Fare Evasion – is it a youth issue?

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Introduction

Fare evasion is not a new subject, it is often written about in the popular press. A person only need stand at a local station for any period and it can be observed. It is possible to unobtrusively observe it at un-staffed gates as well as staffed gates. On almost a daily basis on my way to and from the city, I have observed people committing the offence. Each time I observe someone committing the offence, I consider why is something not being done? I wonder why is it that station employees stand in pairs chatting at certain gates, while other gates remain un-staffed and offer easy options for people to commit the offence?

On 28 July 2009, there was an article online (AAP 2009), which reported that the Parliamentary Drug and Crime Prevention Committee had recommended the Department of Transport undertake a feasibility study into the issue of ‘youth fare evasion’ and ‘consider making public transport free for under-18′. Upon reading the article, I immediately thought, why do this? Youths are not the only ones committing the offence; this is based on my two years of passive observation of fare evasion. Feeling there was an inconsistency in the story being told in regards to fare evasion, I set about conducting structured research in an attempt to answer the question: is fare evasion just a youth issue as has been reported or is there more to the issue?

To assist in answering this question, research was undertaken to canvas appropriate sites for observing people committing fare evasion at stations. Initially three sites were selected in July 2009 and visited to ascertain their suitability. Of these three sites one was selected due to it fulfilling specific requirements needed to allow for the collection of raw data. This station was the CBD Flinders Street at the Elizabeth Street entrance. An observation sheet and schedule were piloted and minor adjustments were made to ensure their appropriateness and to highlight any ambiguities contained within the definitions of the categories being observed.

In September 2009, the revised schedule was used to allow for a total of thirty-three hours of observations conducted over a three-week period. During this period 288 people were observed committing fare evasion, 227 or 78% of the total were adults. The youth demographic only represented 22% or 61 of the total number of people committing the act. This research is limited in sample and contains many caveats, and cannot be considered representative of all passenger behaviour at all Melbourne metropolitan stations. However, the study does make a significant contribution to help us understand that fare evasion is not a youth issue alone, but how it is being framed that draws people to this conclusion.

Readers should note that there is no implication that any of the passengers seen in these Bob Wilson photographs is a fare evader, nor is there any suggestion that any staff member is not performing their allocated duties. This first photograph shows the peak hour barrier in the Elizabeth Street subway at Flinders Street Station on 19 July.
What is fare evasion

The issue of fare evasion is not a phenomenon specific to Melbourne. Much research has been undertaken; both domestically, see O’Grady 1992, Parliamentary Debates (Hansard) 2009 and Victoria Police 2009 and internationally, see Boyd et al. 1989, Cullity 1995, Del Castillo and Lindler 1994, Kooreman 1993, Polinsky and Shavell 1979 and Wood 2001.

Predominately the research falls into specific categories, which are economic considerations pertaining to fare evasion and station design. This kind of research tends to be driven by the industry affected by it. An example within Australia is Connex now Metro, the corporation that operates Metlink, and self-regulates and reports on fare evasion to the Department of Infrastructure, Transport, Regional Development and Local Government (DoI) every six months in accordance with their Network Revenue Protection Plan (Department of Infrastructure, Transport, Regional Development and Local Government 2009).

Additionally, there is a social component to the research. There is often a tendency for the research to focus on the socio-economic situation of those perceived prone to commit fare evasion (O’Grady 1992). Annually Victoria Police publishes their statistics on crime. Contained within this report is a breakdown on postcodes as to which geographical area has the most amount of crime committed and fare evasion (Victoria Police 2009). This kind of social implication, according to Cullity (1995), focuses on the ‘unfairness’ and the ‘moral philosophy’ behind fare evasion.

Another significant category often researched is how physical design of the stations is critical in minimizing fare evasion (Boyd et al. 1989, Polinsky and Shavell 1979). According to Boyd et al. (1989), station operators have an increasing problem of balancing the design of stations to consider passenger flow, against the need to inspect tickets to monitor fare evasion and to protect revenue. This is something Connex/Metro has done at most Melbourne metropolitan stations. Boyd et al. constructed a model in Europe to find a relationship between the level of inspection and transport resources. From this data, he was able to construct a ‘profit curve’ to find the level of inspections needed to generate ‘positive profits’, as well as how many inspections are needed to ‘maximise profits’. From this study, operators are able to gauge from the curve a variable to which they are able to operate at to ensure inspections are conducted with optimal efficiency to generate greater profit.

Wood (2001) suggests that operators need to do more in tackling fare evasion to ensure their profits (supported by Bureau of Transport and Regional Economics 2003). Wood recommends installation of gates to catch ‘fare dodgers’. His research was conducted at New York metropolitan stations using ‘the observation method’ to observe passenger flow and trends. Wood’s research was similar to Del Castillo and Lindler’s (1994) study of ‘countermeasures’ to handle fare evasion preformed on behalf of the New York Metropolitan Transit Authority. Those Melbourne metropolitan stations that are fitted with gates that allow only one person to pass through them after having inserted a valid ticket for transport, similar to the one proposed by Wood. However, many of the gates are not under visual observation allowing for people to either jump over them or ‘tailgate’ through them.

Kooreman (1993), a scholar following on from earlier works by Polinsky and Shavell (1979), conducted extensive research into the issue of fare evasion. He offers the similar hypothesis that generally humans are ‘utility maximisers’. What this suggests is people will weigh up the cost of being caught with the cost of the ticket. They consider the likelihood of being caught, with the ramifications of being charged. Kooreman conducted direct observation of seven public transport systems in Europe and Canada and found that most fare evasion was committed at un-staffed gates even where gates, such as those in Melbourne, had been installed. None of the above studies returned empirical data on the types of persons committing fare evasion or to which age demographic they belonged. This kind of data is somewhat ignored and is often missing from the research.

On the same day Bob Wilson also photographed the staffed barrier in the Elizabeth Street subway at Flinders Street.
TOP:
Bob Wilson also photographed the barriers at Flinders Street at the Princes Bridge end on the same day.

CENTRE:
These are the Collins Street barriers at Southern Cross and were photographed on the same day by Bob Wilson.

BOTTOM:
These barriers are on the Bourke Street footbridge at Southern Cross and were photographed by Bob Wilson, also on 19 July.
findings. Much of the dominant discourse surrounding fare evasions is based on the principles of protecting profit and not on recognising who the perpetrators are.

The importance of collecting data pursuant to an age demographic is essential at the present time due to the current discussion paper before Parliament (Parliamentary Debates (Hansard) 2009). This paper, titled *Inquiry into Strategies to Prevent High Volume Offending and Recidivism by Young People*, which was presented by the Victoria Drugs and Crime Prevention Committee (2008), recommends that a feasibility study should be undertaken to offer youths free public transport because of the high number of offenders. This discussion paper is based on answers given by the Minister of Transport in 2006; to questions pertaining to the number of individuals fined a second or greater number of times on public transport and the overall increase of numbers of juvenile offenders before the courts. The figures used were from 2004 and, according to the Minister, 5934 persons received a fine for the second or greater number of times. Additionally, he reported that since 2004, the total amount of fines imposed to repeat offenders was $1,833,448 (Parliament of Victoria 2009). While the figures are large, there is no empirical data presented by the Minister to support the suggestion that it is youths committing the bulk of the reported cases of fare evasion. The discussion paper predominately used statistics to support its stance, however, what this could represent is a case that Metro’s 545 Authorised Officers are operating outside of their required code of conduct and are targeting the youth demographic and issuing them more than the Record of Non-Compliance (RONC) than to the adult demographic (Department of Transport 2009a), which would increase the figures in comparison to other categories. This hypothesis, I suggest, maybe the situation given the analysis of the findings of the direct unobtrusive observations undertaken.

**Methodology**

To assist in answering the question, a set of criteria was considered: what empirical data is required, how and where it will be collected and how that data will be analysed. Therefore, initially stations were surveyed for their appropriateness. The most significant requirement for site selection is that there must be at least two exit gates. This is imperative so that unobtrusive observation or, as Levine (2009) terms, ‘Naturalistic Observation’ can be conducted at both un-staffed and staffed gates without disturbing the ‘naturalness of the setting’ (Denscombe 2008: 226). Additionally, the selected sites must be equipped with automatic turnstiles, which allow for only one person to enter or exit at a time and operate only after the customer has inserted a valid ticket for travel. The final requirement is that the station must be within the Melbourne metropolitan network and there must be a school, university or education facility in the vicinity of the station being considered for selection to allow for the broadest possible mix of customer demographic. According to Tromchim (2006), correct site selection through ‘diligent surveying’ is critical. Stawarski and Phillips (2008) propose that initial planning is critical in obtaining data that is credible and open for analysis through the peer review process.

There were three sites selected, all in the CBD, for initial surveying based on the above criteria:

- Southern Cross (formerly Spencer Street Station) vi
- Flinders Street Station (under the clocks) vii
- Flinders Street Station (Elizabeth Street Exit) viii

Upon successful site selection, a field observation sheet and schedule was drawn up to pilot the observation method. It was designed to be appropriate in collecting the required data, which was to count the number of people committing fare evasion at a given time and place under certain conditions, while they were conducting their daily business without knowing that they were being observed. Thames Valley University (2009) recommends the use of the observation method as a means to collect the unobtrusive data in comparison to other methodologies. The collected data will represent gender and two age demographics:

- Male
- Female
- Youth
- Adult

For this research project, youth will be considered to be children who appear to be four years of age and above through to twenty-five years of age. Adult will be considered to be twenty-six years of age and above. To be able to distinguish between the youth and adult demographic offered a considerable challenge when designing the method due to its subjective nature. To address this subjectivity, it was decided that the researcher would need to rely on their own judgement when observing people passing through the exits and place them into their specific age demographic categories. Denscombe (2008: 292-293) supports this proposition. He writes how researchers must arrive at generalised conclusions when ‘moving towards key concepts’ and allow for problematic data to be coded and analysed.

Additionally, four categories of fare evasion will be observed and tabulated for analyses:

- Tailgating known
- Tailgating unknown
- Jumping over gate
- Passing a ticket back to another person

Miles and Huberman (1994) suggest that unobtrusive observation, when used to collect empirical data, offers the researcher the most appropriate form of data collection methodology, as it gives the researcher a ‘strong handle on what real life is like’ which can then be coded, verified and analysed at a later date.

**Data analysis**

The data was initially collected over a two-week period. This period ran from 7 to 19 September 2009. It was conducted from Monday to Friday 0800 to 0900 and again in the afternoon 1500 to 1600 or 1700 depending on the week being observed. Due to scheduling issues Friday mornings could not be observed during the observation period. Saturday observations were also conducted to allow for broader data collection. The Melbourne metropolitan station selected for data collection was Flinders Street (Elizabeth Street Exit); this station was selected because of how it fulfilled the entire requirement listed in the method section. Following the data collection period and prior to any analysis of the data, it was decided through discussion with the researcher’s supervisor that it could be valuable if the data collection period was extended to allow for the collection of comparative passenger flow figures. Extending the observation period by one week from 21 to 26 September, 2009, facilitated this. The same exit locations were used as listed in week one of the initial schedule. During this extended period of observation, only the total number of people was counted; no other data was obtained or recorded. Once the data collection period was concluded, the data was then collated and analysed. Initial findings indicated that people are true ‘utility maximisers’ as suggested by Koozman (1993) as 86% of the total number of people committing fare evasion did so at un-staffed gates (refer table one).

**Table one: Total number of fare evasion observed**

<table>
<thead>
<tr>
<th>Total number of fare evasion observed</th>
<th>288</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Staffed</td>
<td>2 Unstaffed</td>
</tr>
</tbody>
</table>

Koozman’s analysis of human behaviours in relation to motivations of people committing fare evasion is detailed and insightful. However, it falls outside the analytical requirements of this report. Boyd et al. (1989) and Wood (2001) suggest that station design and staffing levels need to be considered to facilitate counterbalancing the negative effects of fare evasion. However, Connex/Metro need to do more if this aim is to be achieved, as it was observed on eleven occasions that Connex/Metro staff worked at an exit in a team of two chatting, while people walked 10-15 meters further down the concourse to one of three un-staffed gates to exit without being observed. During the initial two-week period, 199 people were observed...
committing fare evasion in week one and 89 in week two. To allow for a comparative, total passenger flow was observed in week three and a total of 4532 people were observed. Weeks one and three have been selected for comparison of fare evaders to non-fare evaders (refer table two).

Table two: Comparison of fare evasion

While this study does indicate a relatively small number of people observed committing fare evasion in comparison to non-fare evaders, 4.7%, it is timely to remind ourselves that this study was only conducted at two exits of a station for a total of thirty-three hours. Given the size of the Melbourne metropolitan network, it would be extremely interesting to conduct further research to see if these numbers are in fact indicative of normal behaviour and fall within the variables of the ‘profit curve’, which Boyd et al (1989) suggests most station operators use to manage the issue of fare evasion to generate “positive profits”.

The gender categories were broken down into age demographics to establish if there was an indicative pattern of fare evasion between the sexes (refer table three and four). Overall the data indicated that males are 36% more likely to commit fare evasion than females (refer table five).

One unexpected finding was observed on seven occasions during the two-week observation period and that was cases of multiple tailgating. While this act is usually limited to two people, on these occasions groups of up to five people committed the act. The perpetrators were a mixture of both age demographics.

Table three: Total adults

Returning to our research aim of answering the question; is fare evasion just a youth issue as has been reported or is there more to the issue? Interestingly, the data returned results that were not unexpected when answering this question. It was not unexpected due to the two years of passive observation already undertaken in relation to fare evasion. The data overwhelmingly supports the issue that adults are more likely to commit fare evasion than youths. Of the twenty-two observations undertaken a total of 288 people were observed committing the act, and 227 were adults which represents 78% of the total, while 61 or 22% were from the youth demographic (refer table six).

The issue of the dubious use of concession cards needs to be considered. While it is outside the scope of this report, it is important to be included as point of clarification. Over the course of the observation period, a total of 460 instances of the yellow light being illuminated indicating the use of a concession card was observed. While it is impossible to ascertain why such a large number of people are using concession cards without conducting intrusive observations, it is interesting to see that the data suggests that the adult demographic is also over represented in this category, with a total of 268 adults seen to use a concession card compared to 192 youths (refer table seven).

Table four: Total youth

Table five: Total observed

Table six: Total adult and youth

Conclusion
In undertaking this study to answer the research question, the empirical data collected provided statistical evidence to highlight uncertainties in the hypothesis, that the youth demographic is committing fare evasion in
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greater numbers than the adult demographic, as reported in the popular press by Metro and by the Government. As indicated in table six, 68% of the people observed committing fare evasion were adults and only 22% were youths. While the study was small in scale, it was large enough to establish patterns of normal human behaviour. Having used an unobtrusive observation methodology, it allowed for the observation of people going about their daily routine without the knowledge of them being observed, therefore, providing data that is relatively free from ambiguities.

Table seven: Concession light observation

<table>
<thead>
<tr>
<th>Concession light observation</th>
<th>460</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Youth 192</td>
<td>2</td>
</tr>
<tr>
<td>2. Adult 268</td>
<td>1</td>
</tr>
</tbody>
</table>

2  55%
1  42%

Given that the Parliamentary Drug and Crime Prevention Committee has made a recommendation to the Department of Transport in July 2009 to conduct a feasibility study into providing free public transport to under-eighteens, it is timely to reflect on the findings of this research report. The empirical evidence collected suggests that such a study maybe premature and that perhaps the Department of Transport should instead look at establishing an internal audit of Metro’s management and performance procedures, in particular its adherence to their own code of conduct to ensure that Authorised Officers are performing their roles in relation to fare evasion management correctly and that they are not targeting one age demographic over another.

While this study’s focus was predominately in relation to age demographics, it did reveal additional findings that subsequent research could be undertaken to assist Metro and the DOI in its execution of its Network Revenue Protection Plan. Fare evasion is not endemic only to Melbourne, and it is important that operators collaborate to establish efficiencies within procedures that protect revenue, which do not impact on passenger flows and on-time performance indicators. One study this research report advocates is the development of a mechanism to gauge the dubious use of concession cards. This is recommended due to the high number of occurrences observed over the two-week observation period when 460 people (refer table seven) used concession cards. While the legitimate use of concession cards should be encouraged, it is the use of this benefit by unentitled persons that needs to be investigated. Determining the magnitude of this offence can only be speculative without further research being conducted to resolve the question as to why such large numbers of people are using concession cards, which therefore has the potential to significantly reduce revenue for Metro.

Bibliography


Tasmania's Trolley Buses

Ian G Cooper: Tasmania's Trolley Buses. 208 pages plus cover, 243 photos, 137 in colour, 10 maps and diagrams and comprehensive appendices.

For the month of DECEMBER 2010 ONLY available from Transit Australia Publishing at GPO Box 1017 Sydney NSW 2001 at $69.95 including postage within Australia, orders in 2011 to PO Box 114 Canterbury Victoria 3126 at $69.95 plus $5 postage within Australia.

Ian Cooper's latest book considerably expands on his 1979 AETA publication Trolley Buses of Tasmania with an enormous amount of new information and photographs. On pure quantity alone it is 208 A4 pages as opposed to 87 quarto pages.

The book places the trolley bus in context summarising development worldwide from their first appearance in 1882 in Germany through to the first Australian adoption in Adelaide in 1932.

The level of detail about Tasmania's two systems, in Hobart from 1915 to 1968 and Launceston from 1951 to 1968, is immense. It successfully documents the history of the trolley bus systems in the two cities independently of the trams and motorbuses whilst at the same time acknowledging the intertwining of their stories. In some instances the true histories have to be told to understand the decision for introducing trolley bus. This is particularly so in Hobart where the New Town trolley bus route was effectively a long extension of the North Hobart route found myself referring to Ian's 1993 Hobart Tramways to understand trolley geographic relationships. And that's probably the only shortfall I found this book.

Ian has unearthed a treasure trove of colour photographs of bc systems covering the 1950s and 60s. Even though the review copy was low resolution Adobe PDF document, the colour and detail of the pictures looks excellent. The captions not only describe the trolley bus content but also the street scenes and subsequent changes so that even if a reader is particularly interested in the trolley buses it is still worth a read.

Throughout the book Ian highlights the many facts, lists and data that are unique to Tasmanian events on the two systems. The trolley bus route between the two cities being one of these events.

Apart from the trolley bus operation one macabrely fascinating chap was the fire that destroyed 1967 Hobart bushfire and its effect on the city a whole. The photographs are a stark illustration of the fire's impact on trolley buses.

The book's section on Launceston details the long period of discussion and planning for trolley buses there from 1931 until their introduction in 1951. Some of this duplicates part of Ian's previous book Launcest Municipal Transport 1911-1955 but is written from a different perspective and documents the story beyond 1955 till their closure.

Given today's resurgence of electricity for powering public transit it's ironic that one of the causes of the demise of Tasmania's trolley bus was the rapid increase in the cost of electricity from a 'green' source, 'Hydro'. That, along with their higher capital cost for overhead wiring amongst the reasons given for their demise.

The appendices detail routes, fleets, auxiliary vehicles and many other trivial matters needing recorded.

Well laid out by Carl Segitt this is another excellent addition to shelves of anyone interested in Tasmania's history in general. For Australian transport reader it is a must.