



Drivers of Travel Choice

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Abstract

We discuss recent findings from a survey of 1248 Auckland households that aimed to define the key drivers that influence travel behaviour. The work is based on an extensive search of international and domestic literature. We present a framework that identifies the three approaches typically employed to market public transport (PT) and illustrate how the framework can be applied to segment customers and market public transport more effectively. Results indicate that people's transport choices are influenced most strongly by service attributes and some key environmental aspects. The results of this work are being used to assist local government public transport providers in Auckland to improve and market PT services. The Auckland Regional Council and the University of Auckland supported the work.

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1. INTRODUCTION

1.1 REVIEW

In the late 60's and early 70's academics began to investigate how marketing could be applied to the problem of convincing a population enamoured with private transport to switch to (in many cases, back to) public transportation (e.g. Hovell, 1969, Hovell and Jones, 1975). In the 21st century we are still grappling with the problem because an overall framework of marketing factors has not been established. Without such a framework, practitioners are unable to determine which issues need to be addressed in marketing their particular service, and researchers are unable to identify areas needing further investigation, insight, and interpretation.

Researchers have tended to look at the problem in one of three ways, each of which can find grounding in traditional marketing of products and services. First there is the approach of 'public good' marketing (e.g. Walsh, 1988; Pina and Torres, 2001), where public transport is seen as a desirable thing for individuals and society as a whole, and marketed as such with appeals to social acceptability or as efficient governance of public monies. This approach has been applied in many fields, from political marketing such as political campaigns, to healthcare marketing such as child vaccinations, to safety marketing such as water-safety, and generally falls under the marketing of non-profits category.

Second there is the public versus private competitive marketing approach. The private competitor is invariably couched as the private motor vehicle, with marketing efforts directed at convincing customers to switch to public alternatives (Hensher, 1998; Gärling et al, 2000, Mackett, 2001). This typically involves traditional brand choice approaches to marketing or marketing of product substitutes. Included within these competitive marketing efforts are de-marketing approaches (Wright and Egan, 2000), which have a long history in relation to cigarette and alcohol use, and attempts to gain sociological-psychological understanding of transport users behaviour (Tertoolen et al, 1998; Jensen, 1999; Stradling et al, 2000; Kingham et al, 2001), which is classical attitude-based consumer behaviour analysis.

Third is the attributes-based approach, which has tended to examine the components, both tangible and perceived by consumers, of public transport to establish necessary levels or ratings for positive customer attitudes, (Andreassen, 1995, Lucas, 1995; Edvardsson, 1998). A number of studies have concentrated upon subsets of attributes such as pricing (Fitzroy and Smith, 1999; Phillips and Sanders, 1999; Huang, 2000), service delivery (Hine and Scott, 2000), advertising (Walsh, 1988), and reason for service use (Kingham et al, 2001, Mackett, 2001).

As a consequence, researchers have also tended to view consumers in ways that are determined by the marketing approach applied. In the case of 'public good' marketing, the consumer is seen as an innocent who simply needs to be shown the 'right thing to do' and they will comply. Stradling et al (2000), for example, discuss how to "help drivers out of their cars" implying an almost evangelical style to the marketing of public transport. The second approach, competitive marketing, suggests the consumer has a viable choice, and the marketer needs only to show the positive benefits of switching to the public transport, and perhaps the negative consequences of staying with private transport. The attributes-based approach suggests a consumer that fundamentally wants to use public transport but needs to have an offering that matches their criteria. This is just the same as a consumer who wants a wide-screen television, but can only get one if

it is the right price, is compatible with their local cable operator, fits in the available room space, and is acceptable to other household members.

In the next section we examine these approaches in depth, incorporating a number of industry studies utilising the various schemes.

2.2 MARKETING APPROACHES

2.2.1 Public Good Marketing

Walsh (1988) examines the use of advertising during World War II to convince consumers in the US to use public transport. The basic premise was a patriotic appeal to reduce the use of scarce resources needed for the war effort. Consumers though, have been found to demand an overt result from being a good citizen. During times of war or other social crisis, such as the oil-shocks of the 70's, consumers can directly relate savings made to benefits achieved elsewhere, but when the results are more long term or are hidden, consumers recognise the social value but not the individual value. Forsyte (1999) found people perceived the environmental friendliness of public transport, along with the ability of public transport to reduce congestion, to be prime reasons for the general public to use public transport, but that 'public good' was not a strong motivator for individual behaviour change. This is supported by Forsyte's (1999) finding with the same respondents who saw the prime reasons against using a car as being out-of-pocket cost, and stress (of driving).

As a 'public good' public transport must also compete against other desires. Research Solutions (1999) found that public transport was a necessary 'public good' element of government spending, but not at the expense of spending on the environment, parks, heritage or other such works. Nevertheless, despite questions raised over the efficiency of public monies and governance being used in transport (Pina and Torres, 2001), most countries see the 'public good' aspect of public transport as integral to the supply and subsequent marketing of such systems. The Federal Transit Administration Strategic Plan (1998) note that public transport is a critical element in overall transportation systems, supplying vital links to jobs, shopping, education, healthcare, and American society in general. A widely used addendum to the 'public good' angle to marketing public transport is the issue of sustainability (Litman, 1999a, 1999b; ECMT, 2001), though this has received no attention regarding the level of motivation to use public transport it is likely to engender.

2.2.2 Competitive Marketing Approach

This approach takes the view that consumers need to be convinced they should switch from the competitor (private cars) to public transport. A number of studies have attempted to examine the psychosocial reasons for switching or not switching from private cars to public transport. Drivers hold positive attitudes linked to immediate individual advantages of car use, with only limited negative attitudes linked to later collective disadvantages of car use. To some extent there is a conflict between attitudes and behaviour, with motorists favouring policies that benefit the environment, reduce congestion, and promote safety, as long as they are not made to change themselves. Tertoolen et al (1998) for example provided information and feedback to motorists about their impact on the environment and / or on their own finances, and found that there was no effect on behaviour. Even immediate price and travel-time increases would not switch the majority of car users to public transport (Colmar Brunton, 2000).

The most significant reason given for likely switching is if the public transport system was improved (Mackett, 2001). Typically this is defined as frequency and range of services (The Howell Research Group, 1998; NSCC, 1999; Colmar Brunton, 2000, Kingham et al, 2001). This is related to the expressed motivations for using a car, the convenience and flexibility of being able to travel when and where you want to without restriction (Heylen, 1993; Tony Francis and Associates, 1993; Colmar Brunton, 2000; National Research Bureau, 2000).

De-marketing of the car is a possible approach in addressing the competition cars offer to public transportation, with most efforts aimed at making the car inconvenient (Wright and Egan, 2000) or unattractive (Hensher, 1998), usually on the basis of cost (to the individual) or appeals to the social conscious of the individual (see Public Good Marketing above).

While studies advocate the use of the carrot and stick approach, the findings suggest motorists would rather be pulled from their cars than pushed (NSCC, 1999; Colmar Brunton, 2000; Stradling et al, 2000; Mackett, 2001), a social psychological approach supported by other research (Stradling et al, 2000). Similarly, Research Solutions (1999) found that for a consumer to change from private car use to public transport use, it was not enough for them to be dissatisfied with using a car (because of things like congestion, parking costs etc.), but they also needed to have an attractive alternative – they need to see public transport as better than cars.

Cost seems an obvious motivator to encourage use of public transport. Three studies found that car users perceive public transport as a cheaper option than the car (National Research Bureau, 2000; Forsyte, 1999; Colmar Brunton, 2000). Yet studies show that lower fares would encourage more use (The Howell Research Group, 1998, NSCC, 1999), that employer/school subsidies are strong motivators of use (The Howell Research Group, 1998), and that daily cost is a reason for non-use of public transport (Tony Francis and Associates Ltd., 1993). This apparent contradiction may be explained by the commitment structure employed, where consumers are trading off a large, one-off payment for low or zero-marginal cost at point of use (Simm and Axhausen, 2001). To some extent, season tickets may appeal to such customer types.

In addition to the functional aspects, some users look to social aspects in their choice of public transport, such as the ability to relax, look around, and meet people (Opinions Market Research Limited, 1999). The Federal Transit Administration's (1998) view of public transport as a contributor to American society in general, often adopts a marketing approach based on the emotional balance rather than the rational advantages of public transport (e.g. Colmar Brunton, 1994b; de Beer, 2000).

2.2.3 Attribute-Based Approach

This third approach takes the view that customers, given the right service mix, would use public transport, and it is a matter of matching that mix with customer desires (e.g. Edvardsson, 1998; Fitzroy and Smith, 1998). The Transportation Research Board's (1999) handbook for measuring customer satisfaction and service quality suggests that transit agencies are concerned with delivering quality service to customers that is often defined by on-time performance, comfort, safety and convenience. It recognises however, the need to look at customer perceptions, and contends, based on Parasuraman et al (1985), that customers use basically similar criteria in evaluating service. Customers may then group a wide array of attributes of transit service under one of the 10 dimensions, or they may even

aggregate some of the dimensions. It will be dependent upon the specific criteria used by customers for specific public transport offerings. In practice, however, there is debate over the criteria. Andreassen (1995) has a functional list (safety, station design/location, quality of vehicles, time travelling, availability, information given, ticketing systems, and price levels) similar to the six aspects upon which the MVV (1997) measures customer satisfaction (functional service, vehicles, customer service, information, appearance, and safety). Customer satisfaction with these aspects is seen as having a positive influence on demand (MVV, 1997). Similarly, Edvardsson (1998), using critical incident technique, identifies seven functional aspects (conduct (of staff), punctuality, information given, technical faults, vehicle design, fares, and departure times) that customers consider important enough to complain about. Later studies though (Friman et al, 2001; Friman and Gärling, 2001), suggest that of these, treatment by staff (conduct), reliability (punctuality), simplicity of information given, and design (vehicle), are the most important in determining overall satisfaction. Disney (1999) also suggest four key elements; (1) reliability, (2) friendliness, (3) clean vehicles, and (4) comfort.

In light of this approach practitioners also employ a function-oriented manner – e.g. New York's Metropolitan Transportation Authority determined four goals for their marketing program: (1) become obsessed with the customer, (2) implement an innovative pricing mechanism, (3) increase services, and (4) continue infrastructure improvements (Lucas, 1995). Forsyte (1996) measured customers' service level specifications determining the important criteria to be frequency of service, security, vehicle standards, fares, payment methods, transfers/interchange, and integration, with NSCC (1999) adding information given, stations and shelters, and aggregating transfers/interchange with routes and destinations, and an integrated fare system.

Colmar Brunton (2001) identified three primary dimensions of public transport marketing, and then grouped criteria under each dimension. The first, functional, encompasses many of the criteria discussed – frequent service, faster service, reliable service, range of services, cheaper services, safer, cleaner and more comfortable services. The second, information, delineates between tangible and intangible aspects of functionality, placing pricing information, maps, named/numbered stops, and regular electronic updating at stations/shelters (such as real time information systems – Disney, 1999) under this dimension. The third dimension is one that many studies have identified in various ways as a crucial attribute for usable public transport – an integrated system. This includes coordinated communications, modes of travel, routes, timetabling and ticketing. Transferable season tickets (Fitzroy and Smith, 1999), time-based pricing zones (Phillips and Sanders, 1999), and service delivery options (Hine and Scott, 2000) are amongst the mechanisms investigated for improving integration, with integrated ticketing being shown to improve patronage (Traffic Design Group Ltd., 1995; Fitzroy and Smith, 1999). Both EU and OECD countries have identified frequent, high quality vehicles operating with integrated ticketing as important in high quality public transport systems worldwide (ECMT, 2001).

To some extent, public transport marketers must also be aware of internal competition. TRC Africa (Pty) Ltd (2000) has found price, convenience, safety and speed to be determinants of the public transport mode used.

2.3 CUSTOMER TYPES

Various attempts have been made to categorise travellers, from Jensen's (1999) six mobility types, to the Federal Transit Administration's (1998) five reasons for travelling,

to a simple split between work/school and shopping/recreation destinations (e.g. National Research Bureau, 2000). Generally the segmentation is on the basis of why the trip is being made (or product use), rather than other typical marketing approaches such as psychographics, lifestyles or geo-demographics. This would seem to be because the 'product' has multiple uses. The Federal Transit Administration (1998) does distinguish, however, between user groups on the basis of income and location.

Taking the concept of flexibility and convenience as the prime disincentive for switching to public transport (as identified earlier) because of many consumers' need to go places on the spur of the moment (Colmar Brunton, 1994a, 1995; Forsyte, 1999) and to travel to many different places in a day (Colmar Brunton, 1994a, 1995; Gärling et al, 2000), it would appear logical to consider segmenting on the basis of flexibility in travel. Kingham et al (2001) note this in addressing commuter travel, pointing out that such journeys that are done routinely offer greater potential for travel by alternative non-car modes. Thus, regular travel (travel using the same route and time) should be less impacted by convenience and flexibility issues than irregular travel. As Andreassen (1995) notes, the key to successful marketing is the appreciation of different customer preferences, which form the basis for segmenting the market and for service differentiation. Transport customers may have different purposes for travel at different times (e.g. Mackett, 2001); so marketing to them solely on the basis of a constant demographic or similar is likely to fail. At one level, pricing, Huang (2000) has examined this by investigating the impact of pricing and travel mode on commuters who differ in their disutility from travel time, delays and crowding. Marketing to consumers on the basis of travel flexibility provides consistency across changing groups of customers.

This does not preclude the use of other segmentation measures though, such as lifestyles (Hine and Scott, 2000), purpose of trip (Gärling et al, 2000; Mackett, 2001), demographics (Hensher, 1998; Gärling et al, 2000; Simma and Axhausen, 2001), mobility (based on behaviour and attitude) types (Jensen, 1999), and social-psychological groups (Wright and Egan, 2000). If one of the three marketing approaches is to be used in isolation, any one of the methods for segmenting customers may be appropriate. Using travel flexibility allows for an over-arching approach within which other measures such as demographics, purpose of trip, etc... can then be usefully employed to allow targeting of the specific approach. Thus, we can look at the attitudes of regular travellers when using 'public good' marketing, on the assumption that long term gains can be made by campaigning to alter attitudes, whereas lifestyles of irregular travellers for 'public good' marketing may be more appropriate because we need to understand what is driving the various, spur-of-the-moment trips, so that we might suggest alternative, more socially responsible modes or destinations.

2.4 A TYPOLOGY

Accepting the three approaches used in marketing public transport, we can then apply them to the customer types. Irrespective of the actual destination, customers can be divided on the basis of trip type – regular or irregular, thus resulting in the three by two matrix of marketing modes displayed in Figure 1. Trip purpose specific choices can then be made on further categorisation or segmentation that may be appropriate. This brings in traditional segmentation marketing decisions beyond the scope of this paper.

Figure 1 about here

The one issue with this approach is that of trip chaining. A simple illustration demonstrates the problem in marketing to this person. A consumer may commute to work or school and is thus a regular traveller. During the day, they may need to visit a

dentist, go shopping, see a client, go to the central library, or change campuses/work sites. At this time they are an irregular traveller. Then they commute home (as a regular traveller) but require a side trip to pick up some last minute groceries (irregular traveller). As a regular traveller we may be able to convince them that convenience and flexibility are not issues and thus public transport is a viable alternative. But when they change into an irregular traveller, these issues arise. Hence, we cannot take the simplistic view that a traveller makes only one trip. To market public transport effectively we must appreciate all the trips a consumer may make in a travel period.

It is when considering trip chaining that we begin to appreciate fully how the typology shown in Figure 1 works. In the figure, each issue is placed where it most impacts. To illustrate, the last of the issues, an integrated system, is in the 'attributes-based – irregular customer/trip' because this is when it will have the greatest impact on whether such a traveller will use public transport - when they respond to attributes-based influences. The primary concerns of such a traveller are convenience and flexibility, which an integrated system goes a long way towards assuaging. Cost (see 'competitive – regular customer/trip' for location of this issue), for example, is not of such concern to this traveller. However, each issue is *to some degree* applicable to all the customer types, in all the marketing approaches. Thus, for example, a customer on a regular trip, who is appealed to by 'public good' marketing, does not put the attribute of an integrated system ahead of their social conscience, but with such a system, their public transport trip would be enhanced (and probably they could even further justify their social choice), and without such a system, the consumer who has the corollary of "it must be viable" when saying 'public good' appeals to them, would have some level of a legitimate excuse for not using public transport. Where trip chaining comes in, is in understanding that each consumer can (and does) move between customer/trip types, and the appeal-value of each of the marketing approaches.

This then sets the framework for further understanding the market for public transport;

- (1) Marketers need to understand the appeal of different marketing approaches ('public good', competitive, and attributes-based) to different segments.
- (2) The accompanying level of segmentation is by regularity of customer/trip.
- (3) Customers shift between customer/trip types and the appeal-value of marketing approaches.
- (4) These shifts can most likely be segmented by lower level analysis, such as lifestyles, psychographics, geo-demographics, and time/day/event, with directed (targeted) appeals (advertising themes, pricing, delivery systems, services, etc.) applied as per normal marketing techniques.

It is the last point that has perhaps created the most frustration with current marketers of public transport (and other public services). Strategies have been designed with only point 4 in mind, without considering the critical preceding determinant of segment membership – point 3. Marketers have recognised that marketing efforts need to be pertinent to different segments, but have not appreciated that consumers belong to multiple segments, determined by their most current situation, which in itself is a higher factor segmentation. In addition, there are likely to be crossover effects. The simplest illustration of this is in ticketing/pricing. A season ticket holder on a regular trip is more likely to employ public transport on an irregular trip if their ticket can be used (i.e. an integrated system). And, it does not have to be public/public or private/private crossover. For example, let us say a consumer has driven their private vehicle into the CBD and parked at a public car park. They have incurred a flat ten-dollar fee for part or all of the next two hours parking. They then decide (or as part of a planned trip) they want to go to another part of the CBD within those two hours. They can catch a bus for a dollar each way, or remove their car, forgo part of the value of the ten-dollar fee, pay another fee at

the other part of the CBD, and finally, if they then return to the original part of the CBD, incur a further ten-dollar fee. Thus they could park and ride for twelve dollars over two hours, or park and park and park for anywhere from twenty dollars to thirty dollars over the two hours. Thus, if the frequency and range of services is there, it makes public transport attractive (competitive appeal to an irregular customer), whilst the cost of parking is unattractive (competitive appeal to a regular traveller). Now, where this will work best is if the customer going on the irregular trip can be given simple information about how to use the public system for the inner-city travel (attributes-based appeal), offered an easy way to pay (competitive appeal), with perhaps the reinforcement of the message “is this (car) trip necessary?” being in the back of their mind because of advertising (public-good appeal).

The key to appreciating the marketing of public transport is recognising the multiplicity of situations that consumers may find themselves in. In some cases the situation and resultant trip may be planned, and regular. In others it may be planned but irregular, or finally, unplanned (and thus by definition, irregular¹). As such, the segmentation of customers for targeted marketing efforts becomes situation-specific, and only becomes demographic, attitudinal, or any other traditional segment-base, as a subset of the situation segment. The irony of course is that the characteristics of the subsets are stable, whereas the situations are fluid. The subsets themselves are ‘fluid’ in the degree of impact they have given the particular situation. To illustrate, a customer may have an attitude² that is positive towards social responsibility and ‘public good’. As a traveller to their workplace, the consumer can plan their trip, and identify that in their situation, public transport would be just as viable as a private car. However, once a week, they are required to travel to a branch of their business, which could be done in one hour using their car, or two hours using public transport. They recognise that public transport is the better social option, but that the time saved using a car is a better business option. Thus their attitude remains the same, but because their situation has changed, the attitude’s influence on the decision has reduced, and is overwhelmed by another attitude (responsibility to their employer).

Within each situation, and each marketing appeal, there are clear issues upon which to base the targeted approach, and these are identified in the typology constructed.

3. METHODOLOGY

A survey was conducted of households in the North Shore sector of the Auckland. North Shore was chosen for two reasons: first, the sector has a clearer public transport option than other sectors which may have partial offers in different parts of their sector. Second, at the time of the study there had been extensive media coverage and speculation on issues to do with transport options and issues in the other sectors in the region (primarily to do with train, and rail corridors, proposed new motorways, and the Britomart project), which was a potential moderator of any attitudes formed through short-term memory retrieval.

A simple random sample of 5000 households was selected using a database of all household addresses. Households were sent the survey (copy attached as appendix I), which included instructions on who should complete the survey, and what it was for.

¹ Even if the unplanned trip were using a regularly used route and system, it would be at a different time and possibly be for a different reason than normal.

² Attitudes are held to be stable because they either change only slowly over time, or require enormous pressure to change.

There were 212 (4%) returned as either no longer at the address or deceased. Of the remaining 4788 sent, 1248 (26%) replied. This is considered a reasonable response rate, particularly given the length of the questionnaire. Responses were entered into SPSS Ver. 11 for analysis.

3.1 SURVEY INSTRUMENT

The questionnaire employed was constructed using the issues identified in the theoretical typology, and the moderators/mediators identified as part of the framework.

Sections I & II contain questions concerning travel behaviour and patterns. These were for use in identifying consumer groups (Q1: users of public transport versus non-users; Q2: frequent users versus infrequent users), trip behaviour (Q2a: for users, when they use public transport; Q3: for all travellers, what trips are regularly made) and specific travel patterns for the regular and irregular trips (Q4, Q5, & Q6) used as the focal points for the attitudinal questions. By assessing behaviour and patterns we can determine whether groups differ in their attitudes (as hypothesised in the theoretical typology) and whether there is any relationship with the type of trips made (hypothesised by the literature reviewed in the typology paper). The main section contained 67 items covering all the issues identified in the typology, measured for a respondent nominated regular trip, and repeated for an irregular trip (so a total of 134 items). Each item was a Likert-type statement about the item and public transport – e.g. I would use PT (more) if *statement* – with a 5-point strongly disagree to strongly agree scale.

3.2 ANALYSIS APPROACH

First the overall ratings were determined for each item. Second, items were categorised into critical, neutral, and unimportant issues, based on their mean rating. This was done by conducting a series of t-tests ($\alpha = 0.05$) testing whether the mean rating for each issue differed significantly from 3 (the neutral or mid-point). Table 1 shows all those that were significantly below 3 and were thus considered unimportant and unlikely to influence people to use public transport (or use it more). The unimportant issues were dropped from the remainder of the analysis. Next, paired t-tests were conducted between the regular trip issue and its' corresponding irregular trip issue to see if differences ($\alpha = 0.05$) occurred between regular and irregular allowing segmentation. The results of these tests were applied to the typology framework, allowing us to identify issues that were only important to one of the trip types, identify issues that were equally important to both trip types, and identify issues that were unequally important to both trip types (ie both trip types considered the issue to be important, but one considered it significantly *more* important than the other).

4.0 RESULTS

4.1 ISSUES THAT WILL ENCOURAGE PUBLIC TRANSPORT USE

Degree of influence or importance of an issue was established by categorising items into one of three levels of importance based on whether the items differed significantly from the midpoint three. All tests were at the 95% confidence level.

Critical factors are aspects that consumers strongly rate as likely to encourage them to use (more) public transport. Moderately important issues are unlikely to act as switching

agents, however their omission from service design is likely to be noticed by the consumer. Other aspects that fell significantly below the midpoint of three were considered unimportant (and not influential) by patrons and are not included.

Of the 134 issues examined, 33 were considered unimportant for both trip types (25%) which, considering these are all issues emanating from academic and commercial literature suggesting strategies for public transport marketing, in itself is a notable finding. These issues are shown in Table 1 and it can be seen that for many of these issues they occur for both regular and irregular trips.

Table 1 about here

When it comes to the important issues however, we have 79 issues (59%) which makes it difficult to understand the approach that consumers are taking in deciding their use of public transport. Whilst it can be useful to look at something like the 'top five' (see Table 2) and note that they are considered important for both regular and irregular trips, it must be remembered that all 79 are considered by the traveller to be important. As we do not know whether the individual uses a compensatory model, we have to accept that each issue must be considered.

Table 2 about here

Managerially therefore, to make the list of 79 issues useful, it is appropriate to try and aggregate them into themes that can be addressed in marketing strategies. Therefore when applying the issues to the typology framework from Figure 1, we have created sub-categories or themes within each marketing approach, based upon the trip process and aspects within each stage of that process (see the next section and Table 3).

4.2 APPLICATION OF THE TYPOLOGY

The typology has two axes, the type of marketing approach employed (public good, competitive and attributes based) and the trip type by degree of regularity (Table 3).

Table 3 about here

Each of the 79 items that were considered important were placed within the typology. There are three types of placement:

- (1) If the item is only important for one trip type it is shown in one column in *italics*. E.g. it was significantly higher than 3 for, lets say, regular trips, but not for irregular trips so it would be in italics in the regular column.
- (2) If the item is important for both trip types, and is of equal importance (i.e. there was no significant difference between means of regular and irregular trips) then the item is placed across both columns in normal font.
- (3) If the item is important for both trip types, but is of unequal importance (e.g. it was significantly higher than 3 for both, but when compared to each other, it, lets say, came out significantly higher for irregular trips over regular trips) then it is placed in the column for which it is most important (in this case the irregular column).

As can be seen in Table 3, five of the issues were important for only one of the trip types, nine were considered equally important for both trip types, and 28 were considered important for both, but more important for one of the trip types³.

4.2.1 Which marketing approaches can be most successfully targeted for different trip types?

Each respondent was required to recall a specific trip when considering a regular or irregular trip. Based on this we can identify particular approaches that are likely to be more successful for any particular trip type, using analysis of variance on the important issues.

For instance, for a shopping trip we can see that there are different sets of issues that appeal for a regular versus an irregular shopping trip (Table 4a). Similarly, for a commute trip (Table 4b), we can do the same. What quickly becomes clear is that not only do regular trips differ from irregular trips but that trip purpose can then further segment the appeals

5.0 DISCUSSION

The objectives of this research were twofold; to synthesise the extant literature on public transport marketing into a useful typology framework for managers, and to empirically test the typology on an actual market. Examination of the literature has culminated in the development of a typology of public transport marketing issues that is formed around the approach employed in marketing (public good, competitive and attributes-based) and the trip type (regular versus irregular). The results suggest however that not only can we segment the market on the basis of these trip types, and apply specific issues identified as important, but that we can also examine the marketing approaches under a sub-framework of trip process. Furthermore we can also achieve greater managerial usefulness by subsequently applying trip purpose (e.g. shopping versus commuting) to the regular versus irregular trip type and consequently arriving at a set of clear issues specifically identified as critical to that traveller.

Finally, by virtue of each respondent considering two different trip types and generally two different trip purposes, we have, (by implication in that the aggregated ratings change when type and purpose change), shown that consumers of transport do in fact shift between regular and irregular trips and between the bases of marketing appeals (public good, competitive, and attributes-based). Thus it is critical for marketers of public transport to understand that broad-based, single message appeals will not be as effective as targeted, situation-specific (type, and type/purpose) messages, that cater to changing needs of consumers.

³ Note, the five occur once, the nine occur twice but are shown only once, and the 28 occur twice but are shown only once, thus, $5 + 18 + 56 = 79$ issues.

Figure 1. A typology of Public Transport Marketing

Marketing Approach	Customer (Trip) Type	
	Regular	Irregular
<i>Public Good</i>	<p>Most likely to work with this customer type (Kingham 2001) if a viable alternative is available, because change is to a regular alternative.</p> <p>Environment friendliness and reduction of congestion are prime reasons for general public to use (Forsyte, 1999)</p> <p>'Public good' not a strong motivator for individual behaviour change (Forsyte, 1999)</p> <p>Government supply is no less efficient than private (Pina and Torres, 2001)</p> <p>...but must not be at expense of other 'public good' elements (Research Solutions, 1999)</p> <p>Supplies vital links for those who need it to jobs, shopping, education, healthcare, and society (Federal Transit Administration, 1998)</p> <p>Issue of sustainability (Litman, 1999a, 1999b; ECMT, 2001)</p>	<p>"Is this trip necessary?" appeals may work if consequences tangible, immediate, and significant (Walsh, 1988)</p>
<i>Competitive</i>	<p>De-marketing of the car by making it inconvenient for regular use (Wright and Egan, 2000) or unattractive because of regularly incurred costs (Hensler, 1998)</p> <p>Switch if system was improved (Mackett, 2001)</p> <p>Price and travel time increases wouldn't force the majority of car users to switch (Colmar Brunton, 2000)</p> <p>Social dilemma – people favour policies that benefit the environment and reduce congestion, as long as they don't have to change (Tertoolen et al, 1998; Jensen, 1999)</p> <p>Pull from cars by making public transport more attractive, rather than push by making cars unattractive (Research Solutions, 1999; NSCC, 1999; Colmar Brunton, 2000; Stradling et al, 2000; Mackett, 2000)</p> <p>Employer/school subsidies are strong motivators of use (The Howell Research Group, 1998), daily cost is a reason for non-use of public transport (Tony Francis and Assoc., 1993), and lower fares would encourage more use (The Howell Research Group, 1998; NSCC, 1999)</p> <p>Socialisation aspects can be important (Opinions Market Research Limited, 1999)</p>	<p>Convenience and flexibility are the main motivations against public transport (Heylen, 1993; Tony Francis and Assoc., 1993; Colmar Brunton, 2000; National Research Bureau, 2000)</p> <p>Switch if greater frequency and range of services (The Howell Research Group, 1998; NSCC, 1999; Colmar Brunton, 2000; Kingham et al, 2001)</p> <p>Cost is important in understanding choices made (Cairling et al, 2000), but the actual amount is not important (National Research Bureau, 2000, Colmar Brunton, 2000); it is the marginal cost at point of use (Simma and Axhausen, 2001).</p>
<i>Attitude-Based</i>	<p>Functional aspects have a strong focus (Andreassen, 1995; MVV, 1997; Edvardsson, 1998; Fitzroy and Smith, 1998; Disney, 1999; Transportation Research Board, 1999; Friman et al, 2001; Friman and Cairling, 2001)</p> <p>Key elements appear to be (1) treatment by staff (conduct), (2) reliability (punctuality), (3) simplicity of information given, and (4) vehicle design (comfort, safety, appearance), (Disney, 1999; Friman et al, 2001; Friman and Cairling, 2001) which also synthesise previous studies (Andreassen, 1995; MVV, 1997; Edvardsson, 1998; Fitzroy and Smith, 1998; Transportation Research Board, 1999)</p>	<p>An integrated system is crucial in dealing with convenience and flexibility issues, with coordinated communications, modes of travel, routes, timetabling and ticketing (e.g. Fitzroy and Smith, 1999; Phillips and Sanders, 1999; Colmar Brunton, 2001, ECMT, 2001)</p>

Table 1. Factors that were considered unimportant and unlikely to influence people to use PT for more trips.

Category	Regular trips	Irregular trips
Public good <i>Environmental factors</i>	Reduced pollution levels	Reduced pollution levels
	Reduced number of roads to be built	Reduced number of roads to be built
	Negative effects of cars	Negative effects of cars
	Govt imposed emission taxes	Govt imposed emission taxes
		Non-polluting vehicles
<i>Travel Demand Management</i>	Employer encouraged work from home	Employer encouraged work from home
	I could live closer to shopping	I could live closer to shopping
	Fewer places to park a car	Fewer places to park a car
	Road tolls imposed	Road tolls imposed
	Parking fees more than doubled	Parking fees more than doubled
		Employer subsidized passes
		I could live closer to work
Attributes based <i>PT information</i>	PT info accessible on cellphone	PT info accessible on cellphone
	Signs & information in diff languages	Signs & information in diff languages
	I knew how to get a ticket	I knew how to get a ticket
	Stop names visible	Stop names visible
	Customer service number displayed	Customer service number displayed
Service recovery	Complaints service	Complaints service

Table 2. The critical issues that influence decisions to use public transport for regular and irregular trips	Regular trips	Irregular trips
	Mean \pm Std. Deviation	Mean \pm Std. Deviation
Service went where I want to go	3.98 \pm 1.25	3.87 \pm 1.31
More direct services	3.94 \pm 1.25	3.79 \pm 1.29
One ticket - multiple modes	3.82 \pm 1.30	3.72 \pm 1.36
Quicker journey times	3.81 \pm 1.28	3.67 \pm 1.29
Better links between modes	3.74 \pm 1.26	3.65 \pm 1.33

Table 3. Application of the typology. Issues are categorised by trip type and marketing approach. If the item is only important for one trip type it is shown in one column in *italics*. If an issue appears in the centre of the cell it is common to both trip types. If the item is important for both trip types, but is of unequal importance it appears in the column for which it is most important.

Marketing approach			Trip Type		
			Regular	Irregular	
Attribute based	Overall service	Integrated across modes	One ticket - multiple modes		
			Better links between modes		
			Transfers did not add to costs		
			Park and ride options		
			Amenities for bikes/prams/wheel chairs		
			Consistency of fare structure between operators/modes		
			Cost	PT was cheaper	
				Paying fares was convenient	
			Service coverage	PT all night	
			Safe	PT was safer	
				Not have to worry about nuisance behaviour	
			Information	PT info more reliable between modes	
			Wait at stop	Display when next service arrives	
			Amenity	Covered shelter with seats	
			Cleanliness	No graffiti or odour at stop	
	Service recovery	Overcrowded extra service			
	Trip	Convenient	Service went where I want to go		
		Frequent/fast/direct	More direct services		
			More frequent		
			Quicker journey times		
			More frequent at weekends		
		Staff	PT staff knew the system		
			PT staff were friendly & helpful		
		Vehicles	Vehicles were well maintained		
			Temperature inside was comfortable		
			Seats were comfortable		
			Vehicle was quiet		
			Ride was smooth		
		Information	Route info on board		
		Cleanliness	No odours in vehicle		
			Vehicle was clean		
			Seats always available		

Competitive		Image of PT	PT perception improved
		Congestion policies	<i>City centres closed to cars</i>
			Bus priority lanes were introduced
		Costs	PT was cheaper to use than my car
			Time spent travelling in car doubled but PT was faster
Public good		Travel demand mgt	<i>I could live closer to work</i>
		Congestion	Reduced congestion & improved mobility
			<i>Reduced congestion & improved productivity</i>
			Reduced neighbourhood traffic
		Health/environmental	<i>Reduced accidents</i>
			<i>Improved air quality and reduced deaths related to air pollution</i>

Table 4. Marketing appeals for different trip types.

The following tables show the types of issues they will appeal to different trip purposes.

a. Shopping trip

Regular shopping trip	Irregular shopping trip
Covered shelter with seats	No odor in vehicle
No graffiti or odor at stop	Vehicle clean
No odor in vehicle	Vehicle is quiet
Vehicle is quiet	Ride is smooth
Consistency of fare structure	More frequent services
	More frequent at weekends
	Vehicles well maintained
	Staff are helpful
	Consistency of fare structures
	Transfers do not add to costs

b. Commuter trip

Regular commute trip	Irregular commute trip
Accurately display when next service arrives	Reduced congestion/improved mobility
More frequent services	
More frequent at weekends	

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