Community-Initiated Sustainable Transport Policy and Planning: A Vision for Achieving Urban Sustainability

a literature review prepared by

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Introduction

The perceived freedom and convenience of the private motor vehicle has led to its ever-increasing popularity all around the world. Unfortunately, this widespread use has led to many devastating impacts on individuals and communities, and on the world as a whole. While many researchers, transport planners, governments and community members have recognised the need to limit motor vehicle use, the trend toward further growth has not reversed, and worldwide use is on the verge of skyrocketing as many developing countries follow in the footsteps of western nations. The situation is urgent.

In Australia – as in Europe, the United States and elsewhere – governments at the federal, state and local level have acknowledged the need to minimise the negative impacts of the motor vehicle, and have adopted policies to improve urban air quality, decrease greenhouse gas emissions, improve public health and increase the use of public transport, cycling and walking. Despite these measures, disturbing trends persist and actual transport development often fails to match up to the sustainable transport rhetoric – a pattern consistent with European and American experience. The literature points to the need for a significant change in current approaches to transport policy and planning if we are to achieve sustainable transport systems and sustainable urban communities.

The main stumbling block in implementing sustainable transport policies seems to be behaviour change. Citizens are resistant to changes in their own lifestyle; or at least

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governments believe this to be the case. The inoffensive solution often seems to be to continue building roads, but this practice has been increasingly challenged by community members resistant to car-based transport infrastructure. Amid this no-win situation many politicians put their faith in technological progress to solve the problems of the motor vehicle, seeing this as a much more palatable solution than pushing voters to change their behaviour involuntarily. Unfortunately, while air quality concerns could arguably be addressed within an allowable timeframe, other problems such as chronic congestion, urban sprawl, road safety and public health will always require a move away from motor vehicle dependence. It appears the impasse will not be overcome without an innovative and perhaps unprecedented approach to public policy formulation.

This literature review explores the possible role of greater citizen participation in and initiation of transport policy formulation and planning. The underlying hypothesis is that individuals who understand the nature of the problem and the reasons why change is necessary will be much more willing to voluntarily change their behaviour – in their own self-interest. Perhaps even more importantly, they will also be more supportive of government policy that seeks to provide alternatives to private motor vehicle transport, rather than demanding short-term traffic congestion relief that only exacerbates the long-term threats to livability and quality of life in their communities.

Specifically, the role of an integrated package including community vision forums, widespread travel demand management schemes and social marketing is examined in order to provide the foundation for a model of community-initiated sustainable transport policy and planning to break the impasse in proactive transport policy implementation. A number of methodologies are explored for both the development of the model and for the carrying out of the research project.

The Car Problem

Even before the emergence of the modern motor vehicle, problems were already associated with bulky personalised transport. For example, the Roman Emperor Hadrian was reported to have exclaimed:

> This luxury of speed destroys its own aim; a pedestrian makes more headway than a hundred conveyances jammed end to end along the Sacred Way. (quoted in Blessington 1994: 63)

Centuries later, the UK government commissioned *Traffic in Towns* (Buchanan 1963), one of the earliest studies to address the "problems posed by the rapid growth of motor traffic (which) are among the most baffling which face modern society". The problems are indeed so baffling that almost 40 years later, modern society has yet to succeed in slowing the rapid mushrooming of the car problem.

Banister (2000) lists a number of "issues to be addressed if transport is to conform with the principles of sustainable urban development". These are:

- congestion
- increasing air pollution
- traffic noise
- road safety (250,000 deaths each year worldwide)
- degradation of urban landscapes
- reduction of accessibility for others
- global warming (dependence on oil)
- decentralisation of cities (land use)
- inequitable spatial segregation
- globalisation (increased freight) (Banister 2000: 16)

Each of these individual problems is the topic of its own body of focused research, including statistical quantification of the magnitude of the problem and broad-ranging discussion and debate regarding which solution might be the best one. Meanwhile, the problems worsen.

Can technology save us?

Adams (1996) addresses this question in his article of the same title, exploring the myth and reality behind the "techno-optimist's" perspective that technological progress will enable everyone in the world to enjoy the luxury of the automobile. Constraints would include "shortages of resources to build billions more vehicles, the energy to run them, the space and energy to scrap or recycle them, and sinks for all the pollution that they would produce" (1996: 9). Adams assumes the eventual development of a pollution-free perpetual motion engine, stating that its worldwide use would still be a "social and environmental disaster" because of other negative externalities of motor vehicle use (1996: 4).

Banister (2000) estimates that an "eco-car" (powered by hydrogen fuel cells and producing no pollution) will be available by about 2010, but will not be in wide use until 2015-2020. However, even this significant technological advance will not mitigate the

need to reduce transport demand for two main reasons: (1) the damage that will have been done before the entire global motor vehicle fleet is replaced by eco-cars about 20 years from now; and (2) a more perpetual problem, the unavoidable increase in traffic congestion in urban settings (Banister 2000: 118).

A recent study examining transport trends around Hong Kong paints a disturbing picture of the impending expansion of motor vehicle use in the developing world. Judge, Heycock and Barraclough (1996) fear that any reductions in greenhouse gas emissions in western countries will be more than cancelled out by increases in the developing world. Rather than wait for technological progress, the more appropriate policy for governments and individuals worldwide seems to be to reduce motor vehicle use as much as possible as soon as possible. On the contrary, Adams (1996) critiques current attitudes:

> The principal barrier to a morally and politically sustainable transport policy is the belief that there are technical solutions for these problems. (Adams 1996: 4)

Economic stimulant or depressant?

Perhaps the most explicit statement of the myth that road-building and car use are good for an economy came from the UK government's "Roads for Prosperity" programme, a programme for which Tickell (1993) could find no economic basis. Although the document claimed a cost to UK business of £15 billion a year from traffic congestion, his research could uncover only anecdotal evidence for this figure (quoted in Newman 1995). In a report for the World Bank, Kenworthy et al. (1997) showed that out of 37 cities around the world, those with the greatest per capita wealth (Gross Regional Product or GRP) were those with lower car use growth. Pharoah (1996) refers to German evidence that in 38 German cities, retail trade performed best where city centre motor vehicle provision was below average.

A number of other studies have pointed to the negative impacts of motor vehicle use on the economy, including Payne-Maxie Consultants (1980), Greico (1994), Whitelegg (1994) and Lucas (1998); but still the myth persists. Newman (1995) cites one case where the Australian Automobile Association referred to a study by Aschauer (1989) which showed a small positive economic impact from road-building, while ignoring a later study from this same researcher (Aschauer and Campbell 1991) showing a far

greater long-term economic benefit from investment in public transport than in road-building. Studies have also revealed that investment in walking and cycling is of far greater economic benefit than road investment (Shayler, Fergusson and Rowell 1993; Henson and Walker 1994; Hathway 1996), but this has not altered the dominant position of car-based road infrastructure in many transport plans.

Job creation is another frequently touted benefit of road-building. However, Tickell's (1993) evidence shows that £66,000-80,000 is needed to employ one person in road building, while only £30,000-50,000 is required for one railway job, £20,000-40,000 in building houses and just £9,000-18,000 in installing domestic insulation. He considers road-building to be "very poor value for money as a job creator" (quoted in Newman 1995: 13). Whitelegg's (1993) concludes:

> There is simply no evidence of the claimed link between access [to roads] and employment or economic prosperity. The emperor has no clothes. (quoted in Newman 1995: 13)

New roads lead to new traffic

Another significant problem is "induced traffic", also known as "latent demand" or "generated demand": the well-documented principle that additional road space will generate additional traffic (Pfleiderer and Dieterich 1995; Pharoah 1996; Gibbs 1997; Chen 1998). To be exact, Hansen and Huang (1997) found that a one per cent increase in road space led to a 0.9 per cent increase in traffic. This means that road-building not only results in additional air pollution and other negative externalities of increased motor vehicle use, but also that it is simply not feasible to attempt to relieve congestion through road-building (Lucas 1998).

Although induced traffic has been the subject of many studies since the 1940s (Chen 1998), the UK Government may be the first government to embrace the reality of induced traffic along with its profound impacts on the cost-benefit analysis and environmental impact assessment of proposed road projects in the UK (SACTRA 1995). DeCorla-Souza and Cohen (1999) of the US Federal Highway Administration (FHWA), on the other hand, have acknowledged varying levels of traffic induction depending on initial conditions, but conclude that "even under extreme scenarios of initial congestion and consequent forecasted induced travel, there is a positive impact with respect to congestion relief" (1999: 249). The authors fail to address the dilemma

that congestion "relief" simply accelerates the re-congesting of newly expanded road capacity.

The "problem" of induced traffic is off-set by the potential solution provided by its converse – that the removal of road space results in a decrease in motor vehicle use. Hamer (1998) and Kruse (1998) list several examples of road and bridge closures that did not result in massive gridlock as expected, but rather led to the disappearance or evaporation of much of the existing traffic. Pfleiderer and Dieterich (1995) suggest that in fact the only way to decrease the modal split of private motor vehicle use is by slowing down road traffic, therefore causing longer trips to be less desirable. This unfortunately is not the most politically popular solution in cities where widespread car use is the norm.

Towards a Sustainable Transport System

Governments have begun to act to moderate the growth in motor vehicle use. At the international level, the United Nations issued its *Agenda 21* (UNCED 1992) as a "programme of action" after the Rio Earth Summit of that same year. The 40-chapter document makes reference to transport in the sections on "Promoting Sustainable Human Settlement Development" (Chapter 7) and "Protection of the Atmosphere" (Chapter 9), suggesting that nations should:

> Develop and promote … cost-effective, more efficient, less polluting and safer transport systems, particularly integrated rural and urban mass transit, as well as environmentally sound road networks, taking into account the needs for sustainable social, economic and development priorities. (9.15.a)

In response to *Agenda 21*, many regions and nations have developed policies to pursue sustainable development, including the European Union (CEC 1993), the United Kingdom (UK DoE 1994), Germany (BMU 1994), the Netherlands (VROM 1994), the United States (PCSD 1999) and Australia (Commonwealth Government 1992).

Agenda 21 also provided guidelines for each local authority to "enter into a dialogue with its citizens, local organizations and private enterprises and adopt 'a local Agenda 21'" to ensure a sustainable local community (UNCED 1992, 28.3). Local Agenda 21s (LA 21s) have sprung up all around the world, including over 60 in Australia (Agyeman 2000). In addition, Environment Australia (1999) has prepared a document entitled *Localising Agenda 21* to assist APEC countries in "involving the entire community in

preparing a long term sustainable development action plan" (Environment Australia 1999: 2). In terms of actually achieving social change, Fischer (1999) suggests that transport planning has not altered significantly as a result of the increasing frequency of LA 21s in Europe; and Agyeman (2000) likewise reports minimal concrete outcomes towards sustainability from Australian LA 21s.

Many countries, such as the European Union (CEC 1992) and the UK (UK DoE/DoT 1994), have also produced transport visions or policies that apply the principles of sustainability to transport planning. The United States has chosen a different approach, passing the *Transportation Equity Act for the 21st Century (TEA-21)* (United States Congress 1998), requiring specified proportions of transport funding to go towards public transport, cycling and walking facilities. While Australia is yet to produce such a policy or legislative act at the federal level, other relevant Commonwealth policy documents include *The National Greenhouse Strategy* (AGO 1998), *Australia Cycling* (Austroads 1999) and *Developing an Active Australia* (Commonwealth Department of Health and Family Services 1998). Each of these policies specifically address transport planning inclusively.

In addition to these international and federal movements, state and local authorities are increasingly issuing very proactive transport plans to achieve more sustainable transport systems during a specified time period. Examples within Australia include Sydney's *Action for Transport 2010* (NSW c.1998), Brisbane's *Integrated Regional Transport Plan* (Queensland Government 1997), Perth's *Metropolitan Transport Strategy 1995-2029* (Transport WA 1996), and Canberra's draft *Integrated Land Use and Transport Planning in ACT* (ACT Department of Urban Services 1999). Many of these plans present a vision of a different approach to transport planning, and most make some reference to "sustainable transport", though the quantifiable target is more often to reach specified levels of increased public transport use, cycling and walking. Table 1 briefly summarises these documents.

Table 1: A comparison of Australian urban transport plans

City & Publication	End date	Targets: Modal shift or other	Reference to sustainability?
Brisbane (Queensland Government 1997)	2011	Car: 78% to 69.5% PT: 7% to 10.5% Cycling: 2% to 5% Walking: 13% to 15%	• lists several objectives for "more sustainable transport (p.17) • definition of Sustainability: "Maintaining into the indefinite future certain essential and desirable characteristics of the way we live and the environment in which we live." (p.161)
Canberra (ACT Department of Urban Services 1999)	[none specified]	no quantitative targets	• goal is a "sustainable" and "affordable" Canberra (p.13)
Perth (Transport WA 1996)	2029	Car: 63% to 46% PT: 6.4% to 12.5% Cycling: 5.7% to 11.5% Walking: 10% to 12.5%	• goal is to "ensure Perth's transport system will be economically and environmentally sustainable" (6)
Sydney (NSW c.1998)	2010/2021	1. halting the growth in per capita vkt by 2011; 2. halting the growth in total vkt by 2021	• "leave a better environment for our children" (p.2); • [no mention of "sustainability"]

[Notes: "PT" = public transport; "vkt" = vehicle kilometres travelled]

What is "Sustainability"?

In informal or lay use, a "sustainable transport system" is usually assumed to be one that focuses on public transport, cycling and walking rather than private motor vehicle use. However, if sustainability is to be stated as an official target (either by governments or by researchers), then it must be measurable and unambiguous.

One widely accepted definition is provided by the United Nations' World Commission on Environment and Development (WCED 1987) in the *Our Common Future* report. They define "sustainable development" as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Applying this principle to transport, the OECD (1995) has made an attempt to quantify "sustainable transport":

> …transportation that does not endanger public health or ecosystems and meets needs for access consistent with: (a) use of renewable resources at below their rates of regeneration; and (b) use of non-renewable resources at below the rate of development of renewable substitutes. (OECD 1995)

However, when actually applied, "sustainability" has been based on a wide range of principles including minimising non-renewable resource use at a future point in relation to the present (Banister 2000), limiting levels of negative externalities such as pollution emission and noise annoyance (Nijkamp, Ouwersloot and Rienstra 1997) and

incorporating the precautionary principle (Scott 1997). McManus (1998: 162) concludes that “sustainability is contested … in definition, emphasis, desired outcome and the means to achieve a desired outcome”; and Fischer (1999: 189) that “there is no commonly agreed definition, and sustainable development remains a philosophical, normative concept which affords a variety of competing interpretations”.

Table 1 shows that although three out of the four Australian urban transport plans reviewed make reference to sustainable transport as a desired long-term goal of the actions outlined in the plan, none of the quantified targets pursued are based on “sustainability”, or in other words altering the city’s transport system to prevent it from “compromising the ability of future generations to meet their own needs” (WCED 1987). The next section, however, shows that the failure of transport plans to achieve sustainability is not isolated to Australia.

Transport Planning Gridlock

Despite the emergence of proactive and often radical transport policies all around the world, many studies during the past five years point to their almost universal failure to affect significant change in actual transport planning practice or in consequent travel behaviour. Most of the evidence comes from Europe and the United States, but there is some evidence that the overseas experience is consistent with Australian experience. Many of the social and political patterns are familiar, and point to the need for a fundamentally different approach to transport planning worldwide.

Many studies have shown that overarching transport policies focusing on sustainability do not always lead to sustainable outcomes at the project level. Lucas (1998) carried out a detailed analysis of 18 local authorities in the London area and whether their transport projects were consistent with sustainability principles laid out in the UK’s *Planning Policy Guidance 13: Transport* (UK DoE/DoT 1994). Her findings showed that despite widespread awareness of and documented support for sustainable transport goals, policy statements generally moved further from the principles of sustainability the closer a project was to implementation (Lucas 1998: 218). Reasons she gives for this include preferences of developers, planning expertise that is traditionally based on road infrastructure, and public preferences and opinion.

Public resistance to sustainable transport measures is widely documented. Nijkamp, Ouwersloot and Rienstra (1997: 696) suggest that democratically elected politicians "do not favour measures which largely run counter to public opinion". Bhattacharjee et al. (1997) point out that although reducing travel demand has been shown to be a very successful way to reduce congestion, such measures often meet public opposition. One illustrative case occurred in 1976 in Santa Monica, California, when one lane in each direction of an eight-lane freeway was changed to a high-occupancy vehicle lane during peak hours, restricting use to cars with three or more passengers and buses. Despite a 65 per cent increase in car-pooling and a trebling of bus-ridership over 21 weeks, increased congestion in the other lanes led to public outcry and critical media coverage that pressured the California Department of Transportation to end the trial and cancel a number of similar proposed HOV projects (Kitamura, Nakayama and Yamamoto 1999). The paradox is that while political will seems to be an essential element of a sustainable transport formula (Blessington 1994), political support seems to depend on public support. Meanwhile, public support for alternative modes depends largely on government provision of services and infrastructure, which in turn depends on political will.

However, just as the public can oppose sustainable transport solutions, they can also oppose continued car-based transport planning. A number of authors have commented on the difficulty of building new freeways and widening roads in an atmosphere of widespread community demand for more sustainable solutions, including *The Economist* (1994), Newman (1995), Burchell (1996), and Richardson and Haywood (1996). Adler (1999) writes (negatively) of the significant challenge community lawsuits have been posing to road-builders in the United States. Ahlstrand (1998) tells of the failure of a bipartisan political compromise to build some rail and transit infrastructure "in exchange for" some road-building in Sweden, because parts of the "agreement" were not acceptable to the public.

At first glance, politicians appear hopelessly caught between public opinion *for* roads and public opinion *against* roads – in a sense, "transport planning gridlock". However, this apparent "challenge" to government authority can also be seen as a significant opportunity for those governments and politicians who wish to employ the democratic process to build public support for a sustainable transport system. Bratzel (1999) observed that all five European cities that had been "relatively successful" in implementing sustainable transport systems had experienced a "policy-window" in the

form of public protests against road-building in the 1970s and 1980s. Having been given a “political mandate” to invest in transit, cycling and walking, politicians were able to put in place transport systems that easily out-perform the car-based systems that many members of the public often *think* they want.

Government perceptions of public resistance to sustainable transport solutions may also be more imagined than real. Blessington (1994) quotes a survey of Europeans in 13 different countries which showed that 84 per cent of the public and 85 per cent of politicians supported investment in public transport; however, only 49 per cent of politicians *believed* that the public agreed with them.

For the politician, choosing the most acceptable transport policy is not a simple matter of polling. Public opinion is very dynamic and complex, and just as public outcry for congestion relief does not guarantee that a new freeway proposal will not be protested, documented community concern for specific problems caused by motor vehicle use does not automatically translate to support for direct measures to reduce car use.

One notable recent study (Golob and Hensher 1998), focusing on Australian cities, closely analysed public attitudes about greenhouse gas emissions and how these attitudes correlate to support for or opposition to specific measures to reduce demand for motor vehicle transport in five Australian cities. On a five-point scale including “strongly disagree”, “disagree”, “not sure”, “agree” and “strongly agree”, 83 per cent of respondents either agreed with or strongly agreed with the statement that “The increase in greenhouse gas emissions is a threat to life as we know it”. Similarly, 83 per cent either agreed with or strongly agreed with the statement that “Australia does have to worry about global greenhouse gas emissions”. However, despite this extremely high level of concern about greenhouse emissions, respondents showed only mild positive support for the encouragement of car-pooling, tax rebates and levies for fuel-efficient and fuel-inefficient cars respectively, and a personal commitment to reduce their vehicle kilometres. Other measures polled even worse, such as “preferential parking at work locations for fuel-efficient cars” and “taxing employer-paid parking”. Although the authors stress that there is not a direct link between environmental concern and a personal willingness to change travel behaviour, their analysis shows that “policies can be marketed to the public” through advertising campaigns focusing on the environmental benefits of reducing car use (1998: 1).

Influencing public opinion is undoubtedly an important step in positively influencing the behaviour of individuals, which is the fundamental goal of sustainable transport plans. Having recounted an instance where public preference for motor vehicle access resulted in unsustainable transport outcomes west of London, Lucas (1998: 225) concludes first and foremost that "the public need to be made more aware of the negative implications of their current travel behaviour through a comprehensive and regionally co-ordinated travel awareness campaign." Hartgen and Casey (1990) tell of a Charlotte, North Carolina (US) approach based on live segments on a local news program, rather than the traditional television advertising campaign. Experts appeared each night for a week discussing existing transport problems, why congestion cannot be relieved through road-building, and how viewers could personally benefit by using public transport instead of driving.

Evidence suggests that a transport policy on its own, no matter how radical, will not lead to a sustainable transport system without widespread public support. Currently, very few cities in the world can claim to have strong public support for investment in public transport, cycling and walking. Meanwhile, many governments seem paralysed by the fear of unpopularity, rather than proactively seeking to influence public opinion towards greater support of existing sustainable transport plans. Talvitie (1997: 10-11) poses the question whether we have yet devised a successful process for the implementation of transport plans, and answers "an outright 'no'". A drastically different approach may be warranted.

Community-initiated sustainable transport planning

The transport plans currently in effect for cities all around the world are generally "top-down" documents: an elected government pushing necessary change on its constituency. On the contrary, a "bottom-up" community-initiated approach is far more consistent with the United Nations *Agenda 21* (UNCED 1992), and especially with the values embodied in "Local Agenda 21":

> Through consultation and consensus-building, local authorities would learn from citizens and from local, civic, community, business and industrial organizations and acquire the information needed for formulating the best strategies. The process of consultation would increase household awareness of sustainable development issues. (UNCED 1992: 28.3)

This passage illustrates the two key benefits of a community-initiated approach: (1) a transport plan that is more in tune with the long-term needs and wants of the

community; and (2) the increased awareness of the issues (and therefore support for the final policy) generated through the consultation process.

A bottom-up approach can be more effective than a top-down approach. Of the two scenarios Banister (2000) sets out for a sustainable Europe by 2020, the bottom-up scenario (where a shift in values has led to strong public support for sustainable transport policy implementation) is projected to achieve a reduction to 66 per cent of the total mobility projected with current trends, whereas the top-down scenario (with government forcing change on the public) only achieves an 82 per cent reduction.

Not only can community support achieve more in the long-term, but the community often simply has better ideas than planners. For instance, Lewis (1998) describes a case in the San Francisco Bay Area where the Regional Alliance for Transit (RAFT), a group of community-based transport experts, used the Metropolitan Transportation Commission's (MTC) own transport modelling software to compare a transit-based plan against the MTC's largely freeway-based plan that was currently being implemented. RAFT's proposal performed better by all measures, including environmental impacts, traffic congestion and public transport ridership – and yet the original plan is going ahead. Lewis's conclusion:

> A planning effort as serious as Metro's Regional Framework Plan in the City of Portland should be undertaken, which would involve the public in decisions which are of the utmost significance – about how much the region should grow, how it can grow consistent with sustainability and its quality of life, how it can keep its world competitiveness, and how it can provide social justice and economic opportunity. (1998: 160)

Governments have thus far failed to achieve the significant changes necessary to create sustainable transport systems, so the community is entitled a try. Pharoah (1996) points out that in order to solve our transport problems we must first reverse the increasingly negative trends. Will it be possible? If so, it will depend on the community getting behind movements for positive change in their own travel behaviour, with the support of governments. Lake (1996) takes the pessimist view, that sustainability is not inevitable, and we may very well fall short of long-term survival. He puts little hope in politicians to solve our problems: "I see little evidence from the past that our politicians will be able to deliver urban planning and transport systems that will create a sustainable future" (1996: 44). His solution is sensible: involving the community and allowing them to defend their identified interests.

Public Participation

Any framework for community-initiated sustainable transport planning will depend upon a strong foundation of public participation. Arnstein's (1969) classic "ladder of citizen participation" can be used to ensure specific levels of community control over actual decision-making. The eight "rungs" of the ladder consist of the following: (1) Manipulation, (2) Therapy, (3) Informing, (4) Consultation, (5) Placation, (6) Partnership, (7) Delegated power, (8) Citizen control (1969: 217). The sixth rung may be the ideal point for community-initiated sustainable transport planning as any lower would defeat the purpose, but any higher leaves a sustainable outcome in jeopardy.

Although public participation is required in environmental impact assessment (EIA) in most countries, Shepherd and Bowler (1997) suggest that going beyond the legal requirements can result in a better outcome for the project proponent, the public and the final plan, as well as for environmental protection. Public participation is an opportunity, rather than something that simply must be done, as a public relations exercise or to "placate" the public (1997: 727). While their work focuses on project level assessment, they note that "public involvement needs to begin before project planning and decision making are too far along to be influenced" (1997: 735). Of course the earliest possible moment is well before planning reaches the project level, when it is still at the level of overall policy or vision.

One way of facilitating public participation at the policy level is through strategic environmental assessment (SEA), an approach pioneered in the transport sector by Sheate (1992). SEA is based on assessing the environmental impacts of an entire package of projects, rather than assessing one project at a time. Sheate (1995: 19) emphasises the importance of involving the public: "Any SEA, if it is to be credible, must make adequate provision for public and NGO participation…" He goes further, stating

> Only a fundamental shift in transport policy formulation which incorporates the environment and sustainable development into the objectives of transport policy will bring about a real change in the impact transport has on the environment." (1995: 23)

Surely any government that seeks the support of the public would welcome an opportunity to involve the public in shaping the policy that will not only affect their own lives, but will greatly influence their votes.

The perils of failing to undertake thorough public participation are well documented. For example, Richardson & Haywood (1996) tell of a case in the English Pennines where two simultaneous studies in the region, one based on road and one on rail infrastructure, were not integrated, not communicated widely to the community, and in the end, not implemented. The Department of Transport wanted to avoid public consultation, but when the public learned of the road project they organised a conference to discuss the issues, resulting in great opposition to the project. The road study was scrapped as a result; and though there was strong public support for the rail solution, neither project went ahead. The authors conclude that because of the planners' failure to explore other possible solutions presented by the community, the final decision "contained no measures to address the substantive transport issues which gave rise to the study" (1996: 51).

While governments can use the participation process to build support for sustainable transport projects, this also necessitates a much more open approach to participation than the traditional "manipulation" style. Kohler (1995) cites an example of a traffic calming program in Frankfurt, Germany, to reduce the speed limit to 30 km/hr on all streets but the major arterial roads, which would be reduced to 50 km/hr. This program could not claim widespread support in the beginning, but support grew after a very democratic participation process, and in the end the program became very popular. As Banister (2000: 128) suggests, "the key to successful implementation must be the acceptability of action and the involvement of all parties in that process."

Public participation of a high standard is the basis for community-initiated sustainable transport policy and planning. If the government can show to community members a clear connection between sustainable transport solutions and long-term livability and quality of life, then the community is likely to stand behind the sustainable transport policy that they draw up along with other stakeholders and the government. The framework's three main components offer opportunities for both government and the community to benefit, and are discussed below.

The Three Components

As envisaged here, community-initiated sustainable transport policy and planning would enable governments and planners to pursue three important outcomes through one integrated series of meetings and forums with local communities and

neighbourhoods. The three components are: (1) vision forums/workshops to engage a significant proportion of the public in determining their long-term needs and wants for their local community; (2) a two-way social marketing program including marketing of key sustainable transport "products" and services to members of the community and a gathering of market research about how to improve these services; and (3) a travel demand management (TDM) program to encourage more efficient use of transport right away. The background to each of these components are discussed in turn below.

Vision Forums

Based on the principle that ecological stability is necessary to maintain everyone's long-term quality of life, as well as that of future generations, a vision forum would provide an opportunity for "experts" to present the community with a number of alternative scenarios for the shape of the future in 30 to 50 years, and discuss with them how their actions can determine which scenario the community follows. This approach is consistent with the Local Agenda 21 "consensus-building" framework (UNCED 1992: 28.3)

In constructing a community vision of sustainability, Adams (1996: 16) has proposed the fundamental question that each participant, and ultimately each member of the community must answer for themselves: "Would you like to live in a cleaner, quieter, more convivial world in which you know your neighbours, it is safe to walk and cycle, and children are allowed to play in the street?" If so, the vision forum will also provide the community with a plan of action for achieving that kind of vision.

Banister (2000: 128) suggests that "realistic visions of the transport-sustainable [European] city [by] 2020 is [sic] desirable, possible and achievable in all contexts". Based on this conjecture, he proposes a "backcasting procedure" (Dreborg 1997), wherein a Vision (or desirable scenario) is identified, and then "policy measures are packaged together to establish the possible means by which the Vision of the Future can be achieved, together with an assessment of the costs and benefits, and the crucial points in time when particular decisions have to be made (2000: 122-3). A vision forum would provide an opportunity to link policy measures directly to the long-term quality of life outcomes everyone desires.

While “vision” as a concept is explored in the literature as an important way to work towards long-term social change, there appears to be no dedicated body of academic literature focused specifically on forums. Scott (1997: 132), for instance, indicates that “no substantive evaluation on forums has yet been undertaken". His study, however, evaluates the success of one forum in Maryland, US, which attempted to reach consensus among stakeholder groups in the Cardigan Bay region. Though the nature of this forum was different than those proposed for this research project, some of his conclusions are relevant, including: (1) the importance of continued funding to ensure pursuit of outcomes; (2) inclusion of all possible “legitimate interests”; and (3) the importance of a “strategic management function”, or in other words, “the ability … to influence change in other organisational policies” if the forum hopes to play a meaningful role and continue to attract interest and participation (1997: 133-135).

Another take on the “forum” is seen in Richardson and Haywood (1996), where environmentalists organised a conference to make up for inadequate public consultation, and “to extend the debate to include broader issues of sustainability, modal integration, and local concerns set in a strategic context” (1996: 50). While this conference is fundamentally a different type of forum to that proposed here – a reactive rather than proactive motivation – it shows above all that community initiation may be the most important element in changing the status quo of transport planning.

Reaching a consensus may be the primary role of forums in community-initiated sustainable transport planning. Several researchers have identified the resistance of individuals to personal behaviour change, but a group setting such as a forum may be a successful way to illustrate the need for a longer-term conception of “self-interest” as well as public interest. Hillman (1992: 226) points out that in our current transport system, “the sum of the preferred actions of numerous individuals do not lead to an outcome in accord with that broader public interest”; it seems that collective action will be necessary to achieve everyone’s personal goal of a higher quality of life now and into the future.

Social marketing

Combining the vision forum process with a significant expansion of any existing sustainable transport marketing programs already in place allows governments and public transport providers to make convenient personal contact with current and

potential users (or customers) without otherwise prohibitive investment in such a massive marketing project. Thus, rather than settling for a few television ads or a brochure, a full-scale "social marketing" campaign can be waged in order to begin affecting existing car-biased values in society.

The concept of social marketing was originally developed by Kotler and Roberto (1989). Curthoys (1992) provides a useful definition of "social marketing":

> a social change management strategy involving the design, implementation, and control of programs aimed at increasing the acceptability of a social idea or practice in one or more groups of target adopters. It utilises concepts of market segmentation, consumer research, product concept development and testing, directed communication, facilitation, incentives, and exchange theory to maximise the target adopters' response. (Curthoys 1992: 3)

Curthoys' inclusion of "consumer research" as an element of social marketing points to the other half of the proposed marketing effort in conjunction with community-initiated sustainable transport planning. In addition to "selling" the values of sustainable transport and literally selling existing and future public transport services, the process can also be a two-way exchange in which public transport providers can benefit from market research.

Although much has been written on market research for public transport services (see for instance Robinson and Lovelock 1981; Fielding 1987; Giannopoulos 1989; and Stanley 1997), market research for sustainable transport generally has not been so fully explored. Blessington (1994: 66) suggests focusing on why people choose to travel by car, the image of public transport (and other alternative modes), and how to improve services for the customer. But as with any form of marketing, the basic rule is to "Give customers what they want" (McColl-Kennedy and Kiel 2000: 14), which means basically knowing what they want. In the context of a community vision forum towards sustainable transport, sustainable transport marketers can create a "contract" with the community: the community provides input as to what services they need; the provider provides these services, and therefore the community uses them.

Travel Demand Management

Travel demand management (TDM) is becoming a central part of sustainable transport planning. The Institute of Engineers of Australia and Austroads cooperatively define TDM as:

> Intervention (excluding provision of major infrastructure) to modify travel decisions so that more desirable transport, social, economic and/or environmental objectives can be achieved, and the adverse impacts of travel can be reduced. (quoted in Transport WA 1996: 76)

Since managing (and reducing) travel demand must be a cornerstone of any attempt to limit the negative impacts of motor vehicle use, TDM has a sensible role in community-initiated sustainable transport policy and planning.

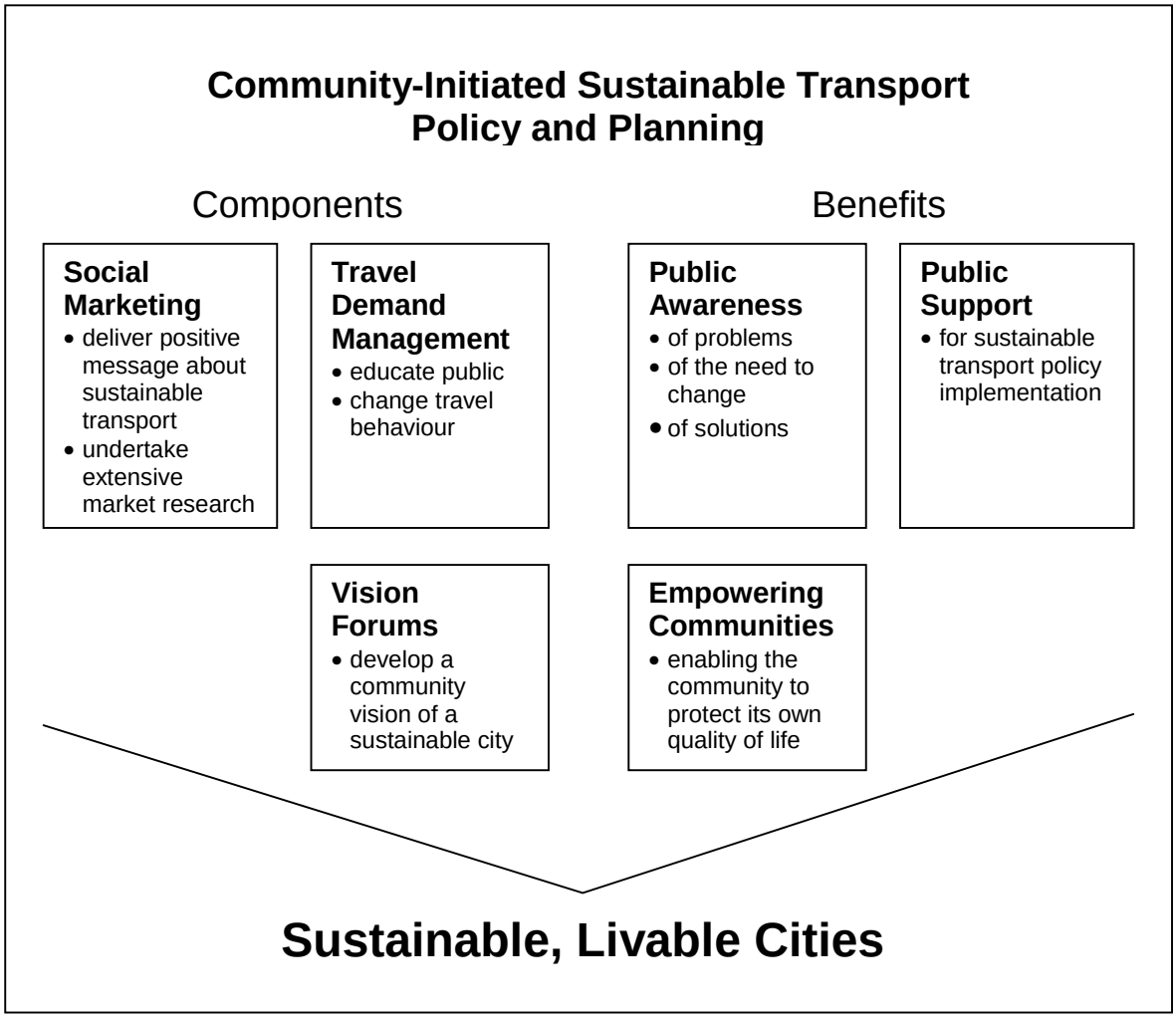
Bhattacharjee et al. (1997: 162) outline four types of TDM: (1) increasing vehicle occupancy; (2) peak period diversion; (3) route diversion to less congested routes; and (4) reduction of overall demand in the system. It is this final category that is most relevant here. Transport WA provides a useful model for community-wide reduction of car use, having undertaken a ten-year TDM plan to redistribute 24.5 per cent of motor vehicle trips to other modes or to non-travel (Transport WA 1999: 2).

The role of TDM in community-initiated sustainable transport planning is to: (1) provide more immediate (though smaller-scale) solutions to transport problems, thereby complementing the long-term movement towards eventual sustainability provided by the vision forums; and (2) to provide a solution-based framework within which to carry out the social marketing program and market research. Bhattacharjee et al. (1997) point out the benefit of market research to TDM, in that specific groups that might oppose TDM measures and policy can be identified and targeted with specific marketing messages. Transport WA's (1999: 13) TDM component of "dialogue marketing" is particularly relevant here, as it focuses on one-on-one contact and personal household visits by marketers, and thereby "gets past the marketing information in people's letterboxes and avoids advertising competition through other media". Vision forums may provide an even more cost-effective and/or successful way of undertaking a dialogue-marketing program.

The Proposed Model

Figure 1 briefly illustrates the components of the proposed model of community-initiated sustainable transport policy and planning, and summarises the key benefits of such an approach; namely: (1) building public awareness of existing transport problems, of the need to change and of the possible solutions available to us; (2) building public support for policy implementation by helping the community to develop their own policy; and (3) thereby empowering the community.

Figure 1: Components and benefits of the proposed model of Community-Initiated Sustainable Transport Policy and Planning



Possible Methodologies

Though a long way off, possible methodologies being considered for this research project include the following:

- expert interviews with transport professionals, politicians, civil servants and community sector representatives in several Australian cities (based on interview methodologies from Lucas 1998 and Fischer 1999);
- survey questionnaires to transport professionals, politicians, civil servants and community sector representatives in several Australian cities (based on a questionnaire approach used by Nijkamp, Ouwersloot and Rienstra 1997); and
- participation research, by attempting to actually organise and participate in a trial vision forum in a Brisbane neighbourhood (based on the participation research approach described by Stoeker 1997).

Conclusion

This literature review has examined existing knowledge surrounding the problems with current levels of motor vehicle use around the world, government policies to attempt to address these problems, the inadequacies of existing policy and planning approaches in actually solving these problems, and some of the existing approaches that might be incorporated into a successful model of sustainable transport policy and planning led by communities and individuals. Evidence has been presented to show that a significantly enhanced planning approach is necessary, and to point to community involvement and initiation as the essential and irreplaceable element in successful sustainable transport planning. The material presented is intended as a tool to further tune the research project over the following months, and should not be seen as a thorough examination of the issues discussed.

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