

Reweighting of the taxi cost index

Prepared for

NSW Independent Pricing and Regulatory Tribunal

Centre for International Economics Canberra & Sydney

December 2011

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Acknowledgements

The CIE would like to thank taxi industry stakeholders for their assistance in compiling this report. In particular we thank:

- Peter Ramshaw and Stephen Butt from the NSW Taxi Council.
- Ernie Mollenhauer, Anne Turner and Trevor Bradley from the NSW Taxi Drivers' Association.
- Michael Jools from the Australian Taxi Drivers' Association.
- Fred Lukabyo and Robert Strong from Combined Communication Networks.

We also thank all taxi drivers and operators that responded to the survey.

Executive summary

Taxi Cost Indexes for urban and country areas are used by IPART to recommend changes to taxi fares to Transport for NSW. The CIE has been asked to provide advice on appropriate cost items and weights for the Taxi Cost Indexes (TCIs).

The main approach used to arrive at cost amounts for items for which there is limited information was a survey of taxi drivers and operators. Surveys were mailed to all authorised taxi drivers and accredited operators in NSW. The response rate was relatively good, with over 1000 vehicles covered by respondents to the taxi operator survey (16 per cent of vehicles operating in NSW) and responses from 2500 taxi drivers (around 10 per cent of authorised drivers, although many drivers do not currently drive). Importantly, most survey respondents answered the majority of questions.

Estimated taxi industry cost structure

The estimated cost structure for standard taxis and Wheelchair Accessible Taxis (WATs) in urban and country areas is shown in table 1. Key observations are:

- the cost of operating a standard taxi is estimated to be higher than a WAT, largely due to the cost of leasing a licence plate; and
- the cost of providing taxi services is generally higher in urban areas than country areas.

Cost item	Urbar	1	Country	
	Standard	WAT	Standard	WAT
	\$/taxi/year	\$/taxi/year	\$/taxi/year	\$/taxi/year
Drivers' earnings	58 016	59 226	56 432	46 715
Fuel	13 535	16 773	13 497	11 441
Cleaning	3 247	3 338	3 358	3 371
Operator administration	7 182	7 182	7 182	7 182
Maintenance costs	6 770	6 295	7 089	6 305
Plate lease costs	28 852	1 000	17 329	1 000
Insurance	12 635	14 662	8 083	8 336
Vehicle lease payments	7 222	18 587	5 592	16 679
Network fees	7 231	7 231	16 085	16 085
Total annual costs	144 689	134 292	134 648	117 115
Source: The CIE.				

1 Estimated cost structure of the NSW taxi industry (ex GST)

Comparison with weights in the current TCIs

The shares implied by the estimated cost structure for a standard taxi is compared with the weights in the current TCIs used by IPART (table 2).

Cost items	Urban standard		Country	standard
	CIE	IPART	CIE	IPART
	%	%	%	%
Notional drivers' wages	40.1	39.1	41.9	42.2
Driver entitlements (notional self funded)	-	1.5	-	6.3
Driver provision for super	-	4.0	-	4.4
LPG fuel	9.4	6.8	10.0	6.4
Other drivers' costs	2.2	2.4	-	1.6
Operator's salary equivalent	5.0	6.8	5.3	7.3
Driver entitlements in the contract determination	-	4.4	-	
Maintenance costs	4.7	4.7	5.3	4.0
Plate lease costs	19.9	14.0	12.9	11.8
Insurance	8.7	8.1	6.0	4.9
Vehicle lease payments	5.0	2.2	4.2	2.3
Network fees	5.0	3.1	11.9	4.6
Other operators' costs	-	3.0	2.5	4.1
Total	100.0	100.0	100.0	100.0

2 Comparison of cost weights

Note: Table based on cost item names currently used by IPART.

Source: IPART taxi cost model 2011, table 7.1.

Options for constructing taxi cost indices

There are a range of options for IPART to consider in using this cost information to construct TCIs for the purposes of recommending fare changes.

- Should the TCIs be a weighted average of the costs of standard taxis and the costs of WATs?
- Should the TCIs be based on observed earnings or an alternative measure of earnings?
- Should driver entitlements be included in the TCI because they are a legal obligation?
- Should licence plate lease costs be excluded from the TCI because they are influenced by fares (and hence generate circularity) and represent a rent from government created scarcity?

The options chosen will impact on the weights in the final TCIs used for recommending fare changes.

1 Introduction

Taxi fares in New South Wales (NSW) are regulated. Transport for NSW determines the maximum fare taxis may charge in both urban and country areas.

- Urban fares apply to taxis operating in the Sydney Metropolitan areas, Newcastle and Fern Bay, Wollongong and Shellharbour, Gosford and Wyong, as well as Camden, Picton, Thirlmere, Tahmoor and Bargo, Blue Mountains, Toronto, Minmi, Williamtown, Medowie, Ferodale, Raymond Terrace, Campvale, Fassifern, Hexham, Maitland, Beresfield, Fullerton Cove, Tomago and Cams Wharf.
- Country fares apply to taxis operating in the rest of NSW (except Moama, Barham, Tocumwal, Mulwala, Barooga and Deniliquin, which are exempt).

Transport for NSW's decision is made after considering a recommendation by the Independent Pricing and Regulatory Tribunal of NSW (IPART).

The Taxi Cost Indexes

IPART uses Taxi Cost Indexes (TCIs) for urban and country areas to guide its fare recommendation. The TCIs are designed to measure *changes* in the cost of providing taxi services in urban and country areas over time.

The TCIs are made up of cost items that reflect the major costs (such as the driver's and operator's labour, fuel, insurance, etc) incurred in providing taxi services. To measure changes in the cost of providing taxi services over the year, IPART applies an inflator — a measure that is intended to reflect the *change* in the cost over the year — to each cost item. The change in each inflator is then weighted according to each cost item's share of total costs.

IPART then adjusts fare components (flagfall, distance rate, waiting time rate) such that the average fare changes in line with the change in the index.

Reweighting the TCIs

Around every five years, IPART undertakes a major reweighting of the TCIs. The most recent major re-weighting was undertaken in 2008.

A regular review of the weightings should ensure that the TCIs accurately reflect changes in the cost of providing taxi services. Without a regular review, the

weightings may become out of date, particularly if the inflators used in the TCI are not reflective of the actual costs faced by drivers and operators, or if the mix of inputs used to provide taxi services changes over time.

This report

The CIE has been commissioned to recommend weightings for the TCIs based on the current industry cost structure. The remainder of this report is structured as follows.

- Chapter 2 provides an overview of the taxi industry in NSW.
- Chapter 3 outlines the methodology used to measure costs.
- Chapter 4 sets out taxi usage patterns.
- Chapter 5 estimates the costs incurred by operators in providing taxi services.
- Chapter 6 estimates the costs incurred by drivers in providing taxi services.
- Chapter 7 provides estimates of the cost structure for urban and country taxis, separated by standard taxis and WATs. It also discussed options for using the information on cost structures to generate TCIs for setting fares.

The estimates presented in this draft report are based on information collected to date. They will be refined as new information becomes available. Specifically, the final cost estimates will include information from survey responses received in recent weeks, as well as additional information from industry stakeholders and suppliers that have not yet responded to requests for information (for example, insurance companies, companies that fit-out vehicles and country networks).

2 The taxi industry in NSW

In this chapter we describe the main groups that make up the taxi industry in NSW and their role in providing taxi services.

Overview of the taxi industry in NSW

There are four distinct groups that make up the taxi industry — drivers, operators, licence plate owner and networks. The relationship between taxi-industry players is summarised in chart 2.1.



2.1 The NSW taxi industry

Note: The roles of licence plate owner, operator and driver can sometimes be held by a single person. This is particularly true for new licence plates that are leased directly to operators and operator-drivers. *Data source:* The CIE.

The relationships between these players can be complex. In some cases a single organisation (or individual) can take on multiple parts of the supply chain, while in

others it is separated out into distinct components. The activities and obligations of key industry participants are set out in chart 2.2 and described in further detail below.

Taxi drivers	Taxi operators		
Authorised by Transport for NSW	Accredited by Transport for NSW		
Drive taxi	Own or lease taxi plate license		
Refuel taxi and pay for fuel (under pay-in	Maintain taxi records		
method)	Maintain insurance		
Ensure taxi is clean	 Third party property (\$5m) 		
Assess vehicle condition at end of shift	 Third party personal 		
Fill-in worksheets	 Workers compensation 		
Wear approved uniform	 Recommended: Public liability, compr. 		
	 Own or lease vehicle (age restrictions apply)^a 		
Taxi networks	 Vehicle fit-out to standards 		
Authorised by Transport for NSW	Organise drivers		
Manage bookings	• Maintenance plan and inspections ^b		
Enforce standards	Pay for fuel (under revenue share method)		

2.2 Activities and obligations of taxi industry participants

^a Standards differ by area. For example, Metropolitan, Newcastle, Wollongong and Gosford/Wyong taxis are required to have vehicle tracking devices while other taxis are not. Taxis in the Metropolitan areas are required to have a maximum age of 6 years (except for WATs), while this is 8 years for other areas. ^b Vehicle inspections are required every 4 months in Metropolitan, Newcastle and Wollongong transport districts, every 12 months in the Western Division and every 6 months elsewhere.
 Data source: Passenger Transport Act 1990; Passenger Transport Regulation 2007; stakeholder consultations.

Taxi drivers

Drivers provide taxi services to passengers. Drivers can find passengers through network bookings, taxi ranks or be hailed from the street.

Typically, the driver pays an operator for the use of a taxi for a specific shift. This payment is referred to as a 'pay-in', and the driver as a 'bailee'. In Sydney, the relationship between drivers and operators is under the Contract Determination set by the NSW Industrial Relations Commission. Under the Contract Determination, drivers can choose between two payment methods.

- Commission (Method I) a first year permanent driver is entitled to 45 per cent of all chargeable fare taken (including GST), while casual and more experienced permanent drivers is entitled to 50 per cent of all chargeable fares taken (including GST).
- Set pay-in (Method II) the bailee driver pays the operator a fixed amount at the end of each shift. The maximum pay-in for each shift is specified in the Contract Determination. This currently ranges between \$171.92 for all day shifts and \$261.84 for Friday and Saturday night shifts.

Almost all bailee drivers in Sydney use the set pay-in method.

A permanent bailee is defined as a driver who drives more than five shifts per week, or at least 220 night shifts per year, for the same operator. The Contract Determination requires the operator to pay permanent bailees sick leave and annual leave entitlements.

The Contract Determination does not apply outside Sydney. The payment from driver to operator in other areas is typically based on an agreed percentage of the fare revenue.

The driver may also be responsible for cleaning the taxi after a night shift and any tolls incurred (these are mostly passed on to the passenger). The driver is also responsible for paying the GST collected on fare revenue (less any input tax credits) to the Australian Taxation Office.

The drivers' earnings are determined by the fare revenue collected, less payments to the operator, fuel and cleaning costs (where relevant), tolls and GST. In addition drivers must pay for a range of other costs, such as drivers' licences and driver permit.

Operators

Operators are responsible for obtaining a licence plate, paying network fees and all vehicle-related costs. In some cases they are also responsible for fuel and cleaning costs.

All taxis in NSW must hold a licence plate. The licence plate can either be owned by the operator or leased from another owner or Transport for NSW. There are various types of licence plates in NSW, with area and time restrictions on the licence plate varying. Licence plates can be either temporary or perpetual. More recently, Transport for NSW has moved away from issuing perpetual licences and will instead issue 10-year annually renewable licences. Perpetual licence plates are transferable and are a valuable asset.

The cost of leasing a licence plate depends on demand from operators and the supply of plates. Demand for licence plates depends on operators earnings, while the number of licence plates issued is determined by Transport for NSW.

Operators earn revenue either from pay-ins from bailee drivers or by driving the taxi themselves. The operator's earnings are therefore determined by the level of pay-ins and the number of shifts the taxi is on the road. The level of pay-ins is determined by the drivers' demand for the right to drive the taxi on each shift and the quantity of taxis offered for bailment for each shift. Demand will depend on drivers expectations of what they can earn, which in turn depends on expected demand for taxi services. Consequently, pay-ins are higher during shifts where demand for taxi services is higher, such as Saturday nights.

Licence plate owners

Licence plate owners can either operate a taxi themselves or earn a return on their asset by leasing the licence plate to a separate operator. Unless they choose to operate the taxi themselves, licence plate owners do not have any role in providing taxi services. Taxi licence plates are simply a financial asset, which provides a stream of revenue to the owner.

In the long-run, the value of the licence plate should reflect the revenues that the asset is expected to earn and the possible revenue of alternative asset classes.

Networks

All taxis operating in NSW must be affiliated with a network. Networks accept phone and internet bookings from the public and are responsible for dispatching this information to all affiliated taxis. Networks are required to meet the standards set by Transport for NSW. They are also responsible for monitoring and enforcing minimum standards for all affiliated cabs.

Network revenue comes from the network fees received from affiliated operators. Some networks are commercial organisations, while others — particularly in country areas — are co-operatives owned by operators. Networks may also provide services such as taxi fit-outs, insurance and vehicle and licence plate leasing.

Fare regulation

As discussed in chapter 1, taxi fares are regulated in NSW. Changes to fares are based on a recommendation from IPART. The regulated fare will have a major influence on the total revenue earned by a taxi over a year. However, the distribution of that revenue between drivers, operators and licence plate holders is determined by the pay-in and the market for licence plate leases. These markets are outside IPART's control. Therefore, IPART cannot necessarily influence the earnings of particular groups within the taxi industry.

Taxi numbers

The number of taxis is determined by Transport for NSW through the issue of licence plates. Most licences fall into two categories — standard licences and wheelchair accessible taxi (WAT) licences. The first type of licence — standard — can either be obtained from Transport for NSW through auctioning of new licences or through purchasing a licence from an existing licence holder. Wheelchair accessible taxi

licences are provided by Transport for NSW on application for an annual fee of $$1000.^{1}$

The distribution of taxi licences in urban and rural areas are shown in table 2.3 and 2.4. Note that the distribution of country taxis is not dominated by a single town or region and we have not sought to weight survey responses by regions within either country town or urban areas.

Region	Unrestricted	WATs	Nexus	Other	Total
Sydney Metropolitan Area					
No.	4309	502	176	581	5568
Share (%)	77.4	9.0	3.2	10.4	100.0
Newcastle					
No.	147	11	8	1	167
Share (%)	88.0	6.6	4.8	0.6	100.0
Wollongong					
No.	122	10		3	135
Share (%)	90.4	7.4	0.0	2.2	100.0
Country					
No.	785	240		16	1041
Share (%)	75.4	23.1	0.0	1.5	100.0

2.3	Taxi	licences	by	type	and	region
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Note: Within broad classes above there are often many different types of licence. *Source:* Transport for NSW.

2.4 Taxi numbers across major country towns

Town/region	No. of taxis	Share of country taxis
	No.	Per cent
Gosford, Wyong, Wyee and Wyee Point	88	8.5
Wagga Wagga	33	3.2
Orange	31	3.0
Albury	30	2.9
Maitland and surrounds	29	2.8
Bathurst	28	2.7
Goulburn	28	2.7
Lismore	28	2.7
Tamworth	25	2.4
Coffs Harbour and Sawtell	24	2.3
Broken Hill	22	2.1
Katoomba	22	2.1
Dubbo	22	2.1
Port Macquarie	21	2.0
Greater Tweed Heads, Fingal Head	20	1.9
Other	590	56.7
Total	1041	100.0
Source: Transport for NSW.		

¹ See Transport for NSW, http://www.transport.nsw.gov.au/sites/default/file/taxi/WAT-licence-info-package.doc.

3 Methodology

In this chapter we outline some of the challenges in measuring taxi industry costs and our approach to measuring costs. This includes determining what costs should be included in the TCIs and the approach to measuring them.

Challenges in measuring taxi industry costs

The standard approach to weighting the TCI has been to measure the costs associated with providing taxi services over a year. The costs have generally been based on a single standard taxi.

In practice, no two taxis operating in NSW will have an identical cost structure. There is likely to be significant variation in the shifts driven by each taxi across the year and the revenue earned and costs incurred across those shifts. Different taxis operate under different business structures, different licence conditions and different vehicle types.

The diffuse nature of the taxi industry is a challenge. But it is a challenge that is faced in every measure of changes across the economy, ranging from the consumer price index to measures of wage growth. The cost index is seeking to measure the average, not the variation, in each taxi and doing this accurately requires that the sample of respondents covers a sufficiently wide cross-section of taxis.

A wide range of factors may affect the costs incurred and the revenue earned by a taxi operating in NSW over a year and who bears those costs. These factors could include the following.

- Type of taxi there are a range of different taxi types operating in NSW, including standard taxis, premium taxis, WATs and maxi taxis. The type of taxi may affect a range of cost items, including the cost of the vehicle, licence plate-related costs and the cost of fuel. The type of vehicle and licence may also affect usage patterns and utilisation rates.
- Type of licence there are a range of licence types for taxis in NSW.
- Type of business arrangement the taxi industry is characterised by a range of different business arrangements. The number of taxis in an operator's fleet can vary significantly and larger operators may have a different cost structure to operators that run a single taxi. In some cases operators and drivers are entirely separate, while in others the operator may also drive the taxi. The revenue and

cost sharing arrangements between operators and drivers can also vary and the conditions are different for permanent and casual drivers (in Sydney).

 Area — the analysis will obviously need to distinguish between urban and country taxis. However, within urban and country areas, there is also likely to be significant variation in the cost structure, driven by differences in licence plate-related costs and other factors.

Our task is to recommend weightings for the urban and country TCIs that, as accurately as possible, reflect the cost structure of the industry in aggregate. It is therefore necessary for the TCI to capture some of the variation outlined above. We have sought to separately identify variation across urban and country areas and between standard taxis and WATs. Other types of variation are implicitly incorporated into the assessment of costs because the survey has captured respondents that operate and drive their taxis in very different ways.

Timing issues

Consultation with taxi industry stakeholders has highlighted that taxi demand and therefore revenue for both drivers and operators is highly seasonal, both:

- through the week demand tends to be lower early in the week and highest on Friday and Saturday nights; and
- through the year demand tends to be highest in the lead up to Christmas and lowest in the January holiday period.

These seasonal patterns influence costs in a number of ways. Firstly, it influences the number of hours a taxi is on the road. It will also influence the amount earned by operators (through pay-ins) and drivers (through fare revenue) on the shifts they drive and therefore the compensation they receive for their time. This means that costs will vary depending on the shift and time of year.

We have sought information on a shift by shift basis in order to correctly match the changes across the week. This reflected the view of stakeholders that drivers for day shifts were more likely to respond than drivers of night shifts and that this would skew the results of the survey.

We have sought information for one week from drivers but for an entire year from operators. The week the survey was released was chosen to avoid major potential drivers of taxi demand such as school holidays, public holidays and the approach to Christmas. Looking at statistics across the year, the period chosen seems to be similar to the average for the year in terms of the number of taxis available for hire in 2010 (see chart 4.1).

Approach to measuring costs

To develop the cost model we undertook the following steps:

- 1. Identified the costs to include in the TCI
- 2. Determined the best way to measure these costs
- 3. Developed the survey instrument
- 4. Conducted the survey
- 5. Developed cost model.

Each of these steps is outlined in more detail below.

Identifying the costs

To identify the cost items to include in the TCI we used the current TCIs as a starting point. We then consulted with the following stakeholders to determine if the cost items have subsequently changed:

- The Taxi Council of NSW
- The NSW Taxi Drivers' Association
- The Australian Taxi Drivers' Association
- The Transport Workers Union.

In addition to these stakeholder views, we also considered a sensible threshold for what is too small to be relevant for a broad cost index.

Stakeholders provided significant and valuable input on the costs that needed to be captured.

Determining the best approach to measurement

The nature of taxi industry costs will influence the best approach to measurement. Taxi industry costs can be broadly categorised as follows.

- Fixed costs these costs are incurred by the operator and do not vary with the amount the taxi is driven. These fixed costs can further be divided into:
 - capital-related fixed costs these costs include vehicle and licence plate-related costs. These costs can be either incurred upfront through purchase of the vehicle or licence plate. Or they can be incurred annually through a leasing arrangement; and
 - other fixed costs these include insurance and network fees which are incurred annually.
- Variable costs these costs are likely to vary depending on the amount the taxi is driven. Variable costs include:

- labour-related variable costs these include the cost of the driver and operators' time that vary depending on how often and when the taxi is on the road; and
- non-labour variables costs these include the cost of fuel and maintenance and repairs that will vary with the number of shifts driven.

The broad approach to measuring these costs is outlined below. Further details are provided in chapters 4 and 5.

Capital-related fixed costs

There are broadly two possible approaches to measuring annual capital-related fixed costs:

- treating it as a capital asset that provides the operator with a rate of return over its productive life; and
- treating these costs as an annual lease payment.

The best approach depends on the availability and quality of the information available.

- For licence plates we sought information from operators on the annual lease costs.
 We expect this to be a good measure as many plates are leased.
- For vehicle costs we sought information from operators on annual lease costs. We
 expect this to be a poorer measure as fewer vehicles are leased. Our main method
 is to use market estimates of the cost of a vehicle, fit-out to a taxi and then spread
 these costs (including financing) across the life of a vehicle as indicated by survey
 respondents.

Other fixed costs

Other fixed costs can generally be directly observed. Directly observing costs, where possible, reduces the amount of information required from survey data.

Labour-related variable costs

Unlike many jobs, taxi drivers and operators that operate their own taxis do not get paid a fixed wage or work fixed hours. This makes measuring these labour-related variable costs challenging. Driver earnings are determined by the fare revenue collected, less any costs incurred during the shift, such as payments to the operator, fuel and cleaning costs (where relevant) and GST payments. Operator earnings are determined by pay-in revenue from drivers, less all operator costs.

One approach to measuring driver and operator labour costs is to try to estimate them directly through survey data. An alternative approach that has been used by IPART in the past is to estimate labour-related costs by applying a notional wage rate to the hours worked, based on an alternative employment option.

Driver labour is the main cost of providing taxi services. Each taxi could be on the road for around 5000 hours per year. Consequently, using a notional wage rate that does not reflect actual driver earnings will significantly distort the TCI weightings. Driver labour costs depend on how much the taxi is on the road and vary through the week and through the year (see above). Our general approach to measuring these costs is to estimate hourly earning rates from survey data and weight this across shifts using network data.

Estimating operator earnings from survey data is more difficult. Since most operators also drive their taxi, it is difficult for the operator to distinguish between operator and driver earnings. Operator earnings could potentially be estimated as a residual of revenue from pay-ins less other operator costs. However, operators spend only a few hours per week on administration; the cost of an operator's labour is, therefore, a relatively small component of the overall costs of providing taxi services. This means that relatively small errors in estimating operator revenue or other operator costs will have a large impact on estimated operator earnings. It also means that the impact of using a notional wage rate that does not reflect actual operator earnings on the overall weightings of the TCI will be relatively small. Nevertheless, comparing estimates of total operator costs and operator earnings is a useful cross-check on whether the notional wage rate chosen is appropriate.

Non-labour variable costs

Non-labour variable costs include the cost of fuel and maintenance and repairs.

Fuel costs are measured in a similar way to labour costs outlined above. We use network data to determine average usage patterns and estimate the average fuel cost per shift from survey data.

Maintenance and repairs are difficult to measure because different operators will take a different approach to maintenance and repairs. Total maintenance costs are a combination of the operator's own labour, staff costs (where an operator has an in-house mechanic) and payments to external suppliers (such as mechanics). We measure all these costs through survey data.

Summary

Our general approach to measuring each cost item and the source of information is summarised in table 3.1.

	-	
Cost item	Information required	Source
Licence plate lease costs	Annual lease costs for each licence type	Operator survey
Vehicle	Cost of vehicle	Red book
	Cost of fit-out	Suppliers
	Useful life of vehicle	Operator survey
	Age of vehicles purchased	Operator survey
Network fees	Network fee costs	Networks
Insurance	Insurance costs	Suppliers
	Insurance purchased	Operator survey
Maintenance and repairs	Maintenance costs	Operator survey
	Maintenance time	Operator survey
	Hourly rate for own maintenance	Market estimates
Operator earnings	Revenue less costs	Driver and operator surveys
Driver earnings	Hours worked per shift	Driver survey
	Driver earnings per hour per shift	Driver survey
	Pattern of shifts worked across a year	Networks
Fuel	Fuel costs per shift	Driver survey
	Pattern of shifts worked across a year	Networks
Cleaning costs	Cleaning cost per wash	Suppliers

3.1 Approach to measuring costs

Source: The CIE.

Development of the survey instrument

As there is generally little data on the taxi industry publicly available, it was necessary to undertake a survey of taxi drivers and operators in NSW. Our general approach to the survey was to limit the information collected from the survey to information that could not be obtained from elsewhere. This reflected our view that a longer survey would compromise response rates and completion rates.

During the development of the survey instrument, we consulted extensively with key stakeholders, including IPART, Transport for NSW, the NSW Taxi Council, the NSW Taxi Drivers' Association and the Australian Taxi Drivers' Association. Stakeholders provided extremely useful guidance on the design of the survey instrument.

The final survey instruments are shown in appendix A.

Survey details

The survey was conducted through a number of separate channels.

- Mail-out survey the surveys were mailed out to all authorised taxi drivers and accredited operators in October 2011 along with reply paid envelopes.
- Web-based survey a web-based version of the same surveys were developed and went live in October 2011. Links to the survey were provided in the letter to drivers and operators and on Transport for NSW's taxi portal.
- Drop-boxes and spare surveys were also provided in a number of taxi bases in the Sydney Metropolitan Area.

We received more than 3000 survey responses (table 3.2). Most responses were received through the mail. Drop-boxes received less than 30 responses. Internet responses were also relatively low at just under 100 responses.

	Mail	Internet	Drop boxes	Total
	No.	No.	No.	No.
Driver survey	2 373	74	24	2 471
Operator survey	535	21	-	556
Total	2 908	95	24	3 027

3.2 Survey responses

Note: Based on survey responses received as at 21 November 2011. Estimates will be updated to reflect additional survey responses received since that date.

Source: The CIE.

The overall response rate for the survey was around 10 per cent of those contacted (table 3.3). A significant number of those mailed are unlikely to be operating or driving a taxi currently. Responses were received from almost 2500 drivers and 556 operators. The operator survey respondents covered 16 per cent of vehicles operating in NSW.

3.3 Survey response rate

	Survey responses	Total number	Response rate
	No.	No.	Per cent
Drivers	2 471	23 821	10.4
Operators	556	5 326	10.4
Total	3 027	29 147	10.4

Source: The CIE.

A summary of survey responses is shown in appendix B.

As expected, there is significant variation in the survey responses, reflecting variation in the experiences of different drivers and operators. As discussed previously, the challenge is to obtain from the range of responses in the survey sample a single measure that is representative of the average of the taxi industry as a whole. This raises two issues relevant to the interpretation of survey results:

- the level of disaggregation, and
- treatment of outliers.

Level of disaggregation

While we have obtained a relatively large sample, disaggregating the data across multiple dimensions reduces the sample size and therefore decreases the precision of the estimates. We have explicitly measured costs for both standard and WAT licences in urban and country areas. We have not separately attempted to measure the cost structure of premium taxis.

There are significant differences between standard taxis and WATs in usage patterns, licence plate costs and vehicle-related costs. Standard taxis and WATs will therefore have substantially different cost structures.

By contrast, the differences between a standard taxi and a premium taxi are much less significant; in particular, there is no difference in licence plate costs and the difference in vehicle-related costs are much smaller. Formal statistical analysis of responses to the driver survey shows that in urban areas:

- the difference in earnings per shift between a premium driver and a standard driver is not statistically significant for most shifts. The key exception is the Friday night (statistically significant at the 95 per cent level) and Saturday night shifts (statistically significant at the 90 per cent level), when standard taxi drivers are estimated to earn around \$15 to \$20 (including GST) *more* than premium drivers;
- premium drivers incur higher fuel costs than standard taxi drivers during weekday day shifts (statistically significant at the 95 per cent level). The difference is around \$2 to \$3 (including GST) per shift; and
- the pay-in for premium taxis is higher than standard taxis on day shifts and weekday night shifts (statistically significant at the 95 per cent level). The difference is around \$15 to \$20 (including GST).

These differences will not result in a significantly different cost structure between standard and premium taxis, particularly in the context of the uncertainty around some estimates. In addition, there are relatively few survey responses for premium taxis in country areas, which would make estimation imprecise.

While the cost structure for premium taxis has not been estimated explicitly, premium taxis are nevertheless taken into account by including premium taxis in the sample when measuring driver costs for standard taxis. Similarly, we have analysed other differences for the purposes of understanding the data but these differences do not impact on the estimated cost model.

Treatment of outliers

There are various measures that can be obtained from the survey sample that can be interpreted as representative of the whole taxi industry. These include:

 the mean — the mean is the average of the survey responses. The mean uses all the information available, but may be influenced by outliers; and the median of the survey responses — the median is the middle response of the sample. The median is less influenced by outliers, but uses less information and therefore may not be representative of the whole population.

In general, we prefer to use the mean because it uses more of the information available. However, the mean can be heavily affected by outliers. Some outliers may reflect a usually good or bad actual experience (for example, an unusually quiet or busy night). However, others may occur due to misinterpretation of the question or input errors in putting the survey into our database.

One approach is to exclude outliers that appear to be implausible from the sample. However, this approach can be subjective and distort the results. Our preferred approach is to use a 5 per cent trimmed mean, where the 5 per cent of responses in each tail of the distribution are removed from the sample. Therefore, unless otherwise stated, survey responses reported are the 5 per cent trimmed mean.

Development of cost models and treatment of GST

Cost models for standard taxis and WATs in urban and country areas are developed in subsequent chapters. Since the Goods and Services Tax (GST) is designed as a tax on consumption rather than on businesses, the cost models developed exclude GST.

Although the cost models are presented exclusive of GST, the survey asked for costs inclusive of GST. This was so that the questions aligned with actual payments to suppliers, which is the figure that is most likely to be at the forefront of drivers and operators minds. Any GST paid on inputs can be subsequently claimed as an offsetting input tax credit.

This means that GST must be subtracted from the costs estimated in the survey and from supplier quotes. This includes the takings retained by drivers, when estimating driver earnings.

4 Taxi usage patterns

Demand for taxi services is highly seasonal. This means that the costs depend not only on the number of shifts the taxi operates through the year, but *which* shifts. In this chapter we use network data to establish the average usage patterns of taxis across shifts throughout the year. This average usage pattern provides the basis for estimating variable costs.

Taxi usage patterns

One of key performance indicators (KPIs) for networks in urban areas is the number of standard taxis logged onto the network at 9:00am and 9:00pm. Networks provide Transport for NSW with the number of taxis logged onto the network at these times averaged over the month, as well as the number of taxis operating on the network. From this data we can calculate the percentage of taxis that are logged onto the network at 9:00am and 9:00pm through the year (chart 4.1).

The main seasonal pattern through the year is the decline in the proportion of the taxi fleet logged onto a network at both 9:00am and 9:00pm in January. The proportion of drivers logged onto a network at 9:00am is broadly steady at around 70 per cent throughout the rest of the year, but falls below 60 per cent in January. Similarly, the proportion of the taxi fleet logged onto a network at 9:00pm ranges



4.1 Percentage of standard taxis logged onto networks

Data source: Transport for NSW, The CIE.

between around 70-75 per cent through most of the year and falls to around 65 per cent in January.

Combined Communications Networks (CCN) has also provided daily data over the period from 1 November 2010 to 31 October 2011. CCN covers around two-thirds of the total taxi fleet in the Sydney Metropolitan area. It is therefore likely to be broadly representative of the whole fleet. This data allows us to estimate taxi usage patterns through the week (chart 4.2).

The proportion of the taxi fleet logged onto the network at 9:00am ranges between 70-80 per cent on weekdays, but falls significantly on weekends to around 54 per cent on Saturday mornings and less than 50 per cent on Sunday mornings. The proportion of the fleet logged onto the network at 9:00pm is highest on Thursday, Friday and Saturday nights at more than 80 per cent, and lowest on Sunday and Monday nights at slightly more than 50 per cent and 60 per cent respectively.



4.2 Proportion of fleet logged onto the network

^a Based on the average of daily data from 1 November 2010 to 31 October 2011. *Data source:* CC Networks.

Using this data to estimate variable costs

The number of taxis logged onto a network at 9.00 am and 9.00 pm is likely to be a good indicator of the number of taxis that are 'on the road' during each day and night shift respectively. Since day shifts typically run from 3.00 am to 3.00 pm and night shifts from 3.00 pm to 3.00 am, 9.00 am and 9.00 pm is the midpoint of the shift.

If a taxi is on the road during that shift period, the taxi is likely to be logged onto a network at that time.²

Adding up the proportion of taxis that are on the road for each shift during the week (e.g. Monday day shifts, Saturday night shifts etc.) across the whole year provides an estimate of the number of shifts the 'average taxi' is on the road through the year (table 4.3).

This implies that the average taxi drives around 246 day shifts and 263 night shifts per year, for a total of around 509 shifts per year (table 4.3). This is slightly less than 10 shifts per week on average across the year. This estimate takes into account seasonal fluctuations. While no individual taxi operates these exact shifts, this 'average taxi' is nevertheless representative of usage patterns across the whole fleet.

	Day shifts	Night shifts	Total
	No.	No.	No.
Monday	37.1	32.3	69.4
Tuesday	38.2	36.9	75.1
Wednesday	38.9	38.8	77.7
Thursday	40.2	41.9	82.1
Friday	38.6	44.4	83.0
Saturday	28.0	41.6	69.6
Sunday	25.3	27.0	52.3
Total	246.3	262.9	509.2

4.3 Estimated number of shifts the average taxi is on the road through the year

Source: CIE analysis based on information provided by Combined Communications Network.

This information can then be combined with survey information on the variable costs per shift (such as hours, drivers' hourly earning, fuel cost etc.) to estimate these variable costs over the year. This approach takes into account seasonal variation in taxi usage patterns (both through the week and the year) and variable costs through the week. However, since the survey is a 'snapshot' of the variable costs per shift during the survey period, it does not take into account variation in variable unit costs through the year.

Estimating WAT usage patterns

Estimating usage patterns for WATs is more difficult. The network KPIs for WATs differ from those for standard taxis. Rather than measuring the number of taxis logged onto a network at 9.00 am and 9.00 pm, the corresponding KPI for WATs is measured at 8.00 am and 4.00 pm. On average over the year, only around 45 per cent

² A small percentage of drivers may have temporarily logged off the network. These taxis are therefore 'on the road' during that shift, but are not recorded in the data. These estimates may, therefore, slightly understate the number of taxis 'on the road' during each shift.

of WATs were logged onto a network at 8am, but around 85 per cent were logged onto the network at 4pm (chart 4.4). Although the time periods are different from standard taxis, this suggests usage patterns of WATs and standard taxis are somewhat different. The operator survey also implies significantly different usage patterns, with the average urban WAT on the road for around 82 hours per week, compared with around 105 hours per week for a standard taxi.



4.4 Proportion of taxis logged onto a network — standard taxis and WATs

Note: Based on the average over the period from April 2010 to March 2011. Measured at 9am and 9pm for standard taxis and 8am and 4pm for WATs. Data source: Transport for NSW.

The number of WATs logged onto a network at 8am and 4pm is unlikely to be a good indicator of the number of WATs on the road during the day and night shifts respectively. Anecdotal evidence suggests that many WATs operate only one shift per day (for example 7am to 7pm).³ A WAT logged onto a network at 4pm is therefore more likely to be a shift that is predominantly during the day period, rather than the night period. Indeed, since the average shift is around 10 hours, both 8am and 4pm could be part of the same shift. It also seems implausible that almost double the number of taxis operate the night shift, compared with the day shift.

In light of this anecdotal evidence, the proportion of WATs logged onto the network at 4pm is likely to be a good indicator of the proportion of WATs that drive during the main daily WAT shift. In the absence of daily data, we assume that the proportion of taxis operating during this shift is constant throughout the week. This seems broadly reasonable given that the proportion of WATs logged onto a network at 4pm is high at more than 85 per cent, which means there is little room for significant daily variation. This implies that the average WAT drives around 6 day shifts per week.

³ See for example, Fitzgerald, R., 2005, *Report to the Wheelchair Accessible Taxi Taskforce*, p. 17.

The driver survey indicates that the average day shift length is 10.1 hours, implying that the average WAT is on the road for 60.6 hours during the main WAT shift. This leaves only 21.4 hours that a WAT is on the road during the night shift. The driver survey suggests that an average night shift for a WAT driver is 9.9 hours in duration, indicating that the average WAT is on the road for only 2.2 night shifts per week. We assume that these night shifts are allocated across the week in proportion with the night shift usage patterns of a standard cab.

Based on these assumptions, we estimate that the average WAT is on the road for around 424 shifts during the year, including around 312 day shifts and 113 night shifts (table 4.5).

Day	Day shifts ^a	Night shifts ^b	Total
	No.	No.	No.
Monday	44.5	13.8	58.3
Tuesday	44.5	15.8	60.3
Wednesday	44.5	16.6	61.1
Thursday	44.5	17.9	62.4
Friday	44.5	19.0	63.5
Saturday	44.5	17.8	62.3
Sunday	44.5	11.6	56.1
Total	311.5	112.5	424.0

4.5 Estimated number of shifts the average WAT is on the road through the year

^a Estimate assumes the average WAT drives 85.7 per cent of all day shifts, based on the proportion of WATs logged onto the network at 4pm averaged over the year to March 2011. We also assume that the proportion of WATs on the road is constant across days of the week. b Assumes the average WAT is on the road for 2.2 night shifts per week. Shifts are allocated across days in proportion with daily usage patterns of a standard taxi.

Source: CIE estimates.

Estimating usage patterns in the country

The estimated usage patterns outlined above are based on taxis operating in urban areas. However, the operator survey suggests that country taxis spend less time on the road per week than urban taxis (table 4.6), despite the average shift length being broadly similar.

4.6 Average time on the road per week

Country
Hours
97
67

Source: CIE survey of operators.

To estimate the number of shifts country taxis are on the road during the year, we scale down the corresponding estimates for urban taxis based on the estimated hours on the road per week (table 4.7). This implies that the average standard taxi in country areas are on the road for around 470 shifts per year, including 227 day shifts

and 243 night shifts. The average country WAT is estimated to be on the road for 348 shifts during the year, including 256 day shifts and 92 night shifts.

	Standard	WAT
	No.	No.
Day shifts		
Monday	34.2	36.5
Tuesday	35.2	36.5
Wednesday	35.9	36.5
Thursday	37.1	36.5
Friday	35.6	36.5
Saturday	25.8	36.5
Sunday	23.3	36.5
Total day shifts	227.1	255.7
Night shifts		
Monday	29.8	11.3
Tuesday	34.0	13.0
Wednesday	35.8	13.6
Thursday	38.6	14.7
Friday	40.9	15.6
Saturday	38.4	14.6
Sunday	24.9	9.5
Total day shifts	242.9	92.3
Total	469.4	348.0

4.7 Annual shifts driven in country areas

Source: The CIE.

5 Operator costs

In this chapter we develop a cost model for operators, based on information from the operator survey, the driver survey and a range of other sources.

Costs incurred by operators

The set of costs attributable to operators is shown in table 5.1. The costs paid by the operator differ according to the business model used. Most urban taxis use a fixed pay-in model for bailee drivers under which the driver pays for fuel and usually cleaning. Most country taxis use a share of revenue approach for bailee drivers under which the operator may pay for fuel and cleaning. We allocate costs to operators in this way. This allocation of costs does not impact in any way on the construction of the cost index.

	Urban operator		Country operator
	Bailee driver Method I	Bailee driver Method II	
Plate lease	\checkmark	\checkmark	\checkmark
Vehicle costs	\checkmark	\checkmark	\checkmark
Network fees	\checkmark	\checkmark	\checkmark
Insurance	\checkmark	\checkmark	\checkmark
Maintenance and repairs	\checkmark	\checkmark	\checkmark
Time/administration costs	\checkmark	\checkmark	\checkmark
Fuel		\checkmark	
Cleaning		\checkmark	

5.1 Costs incurred by operators

Source: The CIE.

Licence plate costs

Operators can either purchase a licence plate or lease one from another owner. Therefore, there are essentially two ways licence plate-related costs can be measured in annual terms:

applying a reasonable rate of return to the value of the licence plate; or

directly measuring the cost of leasing a licence plate.

We use the survey responses from those operators that lease the licence plate to determine the annual licence plate lease costs.

A licence plate derives its value from scarcity. Factors such as the type of licence and the area will affect the value of a licence plate and therefore the lease cost.

The distribution of survey responses on the cost of leasing a standard licence plate (including GST) is shown in chart 5.2. Most responses are in \$30 000 to \$35 000 range. However, a significant number of responses indicate the annual lease cost is less than \$5 000. A closer look at these responses shows that a significant number of these are in the \$600 to \$700 range, suggesting that some operators may have provided the *weekly* cost of leasing the licence plate, rather than an *annual* cost. For standard licence plate lease costs, we therefore exclude all responses below \$5000. We also continue to exclude the 5 per cent of responses in each tail of the distribution.



5.2 Standard licence plate lease costs in urban areas (including GST) — distribution of responses

Data source: CIE Survey of operators.

Based on the survey results, the cost of leasing a standard licence plate in urban areas is around \$32 000 (including GST). The confidence interval around this estimate is relatively narrow. The standard licence plate lease cost in country areas is estimated to be considerably lower at around \$19 000 (including GST). However, this is based on a relatively small sample of only nine responses. This is partly because fewer country operators that responded to the survey indicated they lease licence plates, compared with urban areas (chart 5.3). There will also be variation across values amongst different country areas as licences cannot necessarily be transferred between areas.

The licence fee for WATs is \$1000 per year paid to Transport for NSW.⁴ Most operators of WATs indicated this as the annual lease payment. A number indicated alternative figures for lease values.





The estimated cost of leasing a licence plate with GST excluded is shown in table 5.4.

5.4 Licence plate lease costs

Type of licence	Figure used
	\$, excluding GST
Standard licence — urban	28 852
Standard licence — country	17 329
WAT	1 000

Source: CIE survey; Department of Transport website, http://www.transport.nsw.gov.au/sites/default/file/taxi/WAT-licence-infopackage.doc, accessed 28 November 2011.

Vehicle costs

Vehicle costs for an operator could be annual lease costs or could be from an upfront purchase of a vehicle. Vehicle costs include the vehicle and the fit-out.

Major drivers of lease costs are the number of years that a vehicle can be expected to be in service, the age of the vehicle when initially purchased, the type of vehicle and the fit-out required for the vehicle.

There are maximum ages for taxi vehicles determined by Transport for NSW. There are also regulations that restrict the type of vehicle and the fit-out that is required.

⁴ No GST is payable on WAT licences.

Our approach has been to use market estimates of costs combined with survey evidence on the age and useful life of vehicles.

The regulated maximum age of a taxi is 6 years for standard taxis in urban areas, 8 years for standard taxis in country areas and 10 years for WATs (table 5.5). Survey responses indicated that country taxis were generally slightly older than urban taxis and WATs were typically slightly older than standard taxis.

5.5 Average and regulated maximum age of taxis

Item	Urban		Country	
	Standard	WAT	Standard	WAT
Regulated maximum age (years)	6	10	8	10
Average age (years)	3.5	4.0	4.1	4.2

Source: Survey of operators, Passenger Transport Regulations 2007.

The estimated life of a taxi is shown in table 5.6. Country taxis have significantly longer lives than urban taxis and WATs have longer lives than standard taxis, which likely reflects the maximum allowed lives but also the less intensive use of vehicles.

5.6 Vehicle life estimates

Item	Urban		Country	
	Standard	WAT	Standard	WAT
Expected life of taxi	3.8	5.0	5.1	5.7

Source: Survey of operators, Passenger Transport Regulations 2007.

The vehicle age and life estimates can be combined to indicate the average age at which vehicles are purchased. Most vehicles are purchased second-hand at an average age of 1.5 years. According to the survey, the typical standard taxi is a Ford Falcon LPG and the typical WAT is a Toyota Tarago using unleaded petrol.

We obtained quotes for 2009 (two years ago) and 2010 (one year ago) and averaged these to provide an estimate of the cost of a new taxi of an average age when purchased (1.5 years). We obtained fit-out quotes from a supplier, with the fit-out including radio installation, meter and roof sign installation, signage and camera. We obtained quotes to convert a vehicle into a WAT from a supplier, based on meeting requirements as of October 2011.⁵

Suppliers indicated that there would be little residual value in most equipment at the end of a taxis life. We assume that equipment and the vehicle would be sold at the end of its life as a taxi for \$700.

⁵ A number of suppliers indicated that they could not comply with free space requirements introduced in October 2011. Quotes for previous specifications were substantially lower.

The cost assumptions used are set out in table 5.7. To obtain an annual lease payment these costs are amortised over the average life of a vehicle. To amortise, we use the Reserve Bank of Australia business indicator lending rate averaged over the past year (8.4 per cent) adjusted to a real interest rate using the mid-point of the Reserve Bank of Australia's inflation target of 2.5 per cent.

Annual costs for a standard taxi are estimated to be \$7222 in urban areas and \$5592 in country areas. WATs are considerably more expensive at \$18 587 in urban areas per year and \$16 679 in country areas.

	Urban		Urban Country		ıntry
	Standard	WAT	Standard	WAT	
Age when purchased (years)	1.6	1.5	1.5	1.3	
Type of vehicle	Ford Falcon	Toyota Tarago	Ford Falcon	Toyota Tarago	
Fuel type	LPG	ULP	LPG	ULP	
Year of vehicle make	2009	2009	2009	2009	
Red book value (\$, including GST)	17 800	30 750	17 800	30 750	
Year of vehicle make	2010	2010	2010	2010	
Red book value (\$, including GST)	21 500	37 900	21 500	37 900	
Vehicle cost used (\$, excluding GST)	17 864	31 205	17 864	31 205	
Fit-out costs (\$, excluding GST)	5 701	5 694	5701	5694	
WAT costs (\$, excluding GST)		40 871		40 871	
Total cost (\$)	23 565	77 769	23 565	77 769	
Total resale value (vehicle and equipment) (\$)	700	700	700	700	
Amortised value (\$/year)	7 222	18 587	5 592	16 679	

5.7 Vehicle costs

Source: Red Book, Supplier estimates, Survey of operators, Reserve Bank of Australia Table F5 Indicator Lending Rates for Business, CIE analysis.

The figures reported in the survey align relatively well with the estimated above except for in country areas. There were only 3 responses from country areas that indicated the lease payment for vehicles. This reflects that very few country vehicles are leased (2.5 per cent according to the survey).

5.8 Vehicle cost comparison with survey responses

	Urban		Cou	Country	
	Standard	WAT	Standard	WAT	
Calculated lease payment	7 222	18 587	5 592	16 679	
Median from survey	8 000	19 107	10 945	Na	
Number of survey responses	47	17	3	0	

Source: See table 5.7; Survey of operators.
Network fees

Network fees have been sought for a sample of urban networks and country networks from the NSW Taxi Council. Data received to date has covered 12 urban networks and 4 country networks.

- Urban network fees are fairly similar across most networks averaging \$612 per four-week period (including GST). For a year, network costs are \$7231 (excluding GST).
- Country network fees are very different for the 4 networks for which we have fees and are higher than urban network fees. On average, fees are \$1361 per four-week period (including GST). For a year, country network costs are \$16 085 (excluding GST). It is possible that the network fees quoted by some country networks could include a number of other costs. This could explain the large discrepancy with urban networks and the variation between country networks. This will be clarified for our final report.

Insurance

Taxi operators are required to have third party property insurance, third party personal insurance and, if using another driver, workers compensation insurance.

In addition, taxis can have comprehensive insurance, covering own costs, and general liability insurance.⁶

In practice, most taxi operators appear to have all insurances that are possible. According to the survey, 86 per cent of respondents indicated that they had general liability insurance and 95 per cent indicated that they had comprehensive insurance.

Insurance costs vary substantially between urban vehicles and country vehicles. They can also be lower for operators that have a long history of operating with few claims.

We have obtained quotes from insurance suppliers for each type of insurance. Quotes were obtained on the basis of an average aged vehicle and typical type of vehicle. This meant a 2007 vehicle and a Ford Falcon for standard taxis and a Toyota Tarago for WATs.

The estimated costs of insurance per vehicle are \$12 635 for a standard urban taxi, \$14 662 for a WAT urban taxi, \$8 083 for a standard country taxi and \$8 336 for a WAT country taxi (table 5.9).

⁶ This covers some events that are not covered under third party personal or property insurance, such as harm to a passenger exiting a vehicle.

• •	3 ,			
	Urban		Country	,
	Standard	WAT	Standard	WAT
Cost per vehicle insured (\$)				
Comprehensive (includes third party property)	7 492	9 785	5 177	5 757
Third party personal	4 489	4 489	2 381	2 381
Third party property only	3 828	4 128	2 082	2 082
Workers compensation	1 908	1 908	1 264	1 264
Public liability	200	200	200	200
Share of vehicles insured				
Comprehensive	96%	96%	96%	88%
Third party personal	100%	100%	100%	100%
Third party property only	4%	3%	4%	3%
Workers compensation	100%	100%	100%	100%
Public liability	86%	85%	94%	100%
Number of responses comprehensive	295	75	79	17
Number of responses public liability	294	74	77	17
Total insurance costs (\$)	12 635	14 662	8 083	8 336

5.9 Insurance costs per vehicle (excluding GST)

Note: Quotes for standard taxis based on a 2007 Ford Falcon including equipment. Quotes for WATs based on a 2007 Toyota Tarago including fit-out. Quotes based on a \$1000 excess as this is the standard offered by insurers and are for a starting operator.

Source: Survey of operators; Industry quotes; CIE analysis.

These insurance costs are for an operator that does not have a record — that is, a starting operator. Operators that have good records receive a discount on this. Operators with poor records could pay more than this amount.

Vehicle maintenance and repairs

The cost of maintenance and repairs for each taxi in any particular year could vary significantly due to a range of factors. While all vehicles will undergo some servicing every year, some relatively expensive mechanical repairs occur less frequently. Similarly, the cost of body repairs will depend on the number of accidents each vehicle has been involved in and the damage caused. The cost to the operator will also depend on whether the vehicle has comprehensive insurance. The survey responses should capture this range of experiences. Averaging across all responses should therefore capture the average experience.

The cost of maintenance and repairs may also vary depending on the type of vehicle.

There are various ways that an operator can approach the task of maintaining and repairing the vehicle.

- Own labour many operators are likely to undertake minor maintenance tasks, such as replacing light globes. In addition, some operators may have mechanical expertise and undertake much of the repairs and maintenance themselves.
- Hire staff some larger operators may have in-house mechanics to undertake mechanical repairs and maintenance.
- External suppliers many operators will pay an external mechanic or bodyworks to undertake maintenance and repairs on the vehicle. Operators that undertake repairs and maintenance may also need to pay a supplier for parts, etc.

The total cost of maintenance and repairs on the vehicle is some combination of all of these costs. The approach to vehicle maintenance and repairs may vary depending on the size of the business. For example, operators with multiple taxis are more likely to have in-house maintenance and repair capacity and, therefore, incur the associated staff costs.

Interpreting the survey results

The survey was designed to capture all of these costs. However, care needs to be taken in how we interpret incomplete survey responses. With most other questions it is reasonable to assume that where a response has not been provided, the respondent has neglected to answer the question and we can exclude it from the analysis. However, for this particular question, an omitted response could be interpreted as either:

- the respondent does not use that approach to maintenance (for example, does not hire staff to undertake maintenance) — in which case the response should be interpreted as zero; or
- the respondent has neglected to answer the question in which case the response should be excluded from the analysis.

This issue could have significant implications for the interpretation of the results. We therefore include only those survey responses where we are confident the question has been answered in full. We exclude all survey responses where:

- the respondent has not indicated whether or not they incur a particular type of cost; and
- the respondent has indicated they incur the cost, but have not provided an estimate of the magnitude.

Survey responses

As discussed above, the approach an operator takes to repairs and maintenance may depend on the number of taxis operated. The distribution of survey respondents by the number of taxis operated is shown in chart 5.10. The number of taxis operated by survey respondents ranged between one and 29. Most respondents operated a single

taxi. There were also a significant number that operated two or three taxis and relatively few that operate 13 or more.



5.10 Distribution of survey respondents by number of taxis operated

During consultations with stakeholders, there was considerable interest in whether different sized businesses incurred different maintenance and repairs costs. Although single cab operators tend to spend more of their own time on maintenance and repairs compared with multiple cab operators, the total amount of time is relatively insignificant at around 30 hours per taxi per year, or less than an hour per week (table 5.11). Large operators tend to spend less per taxi on maintenance and repairs, suggesting there may be some efficiencies associated with larger operations.

5.11 Annual maintenance and repair costs per taxi

	Operator's own labour	Annual staff and other costs per taxi
	Hours/taxi/year	\$, excluding GST
Single cab operators	30.5	6 361
Small multi-cab operators(2-3 taxis)	10.0	6 554
Medium operators (4-12)	20.8	6 128
Large operators (12+ taxis)	23.0	5 008
All operators	27.5	6 170

Note: Results based on the mean of survey respondents when 5 per cent of each tail of the distribution has been removed from the sample.

Source: CIE Survey of taxi operators.

However, as the size of the operation increases, the sample size gets smaller and the confidence intervals widen (see appendix C for details). Consequently, the difference

Data source: CIE survey.

in costs is not statistically significant.⁷ We, therefore, base the estimated maintenance and repair costs on the average of the whole sample.

We segment maintenance and repair costs according to the four categories that we have segmented other costs into (table 5.12). Aggregating the hours spent on maintenance with the external costs and staff costs gives a total figure for maintenance between around \$6 000 and slightly higher than \$7000, depending on the category. In urban areas, WATs have higher maintenance costs, likely reflecting that parts for these vehicles are more expensive, while Ford Falcon parts are less expensive and servicing cheaper. This is the case even though WATs are driven for fewer shifts than standard vehicles. In country areas the costs for standard and WATs are similar, although many of the operators that responded to the survey had a mixed fleet that included both WATs and standard and these figures are included for both categories.

5.12 Mai	ntenance cost	s per	vehicle	(excluding	GST)
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	Urban		Country	
	Standard	WAT	Standard	WAT
External costs (\$/year)	5 534	5 391	6 693	4 161
Operator's own labour (hours/year)	30.1	27.7	7.4	17.0
Value of hours at mechanic wage rate (\$/year)	967	890	238	546
Annual staff costs per year (\$/year)	269	14	158	1 598
Total costs per taxi per year (\$)	6 770	6 295	7 089	6 305

Note: Quotes for standard taxis based on a 2007 Ford Falcon including equipment. Quotes for WATs based on a 2007 Toyota Tarago including fit-out. Quotes based on a \$1000 excess and are for a starting operator. Annual wage rate for a mechanic is \$68 619.

Source: Survey of operators; Industry quotes; My Careers website: <u>http://content.mycareer.com.au/salary-centre/automotive/mechanical-trades/nsw</u>, accessed 24 November 2011; CIE analysis.

Administration costs

There are a range of administrative tasks associated with operating a taxi. These include paying bills, organising repairs and maintenance and completing Business Activity Statements (BAS). As with maintenance and repair costs, different sized businesses may have different approaches to administration. Larger businesses are likely to employ staff to undertake these administrative tasks. By contrast, smaller operators are likely to undertake these tasks themselves. The compensation the operator receives for these activities is the amount left-over from the revenue from pay-ins and driving the taxi themselves, once all the costs have been covered.

These different approaches to administration are reflected in the survey results (table 5.13). The survey results suggest that single cab operators spend around 4.8 hours per week on administration and spend an additional \$561 per year. Multiple cab operators spend 3.4 hours per taxi per week on administration, but

⁷ Based on the 95 per cent level of significance.

incur higher staff and other costs, of around \$1 100 per year on average. The difference in hours and annual staff and other costs between single cab and multiple cab operators is statistically significant at the 95 per cent level of significance.

	Hours per taxi per week	Annual staff and other costs per taxi
	No.	\$
Single cab operators	4.8	561
Multiple cab operators	3.4	1 102
All operators	4.1	606

5.13 Administration costs per taxi

Note: Results based on the mean of survey respondents when 5 per cent of each tail of the distribution has been removed from the sample.

Source: CIE Survey of taxi operators.

As discussed in chapter 3, estimating the opportunity cost of an operator's time is difficult. The opportunity cost of an operator's time is the next most attractive alternative use of their time. We have based our estimate on the market wage for office managers of \$59 062 (annual) converted into an hourly rate using a 40 hour week.⁸ We have used the average figure of 4.1 hours per week for all operators (standard, WAT, urban and country) and an average figure of \$606 (excluding GST) in staff or external administration costs per taxi operated. In total, this gives an annual operator time cost of \$7 182.

An alternative method of estimating the annual wage of operators is to subtract all their costs from their revenues, with the remainder being the return on capital. Given that the operator return is a small share of costs, small errors in estimates of costs or revenues will give very misleading figures of operator time. We have hence chosen to cross-check results using this method but present a main estimate for the value of operators' time using a market measure of an alternative occupation.

Fuel costs

Responsibility for fuel costs varies depending on the bailment method. In urban areas, the driver is usually responsible for fuel.⁹ We therefore include fuel as a driver cost in the urban TCI. However in country areas, operators are normally responsible for fuel costs (more than 90 per cent on both the driver and operator surveys).

⁸ My Careers salary site, <u>http://content.mycareer.com.au/salary-centre/administration-office-support/office-management-coordination/australia</u>, accessed 5 December 2011.

⁹ The operator survey indicates that around 24 per cent of urban operators are responsible for fuel costs, while the driver survey indicated that around 84 per cent of drivers are responsible for fuel costs.

The estimated fuel cost per shift (including GST) for country operators, based on driver survey responses is shown in table 5.15.

	Country — standard	Country — WAT
	\$	\$
Day shifts		
Monday	31.2	32.5
Tuesday	33.5	32.9
Wednesday	34.0	39.3
Thursday	30.7	38.8
Friday	29.9	37.6
Saturday	27.8	42.4
Sunday	30.2	37.6
Night shifts		
Monday	21.9	31.4
Tuesday	20.9	15.0
Wednesday	23.3	31.7
Thursday	36.2	30.0
Friday	42.0	41.1
Saturday	45.0	49.2
Sunday	28.8	28.5

5.14 Estimated fuel costs per shift (including GST)

Source: CIE driver survey.

To estimate annual fuel costs (excluding GST), we remove GST from the average fuel costs per shift and then multiply by the number of shifts per year (table 5.15).

5.15 Estimated annual fuel costs (excluding GST)

	Cost
	\$
Country — Standard taxi	13 497
Country — WAT	11 441
Source: The CIE.	

Cleaning costs

Cleaning costs may be the responsibility of either the operator in the driver. Both surveys indicate that in country areas, the operator is typically responsible for cleaning costs. The surveys are more ambiguous for urban areas. We include cleaning as an operator cost for country areas, but in driver costs in urban areas.

We assume each taxi is cleaned six days per week in each week the taxi is on the road (estimated from the operator survey). Cleaning costs are estimated at \$12 per wash (including GST). The total cleaning costs over the year are estimated at \$3 358 (excluding GST) for standard taxis and \$3 371 (excluding GST) for WATs (table 5.16).

	Washes per week	Weeks per year	Cost per wash	Total costs
	No.	No.	\$	\$
Standard	6	51.3	10.91	3 358
WATs	6	51.5	10.91	3 371

5.16 Estimated annual cleaning costs for country operators (excluding GST)

Source: CIE Survey of operators, suppliers, The CIE.

Operator cost model

The full set of operator costs is set out in table 5.17 based on the analysis in this chapter.

	Urban		Cou	ntry
	Standard	WAT	Standard	WAT
	\$/vehicle/year	\$/vehicle/year	\$/vehicle/year	\$/vehicle/year
Operator earnings	7 182	7 182	7 182	7 182
Maintenance costs	6 770	6 295	7 089	6 305
Plate lease costs	28 852	1 000	17 329	1 000
Insurance	12 635	14 662	8 083	8 336
Vehicle lease payments	7 222	18 587	5 592	16 679
Network fees	7 231	7 231	16 085	16 085
Cleaning			3 358	3 371
Fuel			13 497	11 441
Total operator costs	69 891	54 956	78 216	70 400

5.17 Operator cost model (excluding GST)

Source: Survey of operators; CIE analysis.

As a cross-check on the reasonableness of these operator costs, we have compared the costs that operators have to pay with the pay-ins indicated by drivers aggregated according to the shift profiles set out in chapter 3 (table 5.18). The cost to operators does not include their time cost.

Pay-ins are estimated to be \$2 000 to \$5 000 higher than costs for urban standard taxis. For urban WATs, the average is higher and there is greater uncertainty around pay-ins. These figures would imply that our estimate of the value of operators' time is at the upper end of the range. However, given that small errors in measuring costs will have large implications for the estimate of the value of operators' time, it is difficult to draw this conclusion with much certainty.

For country areas, the estimated pay-ins are on average only around \$1500 greater than our estimated costs for standard taxis and less than pay-ins for WATs. If correct, this would indicate that operators are making very little above their costs. The uncertainty around pay-ins is significant, however, with pay-ins higher than costs at the upper end of the confidence interval. The uncertainty around other cost estimates, such as network fees is also greater for country taxis than for urban taxis.

Item	m Urban		Country		
	Standard	WAT	Standard	WAT	
	\$/taxi/year	\$/taxi/year	\$/taxi/year	\$/taxi/year	
Operator costs excluding the value of time	62 709	47 774	71 034	63 217	
Pay-ins					
Mean	66 420	55 426	72 519	55 144	
Upper bound	67 427	63 970	82 207	67 582	
Lower bound	65 413	46 882	62 831	42 706	
Pay-ins less costs					
Mean	3 711	7 652	1 485	-8 073	
Upper bound	4 718	16 196	11 173	4 365	
Lower bound	2 704	-892	-8 203	-20 511	

5.18 Comparison of pay-ins and operator costs

Source: Survey of operators; CIE analysis.

Country network fees are very difficult to estimate because country networks may include other items in network fees that would normally be considered as operators' costs. IPART has sought country network fees in the past and found that they vary significantly from year to year (for the same network) and are unreliable. If we used the urban network fee estimate for country networks, then country standard pay-ins would be between \$600 and \$20 000 higher than operator costs for standard taxis (table 5.19). For country WATs, pay-ins could be \$13 000 higher than costs ranging to \$12 000 less than costs. We have also allocated all cleaning and fuel costs to operators for country networks — a small share are borne by drivers according to our survey results.

Item	Country – networ	k fees provided	Country – urba	ry – urban network fees	
	Standard WAT		Standard	WAT	
	\$/taxi/year	\$/taxi/year	\$/taxi/year	\$/taxi/year	
Operator costs excluding the value of time	71 034	63 217	62 179	54 362	
Pay-ins					
Mean	72 519	55 144	72 519	55 144	
Upper bound	82 207	67 582	82 207	67 582	
Lower bound	62 831	42 706	62 831	42 706	
Pay-ins less costs					
Mean	1 485	-8 073	10 340	781	
Upper bound	11 173	4 365	20 028	13 219	
Lower bound	-8 203	-20 511	652	-11 656	

5.19	Comparison of	f pay-ins and	operator costs ad	justed for country	y network fees
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Source: Survey of operators; CIE analysis.

6 Driver costs

This chapter develops a cost model for drivers, based on the results of the driver survey and other sources of information outlined in chapter 3.

Costs incurred by drivers

As discussed previously, the costs incurred by the driver can vary depending on whether the driver is in an urban or country area, whether the driver is also an operator or a bailee driver, and the bailment method used. The costs incurred by each type of driver for each shift driven is summarised in table 6.1.

	Driver/ operator	Urban Bailee driver — Method I	Urban Bailee driver — Method II	Country bailee driver
Driver earnings	Yes	Yes	Yes	Yes
Fuel	Yes	Yes	No	No
Payment to operator	No	Yes	Yes	Yes
Cleaning (night shifts only)	Yes	Yes	Yes	No
Daily administration	Yes	Yes	Yes	Yes

6.1 Costs incurred by drivers for each shift driven

Source: The CIE.

In addition, all drivers incur a range of less frequent costs, including preparing BAS statements, administration, driver accreditation, drivers' licence and other minor costs.

Driver earnings

One of the main costs associated with supplying taxi services is the driver's labour. When estimating the cost structure of an industry it is usual to base this on actual wages. Since taxi drives do not earn a fixed wage rate, the best measure is an estimate of actual driver earnings. Total driver labour costs per taxi over the course of a year depends on the hours the taxi is 'on the road' (including the time the driver spends on shift administration) over the year and the drivers' effective hourly earnings.

Hours

Given the variation in hourly earnings across shifts, the total opportunity cost of the drivers' time across the year depends not only on how many shifts are driven, but also on which shifts are driven. While this will vary significantly across taxis, weighting the share of taxis logged onto the network across different shifts by the hours driven per shift (taken from the survey) will provide an estimate for a 'representative taxi'.

From the driver survey, we can estimate the number of hours each type of taxi is on the road during each shift period (table 6.2). These estimates reflect the time the taxi is available for hire during the shift period, including the time taken for cleaning the vehicle and re-fueling. The confidence intervals around these point estimates are generally relatively narrow (see appendix D).

In addition to the time the taxi is available for hire, drivers perform a range of administrative tasks before and after each shift. According to the survey, on average these administrative tasks take an additional 21 minutes. This has been added to the estimates shown.

		Country —		
	Urban — standard	Urban — WAT	Standard	Country — WAT
	Hours	Hours	Hours	Hours
Day shifts				
Monday	10.3	10.6	10 1	97
Tuesday	10.3	10.4	10.3	10.1
Wednesday	10.3	10.8	10.3	9.6
Thursday	10.3	10.4	9.9	10.0
Friday	10.4	10.8	9.8	9.9
Saturday	10.7	10.4	9.7	10.1
Sunday	10.9	10.7	10.0	10.9
Night shifts				
Monday	10.1	8.5	8.2	7.1
Tuesday	10.2	8.2	8.7	6.5
Wednesday	10.6	10.7	10.0	8.4
Thursday	10.9	8.9	10.8	8.6
Friday	11.8	10.6	11.5	11.1
Saturday	11.8	11.1	11.6	11.6
Sunday	10.4	10.4	10.2	9.1

6.2 Estimated hours per shift across shifts (including administration time)

Source: CIE Survey.

Hourly earnings

Unlike many jobs, taxi drivers do not earn a fixed wage for each hour worked. Rather, the compensation for their time depends on the fare revenue earned during the shift, less any expenses incurred during that shift. This means that their hourly earnings will vary across shifts.

Drivers who are also operators complicate the estimation of hourly driver earnings. Unlike bailee drivers, there is no pay-in for drivers who are also operators. Thus it is difficult for these drivers to distinguish between earnings in their role as a driver and their earnings in their role as an operator (the pay-in foregone by driving the taxi themselves). To estimate drivers' hourly earnings, we therefore exclude drivers who are also operators from the sample.

Drivers' hourly earnings are estimated as follows:

(1)
$$E_i = \frac{T_i - GST_i}{H_i + A_s}$$

Where: E_i is the average hourly earnings for the shift for type *i* drivers; T_i is the average takings retained by type *i* drivers; GST_i is the GST payable on drivers' earnings; H_i is the average number of hours driven by type *i* drivers; A_s is the average time spent on administration by all drivers in the sample.

Estimated driver earnings over the sample period were relatively low. We can be relatively confident about the estimates for urban drivers, since the estimates are based on a large sample and the confidence intervals are narrow. However, the confidence intervals around the estimated driver earnings for WATs are based on a small sample and are therefore less reliable (see appendix D for details).

	Urban — Standard	Urban — WAT	Country — Standard	Country — WAT
	\$ per hour	\$ per hour	\$ per hour	\$ per hour
Day shifts				
Monday	9.5	12.7	11.3	12.4
Tuesday	9.3	11.5	10.8	12.2
Wednesday	9.5	10.7	10.4	15.1
Thursday	10.0	11.7	11.4	13.3
Friday	10.9	12.5	11.7	14.4
Saturday	10.7	13.4	10.1	10.9
Sunday	10.9	12.6	11.7	14.6
Night shifts				
Monday	7.5	19.6	10.0	12.4
Tuesday	8.4	8.7	10.0	12.0
Wednesday	9.5	18.6	10.9	11.0
Thursday	11.0	16.2	12.5	12.6
Friday	14.4	21.4	14.7	16.0
Saturday	14.6	18.2	16.7	22.2
Sunday	10.6	16.1	9.4	13.9

6.3 Estimated driver earnings per shift (excluding GST)

Source: CIE Driver Survey.

Total driver earnings

To estimate the total driver earnings we multiply the number of shifts per year by the average hours for each shift and the hourly earnings per shift (table 6.4).

6.4 Total annual driver earnings (excluding GST)

	Cost
	\$
Urban — standard taxi	58 016
Urban — WAT	59 226
Country — Standard taxi	56 432
Country — WAT	46 715

Source: The CIE.

Fuel costs

Responsibility for fuel costs can vary, depending on the arrangements between driver and operator (see chapter 2). In urban areas, responsibility for fuel costs depends on the payment method chosen by the driver. Around 84 percent of driver survey respondents indicated that they are responsible for fuel costs. This contrasts with the results of the operator survey, which suggests that 24 per cent of operators are responsible for fuel costs. It is nevertheless clear that in urban areas, drivers are normally responsible for fuel costs.

Fuel costs for any given shift can vary due to a range of factors, such as the distance driven and the fuel efficiency of the vehicle. Average fuel costs per shift, based on the driver survey are shown in table 6.5.

	Urban — standard	Urban — WAT
Day shifts	\$	\$
Monday	25.9	44.8
Tuesday	25.6	43.1
Wednesday	26.0	44.5
Thursday	26.0	43.1
Friday	27.1	47.2
Saturday	28.7	44.5
Sunday	29.7	42.3
Night shifts		
Monday	26.8	31.4
Tuesday	27.6	34.3
Wednesday	29.1	40.0
Thursday	31.4	41.6
Friday	37.3	45.5
Saturday	37.3	49.5
Sunday	28.1	47.3

6.5 Estimated fuel costs per shift (including GST)

Source: CIE survey of taxi drivers.

To estimate annual fuel costs (excluding GST), we remove GST from the average fuel costs per shift and then multiply by the number of shifts per year (table 6.6).

6.6 Annual fuel costs (excluding GST)

	Cost
	\$
Urban — standard taxi	13 535
Urban — WAT	16 773

Source: The CIE.

Payments to operator

Bailee drivers must pay the operator for the bailment of the taxi. As discussed previously bailment arrangements can vary. Obviously there is no pay-in for drivers that are also the operator of the taxi. To estimate the average pay-in per shift, we therefore exclude those drivers from the sample. Based on the survey results, actual pay-ins are well below the maximum specified in the Contract Determination.

			Country –	
	Urban – standard	Urban – WAT	Standard	Country - WAT
	\$	\$	\$	\$
Day shifts				
Monday	129.1	130.4	146.7	182.3
Tuesday	128.9	138.9	150.6	188.4
Wednesday	129.8	140.2	157.1	203.1
Thursday	128.7	130.3	155.4	198.2
Friday	131.3	136.5	172.6	186.0
Saturday	117.7	128.4	141.8	134.1
Sunday	117.6	130.5	169.3	223.7
Night shifts				
Monday	136.1	149.1	114.7	102.7
Tuesday	145.5	168.1	124.3	83.0
Wednesday	155.1	154.4	154.5	68.8
Thursday	166.1	186.2	183.3	100.2
Friday	186.8	201.9	238.4	212.5
Saturday	182.4	184.8	284.1	272.3
Sunday	117.3	139.5	136.8	69.3

6.7 Estimated pay-ins per shift (including GST)

Source: CIE Survey of taxi drivers.

Cleaning costs

The regulations require that a taxi be cleaned once per day. In urban areas, this is typically undertaken following a night shift. As discussed previously, cleaning costs

may be the responsibility of either the operator or the driver. We include cleaning as a driver cost for urban areas, but as an operator cost in country areas.

As with country taxis, we assume each taxi is cleaned six days per week in each week the taxi is on the road (estimated from operator survey). Cleaning costs are estimated at \$12 (including GST). The total cleaning costs over the year are estimated at \$3247 (excluding GST) for standard taxis and \$3338 (excluding GST) for WATs (table 6.8).

		, U	,	
	Washes per week	Weeks per year	Cost per wash	Total cost
	No.	No.	\$	\$
Standard	6	49.6	10.91	3 247
WATs	6	51.0	10.91	3 338

6.8 Estimated annual cleaning costs (excluding GST)

Source: CIE Survey of taxi operators, Suppliers, The CIE.

Driver cost models

During consultations, stakeholders indicated they were interested in seeing cost models for drivers that included pay-ins to operators and GST. The cost estimates that follow are based on bailee drivers.

Based on the survey results, an average cost model for drivers of a standard taxi in urban areas is shown in table 6.9. The confidence intervals around these estimates are relatively narrow, indicating they are reasonably robust.

	Takings retained by driver	Pay-ins to operator	Fuel	GST on retained takings	Total takings
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Day shifts					
Monday	98	129	26	10	262
Tuesday	95	129	26	10	259
Wednesday	98	130	26	10	264
Thursday	103	129	26	10	268
Friday	113	131	27	11	283
Saturday	114	118	29	11	272
Sunday	118	118	30	12	278
Night shifts					
Monday	76	136	27	8	246
Tuesday	86	146	28	9	267
Wednesday	101	155	29	10	295
Thursday	120	166	31	12	329
Friday	171	187	37	17	412
Saturday	172	182	37	17	409
Sunday	110	117	28	11	266

6.9 Driver cost model — Urban standard driver

Source: CIE taxi driver survey.

An average cost model for an urban WAT driver is shown in table 6.10. As the sample size for WATs is significantly smaller, there is greater uncertainty around these estimates, particularly for night shifts.

	Takings retained by driver	Pay-ins to operator	Fuel	GST on retained takings	Total takings
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Day shifts					
Monday	135	130	45	13	323
Tuesday	120	139	43	12	313
Wednesday	116	140	45	12	312
Thursday	122	130	43	12	307
Friday	135	137	47	13	332
Saturday	140	128	44	14	326
Sunday	135	131	42	13	321
Night shifts					
Monday	166	149	31	17	363
Tuesday	71	168	34	7	280
Wednesday	199	154	40	20	414
Thursday	145	186	42	14	387
Friday	226	202	45	23	496
Saturday	202	185	50	20	456
Sunday	167	140	47	17	370

6.10 Driver cost model — Urban WAT driver

Source: CIE taxi driver survey.

An estimated cost model for drivers of standard taxis in country areas is shown in table 6.11. While the sample size for country drivers is smaller than urban areas, these estimates are nevertheless reasonably robust.

6.11 Driver cost model — Country standard driver

	Takings retained by driver	Pay-ins to operator	Fuel	GST on retained takings	Total takings
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Day shifts					
Monday	115	147	31	11	304
Tuesday	111	151	34	11	306
Wednesday	107	157	34	11	309
Thursday	113	155	31	11	310
Friday	114	173	30	11	328
Saturday	98	142	28	10	277
Sunday	117	169	30	12	328

(Continued on next page)

	Takings retained by driver	Pay-ins to operator	Fuel	GST on retained takings	Total takings
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Night shifts					
Monday	82	115	22	8	227
Tuesday	87	124	21	9	241
Wednesday	109	154	23	11	297
Thursday	135	183	36	14	368
Friday	169	238	42	17	467
Saturday	194	284	45	19	543
Sunday	96	137	29	10	271

6.11 Driver cost model — Country standard driver

Source: CIE taxi driver survey.

A cost model for country WAT drivers is shown in table 6.12. Due to a small sample size, there is much less certainty around these estimates, particularly for night shifts.

6.12 Driver cost model — Country WAT driver

	Takings retained by driver	Pay-ins to operator	Fuel	GST on retained takings	Total takings
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Day shifts					
Monday	120	182	32	12	347
Tuesday	124	188	33	12	358
Wednesday	146	203	39	15	403
Thursday	133	198	39	13	384
Friday	143	186	38	14	380
Saturday	110	134	42	11	297
Sunday	159	224	38	16	436
Night shifts					
Monday	88	103	31	9	231
Tuesday	78	83	15	8	183
Wednesday	93	69	32	9	203
Thursday	108	100	30	11	250
Friday	178	213	41	18	449
Saturday	257	272	49	26	604
Sunday	127	69	29	13	237

^a There were no responses to this question in the survey.

Source: CIE survey of taxi drivers.

7 Taxi industry cost model

In this chapter we bring together the information in chapters 5 and 6 to develop a cost model for the taxi industry. First we present the actual cost structure of the industry for standard taxis and WATs in urban and country areas and assess the implications for fares. We then consider various options for using this cost information to weight the TCIs.

Cost structure of the taxi industry

The estimated cost structure of providing a taxi service for a year is set out in table 7.1. Key findings include the following.

- Urban taxis are more expensive than country taxis because of higher plate lease costs (standard taxis), higher insurance costs and higher vehicle lease payments.
- WATs are less expensive than standard taxis because of lower plate lease costs, although this is partly offset by higher vehicle lease costs.
- Drivers earnings are the largest cost item for a taxi, followed by plate lease costs (for standard taxis) and fuel.

Cost item	Urbar	1	Country		
	Standard	WAT	Standard	WAT	
	\$/taxi/year	\$/taxi/year	\$/taxi/year	\$/taxi/year	
Drivers' wages	58 016	59 226	56 432	46 715	
Fuel	13 535	16 773	13 497	11 441	
Cleaning	3 247	3 338	3 358	3 371	
Operator administration	7 182	7 182	7 182	7 182	
Maintenance costs	6 770	6 295	7 089	6 305	
Plate lease costs	28 852	1 000	17 329	1 000	
Insurance	12 635	14 662	8 083	8 336	
Vehicle lease payments	7 222	18 587	5 592	16 679	
Network fees	7 231	7 231	16 085	16 085	
Total annual costs	144 689	134 292	134 648	117 115	

7.1 Estimated cost structure of the taxi industry (excluding GST)

Source: The CIE.

Implications of estimated cost structure for fares

While the primary purpose of estimating the current cost structure of the taxi industry was to weight the TCIs, the findings in our survey of costs could also be used to consider the level of fares. Most particularly, the low earnings per hour worked for drivers could be viewed as requiring a fare increase.

IPART can only recommend a change to the level of taxi fares. The level of fares does not determine the distribution of fare revenue amongst industry participants. Consequently, it is not necessarily the case that the additional revenue generated by a taxi as a result of higher fares, would ultimately flow to drivers.

While a fare increase may lead to higher earnings for drivers in the short term, this could be expected to increase the demand to drive the fixed supply of taxis and lead to more taxis being on the road (in quieter shifts) and an increase in pay-ins. This would erode the higher earnings received by drivers. Higher operator earnings could, in turn, be expected to bid up licence plate lease costs. It is therefore plausible, and even likely, that the largest part of any increase in fares would not generate higher earnings for drivers but instead be reflected in higher plate lease values.

To illustrate this point, in the past four fare reviews notional driver wages have cumulatively been inflated by 14.5 per cent. However, given the low level of driver earnings suggested by the survey, it seems unlikely that this has been reflected in actual driver earnings. Over the same period, licence plate lease costs are estimated to have increased by around 30 per cent.

An increase in fares would also reduce demand for taxi services. This would at least partly offset the impact of higher fares on revenue.

Under current regulatory arrangements, driver earnings are likely to be determined by the willingness of drivers to continue to work in the industry at existing earning levels and the availability of alternative work options. We hence consider that adjusting the level of fares is not likely to be an effective way to address the low level of driver earnings.

Comparison with current weights used by IPART

The shares implied by the estimated cost structure for a standard taxi is compared with the weights in the current TCIs used by IPART (table 7.2).

Cost items	Urban s	Urban standard		standard
	CIE	IPART	CIE	IPART
	Per cent	Per cent	Per cent	Per cent
Notional drivers' wages	40.1	39.1	41.9	42.2
Driver entitlements (notional self funded)	-	1.5	-	6.3
Driver provision for super	-	4.0	-	4.4
LPG fuel	9.4	6.8	10.0	6.4
Other drivers' costs	2.2	2.4	-	1.6
Operator's salary equivalent	5.0	6.8	5.3	7.3
Driver entitlements in the contract determination	-	4.4	-	
Maintenance costs	4.7	4.7	5.3	4.0
Plate lease costs	19.9	14.0	12.9	11.8
Insurance	8.7	8.1	6.0	4.9
Vehicle lease payments	5.0	2.2	4.2	2.3
Network fees	5.0	3.1	11.9	4.6
Other operators' costs	-	3.0	2.5	4.1
Total	100.0	100.0	100.0	100.0

7.2 Comparison of cost weights

Note: Table based on cost item names currently used by IPART. *Source:* IPART taxi cost model 2011, table 7.1.

Options for weighting the TCIs

The estimates presented above represent the current cost structure of the taxi industry, based on current industry practices. However, the ultimate purpose of the exercise was to develop weightings for the urban and country TCIs. In this regard, there are several options for IPART to consider. These include:

- the treatment of WATs in the TCIs;
- whether to base the TCIs on actual driver and operator earnings or an appropriate notional wage rate;
- whether to include driver entitlements in the TCIs; and
- whether to include licence plate lease costs in the TCIs.

These options are discussed below. In considering these options, it is important to keep in mind the purpose of the TCIs — to measure *changes* in the cost of providing taxi services. The weightings in the TCI do not determine the distribution of fare revenue between drivers, operators and licence plate owners.

Treatment of WATs

There is a single TCI for urban areas and a single TCI for country areas. Previously, the TCIs have been based on the cost structure for a standard taxi. However, as shown above, the cost structure for standard taxis and WATs are significantly different.

There are two options for IPART to consider:

- continuing to base the weightings for the TCIs on a standard taxi; or
- developing a single TCI for each area by weighting the costs for standard taxis and WATs based on the number of licences.

The first approach is simpler and is a continuation of current practice. The cost estimates for standard taxis are also more precise than for WATs. Due to the smaller sample size for WATs — particularly for country areas and night shifts — the confidence intervals around the estimates for some key variables are relatively wide. The presence of WATs could also implicitly be taken into account by including survey responses from WAT drivers in the survey sample when estimating costs.

The second approach explicitly recognises WATs separately and that their cost structure is different to a standard taxi. While there is more uncertainty around the cost estimates for WATs (particularly those estimates relating to country areas and night shifts), the estimates for WATs are broadly plausible. Furthermore, the low weighting given to night shifts driven by WATs means that the estimates for which the uncertainty is greatest will not distort the overall weightings to any significant extent.

To arrive at a single figure we weight the costs for standard taxis and WATs by the share of taxi licence plates. We do not include other licences such as Nexus licences or unrestricted licences in this weighting. The weights used are shown in table 7.3.

Cost item	Urban		Country		
	Standard	WAT	Standard	WAT 240	
Taxis (No.)	4 578	523	785		
Share of taxis (per cent)	89.7 10.3		76.6	23.4	

7.3 Weights for aggregating cost structure

Source: NSW Department of Transport.

Applying these weights would give the estimated cost structure shown in table 7.4.

Cost item	Urban areas	Country areas
	\$/taxi/year	\$/taxi/year
Drivers' wages	58 140	54 157
Fuel	13 867	13 016
Cleaning	3 256	3 361
Operator's salary equivalent	7 182	7 182
Maintenance costs	6 721	6 906
Plate lease costs	25 996	13 506
Insurance	12 842	8 142
Vehicle lease payments	8 387	8 188
Network fees	7 231	16 085
Total annual costs	143 623	130 543

7.4 Urban and country cost structures

Source: The CIE.

The implied weightings based on a standard taxi and a weighted average of standard taxis and WATs are compared in table 7.5.

7.5 Implied weightings for urban and country TCIs

	Urban		Country	,	
	Standard Weighted		Standard	Weighted	
	Per cent	Per cent	Per cent	Per cent	
Drivers' earnings	40.1	40.5	41.9	41.5	
Fuel	9.4	9.7	10.0	10.0	
Cleaning	2.2	2.3	2.5	2.6	
Operator earnings	5.0	5.0	5.3	5.5	
Maintenance costs	4.7	4.7	5.3	5.3	
Plate lease costs	19.9	18.1	12.9	10.3	
Insurance	8.7	8.9	6.0	6.2	
Vehicle lease payments	5.0	5.8	4.2	6.3	
Network fees	5.0	5.0	11.9	12.3	
Total annual costs	100.0	100.0	100.0	100.0	

Source: The CIE.

Alternative approach to measuring driver labour costs

The taxi industry cost structure presented above is based on estimates of actual driver earnings. Estimated drivers' earnings are below minimum wage levels by a significant margin. As discussed in chapter 3, an alternative approach to measuring the cost of driver labour is to apply a notional wage rate to the estimated hours the taxi is on the road. IPART has previously used this approach, partly due to a lack of information on actual driver earnings.

The notional wage applied to a driver could reflect any number of occupations. Given that actual estimated earnings are below the minimum wage, one alternative option is to base driver labour costs on the minimum wage. The minimum wage in Australia is \$15.51 for a permanent employee. Permanent employees receive superannuation (at 9 per cent of their salary), paid recreational leave (typically four weeks a year) and paid sick leave. An equivalent total minimum wage including these allowances is \$18.60, incorporating a 20 per cent casual loading on the minimum wage. Using this wage, the cost structure is shown in table 7.6. This increases the weight on driver labour costs from 40 per cent to 54 per cent for urban and from 42 per cent to 53 per cent for country.

Cost item	Urban		Country	
	Standard	WAT	Standard	WAT
	Per cent	Per cent	Per cent	Per cent
Drivers' wages	53.8	52.2	53.1	47.3
Fuel	7.2	10.7	8.1	8.6
Cleaning	1.7	2.1	2.0	2.5
Operator's salary equivalent	3.8	4.6	4.3	5.4
Maintenance costs	3.6	4.0	4.2	4.7
Plate lease costs	15.4	0.6	10.4	0.7
Insurance	6.7	9.3	4.8	6.2
Vehicle lease payments	3.8	11.8	3.4	12.5
Network fees	3.9	4.6	9.6	12.0
Total annual costs	100.0	100.0	100.0	100.0

7.6 Urban and country cost structures with notional driver earnings

Source: The CIE.

Using an alternative earnings measure, such as the minimum wage, would increase the cost weight of driver labour costs. But this does not mean their inclusion would increase driver earnings to this level. It would also distort the weightings in the TCIs. This means that changes in the TCIs are less likely to accurately reflect actual changes in the cost of providing taxi services.

Inclusion of driver entitlements

Under the Contract Determination that applies in the Sydney Metropolitan area, permanent bailee drivers are entitled to annual leave on completion of at least 220 night shifts or 230 shifts within a twelve month period, or on termination of contract. The entitlement depends on the bailment method and the length of service. A permanent driver using the set pay-in method (as used by most drivers in the Sydney Metropolitan area), with more than 12 months of service is entitled to five weeks at a rate of \$803.55 per week.

In addition, in the first year of bailment a permanent bailee is entitled to five days sick leave. Pro-rata sick leave is not available until 55 shifts have been completed. In the second and subsequent years of bailment a bailee is entitled to eight days sick leave at a rate of \$161.26 per day (for drivers using the set pay-in method).

According to the survey, operators in the Sydney Metropolitan area have an average of around 1.2 permanent drivers per taxi. An average operator could therefore potentially incur a cost of \$6369 per taxi in driver entitlements (table 7.7).

7.7 Estimated driver entitlements

	Quantity per driver	Cost per unit	Total entitlement per driver	Total entitlement per operator ^a
	No.	\$	\$	\$
Annual leave (weeks)	5	803.55	4 018	4 821
Sick leave (days)	8	161.26	1 290	1 548
Total			5 308	6 369

^a Based on 1.2 permanent drivers per operator, as estimated from CIE survey of operators.

Source: Office of Industrial Relations, http://www.lawlink.nsw.gov.au/irc/ircgazette.nsf/webviewdate/C7641?OpenDocument, accessed 30 November 2011.

However, drivers are not always paid these entitlements. The survey of operators suggests that around 20 per cent of operators in the Sydney Metropolitan area pay annual leave and sick leave entitlements. Since paying driver entitlements to permanent drivers is a legal requirement, it is likely that some operators that do not pay entitlements chose not to answer that question. Relative to total survey responses, around 14 per cent of operators indicated they pay driver entitlements.

By contrast, the driver survey suggests that less than 3 per cent of permanent bailee drivers in the Sydney Metropolitan area — the drivers that are entitled to annual and sick leave benefits — actually receive them. Since our general approach has been to measure the actual cost structure in the taxi industry, we did not include driver entitlements in the cost model.



7.8 Payment of driver entitlements

Data source: CIE survey of operators, CIE survey of drivers.

IPART has previously included driver entitlements as an operator cost in the urban TCI to recognise that payment of entitlements is a legal requirement. However, including entitlements in the urban TCI does not ensure they will be paid. Nor does their inclusion necessarily increase operator earnings, compared with a scenario where they are not included. It would also distort the TCI weightings, meaning that changes in the urban TCI is less likely to reflect actual changes in the cost of providing taxi services in urban areas.

Exclusion of plate lease costs

Plate lease costs are an actual cost to operators. The value of plate leases should, over time, reflect the value of holding a licence that is limited by regulation (see box 7.9). It would be expected that higher taxi fares would lead to higher plate leases. If, in turn, higher plate leases led to higher fares then there would be a degree of circularity in the fare setting process.

7.9 The value of licence plates

In a market with no barriers to entry, competition would normally prevent firms from earning above-normal profits (referred to as 'economic rent') in the long run. If a firm consistently earns an above-normal profit, new firms enter the market and compete away this rent.

In the NSW taxi industry, market entry is restricted by the number of licence plates on issue. The value of the licence plate is therefore derived from its scarcity. If there were no restrictions on entry, licence plates would have no value. The value of the licence plate therefore reflects the future rents earned by licence plate owners.

An increase in plate lease costs reflects an increase in rents flowing to licence plate owners. From a regulator's perspective, there seems to be little logic in increasing the regulated price because the rents received by an entity with market power have increased.

Nevertheless, including licence plate lease costs in the TCI recognises that they are a cost to operators. It also means that the TCI is more likely to reflect the actual changes in the cost of providing taxi services.

However, the inclusion of licence plate lease costs in the TCI is, to some extent, also likely to be *driving* the increase in costs. Since the TCI was last re-weighted in 2008, fare increases have been sufficient to allow the rents flowing to licence plate owners (licence plate lease costs) to increase by more than 30 per cent. This has been a major driver of the rapid increase in taxi fares over this period, relative to consumer prices more generally. Over that period, taxi fares have increased by 16.3 per cent in urban

areas, while the Sydney CPI has increased by 11.3 per cent.¹⁰ Licence plate lease costs have contributed 3.7 percentage points to fare increases. Therefore, without the contribution of licence plate lease costs, the increase in taxi fares would have been only slightly higher than the CPI (chart 7.10).



7.10 Price increases 2007 to 2011 (year to 31 March)

If licence plate lease costs were removed from the cost structures are set out in table 7.11.

Cost item	Urban		Country	
	Standard	WAT	Standard	WAT
	%	%	%	%
Drivers' earnings	50.1	44.4	48.1	40.2
Fuel	11.7	12.6	11.5	9.9
Cleaning	2.8	2.5	2.9	2.9
Operator's salary equivalent	6.2	5.4	6.1	6.2
Maintenance costs	5.8	4.7	6.0	5.4
Plate lease costs	0.0	0.0	0.0	0.0
Insurance	10.9	11.0	6.9	7.2
Vehicle lease payments	6.2	13.9	4.8	14.4
Network fees	6.2	5.4	13.7	13.9
Total annual costs	100.0	100.0	100.0	100.0

								-	
7 11	Urban	and c	cuntry	cost	structures	with n	o plate	lease	costs
					011 4 01 4 1 0 0		o piaco		

Source: The CIE.

Data sources: IPART, ABS, The CIE.

¹⁰ Based on the average Sydney CPI in the year to March 2011, compared to the average Sydney CPI in the year to March 2007.

A Surveys

Survey of taxi operators

Your response is anonymous — no personal information will be recorded with your response.

This questionnaire is made up of 15 questions, with sub-questions. Please answer all relevant questions.

1. Is it easier or harder to find taxi drivers now compared with 12 months ago? (choose one)							
□ Easier □ Harder □ Same							
2. How many taxis do you operat	2. How many taxis do you operate?						
3. How many of your vehicle(s) a (specify number of taxis of eac	re standard, premium and wh h type, write 1 if you operate	eelcha a sing	air acce <i>le taxi)</i>	essible/ maxi taxis?			
_Standard taxis	_Premiur	n taxis	6				
_Wheelchair accessible taxis (WA	T)Maxi tax 11 pass	kis (ve enger	hicle th s but is	at carries 5- not a WAT)			
 Please tick yes or no for the fo information if requested. 	llowing questions. If you tick y	yes, pl	ease pi	rovide additional			
Question		No	Yes	lf "yes"…			
Do you pay for daily cleaning cost	s for your vehicle(s)?						
Do you have general liability insur	ance for your business?						
Do you have comprehensive insu	rance for your vehicle(s)?						
Do you pay for fuel used by bailee	e drivers?						
Do you pay annual and sick leave bailee driver(s) (working at least 5	entitlements to permanent shifts per week)?						
Do you discount pay-ins for perma of paying annual and sick leave e	anent bailee drivers instead ntitlements?						
Do you offer drivers multi-day bail weekend?	ments, such as across a						
Do you also drive your taxi? If you drive please also fill out the	driver survey			How many hours each week on average?			
Do any of your taxis operate unde time that they can operate, such a	r licences that restrict the as peak availability licences?			How many?			
If you have bailee drivers, do you fares (rather than a fixed amount	collect a percentage of from the driver)?			What share do you collect?%			

Do you have another job outside	of your taxi business?	[What is your other job? _	
 This question is about administration tasks related to your role as an operator. This includes organising drivers, paying bills, organising maintenance for the vehicle, obtaining insurance, completing Business Activity Statements etc. (Do not include administration related to your role as a driver if you also drive your cab.) 						
 a) Do you spend your own time on administration? No Yes, hours per week? - 6. This question is about repairs costs that were covered by in 	 b) Do you pay staff to undertake administration? No Yes, staff costs per year? \$			 c) Do you pay other businesses for administration (such as accounting fees)? □ No □ Yes, costs per year (including GST)? \$ 		
 a) Do you spend time on repairs and maintenance yourself? □ No □ Yes, hours per year?hours 	t were covered by insurance in your answers be bend time on b) Do you pay staff to undertake repairs and maintenance?			 c) Do you pay other businesses to undertake repairs and maintenance (mechanics, parts etc)? □ No □ Yes, annual expenses? 		
7. Do you lease any taxi licences? (yes or no) Yes, what is the annual licence lease cost per licence (GST inclusive, licence lease cost only)? \$_Standard licence \$_Wheelchair accessible licence \$_Other Who do you lease your licence(s) from? Licence owners Network NSW Department of Transport Licence broker Other:						
 8. Do you lease any vehicles from another person or organisation? (yes or no) Yes, what is the annual vehicle lease cost per vehicle (GST inclusive, vehicle lease cost only)? \$ Standard vehicle 						

\$ Wheelchair accessible vehicle	
<u>\$</u> Premium vehicle	
<u>\$</u> Maxi taxi vehicle	

9. What type of fuel(s) do your taxi(s) operate with? (specify number of taxis for each fuel type)					
_ LPG	_ Petrol				
_ Diesel	_ Petrol/electric hybrid				
10.What area(s) do your taxi(s) ope	erate in? (<i>tick</i>	all that apply)			
□ Sydney					
Central Coast	□ Other urban. Please indicate:				
□ Newcastle	Country NSW. Please indicate:				
11.Please provide information about the availability of your taxi(s) and revenues from your taxi(s) in the table below, according to each type of taxi that you operate. <i>Please report figures in the first four columns for vehicles operating with unrestricted time licences. Use the fifth column for all vehicles operating on time restricted licences, such as peak availability licences.</i>					
	Standard	Premium	WAT(s)	Maxi	Restricted
	taxi(s)	taxi(s)		taxi(s)	time taxi
Average kilometres each taxi drives per year?					
Average number of weeks each taxi is on the road each year?					
Average number of hours per	number of hours per				
for weeks in which it is on the					
road)?					
Average gross income/total sales					
you received per taxi over the					
also drive vour taxi include					
income from this role					
12.What is the average age of your vehicle(s)?years					
13. How many years do you expect each taxi to be in service for (as a taxi), on average?years					
14.What make of vehicles are your taxi(s)? (eg, Ford Falcon)?					
List:					

15. How many permanent drivers (at least five shifts per week) work for your business (include yourself if you normally drive the taxi)?

Number of permanent drivers:

THANK YOU FOR COMPLETING THIS SURVEY!

Please return this survey in the reply paid envelope provided or mail to:

The CIE GPO Box 397 Sydney NSW 2001

Survey of taxi drivers

Your response is anonymous — no personal information will be recorded with your response.

This questionnaire is made up of 14 questions. Please answer all relevant questions.

Date questionnaire completed:

1. Do you currently drive a taxi? (choose yes or no)				
□ Yes	□ No, why not?			
Do you expect to be driving a taxi in 2 years?	□ Can't get a shift			
□ Yes	Don't want a shift because:			
□ No, why not?	□ Pay too low			
□ Too hard to get shifts	□ Poor conditions			
□ Pay too low	□ Retired			
Poor conditions	□ Other:			
□ Retiring	Do you work in another job?			
□ Other:	□ Yes, what job <u>?</u>			
What job would you do if you were not driving a	□ No			
List <u>:</u>	If you are not currently driving a taxi please end the survey here and mail to the CIE.			
2. What was your previous job prior to being a taxi driver?				
3. Are you: (choose one)				
\Box a permanent bailee driver (at least five shifts	□ an operator who also drives			
per week for the same operator)	If you also operate a taxi please make sure that you also			
□ a casual bailee driver (less than five shifts a week for the same operator)	fill out the operator survey as well as this driver survey			
4. How many years have you been driving taxis	in NSW? (choose one)			
□ less than 1 year	□ 4-6 years			
□ 1-3 years	□ 7 years or more			
5. What type of taxi vehicle do you normally drive? (choose one)				
□ Standard taxi	□ Premium taxi			
□ Wheelchair accessible taxi (WAT)	Maxi taxi (vehicle that carries 5-11 passengers but is not wheelchair accessible)			
6. What area do you normally drive? (choose one)				
□ Sydney	U Wollongong			
Central Coast	□ Other urban. Please indicate:			
□ Newcastle	□ Country NSW. Please indicate:			
7. Type of fuel used in the vehicle you normally drive? (choose one)				
	Petrol Petrol/electric hybrid			
8. In the space provided, please indicate which shifts you have driven over the past week. If you work a shift that covers part of the usual day shift (3am to 3pm) and part of the usual night shift (3pm to				

3am), such as 10am to 10pm, please tick day or night depending on when most of the shift took place. For each shift you have driven please indicate:

- > The number of hours worked this is the number of hours the taxi you were driving was either hired or available for hire, was being cleaned (including waiting to be cleaned), refuelled or otherwise repaired. Do not include time when you were taking breaks or when you were using the vehicle for private purposes (eg. your own shopping) or time spent on administration.
- > The cost of fuel (whether this was paid by you or the operator) including GST.
- > The amount paid to the operator through a fixed pay-in or percentage of fares (including GST). If you are a driver/operator please write zero in this column and report all takings as takings kept by the driver.
- > Takings kept by the driver (from cash and electronic payment of fares). This is what you receive as earnings after paying all expenses (except for GST). For example, takings would equal all fare revenue (cash and electronic, including GST) less payment to the operator less all tolls paid including tolls not part of a fare less any fuel paid by the driver, less wash costs etc.

Day	Did you drive this shift in the last week?	Number of hours worked	Cost of fuel used during shift (incl. GST)	Amount paid to operator for shift (incl. GST)	Takings kept by driver (incl. GST)	Number of paid trips
	Tick if yes	Number	\$	\$	\$	Number
Day shifts						
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
Night shifts						
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						

9. On average, what share of your paid trips are from radio bookings? (specify percentage)

Percentage of trips: %

10. How much time do you spend on administration tasks required for each shift not included in the



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number of hours worked above (such as filling out timesheets, pre-shift inspections etc)?					
Number of minutes per shift <u>:</u>					
11.For the vehicle you normally drive, who pays for: (please tick one)					
a. Daily cleaning costs?	Driver Drerator				
b. Fuel costs?	Driver Drerator				
12.Please answer yes or no for the follow	ving questions.				
a. Are you paid annual and sick leave entitlements?	□ No	□ Yes			
b. If you are a bailee driver do you pay a percentage of fares (rather than a fixed amount) to the operator?	□ No	□ Yes			
		What share of fares do you give to the operator? <u>%</u>			
13. There are a range of other less frequent administrative tasks that taxi drivers are required to do from time to time, such as Business Activity Statements, filing police reports, network training etc. Do not include administrative tasks related to your role as an operator if you also operate your taxi.					
Do you spend time on these tasks yourself?	Do you pay someone else to undertake any of these tasks for you?				
\Box Yes, how many hours per year?	□ Yes, what are your costs per year (GST inclusive)?				
<u>hrs</u>	<u>\$</u>				
□ No					
14.Are there other expenses that you incur as a taxi driver? (For example, phone, GPS, laundry etc)					
□ No	□ Yes				
	How much in total would these expenses typically amount to for a year? (GST inclusive) <u>\$</u>				

Please feel free to provide additional printouts of shift totals, meter totals, hired and vacant kilometres, time per shift, fares by distance and time etc if your meter allows for this.

THANK YOU FOR COMPLETING THIS SURVEY!

Please return this survey in the reply paid envelope provided or mail to:

The CIE GPO Box 397 Sydney NSW 2001



B Summary of survey responses

Operator survey

Table B.1 summarises the responses to the operator survey.

B.1 Summary of operator responses

	Responses	Share
	No.	%
Number of taxis operated		
Single cab	367	73.0
2 – 3 taxis	81	16.1
4 – 12 taxis	45	8.9
More than 13 taxis	10	2.0
Total	503	100.0
Does the operator drive?		
Yes	431	81.6
No	97	18.4
Total	528	100.0
Area		
Sydney	374	71.9
Central Coast	13	2.5
Newcastle	24	4.6
Wollongong	13	2.5
Other urban	12	2.3
Country NSW	84	16.2
Total	520	100.0
Taxis operated		
Standard	860	77.0
Premium	96	8.6
WAT	128	11.5
Maxi taxi	33	3.0
Total	1 117	100.0

Source: CIE survey of operators.

Driver survey

Table B.1 summarises the responses to the driver survey.

B.1 Summary of driver responses

	Responses	Share of responses
	No.	%
Type of driver		
Currently driving	1 980	84.4
Not currently driving	367	15.6
Total	2 347	100.0
Permanent Bailee	756	37.2
Casual Bailee	986	48.5
Driver/operator	291	14.3
Total	2 033	100.0
Experience		
Less than 1 year	151	7.2
1-3 years	368	17.5
4-6 years	336	16.0
7 years or more	1 242	59.2
Total	2 097	100.0
Type of vehicle		
Standard taxi	1 613	77.8
Premium taxi	175	8.4
WAT	232	11.2
Maxi taxi	53	2.6
Total	2 073	100.0
Area		
Sydney	1 502	71.5
Central Coast	68	3.2
Newcastle	75	3.6
Wollongong	32	1.5
Other urban	34	1.6
Country	389	18.5
Total	2 100	100.0
Type of fuel		
LPG	1 783	86.8
Diesel	37	1.8
Petrol	204	9.9
Petrol/electric	31	1.5
Total	2 055	100.0

Source: CIE taxi driver survey.
C Operator survey results

To be completed — for the draft report we intend to show a table similar to those show below for any survey data used in the cost model.

Hours on the road per week

The estimated average hours each taxi is on the road per week was obtained directly from the survey of operators. The survey results are shown in table C.1.

C.1 Average hours per week

				Confidence interval ^a		
	Responses	Mean	Standard deviation	Lower bound	Upper bound	
	No.	No.		No.	No.	
Urban — Standard taxi	230	105.0	30.4	101.0	108.9	
Urban — WAT	69	82.0	32.2	74.4	89.6	
Country — Standard taxi	62	96.8	29.8	89.4	104.2	
Country — WAT	12	67.3	40.1	44.7	90.0	

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution have been removed from the sample. *Source:* CIE Survey of taxi operators.

Source. CIE Survey of taxi operators.

Licence plate lease costs

The cost of leasing a standard licence plate is estimated directly from the survey of taxi operators. A summary of the survey results is shown in table C.2.

C.2 Licence plate lease costs

				Confidence in	nterval ^a
	Responses	Mean	Standard deviation	Lower bound	Upper bound
	No.	\$		\$	\$
Standard licence — urban	117	31 737	3 823	31 044	32 430
Standard licence — country	9	19 062	4 581	16 069	22 055

^a Confidence interval is at the 95 per cent level of significance.

Note: Responses less than \$5 000 were excluded from the sample. The 5 per cent of responses in each tail of the distribution were removed from the remaining sample.

Source: CIE Survey of taxi operators.

Maintenance and repair costs

Maintenance and repair costs by operator size are shown in table C.3.

C.3 Maintenance and repair costs by size of operator

				Confidence interval ^a		
	Responses	Mean	Standard deviation	Lower bound	Upper bound	
	No.					
Own labour (hours per year)						
Single cab (1 taxi)	293	30.5	50.7	24.7	36.3	
Small operators (2-3 taxis)	68	10.0	21.1	5.0	15.0	
Medium operators (4-12 taxis)	39	20.8	39.5	8.4	33.1	
Large operators (13+ taxis)	7	23.0	56.1	-18.5	64.6	
All operators	413	27.5	48.0	22.9	32.1	
Other costs (\$ per year)						
Single cab (1 taxi)	294	6 997	5 733	6 342	7 653	
Small operators (2-3 taxis)	64	7 209	5 250	5 923	8 495	
Medium operators (4-12 taxis)	39	6 741	5 357	5 093	8 422	
Large operators (13+ taxis)	7	5 509	5 557	1 392	9 626	
All operators	406	6 787	5 380	6 263	7 310	

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of each tail of the distribution has been removed.

Source: CIE survey of taxi operators.

Maintenance and repair costs for standard taxis and WATs in urban and country areas are shown in table C.4.

				Confidence	e interval ^a
	Responses	Average	Standard deviation	Lower bound	Upper bound
Urban standard					
Hours (No./taxi/year)	214	30.1	50.0	23.4	36.8
Staff costs (\$/taxi/year)	213	268.8	961.2	139.7	397.8
Other costs (\$/taxi/year)	214	6087.4	5 896.6	5 297.4	6 877.4
Urban WAT					
Hours (No./taxi/year)	67	27.7	52.0	15.2	40.1
Staff costs (\$/taxi/year)	66	13.6	69.9	3.2	30.5
Other costs (\$/taxi/year)	66	5 930.3	4 410.1	4 866.3	6 994.2
Country standard					
Hours (No./taxi/year)	57	7.4	16.3	3.2	11.7
Staff costs (\$/taxi/year)	57	158.1	581.6	7.1	309.0
Other costs (\$/taxi/year)	58	7 362.8	5 767.0	5 878.6	8 847.0
Country WAT					
Hours (No./taxi/year)	14	17.0	39.7	-3.7	37.8
Staff costs (\$/taxi/year)	14	1 597.9	3 003.1	24.8	3 171.0
Other costs (\$/taxi/year)	14	4 577.2	3 958.0	2 503.9	6 650.5

C.4 Maintenance and repair costs

^a Confidence interval is at the 95 per cent level of significance.

Note: Other costs include GST. The 5 per cent of each tail of the distribution has been removed.

Source: CIE Survey of operators.

Administration costs

Administration costs by size of operator are summarised in table C.5.

C.5 Administration costs by size of operator

				Confidence interval		
	Responses	Mean	Standard deviation	Lower bound	Upper bound	
	No.					
Own labour (hours per year)						
Single cab	326	4.8	4.4	4.3	5.2	
Multiple cab operators	109	3.4	2.2	3.0	3.9	
All operators	432	4.1	3.3	3.8	4.4	
Other costs (\$ per year)						
Single cab (1 taxi)	321	561	604	495	628	
Multiple cab operators	112	1 102	2 115	710	1 494	
All operators	431	606	732	537	675	

^a Confidence interval is at the 95 per cent level of significance.

Note: Other costs include GST. The 5 per cent of each tail of the distribution has been removed.

Source: CIE Survey of operators.

Licence plate lease costs

Licence plate lease costs for standard licences are estimated directly from the survey (table C.6)

C.6 Licence plate lease costs

		- Standard Responses Mean deviation		Confidence interval		
	Responses			Lower bound	Upper bound	
	No.					
Standard licence — urban	117	31 737	3 823	31 044	32 430	
Standard licence — country	9	19 062	4 581	16 069	22 055	

a Confidence interval is at the 95 per cent level of significance.

Source: CIE Survey of operators.

Number of permanent drivers

To estimate driver entitlements, we require information on the average number of permanent drivers per taxi. We can get this information directly from the survey. A summary of the survey results in shown in table C.7.

C.7 Number of permanent drivers per taxi

				Confidence interval ^a		
	Responses	Mean	Standard deviation	Lower bound	Upper bound	
	No.	\$		\$	\$	
No. of permanent drivers	323	1.2	0.7	1.1	1.2	

^a Confidence interval is at the 95 per cent level of significance.

Note: Responses less than \$5000 were excluded from the sample. The 5 per cent of responses in each tail of the distribution were removed from the remaining sample.

Source: CIE Survey of taxi operators.

D Driver survey results

Fuel costs per shift

Fuel costs per shift can be obtained directly from the survey of taxi drivers. Table D.1 summarises the results of the survey for drivers of standard taxis in urban areas.

				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
	No.	\$		\$	\$
Day shifts					
Monday	463	25.9	6.3	25.3	26.5
Tuesday	470	25.6	6.3	25.0	26.1
Wednesday	466	26.0	6.2	25.5	26.6
Thursday	484	26.0	6.2	25.4	26.5
Friday	458	27.1	6.7	26.5	27.7
Saturday	366	28.7	8.1	27.8	29.5
Sunday	272	29.7	8.8	28.7	30.8
Night shifts					
Monday	277	26.8	6.7	26.0	27.6
Tuesday	312	27.6	6.3	26.9	28.3
Wednesday	325	29.1	6.2	28.4	29.8
Thursday	330	31.4	7.2	30.7	32.2
Friday	338	37.3	8.0	36.4	38.1
Saturday	303	37.3	9.1	36.3	38.4
Sunday	154	28.1	6.7	27.1	29.2

D.1 Fuel costs per shift (including GST) - Urban standard taxi

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Table D.2 summarises the results of the survey for drivers of urban WATs.

				Confidence interval ^a		
	Responses	Mean		Lower bound	Upper bound	
Day shifts						
Monday	40	44.8	12.6	40.9	48.7	
Tuesday	42	43.1	12.5	39.3	46.9	
Wednesday	43	44.5	12.2	40.9	48.2	
Thursday	46	43.1	13.5	39.2	47.0	
Friday	41	47.2	13.2	43.2	51.2	
Saturday	26	44.5	15.5	38.5	50.4	
Sunday	26	42.3	12.9	37.4	47.2	
Night shifts						
Monday	9	31.4	12.5	23.3	39.6	
Tuesday	8	34.3	7.0	29.4	39.1	
Wednesday	9	40.0	13.7	31.1	48.9	
Thursday	12	41.6	9.4	36.3	46.9	
Friday	15	45.5	16.4	37.2	53.8	
Saturday	13	49.5	15.2	41.3	57.8	
Sunday	6	47.3	15.1	35.2	59.5	

D.2 Fuel costs per shift (including GST) - Urban WAT

a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Table D.3 summarises the results of the survey for drivers of standard taxis in urban areas.

	- p		,		
				Confidence	interval ^a
	Responses	Mean	Standard deviation	Lower bound	Upper bound
Day shifts					
Monday	46.0	31.2	12.5	27.6	34.8
Tuesday	45.0	33.5	12.3	29.9	37.1
Wednesday	45.0	34.0	11.6	30.6	37.4
Thursday	47.0	30.7	10.4	27.8	33.7
Friday	49.0	29.9	11.2	26.8	33.0
Saturday	37.0	27.8	11.7	24.0	31.6
Sunday	30.0	30.2	13.2	25.5	35.0
Night shifts					
Monday	8.0	21.9	10.3	14.7	29.0
Tuesday	13.0	20.9	8.7	16.2	25.7
Wednesday	16.0	23.3	7.5	19.6	26.9
Thursday	22.0	36.2	14.8	30.0	42.4
Friday	34.0	42.0	10.3	38.5	45.5
Saturday	33.0	45.0	13.6	40.4	49.6
Sunday	13.0	28.8	10.3	23.2	34.5

D.3 Fuel costs per shift (including GST) — Country standard taxi

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Table D.4 summarises the results of the survey for drivers of standard taxis in urban areas.

				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
Day shifts					
Monday	14.0	32.5	11.6	26.4	38.5
Tuesday	18.0	32.9	9.0	28.8	37.0
Wednesday	12.0	39.3	12.1	32.4	46.2
Thursday	14.0	38.8	11.4	32.8	44.8
Friday	15.0	37.6	9.1	32.9	42.2
Saturday	8.0	42.4	18.0	29.9	54.9
Sunday	6.0	37.6	16.4	24.5	50.7
Night shifts					
Monday	1.0	n.a.	n.a.	n.a.	n.a.
Tuesday	1.0	15.0	n.a.	n.a.	n.a.
Wednesday	3.0	31.7	7.6	23.0	40.3
Thursday	2.0	30.0	7.1	20.2	39.8
Friday	9.0	41.1	9.4	34.9	47.3
Saturday	7.0	49.2	11.0	41.0	57.3
Sunday	2.0	28.5	2.1	25.6	31.4

D.4 Fuel costs per shift (including GST) — Country WAT

 ${}^{\mathbf{a}}$ Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Duration of shift

To estimate drivers' earnings, we require information on the average length of each shift. This includes the number of hours the taxi is available for hire (including time spent refuelling and cleaning), as well as daily driver administrative tasks.

Table D.5 summarises the results of the survey for drivers of standard taxis in urban areas. The sample includes both bailee drivers and operator/drivers.

				Confidence	intervala
	Responses	Mean		Lower bound	Upper bound
	No.	Hours		Hours	Hours
Day shifts					
Monday	498	9.9	1.5	9.8	10.0
Tuesday	505	9.9	1.4	9.8	10.0
Wednesday	499	10.0	1.4	9.8	10.1
Thursday	519	10.0	1.4	9.8	10.1
Friday	486	10.0	1.5	9.9	10.1
Saturday	381	10.3	1.7	10.1	10.5
Sunday	281	10.5	1.8	10.3	10.7
Night shifts					
Monday	303	9.7	1.7	9.6	9.9
Tuesday	344	9.8	1.6	9.7	10.0
Wednesday	351	10.3	1.4	10.1	10.4
Thursday	347	10.5	1.2	10.4	10.7
Friday	346	11.5	1.0	11.4	11.6
Saturday	311	11.4	1.2	11.3	11.5
Sunday	167	10.0	1.9	9.7	10.3

D.5 Hours per shift — Urban standard

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Table D.6 summarises the results of the survey for drivers of urban WATs.

				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
Day shifts					
Monday	42	10.2	1.3	9.8	10.6
Tuesday	47	10.0	2.1	9.4	10.6
Wednesday	44	10.5	1.2	10.1	10.8
Thursday	48	10.0	1.8	9.5	10.5
Friday	44	10.4	1.8	9.9	10.9
Saturday	27	10.1	1.9	9.3	10.8
Sunday	29	10.3	2.4	9.5	11.2
Night shifts					
Monday	9	8.1	2.3	6.6	9.6
Tuesday	10	7.8	2.5	6.3	9.3
Wednesday	10	10.4	2.1	9.1	11.6
Thursday	14	8.6	2.5	7.3	9.9
Friday	17	10.2	2.7	8.9	11.5
Saturday	16	10.7	2.4	9.6	11.9
Sunday	7	10.0	2.8	7.9	12.1

D.6 Hours per shift — Urban WAT

a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Table D.7 summarises the results of the survey for drivers of standard taxis in country areas.

				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
Day shifts					
Monday	81.0	9.8	1.9	9.3	10.2
Tuesday	79.0	9.9	1.6	9.5	10.2
Wednesday	79.0	9.9	1.6	9.6	10.3
Thursday	83.0	9.5	1.6	9.2	9.9
Friday	91.0	9.4	1.5	9.1	9.7
Saturday	59.0	9.3	2.1	8.8	9.8
Sunday	41.0	9.7	2.1	9.0	10.3
Night shifts					
Monday	26.0	7.9	2.9	6.8	9.0
Tuesday	27.0	8.3	2.4	7.4	9.2
Wednesday	26.0	9.6	2.4	8.7	10.5
Thursday	32.0	10.5	1.8	9.8	11.1
Friday	58.0	11.1	2.1	10.6	11.7
Saturday	51.0	11.3	1.5	10.8	11.7
Sunday	24.0	9.9	2.5	8.9	10.9

D.7 Hours per shift — Country Standard

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Table D.8 summarises the results of the survey for WAT drivers in country areas.

				Confidence	interval ^a
	Responses	Mean	Standard deviation	Lower bound	Upper bound
Day shifts					
Monday	29.0	9.3	1.5	8.8	9.9
Tuesday	28.0	9.8	1.4	9.2	10.3
Wednesday	23.0	9.3	1.4	8.7	9.8
Thursday	25.0	9.6	1.3	9.1	10.1
Friday	29.0	9.5	1.4	9.0	10.0
Saturday	16.0	9.7	1.5	9.0	10.5
Sunday	9.0	10.5	1.4	9.6	11.4
Night shifts					
Monday	5.0	6.7	3.8	3.4	10.0
Tuesday	5.0	6.1	1.9	4.4	7.8
Wednesday	7.0	8.1	1.8	6.7	9.4
Thursday	4.0	8.3	1.5	6.8	9.7
Friday	14.0	10.8	1.1	10.2	11.3
Saturday	10.0	11.2	1.0	10.6	11.8
Sunday	4.0	8.8	1.5	7.3	10.2

D.8 Hours per shift — Country WAT

a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Driver administration

We also include the time drivers spend on the administrative tasks for each shift as part of the shift. The survey results are summarised in table D.9.

D.9 Driver administration

				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
	No.	No.		No.	No.
Minutes per shift	1 817	21.9	13.6	21.3	22.5

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample. *Source:* CIE Survey of taxi drivers.

Hourly driver earnings

To estimate hourly driver earning, we require information on the earnings per shift of bailee drivers and the hours they worked.

Driver earnings per shift

Table D.10 summarises the survey results for drivers of standard taxis in urban areas.

D.10 Driver earnings per shift (including GST) - Urban standard

				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
	No.	Hours		Hours	Hours
Day shifts					
Monday	353	107.6	36.6	103.8	111.4
Tuesday	377	104.3	34.1	100.9	107.8
Wednesday	365	107.6	34.3	104.0	111.1
Thursday	377	113.4	34.2	110.0	116.9
Friday	357	124.5	41.8	120.2	128.9
Saturday	287	128.7	45.7	123.5	134.0
Sunday	236	132.6	51.7	126.0	139.2
Night shifts					
Monday	226	85.1	32.3	80.8	89.3
Tuesday	251	95.7	31.6	91.8	99.7
Wednesday	270	112.0	37.5	107.5	116.5
Thursday	272	132.1	41.4	127.2	137.0
Friday	281	187.8	57.0	181.1	194.4
Saturday	242	191.2	62.7	183.3	199.1
Sunday	124	123.3	48.7	114.7	131.9

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Table D.11 summarises the survey results for WAT drivers in urban areas.

				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
Day shifts					
Monday	21	139.9	77.1	106.9	172.8
Tuesday	21	122.2	50.5	100.6	143.8
Wednesday	24	121.7	51.5	101.1	142.3
Thursday	23	127.2	56.3	104.2	150.2
Friday	20	142.5	65.0	113.9	171.0
Saturday	12	147.2	80.6	101.6	192.9
Sunday	10	155.1	78.3	106.6	203.6
Night shifts					
Monday	5	201.4	130.5	87.0	315.8
Tuesday	4	87.8	66.9	22.2	153.3
Wednesday	6	228.0	104.3	144.5	311.5
Thursday	6	170.8	86.6	101.5	240.1
Friday	8	249.8	95.0	183.9	315.6
Saturday	8	216.8	58.0	176.6	257.0
Sunday	4	193.6	144.4	52.1	335.1

D.11 Driver earnings per shift (including GST) — Urban WAT

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Table D.12 summarises the survey results for WAT drivers in urban areas.

D.12 Driver earnings per shift (including GST) — Country Standard

				Confidence	interval ^a
	Responses	Mean	Standard deviation	Lower bound	Upper bound
Day shifts					
Monday	41	125.2	47.4	110.7	139.7
Tuesday	41	120.4	37.5	109.0	131.9
Wednesday	41	118.8	33.6	108.5	129.1
Thursday	45	123.9	39.6	112.4	135.5
Friday	50	127.3	34.6	117.7	136.9
Saturday	34	114.1	40.5	100.5	127.7
Sunday	27	134.9	40.9	119.5	150.4
Night shifts					
Monday	18	92.7	34.0	77.0	108.4
Tuesday	20	97.4	25.4	86.3	108.6
Wednesday	18	126.5	47.4	104.6	148.4
Thursday	26	151.8	54.0	131.0	172.6
Friday	40	190.9	56.6	173.4	208.4
Saturday	34	220.1	56.4	201.2	239.1
Sunday	16	111.8	49.6	87.4	136.1

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Table D.13 summarises the survey results for WAT drivers in country areas.

				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
Day shifts					
Monday	18	129.7	34.0	114.0	145.5
Tuesday	22	133.5	29.2	121.3	145.7
Wednesday	13	159.4	43.1	136.0	182.9
Thursday	18	146.3	40.7	127.5	165.1
Friday	17	154.5	37.1	136.9	172.2
Saturday	9	121.8	56.3	85.0	158.6
Sunday	7	160.4	26.0	141.2	179.7
Night shifts					
Monday	2	96.5	17.7	71.9	121.0
Tuesday	2	85.4	28.6	45.8	124.9
Wednesday	5	102.2	31.7	74.4	130.0
Thursday	4	119.3	22.7	97.1	141.6
Friday	10	195.7	66.3	154.7	236.8
Saturday	9	282.6	97.5	218.9	346.3
Sunday	3	139.6	46.5	87.0	192.2

D.13 Driver earnings per shift (including GST) — Country WAT

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Hours driven by bailee drivers

D.14 Hours per shift for bailee drivers — Urban standard

				Confidence	Confidence interval ^a	
	Responses	Mean	Standard deviation	Lower bound	Upper bound	
	No.	Hours		Hours	Hours	
Day shifts						
Monday	407	9.9	1.5	9.8	10.0	
Tuesday	424	9.9	1.4	9.7	10.0	
Wednesday	417	9.9	1.4	9.8	10.1	
Thursday	438	9.9	1.4	9.8	10.1	
Friday	408	10.0	1.5	9.9	10.2	
Saturday	317	10.6	1.4	10.4	10.7	
Sunday	252	10.7	1.6	10.5	10.9	
Night shifts						
Monday	261	9.9	1.5	9.7	10.1	
Tuesday	302	10.0	1.4	9.8	10.1	
Wednesday	309	10.3	1.3	10.2	10.5	
Thursday	318	10.5	1.2	10.4	10.7	
Friday	318	11.5	1.0	11.4	11.6	
Saturday	268	11.5	1.0	11.4	11.6	
Sunday	139	10.2	1.5	9.9	10.4	

a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
Day shifts					
Monday	24	9.6	1.2	9.2	10.1
Tuesday	27	9.3	2.1	8.5	10.1
Wednesday	28	10.0	1.2	9.6	10.5
Thursday	27	9.5	1.8	8.9	10.2
Friday	27	10.0	1.9	9.3	10.7
Saturday	17	9.6	2.1	8.6	10.6
Sunday	16	10.8	2.1	9.8	11.8
Night shifts					
Monday	6	9.0	3.7	6.0	12.0
Tuesday	5	8.8	1.6	7.4	10.2
Wednesday	8	10.8	2.4	9.1	12.5
Thursday	8	9.3	2.3	7.6	10.9
Friday	9	10.3	2.8	8.4	12.1
Saturday	11	10.5	2.5	9.0	12.0
Sunday	5	10.6	3.0	8.0	13.2

D.15 Hours per shift for bailee drivers — Urban WAT

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

D.16 Hours per shift for bailee drivers — Country Standard

				Confidence	interval ^a
	Responses	s Mean		Lower bound	Upper bound
Day shifts					
Monday	54	9.7	1.8	9.2	10.2
Tuesday	56	9.8	1.5	9.4	10.2
Wednesday	51	10.0	1.5	9.6	10.4
Thursday	55	9.5	1.5	9.1	9.9
Friday	66	9.5	1.4	9.2	9.9
Saturday	40	9.9	1.6	9.4	10.4
Sunday	30	10.1	1.6	9.6	10.7
Night shifts					
Monday	20	8.1	2.8	6.9	9.3
Tuesday	22	8.5	2.2	7.6	9.4
Wednesday	20	10.2	1.6	9.5	10.9
Thursday	27	10.7	1.5	10.1	11.3
Friday	44	11.4	1.7	10.9	11.9
Saturday	39	11.6	0.9	11.3	11.9
Sunday	19	10.5	2.0	9.6	11.4

a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.



				Confidence	interval ^a
	Responses	Mean		Lower bound	Upper bound
Day shifts					
Monday	27	9.1	1.4	8.6	9.7
Tuesday	28	9.6	1.4	9.0	10.1
Wednesday	21	9.2	1.3	8.7	9.8
Thursday	23	9.6	1.2	9.1	10.1
Friday	28	9.4	1.4	8.9	9.9
Saturday	14	9.8	1.6	9.0	10.7
Sunday	9	9.6	3.2	7.5	11.7
Night shifts					
Monday	5	6.7	3.8	3.4	10.0
Tuesday	5	6.1	1.9	4.4	7.8
Wednesday	7	8.1	1.8	6.7	9.4
Thursday	4	8.3	1.5	6.8	9.7
Friday	14	10.8	1.1	10.2	11.3
Saturday	10	11.2	1.0	10.6	11.8
Sunday	4	8.8	1.5	7.3	10.2

D.17 Hours per shift for bailee drivers - Country WAT

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Pay-ins

Operator revenue can be estimated from the number of shifts driven and the pay-ins per shift.

Estimated pay-ins per shift for urban standard taxis is shown in table D.18.

D.18 Pay-ins per shift (including GST) — Urban standard

				Confidence interval ^a		
	Responses	Mean	Standard deviation	Lower bound	Upper bound	
	No.	Hours		Hours	Hours	
Day shifts						
Monday	379	129.1	15.8	127.5	130.7	
Tuesday	393	128.9	15.3	127.4	130.4	
Wednesday	386	129.8	15.3	128.3	131.3	
Thursday	403	128.7	14.4	127.3	130.1	
Friday	383	131.3	16.3	129.6	132.9	
Saturday	296	117.7	22.1	114.8	120.5	
Sunday	239	117.6	22.5	114.8	120.5	
Night shifts						
Monday	247	136.0	20.2	133.5	138.6	
Tuesday	279	145.5	16.6	143.6	147.5	
Wednesday	294	155.1	13.7	153.5	156.6	
Thursday	295	166.1	14.9	164.4	167.8	
Friday	298	186.8	25.4	183.9	189.7	
Saturday	258	182.4	29.2	178.8	185.9	
Sunday	138	117.3	24.0	113.3	121.3	

a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Estimate pay-ins per shift for urban WATs is shown in table D.19.

			Standard deviation	Confidence interval ^a		
	Responses	Mean		Lower bound	Upper bound	
Day shifts						
Monday	22	130.4	28.7	118.4	142.4	
Tuesday	23	138.8	29.6	126.7	151.0	
Wednesday	27	140.2	34.1	127.3	153.0	
Thursday	25	130.3	36.3	116.1	144.5	
Friday	24	136.5	37.2	121.6	151.4	
Saturday	13	128.4	23.7	114.8	146.2	
Sunday	12	130.5	27.8	114.8	146.2	
Night shifts						
Monday	6	149.1	38.4	118.4	179.8	
Tuesday	5	168.1	53.7	121.0	215.2	
Wednesday	8	154.4	69.2	106.4	202.4	
Thursday	7	186.2	55.1	145.4	227.0	
Friday	9	201.9	80.3	149.5	254.4	
Saturday	9	184.8	87.2	127.8	241.7	
Sunday	5	139.5	47.3	98.0	181.0	

D.19 Pay-ins per shift (including GST) - Urban WAT

^a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Source: CIE Survey of taxi drivers.

Estimate pay-ins per shift for country standard taxis is shown in table D.20.

D.20 Pay-ins per shift (including GST) — Country Standard

				Confidence interval ^a	
	Responses	Mean	Standard deviation	Lower bound	Upper bound
Day shifts					
Monday	37	146.7	54.5	129.2	164.3
Tuesday	37	150.6	54.9	132.9	168.3
Wednesday	37	157.1	56.8	138.8	175.4
Thursday	40	155.4	56.5	137.9	172.9
Friday	45	172.6	59.7	155.2	190.1
Saturday	33	141.7	61.5	144.2	194.4
Sunday	25	169.3	64.1	144.2	194.4
Night shifts					
Monday	18	114.7	56.9	88.4	141.0
Tuesday	19	124.2	33.9	109.0	139.5
Wednesday	17	154.5	54.0	128.8	180.1
Thursday	24	183.3	73.5	153.9	212.7
Friday	36	238.4	88.3	209.5	267.3
Saturday	32	284.1	84.0	255.0	313.2
Sunday	14	136.8	55.8	107.6	166.1

a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.

Estimate pay-ins per shift for country standard taxis is shown in table D.21.

		Mean		Confidence interval ^a	
	Responses			Lower bound	Upper bound
Day shifts					
Monday	16	182.3	49.9	157.9	206.8
Tuesday	21	188.4	62.1	161.9	215.0
Wednesday	12	203.1	62.9	167.6	238.7
Thursday	16	198.2	75.3	161.3	235.1
Friday	15	186.0	78.4	146.3	225.7
Saturday	8	134.1	83.7	192.9	254.5
Sunday	6	223.7	38.5	192.9	254.5
Night shifts					
Monday	1	102.7	n.a.	n.a.	n.a.
Tuesday	2	83.0	4.7	76.5	89.5
Wednesday	3	68.8	45.9	16.8	120.7
Thursday	2	100.2	0.3	99.8	100.7
Friday	8	212.5	131.6	121.3	303.7
Saturday	7	272.3	141.2	167.7	377.0
Sunday	2	69.3	55.5	-7.7	146.2

D.21 Pay-ins per shift (including GST) — Country WAT

a Confidence interval is at the 95 per cent level of significance.

Note: The 5 per cent of responses in each tail of the distribution were excluded from the sample.