Public Transport Stop Information:
A Marketing Action Plan

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CONTENTS

1.0 EXECUTIVE SUMMARY

This report outlines world's best practice and community expectations for information at public transport stops. Rather than providing a set of internationally determined guidelines that are considered to be "world's best practice", this report stresses the importance of continuous market research to determine what information and services will keep local customers satisfied, and what will attract new customers. The people of a region are the experts on world's best practice, and public transport providers must ask them what will attract them to the network – what will coax them out of their car.

An extensive review of academic and industry research is complemented by a recent survey of community attitudes carried out specifically for this report. While the report focuses on public transport services in South East Queensland (SEQ), Australia, it is intended to be nationally and internationally applicable.

The report begins by examining the South East Queensland regional context (Section 3), which can be seen as a case study for the issues discussed in the report. Current information provision in SEQ is outlined for all public transport modes, followed by results of the recent Smogbusters Better Public Transport Survey.

Section 4 provides a number of specific measures of world's best practice for public transport information. It begins with a call for consumer orientation of public transport services and information, and highlights the need for a well-integrated "information system" rather than the random provision of disjointed and inadequate brochures and signs. Minimum information standards and physical provision at stops are discussed, followed by a look at key elements of the information system away from the stop. The section concludes by outlining specific issues in providing information to customers with disabilities and difficulties, and to customers who do not speak English.

Section 5 incorporates the issues discussed in the previous two sections into an Action Plan for provision of information at public transport stops in South East Queensland. Recommendations include three key actions, followed by five additional actions. They are:

Key Actions

Action 1. Ensure the provision of timetable information and route maps at every public transport stop in South East Queensland. (QT, Providers)

Action 2. Adopt a hierarchy of stops setting minimum requirements for information provision at each type of stop. (QT)

Action 3. Review and overhaul the region's existing information system including all existing and proposed public transport information, both at stops and away from stops, based on market research and customer input. (QT, Providers)

Additional Actions

Action 4. Increase service frequency almost universally in South East Queensland, to simplify information provision requirements and to significantly improve customer satisfaction with public transport. (QT, Providers)

Action 5. Develop an extensive complaint system that seeks to take advantage of customer dissatisfaction as a means to further improve public transport services. (QT, Providers)

Action 6. Enhance and extend TransInfo telephone and internet services, including the following elements: (QT)

- provision of a freecall 1800 number to encourage wider use;
- acceptance of complaints, with concern expressed and prompt response guaranteed;
- provision of and marketing of a translator service through TransInfo (possibly utilising the federal government's translation service);
- advertising of a TTY telephone number in addition to 131230 for customers with hearing impairment;
- availability of personalised timetables to print out from the internet (possibly PDF format); and
- availability of multi-lingual timetables for printout from the internet.

Action 7. Optimise use of bus shelter wall space for (1) network maps and other public transport information; and (2) additional income through private advertisers (only after the necessary network information has been provided). (QT, Providers)

Action 8. Develop a Queensland Transport Code of Practice for public transport information in Queensland, and incorporate this standard into existing contracts with providers. (QT)

The report concludes that a world's best practice public transport information system is one that provides a high level of high-quality information to the community including information at every stop, and one that is integrated into a high-frequency public transport system that is simple and convenient for all to use. Specific areas of further research are also suggested.

2.0 INTRODUCTION: "WORLD'S BEST PRACTICE" IS MARKETING

> By appealing to our basic motives, the automobile industry has captured our hearts and minds. The American success story is written in terms of how many cars there are in the garage. This is what we are up against in an attempt to move Americans away from their automobiles and toward public transportation.
>
> -Bronzaft (1981), p.37

Australia, like the United States, is an automobile culture. This culture has resulted not just from clever automobile industry marketing, but from the evolution of a transport system that makes any other transport mode unthinkable to most people.

This report proposes a new frame of mind for public transport providers: that we can out-market the automobile by enlisting members of the public to tell *us* what is needed. Extensive market research will be necessary to determine what makes public transport easy and attractive for people to use, and to find the best way to educate the public about what services are currently available.

Marketers are never satisfied with their current market share. Public transport providers must become shrewd marketers, forever seeking the new combination of features that will grab another handful of new customers. Market research has often been used by public transport providers to affirm that existing services are good enough. However, planners can only expect significant shifts from automobile use to public transport use if their market research presents community members with innovative alternatives to choose from. In the marketplace, new products rarely succeed. Market research is a way to make good ideas perfect, and to prevent heavy investment in bad ideas.

This report examines community expectations and world's best practice for information at public transport stops, and concludes that the only experts on "world's best practice" are *the passenger* and *the potential passenger*. The best idea in the world is worthless unless market research is carried out to determine whether the customer is satisfied, or exactly what improvements should be made. Public transport providers are called upon to open the lines of communication with passengers and potential passengers, and to follow the primary principle of marketing: "Love your customer, not your product" (McColl-Kennedy and Kiel 2000, p.13).

3.0 THE SOUTH EAST QUEENSLAND CONTEXT

The IRTP seeks to increase the current proportion of trips made on public transport in SEQ by 50% in the year 2011. The overall market share of public transport would increase from 7.0% in 1992 to 10.5% of all trips, compared with a decline to about 6.3% if present trends continued.

-*IRTP*, Queensland Transport (1997), p.x

The public transport challenge for Brisbane is significant but not overwhelming. For example, by 2011, one out of every two trips to and from the CBD during peak periods must be made by public transport if Brisbane is to achieve its livable city goals.

-*TravelSmart*, Brisbane City Council (c. 1996), p.15

South East Queensland (SEQ) has a population of about 2 million people including about 1.5 million within the Brisbane metropolitan sub-region (QT 1999, pp.7-8). This population is growing by about 1000 people per week (QT 1999, p.8).

State and local governments in the region have made very clear commitments to increasing public transport use. In terms of public transport information, the Integrated Regional Transport Plan (IRTP) commits to "integrated fares, ticketing, passenger information and marketing" (QT 1997, p.37), and "continuously improved information about timetables, fares and tickets" (Action 5.22c, QT 1997, p.123).

Currently in SEQ a number of public transport services are enjoyed including extensive rail and bus networks throughout the region, as well as ferry services in Brisbane. In addition, a light rail inner-city distributor system is under development for Brisbane. Both Queensland Rail (Citytrain) and Brisbane Transport (buses and ferries) have recently announced patronage increases, but growth in the population of SEQ prevent these patronage increases from affecting the actual percentage of trips by public transport. Public transport services are used for only about 6.5% of trips (QT 1999, p.3); a modal split more closely resembling the IRTP's "present trend" scenario than the IRTP modal shift targets of 9% of trips by 2007 and 10.5% of trips by 2011.

Though the recent focus of service improvements in SEQ has been on large-scale infrastructure projects, customers are still demanding a number of inexpensive and easy improvements to information provision that have been thus far overlooked by providers. This section begins with an overview of existing information and concludes with an analysis of community attitudes and expectations.

3.1 Existing Public Transport Information, SEQ

This report takes an integrated approach to public transport information, linking information at stops to an entire information system incorporating all available information about public transport in the region. This subsection contains a description of the public transport information system of SEQ by identifying information currently available *at stops* and *away from stops*.

3.1.1 Information at stops, SEQ

Three-quarters of Brisbane's bus stops provide no information

Information provided at public transport stops in SEQ ranges from almost no information to very high levels of information. In the Action Plan for South East Queensland, Section 5, this report will propose a hierarchy of public transport stops including minimum treatments for each. The types of stops are listed below, followed by a brief description of each.[2]

- BT normal bus stops
- BT CityExpress bus stops
- Special bus interchanges
- BT CBD/Valley bus stops
- QR Citytrain minor stations
- QR Citytrain major stations
- BT CityCat and City Ferry jetties
- Cross-river ferry terminals

BT normal bus stops. Often the only information provided at these stops is a small yellow sign about 50 cm high by 30 cm wide containing a stop number and the TransInfo telephone number. These signs sometimes identify the fare zone and list which types of buses use the stop (CityBus, Community Bus etc), but never mention specific routes or times. The only exception is stops along a few selected routes that have been provided with "BLISS" real-time LED listings of the next four buses, their estimated time of arrival and their destination, as well as the current time.

CityExpress sign

BT CityExpress bus stops. Each of these stops has a unique name clearly visible on signage. Some stops are provided with a 1 metre high by 30 cm wide frame attached to the sign post including a list of times at which buses pass. Route maps are rarely if ever included. Some have "BLISS" real-time information, described above.

Special bus interchanges. Bus interchanges are by nature more like train stations than bus stops, though some are above-ground or not walled in. Most interchanges use a 2 metre high by 50 cm wide post-mounted sign (larger than at CityExpress stops), and some have a 70 cm high by 1 metre wide double-posted sign in addition. These signs provide usually both bus passing times and route maps. The **Myer Centre** (CBD) is equipped with television monitors at each "platform" (A-P) displaying the next bus to depart and its time of departure, and also an electronic kiosk (at Platform F - see photo) providing timetable and route map information for all buses passing through the Myer Centre. The **University of Queensland** (UQ-St Lucia) has an additional board listing in chronological order every bus that leaves the

Myer Centre kiosk (with paper timetables affixed)

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[1] This report focuses on Brisbane Transport (BT) and Queensland Rail (QR) services for simplicity, but Gold Coast and Sunshine Coast services offer approximately the same information.

2-metre high post-mounted sign

interchange each day. **Busway stations** (SE Transit Busway, Inner Northern Busway) will share many characteristics of other bus interchanges, but their compact and walled-in design will make them even more like train stations. They may require additional information and services as a result of sometimes being surrounded by residential areas.

BT CBD/Valley bus stops. Stops in the Brisbane Central Business District and Fortitude Valley (excluding the Myer Centre interchange) are provided with colour-coded versions of the taller interchange signs (with route maps) plus the double-posted additional signs (with bus passing times). In the past Brisbane Transport brochures have identified CBD stops as "Red 1", "Orange 9", etc (because not all red stops host the same routes), but the new *Brisbane Public Transport Directory* (Brisbane City Council, 2000) labels stops as A through Z and AA through AH. CBD bus stops have never been physically labelled with a unique stop name.

QR Citytrain minor and major train stations. All train stations provide some form of timetable information and schematic route/network maps, and some provide local area maps. Many provide real-time information on television monitors on each platform. The distinction between "minor" and "major" train stations in this report is loosely based on passenger volume. The hierarchy of minimum information in Section 5 provides QR with recommendations for enhanced information at its largest access and transfer points, as well as minimum treatments for its less frequently used stations.

"double-posted" sign

BT CityCat and City Ferry jetties. These are perhaps the best-equipped public transport stops in SEQ in terms of information. Most if not all stations have timetable information, route maps, ferry network maps and local area maps, and many have a public telephone for accessing TransInfo.

Cross-river ferry terminals. Brisbane Transport runs several cross-river ferries whose terminals share the characteristics of the CityCat and City Ferry jetties. The exception is the Dutton Park to UQ-St Lucia ferry run by Queensland Transport. Information provided at each terminal of the Dutton Park ferry consists solely of an unprotected piece of A4 paper listing the first and last ferry and approximate departure frequency. Unfortunately the terminals appear totally uncared for, and the sign is frequently absent, vandalised, or difficult to see among posters and graffiti.

3.1.2 Information away from stops, SEQ

- The following types of public transport information are available away from public transport stops in SEQ:
- printed bus timetables and route maps for all BT buses (A4/A3 folded)
- printed train timetables and route maps for all QR Citytrain lines (A6 booklet)
- printed site-specific timetables for most QR Citytrain stations (wallet-sized)
- printed ferry timetables and route maps for all but cross-river ferries (A4/A3 folded)

- network map of bus, train and ferry services within Brisbane City, *Brisbane Public Transport Directory*, first printing March 2000 (A5 booklet)
- telephone information service for all SEQ public transport services (TransInfo, 131 230)
- internet information service for all SEQ public transport services (TransInfo, www.transinfo.qld.gov.au)
- Brisbane City Council general information kiosks that allow connection to TransInfo
- other assorted brochures containing details on fares, security, etc

3.2 Community Attitudes and Expectations

The community views contained in this report are based on results from the Smogbusters Better Public Transport Survey, carried out during late-1999 and early 2000 as a part of this study. The report also considers a number of past Smogbusters surveys and the comments of several community groups and peak bodies whose input was sought to complement the survey and research content of the report.

3.2.1 Smogbusters Better Public Transport Survey 1999-2000

Three-hundred and fifty South East Queenslanders responded to the Smogbusters Better Public Transport Survey between December 1999 and March 2000. Questions ranged from general public transport service satisfaction to detailed questions about information provision and information consumption. Participants consisted of both public transport users and non-users. The actual survey form is included in Appendix 1, and more detailed survey results are included in Appendix 2.

Overall service ratings. Respondents rated SEQ train services very highly, with 64% describing services as "very good" or "good". Ferry ratings were moderately high, with 83% of those who answered the question saying ferry services were either "good" or "fair". SEQ bus services, however, received the lowest satisfaction rating, with 17% describing services as "poor" and only 36% as "good" or "very good". These results are shown in Figure 1, and a complete listing of respondents' actual comments is included in Appendix 2, providing concrete illustrations of reasons for satisfaction and dissatisfaction.

Figure 1: How do you rate SEQ public transport services?
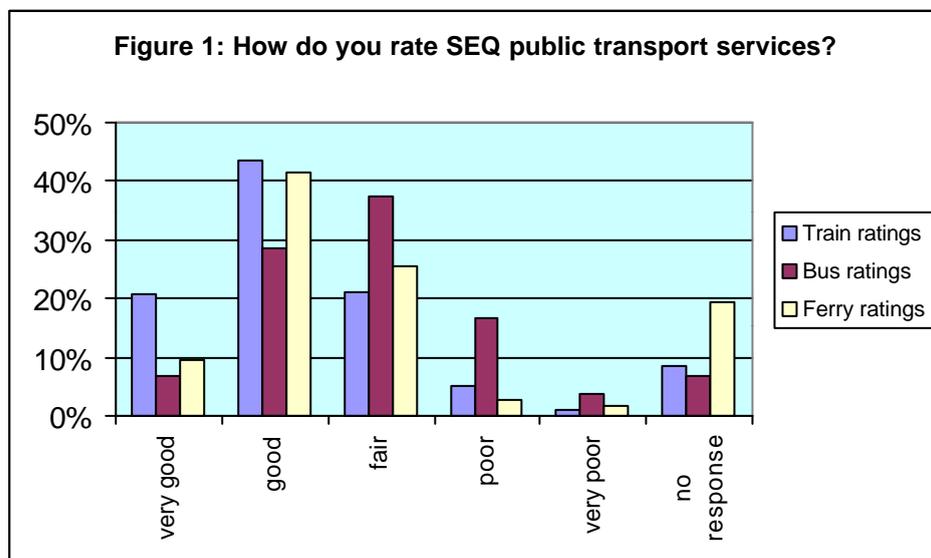
Services at bus stops. Surveys indicated a high level of demand for information at bus stops. When presented with a number of potential services for their local bus stop, respondents rated route maps and timetables as the two most important services they would like to see provided. Route maps were demanded on 57% of returned surveys, and timetables on 54% of surveys. In addition, local area maps were requested on 41% of surveys. Other services rating highly included ticket machines (53%) and sun/rain shelter (42%). These results are shown in Figure 2.

Figure 2: What do people want at bus stops?

Service	Percentage
route map	57.1%
timetable	54.3%
ticket machine	52.6%
sun/rain shelter	41.7%
local area map	41.4%
lighting	34.0%
rubbish bin	30.0%
phone	25.7%
seats	22.0%
security	16.6%
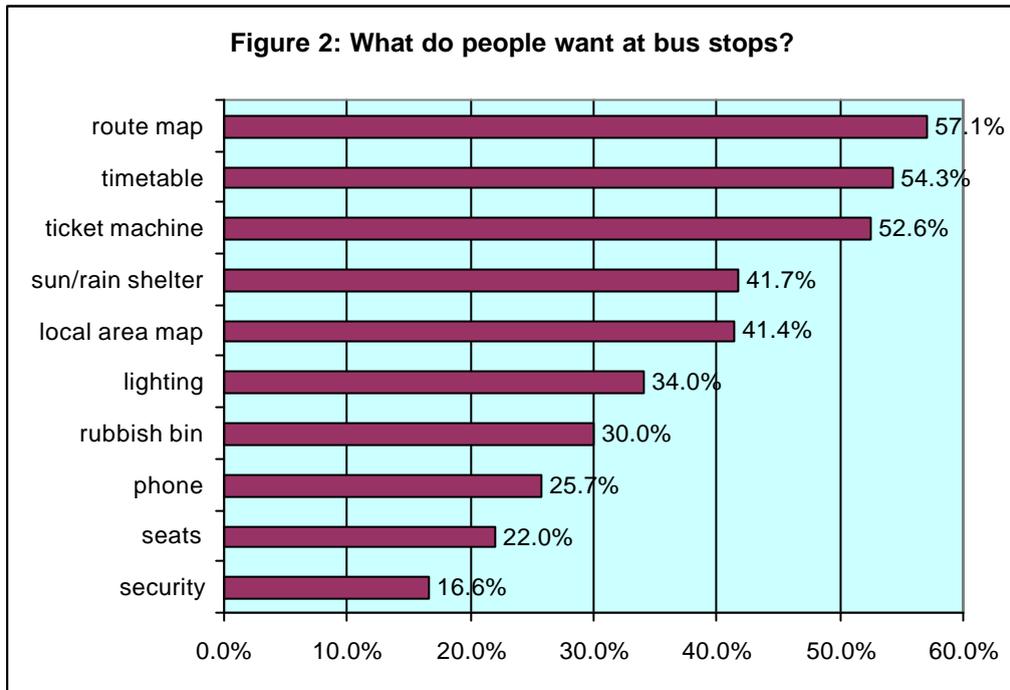
Services at train stations. Respondents were much more satisfied with services at SEQ train stations than at bus stops. This is consistent with responses to overall service satisfaction. Of the twelve services listed, over 70% of respondents who answered the question said that all services listed except local area maps were already present at their local train station. However, local area maps were said to be present by only 24% of those who answered the question. Local area maps topped the wish list, with 51% of those who answered the question requesting local area maps at their local train station. This amounted to 27% of returned surveys. Results are in Figure 3.

Figure 3: What do people want at train stations?

Item	%
local area map	27.1%
staff	14.6%
phone	13.7%
route map	13.1%
security	12.0%
video surveillance	11.7%
timetable	9.1%
sun/rain shelter	8.9%
lighting	8.9%
ticket machine	7.4%
rubbish bin	7.1%
seats	6.9%

Figure 4: How do you obtain PT information

	regular trips	ad hoc trips
keep a copy of timetable	90%	45%
phone TransInfo	50%	66%
information at bus/train stop	36%	38%
just wait for next service	30%	30%

Obtaining public transport information. The survey asked what sources of information are used by respondents for (a) regular trips and (b) ad hoc trips. Results show that for regular trips more people rely on printed timetables than any other information source (90% of respondents), but respondents on average indicated reliance on two of the information sources. For ad hoc trips a larger percentage rely on TransInfo's telephone service (66%) than printed timetables (45%), but once again more than one information source was ticked by many respondents. Also significant is that a considerable percentage of respondents rely on information at stops or simply wait for the next service, despite relatively low levels of information at stops in SEQ and relatively low levels of service frequency. These results (Figure 4) show that public transport users

cannot be expected to rely on only one source of information - rather they require a range of information sources that they can choose from depending on the type of trip.

It is worth noting that a recent Smogbusters workplace transport survey found that about three out of every eight trips made by employees were non-commuting trips, including errands during the work day and other stops on the way home from work (Cupitt 2000, personal communication). This suggests the importance of further understanding information search behaviour of potential public transport users, especially in relation to ad hoc trips.

Public transport improvements. In contrast to the prompted questions about services at bus stops and train stations, the survey gave respondents three blank lines on which to answer the question "What would have to change before you choose to travel by public transport more often?" The largest numbers of responses to this question were categorised as "frequency", "cheaper fares" or "integration" (see Figure 5). This seems inconsistent with the earlier results that stressed the importance of information provision. It is possible that respondents felt they had already registered their information needs but had not yet been asked specifically about other aspects of public transport services.

Figure 5: What would have to change for you to use PT?

Category	Percentage
frequency	24.0%
cheaper fares	21.9%
integration	12.4%
bike facilities	9.4%
faster PT	8.2%
routes	7.7%
bus pollution	3.9%
timetables	3.9%
disincentives	3.4%
security	2.1%
light rail	2.1%
air conditioning	0.9%
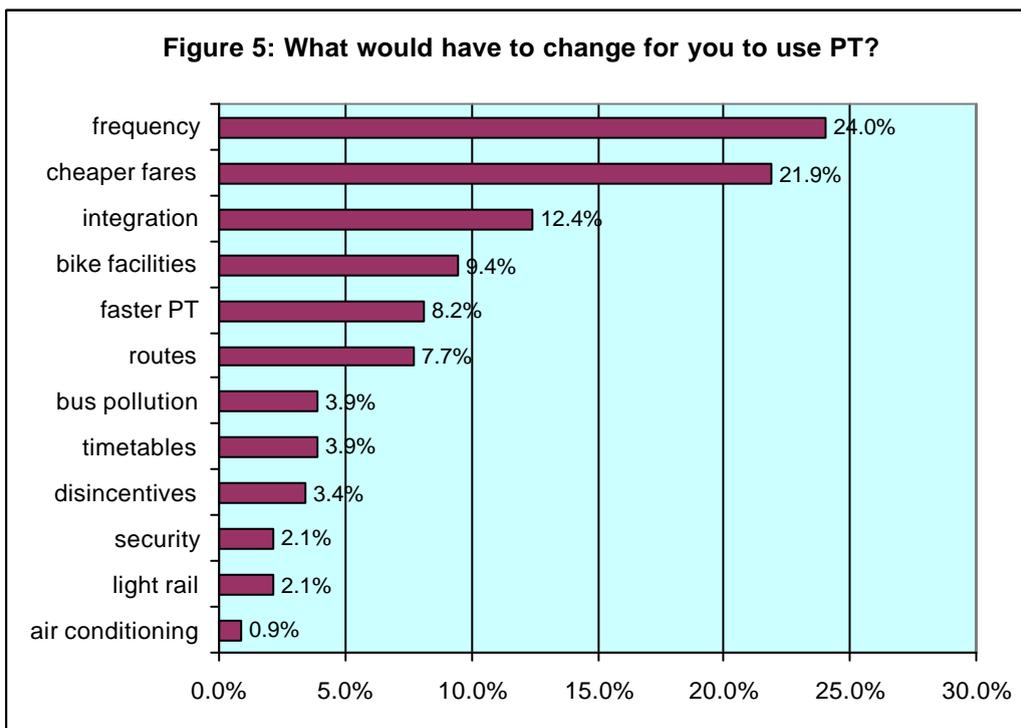
A 1995 Environment Victoria report identifies service frequency, service speed and connections between modes as the three key elements of a useable public transport system (Machin and Stone 1995). The Smogbusters Better Public Transport Survey suggests that to these three must be added information. A world-class information system can do nothing on its own to move passengers, but the best service in the world is useless without an information system to let people know how to use the service.

3.2.2   Other Smogbusters surveys

The Smogbusters random telephone survey *Making Connections: Community Attitudes to Transport Related Air Pollution in Metropolitan Brisbane* (Whelan 1997) identified that "Timetables (format or availability)" was considered by 41% of respondents to be an important improvement to make bus services more convenient. This was the fifth highest rating after "Frequency", "Ticket Cost", "Reliability" and "Routes" (see Figure 6). Though what form of improvement was not specified, a clear need for improved information was identified.

Figure 6: Preferred improvements to bus services

Suggested improvement	% respondents
Frequency	52
Security	25
Ticket Cost	46
Reliability	45
Routes	45
Timetables (format or availability)	41
Hours of Operation	39
Bus stop amenities [seating, etc]	38
Connections between buses and trains	37
Drivers/staff (attitude or manners)	28
Access to bus stops and buses	25
Comfort	17

Source: Whelan, James (1997), *Making Connections: Community Attitudes to Transport Related Air Pollution in Metropolitan Brisbane*, February, Smogbusters Brisbane, Brisbane QLD, p.9.

Another survey in February 1999 (Whelan 1999) did not specifically focus on public transport information, but once again showed community concern about the lack of information at public transport stops. Unprompted, 5% of respondents listed better information at stops as the most important way public transport could be improved in their area.

3.2.3   Community groups and peak bodies

In order to identify the most important needs of specific sectors of the community, contact was made or attempted with several additional community groups and peak bodies during the writing of this report. These groups included:

- Council on the Ageing, Qld
- Deaf and Blind Association, Qld
- Deaf Society of Queensland
- Inala Community House
- Metropolitan Senior Citizens Centre
- Multicultural Development Assoc'n
- Paraplegic and Quadriplegic Association of Queensland

- Parents and Citizens Association
- Public Transport Alliance
- Queensland Blind Association
- Queensland Foundation for Blind People
- Royal Blind Society of Queensland
- Spina Bifida Association of Queensland
- Youth Affairs Network Queensland

Comments from these organisations have contributed to the shaping of this report.

4.0 WORLD'S BEST PRACTICE: The Minimum Requirement

> The urban transportation decision is not between cars and transit; cars will continue to dominate in all developed countries until energy is no longer available at acceptable cost. The real decision is whether transit will be provided as a viable choice relative to the automobile for a significant proportion of the population - that is, treated seriously - or whether it will only be an appendage to a car-oriented society, used by those who have no choice.
>
> -Juri Pill, Toronto Transit Commission, in PTUA (1991), p.17.

Meeting the standards set by other transit authorities around the world *should not* be the ultimate goal of public transport planners in any region. World's best practice is the *least* we can do - the "lowest common denominator" - and no less should be accepted by planners because no less will be accepted (and used) by the public.

The best transit systems in the world are "the best" not because they have followed a set of internationally accepted guidelines, but because they have provided public transport services that fulfil the transport needs of a large percentage of their potential customers - that is, the local population as a whole.

This section outlines industry accepted practices for providing information at public transport stops. Before examining the elements of a world's best practice information system, methods of physical provision of information at stops and away from stops, the discussion focuses on a consumer-oriented frame of mind for public transport planners and providers. World's best practice methods provide a broad guide, but it is up to planners and providers to not just adopt but to improve on these methods in order to satisfy the public transport users and non-users of their region.

4.1   Consumer Orientation of Public Transport Services

Many public transport providers develop and maintain what they perceive to be top quality services, only to find that people are not using the service. This "product oriented" approach has kept many public transport providers from reaching potential customers. Many of these customers currently enjoy the convenient world of private motor vehicle transport and will not be lured away by just any brightly-painted bus.

Marketing is about asking potential customers what they would buy, and then providing it. "Consumer orientation", or giving customers what they want, is the first of four premises that make up the "marketing concept" (McColl-Kennedy and Kiel 2000, p.14). In order to determine what customers want, and to keep track of constant changes in customer needs, consumer-oriented organisations undertake continuous market research, which is the second premise of the marketing concept. The third premise is that all activities in an organisation must be integrated towards the goal of delivering a product or service to a set of customers; and the final premise is that if the first three premises are followed, the organisation will achieve customer satisfaction, which leads to loyal customers, which leads to repeat business.

Fielding (1987, pp.182-183) describes an integrated public transport marketing program as including the following elements:

- a systems approach that begins with goals and objectives, proceeds with actions plans, and includes evaluation procedures that build self-control into the marketing plan;
- Market segmentation studies to determine who the regular patrons are, how to meet their needs and desires, and how they respond to services offered;
- integration of service development (including pricing) with promotion and customer service; and
- a management philosophy that is market oriented and receptive to marketing experiments and that integrates the marketing plan into a development and evaluation cycle consistent with the strategic approach to management.

-Fielding (1987, pp.182-183)

Just as it is necessary on the larger scale to apply the marketing concept to the entire public transport service, it is equally necessary to apply the marketing concept to the information element of the service alone. A world-class public transport system requires a world-class information system developed through market research with the assistance of the customers it is meant to serve, both current and potential. This information system must be an integrated package that is also integrated into the rest of the public transport service to ensure a satisfying experience for the customer from the beginning to the end of the service delivery.

4.1.1   Market research

A 1997 UK study from the Association of Transport Coordinating Officers (ATCO) stated that the effectiveness of the public transport information provided by the 64 organisations examined in the study was usually based on anecdotal evidence rather than market research. The report concluded:

There are many choices to be made in presenting information. The best people to make these choices are the customers, but they are rarely asked.

-Saxby (1997), p.1

Who to employ and what to ask. Market research firms and academic researchers in areas such as communication, marketing or graphic design can be employed, and they will be familiar with a variety of market research techniques suitable to any research question. These questions can range from what types of information to provide to precisely what fonts and colours to use.

For example, in determining the best possible timetable design, one might measure response times for typical information seeking tasks, and then translate users' difficulties and complaints into an improved design followed by retesting (Saxby 1997). For questions of information distribution, one might distribute a new network map to homes in particular neighbourhoods and follow-up with a survey of people's memory of the map, people's actual usage of the map and actual change in travel behaviour resulting from the map (Kennington 1998; Fielding 1981).

Test current information against alternatives. Market research must go beyond gauging customer satisfaction with existing information and services. For example, a 1997 Transperth study determined that because 74% of respondents were satisfied with the size of their existing timetable pamphlet, there was no need to alter it. However, another study that provided participants with four different pamphlets ranging from wallet-size to slightly larger than the existing timetable found that 85% wanted the wallet-size timetable, the other 15% wanted the next size up, and *no one preferred the size of the existing timetable* (Stanley 1997).

Ensure that information is useable. Before any new information "product" is placed on the public transport market, whether it is a new bus stop sign, timetable or telephone service, a useability study is necessary. Useability testing is often seen as too much effort, but as Crosby et al. (1993) point out, useability testing is inevitable: "if it does not happen in the developer's environment, it will happen in the user's environment".

4.1.2   The integrated information system

> Users of private transport enjoy the benefit of information produced to uniform standards throughout the nation in the form of maps and signs. By contrast public transport users are faced with varied standards and methods of presentation.
>
> -Saxby (1997), p.1

Public transport providers often produce a timetable here and a map there and hope this is enough. However, providing *information* is a long way from providing an *information system*. An information system is a fully integrated package of public transport information for an entire region, which is fully integrated into the public transport service itself.

Elements of an information system. The information system can be thought of as all information that is available (or should be available) about public transport in a region. Coffman identifies the following four elements of the public transport information system:

- system/network maps
- timetables
- bus stop signs
- signage on buses (Coffman 1981, p.63)

Alternatively, Stanley (1997, p.50) suggests primary (essential) and secondary (optional) information needs

Primary	**Secondary**
take home timetables	personalised timetables
on route information	real-time information
a system map	internet access
a telephone information service	timetable CD-ROMs
	timetable books

Giannopoulos (1989, p.293) outlines the information system according to the different stages of the public transport journey, as in Figure 7.

Figure 7: Diagrammatic representation of the information needed in a "complete" Public Information System

	Information needed	Source of information
Before the trip	• Which bus should I take? • Where is the bus stop? • When does the bus go? • How long will it take?	• Route map • Timetable • Telephone information
At the bus stop	• Where does the bus stop? • What route does the bus take? • Where do I have to change buses? • Which bus is that coming now?	• Bus stop sign • Route description • Route map • Sign on the bus • Terminal personnel, driver
During the trip	• Where on the route is the bus presently? • When do I get off?	• Route description • Announcement of bus stop • Driver
When changing buses	• Where is the bus stop for my connecting bus? • What's the quickest way there?	• Information board • Local map
The end of the trip	• How do I get from the bus stop to my goal or to the connecting bus stop?	• Local map • Route map • Terminal personnel, driver

Source: Giannopoulos, G A (1989), *Bus Planning and Operation in Urban Areas: A Practical Guide*, Avebury, Aldershot UK, p.293.

Each provider or regional authority must determine (through continuous market research) the information system that is most helpful to their customers, and is most suitable to the type of public transport network they offer. This discussion is meant to show the range of services that comprise an actual "information system". More detailed discussion of specific guidelines for information at stops and away from stops is provided later in this section.

Common appearance. In a seamless public transport system, all the elements of the information system must be integrated in terms of their message, graphic treatment and colour scheme (Coffman 1981, p.63). A transit authority corporate logo and colour scheme is the easiest way to make it clear to customers that these bits of information are related to this public transport vehicles and facilities. In Coffman's own words:

> The suggested approach is to view each of these elements as part of a system that has the over-all objective of attracting the prospective rider to the system, informing him/her how to use it and then guiding him/her onto the bus easily and with a sense of confidence.
>
> -Coffman (1981), p.63

Tickets and information. Ticket schemes can be integrated into the information system by ensuring that network maps and network tickets have the same coverage, whether based on city or regional limits (Saxby 1997, p.2)

Codes of Practice. Where a number of independent providers make up a public transport network, an integrated information system can be achieved through the use of a Code of Practice that requires each provider to meet certain agreed upon standards in terms of content, font, paper, colours, layout, etc. The UK Department of the Environment, Transport and the Regions' Disabled Persons Transport Advisory Committee has developed one such Code, specifically focused on the legibility of bus timetable books and leaflets (DPTAC 1996).

Staff as information sources. Public transport users often seek information from train station attendants, train conductors and bus drivers, but many passengers are turned away, sometimes rudely (Fielding 1987, p.200). A number of respondents in the Smogbusters Better Public Transport Survey expressed disappointment with these public transport operators for not providing service information (see Appendix 2 for complete survey results). Staff will certainly be blamed for the absence of essential service information; but even in the presence of high quality public transport information, the inability of staff to help customers will result in decreased levels of customer satisfaction. In contrast, helpful staff are perceived to be going "beyond the call of duty", and are therefore a source of increased customer satisfaction.

> **Studies in Frustration 1:**
> *"I wasn't sure which stop I was supposed to use. I asked the bus driver, but he just shrugged his shoulders."*

In the delivery of a service, every contact the customer makes with people within the organisation providing the service contributes significantly to either customer satisfaction or dissatisfaction (McColl-Kennedy and Kiel 2000, p.328). Thus, every person involved in the service must be prepared to help the customer, or to lead the customer to someone who *can* help. This includes not only train station attendants, train conductors and bus drivers, but even cleaning staff and security guards.

Bus drivers in particular have a large amount of contact with passengers and must therefore be trained in providing advice to passengers, and in directing complaints to the proper avenues. Giannopoulos (1989, pp.315-319) outlines a number of "driver information systems" in six different countries. In addition, rewards, incentives and ongoing employee development should be offered to boost morale among employees (Fielding 1987, pp.200-203).

Advertising messages and images. It is important that advertising on public transport stop benches, shelters and walls, and both inside and outside of vehicles, be consistent with the values of public transport use. This means not only that advertisers and their copy should be screened to exclude pro-automobile messages that denigrate public transport, but more importantly that public transport providers should take advantage of these prime locations to market a pro-public transport messages to both users and passing non-users (Stanley 1997, p.35). Market research should be used to determine the kinds of values most likely to draw people to public transport, such as associations with clean air, environmental concern, community development, health, etc (Stanley 1997, pp.35-36).

4.1.3   Market segmentation: Targeting both users and non-users

Public transport providers have often depended on the "captive" market for customers - that is, those members of society who do not have access to an automobile. This group includes the poor, recent immigrants, the young, the elderly, and city workers who must provide their own parking (PTUA 1991, p.17). Because captive customers have no other transport option and cannot demand high levels of service, often service quality remains low.

Major growth in public transport relies upon attracting "choice" customers, who will settle for nothing less than the level of convenience and speed they currently enjoy with an automobile (Lovelock 1981, p.88). While choice customers can *demand* better service, captive customers *deserve* better service as a social justice issue; the inevitable conclusion is that services must be improved for the sake of *all* passengers, and indeed for the benefit of society as a whole.

While public transport users often rely on word-of-mouth as the primary source of public transport information, non-users are more effectively reached through the media (Lovelock 1981, p.91). Bowers (1998, p.90) recommends expanding the public transport market by publicising the ways that even non-users benefit from public transport use. This tactic has the potential not only to attract new customers, but is also likely to increase support for public transport investment.

"Hand-holding" for first-time users. Perhaps the most innovative marketing approach for targeting new users is to offer a "hand-holding" service, where a paid employee or volunteer will accompany the user on their first ride. Smogbusters Melbourne has trialed this technique in the Box Hill area (Whelan 2000, personal communication), and Transport WA's Individualised Marketing program is offering "home visits" to answer questions about public transport services and other automobile alternatives (James 2000, personal communication). In St Louis, authorities placed "ambassadors" at new bus and light rail stations to lead passengers towards their destination, and "bus buddies" rode buses on new routes to answer customers' questions and to provide printed information (Blackburn 1995, pp.26-27). Personal contact with customers has the added benefit of providing an opportunity to hear customers' complaints first-hand.

Beyond users and non-users. Further market segmentation can also be helpful in determining the types of information to provide, as well as shaping actual services, advertising messages, etc. Robinson (1981, p.68) segments the transit market by demographic characteristics, travel behaviour variables, psychographic characteristics, knowledge/awareness levels and benefits sought. Segments for Fielding (1987, pp.187-188) include use of transit, demographic characteristics, trip purpose and decision-making constraints. Giannopoulos (1989, p.284) provides yet another approach, focusing on the socioeconomic and demographic characteristics of car ownership, actual availability of a car, income, age, sex, education, physical condition and geographical location.

While it may seem that the easiest solution is to ignore information gaps and take advantage of existing customers without seeking more, even this approach requires higher quality information than is commonly available. Studies have shown that while non-users generally have almost no knowledge of operational details of a public transport network, regular users tend to be familiar with only one particular route at one particular time of day (Lovelock 1981, p.91). This means that even the "easy" approach of increasing network use by existing users requires a good information to make customers aware of their options.

An increase in market share, or modal split, for public transport will require public transport planners and providers to not only *create* a network that can truly compete with the popularity of the private motor vehicle, but to successfully *market* this service to an ever-increasing number of customers. The information system is perhaps the most important element of the public transport marketing toolkit.

4.1.4 Complaints: The customer's gift to the service provider

Too many organisations perceive complaints negatively. A consumer-oriented organisation assumes that all customers have complaints, or in other words are harbouring some form of dissatisfaction. Market research and customer surveys are essential in proactively identifying this dissatisfaction. However, a much more effective way of identifying sources of dissatisfaction is to encourage complaints from customers.

There are several ways customers can react to dissatisfaction (McColl-Kennedy and Kiel 2000, p.89). The most common is to take no action at all, which usually occurs because too much effort is required to file a complaint. However, when a service is involved, customers are very likely to take some form of private or public action. The most likely private action is to stop using the service. The likely public action stemming from this personal decision is to pass on to others (through word-of-mouth counter-marketing) a negative perception of public transport. It is very difficult if not impossible to recover from this kind of first-hand evidence of service failures.

Rather than allowing dissatisfaction to erode the customer base, providers must make lodgement of complaints as easy as possible for customers so that sources of dissatisfaction can be addressed. This means providing:

- visible suggestion boxes at all customer service centres, stations and major interchanges;
- a telephone call centre that is accessible free of charge either by freecall 1800 or from courtesy telephones at customer service centres and stations, and which accepts complaints for the entire public transport network;
- a complaints website (where the customers do the data entry for themselves);
- a postage paid address for written complaints; and
- a guide to making complaints, included on every timetable and other brochures.

Within the organisation, complaints must be treated with the highest sincerity. (Remember, "Love your customer, not your product.") Personnel who receive or respond to complaints must convey to the customer that his or her complaint has been treated with respect, informing the customer of what is being done to solve the problem.

4.2 Minimum Information Standards at Every Stop

> Public transport involves the entire experience of being a passenger. Each of the stages of this transport experience must be designed to be as attractive and enjoyable as possible. Facilities such as bus stops and stations are a deciding factor in promoting public transport as an appealing and familiar experience.
>
> -Transport WA 1998, p.34

With the variety of information available, from signage to interactive kiosks to real-time information, it is important for public transport providers to establish guidelines and standards for information provision within their network. Transport Western Australia (1998, p.36) proposed a number of stop classifications along with the minimum facilities that would be required at each stop. Stops are classified according to what modes service them and how many passengers use the stop. The Transport WA hierarchy is a useful example of the kind of classifications and standards that should be spelled out by every public transport planning

authority to ensure the provision of necessary information for customer useability. A hierarchy of stops for South East Queensland is proposed in Section 5 of this report.

As a public transport planner determines its priorities for implementation of an information plan, it is important to achieve at least the minimum acceptable level of information for each type of stop. Once this has been achieved, further developments can be explored for certain stops, especially as a result of market research and community input that identifies a specific gap in information provision.

4.2.1 Timetable information and route maps at every stop

It is the conclusion of this report that regardless of passenger volume, service frequency or any other factor, every public transport access point must be equipped with departure times and route maps of every route serving the stop. The need for timetable information and route maps at public transport stops is attested by Giannopoulos (1989, p.302), Lovelock (1981, p.91), the Institute for Science and Technology Policy (n.d., p.45), Stanley (1997, p.49) and Environment Victoria (1997, p.2). This finding is consistent with the community attitudes illustrated in Section 3 of this report.

Information at stops is less important for existing public transport users than it is for non-users who may not know anything about available services or how to find information. Being able to, for example, walk down the street and find out when buses leave and where they go, is an easy way for non-users to become informed about available services. Good information at stops does not preclude the necessity of a high-quality telephone service, information distributed to homes and network maps, but none of these information sources can fulfil the role of information at stops.

> **Studies in Frustration 2:**
> *"I tried using public transport once, but after waiting at my local bus stop for an hour not knowing whether a bus would ever come, I went back home and took my car instead."*

Public transport authorities and providers often shy away from what seems like a monumental task of providing, maintaining and updating information at thousands of bus stops, sometimes opting instead for an expensive, high-tech, high-profile solution on one or two routes (Stanley 1997, p.49). Unfortunately, these alternatives do not solve the problem. Though it may seem like a great disposal of funds, with exact impacts on patronage difficult to isolate (Kennington 1998, p.4), there are many circumstances where a passenger must rely on information at the stop. These include ad hoc trips, circumstances when a passenger has missed their intended bus or has boarded a bus going the wrong direction, or when non-users simply do not know where to seek further information.

TransAdelaide is setting a good example for other Australian public transport providers. Their bus stop information panel includes:

- stop specific information including large print timetable, route descriptions in plain English and using graphic symbols;
- full-colour map of metropolitan public transport services; and
- braille pad and engraved signs. (Stanley 1997, p.51)

4.2.2   *High frequency vs. timetable information*

High frequency services in Toronto mean that no detailed timetable is required; rather, customers know a bus or train will arrive within a short time (Machin and Stone 1995, p.29). If the goal is a simple and convenient public transport system, then offering higher frequency services certainly beats keeping customers well-informed about inadequate services. However, intended high frequency services sometime in the indefinite future not an excuse to leave public transport stops bare of information.

Even the most frequent services require some form of signage to list exact frequency throughout the day, service availability late at night, a route map and other basic information. Regardless of long-term intentions for higher frequency services, the first step for providers is to equip all stops with the essential information a customer needs to know in order to access the system from that location. In the long run, the goal should be to establish reliable high-frequency services that are easier to label on stop signage. For example, one route might read: "Between 6am and 10pm, Route 100 passes every ten minutes; between 10pm and 1am, Route 100 passes at every 23 and 53 minutes past the hour."

Public transport providers should not think in terms of *either* providing information *or* providing better services. Better services (higher frequency, expansion of coverage etc) must be constantly added to keep up with automobile convenience, and an adequate information system must be easily accessible and continuously improving to help people use the available services. Further research may be necessary to examine the proportion of spending providers might expect to invest in their information system.

4.2.3   *High-tech vs. low-tech*

Though high-tech public transport information such as real-time displays and interactive kiosks are often the more popular political and publicity moves, expensive high-tech information at specific sites and on specific routes must not take precedence over provision of the basic information that is necessary at all stops (Stanley 1997, p.49).

> **Studies in Frustration 3:**
> *"One street over they've got electronic signs at every   stop saying when the next bus will arrive. On my street there's just a sign that says 'Bus Stop'."*

While failure to provide the basic necessities is bad enough, resulting in the loss of potential customers and an increase in motor vehicle use, mis-allocation of funds towards services that only benefit certain parts of the population is a form of discrimination. This is because high-tech information facilities and services have the potential to lock out less wealthy customers who, for example, do not have access to personal computers or the internet, or who do not live in wealthier suburbs where planners fear facilities might be vandalised. It is at the expense of these disadvantaged customers that others enjoy disproportionate levels of service quality (Stanley 1997, p.50).

The rule of thumb for high-tech information services can be stated as follows:

> *If any passenger still waits for public transport at a signpost with no information, without shelter from sun or rain, without a bench, without proper security or lighting and with only a poorly-designed and hard-to-read timetable to guide them through the system, then it is too early for high-tech information services.*

Real-time information. Once basic information services have been provided, real-time information can potentially be of assistance to public transport users, and can even attract new customers to public transport (Reed and Levine 1997, p.44). However, poor real-time information systems can actually decrease customer satisfaction.

The first step in real-time information consists of an accurate clock, accompanied by accurate timetable information posted at the stop and reliable services that arrive on time.

More complex real-time information systems can range from slightly more helpful than conventional public transport information to a nightmare for users and providers alike. Mortimer (2000, p.28) tells of the Perth Central Area Transit (CAT) system, where global positioning system (GPS) signals could not overcome the "urban canyoning effects" of buildings, trees, vehicles and underpasses. After great difficulty the system was returned to 95% accuracy.

As Stanley (1997, p.49) points out, the relatively efficient Perth Westrail system achieves an "on-time-running" efficiency rating of 96%. This means that the Westrail system plus a printed timetable would predict arrival times more accurately than the CAT system plus a huge investment in real-time displays.

Electronic kiosks. Interactive kiosks can offer customers a large range of information on-demand. However, they must be carefully designed in terms of both hardware and software in order to be useable. Good conventional information sources can provide customers with most if not all of the information available at a kiosk, and conventional sources have the advantage of being a useful reference anywhere, not just at a fixed location. A timetable or network map can be faster to use, never has a queue, and is far easier to make accessible to customers.

One opportunity with electronic public transport information kiosks is to offer users the option of printing out a personalised timetable, map or trip planner. However, like real-time information, this service is not a priority until basic information is provided to customers both at and away from stops (Kenworthy and Newman 1991, p.51).

4.3 Physical Provision of Information at Stops

Every public transport access point must be equipped with some form of information display. The size, dimensions and characteristics will depend upon the requirements of the hierarchy of stops adopted by the public transport provider. More research is necessary to determine the most cost-effective and useable format for signage at stops. Further investigation would then be necessary to determine the acceptability of existing signage and infrastructure, taking into account factors such as possible losses in patronage and cost savings.

4.3.1 Installation and maintenance of information at stops

Mounting. The most common way to provide infrastructure for information at stops is to bolt an additional metal and plexi-glass frame to an existing post. Though this is probably the most cost-effective way to mount information, countless other designs are available if a large amount of space is necessary or if no post exists presently. It is very important that market research determine the useability of any particular mounting design before commitment is made to purchasing the design.

Generally, a smaller sign will be cheaper than a larger one. So long as legibility and useability are not compromised, small signage may be a way for providers to decrease costs. With enough effort, a good design incorporating minimum standards of information provision can probably be found for even the smallest and cheapest sign. For example, the Santa Clara Valley Transportation Authority (VTA) lists only the estimated departure time of each bus on a weekday, weekend or public holiday, with a route map at the bottom. This enables them to fit all information into a 50 cm high by 15 cm wide frame for each route at a stop, with up to three frames able to fit around a typical post (Wagner 1998, personal communication).

Two Sydney examples of mounted frames

Compromise is a last resort, however. Slightly higher investment in initial costs may reap dividends later if additional information is deemed necessary or if useability testing shows that more information would lure more customers.

Ho et al. (1999, p.33) refer to a 1995 survey of transit agency managers that shows a much greater tendency for providers to post information on supplemental displays rather than directly on the bus stop sign. Only 14% of providers had posted service information beyond route names and numbers on bus stop signs, whereas service information on supplemental displays was the norm, including route number and/or name (86%), route destinations (62%), route maps (67%), exact schedule information (57%), service span and/or frequency (33%), fare information (52%) and telephone information number (62%) (Ho et al. 1999, p.33).

Cost. The Santa Cruz Metropolitan Transit District provides timetable information and route maps at every bus stop for only US$62 per stop (approximately A$105) (Konno 2000, personal communication). Though each region will differ in terms of suppliers, costs of materials, amount of space needed for information and other factors, it is clear that high-quality information can be provided very inexpensively. Increased patronage is likely to recover all costs, and innovative funding approaches can make information provision free or even profitable, as seen below.

Private enterprise assistance. An even better way to decrease costs may be by seeking private enterprise sponsorship of stop signage. As a community service or as straight advertising, businesses may wish to fund the installation and ongoing maintenance of stop signage in exchange for a small amount of advertising space (Kenworthy and Newman 1991, p.50). Businesses in the direct vicinity should be offered the first opportunity, as they stand to benefit most from advertising to users of the stop.

A similar alternative is to ask local businesses to place timetables on the inside of windows that are near a stop (Kenworthy and Newman 1991, p.50). Though this alternative is very inexpensive to install and maintain, it takes control of exact placement and prompt updating out of the hands of the provider and could potentially lead to breaches in information availability (when, for example, a timetable falls to the ground after hours).

Shop owners may be willing to post information in display windows.

Transport WA (1998, p.41) has considered the option of tendering out manufacture and installation of facilities at bus stop including for information. This option may decrease costs slightly, but should include a period of maintenance of signage (so that high-quality equipment is ensured). In addition, contractual arrangements must leave the public transport provider or authority in control of content, layout and day-to-day updating to ensure customers always have access to accurate information.

When a business or organisation wishes to have public transport stop located on or rear a new facility or development, they can be required to contribute towards the total expense, or in effect "buy" the stop or station (Prowda 1981, p.83). This type of "leveraging" arrangement can also include advertising space for the organisation and discounted fares for its employees or customers.

Vandalism, and community ownership of stops. When vandalism occurs at stops and is left unrepaired for long periods of time, the message is sent to potential customers that (1) the public transport provider does not care about their service, and (2) the stop is not a safe place to wait. In addition, criminals perceive the stop to be a safe place to commit a crime (Meehan 2000).

Involving the community in installation, maintenance and even decoration of stops, public transport providers greatly reduce the likelihood of vandalism of information fixtures at stops. Customers, community groups and schools can be employed to monitor for inaccurate information and damage to signage (Kenworthy and Newman 1991, p.50). To this end, a freecall telephone number and a website must be advertised at the stop for easy reporting of problems. Problems must also be repaired quickly so that diligent reporters of problems do not become discouraged.

Graffiti sends a message to both customers and criminals

4.3.2   Stop names and numbers

Each stop in a network should have a unique name and/or number which allows customers to easily and unambiguously identify their location as distinct from other stops adjacent to or across the street from their stop. Name and number must be easily identifiable on signage. In Perth, Kenworthy and Newman (1991, p.51) have emphasised the importance of stop names in making it easier to navigate the system or to give directions. They recommend the community-based naming of all stops, consulting local residents about the landmarks and history of each stop location.

Further applications of unique numbers for stops may include, in the long term, using the number as an identifier in a geographic information system (GIS) or global positioning system (GPS) network. Customers with mobile phones would be able to enter the stop number to pinpoint the exact location of public transport vehicles in relation to the stop (Lutherburrow 2000, personal communication). Though these systems may be a long way off, it is important to consider these future options when choosing a numbering system for stops.

4.3.3   Timetable information

Timetable information at stops consists of the following elements:

- a listing of routes that serve the stop;
- direction of travel for each route;
- route destinations;
- route maps;
- site-specific departure times; and
- full timetable listings showing arrival times for the rest of route.

Depending on stop classification within a hierarchy of minimum information, and market research, it is possible that certain stops will not include all of the elements listed above. For this discussion, timetable information is distinguished from maps and other general public transport information.

Part of the integrated information system. Timetable information on signage at stops should closely resemble the layout and content of printed timetables, network maps and other brochures for ease of comprehension. The Santa Cruz Metro system photocopies the relevant page straight out of their network timetable booklet onto a sticker, which is then affixed to the metal bus stop sign about 50 cm high by 30 cm wide (Konno 2000, personal communication). However, it is necessary to determine the useability of existing information and layout before applying to signage.

Content. Close attention must be paid to the layout of timetable information. Saxby (1997) identifies a number of issues to be carefully researched and tested:

- colour-scheme;
- typeface, font size and colour;
- visually distinct headings for weekday, Saturday, Sunday and public holiday information;
- clear definition of "public holidays";
- clear distinction of AM and PM services or use of the 24-hour clock;
- clear statement of direction service will go
- whether to provide full timetable information or simply site-specific departure times;
- x and y axes of table - the trip should progress from left to right rather than down the page (Saxby 1997, p.3);
- alignment - using a grid or shading to connect a destination to a time several rows or columns away;
- minimal use of codes that require a legend for deciphering;
- frequencies - using "every 23 and 53 minutes past the hour" rather than "and every half hour until…";
- vision and mobility disability and difficulty considerations (see Subsection 4.5);
- multi-lingual information needs (see Subsection 4.6); and
- whether beginning dates or ending dates should be listed.

Departure times only? Listing only the estimated departure times for each route at a stop can save space on signage, and may even make signage easier to understand. The Santa Clara Valley Transportation Authority (California, US) uses this approach (Wagner 1998, personal communication). Further research is necessary to determine whether this approach is more or less useable for customers, and whether the information loss of arrival times along the rest of the route is offset by any increase in useability. Larger stops should still provide customers with complete timetable information including arrival times at various stops along the rest of the route.

Continuous market research. Guidelines established by public transport researchers in other parts of the world are just that - a useful guide. What separates public transport stop information from world's best practice public transport stop information is the use of market research and useability testing to proactively seek design flaws and improvements. This is the only way to identify the best possible design solution.

4.3.4   Maps at stops

Maps at stops may include maps of specific routes, maps of the local area and maps covering the entire public transport network of a region.

Route maps. Though space will be a limiting factor at many stops, route maps must be printed largely enough and clearly enough for customers to read without difficulty. Elements of the route map may include:

- locations of stops and their names or numbers;
- fare zone boundaries;
- names of all suburbs and townships within the map area;
- names of every street within the map area, rather than just those that are part of the route or adjacent to the route;
- locations of transfers to other routes within the mode or across modes;
- names of platforms used by the route at interchanges;
- all key pedestrian and cycling connecting routes;
- clear identification of key destinations and landmarks along the route, including schools, universities, parks, community centres, churches, shopping centres, post offices, newsagents, sports grounds, bridges etc;
- photographic and descriptive detail of key destinations for ease of identification; and
- use of international symbols where possible.

Many of these elements should also be included in route maps on printed timetables, which are often very undetailed and difficult to use. If new maps are developed for stop signage, these improved maps should also be used in printed timetables and timetable directories.

Local area maps. Larger stops and stations should be provided with a map of the local area. These maps would include most of the same elements listed for route maps above, but at a smaller scale with greater detail. Services such as public telephones, toilets, car parking and bike parking should be included in a local area map. The main function of a local area map is to help passengers to easily find their way from their arrival stop to any necessary facilities, and then on to connecting routes, adjacent streets and likely key destinations nearby (such as those listed above).

Network maps. Space limitations prevent network maps at most stand-alone bus stops, but network maps should be provided at major interchanges, train stations, busway stations and ferry jetties where space is not a consideration. Network maps are a "primary sales tool" (Coffman 1981, p.63), informing customers of exactly what services the network provides to them.
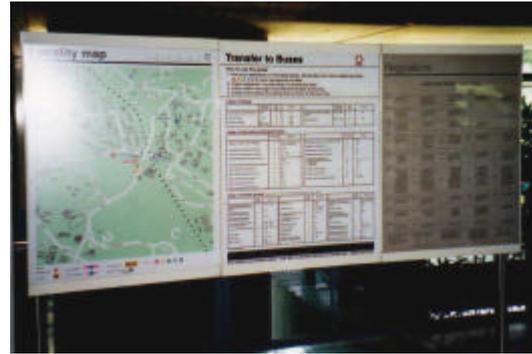
This locality map is accompanied by other service information.

4.3.5   Other information at stops

In addition to timetable information and maps, other general public transport information should be provided at stops, including:

- name and logo of the service provider or public transport authority;
- a telephone number for customer service, further timetable information and lodgement of complaints;
- fare zone;
- basic ticket information and fare prices;
- information about disability access; and
- information about accessing multi-lingual information

The extent of general information provided at stops will depend upon stop classification, and ultimately the level of information customers find useful at various types of stops.

4.3.6   Major stations and interchanges

The following issues are specifically relevant to labeling of services at major stations and interchanges.

Platform names and identifiers. Each platform or stop at an interchange should be clearly and unambiguously labelled as "Platform 1", "A", "RED" or "City-bound", and each label must be large enough to be visible from the disembarking point of any connecting service (Machin and Stone 1995, p.14). If this is not possible, additional signage should point passengers in the right direction.

Train station in Singapore with connecting bus well-labeled.

Interchange maps or directories. Interchanges must also be equipped with easy-to-use directories placed at regular intervals around the interchange to lead passengers to all available routes, customer service points and facilities, as well as out to local streets and shops. Directories must be clearly signed to indicate an information access point.

Colour. Colour-coding of stops, platforms and routes can be quite helpful, but names that correlate to colours should always be spelled out in order to ambiguity between a variety of descriptive words (such as "RED" and "MAROON"). Colours can also fade, and can be difficult for people with partially-impaired vision to identify.

4.4   Information Away From the Stop

Beyond information at stops, the portion of the public transport information system made available away from stops should include some if not all of the following elements:

- printed timetables of individual routes;
- network map;
- timetable booklet or directory;
- clear signage on buses themselves;
- site-specific timetables for any large destination;
- site-specific transport access guides for these destinations;
- line-specific timetables where multiple routes cover a specific line;
- telephone service;
- internet information; and
- internet and/or kiosk based personal timetable printers

4.4.1   Timetable directory, network map or both?

A network map shows the customer all services that are available, though customers may be required to use a route-specific timetable in addition. Toronto has a two-sided A3 page folded into a pocket-size including the network map and a basic guide to system (Mees 2000, personal communication). Specific elements of the network map are described in Subsection 4.3.4.

Timetable booklets or directories go much further than a network map, often attempting to provide everything the customer could ever want to know about public transport in the region (Kenworthy and Newman 1991, p.51). Saxby (1997, p.9) suggests that the ideal timetable booklet to be an A5 book of 50 to 100 pages, including not just a network map but timetable and route details for every service covered by the provider or transit authority.

In Zurich, the public transport directory is allegedly the "most popular book in the country. The guide is published every six months and is referred to by community members as the "third phone book" after the white pages and yellow pages (Machin and Stone 1995, p.28)

Another good example is provided by the Metropolitan Transportation Commission (San Francisco Bay Area, California, USA). Their network map booklet covers about 20 different transit systems over an area about 130km from north to south and 50 km from west to east. It is a 24-page booklet just larger than A5 size (stapled), and provides customers with details of how to contact individual providers for further timetable and route details.

4.4.2   Where to distribute information away from stops

- Public transport information should be made as widely available as possible, including the following possible outlets:
- public transport customer service centres;
- on public transport vehicles;
- at shops near stops and wherever tickets are sold;
- at customer service centres of organisations that are major public transport destinations (such as student service centres at universities);
- through the post by mailout to specific neighbourhoods or service catchment regions; and
- through the post in response to telephone, email or internet order.

4.4.3   "Demand Responsive" Public Transport Information

It could be said that all public transport information must be demand responsive, or in other words accessible when the customer needs the information. However, it may not be possible or necessary to provide all information to all potential customers all the time. There are, however, a number of innovative ways to go beyond printed timetable availability to make public transport use as simple and convenient as possible for the customer.

Wallet-sized site-specific timetables. Because many public transport users only depend on one service for most of their transport needs (Lovelock 1981, p.91), these customers may be much more satisfied with a site-specific timetable listing only departure times and estimated trip time from their local stop to their destination.

Though Queensland Rail has provided wallet-sized site-specific timetables for most if not all of their Citytrain stations, this would be more difficult for a bus network including stops every 100 metres along some routes. In these cases, site-specific information may be limited to large volume trips, for example between the city centre and a university. The ideal is that one wallet-sized timetable would incorporate every service that travels the route.

Site-specific transport access guides. The University of New South Wales has worked with Sydney's State Transit Authority to develop not only wallet-sized site-specific timetables for the university, but also a site-specific transport access guide (Stanley 2000, personal communication). Such a guide can provide general public transport information tailored to students' needs, and can also advise on cycling, walking and car pooling alternatives.

Line-specific timetables. Where multiple routes cover a specific line, an additional line-specific timetable can be supplied so that people can choose the next of the many services covering that route rather than having to refer to several different timetables, having to walk to several stops, or having to find a public telephone to call a telephone information service. Queensland Rail's Inner City timetable is one such example. Busways should each be provided with a timetable showing all of the buses that use the busway and how far they travel before diverging from the busway.

Internet and kiosk timetables. Customers should be able to download and print timetables from the internet (perhaps in PDF format). In addition, personal timetables and trip planners can be made available on the internet, as Transperth has done (Transperth 2000). Though this service can also be provided at kiosks, this expensive solution cannot be considered a priority (Kenworthy and Newman 1991, p.51).

4.5   Serving Customers with Disabilities and Difficulties

According to 1998 Australian Bureau of Statistics data, one out of every five Australians and one out of every five Queenslanders have some form of disability (Mayo 2000, personal communication). This represents a significant market that is largely untapped by SEQ public transport providers, since most services in SEQ are inaccessible by people with disabilities.

To this 20 per cent must be added people with "difficulties" (Mayo 2000, personal communication). These include but are not limited to:

- people with temporary injuries and medical conditions;
- parents transporting children between ages one and four (who make up 7 per cent of the population); and
- many of the 12 per cent of people who are over age 65.

Legal obligations. The Disability Discrimination Act legally requires that public transport providers make their services available to people with disabilities, to say nothing of the human rights obligation to provide services that meet the needs of this significant portion of the community.

Diverse needs. In providing information for people with disabilities and difficulties, service providers must consider the needs of:

- people with mobility devices including wheelchairs, scooters, walking frames, walkers and prams;
- people with partial or complete vision impairment;
- people with partial or complete hearing impairment; and
- people with limited hand and arm function.

Public transport providers must develop a performance-based information system that meets the requirements of all users. The best way to do this is to ensure useability by people of the highest levels of disability and difficulty. If these customers are proven to be able to use the system, then all other customers are guaranteed to be able to access the services as well.

Guidelines. Specific guidelines for provision of information that does not discriminate against people with disabilities and difficulties are provided in Australian Standard 1428, Parts 2 and 4. Guidelines for public transport information display incorporating the needs of people with disabilities and difficulties have been developed (see NSW Ageing and Disability Department 1999), but once again the final word must come from market research and customer useability.

During the development of any new information, whether at or away from the stop, independent useability studies must determine the acceptability of specific aspects of the information, including:

- height of signage (between 800 and 1200 mm high is acceptable);
- legible font types and sizes (16 to 18 point sans serif is recommended);
- colour-contrast;
- effects of sunlight and artificial lighting on legibility;
- sloping surfaces that make it difficult for customers to read the sign;
- for interactive information, that controllers are "proud" or protrude from the console, and that buttons are "dished" or concave;
- effectiveness of audio facilities (button-activated or periodic) at key stops; and
- effectiveness of tactile braille facilities and guides to these facilities at key stops.

Accessible routes. As disability accessible vehicles are purchased by public transport providers and assigned to high priority routes, signage should indicate which services at a particular stop are disability accessible and which are not. If any vehicle that services the route throughout the day is *not* disability accessible, then signage should inform customers of alternative services (such as phone numbers for Dial-n-Ride services or taxi services).

Quality services for people with disabilities and difficulties, accompanied by successful marketing, will open up large new market segments for public transport providers. Public transport usage will not be maximised until planners provide for the needs of *all* potential customers.

4.6   Serving Non-English-Speaking Customers

There are a number of ways to target potential customers who do not speak English fluently. These include:

- providing a multi-lingual telephone service, or providing an option for connection to a translation service;

- making multi-lingual timetables available on the internet;

- developing multi-lingual printed timetables; and

- providing multi-lingual information at public transport stops.

The priority is to make at least one of these options available to customers, and then consider the feasibility of further services.

5.0 ACTION PLAN FOR SOUTH EAST QUEENSLAND

In order to assist planners in working towards world's best practice public transport information, the following priorities have been developed taking into account the evidence provided in this report. Some actions are directed towards Queensland Transport (QT); others are the responsibility of each public transport provider.

5.1   Key Actions

Action 1. Ensure the provision of timetable information and route maps at every public transport stop in South East Queensland. (QT, Providers)

The first stops to equip with information are those where people transfer from other services both within and across modes. Next is the enhancement of information provided at stops that already have infrastructure for information posting, followed by all other stops.

Brisbane Transport estimated in June 1999 that of their 6500 stops, 2000 are provided with information. At their figures of $450 per stop for mounting of information, enhancement of the remaining stops would cost $2 million (Anon 1999, p.4). The sum would perhaps be $4 million for all stops in South East Queensland. This is a small sum of money in relation to total transport spending in the region (QT and DMR 1999, p.2), and other transit authorities are providing higher quality information for a smaller cost per stop (Konno 2000, personal communication).

Action 2. Adopt a hierarchy of stops setting minimum requirements for information provision at each type of stop. (QT)

One such hierarchy is proposed on the following page. The minimum standards suggested are based on the contents of this report.

Table 4.1 Proposed minimum facilities for South East Queensland

Stop Classification: Services:	normal bus stops	CityExpress bus stops	Special bus interchanges	CBD/Valley bus stops	Citytrain minor stations	Citytrain major stations	CityCat and City Ferry jetties	Cross-river ferry terminals
stop number	✓	✓	✓	✓	✓	✓	✓	✓
TransInfo number & URL	✓	✓	✓	✓	✓	✓	✓	✓
stop name		✓	✓	✓	✓	✓	✓	✓
direction of travel	✓	✓	✓	✓	✓	✓	✓	✓
fare zone	✓	✓	✓	✓	✓	✓	✓	✓
route(s) serving the stop	✓	✓	✓	✓	✓	✓	✓	✓
route destination(s)	✓	✓	✓	✓	✓	✓	✓	✓
times each route departs	✓	✓	✓	✓	✓	✓	✓	✓
full timetable listing		✓	✓	✓	✓	✓	✓	✓
route map or diagram	✓	✓	✓	✓	✓	✓	✓	✓
local area map		?	✓	✓	✓	✓	✓	✓
minimum disability info	✓	✓	✓	✓	✓	✓	✓	✓
maximum disability info			✓		✓		✓	
*printed timetables			✓		✓	✓	?	?
*printed site-specific info			✓			✓		
*printed network map			✓		✓	✓	?	?
public telephone nearby	?	?	✓	?	✓	✓	✓	✓
real-time information		?	?		?	?		
ticket vending machine			✓		✓	✓	?	

✓ = necessary
? = optional
* = physical item available for acquisition

Action 3. Review and overhaul the region's existing information system including all existing and proposed public transport information, both at stops and away from stops, based on market research and customer input. (QT, Providers)

Integrating a non-integrated information system requires a comprehensive overhaul. This does not have to be a huge burden, but can mean simply improving materials such as timetables and network maps as reprinting or alteration becomes necessary.

5.2 Additional Actions

Action 4. Increase service frequency almost universally in South East Queensland, to simplify information provision requirements and to significantly improve customer satisfaction with public transport. (QT, Providers)

Action 5. Develop an extensive complaint system that seeks to take advantage of customer dissatisfaction as a means to further improve public transport services. (QT, Providers)

Action 6. Enhance and extend TransInfo telephone and internet services, including the following elements: (QT)

- provision of a freecall 1800 number to encourage wider use;
- acceptance of complaints, with concern expressed and prompt response guaranteed;
- provision of and marketing of a translator service through TransInfo (possibly utilising the Federal Government's translation service);
- advertising of a TTY telephone number in addition to 131230 for customers with hearing impairment;
- availability of personalised timetables to print out from the internet (possibly PDF format); and
- availability of multi-lingual timetables for printout from the internet.

Action 7. Optimise use of bus shelter wall space for (1) network maps and other public transport information; and (2) additional income through private advertisers only after the necessary network information has been provided. (QT, Providers)

Action 8. Develop a Queensland Transport Code of Practice for public transport information in Queensland, and incorporate this standard into existing contracts with providers. (QT)

This Brisbane bus shelter could easily house timetables, route maps and network maps

6.0 CONCLUSIONS

The "world's best practice" solution to a problem is the best solution *that is feasible.* If this report were to conclude that a world's best practice information system is one that provides a high level of high-quality information at every stop and is integrated into a high-frequency public transport system that is easy and convenient to use, many readers would ignore this conclusion due to perceived unfeasibility.

However, if funding resources are the limiting factor in the provision of better public transport services and better information services, then certainly the conclusion above is feasible. In fact we cannot afford *not* to provide any public transport service that is proven to be an increase in service quality.

Transport funds will exceed $2.5 billion in Queensland this financial year, with South East Queensland receiving a large fraction of this amount (Queensland Transport and Queensland Department of Main Roads 1999, pp.2-3). If it is the sincere priority of transport planning in SEQ to meet IRTP modal shift targets and to get motorists out of cars and into public transport, then certainly the resources can be found to make the relatively minor public transport network improvements recommended here. No major infrastructure is necessary - only additional information, as well as additional vehicles to transport more customers more frequently to more destinations.

We cannot expect to see an increase in demand for public transport until customers can see that world-class services are available. Cities like Toronto and San Diego are now reaping the benefits of past investment in public transport in terms of not only higher patronage and modal splits, but also higher cost recovery (PTUA 1991, p.29). Indeed a similar phenomenon has happened on the Sandringham rail line in Melbourne, where a 23% increase in service frequencies led to about a 30% patronage increase and a 7% annual return on a $580,000 investment (Conservation Council of Victoria 1993, p.17.)

It is therefore the conclusion of this report that a world's best practice information system is one that provides a high level of high-quality information to the community including at every stop, and is integrated into a high-frequency public transport system that is easy and convenient for all to use. The enclosed Action Plan (Section 5) is designed to assist public transport planners in reaching this world's best practice outcome.

7.0 SUGGESTED FURTHER RESEARCH

Several areas of further research were identified during this study. These include:

determining the most cost-effective and useable format for signage at stops, as well as a comparison of these facilities with current infrastructure and benefits of replacement compared with enhancement or modification;

research into information search behaviour by potential public transport users, especially in relation to how they seek information for ad hoc trips;

the proportion of spending providers can expect to invest in their information system compared to the public transport service as a whole;

a critical cost-benefit analysis of high-tech solutions such as real-time information and electronic kiosks;

trials of hand-holding services to guide new users through the public transport network;

the extent that various pieces of general information are seen to be helpful or superfluous at various types of stops;

detailed analysis of Smogbusters Better Public Transport Survey by public transport providers to glean further answers to their own questions; and

a cost-benefit analysis of additional public transport investment incorporating all externalities of motor vehicle use including sedentary lifestyle health costs, air pollution health costs, environmental costs, economic costs due to traffic congestion etc.

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9.0 OTHER HELPFUL RESOURCES

Bi-State Development Agency (St Louis, Missouri, US) website, www.bi-state.org

Brisbane City Council (Brisbane, QLD) website, www.brisbane.qld.gov.au

Institute for Sustainability and Technology Policy (Murdoch University, WA) website, wwwistp.murdoch.edu.au

Main Roads Department (Queensland) website, www.mainroads.qld.gov.au

Metropolitan Transit Commission (California, US) website, www.mtc.ca.gov

Public Transport Users Association (Melbourne, VIC) website, home.vicnet.net.au/~ptua/ptuainfo/info.htm

Queensland Rail website, www.qr.com.au

Queensland Transport website, www.transport.qld.gov.au/home.nsf

San Diego Commute (California, US) website, www.sdcommute.com

Santa Clara Valley Transportation Authority (California, US) website, www.vta.org/index.html

Santa Cruz METRO (California, US) website, www.scmtd.com

Smogbusters (Brisbane, QLD) website, www.powerup.com.au/~qccqld/smogbusters

Toronto Transit Commission (Toronto, Canada) website, www.city.toronto.on.ca/ttc

TransAdelaide (Adelaide, SA) website, www.transadelaide.sa.gov.au

TransInfo (Queensland Transport) website, www.transinfo.qld.gov.au

APPENDICES

Appendix i: Smogbusters Better Public Transport Survey Form

1. How often do you use a car?	❏ daily	❏ weekly	❏ monthly	❏ rarely	❏ never
2. How often do you use trains?	❏ daily	❏ weekly	❏ monthly	❏ rarely	❏ never
3. How often do you use buses?	❏ daily	❏ weekly	❏ monthly	❏ rarely	❏ never
4. How often do you use ferries?	❏ daily	❏ weekly	❏ monthly	❏ rarely	❏ never
5. How often do you use taxis?	❏ daily	❏ weekly	❏ monthly	❏ rarely	❏ never
6. How often do you cycle?	❏ daily	❏ weekly	❏ monthly	❏ rarely	❏ never
7. How do you rate train services?	❏ very good	❏ good	❏ fair	❏ poor	❏ very
8. How do you rate bus services?	❏ very good	❏ good	❏ fair	❏ poor	❏ very
9. How do you rate ferry services?	❏ very good	❏ good	❏ fair	❏ poor	❏ very
10. How do you rate taxi services?	❏ very good	❏ good	❏ fair	❏ poor	❏ very
11. How do you rate SEQ cycling facilities?	❏ very good	❏ good	❏ fair	❏ poor	❏ very
12. How far is it to your nearest bus stop?	❏ <200m	❏ 200-400m	❏ 400-800m	❏ 800m-2km	❏ >2km
13. How far is it to your nearest train station?	❏ <200m	❏ 200-400m	❏ 400-800m	❏ 800m-2km	❏ >2km

14. Your age	❏ Under 18	❏ 18 to 30	❏ 31 to 45	❏ 46 to 65	❏ Over
15. Gender	❏ Female	❏ Male	21. Home suburb		
_____					
16. Do you have a Drivers License?	❏ Yes	❏ No	22. Work suburb		
_____					
17. Do you own a car or motorbike?	❏ Yes	❏ No	23. Work / Job title		
_____					

18. If yes, roughly how much in total does it cost you per month to own, operate and maintain? $ _____

19. Guess how much it would cost you to travel using only trains, buses and ferries all month? $ _____

20. How much do you think public transport for a month should cost? $ _____

24. What is at your local bus stop and what would you like to see?

Already there	I wish this was there
❏ Seats	❏ Seats
❏ Sun shade/rain cover	❏ Sun shade/rain cover
❏ Security/distress button	❏ Security/distress button
❏ Video surveillance	❏ Video surveillance
❏ Rubbish bin	❏ Rubbish bin
❏ Phone	❏ Phone
❏ Timetable	❏ Timetable
❏ Route map	❏ Route map
❏ Map of local area	❏ Map of local area
❏ Lighting	❏ Lighting
❏ Ticket machine	❏ Ticket machine
❏ Other _____	❏ Other _____

❏ Don't know

25. What is at your local train station and what would you like to see?

Already there	I wish this was there
❏ Seats	❏ Seats
❏ Sun shade / rain cover	❏ Sun shade/ rain cover
❏ Security/distress button	❏ Security/distress button
❏ Video surveillance	❏ Video surveillance
❏ Staff	❏ Staff
❏ Rubbish bin	❏ Rubbish bin
❏ Phone	❏ Phone
❏ Timetable	❏ Timetable
❏ Route map	❏ Route map
❏ Map of local area	❏ Map of local area
❏ Lighting	❏ Lighting
❏ Ticket machine	❏ Ticket machine
❏ Other _____	❏ Other _____

❏ Don't know

Only complete this box if you wish to receive more information or make a tax-deductible donation to Smogbusters

Name _____

Address _____

Email _____

❏　　　　　Sign me up for the free Smogbusters newsletter
❏　　　　　Send me information about the Qld Conservation Council
❏　　　　　I wish to make a donation of $ _____
❏　　　　　please find enclosed a cheque/money order

OR debit my　❏Bankcard　　❏Mastercard　❏Visacard

— — — —　— — — —　— — — —　— — — —

Name appearing on card: _____

Expiry date　　/　　/　　　　Signed: _____

Donations toward the Brisbane Smogbuster clean air campaign are tax-deductible. Make cheques payable to Queensland Conservation Council.

26. In the last year, did you change your main mode of transport for commuting or shopping?　　❏ Yes　　❏ No

27. If yes, how and why?

— —
— —

28. What would have to change before you choose to travel by public transport more often?

— —
— —
— —

29. How do you get timetable and route information for regular and occasional public transport trips?

Regular trips　　　　　　　　　　　　　　　　Ad hoc / Occasional trips

❏ keep a copy of the timetable　❏ information at bus/train stop　❏ keep a copy of the timetable　　❏ information at bus/train stop
❏ phone TransInfo 13 1230　❏ just wait for the next service　❏ phone TransInfo 13 1230　　❏ just wait for the next service

30. Do you obtain timetable and route information to plan your whole day's public transport use
❏ before leaving home　　　　　　　OR　　　　　❏ before each trip?

31. Do any of the issues below affect your, and your families, ability to use public transport?

you

❏ Wheelchair disabled　　　❏ Other disabilities
❏ Elderly　　　　　　　　　❏ Stroller
❏ Non-English speaking background
❏ Other _____

other family members

❏ Wheelchair disabled　　　❏ Other disabilities
❏ Elderly　　　　　　　　　❏ Stroller
❏ Non-English speaking background
❏ Other _____

Thanks for completing our survey. Please fold, tape and post this back to us or fax to 07 3229 7992

SURFACE MAIL

REPLY PAID 30
SMOGBUSTERS (QCC)
PO BOX 12046
ELIZABETH STREET BC
BRISBANE QLD 4002

Appendix ii: Smogbusters Better Public Transport Survey Results

Smogbusters Better Public Transport Survey Results

Three-hundred and fifty (350) people responded to the Smogbusters Better Public Transport Survey between December 1999 and March 2000. Questions ranged from general public transport service satisfaction to detailed questions about information provision and information consumption. Participants consisted of both public transport users and non-users. The actual survey form is included in Appendix 1, and more detailed survey results are included in Appendix 2.

Distribution. Surveys were distributed in a number of ways, including:

- as an insert in the *Smogbusters Update* newsletter (1500);
- at the Smogbusters Better Public Transport Forum, 13 December 1999 (200);
- as an insert in the Bicycle Queensland Queensland Cyclist newsletter (960, only to SEQ addresses);
- as an insert in the Gold Coast and Hinterland Environment Council (GECKO) Newsletter (300); and
- informally through personal networks and to people waiting for public transport in the CBD (200).

Limitations of Survey. While this appendix provides a summary of the survey results, much further analysis could be done to determine the responses of particular demographic segments. In addition, the survey did not seek to provide a random sample of the population of South East Queensland (SEQ), but rather to flesh out problems with current services that either frustrate users or prevent others from becoming users. Due to distribution techniques, most respondents probably have an above-average understanding of transport issues, and some surveys may have come from outside of SEQ.

1. How often do you use a car?

	number	%
daily	129	37
weekly	135	39
monthly	15	4
rarely	42	12
never	25	7
no response	4	1

3. How often do you use buses?

	number	%
daily	57	16
weekly	79	23
monthly	61	17
rarely	110	31
never	41	12
no response	2	1

2. How often do you use trains?

	number	%
daily	34	10
weekly	74	21
monthly	68	19
rarely	139	40
never	31	9
no response	4	1

4. How often do you use ferries?

	number	%
daily	9	3
weekly	13	4
monthly	55	16
rarely	185	53
never	81	23
no response	0	0

5. How often do you use taxis?

	number	%
daily	3	1
weekly	39	11
monthly	78	22
rarely	178	51
never	48	14
no response	4	1

6. How often do you cycle?

	number	%
daily	117	33
weekly	28	22
monthly	16	7
rarely	34	13
never	68	24
no response	32	1

7. How do you rate the train services

	number	%
very good	73	21
good	152	43
fair	74	21
poor	18	5
very poor	3	1.6
no response	30	9
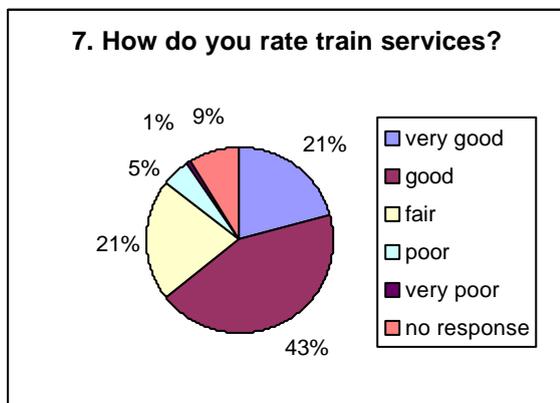
8. How do you rate bus services?

	number	%
very good	241	7
good	100	29
fair	131	37
poor	58	17
very poor	13	4
no response	24	7

8. How do you rate bus services?
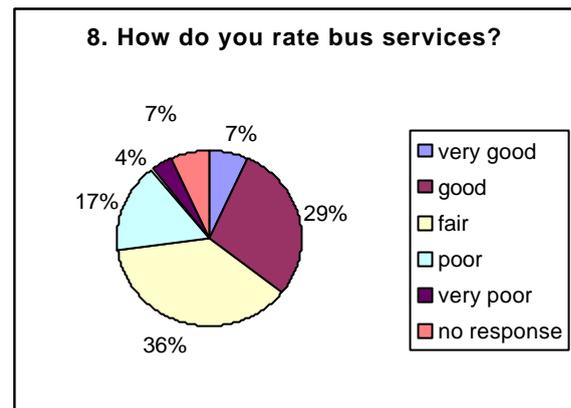
9. How do you rate ferry services?

	number	%
very good	33	9
good	145	41
fair	89	25
poor	9	3
very poor	6	2
no response	68	19

7. How do you rate train services?

9. How do you rate ferry services?
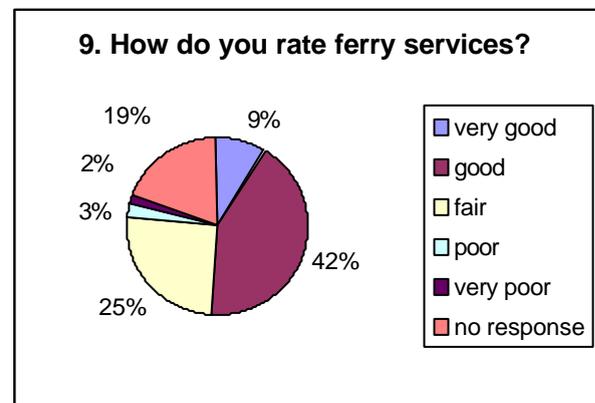
10. How do you rate taxi services?

	number	%
very good	26	7
good	157	45
fair	103	29
poor	19	5
very poor	8	2
no response	37	11

11. How do you rate SEQ cycling facilities?

	number	%
very good	13	4
good	57	16
fair	120	34
poor	80	23
very poor	28	8
no response	52	15

11. How do you rate cycling?

12. How far is it to your nearest bus stop?

	number	%
<200m	141	40
200-400m	108	31
400-800m	49	14
800m-2km	31	9
>2km1	15	4
no response	6	2

13. How far is it to your nearest train station?

	number	%
<200m	17	5
200-400m	29	8
400-800m	54	15
800m-2km	124	35
>2km	118	34
no response	8	2

14. Your age

	number	%
Under 18	3	1
18 to 30	115	33
31 to 45	136	39
46 to 65	79	23
Over 65	14	4
no response	3	1
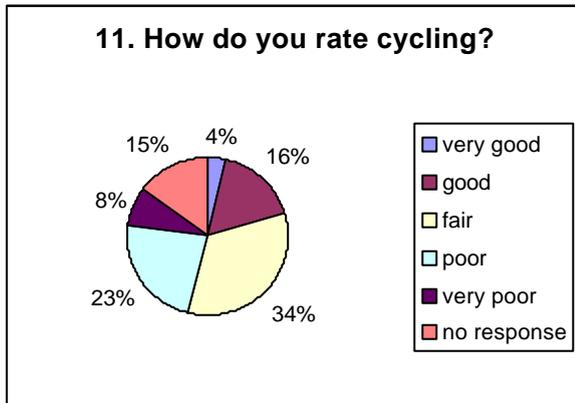
15. Gender

	number	%
Female	168	48
Male	178	50
no response	4	2

16. Do you have a Drivers License?

	number	%
Yes	291	83
No	45	13
no response	14	4

17. Do you own a car or motorbike?

	number	%
Yes	235	67
No	91	26
no response	24	7

18. If yes, roughly how much in total does it cost you per month to own, operate and maintain?

Average $213.15

Range $10 - $1500

Mode $200

19. Guess how much it would cost you to travel using only trains, buses and ferries all month?

Average $110.36

Range $2.00 - $2000.00

Mode $100

20. How much do you think public transport for a month should cost?

Average $64.35

Range $0 - $400

Mode $50

21-23. Home suburb, Work suburb and Work/Job title.

These demographic statistics were not used in the data analysis.

24. What is at your local bus stop and what would you like to see?

Figure 2 (Section 3.2.1) provides a graphic illustration of the responses to this question. The percentages given are the number of respondents who actually ticked that they would like to see a particular service at their local bus stop. These percentages do not include respondents who did not answer the question.

Other/unprompted suggestions for bus stops improvements included:

- information on connecting services;
- information concerning when the next bus is due (several respondents);
- an electronic timetable display (several);
  multi-lingual information;

- more trees;
- bike parking; and
- better disability access.

25. What is at your local train station and what would you like to see?

Figure 3 (Section 3.2.1) provides a graphic illustration of the responses to this question. The percentages given are the number of respondents who actually ticked that they would like to see a particular service at their local train station. These percentages do not include respondents who did not answer the question.

The most common unprompted responses for other improvements were:

- better/expanded bicycle storage
- increased staffing levels; and
- change machines.

26. In the last year, did you change your main mode of transport for commuting or shopping?

	number	%
yes	105	30%
no	220	63%

Of the 105 people who changed their primary mode/pattern of travel, 24 use motorised transport more frequently now (the remaining 81 drive less). Reasons given: public transport fares too expensive, residential suburbs not served by public transport, bought a car/motorbike, more in Excel file.

27. If yes, how and why

The main reason for changing modes of transport were moving house, to a different suburb, or a change in the place of work.

PT TO CAR/MOTORBIKE

People who moved from public transport to car/motorbike/motor scooter did so for a variety of reasons:

- work moved to outer suburbs, public transport not convenient
- more flexible than public transport
- had a child and public transport is not safe for young children
- car easier than public transport due to disability
- drive company car
- bought a new car – or room-mate bought a car
- bought a motor scooter to arrive at work clean
- had a stroke
- stopped cycling to the shop – too dangerous
- difficult to organise after work activities around public transport
- services are infrequent, slow and interchanges are too much trouble
- shopping is a lot of trouble, especially with cold goods - phone delivery
- cheaper and more convenient, public transport is too costly
- train station too far away
- trains too slow
- work hours make public transport impossible – late nights and early mornings
- car park cheaper than catching public transport
- public transport to car pooling generally due to change of work
- Changed jobs and no public transport to Eagle Farm
- Bus route and timetable changed and are unreliable
- moved in with flat mate who owns a car
- bus stopped in street/have to use taxi

CAR TO PUBLIC TRANSPORT

Those who moved from car to a form of public transport mainly did so because they moved closer to the city centre. Also, bikes and walking were often chosen as people become more health conscious got rid of car.

- car broke down and live near train/bus routes
- car too expensive
- public transport cheaper
- bike is healthier/cheaper
- sick of traffic jams
- moved – now live in inner city
- using train to go to study
- loss of licence
- after moving to Brisbane I could use P.T.
- one less car
- train bus now accessible – relocated

PUBLIC TRANSPORT TO PUBLIC TRANSPORT

There were also those who changed their form of public transport, either from bus to train or visa versa. Some people have also chosen to walk or cycle rather than catch the other forms of public transport.

- $2 busabout
- buses take longer
- moved and so trains closer than buses
- moved and so buses closer than trains
- catch trains because I can take the bike on
- trains are cheaper
- work moved
- from bus to bus/train - buses too smelly

CYCLING/WALKING TO CAR/PUBLIC TRANSPORT

- bicycle accident-lost confidence
- local supermarket closed - now bus to shop not walk
- moved to an area that required using public transport
- due to accident

CAR/PUBLIC TRANSPORT TO WALKING, CYCLING

- try to walk more often
- cycling for fitness, exercise
- mainly walk anyway
- will cycle
- cycling to work
- moved from Bardon to Newmarket. Now cycling and bus
- sold car and now use bike and public transport
- change from cycle to drive due to work commitments
- cycle to supermarket and bottle shop
- walk and bus because closer to routes now
- change from bus to bike
- 90% of shopping done by pushbike
- cycling - better facilities at work
- riding to work to save $, get fit

28. What would have to change before you chose public transport more often?
See Figure 4 in Section 3.2.1.

Of 350 survey respondents, 233 (80%) identified specific public transport changes that would encourage them to use public transport more often.

The frequency of services, especially during peak periods, nights and weekends was a big issue with many people, as was the cost of public transport. Another issue was the lack of bike facilities, and

people not being able to take them on buses or peak hour trains.

The general feeling was that it should cost much more to use a car than to catch public transport.

More frequent services was the most common response (24%) – with most respondents specifying more frequent bus (not train) services. Cheaper fares was the second most common response (21.9%), with most people specifying cheaper bus fares. Integration of public transport was next (12.4%), with many suggestions for integrated ticketing, bus/train route connections and the merit of a transit authority. Suggestions for improved bike facilities (9.4%) included several requests that bikes be allowed on buses and for increased cycle storage at train stations.

Suggestions related to public transport information included:

- printing all timetables in one book, showing route numbers and other details for connecting bus and train services;
- providing more information on bus routes (eg street names);
- ensuring timetables are maintained and accurate; and
- making timetables easier to read.

29. How do you get timetable and route information for regular and occasional public transport trips?
See Figure 5 in Section 3.2.1.

31. Do any of the following issues affect your, and your family's ability to use public transport?
[Results of this question were not used in the data analysis.]

Appendix iii: Smogbusters Update Article

Appendix iv: Better Public Transport Forum

Appendix v: Media Releases and Articles