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LATE NIGHT, SHARE-RIDE TAXI – A PILOT PROGRAM

REPORT TO MINISTER FOR PUBLIC TRANSPORT

NOVEMBER 2012

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GLOSSARY

Brisbane NightLink taxi scheme	A share-ride taxi service for Brisbane’s suburbs departing from three points in central Brisbane. Introduced in 2005, it operates Friday and Saturday nights, from 11pm til 5am.
Commission	The Essential Services Commission — Victoria’s independent economic regulator of certain essential services. The Commission advises the Minister for Public Transport on taxi fares. However, the final decision on fares rests with and is determined by the Minister.
Cost reflective	The extent to which a share-ride taxi fare reflects the actual cost of the service provided, i.e. how closely it reflects the existing regulated fare level set by the Minister for Public Transport.
Fare structure (or share-ride fare structure)	The overall fare offering for share-ride taxis, as defined by the fare level for each fare zone.
‘Fare boundary’	The boundary implied by a share-ride fare level, which shows where the share-ride fare switches from being more to less expensive than the standard taxi fare. It provides an indication of the attractiveness of a share-ride fare across the suburbs of Greater Melbourne.
Fare zones	A possible geographic division of the suburbs of Greater Melbourne with corresponding share-ride taxi fares applicable to each zone. A one fare zone structure implies a single fare applies regardless of destination within Greater Melbourne.
Farebox revenue	The total fare for a taxi trip, i.e. the revenue derived for each particular trip. Usually this is calculated via a meter; however under the share-ride pilot a flat fare is to be paid per passenger, with the farebox revenue equal to the sum of passengers’ fares.
Greater Melbourne	The area made up by the current Metropolitan Melbourne and Outer Suburban taxi zones.

High occupancy vehicle (HOV)	A class of taxi which can carry up to 11 passengers. Higher taxi fares apply to HOVs if carrying at least five passengers or if the hirer requests an HOV. The higher rate does not apply when the hirer is a wheelchair passenger. Sometimes referred to as Maxi-Taxis.
Metered fare	The taxi fare for a journey as displayed on a taxi's required taxi meter. The fare rates (e.g. flagfall, distance rate etc) are determined by the Minister for Public Transport.
Metropolitan taxi zone	One of the separately licenced taxi zones in Victoria, which corresponds to most of Metropolitan Melbourne, excluding an area surrounding Frankston and Dandenong (the Outer Suburban taxi zone).
Multiple hire	Occurs when two or more unacquainted people agree to share a taxi from a common starting point to their respective destinations. The current multiple hire taxi fare provides that each hirer pays no more than 75 per cent of the metered fare at their drop-off point.
Outer Suburban taxi zone	A licenced taxi zone which corresponds to an area in the South-East of Greater Melbourne, incorporating the areas surrounding Dandenong and Frankston.
Passenger mix	For scenarios with multiple fare zones, passenger mix represents the split of passengers across those fare zones for a given share-ride trip. For example, with two fare zones and seven passengers, there are eight separate passenger mix scenarios.
Rank marshals	Under the share-ride taxi pilot, rank marshals will be responsible for explaining the service to potential customers and organising passengers into groups travelling in the same general direction to share a taxi.
Queen Street mega rank (QSMR)	Since December 2011, this taxi rank has operated between Bourke Street and Little Collins Street in Melbourne's CBD between midnight and 5am Friday and Saturday nights (during these times this section of Queen Street is closed to other traffic). It is the proposed departure site for the share-ride taxi pilot.

Share-ride taxi pilot	The Victorian Government's proposed pilot scheme for multi-passenger taxi journeys departing from the Queen Street mega rank with passengers organised into groups per taxi according to destination.
Share-ride trip scenarios	The range of share-ride trips considered by the Commission, which is a function of fare zone structure, share-ride fare level, passenger number, and for multiple fare zone structures, passenger mix.
Standard (taxi) fare	The fare that applies to a standard taxi which can carry a maximum of 4 passengers, when operating on a Saturday or Sunday morning, i.e. it includes the late night surcharge.
Suburbs included	A measure used by the Commission to assess the attractiveness of a share-ride fare. For a given fare level, the measure gives the number of suburbs for which the share-ride fare is less than the standard taxi fare, and hence the suburbs are 'included'. The measure is related to the 'fare boundary'.
Taxi Industry Inquiry (Inquiry)	Established by the Government in March 2011 to investigate the functioning of the Victorian taxi and hire car market and propose recommendations for reform.
Taxi zone	Taxi licences are attached to certain geographic areas (zones) in Victoria, limiting their operability. A taxi may only pick up from within its relevant zone. The four zones of Victoria are Metropolitan (Melbourne), Outer Suburban, Urban and Country.
Victorian Taxi Association (VTA)	The primary taxi industry body of Victoria, representing industry participants including licence holders, operators and network service providers.
Victorian Taxi Directorate (VTD)	A division of the Department of Transport responsible for the regulation of Victoria's taxi and hire car industry.
Wheelchair Accessible Taxi (WAT)	Taxis with WAT licences are designed to transport people in wheelchairs and must serve clients in wheelchairs as a priority before taking other fares. WATs may also operate as high occupancy vehicles (HOVs) that can carry up to 11 passengers when not carrying people in wheelchairs.

Key messages

- The Commission has balanced operator and passenger incentives in developing its recommended fare structure. It has also considered simplicity in developing the structure.
- The analysis shows that the Victorian Taxi Association’s (VTA’s) proposal of a \$30 flat fare compensates operators well, but the attractiveness of the scheme from a passenger perspective is limited.
- To improve on the VTA’s proposal to make it more attractive to passengers, the Commission has considered two additional fare parameters: zones and discounts.
- The Commission’s analysis finds that zoning and group discounts make the share-ride scheme more attractive for more passengers while ensuring that operators have a strong financial incentive to participate in the scheme (and in many instances will be significantly better off due to higher patronage of the share-ride scheme).
- The Commission notes that zoning and group discounts are well established features of the Brisbane late night share-ride scheme which has worked successfully for a number of years.
- The Commission conducted detailed analysis of one and two zone structures, as well as a fare structure for singles and discounts for individuals travelling in groups of two to four, or five or more passengers, to the same destination. The Commission’s recommended fare structure is presented below.

	Single	Two to four*	Group (5+)*
Zone 1	\$17	\$15	\$13
Zone 2	\$26	\$23	\$19

*Travelling to the same destination.

Note: Fares are per person and exclude any marshal levy.

- Some case studies at the end of this overview (see section 1.6) demonstrate how the Commission’s recommended fare structure benefits passengers and taxi operators.

1.1 About this review

On 12 October 2012, the Essential Services Commission (the Commission) received a referral from the Minister for Public Transport to conduct a review and provide a report by 23 November 2012 recommending a fixed fare, per head, pricing structure for the proposed late night, share-ride taxi pilot program. The full terms of reference of the review are at appendix A and details on the review process at appendix B.

The Commission's role in this review

The Commission's role is to advise on the fare structure for the taxi pilot only.

This report does not cover the policy and operational details of the pilot. The operational details (for example: safety issues, supply of drivers and taxis, employment and cost of marshals etc.) have been developed by the VTA in consultation with the Victorian taxi industry regulator — the Victorian Taxi Directorate (VTD), and are outside the Commission's terms of reference. Appendix C sets out a summary of how the proposed pilot is intended to operate.

The Commission understands that the Victorian Government may review the pilot, with the potential for the service to be continued if the pilot is a success.

The Commission's consultation process

In the time frame provided for the review (six weeks), the Commission developed its recommendations and report, and also undertook a consultation process.

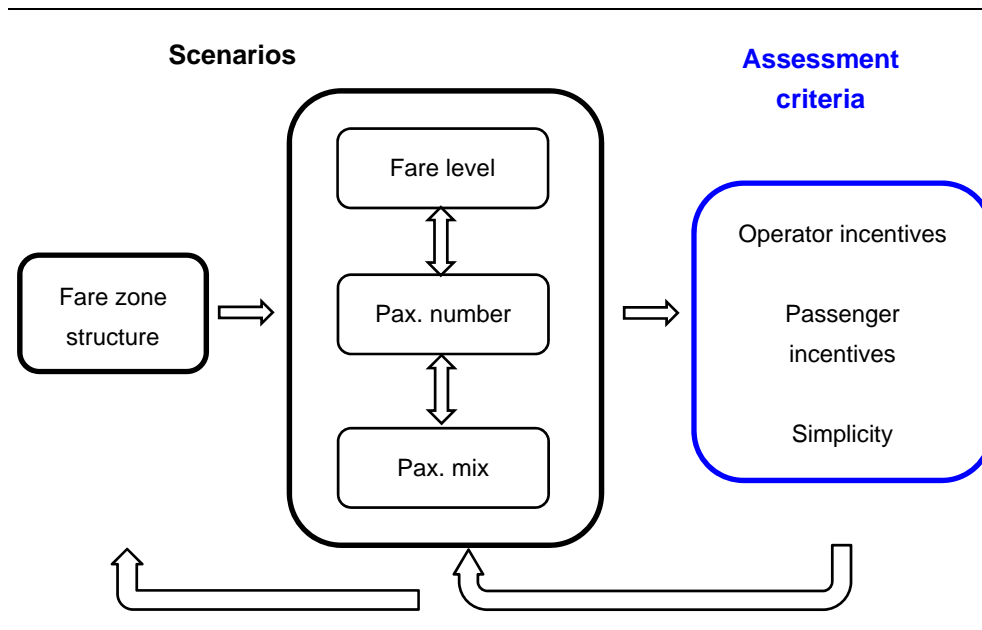
The Commission advertised the review in the *Herald Sun* and *The Age*, released an issues paper and called for submissions by 7 November. The Commission also met, on request, various stakeholder groups including representatives from: the Victorian Taxi Drivers Association; the VTA; Black Cabs; and Taxi Industry Stakeholders Victoria (TISV). No submissions were received from customer representatives. Moreover, the Commission was not able to test customer preferences in relation to various aspects of the proposed share-ride scheme. The pilot will provide an important opportunity to test customer preferences.

1.2 Methodology

The Commission's methodology for developing a share-ride taxi fare structure is based on scenario analysis — that is, modelling the expected farebox revenue¹ from a late night, share-ride service assuming specific changes in the variables that affect the farebox revenue. The four key variables that affect farebox revenue are:

- zone structure (i.e. the number of zones) — refers to the separation of Greater Melbourne into fare zones;
- share ride fare — the fare payable by a passenger given their destination;
- passenger numbers — the number of passengers being carried in a share-ride taxi (the VTA sets a minimum of seven passengers — the Commission's analysis models outcomes for seven to 11 passengers); and
- passenger mix — applies to scenarios where there are multiple zones; passenger mix refers to the split of passenger destinations across those zones.

Figure 1.1 The Commission's fare structure methodology



¹ Farebox revenue is the total fare for a taxi trip, i.e. the revenue derived for each particular trip. Usually this is calculated via a meter, however under the share-ride pilot a flat fare is to be paid per passenger, with the farebox revenue equal to the sum of passengers' fares.

Figure 1.1 above illustrates the Commission’s methodology for determining the share-ride fare structure. It illustrates the iterative process required to develop the fare structure (as indicated by the arrows, e.g. for a given fare zone structure, fare level, passenger number and passenger mix scenario, the assessment against the Commission’s criteria may be such that an alternative scenario, or scenarios, is tested). The scenario analysis approach has allowed the Commission to test and consider a wide range of options.

Assessment criteria

Three criteria were also developed by the Commission to assess the scenarios generated. These were:

- **Operator incentives** — the operator of the late-night, share-ride service should receive payment equal to, or greater than, the comparable taxi fare calculated by a taximeter according to time and distance. The Commission’s assessment of operator incentives included:
 - consideration of what constituted a comparable fare; and
 - identification of benchmarks to compare against share-ride farebox revenue.
- **Passenger incentives** — the late night, share-ride service should present a viable alternative to users who individually may seek a lower cost taxi trip than hiring a taxi exclusively for their own use.² The Commission’s assessment of passenger incentives involves two concepts:
 - *suburbs included* — for an individual, this is measured by the number of Greater Melbourne suburbs (out of 382) for which the share-ride fare is lower than the standard late night fare, thus making the share-ride fare attractive to the consumer;
 - *fare boundary* — for an individual, this refers to the trip distance from the Melbourne CBD where catching a standard taxi switches from being cheaper to more expensive than the share-ride fare.
- **Simplicity** — the more zones and fare options, the more complexity. As complexity makes the scheme more difficult to understand and implement, the Commission has considered simplicity as a criterion.

² The Commission’s approach to meeting this aspect of the terms of reference results in the analysis of passenger incentives being based on responses to different price levels. What is not easily assessed is how potential passengers will respond to the extra travel time likely to be associated with a share-ride trip (compared to catching a standard taxi and travelling direct to your destination) and the prospect of sharing a taxi with strangers.

Balancing operator and passenger incentives

An important task for the Commission in developing a share-ride fare structure was the balancing of operator and passenger incentives because:

- if operator incentives were favoured over passenger incentives, fewer passengers would be attracted to the service, adversely affecting the pilot's success and the returns available to operators.
- conversely, if passenger incentives were favoured over operators, operators would be unwilling to supply the share-ride service.

To assess operator incentives to provide the late night, share-ride service, farebox revenue figures (generated through the share-ride scenarios) were compared to farebox revenue that operators would otherwise receive from standard taxi fares and HOV fares.

Similarly, to assess passenger incentives, the share-ride fare (which was an input to the estimation of share-ride farebox revenue) was compared to standard fares. In this way, the Commission's assessment was able to consider the competitiveness of share-ride fare levels against standard late night fares.

However, in the time available for the review, the Commission was not able to directly consider a potential passengers' willingness to pay for a share-ride taxi. This analysis would indicate what value passengers place on sharing a taxi as well as the extra time associated with a share-ride trip.

1.3 Fare structures that were analysed

In applying the methodology, the Commission's approach started with the simplest zone and fare structure — that is, a single zone and a single price, as per the VTA proposal (box 1.1).

Box 1.1 Summary of the VTA's proposal

Fare structure and zones

A \$30 flat fare applicable within the Greater Melbourne taxi zone.

No discounts for groups.

Frequency and routes

Initially to run from 12am – 3am every half hour on Saturday and Sunday mornings (with a view to extend to 5am, depending on demand).

Taxi services to run in four general directions, depending on levels of demand.

Passenger numbers

A minimum number of seven (7) passengers will be required per trip.

In analysing the VTA's proposal for a \$30 flat fare (see chapter 3), the Commission has concluded that the \$30 fare represents an imbalance between operator and passenger incentives — specifically, operators are well compensated but the attractiveness of the scheme from a passenger perspective is very limited.

For example, the VTA's \$30 fare results in:

- **operators being well compensated** relative to some reasonable benchmarks. For example, a taxi driver operating trips in the late night, share-ride scheme would receive between \$210 (based on 7 passengers) to a maximum of \$330 (based on a 11 passengers) compared to other trips where they would receive:
 - \$22 — for the average late night standard taxi trip distance of 8km
 - \$71 — for a 30km late night trip (a distance of almost four times the average late night taxi trip)
 - \$115 — for a 50km late night trip (at which distance the outskirts of Greater Melbourne are reached)
 - \$170 — for a 50km HOV late night trip
 - \$159 — for a 70km late night trip (i.e. a trip that allows for an additional 40 per cent in distance travelled over the 50km benchmark, which recognises 'inefficiency' associated with a share-

ride trip reaching its final drop off destination, since intermediate drop offs need to be made)

- **people travelling together will find the fare unattractive** (i.e. these people are effectively excluded from the share-ride service):
 - for a couple travelling together, a share-ride taxi would be cheaper than a standard taxi for only 48 per cent of Greater Melbourne's suburbs, and
 - for three people, the proportion drops to only 22 per cent of suburbs.³

While the VTA proposal results in operators being well compensated, it only appeals to a group of travelers travelling to a limited set of destinations.

Information available to the Commission suggests that many late night taxi users travel in groups of two or three. Under the VTA proposal, these groups will consider how far they can travel in a standard taxi for \$60 (for groups of two) or \$90 (for groups of three), as it is only beyond these distances that they will consider a share-ride taxi. (The distances are around 25 and 38kms, respectively.)

Given the Commission's terms of reference require it to consider *both* operator and passenger incentives, the Commission believes the VTA proposal can be improved upon to make the scheme more attractive for more travelers going to more destinations.

³ The Commission notes that focus on people travelling together is relevant as many late night taxi users are not travelling alone. Related to these 'suburbs included' figures of 48 and 22 per cent, the VTA's \$30 fare results in: a fare boundary of 25.1km for two people travelling together (i.e. around half of Greater Melbourne's suburbs would not use the share-ride service) and a fare boundary of 38.6km for three people travelling together (with almost 80 per cent of Greater Melbourne's suburbs not using the share-ride service); and a fare boundary of 52.2km for four people travelling together (with almost all of Greater Melbourne's suburbs not using the share-ride service).

1.4 Fare structure options

To improve on the VTA's proposal the Commission introduced two new fare setting parameters into its analysis:

- zoning, and
- group discounts.

Zoning divides Greater Melbourne into separate fare zones based on Melbourne's existing public transport zones (see figure 1.2 for the two zone structure)

In regard to group discounts, the Commission considered Brisbane's NightLink taxi scheme, which has operated successfully since December 2005. This scheme has numerous zones and single, double and group (five passengers or more) fare options. The Commission considered a discounted per head fare for groups of two to four people, as well as a per head discounted fare for groups of five or more.

This approach resulted in four separate fare structure options being developed by the Commission. The Commission determined its recommended fare structure based on an analysis of operator and passenger incentives.

Overall, the Commission's analytical process involved:

- first, analysing a one zone, single fare only, fare structure
- second, building on the one zone, single fare analysis by including discounted fares for individuals travelling in groups of two or more
- third, analysing a two zone, single fare only fare structure, and
- fourth, building on the two zone, single fare analysis by including discounted fares for individuals travelling in groups of two or more

Based on the analysis carried out, the Commission identified optional fare levels for four scenarios described above.⁴ Table 1.1 presents these fare structures, with the Commission's recommended fare structure shaded (bottom right hand corner).

⁴ The share-ride fares do not include any allowance for a marshal levy, as determination of the levy is outside the Commission's terms of reference. If a marshal levy is imposed on passengers, then this will have to be added to the Commission's recommended fare to *determine the full cost of a share-ride trip for a passenger*.

Table 1.1 The Commission's fare structure analysis and recommended per passenger share-ride fares

	<i>Number of zones</i>					
	<i>One Zone</i>			<i>Two Zones</i>		
Flat fare	\$20			Zone 1	\$15	
				Zone 2	\$23	
Discounted fares	Single	Two to four*	Group (5+)*	Single	Two to four*	Group (5+)*
	\$23	\$20	\$17	Zone 1	\$17	\$15
				Zone 2	\$26	\$23
<i>(Commission's recommended option)</i>						

*Travelling to the same destination.

Note: Fares are per person and exclude any marshal levy. The share-ride fares recommended by the Commission do not include any allowance for a marshal levy as this was outside the scope of the review. The marshal levy will be determined by the VTD.

Table 1.1 shows that:

- ⇒ where one zone applies to all of Greater Melbourne:
 - with a single fare only available to passengers, the Commission finds that the fare should be \$20 per passenger (top left hand corner)
 - with discounts available to groups of two to four, and groups of five or more, the Commission finds the fare should be \$23 for singles, \$20 per passenger for passengers travelling in a group of two to four, and \$17 per passenger for passengers in a group of 5 or more (bottom left hand corner)
- ⇒ where two zones apply to all of Greater Melbourne:
 - with a single fare only available to passengers, the Commission finds that the fare should be \$15 per passenger for destinations in zone 1 (the inner zone) and \$23 per passenger for travel to zone 2 (the outer zone) (top right hand corner)
 - with discounts available, the Commission finds the fare should be \$17 for singles, \$15 per passenger for passengers travelling in a group of two to four, and \$13 per passenger for passengers in a group of 5 or more, for destinations in zone 1; and \$26 for singles, \$23 per passenger for passengers travelling in a group of two to four, and \$19 per passenger for passengers in a group of 5 or more, for destinations in zone 2 (bottom right hand corner).

While a fare structure with multiple zones and discounts for people travelling together may not be as simple as a single zone with no discounts, the Commission's analysis shows that the pilot will be notably more attractive to more passengers if there are two zones and discounts. Compared to other similar schemes such as Brisbane's scheme, which is operating successfully with numerous zones and discounts, the Commission's recommended fare structure remains reasonably simple.

Under the Commission's fare structure, operators will still have strong financial incentives to participate in the scheme and the differentiated fare structure will increase the likelihood of success of the pilot

Maximising the scheme's attractiveness

In comparing the one and two zone structures, the Commission's analysis indicates that improvements to passenger incentives (while maintaining operator incentives) can be achieved by moving from the VTA's proposal of one zone, to a two zone structure.

The Commission believes that a two zone structure will increase the attractiveness of the pilot to passengers (i.e increased patronage) – thereby improving the likely success of the pilot scheme – while still allowing operators to earn attractive farebox revenues.

Increased patronage also increases the 'efficiency' of the scheme because more passengers will enable the marshals to group passengers more efficiently, thereby increasing operator returns.

The two zone structure is illustrated in figure 1.2. The boundary between zones 1 and 2 is approximately 17km from Melbourne's CBD.

Table 1.2 shows the percentage of Greater Melbourne suburbs for which the share-ride scheme will be an attractive option, comparing outcomes under the Commission's recommended fare structure and the VTA's proposal. In the case of an individual choosing between a share-ride or a standard taxi, the VTA's \$30 fare results in the share-ride fare being an attractive option for 81 per cent of Greater Melbourne suburbs. This compares to 93 per cent under the Commission's fare structure.

Table 1.2 Passenger outcomes: percentage of suburbs for which share-ride is cheaper than standard taxi
(Commission recommended and VTA fare structures)

<i>Size of party (no. of pax)</i>	<i>VTA fare structure (%)</i>	<i>Commission fare structure (%)</i>
1	81	93
2	48	77
3	22	42
4	6	21

Under the more likely scenario of groups of two travelling together, the VTA's proposal results in only 48 per cent of Greater Melbourne suburbs having the share-ride taxi as an attractive option. This compares to 77 per cent under the Commission's recommended fare structure.

The Commission has also recommended discounts as it believes these will:

- increase the flexibility of fare options — thereby providing further incentives for passengers to use the share-ride service (particularly since a many late night taxi users are travelling with another person)⁵
- promote efficiency gains associated with taking passengers to the same destination — the inclusion of multiple passengers travelling to the same destination will reduce the number of stops to be made for a share-ride trip (for the same number of total passengers) and increase the directness of the route. This efficiency benefits drivers through shorter trip distances and additional time to earn other fares, and
- increase the attractiveness of the share-ride service — given passengers in a standard taxi are able to split the fare (and thereby pay a lower per head fare than if they were travelling alone), not providing 'discounts' for people travelling together in a share-ride taxi could reduce the attractiveness of the scheme. This supports the inclusion of discounted fares for groups of two or more passengers.

⁵ Research by Millward Brown indicated that 47 per cent of late night taxis are carrying two passengers, and 21 per cent are carrying three passengers. See Millward Brown 2010, *NightRider – understanding late night travel in Melbourne*, prepared for Metlink.

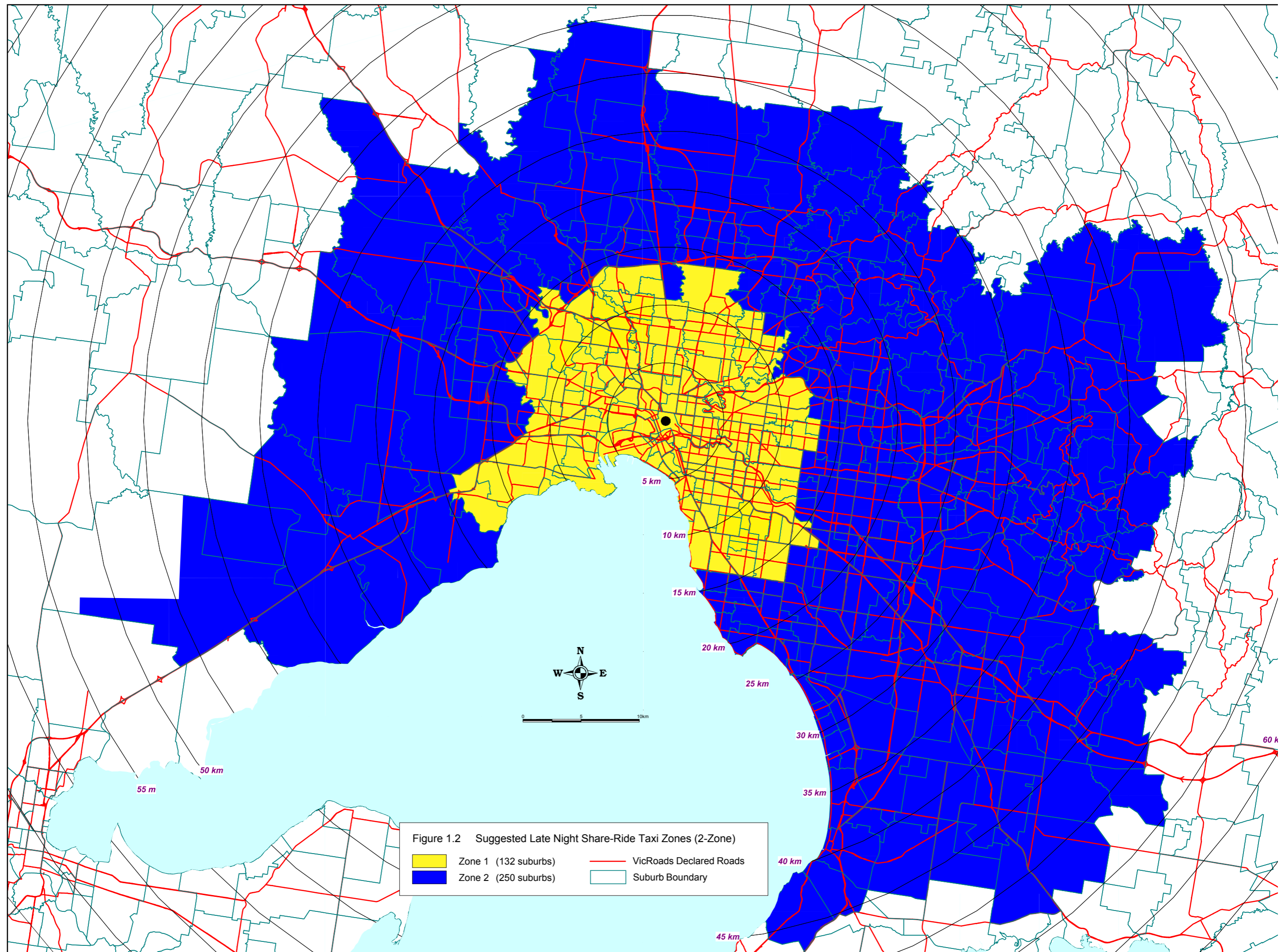


Figure 1.2 Suggested Late Night Share-Ride Taxi Zones (2-Zone)

1.5 Recommendations

The Commission's recommended fare structure

The Commission recommends that a two fare zone structure be applied to the late night, share-ride taxi pilot and include discounts for individuals travelling in groups of two to four passengers, and groups of five or more, and travelling to the same destination.

The Commission recommends the following per head fare structure for the late night, share-ride taxi pilot.

Zone	Single fare	Two to four fare*	Group fare (five or more)*
1	\$17	\$15	\$13
2	\$26	\$23	\$19

* Travelling to the same destination.
Note: Fares are per person and exclude any marshal levy.

Data should be collected

The Commission recommends that the Victorian Taxi Directorate and Victorian Government should ensure the following data are collected for each share-ride taxi trip during the pilot:

- number of passengers in total
- number of passengers by destination zone
- number of single passengers, two to four passengers, and group passengers
- farebox revenue
- destination suburb, and
- data from the meter (to be left on during the share-ride trip)

The availability of data on the use of the share-ride service during the pilot will be useful in analysing the success of the pilot, and potentially refining the fare structure in the future.

1.6 Case studies

To illustrate the practical application of the recommended fare structure and to illustrate the savings that would be offered to passengers and the returns available to operators through the recommended share-ride fare, four different case studies are presented (tables 1.3 to 1.6). These involve possible passenger mixes in each of the proposed service directions.

For each case study, the savings made by single passengers or groups of passengers travelling together in relation to the standard taxi fare are presented. Also presented are the returns made by the operator compared to a standard taxi fare (or HOV fare if applicable) to the final destination of the share-ride trip, as well as compared to the fare to the final destination including a 40 per cent 'inefficiency' allowance to recognise the indirect nature of a share-ride trip.⁶

Case study 1 – Trip to the north of Melbourne's CBD

This case study involves a share-ride trip taking:

- one single passenger to Thornbury
- one single passenger to Preston
- one single passenger to Pascoe Vale South
- two passengers travelling together to Campbellfield, and
- four passengers travelling together to Craigieburn.

Table 1.3 (below) indicates that:

- the single passenger travelling to Thornbury makes a saving of \$9
- the single passenger to Preston makes a saving of \$12
- the single passenger to Pascoe Vale South makes a saving of \$16
- the two passengers travelling together to Campbellfield make a total saving of \$17
- the four passengers travelling together to Craigieburn make a total saving of \$11, and
- the taxi operator makes additional revenue of \$86 from the share-ride trip relative to the standard fare (or \$43 with a 40 per cent allowance for 'inefficiency').

⁶ 'Inefficiency' refers to the additional distance potentially travelled by a share-ride taxi in reaching its final destination given the intermediate drop offs it will make.

Table 1.3 Case study 1: passenger savings and operator returns

<i>Passenger outcomes</i>		Standard fare	Share-ride cost	Saving
1 pax	Thornbury	\$26	\$17	\$9
1 pax	Preston	\$29	\$17	\$12
1 pax	Pascoe Vale South	\$33	\$17	\$16
2 pax	Campbellfield	\$63	\$46	\$17
4 pax	Craigieburn	\$103	\$92	\$11
<i>Operator outcomes</i>		Standard fare	Share-ride farebox	Additional return
	Craigieburn	\$103	\$189	\$86
	+ 40% 'inefficiency'	\$43	–	
	Comparable fare	\$146	\$189	\$43

Note: fare estimates include flagfall, distance charge, an allowance for waiting time and the late night surcharge, and fares exclude any marshal levy. And 'share-ride cost' is the individual fare for singles not travelling with others, or the total group cost where groups of two or more people are travelling to the same destination.

Case study 2 – Trip to the south of Melbourne's CBD

This case study involves a share-ride trip taking:

- one single passenger to Moorabbin
- four passengers travelling together to Seaford, and
- four passengers travelling together to Frankston.

Table 1.4 indicates that:

- the single passenger travelling to Moorabbin makes a saving of \$17
- the four passengers travelling together to Seaford make a total saving of \$33
- the four passengers travelling together to Frankston make a total saving of \$40, and
- the taxi operator makes additional revenue of \$78 from the share-ride trip relative to the standard fare (or \$31 with a 40 per cent allowance for 'inefficiency').

Table 1.4 Case study 2: passenger savings and operator returns

<i>Passenger outcomes</i>		Standard fare	Share-ride cost	Saving
1 pax	Moorabbin	\$43	\$26	\$17
4 pax	Seaford	\$125	\$92	\$33
4 pax	Frankston	\$132	\$92	\$40
<i>Operator outcomes</i>		Standard fare	Share-ride farebox	Additional return
	Frankston	\$132	\$210	\$78
	+ 40% 'inefficiency'	\$47	–	
	Comparable fare	\$179	\$210	\$31

Note: fare estimates include flagfall, distance charge, an allowance for waiting time and the late night surcharge, and fares exclude any marshal levy. And 'share-ride cost' is the individual fare for singles not travelling with others, or the total group cost where groups of two or more people are travelling to the same destination.

Case study 3 – Trip to the east of Melbourne's CBD

This case study involves a share-ride trip taking:

- one single passenger to Camberwell
- one single passenger to Glen Iris
- four passengers travelling together to Upper Ferntree Gully, and
- four passengers travelling together to Belgrave.

Table 1.5 indicates that:

- the single passenger travelling to Camberwell makes a saving of \$23
- the single passenger to Glen Iris makes a saving of \$18
- the four passengers travelling together to Upper Ferntree Gully make a total saving of \$11
- the four passengers travelling together to Belgrave make a saving of \$22, and
- the taxi operator makes additional revenue of \$104 from the share-ride trip relative to the standard fare (or \$63 with a 40 per cent allowance for 'inefficiency').

Table 1.5 Case study 3: passenger savings and operator returns

<i>Passenger outcomes</i>		Standard fare	Share-ride cost	Saving
1 pax	Camberwell	\$40	\$17	\$23
1 pax	Glen Iris	\$35	\$17	\$18
4 pax	Upper Ferntree Gully	\$103	\$92	\$11
4 pax	Belgrave	\$114	\$92	\$22
<i>Operator outcomes</i>		Standard fare	Share-ride farebox	Additional return
	Belgrave	\$114	\$218	\$104
	+ 40% 'inefficiency'	\$41	–	
	Comparable fare	\$155	\$218	\$63

Note: fare estimates include flagfall, distance charge, an allowance for waiting time and the late night surcharge, and fares exclude any marshal levy. And 'share-ride cost' is the individual fare for singles not travelling with others, or the total group cost where groups of two or more people are travelling to the same destination.

Case study 4 – Trip to the west of Melbourne's CBD

This case study involves a share-ride trip taking:

- one single passenger to West Footscray
- three passengers travelling together to Altona Meadows
- one single passenger to Point Cook, and
- five passengers travelling together to Werribee.

Table 1.6 indicates that:

- the single passenger travelling to West Footscray makes a saving of \$11
- the three passengers travelling together to Altona Meadows make a total saving of \$11
- the single passenger travelling to Point Cook makes a saving of \$39
- the five passengers travelling together to Werribee make a total saving of \$21
- the taxi operator makes additional revenue of \$67 from the share-ride trip relative to the HOV fare (or \$16 with a 40 per cent allowance for 'inefficiency').

Table 1.6 Case study 4: passenger savings and operator returns

<i>Passenger outcomes</i>		Standard fare	Share-ride cost	Saving
1 pax	West Footscray	\$28	\$17	\$11
3 pax	Altona Meadows	\$56	\$45	\$11
1 pax	Point Cook	\$65	\$26	\$39
5 pax	Werribee	\$116 ^a	\$95	\$21
<i>Operator outcomes</i>		HOV fare	Share-ride farebox	Additional return
Werribee		\$116	\$183	\$67
+ 40% 'inefficiency'		\$51	–	
Comparable fare		\$167	\$183	\$16

Note: fare estimates include flagfall, distance charge, an allowance for waiting time and the late night surcharge, and fares exclude any marshal levy. And 'share-ride cost' is the individual fare for singles not travelling with others, or the total group cost where groups of two or more people are travelling to the same destination.

^a This fare is the HOV fare to Werribee given five passengers are being carried.

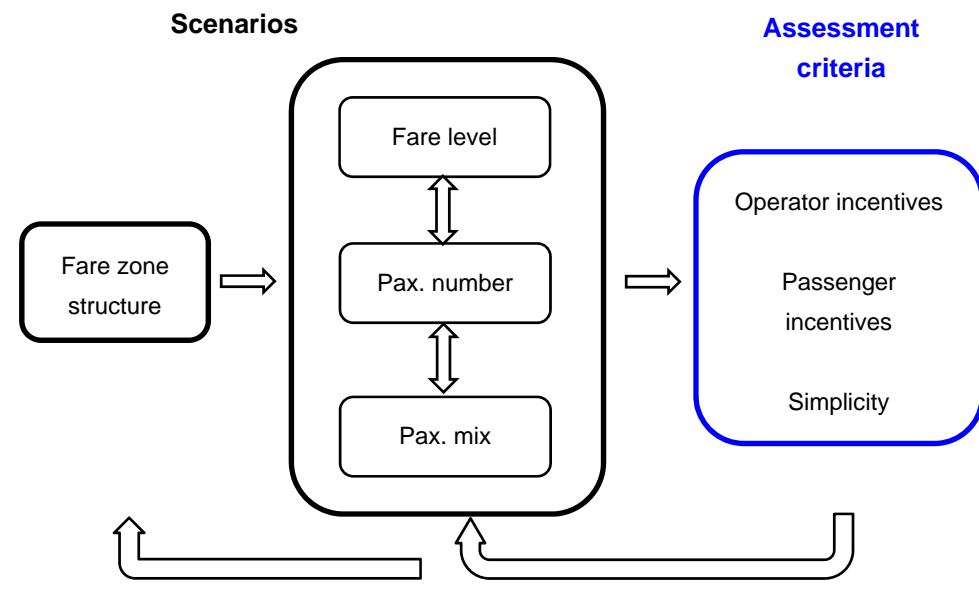
2 THE COMMISSION'S METHODOLOGY AND FARE ZONE STRUCTURES

This chapter presents the Commission's methodology for determining the recommended fare structure for the share-ride taxi pilot.

2.1 The Commission's methodology

The Commission's methodology is summarised in figure 2.1. It indicates that scenarios were based on four key variables: the fare zone structure (i.e. number of fare zones), share-ride fare level, passenger number per share-ride taxi, and passenger mix. The outcomes of these scenarios were compared and assessed in terms of their impact on operator incentives, passenger incentives, and the simplicity of the proposal.

Figure 2.1 The Commission's fare structure methodology



The following sections discuss the Commission's selection of scenarios and the assessment criteria.

2.2 The selection of scenarios

Establishing fare zones

A key issue for the Commission in determining the share-ride taxi fare structure is the extent to which Melbourne should be separated into fare zones.

In determining the number of zones, there are a number of trade-offs and issues that the Commission considered.

- **Simplicity and insufficient gradation** — fewer zones provides for a simpler fare schedule: simpler to administer and simpler for the travelling public to understand. However, fewer zones and a lack of gradation are likely to imply a greater degree of averaging in the level of fares within each zone, which could raise cross-subsidy issues.
- **Complexity and cost reflectivity** — the higher the number of zones, the more complex the fare schedule: this may increase the costs of administering the schedule and may be more difficult for the public to understand. However, as the number of zones increases, fares may become more cost reflective.
- **Cross-subsidies** — since fares are averaged within each zone, people in the inner parts of each zone may be seen to be subsidising those who live in the middle and outer parts of the zone. As the number of zones decreases, the extent of subsidisation increases.

Regardless of the number of zones, any zone based fare system will involve a degree of 'averaging' — within each zone, fares will not be fully cost reflective, with the implication that some potential share-ride taxi users (likely to be those in inner parts of a zone) might be better off taking a standard taxi. This has been recognised by the Queensland Department of Transport and Main Roads, who together with industry stakeholders implemented a late night, share-ride taxi scheme in Brisbane. The Queensland Department notes on its website that:

*TransLink zones 1 to 6 have been adjusted for NightLink FlatFare taxis to identify the 'inner' parts of these zones. **The inner parts of a zone are cheaper to travel to on a metered fare** [emphasis added] but attract a lower FlatFare than the outer part of the zone.⁷*

⁷ Queensland Department of Transport and Main Roads 2012, *NightLink FlatFare taxi service*, accessed at www.tmr.qld.gov.au/Travel-and-transport/Taxis/Taxi-safety-initiatives/Nightlink-flatfare.aspx on 14 August 2012.

The Commission's fare zone scenarios

Being only a pilot at this stage, the Commission is mindful to keep any recommended fare structure relatively simple. It therefore favours fare structures *with fewer zones*, and does not consider it feasible at this stage to develop a fare structure with a similar number of zones as Brisbane's NightLink taxi scheme.

For scenario testing, the Commission has considered the following three fare zone structures:

- A single zone — the combined areas of the Metropolitan Melbourne and Outer Suburban taxi zones were not separated into fare zones radiating out from the CBD. This single zone structure is equivalent to the VTA proposal.
- Two fare zones — the Greater Melbourne area was separated into two fare zones, based on the existing public transport fare zones applied to train, tram and bus travel.
- Three fare zones — based on the existing two public transport fare zones, the outer zone (zone 2) was further separated into two zones based on the average taxi fare for each outer zone suburb.

Although the Commission was able to base fare zone structures on the existing public transport zones, there are some differences between the Commission's two zone structure and Melbourne's public transport structure. These differences and the judgement applied by the Commission in developing its two and three fare zone structures are discussed in box 2.1. Section 2.4 lists the Commission's separation of suburbs into the two and three fare zone structures.

The Commission also initially considered separating each of the existing public transport fare zones in two, in order to develop four fare zones. However, given the relatively small size of the existing zone 1, it was considered that there was insufficient benefit from its separation, particularly when considered against the objective of developing a simple fare structure and noting that at this stage only a pilot is being run.

Scenarios for fare levels

In considering fare levels, the Commission's scenario approach allowed a wide range of options to be evaluated. Generally, the starting point for fare levels was an average fare level of \$30 (consistent with the proposal of the VTA). Higher and lower fare levels were then tested, and the results considered against the assessment criteria considered by the Commission (section 2.3 discusses the assessment criteria). This initial consideration informed further scenario analysis and adjustment to potential fare levels.

Box 2.1 Developing the Commission's 2 and 3 fare zone scenarios

The zone structure for Brisbane's NightLink taxi scheme is based on Brisbane's public transport zones. For simplicity and familiarity, the Commission has chosen to take a similar approach in developing its fare zone scenarios — users are likely to know the public transport zone of their destination suburb, and therefore consistency with the public transport zones will make the share-ride taxi fare zones easier for users to understand. Consistency of zones will also make the service simpler to administer, with rank marshals spending less time with potential users in determining the appropriate zone and fare.

However, the existing public transport zone structure is in part based on road boundaries rather than suburb boundaries. This means that some suburbs are split between the two public transport zones. For fixed route services with designated stops, this is simple to administer. However, for taxi services with unlimited drop-off points, this would be administratively complex, as rank marshals would need to ascertain the exact location of a passenger's destination to determine the appropriate fare zone within these 'border' suburbs. The Commission has therefore chosen to base its zone structure on suburb boundaries (with each suburb wholly assigned to a single fare zone).

The Commission's 2 fare zone scenario

To convert the public transport zone structure into the Commission's suburb based 2 fare zone scenario, the Commission allocated each of the 'border' suburbs to a single zone (10 suburbs had significant overlaps between the two public transport zones, 3 other suburbs had slight overlaps). The Commission made these zone allocations based on the proportion of the suburb in each zone — 10 suburbs were allocated to zone 1, and 3 to zone 2. Apart from these minor variations, the Commission's two zone structure is consistent with the existing public transport zones.

The Commission's 3 fare zone scenario

For the Commission's 3 fare zone scenario, its outer zone under the 2 fare zone scenario (the much larger of the two zones) was split in two. The Commission determined the boundary between these zones by taking the average of the smallest and largest taxi fares of the outer zone suburbs, and allocating each of these suburbs by reference to this average. So a suburb whose average fare was less than the outer zone average fare was allocated to the new zone 2. Creating the zones in this way produced zones of similar size, i.e. the difference between the fare to the inner most and outer most parts of each zone is of a similar magnitude (roughly \$50 to \$60 for each zone). This means the Commission's 3 fare zone scenario provides a consistent level of averaging within each of the zones.

Discounted fares for groups

The Commission considered whether discounted fares should be offered, as per Brisbane's NightLink scheme. By providing increased options and flexibility for potential share-ride taxi users, such fare options can promote the success of share-ride taxis. Discounted fares can also be supported based on:

- groups of two or more being able to split a standard (or HOV) taxi fare, thereby paying a lower per head fare than if they were travelling alone
- the efficiency gains associated with carrying such passengers, i.e. a share-ride trip will be more direct when there are some passengers travelling to the same destination, since this will result in fewer drop off points compared to all passengers going to separate destinations, and
- late night taxi users who tend to travel with a partner/friend.⁸

Brisbane's NightLink taxi scheme provided a starting point for considering how to implement the 'discount' fares. Of interest is the operation of the group fare, which applies to groups of five or more. Hence the group, regardless of its size, pays the relevant group fare for their destination — effectively larger groups pay a lower per head fare, or put another way, the operator receives a fixed fare for a group, regardless of its size.

The Commission's analysis indicates that for Melbourne, it would be difficult to implement such a group fare approach and also set a fare level that reasonably balanced operator and passenger incentives, especially if the group rate had a similar discount to that provided in Brisbane. The Commission has therefore analysed a fixed per head fare for groups of five or more, which will provide higher share-ride farebox revenue as group size increases, while still providing a reasonable discount compared to the single fare.

In terms of the level of discount to be provided through the two to four and group fares, the Commission again considered the Brisbane scheme as a starting point. In Brisbane, double fares provide a discount relative to the cost of two single fares of approximately 30–40 per cent for the majority of its fare zones, and the group fare provides a discount relative to the cost of five single fares of approximately 50–60 per cent. The level of the discount modelled by the Commission was adjusted depending on the assessment of a fare scenario against the Commission's assessment criteria.

Since discounts formed part of the analysis, the Commission's scenario analysis approach was completed in two parts — the first assumes only single fares are

⁸ Research by Millward Brown indicated that 47 per cent of late night taxis are carrying two passengers, and 21 per cent are carrying three passengers. See Millward Brown 2010, *NightRider – understanding late night travel in Melbourne*, prepared for Metlink.

available, and the second allows for discounted fares for groups of two to four and groups of five or more passengers.

The Commission's fare level scenarios

The following summarises the (single) fare level scenarios that have been considered by the Commission:

- Single fare zone — fare levels between \$15 and \$35.
- Two fare zones — fare levels for zone 1 ranged between \$10 and \$25, and for zone 2 between \$20 and \$40 (with the constraint that the zone 2 fare needed to be higher than zone 1 for a given fare scenario), and
- Three fare zones — fare levels for zone 1 ranged between \$15 and \$20, for zone 2 between \$20 and \$25 and for zone 3 between \$25 and \$45 (with the constraint that the zone 3 fare needed to be higher than zone 2, which in turn needed to be higher than zone 1, for a given fare scenario).

The Commission has also considered fare structures with discounted fares for groups of two or more passengers travelling to the same destination. These fare structures have been developed using the 'recommended' flat fares⁹ (from the single fare zone and two fare zone analysis when there was only a single fare available) as the target 'average fares', to find a reasonably equivalent fare structure. Therefore, in the scenarios where the fare structure includes discounted fares, the Commission has set the per person two to four fare at the level of the single only fare, and then tested different levels for the single and group fare. The Commission considered fare structures providing discounts for two to four and group fares from 5 per cent to 60 per cent.

Table 2.1 Fare level scenarios tested by the Commission^a

	<i>1 fare zone</i>	<i>2 fare zones</i>	<i>3 fare zones</i>
Zone 1 fare	\$15 - \$35	\$10 - \$25	\$15 - \$20
Zone 2 fare	na	\$20 - \$40	\$20 - \$25
Zone 3 fare	na	na	\$25 - \$45

^a Under the multiple fare zone scenarios, for each fare combination, the fare for a zone further out from the Melbourne CBD must be higher than the fare for any zone closer to the CBD. For example, under the 2 fare zone structure the fare for zone 2 must be higher than the fare for zone 1.

⁹ That is, the fare structure determined by the Commission to best balance operator and passenger incentives for a given fare zone scenario.

Scenarios for passenger numbers

The number of passengers in each share-ride trip is a relevant consideration for the Commission since it influences the calculation of farebox revenue. It is therefore important when considering the incentives for operators and drivers to supply a share-ride service.

The terms of reference state '*Each share-ride taxi leaving the rank will be carrying the appropriate passenger numbers to ensure the service is both viable for the taxi industry and attractive to taxi users*'.

The Commission's passenger number scenarios

The VTA has set a seven passenger minimum for each trip in its operational details of the pilot. The Commission has used this as a starting point in its analysis. Noting that the majority of HOVs can carry at least ten passengers, the Commission's scenario analysis tested passenger numbers ranging from seven to eleven.

Scenarios for passenger mix

For multiple fare zone scenarios, it is important to consider possible variations in passenger mix for each share-ride trip because different fare levels apply to each fare zone. Passenger mix therefore impacts farebox revenue, i.e. operator and driver incentives to supply the service.

The Commission's passenger mix scenarios

The Commission's scenario analysis considered all possible passenger mixes, for example:

- for two fare zones and 7 passengers, 8 passenger mix scenarios were tested by the Commission (this increased to 12 scenarios for 11 passengers), and
- for three fare zones and 7 passengers, there were 36 passenger mix scenarios tested by the Commission (this increased to 78 scenarios for 11 passengers).

Summary of scenarios

In summary, the range of share-ride trip scenarios tested by the Commission covered:

- three fare zone structures — a single, two and three fare zone structure
- various fare levels higher and lower than the \$30 fare suggested by the VTA
- seven to eleven passengers per share-ride trip, and
- all possible passenger mixes for multiple fare zone scenarios.

The methodology means that two 'recommended' fare structures can be identified for each fare zone option, one that allowed for only individual share-ride fares, and the other also giving the option of discounted two to four and group fares. The Commission's decision on the number of fares zones and whether to provide for discounted fares effectively identifies the recommended fare structure from these options.

2.3 The assessment criteria

Three key criteria were considered by the Commission to assess the large number of scenarios it tested. These were operator incentives, passenger incentives, and simplicity. These are discussed in turn.

Operator incentives

To guide the Commission in the setting of fares for the share-ride taxi pilot, the terms of reference contain some principles to be taken into account. One such principle is that '*The driver should receive payment equal to or greater than the comparable taxi fare calculated by a taximeter according to time and distance*'. This principle looks to ensure that drivers and operators see a benefit in providing the service compared to standard taxi services.

The Commission's methodology includes the calculation of farebox revenue for each share-ride trip scenario. These can be compared to the '*comparable taxi fare calculated by a taximeter according to time and distance*'. However, the Commission notes that the phrase '*comparable taxi fare*' can be interpreted in a number of ways, for example, should:

- the comparable taxi fare be at the standard taxi rate (given most HOVs would not be operating at the higher HOV rate because they are carrying less than five passengers)
- the comparable taxi fare be at the HOV rate (to reflect the best case scenario for a HOV taxi)
- the route for the 'comparable trip' begin in the Melbourne CBD and travel direct to the last drop-off point (i.e. ignore the intermediate stops that would be made under a share-ride scenario because in the absence of a share-ride scheme, a taxi trip involving 7-11 passengers as envisaged under the pilot is an infrequent occurrence), or
- the route for the 'comparable trip' follow the potential route of a share-ride trip, i.e. the route is 'indirect' to the last drop-off point since the share-ride journey will first drop off multiple passengers before reaching its final destination?

The Commission's methodology takes account of each of these possibilities by:

- considering both standard and HOV taxi fare rates in its model of fares for 382 suburbs within Greater Melbourne

- calculating metered farebox revenue based on a direct journey to the last drop-off point, and
- calculating the metered farebox revenue based on a range of 'indirect' share-ride routes.

On this last point, the Commission's analysis includes the development of 'worst case' scenarios for each share-ride trip scenario, in recognition that share-ride trips, while heading in one general direction, could involve significantly more travel distance compared to a direct trip to the last drop-off point given share-ride passenger destinations that were widely dispersed. The Commission has developed an extended travel scenario for each fare zone and passenger mix scenario by:

- first restricting the range in each of the four proposed route directions in which a share-ride taxi may be required to travel in dropping off its passengers.¹⁰ This provides a reasonable 'worst case' scenario, and recognises the role of rank marshals in grouping passengers into suitable groups
- assuming that a share-ride taxi would drop-off passengers closer to the Melbourne CBD first, with the passenger whose drop-off point was furthest from the city being dropped off last. Hence, trips would not loop back towards the city,¹¹ and
- for each possibility of the number of drop-offs per fare zone (i.e. one to 11 passengers could potentially be dropped off in each zone under the multiple zone scenarios), finding the maximum travel distance for each passenger drop-off scenario for each of the four travel ranges.¹² The results for each of the four route directions were then averaged, with these averages applied to each fare zone and passenger mix scenario to develop a worst-case scenario.

As should be expected, total travel distances grew by decreasing amounts with each additional drop off in a fare zone as the routes covered more and more of the area (consequently requiring shorter detours) within each zone. Similarly, as there

¹⁰ The areas covered after restrictions were those that lie between straight lines heading from the city to Berwick and Frankston (south), Ferntree Gully and Lilydale (east), Melbourne Airport and Epping (north) and Werribee and Rockbank (west).

¹¹ For example, a route towards the east of the city that follows the Eastern Freeway to deliver passengers to Kew East, Mitcham and Bayswater, before returning to drop the last passenger in Glen Iris was not considered under the Commission's analysis, as it would involve more than three times the travel distance for the Glen Iris passenger than a direct route.

¹² For example, in a two fare zone scenario with three passengers dropped off in zone 1 and seven in zone two, the travel distance for the 'worst case' scenario would combine the maximum travel distance associated with dropping three passengers in zone 1 and the maximum travel distance associated with dropping seven passengers in zone 2.

is more space to be covered in outer zones under a multiple fare zone scenario, the distances travelled per drop off are larger than those for the inner zone (zone 1). These diminishing marginal additions to travel distance mean that the longest journey occurs with a passenger mix involving multiple drop-offs in each zone. For example, the longest journey under the two fare zone structure, 102km, involves four stops in zone 1 and seven in zone 2. This compares with a roughly 50km direct trip to the limits of zone 2.

In summary, the Commission considered operator incentives by comparing the range of share-ride farebox revenue scenarios to a range of 'comparable' taxi fares.

Passenger incentives

For share-ride taxis to be attractive to passengers, they need to offer benefits compared to a standard taxi ride. The terms of reference include the principle '*The service should present a viable alternative to taxi users who individually may seek a lower cost taxi trip than hiring a taxi exclusively for their own use*'. This principle establishes that passengers should make a saving in a share-ride taxi compared to a standard taxi service.

As noted in the Commission's issues paper, it is not possible to develop a share-ride fare structure that results in cheaper fares compared to a standard taxi for all destinations across Greater Melbourne. Instead, in considering passenger incentives the Commission has:

- used its model of standard taxi fares to calculate the cost of a late night trip to 382 suburbs across Greater Melbourne
- compared the standard taxi fare for each suburb to the various share-ride fare scenarios tested by the Commission
- considered the 'suburbs included' of each share-ride fare scenario — this was measured by the number of suburbs for which the share-ride fare is less than the standard taxi fare (and conversely the number of suburbs for which the share-ride fare is more expensive than the standard fare)
 - in recognition that many late night taxi trips carry two or more people, the number of suburbs for which two times the share-ride fare is less than the standard taxi fare for each share-ride fare scenario was also identified, and
- for each share-ride fare scenario, calculated the 'fare boundary', which identifies the approximate distance from the Melbourne CBD beyond which the share-ride fare is less than a standard taxi fare (or twice the share-ride fare in the case of two people travelling together).

As part of the Commission's assessment process, these measures of passenger incentives have been compared to operator incentives for the various share-ride fare level scenarios tested by the Commission.

Simplicity

The Commission notes the share-ride concept is being tested via a pilot. The Commission has therefore been mindful that its fare structure recommendations should be consistent with this stage of concept development. Simplicity has therefore been applied as an assessment criterion.

This means the Commission has not attempted to develop a fare zone structure equivalent to Brisbane's NightLink share taxis, which has 12 fare zones. The Commission has also applied the simplicity criterion in assessing the three fare zone structures it has modelled, as well as the option of group fares for people traveling together. These simplicity factors have been balanced against the other criteria applied by the Commission.

Table 2.2 summarises the assessment criteria applied by the Commission in assessing scenarios and making its recommendation on the share-ride taxi fare structure.

Table 2.2 The Commission's assessment criteria

<i>Criteria</i>	<i>Measurement/considerations</i>
Operator incentives	Level of share-ride fares and farebox revenue Level of standard fares Level of HOV fares 'Indirectness' of trips
Passenger incentives	Level of share-ride fares Level of standard fares 'Suburbs included' (if 1 pax) 'Suburbs included' (if 2 pax) 'Fare boundary' (if 1 pax) 'Fare boundary' (if 2 pax)
Simplicity	Number of zones Fare type options (e.g. single, double, group and negotiated discounts)

2.4 Fare zone suburb listing and maps

The Commission's model estimated fares for 382 suburbs across the Metropolitan Melbourne and Outer Suburban taxi zones. The following table separates these suburbs into the three fare zone structure considered by the Commission. To identify a suburb's zone under the two fare zone scenario:

- a suburb in zone 1 under the 3 fare zone scenario is also in zone 1 for the 2 zone scenario, and
- all other suburbs make up zone 2.

Figures 2.2 and 2.3 illustrate the two fare zone and three fare zone structures respectively on a map of Greater Melbourne.

Table 2.3 Suburb fare zone listing – 3 fare zone scenario

<i>Suburb</i>	<i>Fare zone</i>	<i>Suburb</i>	<i>Fare zone</i>	<i>Suburb</i>	<i>Fare zone</i>
Abbotsford	1	Bentleigh	1	Calder Park	2
Aberfeldie	1	Bentleigh East	1	Camberwell	1
Airport West	1	Berwick	3	Campbellfield	2
Albanvale	2	Black Rock	2	Canterbury	1
Albert Park	1	Blackburn	2	Carlton	1
Albion	1	Blackburn North	2	Carlton North	1
Alphington	1	Blackburn South	2	Carnegie	1
Altona	1	Bonbeach	2	Caroline Springs	2
Altona Meadows	1	Boronia	3	Carrum	2
Altona North	1	Botanic Ridge	3	Carrum Downs	3
Ardeer	2	Box Hill	2	Caulfield	1
Armadale	1	Box Hill North	2	Caulfield East	1
Ascot Vale	1	Box Hill South	2	Caulfield North	1
Ashburton	1	Braeside	2	Caulfield South	1
Ashwood	2	Braybrook	1	Chadstone	2
Aspendale	2	Briar Hill	2	Chelsea	2
Aspendale Gardens	2	Brighton	1	Chelsea Heights	3
Attwood	2	Brighton East	1	Cheltenham	2
Avondale Heights	1	Broadmeadows	2	Chirnside Park	2
Balaclava	1	Brooklyn	1	Clarinda	2
Balwyn	1	Brunswick	1	Clayton	2
Balwyn North	1	Brunswick East	1	Clayton South	2
Bangholme	3	Brunswick West	1	Clematis	3
Bayswater	2	Bulla	2	Clifton Hill	1
Bayswater North	2	Bulleen	2	Clyde	3
Beaconsfield	3	Bundoora	2	Clyde North	3
Beaconsfield Upper	3	Burnley	1	Coburg	1
Beaumaris	2	Burnside	2	Coburg North	1
Belgrave	3	Burnside Heights	2	Cocoroc	3
Belgrave Heights	3	Burwood	2	Coldstream	3
Belgrave South	3	Burwood East	2	Collingwood	1
Bellfield	1	Cairnlea	2		

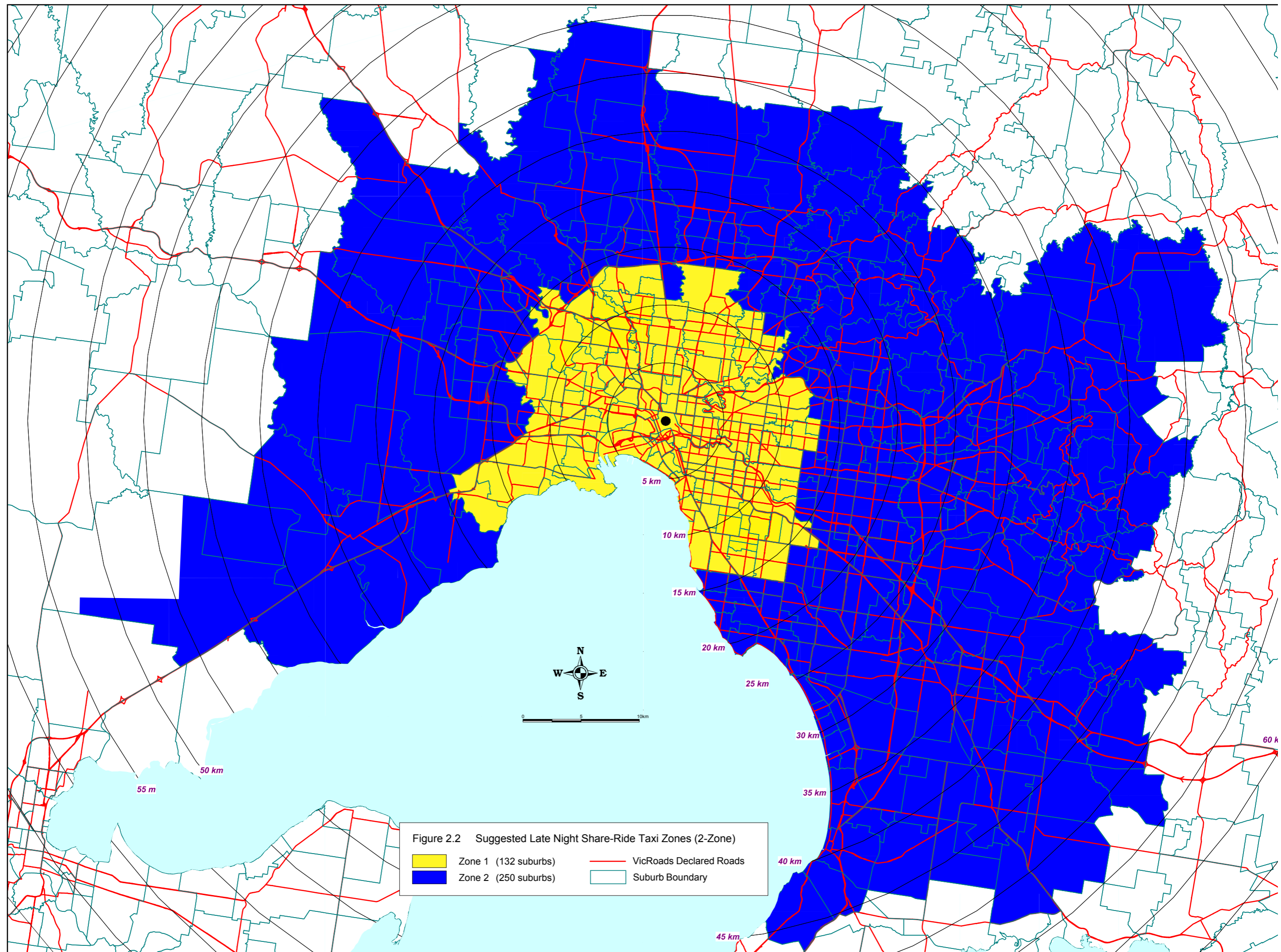
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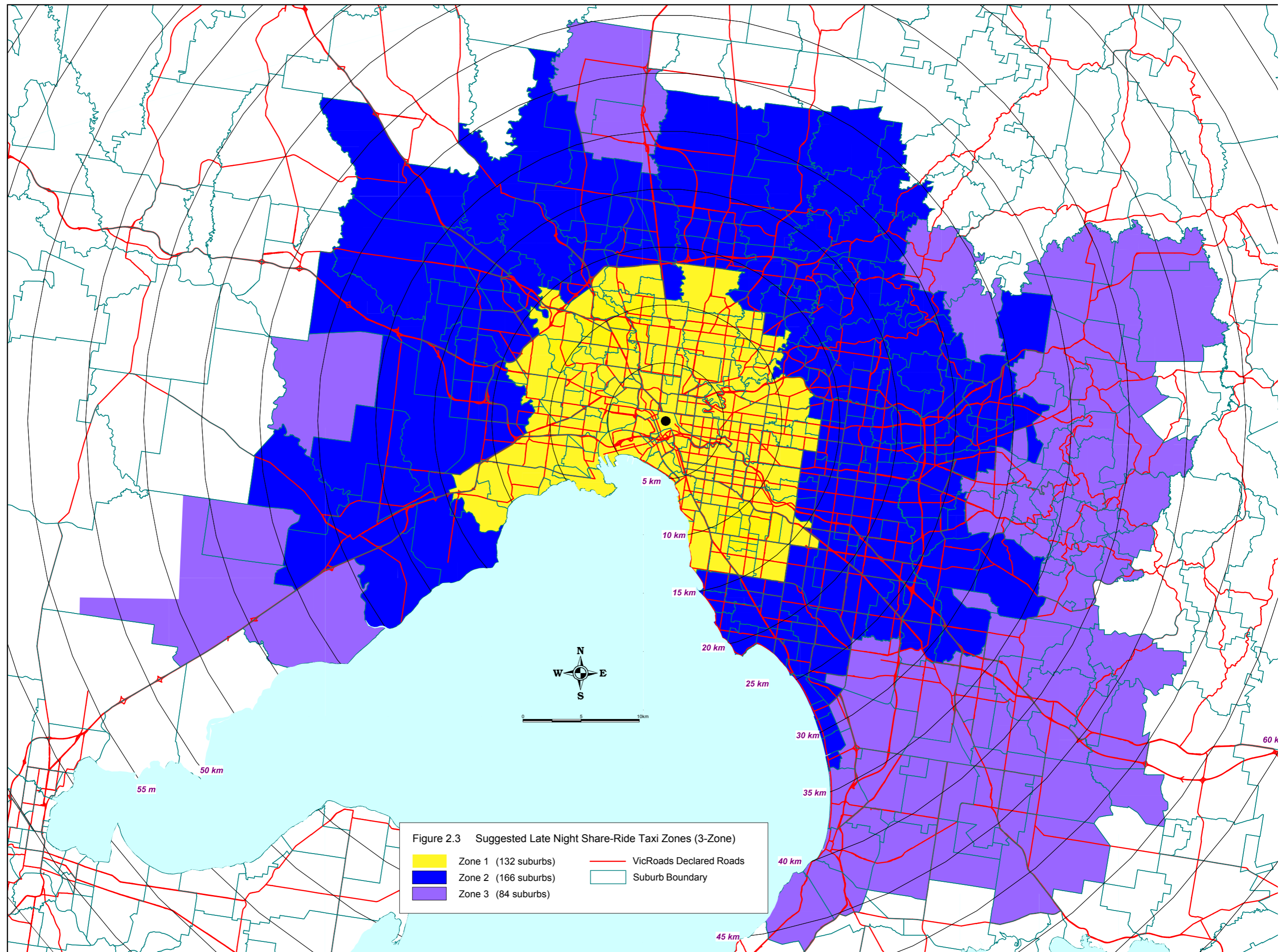
Table 2.3 (cont.)

<i>Suburb</i>	<i>Fare zone</i>	<i>Suburb</i>	<i>Fare zone</i>	<i>Suburb</i>	<i>Fare zone</i>
Coolaroo	2	Flemington	1	Kensington	1
Craigieburn	3	Footscray	1	Kew	1
Cranbourne	3	Forest Hill	2	Kew East	1
Cranbourne East	3	Frankston	3	Keysborough	3
Cranbourne North	3	Frankston North	3	Kilsyth	2
Cranbourne South	3	Frankston South	3	Kilsyth South	3
Cranbourne West	3	Gardenvale	1	Kings Park	2
Cremorne	1	Gladstone Park	2	Kingsbury	2
Croydon	2	Glen Huntly	1	Kingsville	1
Croydon Hills	2	Glen Iris	1	Knoxfield	2
Croydon North	2	Glen Waverley	2	Kooyong	1
Croydon South	2	Glenroy	1	Lalor	2
Dallas	2	Gowanbrae	1	Langwarrin	3
Dandenong	2	Greensborough	2	Laverton	1
Dandenong North	2	Greenvale	2	Laverton North	2
Dandenong South	3	Gruyere	3	Lilydale	3
Deepdene	1	Guys Hill	3	Little River	3
Deer Park	2	Hadfield	1	Lower Plenty	2
Delahey	2	Hallam	3	Lynbrook	3
Derrimut	2	Hampton	2	Lyndhurst	3
Devon Meadows	3	Hampton East	2	Lysterfield	2
Diamond Creek	2	Hampton Park	3	Lysterfield South	3
Diggers Rest	2	Harkaway	3	Macleod	2
Dingley Village	2	Hawthorn	1	Maidstone	1
Docklands	1	Hawthorn East	1	Malvern	1
Doncaster	2	Heatherton	2	Malvern East	1
Doncaster East	2	Heathmont	2	Mambourin	3
Donvale	2	Heidelberg	1	Maribyrnong	1
Doreen	2	Heidelberg Heights	1	McKinnon	1
Doveton	2	Heidelberg West	1	Meadow Heights	2
Eaglemont	1	Highett	2	Melbourne	1
East Melbourne	1	Hillside (Melton)	2	Melbourne Airport	2
Edithvale	2	Hoppers Crossing	2	Mentone	2
Elsternwick	1	Hughesdale	1	Menzies Creek	3
Eltham	2	Huntingdale	1	Mernda	2
Eltham North	2	Hurstbridge	2	Mickleham	3
Elwood	1	Ivanhoe	1	Middle Park	1
Endeavour Hills	2	Ivanhoe East	1	Mill Park	2
Epping	2	Jacana	2	Mitcham	2
Essendon	1	Junction Village	3	Monbulk	3
Essendon Fields	1	Kallista	3	Mont Albert	1
Essendon North	1	Kalorama	3	Mont Albert North	2
Essendon West	1	Kangaroo Ground	3	Montmorency	2
Eumemmerring	3	Kealba	2	Montrose	3
Fairfield	1	Keilor	2	Moonee Ponds	1
Fawkner	2	Keilor Downs	2	Moorabbin	2
Ferntree Gully	3	Keilor East	1	Moorabbin Airport	2
Ferny Creek	3	Keilor Lodge	2	Mooroolbark	3
Fitzroy	1	Keilor North	2	Mordialloc	2
Fitzroy North	1	Keilor Park	1		(continued)

Table 2.3 (cont.)

<i>Suburb</i>	<i>Fare zone</i>	<i>Suburb</i>	<i>Fare zone</i>	<i>Suburb</i>	<i>Fare zone</i>
Mount Cottrell	3	Richmond	1	Tecoma	3
Mount Dandenong	3	Ringwood	2	Templestowe	2
Mount Eliza	3	Ringwood East	2	Templestowe Lower	2
Mount Evelyn	3	Ringwood North	2	The Basin	3
Mount Waverley	2	Ripponlea	1	The Patch	3
Mulgrave	2	Rockbank	2	Thomastown	2
Murrumbeena	1	Rosanna	2	Thornbury	1
Narre Warren	3	Rowville	2	Toorak	1
Narre Warren East	3	Roxburgh Park	2	Tottenham	1
Narre Warren North	3	Sandhurst	3	Travancore	1
Narre Warren South	3	Sandringham	2	Tremont	3
Newport	1	Sassafras	3	Truganina	2
Niddrie	1	Scoresby	2	Tullamarine	2
Noble Park	2	Seabrook	2	Upper Ferntree Gully	3
Noble Park North	2	Seaford	3	Upwey	3
North Melbourne	1	Seaholme	1	Vermont	2
North Warrandyte	2	Seddon	1	Vermont South	2
Northcote	1	Selby	3	Viewbank	2
Notting Hill	2	Sherbrooke	3	Wandin North	3
Nunawading	2	Silvan	3	Wantirna	2
Nutfield	2	Skye	3	Wantirna South	2
Oak Park	1	Somerton	2	Warrandyte	2
Oaklands Junction	2	South Kingsville	1	Warrandyte South	2
Oakleigh	1	South Melbourne	1	Warranwood	2
Oakleigh East	2	South Morang	2	Waterways	3
Oakleigh South	2	South Wharf	1	Watsonia	2
Officer	3	South Yarra	1	Watsonia North	2
Officer South	3	Southbank	1	Wattle Glen	2
Olinda	3	Spotswood	1	Werribee	2
Ormond	1	Springvale	2	Werribee South	2
Park Orchards	2	Springvale South	2	West Footscray	1
Parkdale	2	St Albans	2	West Melbourne	1
Parkville	1	St Helena	2	Westmeadows	2
Pascoe Vale	1	St Kilda	1	Wheelers Hill	2
Pascoe Vale South	1	St Kilda East	1	Williams Landing	2
Patterson Lakes	3	St Kilda West	1	Williamstown	1
Plenty	2	Strathmore	1	Williamstown North	1
Plumpton	2	Strathmore Heights	1	Windsor	1
Point Cook	2	Sunshine	1	Wollert	2
Port Melbourne	1	Sunshine North	1	Wonga Park	3
Prahran	1	Sunshine West	2	Wyndham Vale	2
Preston	1	Surrey Hills	1	Yallambie	2
Princes Hill	1	Sydenham	2	Yarrambat	2
Ravenhall	2	Tarneit	2	Yarraville	1
Research	2	Taylors Hill	2	Yering	3
Reservoir	1	Taylors Lakes	2	Yuroke	2





3 DETAILED ANALYSIS OF FARE STRUCTURES

This chapter presents the Commission's analysis of fare structure options. Detailed analysis of four fare structure options is presented: one fare zone with a single fare only; one fare zone with a single fare and individual discounts for groups of two or more people travelling to the same destination; two fare zones with a single fare only; and two fare zones with a single fare and individual discounts.

3.1 One fare zone analysis

This analysis assumes a single fare zone for all of Greater Melbourne as proposed by the VTA. In proposing a single zone the VTA has favoured simplicity over cost reflectivity and equity. Therefore, we would expect to see potential users of a share-ride taxi 'self-select', i.e. an individual would only choose to use the service if it was competitive (including in terms of fare level) compared to other travel options.

The Commission has assessed the VTA's fare proposal, assessing operator and passenger incentives against a range of fare scenarios. The Commission ran scenarios from \$15 to \$36 (for simplicity, the Commission has restricted its analysis to discrete dollar amounts). A summary of the fare analysis for selected fares is presented in tables 3.1 (passenger incentives) and 3.2 (operator incentives) in the following sections of the report.

Passenger incentives

In considering the incentives for passengers to use a share-ride taxi, the key consideration was the comparison between the cost of using a share-ride taxi rather than paying the fare charged in a metered, standard taxi. This comparison needed to recognise that fares in the share-ride taxi are charged *per passenger*, whereas groups (of up to four passengers) *can share* the metered fare in a standard taxi.

The Commission's analysis of passenger incentives included two concepts:

- 'suburbs included' — this is a measure of the cost competitiveness of a specific share-ride fare level. For an individual, it is measured by the number of Greater Melbourne suburbs (out of the 382) for which the share-ride fare is less than the standard late night fare, and hence the share-ride taxi is the cheaper taxi service. For two people travelling together (and who therefore would collectively pay twice the share-ride fare), 'suburbs included' is measured by the number of Greater Melbourne suburbs for

which twice the share-ride fare is less than the standard late night fare, and hence the share-ride taxi is the cheaper taxi service, and

- fare boundary — refers to the taxi trip distance from the Melbourne CBD where the standard fare switches from being cheaper to more expensive than the share-ride fare. As for ‘suburbs included’, if two people are travelling together and therefore paying twice the share-ride fare in total, the standard fare would be compared to this higher total to determine the location of the ‘fare boundary’.

Table 3.1 Summary of passenger incentives

Standard fare scenarios				
Std fare (10 – 50km trip) ^a	\$27 - \$115			
Std fare per head				
2 passengers	\$14 - \$58			
3 passengers	\$9 - \$38			
4 passengers	\$7 - \$29			
Share-ride fare scenarios				
(excludes marshal levy)	\$18	\$20	\$25	\$30
Suburbs included (if 1 pax)	354 (93%)	349 (91%)	334 (87%)	311 (81%)
Suburbs included (if 2 pax)	286 (75%)	267 (70%)	226 (59%)	185 (48%)
Suburbs included (if 3 pax)	210 (55%)	185 (48%)	124 (32%)	84 (22%)
Suburbs included (if 4 pax)	136 (36%)	107 (28%)	63 (16%)	24 (6%)
Fare boundary (if 1 pax) (km)	6.1	7.0	9.3	11.5
Fare boundary (if 2 pax) (km)	14.2	16.0	20.6	25.1
Fare boundary (if 3 pax) (km)	22.4	25.1	31.9	38.6
Fare boundary (if 4 pax) (km)	30.5	34.1	43.2	52.2

^a Fare estimates include flagfall, distance charge, an allowance for waiting time (current regulated fares include a ‘waiting time’ charge, which applies when a taxi is travelling below 21km per hour) and the late night surcharge. Further, as the fare range is based on existing regulated fares, it is independent of the share-ride fare level.

From the summary information, the Commission notes:

- **Fare comparisons** — for trips of 10 – 50km at the standard¹³ late night rate, fares range from \$27 – \$115. Potential passengers (travelling alone) would compare this to the share-ride fare.

¹³ The standard fare applies to taxis carrying four or less passengers, or a HOV carrying a wheelchair passenger. Current standard taxi fares are presented in appendix F.

- If travelling with others, any standard fare would be split between multiple passengers, hence the fare per person would be lower. For example, for three people travelling together, the standard fare range of \$27 – \$115 is equivalent to a per head fare range of \$9 – \$38. For these multiple passenger groups, each individual could compare the lower per person fare to the share-ride fare. (Or alternatively, the total standard fare could be compared to the total share-ride cost for the group as a whole (e.g. the total share-ride cost is \$90 for 3 people when the share-ride fare is \$30 each)).
- **‘Suburbs included’** — at a share-ride fare of \$18, 354 (93 per cent) of the 382 suburbs in the Commission’s fare model would be ‘included’ compared to a standard fare (assumes individual travelling alone).
 - This decreases to 349 (91 per cent) for a \$20 fare, 334 (87 per cent) for a \$25 fare, and to 311 (81 per cent) at a \$30 fare as proposed by the VTA. (Note: figure 3.1 presents the inverse of these percentages – namely, the percentage of suburbs that are ‘not included’ by the share-ride fare compared to a standard fare.)
- Noting that the highest percentage of late night taxi users travel in pairs, the ‘suburbs included’ of double the share-ride fare (i.e. \$60 in the case of a \$30 individual share-ride fare) is also presented in table 3.1 (and the inverse represented in figure 3.2). In regard to two passengers travelling together, 286 suburbs (75 per cent) would be better off with a share-ride fare of \$18 compared to a standard fare.
 - This drops further to 267 (70 per cent) for a \$20 fare (i.e. double fare of \$40), 226 (59 per cent) for a \$25 fare (i.e. \$50 double fare) and 185 (48 per cent) for a fare of \$30 (i.e. \$60 double fare).
- Table 3.1 also presents ‘suburbs included’ for three or four passengers travelling together. For 3 passengers travelling together, 210 suburbs (55 per cent) would be better off with a share-ride fare of \$18 compared to a standard fare, while for four passengers 136 suburbs (36 per cent) would be better off.
 - These drop further to 185 (48 per cent) and 107 (28 per cent) for a \$20 fare (i.e. double fare of \$40), 124 (32 per cent) and 63 (16 per cent) for a \$25 fare (i.e. \$50 double fare) and 84 (22 per cent) and 24 (6 per cent) for a fare of \$30 (i.e. \$60 double fare).
- **Fare boundary** — at a \$18 share-ride fare, potential passengers who live within 6.1km of the CBD (by taxi trip distance) would be better off catching a standard taxi (as the fare would be lower than \$18) (see figure 3.1). When travelling as a pair (and therefore potentially facing a joint share-ride fare of \$36), this fare boundary increases to 14.2km from the CBD (see figure 3.2).
 - At a \$20 fare, these fare boundaries increase to 7.0 and 16.0km from the CBD.

- At a \$25 fare, these fare boundaries increase to 9.3 and 20.6km from the CBD.
- At a \$30 share-ride fare, the fare boundaries are 11.5 and 25.1km from the CBD.
- For three or four passengers travelling together, the fare boundaries are 22.4 and 30.5km from the CBD respectively, at a \$18 share-ride fare.
 - At a \$20 fare, these fare boundaries increase to 25.1 and 34.1km from the CBD.
 - At a \$25 fare, these fare boundaries increase to 31.9 and 43.2km from the CBD.
 - At a \$30 share-ride fare, the fare boundaries are 38.6 and 52.2km from the CBD.

As expected, a lower share-ride fare offers more 'suburbs included', and passengers in more suburbs will be 'better off' taking a share-ride taxi rather than a standard taxi. This is also reflected in a smaller fare boundary.

Figure 3.1 Passenger incentives: suburbs 'not covered' by fare level (1 passenger)

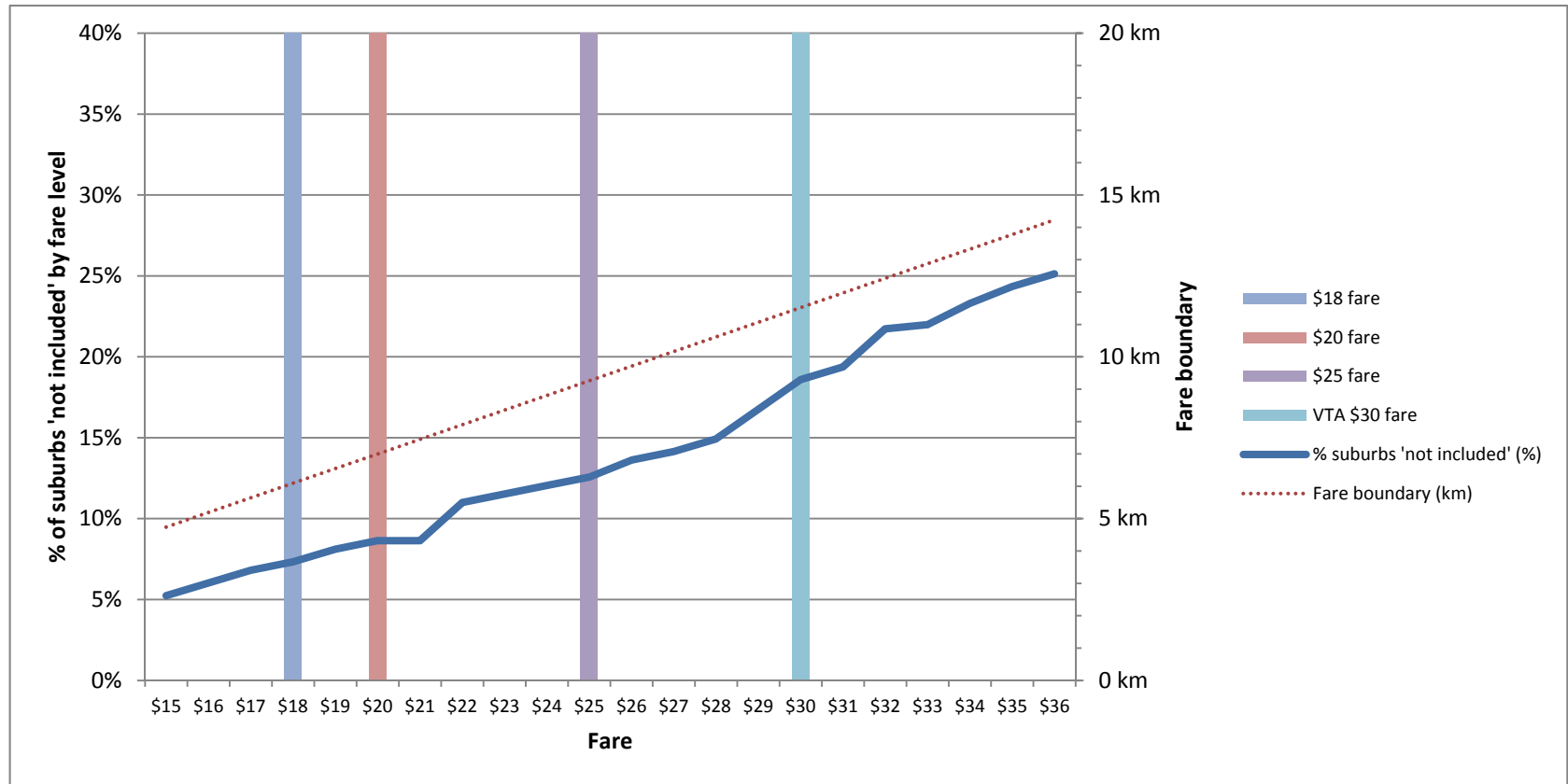
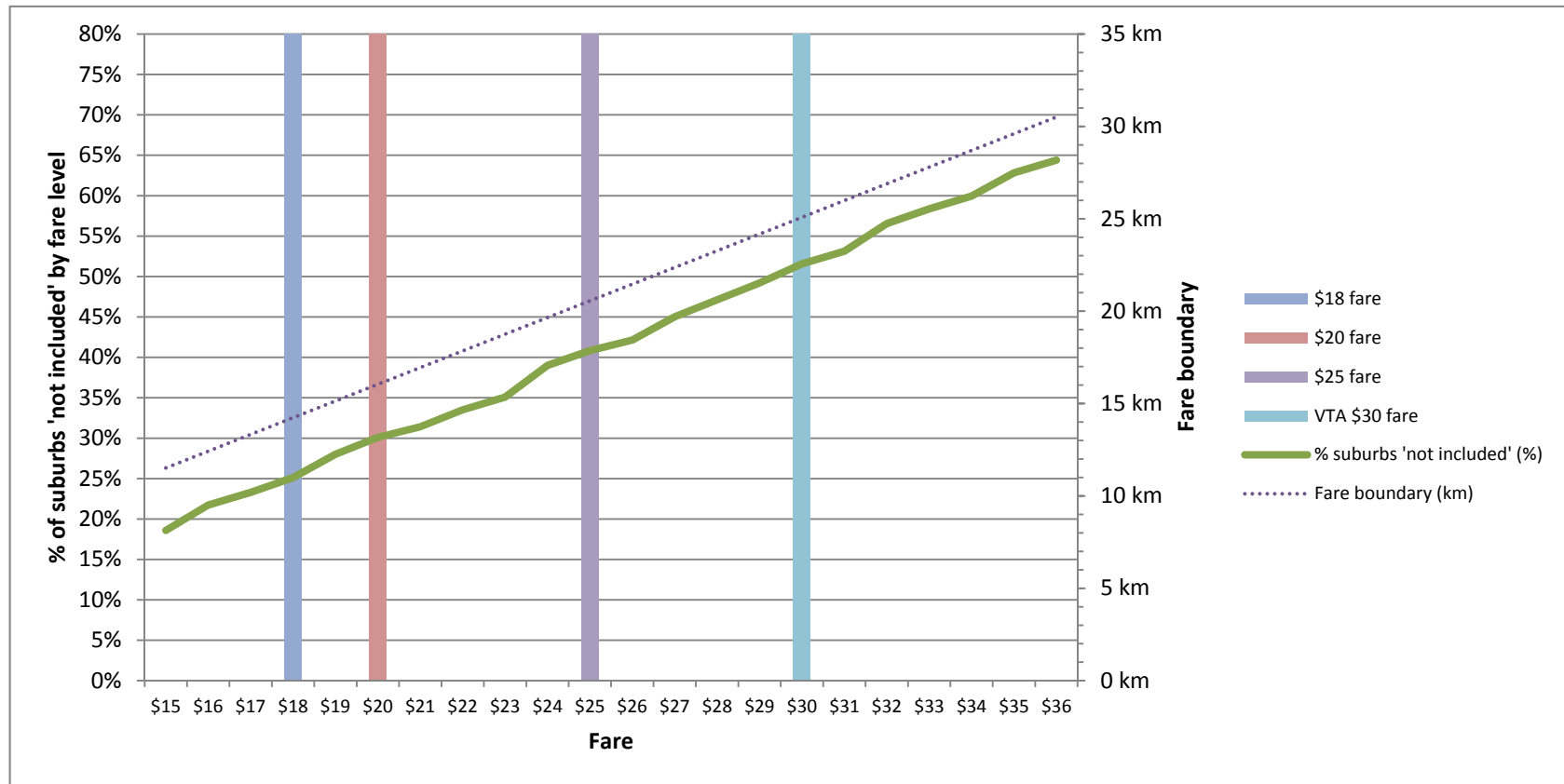


Figure 3.2 Passenger incentives: suburbs 'not covered' by fare level (2 passengers)



Operator incentives

Table 3.2 summarises information relevant for assessing operator incentives. Here, the total fare revenue received by the share-ride taxi under different fare scenarios and passenger numbers is compared to the total fare that would be received under a standard or HOV taxi trip (of different distances). That is, the farebox revenue for a share-ride taxi is compared to the revenue that could otherwise be earned by operating the taxi (i.e. by picking up fares from a regular rank or off the street).

Table 3.2 Summary of operator incentives

Standard and HOV fare scenarios ^a				
Std fare (10 – 50km trip)				\$27 - \$115
Std fare 70km trip				\$159
HOV fare (10 – 50km trip)				\$38 - \$170
HOV fare 70km trip				\$237
Share-ride farebox revenue scenarios				
(excludes marshal levy)	\$18	\$20	\$25	\$30
7 pax farebox	\$126	\$140	\$175	\$210
8 pax farebox	\$144	\$160	\$200	\$240
9 pax farebox	\$162	\$180	\$225	\$270
10 pax farebox	\$180	\$200	\$250	\$300
11 pax farebox	\$198	\$220	\$275	\$330

^a Fare estimates include flagfall, distance charge, an allowance for waiting time and the late night surcharge. Further, as the fare range is based on existing regulated fares, it is independent of the share-ride fare level.

From the summary information, the Commission notes:

- At a share-ride fare of \$20, the farebox revenue for each share-ride trip would range from \$140 – \$220 (based on a minimum of 7 passengers and a maximum of 11). This range increases to \$175 – \$275 at a share-ride fare of \$25, and \$210 – \$330 for a \$30 fare.
- These farebox revenue ranges compare to:
 - a farebox range of \$27 – \$115 for trips ranging from 10 – 50km at the standard fare (the standard fare is a relevant comparator as the majority of HOV taxis are carrying four or less passengers during the intended hours of operation of the share-ride pilot, and hence cannot charge the higher HOV fare).
 - a farebox range of \$38 – \$170 for trips ranging from 10 – 50km at the higher HOV fare.

- o standard and HOV farebox revenue of \$159 and \$237 respectively for a 70km trip. (Noting that the vast majority of suburbs in Greater Melbourne are within 50km of Melbourne's CBD, the 70km trip comparison provides a 40 per cent distance allowance to recognise that share-ride trips are not direct to the last drop-off, but will involve 'detours' to drop off other passengers.)

Equivalent information from table 3.2 is presented in figure 3.3. This also compares the farebox revenue from the share-ride scenarios to farebox revenues at the standard fare, indicating that:

- with seven passengers, a \$17 share-ride fare or more would provide farebox revenue exceeding \$115 (a 50km trip at the standard fare), and a \$23 fare or more would provide farebox revenue exceeding \$159 (a 70km trip at the standard fare).
- with eight passengers, the required share-ride fare drops to \$15 or more (for a 50km trip at the standard fare) and \$20 or more (for a 70km trip at the standard fare), and with 9 passengers, these drop even further to \$13 and \$18 respectively.

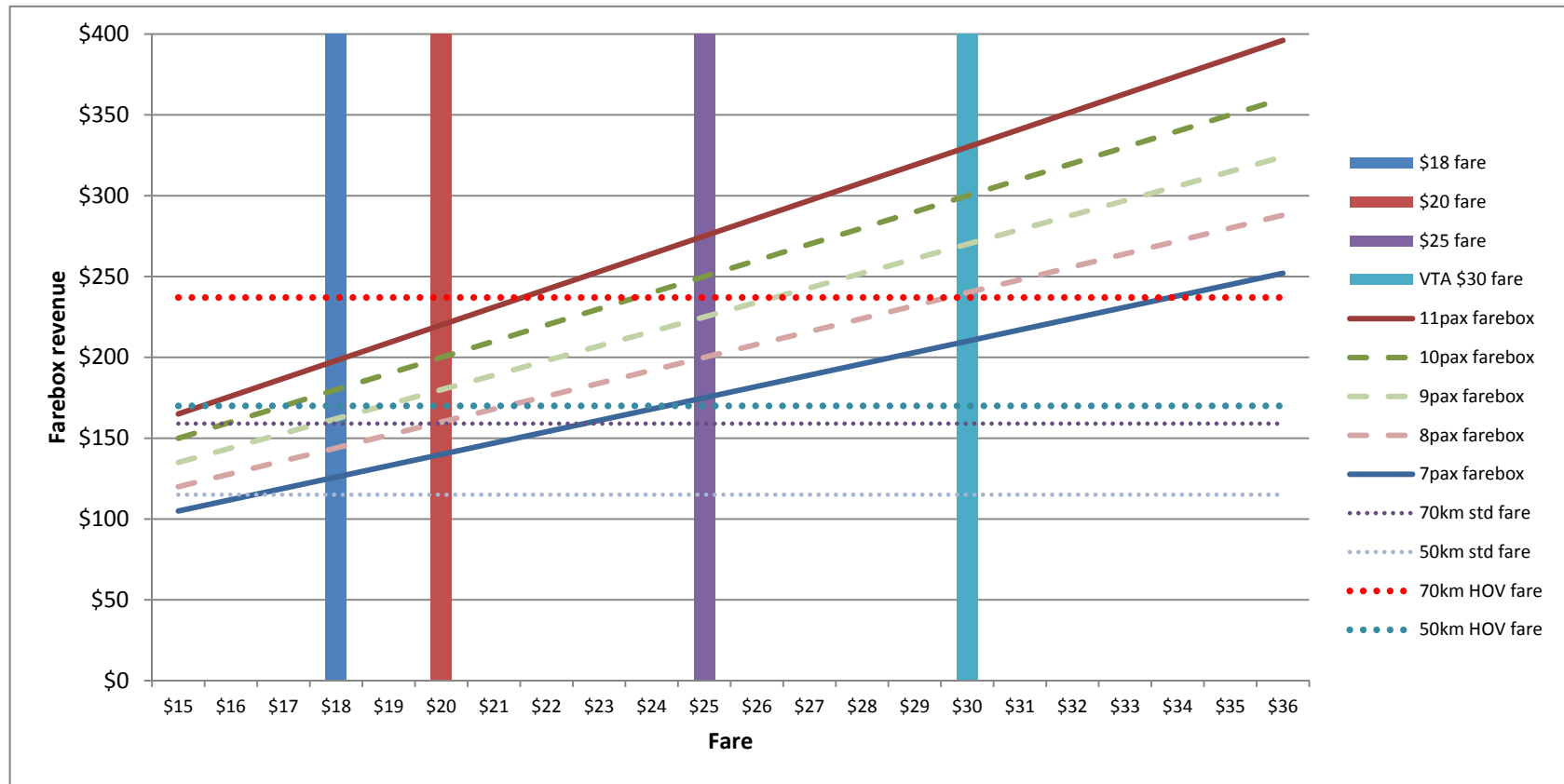
Comparing the farebox revenue from the share-ride scenarios to farebox revenues at the higher HOV fares indicates that:

- with seven passengers, a \$25 fare or more would provide farebox revenue exceeding \$170 (a 50km trip at the HOV fare), and a \$34 fare or more would provide farebox revenue exceeding \$237 (a 70km trip at the HOV fare).
- with eight passengers, the required share-ride fares drops to \$22 or more (for a 50km trip at the HOV fare) and \$30 or more (for a 70km trip at the standard fare), and with nine passengers, these drop even further to \$19 and \$27 respectively.

The Commission notes that a small proportion of late night taxi passengers are travelling in groups of five or more,¹⁴ and it is reasonable to assume that many HOVs operating late night are likely to be picking up standard fares (from the streets or taxi ranks) rather than operating at HOV rates. Therefore, the Commission has chosen to focus on standard fares as the appropriate comparator rather than HOV fares.

¹⁴ Research by Millward Brown indicated that no more than around 10 per cent of late night taxi users travelled in groups of five or more. See Millward Brown 2010, *NightRider – understanding late night travel in Melbourne*, prepared for Metlink.

Figure 3.3 Operator incentives: farebox revenue scenarios



Balancing of passenger and operator incentives - one zone analysis

This above analysis indicates the need to balance passenger and operator incentives. Increasing returns to operators comes at the detriment of users — with higher fares resulting in fewer suburbs having the share-ride taxi as the cheaper taxi option. However fares set too low, while increasing ‘suburbs included’, would result in drivers opting not to provide the share-ride service.

Therefore, to appropriately balance passenger and operator incentives, the level of the share-ride fare should be minimised in order to maximise ‘suburbs included’, while ensuring that the fare is high enough to provide sufficient farebox revenue for drivers. In effect, consideration of passenger incentives applies a downward pressure on the level of fares, while a balancing needs to be applied by setting the fare high enough to ensure that sufficient operator incentives are provided.

It is also clear that, based on the supply side comparators presented in table 3.2, share-ride farebox revenue is in most cases higher than the comparator fare, and in some cases significantly higher. This suggests a strong incentive for operators to supply share-ride services, especially at fare levels above \$20, and highlights an important issue — what is an appropriate comparator?

In considering the outcomes for farebox revenue under different fare level scenarios, the Commission has selected a range of benchmarks for comparative purposes. The key benchmarks presented in the analysis are:

- a 30km standard fare (\$71) — provides roughly two to four times the average late night taxi trip distance¹⁵ and hence represents an upper range estimation for an equivalent average share-ride trip (recognising that the average trip distance for the more affordable share-ride service will be greater than the current average late night taxi trip distance).
- a 50km standard fare (\$115) — as the vast majority of suburbs in Greater Melbourne are within 50km of Melbourne’s CBD, this benchmark is representative of a standard fare to outer Melbourne.
- a 70km standard fare (\$159) — provides a 40 per cent distance allowance over the 50km standard fare benchmark to recognise that share-ride trips are not direct to the last drop-off, but will involve ‘detours’ to drop off other passengers.

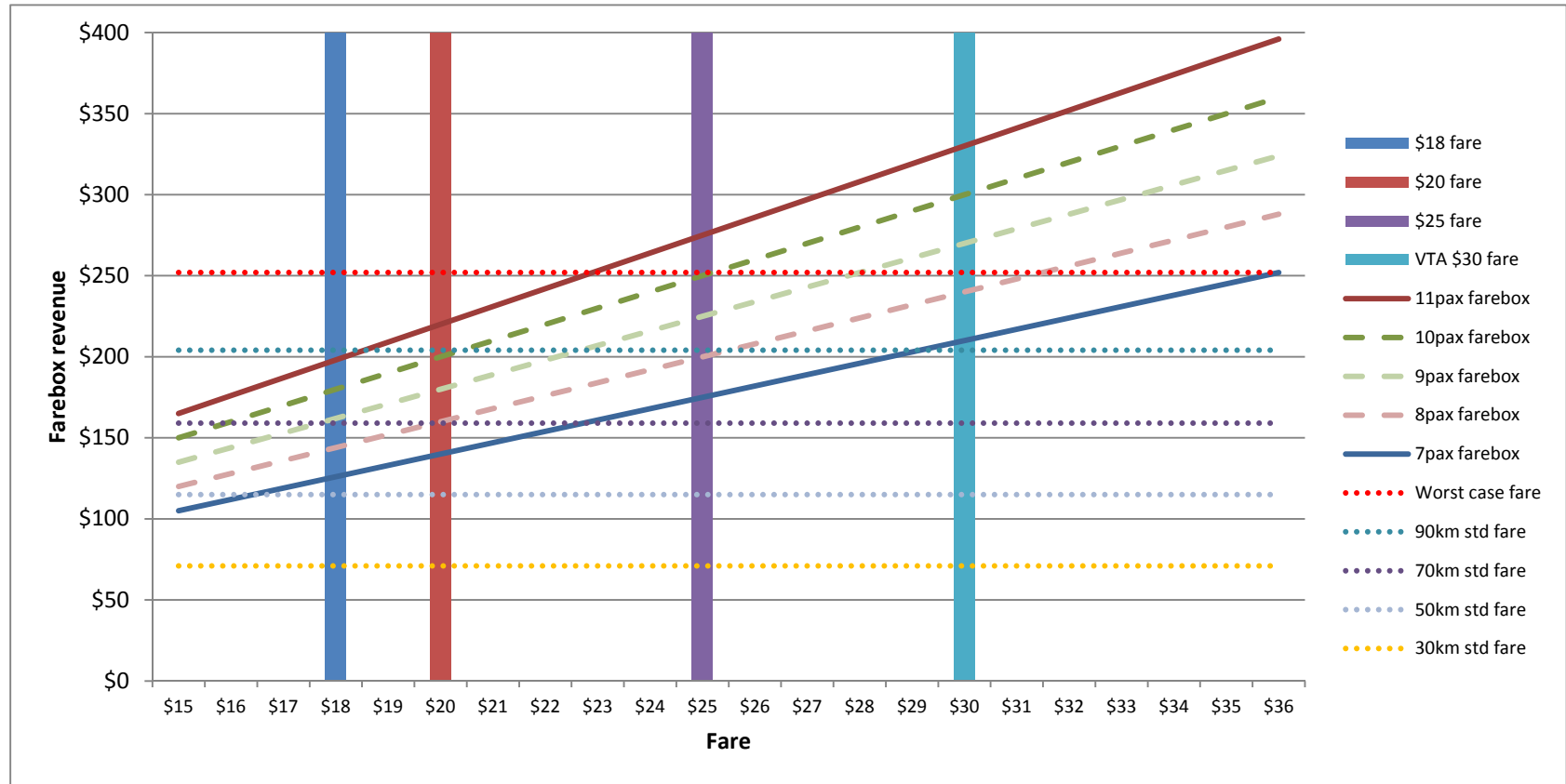
¹⁵ Millward Brown’s research indicated around 75 per cent of late night taxi users from the CBD travelled less than 20km, with an average trip distance of just over 13km (Millward Brown 2010, *NightRider – understanding late night travel in Melbourne*, prepared for Metlink). Data presented by the Taxi Industry Inquiry indicated that between midnight and 4am on Saturday and Sunday mornings, average metropolitan trip distance was approximately 8km. See Taxi Industry Inquiry 2012, *Customers first: service, safety, choice*, Draft report, May, p. 78.

- a 90km standard fare (\$204) — provides an 80 per cent distance allowance over the 50km standard fare benchmark.
- a 112km 'worst case scenario' fare (\$252) — the Commission's estimation of the furthest distance a share-ride taxi service could be required to travel given the widest dispersion of passenger destinations. The Commission notes that this 'worst case scenario' fare is unlikely to be a frequent outcome, and can be managed by rank marshals grouping passengers appropriately.

While these benchmarks provide a broad range for comparative purposes, the Commission believes that the great majority of share-ride trips are likely to be within the 30km and 70km standard fare benchmarks. This range provides for a significant indirect trip at the 'lower end' (i.e. based on the existing average late night taxi trip of around 8km) and a 40 per cent allowance over a 50km typical journey to outer Melbourne (i.e. the 70km benchmark). The 70km standard fare exceeds any standard fare that a HOV driver could otherwise earn by picking up a late night taxi fare operating at standard taxi rates. A 70km standard fare would also be more profitable than most HOV fares, falling just short of a 50km HOV fare. (However, the Commission notes that most HOVs operating late night are likely to be picking up standard fares rather than operating at HOV rates.)

Figure 3.4 shows the potential share-ride farebox revenue at each fare level (as per figure 3.3), with these benchmarks added to the analysis.

Figure 3.4 Operator incentives: fare level analysis against fare benchmarks



Determining a single zone fare

At the VTA's proposed \$30 fare, the share-ride service would only provide 'suburbs included' of 81 per cent for a single passenger and 48 per cent for two passengers travelling together. This represents a relatively low level of 'suburbs included' for the share-ride service.

Conversely, on the operator side, driver incentives appear to be very high:

- The farebox revenue from any share-ride with seven or more passengers exceeds the 90km standard fare benchmark. It is unlikely that any share-ride trip will exceed (or even approach) a distance of 90km, and this suggests that farebox revenue would be significantly higher than what a HOV taxi could otherwise earn.
- The farebox revenue from a share-ride with nine to 11 passengers exceeds the Commission's 'worst case scenario' fare (with an eight passenger farebox falling just short of this benchmark). It would be reasonable to assume that most share-ride taxi journeys are likely to have eight or more passengers,¹⁶ and this suggests that farebox revenues are likely to be in excess of what could otherwise be earned.

Therefore, the Commission believes that a \$30 share-ride fare favours operator incentives whereas a lower fare would better balance the incentives of drivers and passengers.

In comparison, a share-ride fare of \$18 would provide 'suburbs included' of 93 per cent (for single passengers) and 75 per cent (for two passengers travelling together). This would also provide adequate revenue for all journeys up to approximately 55km (exceeding the 50km standard fare benchmark) with seven or more passengers and cover all but a handful of direct routes to the most outer suburbs. With nine or more passengers, a fare of \$18 or more would also exceed the 70km standard fare benchmark, providing a 40 per cent allowance over a 50km typical journey to outer Melbourne.

To recognise the potential for indirect routes and ensure operator incentives are sufficiently provided, the Commission recommends a share-ride fare of \$20. A fare of \$20 will adequately provide for all journeys up to approximately 61km with the minimum farebox of \$140 with seven passengers. It will also meet the 70km standard fare benchmark with eight or more passengers, providing a 40 per cent buffer over a 50km typical journey to outer Melbourne. The potential farebox revenue range would extend beyond the 90km standard fare benchmark with ten or 11 passengers, allowing for the realistic worst case scenarios.

¹⁶ Since the proposed share-ride services are half-hourly, there is significant time to fill a share-ride taxi at a time of high demand.

The Commission notes that at the estimated \$50 average hourly revenue for taxis operating between the hours of midnight to 3am on Saturday and Sunday mornings,¹⁷ the \$140 of revenue provided by the minimum farebox (from seven passengers) would take approximately three hours to otherwise achieve on the road taking regular fares – more time than a share-ride trip would take. This rises to approximately four and a half hours on the road to achieve revenue of \$220 (the maximum farebox revenue from a share-ride with 11 passengers). Hence, there are strong incentives for operators to provide the share-ride service.

In terms of passenger incentives, a \$20 share-ride fare would provide ‘suburbs included’ of 91 per cent and 70 per cent for one and two passengers respectively — significantly more than the proposed \$30 fare. This increase in attractiveness is likely to increase patronage, leading to share-rides carrying more than 7 people , and allowing the rank marshal to select passengers more efficiently — both of which increase driver returns.

As such, the Commission believes a \$20 share-ride fixed fare will provide drivers with an appropriate level of operator incentives, while also balancing passenger incentives.

3.2 One fare zone analysis with discounts

The Commission also considered an appropriate fare structure for a single fare zone with discounting for multiple passengers travelling to the same destination. Discounting for people travelling together provides further passenger incentives to utilise the share-ride service, while also recognising the efficiency gains of reducing the number of stops to be made (and increasing the directness of the route) for a share-ride trip. In addition, since people could split a standard taxi fare when travelling together, not providing discounts off the single share-ride fare would disadvantage the service.

The Commission considered Brisbane’s NightLink taxi fare structure as a starting point, which has single, double and group (five or more passengers) fares. However, for simplicity the Commission has considered a group fare charged per passenger (rather than a set group fare that is the same for groups of five to 11 passengers, as in Brisbane). A group fare charged per passenger provides a consistent discount to groups of varying sizes, and assists in ensuring drivers are provided with sufficient farebox revenue (since revenue continues to increase with the size of groups). In addition, the Commission has extended Brisbane’s double fare to include groups of two to four people travelling to the same destination —

¹⁷ Source: data provided by the Taxi Industry Inquiry. Note: Black Cabs also indicated to the Commission during the consultation process for this review that its drivers charge passengers \$50 per hour when a taxi is taken off the road (e.g. for cleaning) as compensation for lost earnings.

since these group sizes could share a standard taxi fare, it was considered appropriate that each of these groups also have access to a discounted share-ride fare.

Developing the discounted group fares

In the previous section, the Commission found that a \$20 flat fare provided an appropriate balance between passenger and operator incentives. In developing a fare structure with two to four and group fares, the Commission has attempted to find a structure that provides a similar balance of passenger and operator incentives — that is, a multiple fare structure that provides similar outcomes to the \$20 flat fare.

A lack of detailed data on the number of passengers per taxi trip prevents the Commission from calculating the precise average farebox revenue from different fare scenarios (i.e. different fare levels for the single, two to four and group fares). Instead, the Commission has sought to find a fare structure that is likely to provide a similar 'average fare'. It has done this by comparing the farebox revenue range of each fare scenario tested.

In order to achieve an 'average fare' of \$20 when two to four and group fares are offered, the single fare must necessarily be set at a level greater than \$20, while the group fare (per passenger) must be set at a level lower than \$20 (this is due to averaging of fares across the fare structure). For simplicity, the Commission has chosen to set the two to four fare at the target average fare of \$20 (per passenger). This has been chosen on the basis that the majority of late night taxi passengers travel in groups of two or three,¹⁸ and therefore it is a reasonable assumption that the majority of late night share-ride taxi passengers will be travelling at the two to four fare rate.

The Commission has considered a range of potential fare scenarios for a fare structure with two to four and group fares. Figure 3.5 shows the potential farebox ranges of a selection of fare structures considered by the Commission. These farebox ranges are compared to the farebox range for the \$20 flat fare (with no two to four and group fares), as well as the fare benchmarks discussed in the previous section.

Determining the single zone fare with discounts

Under the Brisbane NightLink scheme, the average discount for double fares (compared to single fares) is approximately 35 per cent, and for group fares approximately 54 per cent. To offer a similar level of discounting for two to four and

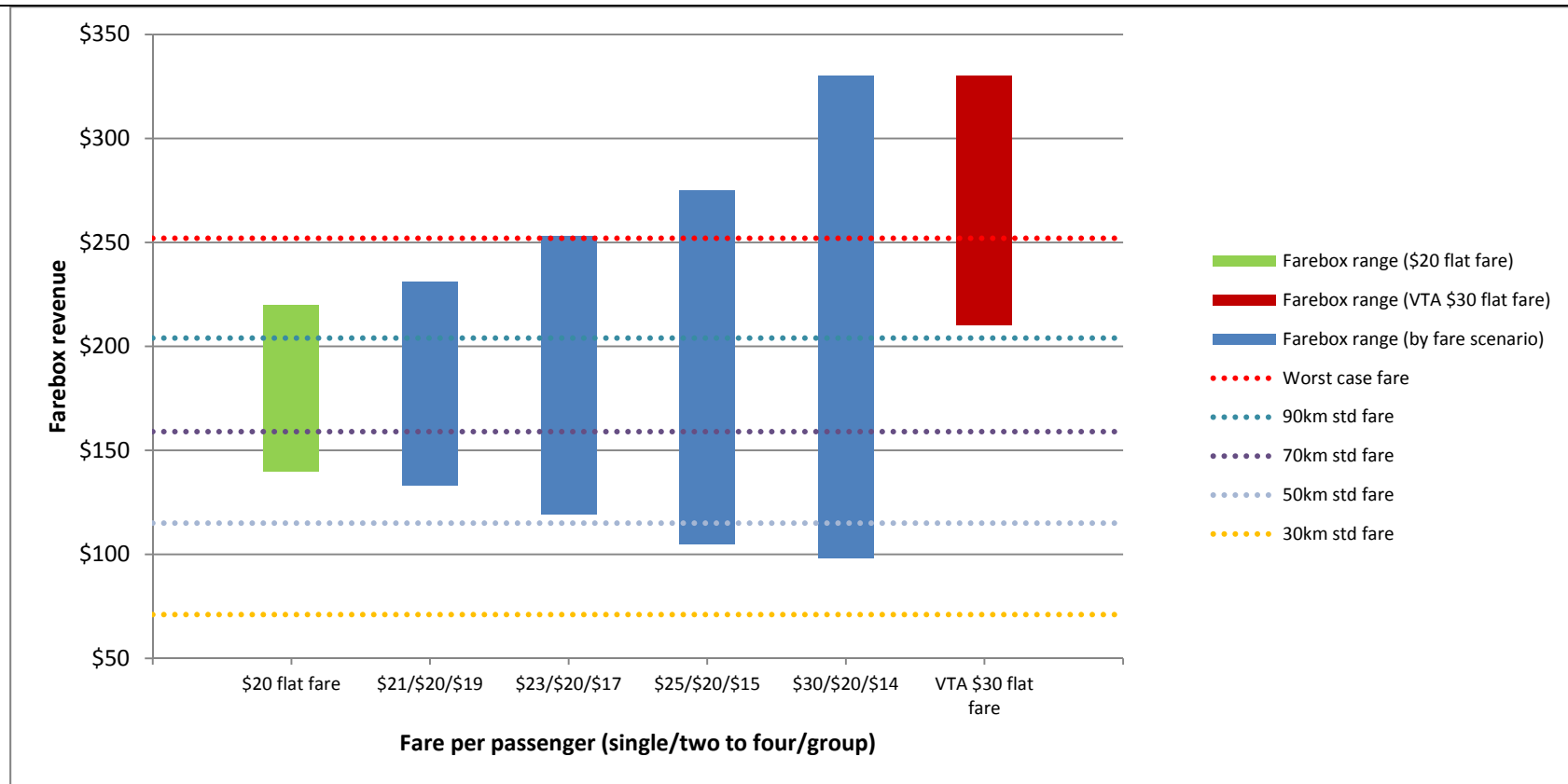
¹⁸ Research by Millward Brown indicated that 47 per cent of late night taxis are carrying two passengers, and 21 per cent are carrying three passengers. See Millward Brown 2010, *NightRider – understanding late night travel in Melbourne*, prepared for Metlink.

group fares, the fare structure (based around a \$20 per passenger two to four fare) would be: a single fare of \$30, two to four fare of \$20 per passenger and group fare of \$14 per passenger.

The Commission notes that this '\$30/\$20/\$14' (per passenger) fare structure provides a potential farebox range of \$98 (with one group of seven passengers) to \$330 (with 11 single fare passengers):

- The minimum \$98 farebox does not meet the 50km standard fare benchmark to outer Melbourne. Therefore, there is potential for drivers to be under-compensated with large groups travelling to outer Melbourne.
- Conversely, the maximum fare of \$330 is significantly greater than the 'worst case scenario' fare. Figure 3.5 demonstrates that there is a large potential for drivers to be well compensated with a '\$30/\$20/\$14' fare structure.

Figure 3.5 Operator incentives: farebox revenue range by fare scenario



Therefore, the farebox range has been increased disproportionately upwards in comparison to the farebox range (\$140 to \$220) for the \$20 flat fare. This suggests that a '\$30/\$20/\$14' fare structure does not appropriately balance operator and passenger incentives, and is likely to provide for operators ahead of customers compared to the \$20 flat fare. Hence, the Commission does not favour a fare structure that provides the discounts of the magnitude provided by the Brisbane NightLink scheme to passengers in groups of two to four and groups.

In comparison, a '\$21/\$20/\$19' (per passenger) fare structure would provide the closest potential farebox range to the \$20 flat fare. Under this fare structure, the potential farebox range has been increased slightly and relatively proportionately compared to the \$20 flat fare. However, the Commission notes that the discounts of 5 per cent for groups of two to four and 10 per cent for groups (relative to the single fare) are unlikely to provide sufficiently increased incentives for such passengers to warrant the added complexity to the fare structure.

Alternatively, a '\$23/\$20/\$17' (per passenger) fare structure would provide a 13 per cent and 26 per cent discount for groups of two to four and groups of five or more respectively. This fare structure provides a potential farebox range of \$119 (with one group of seven passengers) to \$253 (with 11 single fare passengers).

The minimum farebox revenue (\$119) provides adequate revenue for all journeys up to approximately 52km. This exceeds the 50km standard fare benchmark.

The maximum farebox revenue (\$253) meets the 'worst case scenario' (providing sufficient revenue for journeys up to 112km), without significantly exceeding this benchmark.¹⁹

Therefore, the range of farebox revenue outcomes under a '\$23/\$20/\$17' (per passenger) fare structure is roughly equivalent to the range of benchmarks between the 50km standard fare and 'worst case scenario'. This range, while being necessarily wider than the potential farebox range for the \$20 flat fare (due to fare averaging), is reasonably proportionate to that farebox range.

The Commission notes that at the estimated \$50 average hourly revenue for taxis operating between the hours of midnight to 3am on Saturday and Sunday mornings,²⁰ the \$119 of revenue provided by the minimum farebox (from seven passengers) would take approximately two and a half hours to otherwise achieve on the road taking regular fares – more time than a share-ride trip is likely to take.

¹⁹ As noted previously by the Commission, this 'worst case scenario' is unlikely to be a frequent occurrence. By providing a fare structure that meets this scenario, the Commission is establishing significant upside for share-ride taxi providers.

²⁰ Source: data provided by the Taxi Industry Inquiry. Note: Black Cabs also indicated to the Commission during the consultation process for this review that its drivers charge passengers \$50 per hour when a taxi is taken off the road (e.g. for cleaning) as compensation for lost earnings.

This rises to over five hours on the road to achieve revenue of \$253 (the maximum farebox revenue from a share-ride with 11 passengers). Hence, there are strong incentives for operators to provide the share-ride service.

On the passenger incentives side, this '\$23/\$20/\$17' (per passenger) fare structure provides a slightly reduced 'suburbs included' of 88 per cent for single fares (compared to 91 per cent at the \$20 flat fare). This is offset by significantly greater 'suburbs included' for groups of five or more.²¹ Passenger incentives for two to four passengers travelling together (i.e. a double fare) are unchanged due to the Commission's approach to modelling the two to four and group fare scenarios, specifically, the decision to keep the two to four fare the same as the preferred fare when there is no two to four and group fare options.

The '\$23/\$20/\$17' (per passenger) fare structure provides reasonably equivalent outcomes to the \$20 flat fare, with a similar level of 'suburbs included' and a proportionately wider potential farebox revenue range that is sufficient and not excessive. Therefore, for a single zone fare structure with two to four and group fares, the Commission considers the '\$23/\$20/\$17' (per passenger) fare structure offers the best balance between passenger and operator incentives.

3.3 Two fare zone analysis

The two fare zone structure developed by the Commission (see chapter 2) splits the 382 Greater Melbourne suburbs into 132 suburbs in zone 1, and 250 in zone 2. The Commission considered a number of alternative fare scenarios in determining a suitable share-ride fare structure. The following discussion focuses on four indicative scenarios: \$10/\$30 (i.e. \$10 for zone 1 and \$30 for zone 2), \$13/\$25, \$15/\$23 and \$15/\$20.

Passenger incentives

As for the one zone analysis, the Commission's analysis of passenger incentives under two fare zones includes two aspects: 'suburbs included' and fare boundary. Both 'suburbs included' and fare boundary are assessed for zones 1 (the inner zone) and 2 (the outer zone), e.g. for the \$10/\$30 fare scenario 'suburbs included'

²¹ 'Suburbs included' of group fares depends on the size of the group and the alternative choice (whether a HOV is available, or the group must split up into multiple standard taxis). Given the higher number of standard taxis in service, it is reasonable to assume that the majority of groups will choose to split into multiple standard taxis. The Commission notes that for a group of 5 passengers, a group fare of \$17 per passenger provides 'suburbs included' of 260 (68 per cent) in comparison to catching two standard taxis. This compares to a 'suburbs included' of 226 suburbs (59 per cent) for a group of 5 under the recommended \$20 flat fare. The lowest group fare 'suburbs included', in the case of 8 passengers (who would fill 2 standard taxis), is 153 (40 per cent) for a group fare of \$17 per passenger. This compares to 63 (16 per cent) for a group of 5 under the recommended \$20 flat fare.

and fare boundary are assessed for zone 1 at a share-ride fare of \$10, and for zone 2 at a share-ride fare of \$30.

A summary of the Commission's analysis is presented in table 3.3.

Table 3.3 Summary of passenger incentives

Standard fare scenarios ^a							
Std fare (10 – 50km trip)	\$27 - \$115						
Std fare per head							
2 passengers	\$14 - \$58						
3 passengers	\$9 - \$38						
4 passengers	\$7 - \$29						
Share-ride fare scenarios							
(exclude marshal levy)	Zone 1			Zone 2			
	\$10	\$13	\$15	\$20	\$23	\$25	\$30
Suburbs included (if 1 pax) ^b	129	118	112	250	250	250	250
Suburbs included (if 2 pax) ^b	99	80	61	244	235	221	185
Suburbs included (if 3 pax) ^b	61	28	15	185	147	124	84
Suburbs included (if 4 pax) ^b	23	3	0	107	80	63	24
Fare boundary (if 1 pax) (km)	2.5	3.8	4.7	na ^c	na ^c	na ^c	na ^c
Fare boundary (if 2 pax) (km)	7.0	9.7	11.5	16.0	18.8	20.6	25.1
Fare boundary (if 3 pax) (km)	11.5	15.6	18.3	25.1	29.1	31.9	38.6
Fare boundary (if 4 pax) (km)	16.0	21.5	na ^d	34.1	39.5	43.2	52.2

^a Fare estimates include flagfall, distance charge, an allowance for waiting time and the late night surcharge. Further, as the fare range is based on existing regulated fares, it is independent of the share-ride fare level.

^b 'Suburbs included' figures are out of 132 suburbs in zone 1, and 250 suburbs in zone 2.

^c In each of these cases, the share-ride fare is cheaper than the standard fare for all suburbs in zone 2 and hence there is no boundary within zone 2.

^d The theoretically calculated fare boundary in this case is 25.1km, however at this distance from the CBD the 'boundary' is in zone 2, i.e. a zone one boundary does not exist for four passengers at a fare of \$15. In this case it is always cheaper for a group of four to catch a standard taxi rather than a share-ride taxi.

The Commission's analysis shows that:

- **Fare comparisons** — for trips of 10 – 50km at the standard²² late night rate, fares range from \$27 – \$115. Potential passengers (travelling alone) would compare this to the share-ride fare.
 - If travelling with others, any standard fare would be split between multiple passengers, hence the fare per person would be lower. For example, for three people travelling together, the standard fare range of \$27 – \$115 is equivalent to a per head fare range of \$9 – \$38. For these multiple passenger groups, each individual could compare the lower per person fare to the share-ride fare. Or alternatively, the total standard fare could be compared to the total share-ride cost for the group as a whole (e.g. the total share-ride cost is \$90 for three people when the share-ride fare is \$30 each).
- **'Suburbs included' (zone 1)** — 'suburbs included' for individuals in zone 1 ranges from 129 of the 132 suburbs (98 per cent) at \$10 down to 112 suburbs (85 per cent) at \$15.
 - When travelling as a pair, 'suburbs included' decreases since the cost of a share-ride trip is now twice the single fare, and with this higher cost there are fewer suburbs for which the share-ride cost is cheaper than the standard taxi fare. For two people travelling together, 'suburbs included' in zone 1 ranges from 99 (75 per cent) at \$10 down to 61 (46 per cent) at \$15.
 - for three passengers travelling together to zone 1, 15 suburbs (11 per cent) would be better off with a share-ride fare of \$15 compared to a standard fare, while for four passengers no suburbs would be better off.
 - These increase to 28 (21 per cent) and 3 (2 per cent) of the 132 suburbs in zone 1 at a fare of \$13 for three and four passengers respectively, and 61 (46 per cent) and 23 (17 per cent) at a fare of \$10.
- **Fare boundary (zone 1)** — the zone 1 fare boundary for individuals ranges from 2.5km from the CBD (at \$10) up to 4.7km (at \$15).²³ Potential passengers living within a boundary for a given fare level would be better off catching a standard taxi (e.g. at \$15, those living within 4.7km of the CBD could catch a standard taxi for less than \$15).

²² The standard fare applies to taxis carrying four or less passengers, or a HOV carrying a wheelchair passenger. Current standard taxi fares are presented in appendix E.

²³ For the 4.7 kilometre fare boundary and based on trip distance to the centre of the suburb, suburbs for which a standard taxi fare is lower than the example \$15 share-ride fare include Carlton North (north), Port Melbourne (south), South Yarra (east) and West Melbourne (west).

- For two people travelling together, the zone 1 fare boundary ranges from 7km from the CBD (at \$10) up to 11.5km (at \$15).
- For three or four passengers travelling together, the fare boundaries are 18.3 and 25.1km (see note d in table 3.3) from the CBD respectively, at a \$15 share-ride fare.
 - At a \$13 fare, these fare boundaries decrease to 15.6 and 21.5km from the CBD.
 - And at a \$10 share-ride fare, the fare boundaries are 11.5 and 16.0km from the CBD.
- **‘Suburbs included’ (zone 2)** — there is complete ‘suburbs included’ (the share-ride is cheaper for all suburbs) in zone 2 for individuals travelling alone in all of the fare scenarios.
 - For two people travelling together, ‘suburbs included’ in zone 2 ranges from 244 of the 250 suburbs (98 per cent) at \$20 down to 185 suburbs (74 per cent) at \$30.
 - for three passengers travelling together to zone 2, 185 suburbs (74 per cent) would be better off with a share-ride fare of \$20 compared to a standard fare, while for four passengers 107 suburbs (43 per cent) would be better off.
 - These drop to 147 (59 per cent) and 80 (32 per cent) at a fare of \$23 for three and four passengers respectively, 124 (50 per cent) and 63 (25 per cent) at a fare of \$25, and 84 (34 per cent) and 24 (10 per cent) at a fare of \$30
- **Fare boundary (zone 2)** — with 100 per cent ‘suburbs included’, there is effectively no zone 2 fare boundary for individuals travelling alone in all of the fare scenarios.
 - For two people travelling together, the fare boundary in zone 2 ranges from 16km from the CBD (for the \$40 double fare, i.e. \$20 zone 2 fare)²⁴ up to 25.1km (for the \$60 double fare, i.e. \$30 zone 2 fare).
 - for three or four passengers travelling together to zone 2:
 - at \$20 the fare boundaries are 25.1 and 34.1km from the CBD,
 - at \$23 the fare boundaries are 29.1 and 39.5km,
 - at \$25 the fare boundaries are 31.9 and 43.2km, and

²⁴ At a minimum, the boundary between zones 1 and 2 is approximately 12–14km from the CBD. The 16 kilometre doubles fare boundary for the \$20 zone 2 fare effectively means the boundary is on average only 2–4km into zone 2.

- at \$30 the fare boundaries are 38.6 and 52.2km.

Although not presented in table 3.3, the Commission also considered ‘suburbs included’ and fare boundary outcomes for a group of five. These were calculated under two different assumptions: (i) assuming the group split up and shared two standard taxis (since a standard taxi can only take a maximum of four passengers); and (ii) assuming the group took an HOV. This analysis indicated that for the \$15/\$23 fare scenario:

- when compared to taking two standard taxis —
 - ‘suburbs included’ is 229 out of 382 across Greater Melbourne
 - the zone 1 fare boundary is 14.9km from the CBD, and
 - the zone 2 boundary is 24.0km from the CBD
- when compared to taking a HOV —
 - ‘suburbs included’ drops to 103 out of 382 across Greater Melbourne
 - the zone 1 fare boundary increases to 21.2km, and
 - the zone 2 boundary increases to 33.3km from the CBD.

Again, these ‘suburbs included’ figures (against both standard and HOV taxi) decrease, and the corresponding fare boundaries increase, as fares are increased.

This analysis of ‘suburbs included’ and fare boundaries show that passenger incentives are increased as the fare is decreased. If the share-ride fares are set too high, then ‘suburbs included’ will be relatively low, with a greater fare boundary, meaning more people will be excluded (through self-selection) from using the share-ride service and the attractiveness of the service will be diminished.

Operator incentives

Table 3.4 summarises information relevant for assessing operator incentives. As per the one fare zone analysis, different farebox revenue outcomes are compared. An important difference is that for the two fare zone analysis, passenger mix becomes a factor in determining farebox revenue.

From the summary information, the Commission notes:

- at a \$15/\$20 share-ride fare scenario, share-ride farebox revenue ranges from \$105 – \$220 (based on a minimum of seven passengers travelling to zone 1 and a maximum of 11 travelling to zone 2). This range increases to \$105 – \$253 for the \$15/\$23 fare scenario, \$91 – \$275 for the \$13/\$25 fare scenario and \$70 – \$330 for the \$10/\$30 scenario.
- the share-ride taxi farebox revenue ranges compare to the standard and HOV scenarios listed in table 3.4 and discussed in section 3.1. In summary they compare to:

- a farebox range of \$27 – \$115 for trips ranging from 10 – 50km at the standard fare
- a farebox range of \$38 – \$170 for trips ranging from 10 – 50km at the higher HOV fare, and
- standard and HOV farebox revenue of \$159 and \$237 respectively for a 70km trip.

Table 3.4 Summary of operator incentives

Standard and HOV fare scenarios ^a					
Std fare (10 – 50km trip)		\$27 - \$115			
Std fare 70km trip		\$159			
HOV fare (10 – 50km trip)		\$38 - \$170			
HOV fare 70km trip		\$237			
Share-ride farebox revenue scenarios		<i>Zone 1 / Zone 2 fare</i>			
(excludes marshal levy)		<i>\$15/\$20</i>	<i>\$15/\$23</i>	<i>\$13/\$25</i>	<i>\$10/\$30</i>
7 pax	min	\$105	\$105	\$91	\$70
	max	\$140	\$161	\$175	\$210
8 pax	min	\$120	\$120	\$104	\$80
	max	\$160	\$184	\$200	\$240
9 pax	min	\$135	\$135	\$117	\$90
	max	\$180	\$207	\$225	\$270
10 pax	min	\$150	\$150	\$130	\$100
	max	\$200	\$230	\$250	\$300
11 pax	min	\$165	\$165	\$143	\$110
	max	\$220	\$253	\$275	\$330

^a Fare estimates include flagfall, distance charge, an allowance for waiting time and the late night surcharge. Further, as the fare range is based on existing regulated fares, it is independent of the share-ride fare level.

Balancing passenger and operator incentives

The above analysis indicates that increasing returns to operators comes at the cost of users — with higher fares resulting in the share-ride taxi being the cheaper taxi option in fewer suburbs. However if fares are set too low, while increasing ‘suburbs included’, the lower fares would result in operators opting not to provide the share-ride service.

It is clear that, based on the supply side comparators presented in table 3.4, share-ride farebox revenue at the fare scenarios presented is in most cases higher than the comparator standard fares, and in some cases significantly higher. This

suggests a strong incentive for operators to supply share-ride services. In considering the outcomes for farebox revenue under different fare level scenarios, the Commission has applied the same benchmarks as for one zone analysis, namely:

- a 30km standard fare (\$71)
- a 50km standard fare (\$115)
- a 70km standard fare (\$159)
- a 90km standard fare (\$204)
- a 112km 'worst case scenario' standard fare (\$252).

The farebox revenue ranges for each of the previously discussed fare scenarios are shown in figure 3.6 against these benchmarks.

Determining the two zone fare structure

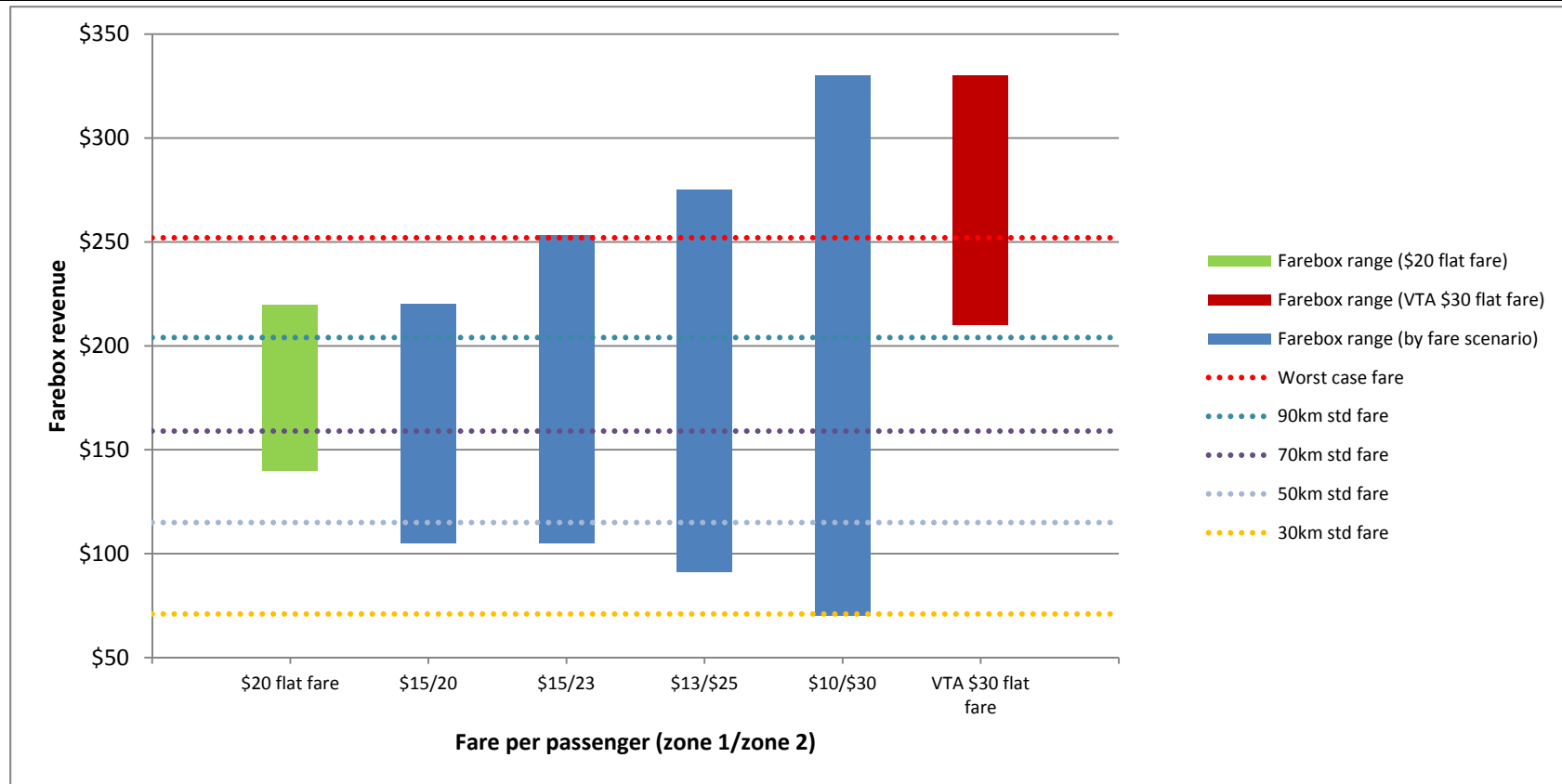
As discussed in section 3.1 (analysis of a one zone fare structure), there is a trade-off between passenger and operator incentives. The Commission has used a number of criteria/benchmarks to assess the various fare scenarios and balance passenger and operator outcomes.

On the operator side, benchmark distances have been identified, with the Commission focussing on 30 – 70km trips as a reasonable range for the average share-ride trip. Farebox revenue outcomes for various share-ride fare scenarios can be compared to regular taxi trips at standard, or HOV, late night rates. These operator outcomes can be compared to passenger incentives under the same fare scenarios to find a fare scenario that maximises 'suburbs included' for passengers whilst still being acceptable for drivers. As noted in the one zone fare analysis above, the Commission considers it reasonable to place greater emphasis on standard fares (rather than HOV) as a basis of comparison.

The \$10/\$30 fare scenario returns a maximum farebox revenue outcome of \$330. As shown in figure 3.6, this significantly exceeds the Commission's 'worst case scenario' fare of \$252. Under this fare scenario operators are well compensated when there is a large number of passengers travelling to zone 2.

The \$13/\$25 fare scenario provides a farebox revenue range of \$91 to \$275. This range also results in operators being well compensated for larger numbers of zone 2 passengers.

Figure 3.6 Operator incentives: farebox revenue range by fare scenario



A fare scenario of \$15/\$23 gives a minimum fare revenue outcome of \$105 for seven passengers travelling to zone 1. This is considerably higher than the 30km standard fare of \$71. In addition, it is much higher than the highest standard fare to a suburb in zone 1 of roughly \$56 (for a journey of 23km). With expectations that share-ride taxis are likely to carry closer to 11 passengers, the farebox revenue increases to \$135 for nine passengers and \$165 for 11 passengers to zone 1. This gives drivers/operators a significant premium over the 30km standard fare trip (\$71) for a trip confined to zone 1.

If passenger mix covers both zones 1 and 2, for the nine passenger scenario minimum farebox revenue is \$143 (eight passengers to zone 1, one to zone 2), increasing to \$173 (ten passengers to zone 1, one to zone 2) for the 11 passenger scenario. The maximum farebox revenue (i.e. all passengers travelling to zone 2) ranges from \$161 for seven passengers to \$253 for 11 passengers.

These figures for trips into zone 2 compare to:

- \$115 – 50km standard fare
- \$159 – 70km standard fare
- \$170 – 50km HOV fare
- \$237 – 70km HOV fare, and
- \$252 – the 112km ‘worst case scenario’ fare.

Overall, the \$15/\$23 fare scenario provides strong earnings potential for drivers/operators. The Commission notes that at the estimated \$50 average hourly revenue for taxis operating between the hours of midnight to 3am on Saturday and Sunday mornings,²⁵ the \$105 of revenue provided by the minimum farebox (from seven passengers to zone 1) would take more than two hours to otherwise achieve on the road taking regular fares – far more time than a share-ride trip confined to zone 1 would take. This rises to approximately three hours on the road to achieve revenue of \$143 (the farebox revenue from a share-ride with eight passengers to zone 1 and one passenger to zone 2) and over five hours for \$253 (the farebox revenue from a share-ride with 11 passengers to zone 2). Hence, there are strong incentives for operators to provide the share-ride service.

The \$15/\$20 scenario is also consistent with the \$20 flat fare for the single fare zone analysis, since the decrease in the minimum farebox revenue and increase in

²⁵ Source: data provided by the Taxi Industry Inquiry. Note: Black Cabs also indicated to the Commission during the consultation process for this review that its drivers charge passengers \$50 per hour when a taxi is taken off the road (e.g. for cleaning) as compensation for lost earnings.

maximum farebox revenue are of a similar magnitude and hence the average fare available to operators between the two scenarios is similar (see figure 3.6).

Nonetheless, to test whether this earnings potential is too strong, the Commission has considered a \$15/\$20 scenario. The \$15/\$20 fare scenario provides a maximum farebox revenue outcome of \$140 for seven passengers (travelling to zone 2) and \$160 for eight passengers (travelling to zone 2). Whilst \$160 covers the 70km benchmark fare (\$159), the \$15/\$20 fare scenario relies on there being eight passengers travelling to zone 2 (e.g. the benchmark will not be met by a share-ride with one passenger to zone 1 and seven passengers to zone 2). For a group of nine passengers, at least five passengers must be travelling to zone 2 to meet the 70km benchmark fare (\$159). This fare scenario could thus lead to too much selectivity on the part of marshals and drivers (to get a 'profitable' passenger mix) and compromise the efficient running of the service.

The Commission therefore believes a \$15/\$23 fare structure is the most suitable fare scenario when considering operator incentives.

On the passenger side, the \$15/\$23 fare scenario sets a zone 1 fare boundary of 4.7km, with 'suburbs included' of 112 of the 132 zone 1 suburbs (85 per cent). For two passengers travelling together, 'suburbs included' is 61 (46 per cent), with a fare boundary of 11.5km.²⁶ All single passengers are 'included' by a \$23 zone 2 fare, and, in the case of two people travelling together to zone 2, 235 of the 250 zone 2 suburbs (94 per cent) are 'included'.²⁷ The Commission finds that a \$15/\$23 fare provides an appropriate balance between operator and passenger incentives.

3.4 Two zone fare analysis with discounts

The Commission has leveraged off the single fare only analysis to develop a fare structure that includes single, two to four passengers, and group (five or more passengers) fares. Where only single fares are available, the Commission has found that a \$15/\$23 fare structure provides an appropriate balance between passenger and operator incentives. In developing a fare structure which includes two to four and group fares, the Commission has attempted to find a structure that provides a similar balance of passenger and operator incentives.

As in the one fare zone analysis, the Commission has sought to find a fare structure that is likely to provide a similar 'average fare' (that is, the Commission's methodology has attempted to target a similar average fare across the four fare

²⁶ This drops to 15 suburbs (11 per cent) for groups of three passengers travelling together to zone 1, and no suburbs are better off for a group of four passengers.

²⁷ This drops to 147 suburbs (59 per cent) for groups of three passengers travelling together to zone 2, and 80 suburbs (32 per cent) for a group of four passengers.

structure scenarios). It has done this by comparing the farebox revenue range of each fare scenario tested.

In order to achieve an 'average fare' consistent with the \$15/\$23 scenario when discounted fares are offered, the Commission has chosen to set the two to four passenger fares at \$15 for zone 1 and \$23 for zone 2. As in the one fare zone analysis, this has been chosen on the basis that the majority of late night taxi passengers travel in groups of two or three.²⁸

While the Commission tested many different combinations of discounts, the following discussion is restricted to four fare scenarios (displayed in table 3.5).

Table 3.5 Fares for two zones with two to four and group fares ^a

	Zone 1 fares			Zone 2 fares		
	Single	Two to four	Group	Single	Two to four	Group
Fare scenario A	\$16	\$15	\$14	\$25	\$23	\$22
Fare scenario B	\$17	\$15	\$13	\$26	\$23	\$19
Fare scenario C	\$20	\$15	\$12	\$31	\$23	\$18
Fare scenario D	\$23	\$15	\$11	\$36	\$23	\$17

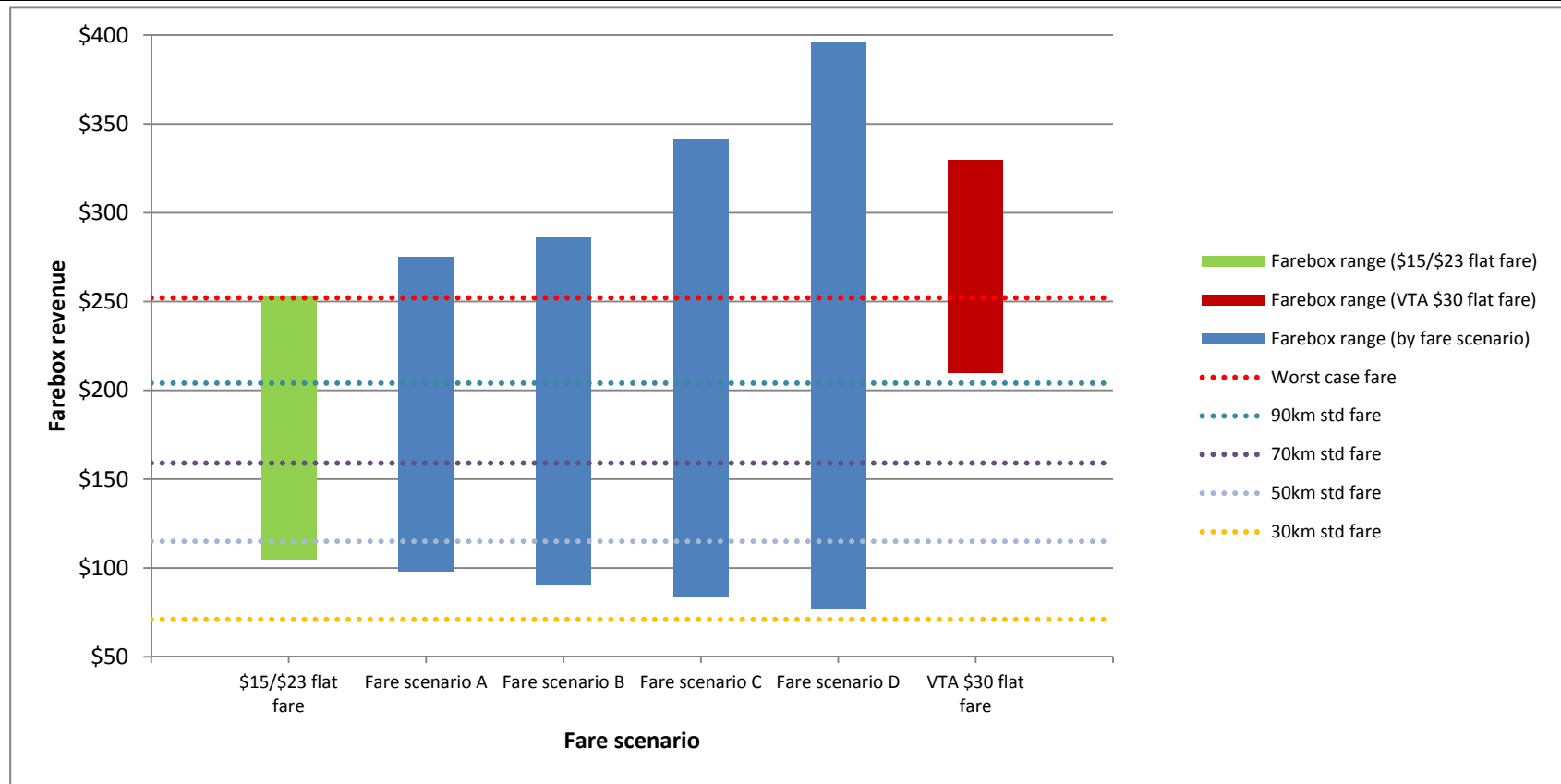
^a Fares are per person and exclude any marshal levy.

Whilst the magnitude of the discounts differs across the scenarios, within each scenario the discounts across both zones are roughly the same. They range from a discount system which involves minimal, one dollar differences between single, two to four, and group fares (fare scenario A) to an approximation of the Brisbane scheme's 35 per cent (single to double) and 54 per cent (single to group) discounts (fare scenario D).

The range of possible farebox revenue outcomes from these fare scenarios, along with those of the flat fares of \$15 and \$23, are represented in figure 3.7. The minimum outcomes are consistent with a group of seven passengers travelling to zone 1 and the maximums are instances of 11 single fare passengers to zone 2.

²⁸ Research by Millward Brown indicated that 47 per cent of late night taxis are carrying two passengers, and 21 per cent are carrying three passengers. See Millward Brown 2010, *NightRider – understanding late night travel in Melbourne*, prepared for Metlink.

Figure 3.7 Operator incentives: farebox revenue range by fare scenario



Determining the two zone fare structure with discounts

Applying the discounts used in the Brisbane scheme in fare scenario D (approximately 35 and 54 per cent), allows drivers a possible maximum of \$396 in farebox revenue. This is significantly higher than the 'worst case scenario' for a trip to the outskirts of Greater Melbourne (standard equivalent fare of \$252). Fare scenario C (applying discounts of approximately 25 and 40 per cent) also provides a high maximum farebox revenue of \$341. Therefore, a set of reduced discounts (keeping the same target 'average fare') would provide a better balance between passenger and operator incentives.

Fare scenario B is calculated by applying the closest discounts to those found suitable in the one zone analysis (13 and 26 per cent)²⁹ whilst keeping fares to the nearest full dollar amount. The maximum farebox revenue under this scenario is \$286, much closer to the worst case scenario threshold, while still providing substantial operator incentives being equivalent to almost six hours on the road taking regular fares³⁰ — substantially more time than any share-ride trip could reasonably be expected to take. At a minimum, farebox revenue is \$91, equivalent to a standard fare journey of 39km, which comfortably covers the corresponding HOV equivalent of a seven passenger direct journey within zone 1. (The highest estimated HOV fare for zone 1 is approximately \$78, to Altona Meadows). The \$91 minimum farebox revenue would take approximately two hours to otherwise achieve on the road taking regular fares,³¹ — again, far more time than a share-ride trip confined to zone 1 would take.

'Suburbs included' with this fare scenario is high for singles in zone 1, with 106 of 132 suburbs (80 per cent) 'included'. Nearly half of zone 1 suburbs are 'included' for those travelling in pairs (61 suburbs – 46 per cent). In terms of zone 2 passenger incentives, the single fare 'includes' all suburbs, whilst for two people travelling to the same destination the two to four fare covers 235 of 250 suburbs (94 per cent).

'Suburbs included' for groups of five passengers is 277 of the 382 suburbs (73 per cent) when compared to taking two standard taxis, or 158 of the 382 suburbs (41 per cent) when compared to taking an HOV (up from 229 suburbs and 103 suburbs respectively under the two zone fare structure without discounts). The zone 2

²⁹ See section 3.2.

³⁰ At the estimated \$50 average hourly revenue for taxis operating between the hours of midnight to 3am on Saturday and Sunday mornings. Source: data provided by the Taxi Industry Inquiry. Note: Black Cabs also indicated to the Commission during the consultation process for this review that its drivers charge passengers \$50 per hour when a taxi is taken off the road (e.g. for cleaning) as compensation for lost earnings.

³¹ Ibid.

group fare still works out as a cheaper alternative for some suburbs up to groups of ten passengers.

Fare scenario A applies a smaller set of discounts (approximately 7 and 15 per cent). This fare scenario, whilst resulting in a farebox revenue average much closer to that found suitable for a flat fare schedule, provides only one dollar differences in fares, which are too modest in terms of customer incentives to justify the added complexity to the fare structure.

The Commission therefore finds that the two zone fare structure with discounts that appropriately balances operator and passenger incentives is the \$17-\$15-\$13 / \$26-\$23-\$19 fare scenario.

3.5 The Commission’s four separate fare structures

Given the Commission’s detailed analysis presented in sections 3.1 to 3.4, the following fare structure options exist (table 3.6). Chapter 4 presents the Commission’s selection of a recommended fare structure from these options.

Table 3.6 The Commission’s share-ride fare structures

	<i>Number of zones</i>						
	<i>One Zone</i>			<i>Two Zones</i>			
Flat fare	\$20			Zone 1	\$15		
				Zone 2	\$23		
Discounted fares	Single	Two to four*	Group (5+)*		Single	Two to four*	Group (5+)*
	\$23	\$20	\$17	Zone 1	\$17	\$15	\$13
				Zone 2	\$26	\$23	\$19

*Travelling to the same destination.

Note: Fares are per person and exclude any marshal levy.

4 THE RECOMMENDED FARE STRUCTURE & SUBMISSIONS FROM STAKEHOLDERS

This chapter presents issues associated with setting the share-ride fare, including comments from stakeholder submissions, the Commission's conclusions on these issues, and the Commission's recommended fare structure.

Introduction

As detailed in the Commission's issues paper³², three main matters are relevant to the Commission's analysis and development of a recommended flat fare structure. These are:

- **How should the late night, share-ride taxi fare be set?** That is, how should operator incentives be balanced with passenger incentives, and what benchmarks should farebox revenue scenarios be considered against? (see Chapter 3)
- **Should there be multiple zones for the purposes of determining fares?** Key trade-offs in answering this question include simplicity versus complexity: that is, fewer zones may provide a fare structure that is simpler to understand and less costly to administer, but increasing the number of zones reduces the degree of fare averaging within each zone and improves the cost reflectivity of fares with the positive result that the attractiveness of the scheme to passengers is increased.
- **Should there be discounts from the set fares, e.g. for doubles and/or groups?** That is, should people travelling together or in groups to the same destination receive a discount? The driver benefits with fewer drop off points as it reduces travel time and distance. A single fare structure may provide the simplest option; however this could reduce the attractiveness of the share-ride taxi service since people travelling together are able to split a standard taxi fare.

³² Essential Services Commission 2012, *Late night, share-ride taxis – a pilot program*, Issues paper, October, pp. 20–29.

The following section discusses the submissions and issues raised by stakeholders, the Commission's analysis of whether there should be multiple zones and/or discounts, and the Commission's recommended fare structure.

4.1 Setting the late night, share-ride taxi fare

The Commission's issues paper presented an initial application of its methodology in the case of a single zone and single fare. This initial analysis illustrated the impact of different share-ride fare levels on passenger and operator incentives, and showed passenger incentives can only be improved at the expense of operator incentives (and vice versa).

Balancing passenger and operator incentives is crucial to ensuring any proposed fare structure is commercially attractive to operators while also being attractive to passengers. Moreover, a fare structure that is easy to apply and understand further promotes the success of the share-ride pilot.

Submissions from stakeholders

Various stakeholders have submitted views on the preferred fare level for the share-ride taxi fare and the methodology for setting the fare.

The VTA proposes a flat \$30 fare per passenger. This flat fare is paid by each passenger regardless of their destination or distance travelled. The VTA states:

The VTA proposal is designed to be cost neutral and self funding, and as a result, a move away from the VTA's \$30 flat fare could seriously jeopardise the viability of the initiative. The \$30 flat fare is based on an amount that will be attractive and fair to taxi drivers and also offers a significant discount to the traveling public. It is important to note that similar schemes in other jurisdictions, such as Brisbane, receive government subsidies.³³

Further, the VTA states that in analysing farebox revenue outcomes, the relevant comparator should be the HOV fare rather than the standard fare, 'given the vehicles involved would be charging this fare...'.³⁴

While the submission from Noel Cook does not suggest a specific fare level, it does present a process for determining the share-ride fare. It suggests that the fare should be based on the existing multi-hire rate and the Melway 10km bands — the

³³ Victorian Taxi Association submission, p. 2.

³⁴ Victorian Taxi Association submission, attachment 2, p. 2.

fare for each destination would be 70 per cent of: the metered fare to the particular zone; plus an additional per kilometre charge for travel into that particular zone.³⁵

The TISV submission considers that the Commission's methodology (as presented in the issues paper) is reasonable. It also stated that share-ride fares could be based on discounts off the metered fare.³⁶

Commission's analysis

The proposal for a share-ride service shows willingness by the industry to offer a new and innovative service. However, the Commission believes that the proposal can be improved to increase the likelihood of the pilot's success, and to more appropriately balance passenger and operator incentives.

The VTA's \$30 flat fare proposal

The VTA's submission states it believes a \$30 fare sufficiently addresses and balances operator and passenger incentives³⁷; however the VTA's submission does not provide any detailed analysis on the effect of the proposed \$30 flat fare on operators and potential passengers, or how the fare balances operator and passenger incentives. These are important factors that the Commission must take into account under the terms of reference for this review.

Table 4.1 presents the farebox revenue range under the VTA's proposal and benchmarks against which the range can be assessed.

³⁵ Noel Cook submission, p. 1.

³⁶ Taxi Industry Stakeholders Victoria submission, p. 9.

³⁷ Victorian Taxi Association submission, attachment 2, p. 2.

Table 4.1 Farebox revenue and benchmarks

	Farebox revenue		Some benchmarks (based on standard fare)	
	Min	Max		
VTA	\$210	\$330	\$22	8km trip – average late night trip
			\$42	17km trip – trip to zone 1/2 boundary
			\$71	30km trip – ‘worst case scenario’ for inner Melb
			\$115	50km trip – trip to outskirts of Greater Melbourne
			\$159	70km trip – trip to outskirts with 40% ‘inefficiency’
			\$204	90km trip – trip to outskirts with 80% ‘inefficiency’
			\$252	112km trip – ‘worst case scenario’ for outer Melb

Note: analysis excludes any allowance for a marshal levy, and standard fare calculations based on flagfall, distance rate, allowance for waiting time and the late night surcharge.

The information in table 4.1 indicates that:

- the minimum farebox revenue of \$210 (for a share-ride of seven passengers) is higher than all but the ‘worst case scenario’ benchmark for outer Melbourne
 - and it is much higher than the fare for the current average late night trip distance, i.e. a fare of \$22 for an 8km trip
- with nine or more passengers the farebox revenue exceeds all of the benchmarks
 - the maximum farebox revenue of \$330 with 11 passengers is the equivalent of a 147.1km trip at the standard fare — far beyond the realistic trip distance of any potential share-ride
- at the VTA’s proposed \$30 flat fare, the minimum fare of \$210 represents an equivalent standard taxi fare of 92.9km, exceeding the 90km benchmark (which already provides an 80 per cent allowance over a typical 50km journey to outer Melbourne, to account for an indirect route).

Also, the farebox revenue range of \$210 to \$330 is much higher than the farebox revenue that could otherwise be earned if a standard taxi trip is undertaken, with a farebox range of \$27 to \$115 for trips ranging from 10 to 50km at the standard fare, or \$38 to \$170 at the higher HOV fare.

Furthermore, at the estimated \$50 average hourly revenue for taxis operating between the hours of midnight to 3am on Saturday and Sunday mornings,³⁸ it

³⁸ Source: data provided by the Taxi Industry Inquiry. Note: Black Cabs also indicated to the Commission during the consultation process for this review that its drivers charge

would take more than four hours on the road (taking regular fares) to make the same level of revenue as the minimum farebox of \$210 (and more than seven hours to meet the maximum farebox revenue of \$330).

Therefore, a \$30 flat fare results in operators being well compensated, with potential farebox revenue significantly higher than the equivalent standard fare of any potential share-ride trip, as well as the farebox revenue likely to otherwise be earned by operating an HOV outside of the share-ride scheme.

On the passenger side, for 311 (81 per cent) of the 382 suburbs modelled in the Commission's fare model, the share-ride fare of \$30 would be lower than the standard fare for an individual travelling alone. This corresponds to a fare boundary of 11.5km from the CBD. However, for two people travelling together (a combined share-ride fare of \$60), 'suburbs included' would only be 185 — less than half of the suburbs of Greater Melbourne. Given that most late night taxi users are travelling in pairs, this relatively low 'suburbs included' for two people travelling together is likely to reduce significantly the attractiveness of the share-ride scheme. The corresponding fare boundary of 25.1km from the CBD is beyond the current average late night taxi trip distance and the public transport zone 1 boundary (as well as zone 1 for the share-ride scheme under the Commission's proposed two zone structure).

Based on its analysis, the Commission believes the VTA's proposed \$30 flat fare would probably exclude a large number of potential passengers, for whom a standard taxi would be the cheaper alternative.

In comparison, a fare of \$25 would increase 'suburbs included' to 334 (87 per cent) for individuals (with the fare boundary decreased from 11.5 to 9.3km), and to 226 suburbs (59 per cent) for two passengers travelling together (with the fare boundary decreased from 25.1 to 20.6km). At \$20, 'suburbs included' increase to 349 (91 per cent) for individuals and 267 suburbs (70 per cent) for two passengers travelling together, and the fare boundary decreased to 7.0km and 16.0km, respectively.

The Commission's analysis indicates that the proposed \$30 flat fare is skewed heavily towards operators, with operators compensated at the expense of passenger incentives. A flat fare lower than \$30 that still provides sufficient incentives for operators to participate in the scheme while providing greater incentives to passengers to use the share-ride service.

An appropriate comparator – standard or HOV fares?

The Commission's analysis has considered *both* the standard and HOV fares.

passengers \$50 per hour when a taxi is taken off the road (e.g. for cleaning) as compensation for lost earnings.

The Commission is of the view that an emphasis on standard fares is appropriate. At the hours of operation of the share-ride taxi scheme, the majority of HOVs on the road would be operating at standard taxi rates since they would be carrying 4 or fewer passengers. That the majority of HOVs would be operating at standard taxi rates was confirmed in discussions with industry participants, including Black Cabs and the Victorian Taxi Drivers' Association.

Subsidising share-ride schemes?

In proposing a \$30 fare, the VTA states its fare level is intended to be cost neutral and self-funding, and it is important to note the Brisbane scheme receives government subsidies. The suggestion is that Melbourne's share-ride fares need to be higher than they otherwise would, as they are not subsidised, and that Melbourne's fares need to subsidise costs that Brisbane's fares do not. The Commission believes it is important to clarify this statement on subsidies.

First, Brisbane's NightLink fares are payment for taxi travel that goes to the taxi. Under the VTA's \$30 proposal, \$2 of the fare would represent a marshal levy, with the remainder being the fare for taxi travel. No other costs are being paid for by the share-ride fare under the VTA's proposal.

Second, fares (and farebox revenue) are not currently subsidised by government in Brisbane. While fares have never been subsidised in the Brisbane scheme, when initially trialled, drivers did receive a 'top-up' payment from the Queensland Government if earnings were below \$70 per hour (i.e. *farebox revenue* was 'subsidised'). These payments fell over time and were phased out by January 2007. Similar payments were not made when the NightLink taxi scheme was introduced to other Queensland cities. Further, while the Queensland Government provided some infrastructure for the NightLink taxi service (e.g. lighting, queue railings/barriers), these were once-off payments to the Brisbane City Council, who now maintains the relevant infrastructure. This is similar to Melbourne's share-ride pilot, with required infrastructure to be provided by the City of Melbourne and/or the VTA.

Alternative fare setting processes

Noel Cook's suggested fare setting process (based on the existing multi-hire rate and the Melway 10km bands),³⁹ is potentially workable (since it applies an existing fare option, the multi-hire rate). However, it is not consistent with the Commission's terms of reference. The Commission is required to provide advice on a '*fixed fare, per head*' pricing structure. Basing the share-ride fare on the multi-hire rate implies a complex fare structure, with a separate fares for most destinations (e.g. different destinations within the same suburb could have different

³⁹ The fare for each destination would be 70 per cent of the metered fare to the particular zone, plus an additional per km charge for travel into that particular zone.

fares). Further, it would mean fares are paid at the destination, not before the taxi leaves the rank. The Commission considers that simpler fare structures can be developed for the share-ride scheme.

Similarly, the process proposed by TISV (i.e. discounts off the metered fare) implies a relatively complex fare structure (potentially different fares for each suburb). While theoretically feasible, simpler and more transparent fare structures can be developed.

4.2 Should there be multiple zones?

The issue of multiple zones is really about whether the flat fare structure should reflect the distance travelled and whether fares should have some degree of cost reflectivity, that is, the extent to which share-ride fares should reflect the cost of service provision and existing regulated fares.

Submissions from stakeholders

The VTA proposed a single fare applying to all of Greater Melbourne, i.e. the fare would not reflect distance, and all passengers would pay the same amount regardless of their destination or whether there is group travel.

The VTA believe that the operational viability of the share-ride scheme would be compromised by zone based fares.⁴⁰ The VTA also state that the key to the trial is simplicity, with a single zone making the proposed scheme easy to apply and transfer around the state.⁴¹

The Geelong Taxi Network submitted that the pilot would be '*more efficient and successful without some of the added complications of the Brisbane model, e.g. multiple zones, passenger groups and discounts*'. However, the Geelong Taxi Network states that if zones are to be introduced, they should be '*broken very simply into an inner zone and an outer zone*'.⁴²

While the Geelong Taxi Network submission notes the added complications of the Brisbane model, it acknowledges that '*the longevity of the program is clear evidence of the success of the program which could be easily replicated in Victoria as a similar program*'.⁴³

⁴⁰ Victorian Taxi Association 2012, *Submission to Essential Services Commission share-ride taxi review*, 7 November, pp. 1–2.

⁴¹ Victorian Taxi Association submission, attachment 2, p. 1.

⁴² Geelong Taxi Network 2012, *Submission to Essential Services Commission share-ride taxi review*, 7 November, pp. 1–2.

⁴³ *Op. cit.*, p. 2,

TISV state that a zone based approach is not its preference due to complexities for passengers, especially visitors to Melbourne. It also noted the subjectivity involved in setting boundaries and the impact boundaries could have on the transferability of the scheme. Its preferred approach is discounts off the meter (similar to the existing multi-hire option).⁴⁴

The submission from Noel Cook suggested that if zones were to be applied, they should be based on the 10 'kilometre circles' in the Melways street directory.⁴⁵

Commission's analysis

While acknowledging the benefits of simplicity, the Commission considers that adopting a single zone would not be sufficiently cost reflective resulting in less patronage. That is, if the share-ride fare is not below the relevant standard taxi fare, the pilot will not be attractive to potential passengers and may fail. Separating Melbourne into multiple fare zones will increase the cost reflectivity of the fare structure for share-ride taxis, with the potential to make the share-ride pilot attractive to a greater percentage of Melbourne's population. In the Commission's view, this will increase the likelihood of success for the share-ride pilot (see the detailed analysis presented in chapter 3).

On the issue of transferability (raised by both the VTA and TISV), the Commission notes that if a share-ride scheme is to operate in regional cities (or start from a point outside of the Melbourne CBD), it may not be possible to simply 'transfer' the Melbourne scheme to these other locations, even if the Melbourne scheme has only one zone. This is because the share-ride fare for the Greater Melbourne scheme is based on trips beginning in the CBD, and Greater Melbourne's existing regulated fares and geographical boundaries. Therefore, a new fare would have to be developed if the scheme is transferred to other locations, especially where other locations have different regulated taxi fares.

Consequently, the Commission has explored extensions to the single fare zone structure while remaining cognisant of ensuring simplicity and avoiding complexity. The Commission's modelling indicates that the simplest zone structure is one based on a two zone arrangement covering the inner and outer suburbs of

⁴⁴ Taxi Industry Stakeholders Victoria 2012, *Submission to Essential Services Commission share-ride taxi review*, 7 November, p. 8.

⁴⁵ Noel Cook 2012, *Submission to Essential Services Commission share-ride taxi review*, 24 October, p. 1.

Melbourne respectively.⁴⁶ For simplicity, the Commission also considers that each suburb should lie within a single zone only.

The Commission’s analysis (presented below) illustrates that moving from one to two zones will improve the viability of the pilot by increasing the attractiveness of the service to a wider proportion of Greater Melbourne.

Assessment of passenger incentives under zones

As discussed in chapter 2, passenger incentives refer to whether passengers would be interested in using the service based on price (it was also noted that other factors such as additional travel time of a share-ride taxi could influence demand for the service). In terms of our analysis, this is measured using two concepts:

- suburbs included — that is, the number of Greater Melbourne suburbs for which a share-ride fare would be less than a late night fare in a standard taxi, and hence the share-ride fare would be more attractive to passengers, and
- fare boundary — the boundary set by a specific share-ride fare level, with people living within the boundary less likely to catch a share-ride taxi service as it would be cheaper catching a standard taxi.

Table 4.2 summarises the passenger incentives for one and two zone fare structures (chapter 2 details the Commission’s development of the two zone structure).

Table 4.2 Passenger incentives under single fare only scenarios ^a

	<i>One fare zone</i>	<i>Two fare zones</i>	<i>VTA proposal</i>
Suburbs included (if 1 pax) ^b	349/382	362/382	311/382
Fare boundary (if 1 pax)	7.0km	4.7km ^c	11.5km
Suburbs included (if 2 pax)	267/382	296/382	185/382
Fare boundary (if 2 pax)	16.0km	11.5km ^c	25.1km

^a The analysis excludes any allowance for a marshal levy.

^b In the Commission’s fare model for Greater Melbourne, fares for 382 suburbs were modelled.

⁴⁶ This also correlates with Melbourne’s existing public transport zones that provide a zoning arrangement familiar to public transport users. The Commission’s two zone structure is broadly consistent with the public transport zone structure (see chapter 2).

- ^c Fare boundary information relates to zone 1 only in the two fare zone structure. This is the relevant comparison to the boundary in the one fare zone structure.

The Commission's analysis indicates that the move from one zone to two zones:

- increases 'suburbs included' from 349 to 362 in the case of an individual travelling alone
- increases 'suburbs included' from 267 to 282 in the case of two people travelling together
- decreases the fare boundary from 7.0 to 4.7km in the case of an individual travelling alone, and
- decreases the fare boundary from 16.0 to 11.5km in the case of two people travelling together.

While the increases in 'suburbs included' are small in percentage terms, they nonetheless indicate an improved outcome for potential passengers (while at the same time maintaining operator incentives, as the Commission's analysis looked to maintain operator incentives across different fare structure scenarios — see next section). The decreases in fare boundary are more significant, and are particularly relevant when considered against existing late night average taxi trip distances of less than 10km.⁴⁷

On the basis of these improvements in passenger incentives, the Commission sees merit in a two fare zone structure for the share-ride taxi pilot.

Assessment of operator incentives under zones

Outcomes for operators are not decisive in deciding between a one or two fare zone structure. This is because the Commission has looked to maintain the average per person fare across the different fare structures it has analysed, and therefore operator incentives are broadly consistent across the Commission's analysed fare structures.⁴⁸ For example, under the one fare zone structure the farebox revenue range is \$140 – \$220, and for the two zone structure the range is

⁴⁷ Data presented by the Taxi Industry Inquiry indicated that between midnight and 4am on Saturday and Sunday mornings, average metropolitan trip distance was approximately 8 km. See Taxi Industry Inquiry 2012, *Customers first: service, safety, choice*, Draft report, May, p. 78

⁴⁸ For example, in the one zone analysis with no discounted fares, the 'recommended' individual fare level is \$20. In the two fare zone analysis, the recommended fare scenario is \$15 for zone 1 and \$23 for zone 2. Figure 3.6 illustrates that the move to the preferred fare scenario for two fare zone structure results in a widening of the farebox revenue range compared to the \$20 single fare zone scenario. The change in the minimum and maximum farebox revenue figures between these two preferred scenarios is of a similar magnitude, indicating the aim of maintaining the average per person fare between scenarios.

\$105 – \$253. Hence the fall in the minimum of \$35 is compensated by an increase in the maximum of \$33, which attempts to maintain the average per person fare.

Supporting this approach, the Commission has applied consistent benchmarks when analysing share-ride farebox revenue scenarios (table 4.3 presents some of these benchmarks).

The information in the table indicates that:

- for the one fare zone structure, the minimum farebox revenue of \$140 (seven passengers paying \$20 each) is higher than the farebox revenue associated with the 8, 17, 30 and 50km benchmarks
- for the two fare zone structure, the minimum farebox revenue of \$105 (seven passengers paying \$15 each for travel within zone 1) is higher than the farebox revenue associated with the 8, 17 and 30km benchmarks (note that it is not reasonable to compare the minimum farebox revenue to the 50km benchmark and above, since the minimum farebox is constrained to destinations within zone 1 only — and the boundary between zone 1 and 2 is on average 17km from Melbourne’s CBD), and
- for both zone structures, the maximum farebox revenue is higher than that of all of the benchmarks.

Table 4.3 Farebox revenue and benchmarks

	<i>Farebox revenue</i>		<i>Some benchmarks (based on standard fare)</i>	
	<i>Min</i>	<i>Max</i>		
1 zone	\$140	\$220	\$22	8km trip – average late night trip
			\$42	17km trip – trip to zone 1/2 boundary
			\$71	30km trip – ‘worst case scenario’ for inner zone
2 zones	\$105	\$253	\$115	50km trip – trip to outskirts of Greater Melbourne
			\$159	70km trip – trip to outskirts with 40% ‘inefficiency’
			\$204	90km trip – trip to outskirts with 80% ‘inefficiency’

Note: analysis excludes any allowance for a marshal levy, and standard fare calculations based on flagfall, distance rate, an allowance for waiting time and the late night surcharge.

It is also worth highlighting that:

- the minimum farebox revenue in both fare zone scenarios is much higher than the fare for current average taxi trips for early Saturday and Sunday mornings of around \$22⁴⁹, and
- the potential farebox revenue ranges provide revenue beyond the estimated average hourly revenue of \$50 for taxis operating between the hours of midnight to 3am on Saturday and Sunday mornings. For example, the \$140 – \$220 one zone farebox range is equivalent to three to four hours on the road given current average earnings of \$50 per hour, and the \$105 – \$253 two range is equivalent to two to five hours on the road (far longer than the respective share-ride trip is likely to take).⁵⁰

This indicates that the farebox revenue for each fare zone structure provides significant incentives to supply a share-ride taxi, suggesting a two zone fare structure has more merit than a one zone fare structure (given the additional benefits to passenger incentives).

Recommendation – Zones

The Commission recommends that a two zone structure be applied to the late night, share-ride taxi pilot.

4.3 Should there be discounted fares?

The Commission's issues paper canvassed whether fares should vary with group size, e.g. couples or groups of five or more. The Commission has considered whether discounted fares for people travelling to the same destination should be offered, as per Brisbane's NightLink scheme. The Brisbane scheme provides for a single fare, double fare and a group fare of five or more but applies this to 12 zones.

Under Brisbane's NightLink taxi scheme, couple and group fares provide for a lower or discounted per person fare compared to the single fare. While providing couple and group fares potentially increases the complexity of the fare schedule,

⁴⁹ For a trip of 8km, based on data presented by the Taxi Industry Inquiry – see Taxi Industry Inquiry 2012, *Customers first: service, safety, choice*, Draft report, May, p. 78.

⁵⁰ Source: data provided by the Taxi Industry Inquiry. Note: Black Cabs has also indicated to the Commission during the consultation process for this report that it advises its drivers to charge passengers \$50 per hour when a taxi is taken off the road (e.g. for cleaning) as compensation for lost earnings.

this complexity does not appear to have reduced the success of the Brisbane scheme.

Stakeholders' views and the Commission's analysis on these matters are detailed below.

Submissions from stakeholders

The VTA has indicated it does not believe discounts are necessary for the pilot scheme. This reflects the VTA's strong preference for simplicity for the pilot, with the VTA noting that if *'two or more people are travelling together as a group, they can use either a regular taxi at the QSMR or wait for a high occupancy vehicle that can take them from the regular rank'*.⁵¹

The Geelong Taxi Network similarly states that, for reasons of simplicity, only a single fare option should be available.⁵²

The submission from Noel Cook states that discounts should only be available if the existing multi-hire option is used as the basis for the share-ride fare, i.e. the current multi-hire rate of 75 per cent of the metered fare could be reduced to 70 per cent for the share-ride scheme.⁵³

Alternatively, TISV supports discounts for groups of two or more passengers, stating that:

TISV does not support a single fare for all passengers as this could easily wind up more expensive for passengers travelling in small groups (e.g. 2-4) when compared to the standard taxi fares applicable. The same overriding principles should apply to passengers as well as drivers:

*They should not be disadvantaged relative to the current standard fare schedule. Under the \$30 per head approach, passengers have the potential to be worse off, especially for shorter journeys and where family/friends are travelling together.*⁵⁴

For these reasons, TISV favours an approach that results in a discount off the metered taxi fare. It also supports the option of drivers giving discounts off the share-ride rate to further incentivise passengers.

⁵¹ Victorian Taxi Association submission, attachment 2, p. 2.

⁵² Geelong Taxi Network submission, p. 3.

⁵³ Noel Cook 2012, *Submission to Essential Services Commission share-ride taxi review*, 24 October, p. 2.

⁵⁴ Taxi Industry Stakeholders Victoria submission, p. 10.

Commission's analysis

The Commission has conducted extensive modelling to test the case for having discounts versus no discounts. (Chapter 3 presents the detailed analysis conducted by the Commission.)

The Commission considers that providing discounted fares for people travelling to the same destination will:

- increase the flexibility of fare options, thereby providing further incentives for passengers to use the share-ride service (particularly since a large proportion of late night taxi users are travelling with another person).⁵⁵
- promote efficiency gains associated with taking passengers to the same destination. The inclusion of multiple passengers travelling to the same destination will reduce the number of stops to be made for a share-ride trip (for the same number of total passengers) and increase the directness of the route. This efficiency benefits drivers through shorter trip distances and additional time to earn other fares.
- increase the attractiveness of the share-ride service — given passengers in a standard taxi are able to split the fare (and thereby pay a lower per head fare than if they were travelling alone), not providing 'discounts' for people travelling together in a share-ride taxi could reduce the attractiveness of the scheme. This supports the inclusion of discounted fares for groups of two or more passengers.

However, the Commission's recommended fare structure differs from that of Brisbane's NightLink scheme in the following ways:

- the group fare for five or more passengers travelling to the same destination is a per head fare, rather than a fixed total group fare (as in Brisbane), so that farebox revenue increases as group size increases, and
- a two to four passenger fare is provided (rather than only a double fare), to provide for discounted fares to groups of three passengers traveling to the same destination.

While the Commission acknowledges that inclusion of discounted fares does add some minor complexity to the fare structure relative to the single fare only option, it believes its recommended fare structure (comprising two zones and three fare options within each zone) is still significantly less complex than the Brisbane

⁵⁵ Research by Millward Brown indicated that 47 per cent of late night taxis are carrying two passengers, and 21 per cent are carrying three passengers. See Millward Brown 2010, *NightRider – understanding late night travel in Melbourne*, prepared for Metlink.

NightLink taxi scheme which has 12 zones and three fare options, and which has operated successfully since December 2005.

Allowing negotiated discounts

The Commission notes that the Taxi Industry Inquiry has made a draft recommendation that taxi fares be set as maximums (rather than prescribed rates) to allow for discounting — that is, negotiated discounts.

The Commission also understands that the late night, share-ride taxi schemes in Queensland allow the rank marshal to discount the set fare for passengers when agreed by the driver.

For the purposes of implementing the share-ride taxi pilot in Melbourne, the Commission does not believe that discounts being negotiated off the applicable share-ride fare is warranted for the following reasons:

- the pilot should avoid further complexity — providing for negotiated discounts would add additional complexity to the scheme and the role of rank marshals
- the pilot should be used to test the fundamental aspects and popularity of the share-ride concept — further complexities such as additional discounts could be considered if the service becomes permanent
- for a large number of potential passengers, the recommended share-ride fare already provides a reasonable discount compared to a standard taxi (with further discounts available through the group fares)
- there do not appear to be clear guidelines on the application of discounts for the Brisbane scheme — this makes assessment of discounts difficult as there are limited examples to consider, and
- there is potential for confrontation between rank marshals, drivers and potential passengers on whether a discount should be provided, and the level of that discount.

Recommendation – Discounts

The Commission recommends that the fare structure for the late night, share-ride taxi pilot include discounts for individuals travelling in groups of two to four passengers, and groups of five or more, and travelling to the same destination.

4.4 The Commission’s recommended fare

As presented in chapter 3, the Commission developed four fare structures based on its detailed analysis. Given the Commission’s recommendations on fare zones and discounts for individuals travelling with others to the same destination, a

recommended fare structure can be identified from these options. Table 4.4 presents these fare structures, with the Commission's recommended fare structure shaded in the bottom right hand corner.

Table 4.4 The Commission's fare structure analysis and recommended per passenger share-ride fares

	<i>Number of zones</i>					
	<i>One Zone</i>			<i>Two Zones</i>		
Flat fare	\$20			Zone 1	\$15	
				Zone 2	\$23	
Discounted fares	Single	Two to four*	Group (5+)*	Single	Two to four*	Group (5+)*
	\$23	\$20	\$17	Zone 1	\$17	\$15
				Zone 2	\$26	\$23
				<i>(Commission's recommended option)</i>		

*Travelling to the same destination. Note: Fares are per person and exclude any marshal levy.

Recommendation – Fare structure

The Commission recommends the following per head fare structure for the late night, share-ride taxi pilot.

Zone	Single fare	Two to four fare	Group fare (five or more)
1	\$17	\$15	\$13
2	\$26	\$23	\$19

* Travelling to the same destination.
Note: Fares are per person and exclude any marshal levy

4.5 Other issues raised by stakeholders

Submissions from stakeholders raised a number of other issues in addition to fare zones, discounts for groups and the fare setting methodology. While many of these relate to operational issues (and therefore are not part of the Commission's terms of reference), for completeness this section outlines these issues.

Issues

Noel Cook's submission comments on a number of other issues associated with the share-ride pilot, including:

- safety issues associated with people sharing a taxi, particularly females with male strangers, and
- any standard taxi should be able to operate as a share-ride taxi.⁵⁶

The submission from TISV also questions restriction of the share-ride pilot to HOVs, noting that the multi-hire option is available to standard taxis. It submits that '*this would also increase the productivity and occupancy rates of the most common taxi fleet vehicles*'.⁵⁷ It also queries whether the share-ride service should be a cash only service given the high level of credit card payments in the industry.

Both TISV and the VTA note the importance of collecting trip data during the pilot so that its effectiveness can be assessed.

Commission's analysis

Restricting the service to HOVs

The Commission believes that the use of HOV taxis for the share-ride scheme supports movement of more passengers per taxi and utilises what is can be an under-utilised resource during early Saturday and Sunday mornings. Initially focussing on HOVs for the service appears reasonable.

Further, to promote the orderly operation of the pilot, pre-selection of HOV operators as proposed by the VTA rather than all HOV operators having the option of choosing to operate as a share-ride taxi is understandable. If the service becomes a permanent feature of Melbourne's late night transport options, there is the expectation that any HOV operator could opt to join the share-ride rank (as occurs in Brisbane).

⁵⁶ Noel Cook submission, p. 2.

⁵⁷ Taxi Industry Stakeholders Victoria submission, p. 9.

Cash only payments

Cash only payments have been proposed by the VTA in order to facilitate quick departure of the share-ride taxi from the rank. The Commission notes that the Brisbane scheme, which provides for cash payments only, has operated successfully since December 2005. The Victorian pilot provides a good opportunity to assess whether electronic payment options should also be offered.

Collection of data

In its issues paper, the Commission highlighted that trip data should be collected during the pilot as such information is crucial to reviewing the success of the scheme. The importance of collecting such information has also been recognised in TISV and the VTA submissions. At the minimum, the VTD and Victorian Government should ensure the following data is collected for each share-ride taxi trip during the pilot:

- number of passengers in total
- number of passengers by destination zone
- number of single passengers, two to four passengers, and group passengers
- farebox revenue
- destination suburbs, and
- data from the meter (to be left on during the share-ride trip)

Recommendation – Data collection

The Commission recommends that the Victorian Taxi Directorate and Victorian Government should ensure the following data are collected for each share-ride taxi trip during the pilot:

- number of passengers in total
- number of passengers by destination zone
- number of single passengers, two to four passengers, and group passengers
- farebox revenue
- destination suburbs, and
- data from the meter (to be left on during the share-ride trip).

APPENDIX A | TERMS OF REFERENCE



Minister for Public Transport Minister for Roads

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Dear Dr Ben-David

REVIEW OF TAXI FARES – NOTICE OF REFERENCE UNDER SECTION 186 OF THE TRANSPORT (COMPLIANCE AND MISCELLANEOUS) ACT 1983

Under Division 9 of Part VI of the *Transport (Compliance and Miscellaneous) Act 1983* (the Act) the Minister administering the Act may, by written notice, refer any matter relating to taxi-cab fares or hiring rates to the Essential Services Commission for the Commission to conduct an investigation into that matter.

As required by the Act, the Minister for Finance has been consulted in relation to a proposal that the Commission investigate a specific matter relating to taxi fares as set out below. The Minister for Finance has endorsed this proposal.

Consequently, I now ask the Commission to investigate and report to me on an appropriate fixed fare per head pricing structure for late-night, share-ride taxi trips in high occupancy taxi-cabs operating from taxi ranks designated by the Victorian Taxi Directorate for such purposes.

The core objective of the late-night share-ride taxi service is to both grow the taxi market and to maximise taxi occupancy by providing an incentive for passengers to share a high occupancy taxi with others travelling in the same general direction. This will relieve pressure on the conventional taxi fleet from patrons of late night entertainment venues attending the Queen Street mega rank.

The Commission's investigation, report, and recommendations should be consistent with the following:

- the service should present a viable alternative to taxi users who individually may seek a lower cost taxi trip than hiring a taxi exclusively for their own use, but who require door to door transport not facilitated by other late night transport services
- the service should be supported by taxi drivers on the grounds that they will receive payment equal to or greater than the comparable taxi fare calculated by a taximeter according to time and distance

- the late-night share-ride taxi service is initially proposed to operate from a site adjacent to the Queen Street Melbourne 'mega rank' to places within the Metropolitan Melbourne and Outer Suburban taxi-cab zones
- the appropriate passenger numbers per share-ride taxi trip to ensure the service is both viable for the taxi industry and attractive to taxi users, and
- any marshal levy as suggested by the Victorian Taxi Association will be an add on to the Commission's recommendations on the 'fixed fare per head' pricing structure, and hence the Commission does not need to incorporate any potential marshal levy into its recommended fare structure.

Further, the Commission is to have regard to:

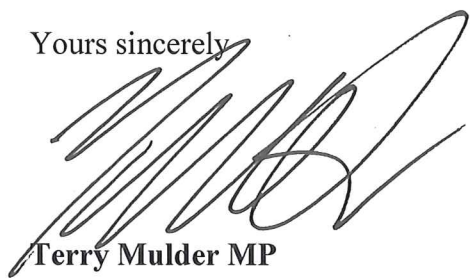
- the findings contained in the draft report of the Taxi Industry Inquiry *Customers First: Service, Safety, Choice*; particularly recommendation 12 – 'New and more flexible taxi services' and recommendation 13 – 'Fares'; and
- the operational details in relation to the service as developed by the Victorian Taxi Association.

I give the following directions under section 186(4) of the Act:

- The Commission is to conduct the investigation in a manner as described in section 187 of the *Transport (Compliance and Miscellaneous) Act 1983*; and
- The Commission is to provide its report and recommendations to the Minister for Public Transport by 23 November 2012.

If the Victorian Taxi Directorate can be of assistance to the Commission during this review, please contact Garry Ellis on telephone (03) 8683 0713.

Yours sincerely



Terry Mulder MP
Minister for Public Transport

11 / 10 / 2012

APPENDIX B | ABOUT THIS REVIEW

This appendix considers the terms of reference for this review and outlines the role of the Essential Services Commission and process and timelines for the review.

B.1 Terms of reference

On 12 October 2012, the Commission received terms of reference for a review of taxi fares for a late night, share-ride taxi pilot from the Minister for Public Transport (the Minister).

The terms of reference require the Commission to advise on an appropriate fixed-fare structure for a pilot program of late night, share-ride taxi trips utilising high occupancy metropolitan taxis operating from the Queen St Mega Rank at specified times.

The terms of reference set out a number of principles the Commission's report and advice should be consistent with, including:

- the taxi driver receiving payment equal to or greater than the comparable taxi fare calculated by a taximeter according to time and distance
- passengers should each make a saving in comparison to hiring a taxi exclusively for their own use, and
- the pilot is to apply to the existing Metropolitan and Outer Suburban taxi zones.

The Commission was required to conduct its review in a manner as described in section 187 of the *Transport (Compliance and Miscellaneous) Act 1983* (the Transport Act) (see section A.4). Further, the Commission was to have regard to findings contained in the Taxi Industry Inquiry's draft report and the operational details proposed by the VTA (see appendix C of this report).

B.2 The role of the Commission in taxi fare setting

The Commission has a role in legislation to investigate and advise the Minister for Public Transport (the Minister) on taxi fares.

The Commission's role is advisory and not determinative. Under the *Transport (Compliance and Miscellaneous) Act 1983* (the Transport Act) section 144(2), the Minister must, before changing the schedule of taxi fares, refer the matter to the Commission and receive a report from the Commission.

B.3 Review process and key dates

The Minister's terms of reference requires the Commission to conduct its review in a manner as described in section 187 of the Transport Act. In summary, section 187 provides that the Commission: may conduct an investigation into any manner it deems appropriate; may receive written submissions or statements; may hold public hearings; and may consult with any person it considers appropriate.

The Commission conducts its reviews in an open and transparent way, inviting input from interested parties. The Commission advertised a notice on this review; invited submissions on its issues paper, and met with stakeholders throughout the review process. Information from submissions, stakeholder meetings and the Commission's analysis were considered by the Commission before preparing this report and advice for the Minister. Table B.1 presents indicative timings of the review.

Table B.1 Review process

<i>Activity</i>	<i>Timing</i>
Terms of reference received	12 October 2012
Issues paper released	18 October 2012
Review notice advertised	19 October 2012
Submissions closed on issues paper	7 November 2012
Stakeholder meetings (as required)	October – November 2012
Report to Minister	23 November 2012

Any questions about this taxi fare review may be directed to Dominic L'Huillier Senior Regulatory Manager of the ESC's Transport Branch on 03 9651 3782.

B.4 The Commission's role under the Transport Act

The following details the Commission's role under the *Transport (Compliance and Miscellaneous) Act 1983*.

Section 144A – Determination of taxi fares or hiring rates

- (1) For the purposes of the licence condition referred to in section 144(2)(d)(i), the Minister may from time to time determine the taxi-cab fares or hiring rates that may be charged.
- (2) The Minister cannot determine a fare or hiring rate under subsection (1) unless he or she—
 - (a) has referred the matter to the ESC for investigation under Division 9 and has received the ESC's report on the investigation; and
 - (b) has received a report from the licensing authority...

Section 186 – Reference by Minister

- (1) The ESC must conduct an investigation into any matter relating to—
 - (a) licence fees for hire car licences or special purpose vehicle licences; or
 - (b) taxi-cab fares or hiring rates—that the Minister by written notice refers to the ESC for investigation under this Division.
- (2) The Minister must consult with the Minister administering the Essential Services Commission Act 2001 before referring a matter to the ESC.
- (3) The written notice must specify the terms of reference for the investigation.
- (4) The Minister referring a matter—
 - (a) may specify a period within which a report is to be submitted to the Minister;
 - (b) may require the ESC to make a draft report publicly available or available to specified persons or bodies during the investigation;
 - (c) may require the ESC to consider specified matters;
 - (d) may give the ESC specific directions in respect of the conduct of the investigation;
 - (e) may specify objectives that the ESC is to have in performing its functions and exercising its powers in relation to the investigation...

Section 187 – Conduct of investigation

- (1) Subject to this Act and any directions under section 186(4)(d), the ESC may conduct an investigation under this Division in any manner the ESC considers appropriate.
- (2) In conducting an investigation, the ESC is not bound by rules or practices as to evidence but may inform itself in relation to any matter in any manner the ESC considers appropriate.
- (3) The ESC may receive written submissions or statements.
- (4) If the ESC holds a public hearing—
 - (a) the ESC has a discretion as to whether any person may appear before the ESC in person or be represented by another person;
 - (b) the ESC may determine that the hearing, or part of the hearing, be held in private if it is satisfied that—
 - (i) it would be in the public interest; or
 - (ii) the evidence is of a confidential or commercially sensitive nature.

- (5) In conducting an investigation, the ESC—
- (a) may consult with any person that it considers appropriate;
 - (b) may hold public seminars and hold workshops;
 - (c) may establish working groups and task forces.

Section 188 – Objectives not to apply

Except to the extent (if any) that the Minister otherwise determines, the objectives of the ESC under the *Essential Services Commission Act 2001* or any other Act do not apply to the functions and powers of the ESC under this Division.

This appendix discusses how the proposed pilot scheme would operate.

The proposed pilot

The Victorian Taxi Directorate (VTD) is to implement a late night, share-ride taxi pilot, based on a proposal from the Victorian Taxi Authority (VTA). The pilot is to provide 'flat fare' share-ride taxis using the existing fleet of maxi taxis — van-style taxis with capacity for up to eleven passengers. A six month trial of the service is planned, operating in the early hours of Saturday and Sunday mornings and departing from the Queen Street Mega Rank. The VTA has proposed a flat \$30 fare per passenger, regardless of their destination.

Under the operational details proposed by the VTA and adopted by the VTD, share-ride taxi services will travel to passengers' destinations along loosely predetermined routes. The VTA has proposed four services in the general directions of North (towards Broadmeadows), South (towards Dandenong), East (towards Lilydale) and West (towards Werribee) — however these routes will be flexible around the mix of passengers in the share-ride rank, e.g. multiple services could travel in the same general direction, at the same time. Rank marshals at the Queen Street Mega Rank will organise passengers travelling in a similar direction into share-rides (of a minimum passenger number).

Other key features of the initial pilot include:

- one departure every half hour from the Queen Street Mega Rank in each of the four directions (depending on passenger demand) on Saturdays and Sundays from midnight to 3am (28 services each night),
- payment upfront to the driver (including a levy to pay for the rank marshal/s), and
- the driver will not detour once the trip has started, and will not pick up more passengers along the way.

Operational details

The VTA proposed operational details for the pilot, which have been adopted by the VTD. These details are summarised in box C.1 and discussed below.

Rank marshals

The use of a rank marshal (or marshals) to organise passengers into share-rides is an essential element to the operation of the program. The primary role of the rank

marshals is to explain the share-ride concept and flat fare to potential passengers, and arrange the passengers into appropriate share-rides.

Rank marshals will need significant experience in the industry and knowledge of Melbourne suburbs (particularly the outer-suburbs, as these will likely be end destinations), as well as excellent customer service skills.

Box C.1 Summary of proposed pilot – operational details

Frequency and routes

Initially to run from 12am – 3am every half hour on Saturday and Sunday mornings (with a view to extend to 5am, depending on demand).

Taxi services to run in four general directions, depending on levels of demand.

Passenger numbers

A minimum number of seven passengers will be required per trip.

Ranks

A six-month trial, ideally commencing in November 2012 based at the Queen Street 'mega rank' (QSMR).

Utilise existing QSMR traffic controllers and security guards, in addition to pilot marshals to ensure only participating taxis can access the rank and safe movement of passengers to the rank of their choice.

Fare structure and zones

The flat-fare will only be applicable within the Greater Melbourne taxi-cab zone (i.e. inclusive of outer suburban Melbourne), but no further. It is not proposed there be a minimum destination point.

No discount will be provided for shorter fares (these passengers will be encouraged to access standard taxis from the existing QSMR instead).

Payment mechanisms

Payment will be cash only paid to the driver at the beginning of the journey.

The driver will need to provide written receipts to each passenger (containing required information, as stipulated by the regulations).

Supply of drivers and vehicles

Owner/drivers will be preferred participants (to minimise the number of financial transactions required).

Operators/drivers will be invited to apply to the VTA and meet specified criteria.

This pilot is intended to be transferable, i.e. once this pilot is complete, use this model elsewhere in metro Melbourne.

The role and skill of the rank marshals is also important in encouraging passengers to utilise the service, minimising wait times and managing the expectations and frustration of passengers (particularly if demand for the service is greater than the

supply or passengers must wait for others travelling in a similar direction in order to meet minimum passenger numbers, discussed below).

The VTA has suggested that rank marshals are to be user funded through a marshal levy included in the flat fare (although this levy is not included in the Commission's analysis, in accordance with the terms of reference).

Fare structure and zones

One of the objectives of the pilot is to offer an appropriate fare structure to provide the right incentives for both drivers and passengers to participate in the program. One of the most important factors in determining the appropriate fare structure is the number and boundaries of fare zones. The VTA is proposing a single zone for all of Metropolitan Melbourne and the Outer Suburban zones.

Payment

Under the proposed pilot, payment of the fare is to be made upfront to the driver before departure. This is consistent with existing prepayment requirements between 10pm and 5am, and decreases the risk to drivers that passengers will not pay the fare at the end of the trip. The VTA has also suggested that only cash payments will be accepted, to facilitate quick departure from the taxi rank.

If a marshal levy is to be included in the flat fare to fund the costs of the rank marshals, a receipt system between the driver and rank marshal would be required to keep record of any marshal levies owed by the driver or operator to the City of Melbourne.

Passenger numbers

The VTA has suggested that the minimum number of passengers be seven. The Commission has incorporated this suggestion as part of its analysis. More broadly, the terms of reference requires that the Commission's report and advice be consistent with *'the appropriate passenger numbers per share-ride taxi trip to ensure the service is both viable for the taxi industry and attractive to taxi users'*.

Predetermined routes

The VTA's operational details refers to HOVs 'travelling along predetermined routes (variable according to passenger mix)'. The Commission understands that this is to be interpreted very loosely, i.e. there may be four 'predetermined routes' (north towards Broadmeadows, south towards Dandenong, east towards Lilydale and west towards Werribee) — however, for each particular 'route', the actual route taken by a share-ride taxi will be dependent on the specific drop-off points of each passenger (which will obviously vary between different share-ride taxis).

It is also noted that once a journey begins, the driver will not make any additional detours, and will not pick up more passengers along the way.

Infrastructure

The VTA proposes to operate the late night, share-ride taxi service from the east side of Queen Street, opposite the regular taxi rank at the current Queen Street mega rank (between Bourke Street and Little Collins Street). It is expected that the existing infrastructure will need to be expanded to facilitate the program.

Two options for the location of the rank are currently being considered, with share-ride taxis either travelling south from Bourke Street to enter the rank (directly opposite the current taxi rank), or travelling north from Collins Street and entering the East side of Queen Street at Little Collins Street (travelling contra-flow). The exact location of the rank will be confirmed with the City of Melbourne.

Security personnel and CCTV monitoring of the rank are provided by the City of Melbourne, and these existing resources may need to be increased to provide coverage for both sides of the street. Appropriate signage would also be required, in particular to explain the late night, share-ride taxi service and distinguish it from the regular taxi rank. The Commission's understanding is that these infrastructure needs will be provided by the City of Melbourne and/or the VTA.

While the Queen Street mega rank may be a suitable location for the share-ride pilot, the Commission notes that the service could operate from other locations within Melbourne's CBD, and this is reflected in the terms of reference — the service can operate from *'taxi ranks designated by the Victorian Taxi Directorate for such purposes'*.

Supply of drivers and vehicles

The program will require a predictable number of drivers and vehicles to operate the service. The VTA has initially proposed a fixed number of 28 services each night. This would require 28 vehicles and drivers, each providing one share-ride taxi service per night. Alternatively, these 28 services could be provided by a pool of 15 to 20 vehicles and drivers on call.

The taxi networks are to nominate drivers for the program and, where the number of willing participants exceeds the required number, an appropriate selection process will be necessary. Only vehicles (appropriately branded) and drivers selected for the trial will be able to join the share-ride taxi rank to pick up passengers.

The VTA has also suggested that there should be flexibility to increase the number of vehicles, should demand for the service warrant it. Introducing this flexibility to vary the number of services will add complexity to the calculation of any marshal levy.

This appendix discusses the Commission's preliminary analysis of a three fare zone structure.

Three fare zone analysis

The Commission also ran fare scenarios based on three fare zones for Greater Melbourne. As discussed above, for reasons of simplicity and because a two zone system adequately addresses incentives for both passengers and drivers, the Commission concluded that a three zone system would be an unnecessary complication for this pilot scheme. It had however carried out some initial analysis of a three fare zone structure. For the purposes of exposition, three of the fare scenarios considered are briefly discussed.

Passenger incentives

A summary of the Commission's analysis is presented in table D.1.

From the summary information, the Commission notes:

- the standard fare scenarios are the same as those presented in section D.1.
- **'Suburbs included' (zone 1)** — at a \$15 zone 1 fare, 112 (85 per cent) of the 132 suburbs modelled in the Commission's fare model would be 'included' for singles and 61 suburbs (46 per cent) for two passengers.
- **Fare boundary (zone 1)** — at a \$15 zone 1 fare, the fare boundary is 4.7km and 11.5km for two passengers.
- **'Suburbs included' (zone 2)** — at a \$20 zone 2 fare, all of the 168 zone 2 suburbs would be 'included', as they would with a \$23 fare. 'Suburbs included' for two people travelling together is 162 (96 per cent) at a fare of \$20 and 153 (91 per cent) for the \$23 fare.
- **Fare boundary (zone 2)** — all single passengers are better off in comparison to a standard taxi fare with a \$20 and \$23 zone 2 fare and thus there is no applicable fare boundary. For couples, the fare boundary is 16km for the \$20 fare and 18.8km for the \$23 fare.
- **'Suburbs included' and fare boundary (zone 3)** — all single and double passengers are better off in comparison to a standard taxi fare with the \$35, \$40 and \$45 fare. There is no applicable fare boundary.

Table D.1 Summary of passenger incentives

Standard fare scenarios ^a						
Std fare (10 – 50km trip)	\$27 - \$115					
Std fare per head						
2 passengers	\$14 - \$58					
3 passengers	\$9 - \$38					
4 passengers	\$7 - \$29					
Share-ride fare scenarios						
(exclude marshal levy)	Zone 1		Zone 2		Zone 3	
	\$15	\$20	\$23	\$35	\$40	\$45
Suburbs included (if 1 pax)	112	168	168	82	82	82
Suburbs included (if 2 pax)	61	162	153	82	82	82
Fare boundary (if 1 pax) (km)	4.7	na ^b	na ^b	na ^b	na ^b	na ^b
Fare boundary (if 2 pax) (km)	11.5	16.0	18.8	na ^b	na ^b	na ^b

^a Fare estimates include flagfall, distance charge, an allowance for waiting time and the late night surcharge. Further, as the fare range is based on existing regulated fares, it is independent of the share-ride fare level.

^b In each of these cases, the share-ride fare is cheaper than the standard fare for all suburbs in zone 2 and hence there is no boundary within zone 2.

Operator incentives

Table D.2 summarises information relevant for assessing operator incentives.

Table D.2 Summary of operator incentives

Standard and HOV fare scenarios ^a

Std fare (10 – 50km trip)	\$27 - \$115
Std fare 70km trip	\$159
HOV fare (10 – 50km trip)	\$38 - \$170
HOV fare 70km trip	\$237

Share-ride farebox scenarios

(exclude marshal levy)	Zone 1 / Zone 2 / Zone 3 fare		
	\$15/\$20/\$35	\$15/\$20/\$40	\$15/\$23/\$45
7 pax min	\$105	\$105	\$105
max	\$245	\$280	\$315
8 pax min	\$120	\$120	\$120
max	\$280	\$320	\$360
9 pax min	\$135	\$135	\$135
max	\$315	\$360	\$405
10 pax min	\$150	\$150	\$150
max	\$350	\$400	\$450
11 pax min	\$165	\$165	\$165
max	\$385	\$440	\$495

^a Fare estimates include flagfall, distance charge, an allowance for waiting time and the late night surcharge. Further, as the fare range is based on existing regulated fares, it is independent of the share-ride fare level.

From the summary information, the Commission notes:

- at a \$15/\$20/\$35 share-ride fare scenario, share-ride farebox revenue ranges from \$105 – \$385 (based on a minimum of seven passengers travelling to zone 1 and a maximum of 11 travelling to zone 3). This range increases to \$105 – \$440 at a share-ride fare of \$15/\$20/\$40 and \$105 – \$495 for a \$15/\$23/\$45 fare scenario.
- these farebox revenue ranges compare to:
 - a farebox range of \$27 – \$115 for trips ranging from 10 – 50km at the standard fare,
 - a farebox range of \$38 – \$170 for trips ranging from 10 – 50km at the higher HOV fare, and
 - standard and HOV farebox revenue of \$159 and \$237 respectively for a 70km trip.

This appendix outlines the current regulated taxi fares.

Current regulated fares

The current fare schedule for taxi services in the Melbourne Metropolitan and Outer Suburban zones was set in December 2008 and is presented in table E.1.

Table E.1 Metropolitan and Outer Suburban taxi fare schedule

<i>Fare Component</i>	<i>Tariff</i>
Booking fee (\$)	2.00
Standard taxi	
Flagfall (\$)	3.20
Distance rate (\$/km)	1.617
Waiting rate (c/min when speed < 21 km/hr)	56.6
Maxi taxi (5-11 passengers)	
Flagfall (\$)	3.20
Distance rate (\$/km)	2.42
Waiting rate (c/min when speed < 21 km/hr)	85
Multiple hiring	
% of metered fare at destination (maximum)	75%
Late night surcharge (midnight – 5am)	
Metropolitan and Outer Suburban Melbourne	20% surcharge on metered fare

Of most relevance to consideration of a fare for late night, share-ride taxis are the late night surcharge and the multiple hire rate. These are discussed below.

Late night fare

In Melbourne a 20 per cent surcharge applies to late night taxi fares. The surcharge applies between midnight and 5am every morning. This surcharge is levied to compensate drivers and ensure supply at times that would otherwise be less attractive to work through.

For a share-ride taxi to be attractive to potential passengers, its fare should be less per passenger than would apply for a standard taxi trip.

Multiple hire option

The current fare schedule allows for multiple hiring, i.e. for unacquainted people to share a trip from a common starting point to their specific drop-off points. It provides that at each drop-off point, the passenger(s) alighting will pay no more than 75 per cent of the metered fare at that point. Drivers clearly benefit from this. However, the discount for passengers does not appear to provide strong incentives to organise such a hiring. In the absence of rank marshals fulfilling this role or proactive drivers, the option of a multiple hire requires individuals to organise themselves into a 'multiple hire' group, and for this to be accepted by the driver. The Taxi Industry Inquiry noted:

This multiple hire arrangement is little known and is confusing to passengers... For some people, it appears that the prospect of a 25 per cent reduction in the fare is insufficient incentive to give up the privacy of not sharing a cab.⁵⁸

The share-ride pilot is looking to make multiple hire arrangements more attractive by providing a simplified fare structure and organising groups travelling in the same general direction.

⁵⁸ Victorian Taxi Industry Inquiry 2012, *Customers first: service, safety, choice*, Draft report, p. 448.