Panel on Climate Change 1995). The reduction of lead levels, carbon monoxide and hydrocarbons has led to a better atmosphere within cities. But the problem of where you can live and the distance from work still remains. In the report written by the “Real Estate Research Corporation” in 1974, arrived to this conclusion:

... “planning” to some extent, but higher densities to a much greater extent, result in lower economic costs, environmental costs, natural resource consumption, and some personal costs for a given number of dwelling units. These results do not necessarily hold for the development of a given land parcel.

It is a matter of developing our cities to be better nodes of activity rather than being a centre of activity. The Social and Cultural Planning Office in the Netherlands have developed a model called the “Determinants of environmentally-relevant consumer behaviour”. (Dutch abbreviation DMCG). This model predicts the users and their decision based on the past environmental characteristics of a situation and determines the future responses. The models have shown that the positive trends of private use have no or little impact on the changing trends that public transport has to offer.

3 Aims and Objectives of private transport?

The aims of private transport and the things that make it appealing are:

- 🚗 Safety
- 🚗 Reliability and cost
- 🚗 Frequency of availability
- 🚗 Newer Technologies (Engine emissions)
- 🚗 Frequency of use

The aspects that make it undesirable are:

- 🚗 Cost to the environment (Issue of Sustainability)
- 🚗 New Technologies (Urban design and transport systems)
- 🚗 Cost to society (The rise of Urban Sprawl and Social Isolation)
- 🚗 Better use of private transport (Local use, not long distance)
- 🚗 Cost of infrastructure to cater for rise in private transport

As you can see, there are benefits are more apparent to the user than to the environment. As humans, we tend to see the extent of our problems to be as far as our experiences and knowledge can foresee.

The only truly sustainable urban transport modes are walking and cycling, and a transport policy that took environmental concerns seriously would promote public transport as a second-best alternative to these modes. And international experience seem to show that even the best public transport in the world will not bring about a reduction in car use unless it is also accompanied by direct disincentives for car travel. But the public transport question is important in its own right. Not everyone is young or agile enough to do most of their travel on foot or by cycle, while in sprawling cities and ex-urban areas distances are frequently too great for walking or cycling. And restraint of cars is likely to be politically acceptable only if the community can see that viable alternatives exist.

-Paul Mees

4 What is the future of private transport?

If it is the case that current private means are not going to be acceptable, how are people going to move around? Hybrid vehicles such as the Scania “free fuel cell” bus concept may be the answer. The bus is driven by a hybrid electrical propulsion system, which is



driven by hydrogen and has seen a marked improvement in the emission stakes, the emissions being water. The noise emissions are less than emitted from a small car (70dB A). Also (mono alkyl esters) more commonly known as bio diesel has arrived on our shores. These fuels are made from natural, renewable sources such as used vegetable oils and animal fats.

The engine system used is a conventional combustion system. The use of this fuel reduces the levels of dangerous particulate emissions that cities are well known for. These types of technologies can be the answer to the development of a sustainable future in which users of public and private can share the road.

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