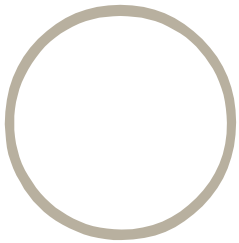




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Reweighting of the taxi cost index



Prepared for

NSW Independent Pricing and Regulatory Tribunal



*Centre for International Economics
Canberra & Sydney*

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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 (18 per cent of vehicles operating in NSW) and responses from 2645 taxi drivers (around 11 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 tables 1 and 2. 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.

1 Estimated cost structure for taxis in urban areas (ex GST)

<i>Cost item</i>	<i>Standard</i>		<i>WAT</i>	
	<i>Cost</i>	<i>Share</i>	<i>Cost</i>	<i>Share</i>
	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>
Driver labour	62 936	41.3	60 375	44.4
Fuel	14 615	9.6	16 880	12.4
Cleaning	3 233	2.1	3 338	2.5
Operator administration	9 223	6.0	10 246	7.5
Maintenance costs	7 562	5.0	7 736	5.7
Plate lease costs	28 789	18.9	1 000	0.7
Insurance	13 163	8.6	15 164	11.1
Vehicle lease payments	5 805	3.8	12 189	9.0
Network fees	7 231	4.7	9 173	6.7
Total annual costs	152 556	100.0	136 102	100.0

Source: The CIE.

2 Estimated cost structure for taxis in country areas (ex GST)

<i>Cost item</i>	<i>Standard</i>		<i>WAT</i>	
	<i>Cost</i>	<i>Share</i>	<i>Cost</i>	<i>Share</i>
	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>
Drivers labour	62 236	43.5	45 645	37.4
Fuel	15 091	10.5	11 139	9.1
Cleaning	3 358	2.3	3 371	2.8
Operator administration	7 711	5.4	10 246	8.4
Maintenance costs	8 504	5.9	8 932	7.3
Plate lease costs	17 005	11.9	1 000	0.8
Insurance	8 321	5.8	9 089	7.5
Vehicle lease payments	4 745	3.3	14 477	11.9
Network fees	16 085	11.2	18 028	14.8
Total annual costs	143 056	100.0	121 926	100.0

Source: The CIE.

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 3).

3 Comparison of cost weights

<i>Cost items</i>	<i>Urban standard</i>		<i>Country standard</i>	
	<i>CIE</i>	<i>IPART</i>	<i>CIE</i>	<i>IPART</i>
	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
Notional drivers' wages	41.3	39.1	43.5	42.2
Driver entitlements (notional self funded)	-	1.5	-	6.3
Driver provision for super	-	4.0	-	4.4
Fuel	9.6	6.8	10.5	6.4
Other drivers' costs	2.1	2.4	-	1.6
Operator's salary equivalent	6.0	6.8	5.4	7.3
Driver entitlements in the contract determination	-	4.4	-	
Maintenance costs	5.0	4.7	5.9	4.0
Plate lease costs	18.9	14.0	11.9	11.8
Insurance	8.6	8.1	5.8	4.9
Vehicle lease payments	3.8	2.2	3.3	2.3
Network fees	4.7	3.1	11.2	4.6
Other operators' costs	-	3.0	2.3	4.1
Total	100.0	100.0	100.0	100.0

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

Source: IPART taxi cost model 2011, table 7.2.

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. These options include:

- whether the TCIs should be based on the costs of a standard taxi or a weighted average of the costs of standard taxis and the costs of WATs;
- whether the TCIs be based on observed earnings or an alternative measure of earnings;
- whether driver entitlements be included in the TCI; and
- whether licence plate lease costs be excluded from the TCI (or not inflated) 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 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.
- Chapter 8 verifies our estimates against other available information.
- Chapter 9 discusses options for using the information on cost structures to generate weightings for the TCIs for setting fares.

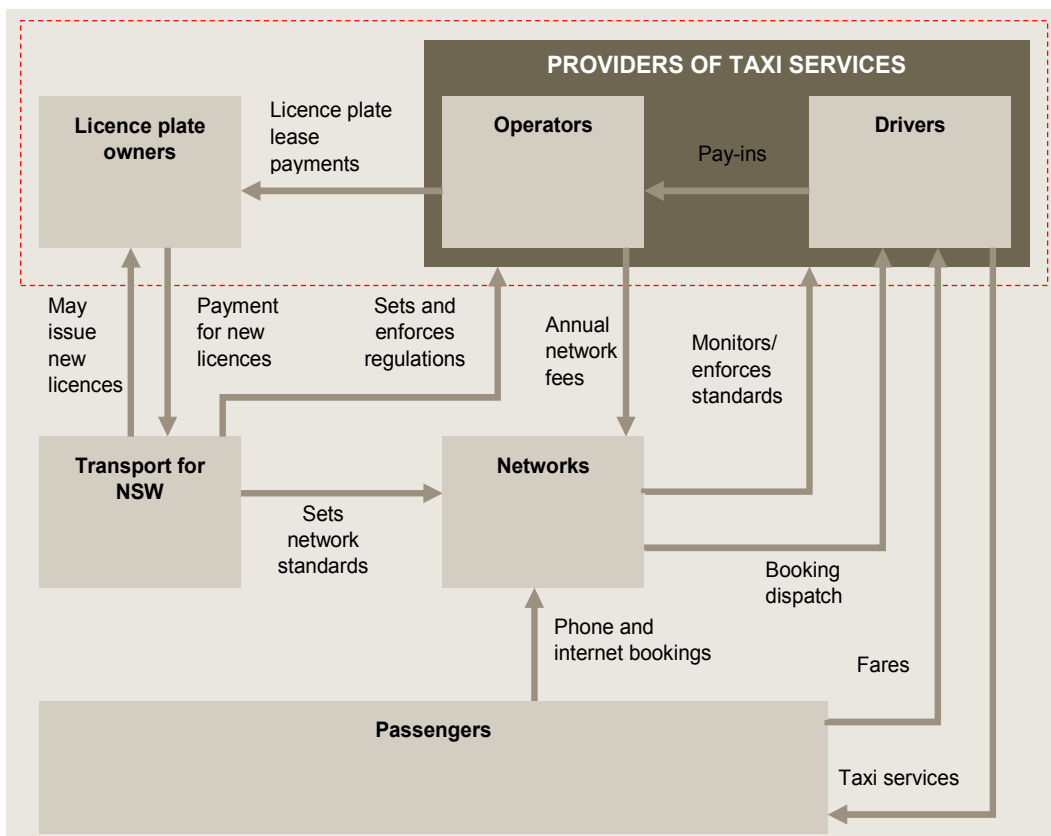
2 The taxi industry in NSW

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

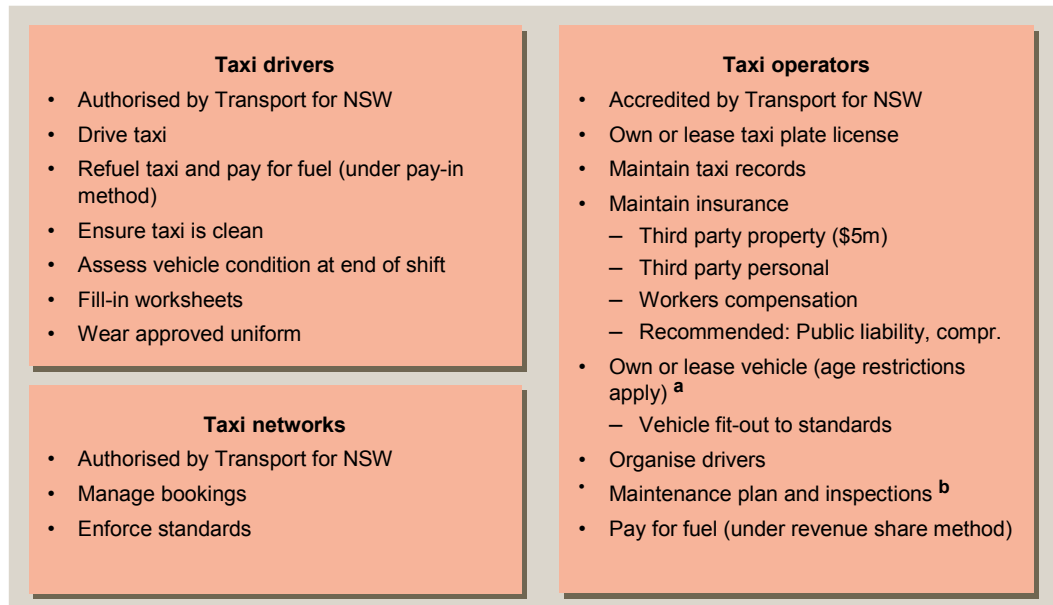


Note: The roles of licence plate owner, operator and driver can sometimes be held by a single person. This is particularly true for new licence plates that are leased directly to operators and operator-drivers.
Data source: The CIE.

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.

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 specified in 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 are 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 fixed 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 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 tables 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.

2.3 Taxi licences by type and region

<i>Region</i>	<i>Unrestricted</i>	<i>WATs</i>	<i>Nexus</i>	<i>Other</i>	<i>Total</i>
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

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

<i>Town/region</i>	<i>No. of taxis</i>		<i>Share of country taxis</i>	
	No.	Per cent	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
6. verified costs, where possible.

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 could 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.

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.

3.1 Approach to measuring costs

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

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 around 100 responses.

3.2 Survey responses

	<i>Mail</i>	<i>Internet</i>	<i>Drop boxes</i>	<i>Total</i>
	No.	No.	No.	No.
Driver survey	2 539	82	24	2 645
Operator survey	572	22	-	594
Total	3 111	104	24	3 239

Source: The CIE.

The overall response rate for the survey was around 11 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 more than 2600 drivers and nearly 600 operators. The operator survey respondents covered 18 per cent of vehicles operating in NSW.

3.3 Survey response rate

	<i>Survey responses</i>	<i>Total number</i>	<i>Response rate</i>
	No.	No.	Per cent
Drivers	2 645	23 821	11.1
Operators	594	5 326	11.2
Total	3 239	29 147	11.1

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, particularly when the sample is small. 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.

Verification of costs

A draft report was released publicly in December 2011. To verify costs we subsequently met with key stakeholders. We also considered comments in submissions to IPART's Issues Paper.

Changes since the draft report

A number of changes have been made to the survey analysis since the draft report reflecting the comments of stakeholders.

- The NSW Taxi Council indicated that not all taxis were logged on to the network even when they were working. In this case the shift profile that we used in the draft report understates the amount of shifts actually undertaken. There is no good data on which to 'correct' raw data on taxis logged onto the network. We have made an adjustment based on 5 per cent of taxis working a shift not being recorded as being logged on at 9am or 9pm. We have also accounted for peak accessibility licences in the data, when estimating the number of shifts driven.
- The NSW Taxi Drivers Association and others considered that the draft report did not appropriately factor in operator risk and used an interest rate for car financing that was below that available to operators. We have consulted with taxi finance organisations to verify our figures and reconsidered the risks borne by operators in chapter 5.
- The NSW Taxi Council argued that our estimates of maintenance and repairs costs were too low and asked for greater analysis of survey results. We have undertaken additional analysis and have increased maintenance costs accordingly. Nevertheless, our estimates are still below those expected by stakeholders. This is largely because expectations are based on a taxi driving 14 shifts per week, while on average taxis drive much less than this.
- The NSW Taxi Council questioned the results on driver earnings. We have undertaken additional verification exercises to test the robustness of our results presented in chapter 8.
- Peer Lindholdt from OzCabbie Magazine provided a number of comments, including about operator risk, useful lives of wheelchair vehicles and wheelchair network costs. We have further analysed survey results and made adjustments accordingly.
- Additional surveys have been received since the draft report. These have also been included in the analysis.

Stakeholders also made comments on options for using the cost information from this survey in constructing a taxi cost index. In particular, about the inclusion or exclusion of entitlements, inclusion or exclusion of plate leases and use of notional or survey figures of driver earnings. These have been discussed in detail at the Public Forum held on 29 February.

4 Taxi usage patterns

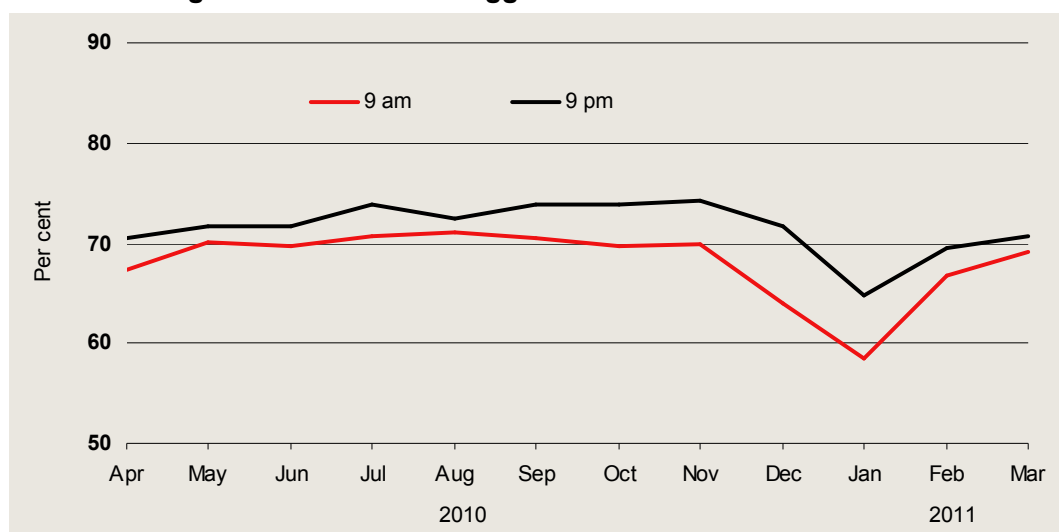
Demand for taxi services is highly seasonal. This means that the costs depend not only on the number of shifts the taxi operates through the year, but *which* shifts. In this chapter we use network data to establish the average usage patterns of taxis across shifts throughout the year. This average usage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

Taxi usage patterns

One of the key performance indicators (KPIs) for networks in urban areas is the number of standard taxis logged onto the network at 9.00 am and 9.00 pm. 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 9.00 am and 9.00 pm 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 9.00 am and 9.00 pm in January. The proportion of drivers logged onto a network at 9.00 am 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 9.00 pm ranges

4.1 Percentage of standard taxis logged onto networks



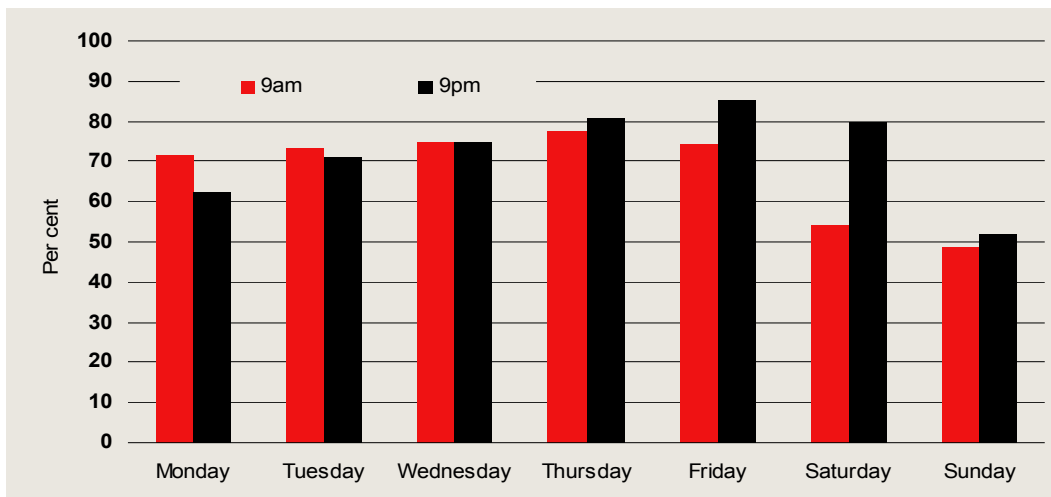
Data source: Transport for NSW, The CIE.

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 9.00 am 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 9.00 pm 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 an 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.

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.

However, as pointed out by the NSW Taxi Council, this estimate is likely to understate the true number of cabs operating that shift for the following reasons:

- Some taxis that are 'on the road' during the shift may not bother logging into the network at all, while others may have temporarily logged off. CCN estimates that the proportion of taxis on the road that are not logged into the network at 9.00 am and 9.00 pm that are not captured by the data is 'non-trivial'.
- Around 7 per cent of all taxis have peak availability licences and are therefore not permitted to operate at 9.00 am. Consequently, the estimate of the proportion of taxis operating at 9.00 am understates the proportion of taxis that are permitted to operate at 9.00 am.

To account for these factors we scale up the number of taxis on the road (the numerator) at 9.00 am and 9.00 pm by 5 per cent. We also scale down the number of taxis that are permitted to be on the road at 9am by 7 per cent, reflecting the number of peak availability licences. This implies that the average taxi drives around 552 shifts per year, including 277 day shifts and 275 nights shifts (table 4.3).

4.3 Estimated number of shifts the average standard taxi is on the road annually

	<i>Shifts driven per year based on CCN data</i>	<i>Adjusted shifts driven per year</i>
	No.	No.
Day shifts		
Monday	37.1	41.8
Tuesday	38.2	43.0
Wednesday	38.9	43.8
Thursday	40.2	45.3
Friday	38.6	43.5
Saturday	28.0	31.6
Sunday	25.3	28.5
Total day shifts	246.3	277.4
Night shifts		
Monday	32.3	33.7
Tuesday	36.9	38.4
Wednesday	38.8	41.0
Thursday	41.9	43.7
Friday	44.4	46.3
Saturday	41.6	43.4
Sunday	27.0	28.2
Total night shifts	262.9	274.8
Total shifts	509.2	552.2

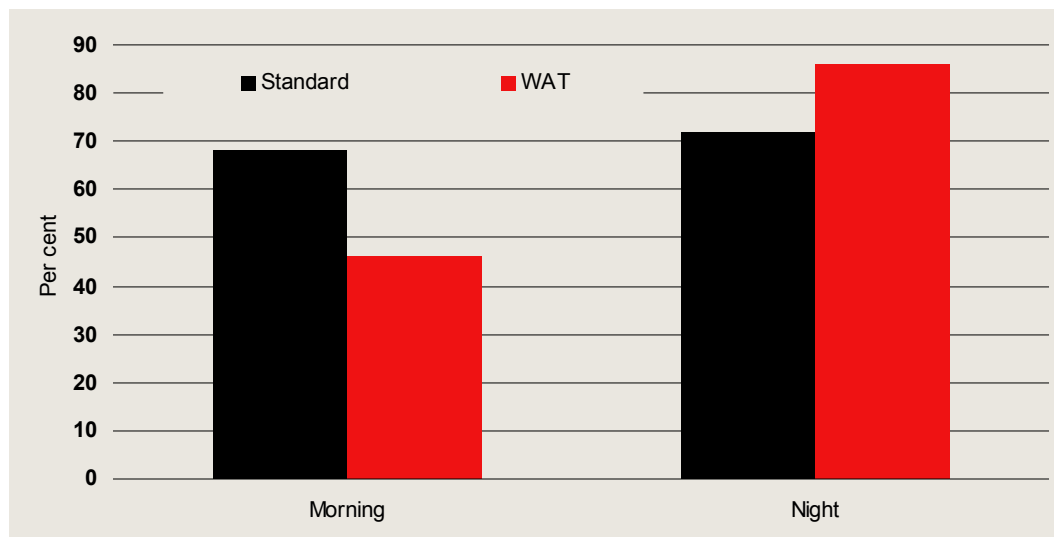
Source: CIE analysis based on information provided by Combined Communications Network.

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 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 9.00 am and 9.00 pm for standard taxis and 8.00 am and 4.00 pm for WATs.

Data source: Transport for NSW.

The number of WATs logged onto a network at 8.00 am and 4.00 pm 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 7.00 am to 7.00 pm).² 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 8.00 am and 4.00 pm 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 4.00 pm 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.

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).

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

<i>Day</i>	<i>Day shifts^a</i>	<i>Night shifts^b</i>	<i>Total</i>
	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

^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.

² See for example, Fitzgerald, R., 2005, *Report to the Wheelchair Accessible Taxi Taskforce*, p. 17.

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

<i>Taxi type</i>	<i>Urban</i>	<i>Country</i>
	Hours	Hours
Standard taxis	104	98
WATs	81	65

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 522 shifts per year, including 262 day shifts and 260 night shifts. The average country WAT is estimated to be on the road for 339 shifts during the year, including 256 day shifts and 90 night shifts.

4.7 Annual shifts driven in country areas

	<i>Standard</i>	<i>WAT</i>
	No.	No.
Day shifts		
Monday	39.5	35.6
Tuesday	40.6	35.6
Wednesday	41.4	35.6
Thursday	42.8	35.6
Friday	41.1	35.6
Saturday	29.9	35.6
Sunday	26.9	35.6
Total day shifts	262.2	248.9
Night shifts		
Monday	31.9	11.0
Tuesday	36.3	12.6
Wednesday	38.8	13.4
Thursday	41.3	14.3
Friday	43.8	15.2
Saturday	41.0	14.2
Sunday	26.6	9.2
Total night shifts	259.7	89.9
Total	521.9	338.8

Source: The CIE.

5 *Driver costs*

This chapter estimates the costs incurred by 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 5.1.

5.1 **Costs incurred by drivers for each shift driven**

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

Source: The CIE.

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

Driver labour

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 drivers 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 5.2). 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 22 minutes. This has been added to the estimates shown in table 5.2.

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

	<i>Urban — standard</i>	<i>Urban — WAT</i>	<i>Country — Standard</i>	<i>Country — WAT</i>
	Hours	Hours	Hours	Hours
Day shifts				
Monday	10.3	10.7	10.1	10.0
Tuesday	10.3	10.3	10.3	10.1
Wednesday	10.4	10.9	10.3	9.8
Thursday	10.3	10.3	9.9	10.1
Friday	10.4	10.7	9.8	9.9
Saturday	10.7	10.8	9.6	10.0
Sunday	10.9	10.7	10.0	11.0
Night shifts				
Monday	10.1	8.7	8.2	7.1
Tuesday	10.3	8.2	8.7	6.5
Wednesday	10.6	10.9	9.6	8.7
Thursday	10.9	9.2	10.7	8.7
Friday	11.8	10.7	11.5	11.3
Saturday	11.7	11.3	11.7	11.6
Sunday	10.2	10.4	10.4	9.1

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:

$$(1) \quad E_{i,j} = \frac{T_{i,j} - GST}{H_{i,j} + A_{all}}$$

Where: $E_{i,j}$ is the average hourly earnings for type i drivers during shift j ; $T_{i,j}$ is the average takings retained by type i drivers during shift j ; GST is the GST payable on drivers' earnings (10 per cent of the takings retained by the driver); $H_{i,j}$ is the average number of hours driven by type i drivers during shift j ; and A_{all} is the average time spent on administration per shift by all drivers in the sample (22 minutes).

Estimated driver earnings over the sample period were relatively low. We can be relatively confident about the estimates for urban standard taxi 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).

Some stakeholders argued that drivers earnings reported in the survey were implausibly low. The plausibility of these estimates is therefore tested as part of the verification exercises in chapter 8.

5.3 Estimated driver earnings per shift (excluding GST)

	<i>Urban — Standard</i>	<i>Urban — WAT</i>	<i>Country — Standard</i>	<i>Country — WAT</i>
	\$ per hour	\$ per hour	\$ per hour	\$ per hour
Day shifts				
Monday	9.58	12.34	11.43	12.40
Tuesday	9.32	11.00	10.89	12.38
Wednesday	9.43	10.62	10.42	13.86
Thursday	9.97	11.91	11.20	14.58
Friday	10.84	12.79	11.33	14.30
Saturday	10.77	15.34	10.34	10.87
Sunday	10.83	12.34	11.09	13.15
Night shifts				
Monday	7.55	19.55	9.96	12.43
Tuesday	8.56	8.70	10.14	12.00
Wednesday	9.68	18.54	11.00	10.74
Thursday	11.01	16.15	12.15	13.42
Friday	14.42	21.33	14.50	16.96
Saturday	14.82	18.21	16.89	22.30
Sunday	10.49	16.05	9.98	13.92

Source: CIE Driver Survey.

Total driver driver labour costs

To estimate the total driver labour costs we multiply the number of shifts per year by the average hours for each shift and the hourly earnings per shift (table 5.4).

5.4 Total annual driver labour costs (excluding GST)

	Cost
	\$
Urban — standard taxi	62 936
Urban — WAT	60 375
Country — Standard taxi	62 236
Country — WAT	45 645

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 5.5.

5.5 Estimated fuel costs per shift (including GST)

	<i>Urban — standard</i>	<i>Urban — WAT</i>
Day shifts	\$	\$
Monday	25.8	44.6
Tuesday	25.4	43.2
Wednesday	26.2	45.0
Thursday	26.0	44.0
Friday	27.2	46.8
Saturday	28.1	45.2
Sunday	29.6	43.0
Night shifts		
Monday	26.7	31.4
Tuesday	27.7	34.3
Wednesday	29.2	40.0
Thursday	31.4	41.6
Friday	37.2	45.5
Saturday	37.4	49.5
Sunday	27.9	47.3

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 5.6).

5.6 Annual fuel costs (excluding GST)

	Cost
	\$
Urban — standard taxi	14 615
Urban — WAT	16 880

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.

5.7 Estimated pay-ins per shift (including GST)

	<i>Urban – standard</i>	<i>Urban – WAT</i>	<i>Country – Standard</i>	<i>Country - WAT</i>
	\$	\$	\$	\$
Day shifts				
Monday	129.3	128.0	150.1	170.3
Tuesday	128.9	138.1	153.6	174.7
Wednesday	129.6	141.6	155.8	182.6
Thursday	129.1	129.4	151.7	215.6
Friday	131.4	139.3	168.7	184.7
Saturday	118.2	129.5	140.4	134.1
Sunday	117.2	130.1	163.2	223.7
Night shifts				
Monday	135.1	149.1	114.7	102.7
Tuesday	146.0	168.1	124.2	83.0
Wednesday	154.9	154.4	156.2	77.6
Thursday	166.0	186.2	182.2	127.6
Friday	187.4	201.9	241.6	225.1
Saturday	183.7	184.8	287.9	280.8
Sunday	115.8	139.5	155.1	69.3

Source: CIE Survey of taxi drivers.

Based on the pay-ins per shift and the annual shift patterns outlined in chapter 4, the total pay-ins paid by drivers over the year (excluding GST) is estimated in table 5.8.

5.8 Total pay-ins per taxi (excluding GST)

	Cost
	\$
Urban — standard taxi	71 772
Urban — WAT	55 509
Country — Standard taxi	80 820
Country — WAT	53 448

Source: The CIE.

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), or \$10.91 once GST has been excluded. The total cleaning costs over the year are estimated at \$3233 (excluding GST) for standard taxis and \$3338 (excluding GST) for WATs (table 5.9).

5.9 Estimated annual cleaning costs (excluding GST)

	<i>Washes per week</i>	<i>Weeks per year</i>	<i>Cost per wash</i>	<i>Total cost</i>
	No.	No.	\$	\$
Standard	6	49.4	10.91	3 233
WATs	6	51.0	10.91	3 338

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

Summary of driver costs per taxi

A summary of driver revenue and costs is shown in table 5.10. These estimates are presented on a per taxi basis. The revenue and costs will therefore be shared between two or more drivers. More detailed revenue and costs estimates on a per shift basis are presented in appendix E.

5.10 Estimated driver costs per taxi (excluding GST)

	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
	\$/taxi/year	\$/taxi/year	\$/taxi/year	\$/taxi/year
Revenue				
Fares	152 556	136 102	143 056	99 093
Costs				
Driver labour	62 936	60 375	62 236	45 645
Pay-ins	71 772	55 509	80 820	53 448
Fuel	14 615	16 880	-	-
Cleaning	3 233	3 338	-	-
Total costs	152 556	136 102	143 056	99 093

Source: Survey of operators; CIE analysis.

6 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 6.1. 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.

6.1 Costs incurred by operators

	<i>Urban operator</i>		<i>Country operator</i>
	<i>Bailee driver using Method I</i>	<i>Bailee driver using Method II</i>	
Plate lease	√	√	√
Vehicle costs	√	√	√
Network fees	√	√	√
Insurance	√	√	√
Maintenance and repairs	√	√	√
Operator administration	√	√	√
Fuel	√		√
Cleaning	√		√

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

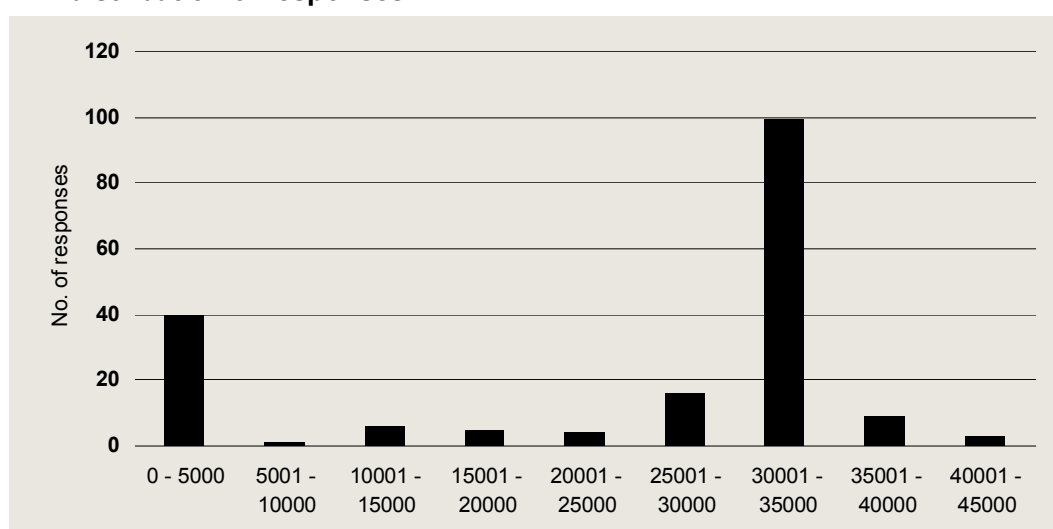
- directly measuring the cost of leasing a licence plate.

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 6.2. Most responses are in the \$30 000 to \$35 000 range. However, a significant number of responses indicate the annual lease cost is less than \$5000. 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.

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

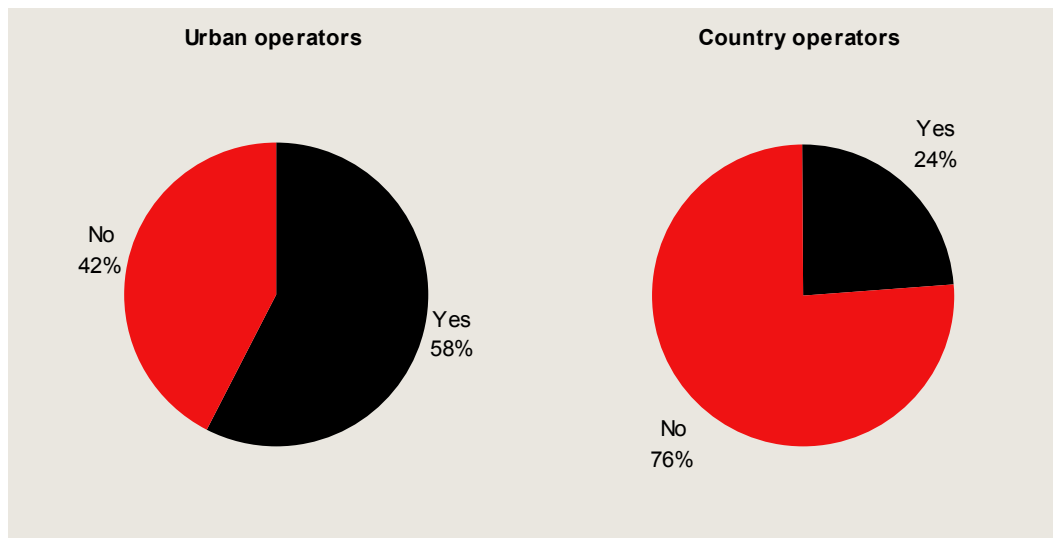


Data source: CIE survey of operators.

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 ten responses. This is partly because fewer country operators that responded to the survey indicated they lease licence plates, compared with urban areas (chart 6.3). 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.³ Most operators of WATs indicated this as the annual lease payment. A number indicated alternative figures for lease values.

6.3 Share of survey respondents that lease licence plates



Data source: CIE survey of operators.

The estimated cost of leasing a licence plate with GST excluded is shown in table 6.4.

6.4 Licence plate lease costs

Type of licence	Figure used
	\$, excluding GST
Standard licence — urban	28 789
Standard licence — country	17 005
WAT	1 000

Source: CIE survey; Department of Transport website, <http://www.transport.nsw.gov.au/sites/default/file/taxi/WAT-licence-info-package.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.

³ 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 6.5). Survey responses indicated that country taxis were generally slightly older than urban taxis and WATs were typically slightly older than standard taxis.

6.5 Average and regulated maximum age of taxis

<i>Item</i>	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
Regulated maximum age (years)	6	10	8	10
Average age (years)	3.8	5.2	4.1	5.0

Source: Survey of operators, Passenger Transport Regulations 2007.

The estimated life of a taxi is shown in table 6.6. 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.

We have adjusted the expected taxi life figures since the draft report following comments from stakeholders. For the draft report we included the average vehicle life for any operator with a WAT, of which a number also had standard taxis. For the final report we have only included the expected life for an operator if they only operate WATs.

6.6 Vehicle life estimates

<i>Item</i>	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
Expected life of taxi	4.9	8.3	6.2	6.7

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 2011.⁴

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

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.

The NSW Taxi Drivers Association suggested that this interest rate was below what was available in the market. We have interviewed three taxi finance providers who indicated that their rates were 7.65 per cent, 7-7.5 per cent and 13.75 per cent. Our rate is higher than the cheapest finance available. The interest rates from the finance businesses are for 100 per cent loans amortised over 2-5 years. It could be argued that a slightly higher rate should be used than these because an operator may bear risks if the amortisation period for the loan is shorter than for the vehicle, if the loan is for less than 100 per cent of vehicle (and fit-out) costs or if other assets of the operator may be guaranteeing the loan. The exact amount required for these adjustments is not known. The Reserve Bank estimate provides a slight premium to lending rates allowing for some of these factors.

Annual costs for a standard taxi are estimated to be \$5805 in urban areas and \$4745 in country areas. WATs are considerably more expensive at \$12 189 in urban areas per year and \$14 477 in country areas.

The figures reported in the survey are higher than estimated above. There were only three 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).

⁴ 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.

6.7 Vehicle costs

	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
Age when purchased (years)	1.4	1.1	1.0	1.7
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	5 701	5 694
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)	5 805	12 189	4 745	14 477

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

6.8 Vehicle cost comparison with survey responses

	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
Calculated lease payment	5 805	12 189	4 745	14 477
Median from survey	8 000	19 107	10 945	Na
Number of survey responses	47	17	3	0

Source: See table 6.7, CIE 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 four 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.

- For WATs in both urban and country areas we have also added the Zero200 network fees of \$149 per 28 day period.

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.⁵

In practice, most taxi operators appear to have all of the above insurance policies. 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.

To estimate the total insurance costs, we weight the optional insurance policies by the proportion of operators that indicated they have it. The estimated costs of insurance per vehicle are \$12 642 for an urban standard taxi, \$14 565 for an urban WAT, \$7992 for a country standard taxi and \$8729 for a country WAT (table 6.9).

⁵ This covers some events that are not covered under third party personal or property insurance, such as harm to a passenger exiting a vehicle.

6.9 Insurance costs per vehicle (excluding GST)

	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
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%	94%	93%	100%
Third party personal	100%	100%	100%	100%
Third party property only	4%	6%	7%	0%
Workers compensation	100%	100%	100%	100%
Public liability	86%	87%	93%	100%
Total insurance costs (\$)				
Total insurance cost (including GST) ^a	13 906	16 021	8 791	9 602
Total insurance cost (excluding GST)	12 642	14 565	7 992	8 729

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.

^a Total insurance costs may not appear to add exactly as the percentage of vehicles insured reported in the table is rounded. 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.

The insurance costs above are for an up-front annual payment of insurance. Insurance can be paid monthly for some insurance companies, although sometimes with a cost premium. In order to account for operators having to pay insurance up-front and hence finance this payment, we have adjusted the insurance payment by a financing cost of the Reserve Bank of Australia's business indicator rate for half a year. This adjustment is shown in table 6.10.

6.10 Insurance costs per vehicle adjusted for financing (excluding GST)

	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
Total insurance costs (\$, excluding GST)	12 642	14 565	7 992	8 729
Adjustment for financing (\$, excluding GST)	521	600	329	359
Insurance cost adjusted for financing (\$)	13 163	15 164	8 321	9 089

Note: Financing cost is for six months at an 8.4 per cent interest rate as used for the assessment of vehicle lease costs. Source: Survey of operators; Industry quotes; CIE analysis.

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.

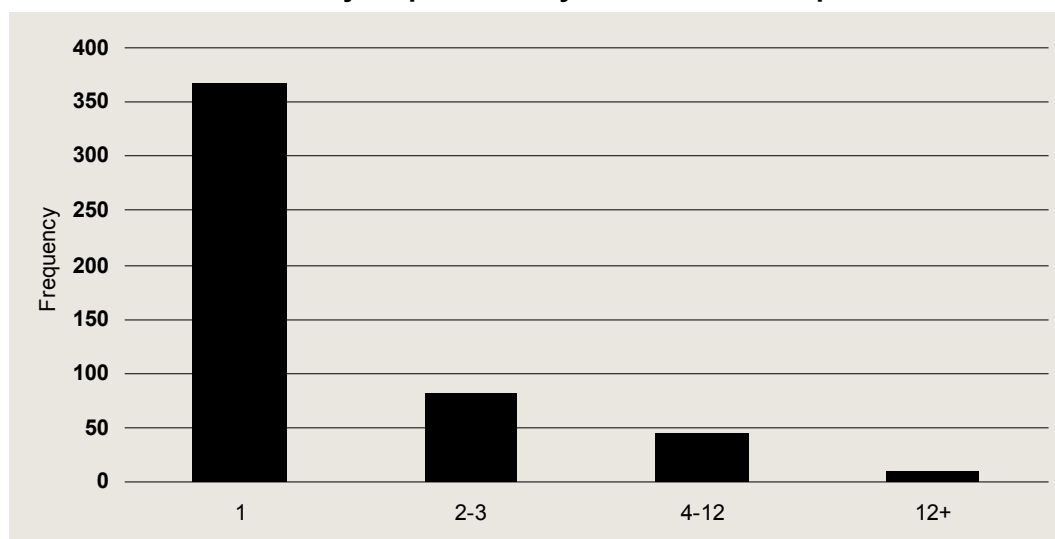
This issue could have significant implications for the interpretation of the results. We therefore include only those survey responses where we are confident the question has been answered in full. We exclude all survey responses where:

- 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 6.11. 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.

6.11 Distribution of survey respondents by number of taxis operated



Data source: CIE survey.

During consultations with stakeholders, there was considerable interest in whether different sized businesses incurred different maintenance and repairs costs. There are clear differences in the approach to maintenance and repairs based on the size of the operator. Single cab operators tend to spend more of their own time on maintenance and repairs, although the total amount of time is relatively insignificant at around 33 hours per taxi per year, or less than an hour per week (table 5.12). Large operators tend to spend slightly less per taxi on maintenance and repairs, suggesting there may be some efficiencies associated with larger operations and are more likely to hire specialist staff to undertake maintenance and repairs.

6.12 Annual maintenance and repair costs per taxi

	<i>Single cab</i>	<i>Small (2-3 cabs)</i>	<i>Medium (4-12 cabs)</i>	<i>Large (12+ cabs)</i>	<i>All operators</i>
Operator's own labour (hours)	32.7	10.5	19.5	20.1	19.5
Hired labour (\$)	48	61	1 227	3 460	1 227
Other costs (incl. GST)	6 538	6 190	4 897	2 709	4 897
Total costs (ex GST) ^a	7 994	6 914	7 006	6 569	7 689

^a The operators own time spent on maintenance and repairs is valued at \$32.10 per hour, based on an average mechanics wage of \$68 619 per annum. The total costs for each operator are aggregated and then the trim is applied to the estimate of total costs. Consequently, adding up the average for each component may not equal the total exactly.

Note:

Source: CIE survey of 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 in costs is not statistically significant.⁶ We therefore base the estimated maintenance and repair costs on the average of the whole sample for each taxi type.

As with other cost items, we segment maintenance and repair costs according to area (urban or country) and type of taxi (standard or WAT) (table 6.13). The estimates for urban standard and WATs and for country standard taxis are based on the sample of operators with only one type of cab in their fleet. For country WATs the estimates are based on the sample of country operators with at least one WAT, owing to the small sample size for WAT-only operators in country areas.

Aggregating the hours spent on maintenance valued at \$32.10 with the external costs (excluding GST) and staff costs gives a total figure for maintenance between around \$7500 and \$9000, depending on the category. Maintenance and repair costs tend to be higher in country areas than in urban areas.

6.13 Maintenance costs per vehicle (excluding GST)

	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
Operator's own labour (hours/year)	30.6	30.7	9.4	14.0
Annual staff costs (\$/year)	218	11	-	1 302
External costs per year (\$/year)	5 690	6 234	9 052	5 725
Total costs per taxi per year (\$) ^a	7 562	7 736	8 504	8 932

^a Total costs are estimated by valuing the operator's own time using an hourly wage rate for a mechanic of \$32.10 and then adding staff and external costs (excluding GST). Total costs are estimated for each survey respondent before the 5 per cent trim is applied. As each data set is trimmed separately, adding the survey averages for each cost will not exactly equal the total reported in the table.

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

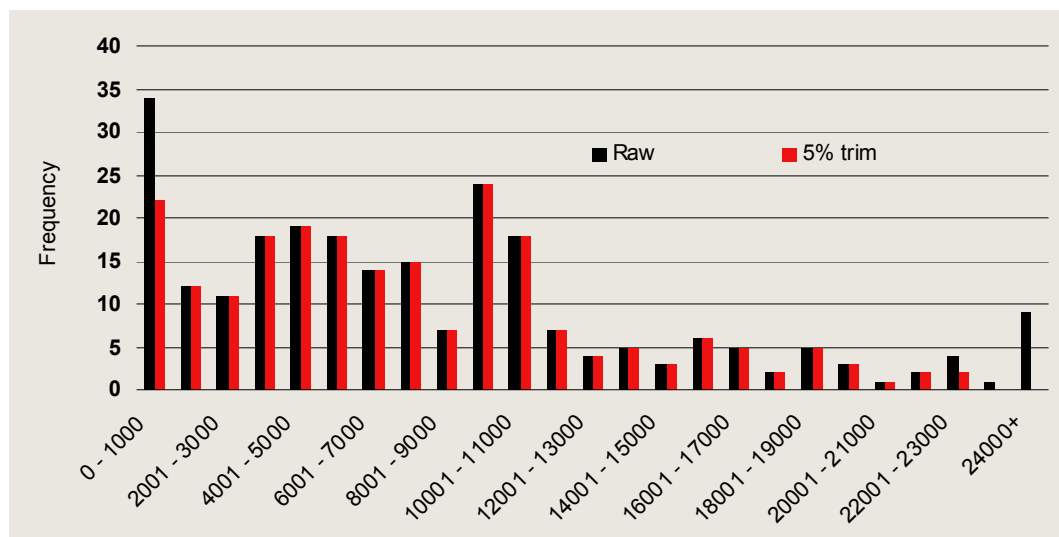
Some stakeholders argued that the maintenance and repair cost estimates presented in the draft report were implausibly low and were more likely to be in the \$10-12 000

⁶ Based on the 95 per cent level of significance.

range. The distribution of responses (for an urban standard taxi) shows a large range of responses reflecting the expected variability of maintenance and repair costs (chart 6.14). There are indeed a significant number of responses in the \$10-12 000 range, but there are also a large block of responses in the \$3-8 000 range which brings down the average.

Notably, there are also a significant number of responses below \$1000. It is possible that some of these operators mistakenly responded with a weekly or monthly estimate. While the trimming process removes a lot of these responses, there are still a significant number remaining in the analysis. Increasing the trim to around 15 per cent of respondents in each tail would remove all of the responses below \$1000. However, this actually decreases the average because of high responses in the upper tail. We therefore consider it appropriate to use the 5 per cent trim, in line with elsewhere in the report.

6.14 Maintenance and repairs — distribution of responses for an urban standard taxi



^a An hourly wage rate of \$32.10, based on an annual mechanic wage of \$61 689 is applied to estimates of the time the operator spends on maintenance and repairs.

Data source: CIE survey of operators.

Fuel costs

Responsibility for fuel costs varies depending on the bailment method. In urban areas, the driver is usually responsible for fuel.⁷ 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).

⁷ 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 5.16.

6.15 Estimated fuel costs per shift (including GST)

	<i>Country — standard</i>	<i>Country — WAT</i>
	\$	\$
Day shifts		
Monday	31.0	33.4
Tuesday	34.0	33.7
Wednesday	34.2	36.9
Thursday	30.8	40.3
Friday	30.4	36.9
Saturday	27.7	42.6
Sunday	31.7	39.9
Night shifts		
Monday	23.1	0.0 ^a
Tuesday	21.4	15.0
Wednesday	23.8	33.5
Thursday	36.2	34.0
Friday	41.6	40.8
Saturday	44.8	48.6
Sunday	27.8	28.5

^a This is based on a single survey response. While it is clearly not plausible that there are no fuel costs for WATs driving this shift, this will not affect the overall fuel cost estimates to any significant extent.

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 6.16).

6.16 Estimated annual fuel costs (excluding GST)

	Cost
	\$
Country — Standard taxi	15 091
Country — WAT	11 139

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 \$3358 (excluding GST) for standard taxis and \$3371 (excluding GST) for WATs (table 6.17).

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

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

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

Operator administration

There are a range of administrative tasks associated with operating a taxi. These tasks include paying bills, organising bailee drivers, 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 operators are likely to employ staff to undertake these administrative tasks, while smaller operators may largely undertake these tasks themselves.

These different approaches to administration are reflected in the survey results (table 6.18). The survey results suggest that single cab operators spend more of their own time undertaking these tasks and have lower staff and other costs, compared with multiple cab operators. 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.

6.18 Administration costs per taxi

	<i>Single cab operators</i>	<i>Multiple cab operators</i>	<i>All operators</i>
Own time (hours per week)	4.9	3.2	4.1
Staff and other costs (\$ per year, ex GST)	573.4	947.8	601.8

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.

The survey results show that administrative tasks associated with operating a taxi are largely undertaken by the operator themselves. The compensation the operator receives for the time they spend on these activities is determined by the revenue earned from driver pay-ins, less all other operator costs estimated above (table 6.19).

6.19 Estimated operator earnings

<i>Item</i>	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>
Pay-in revenue	71 772	55 509	80 820	53 448
Operator costs	62 549	45 262	73 109	66 035
Operator earnings	9 223	10 246	7 711	-12 587

Source: Survey of operators; CIE analysis.

In urban areas, operator earnings are estimated at around \$9000 per taxi for standard taxis and \$10 000 per taxi for WATs. Operator earnings are estimated at around \$8000 for country standard taxis. However, for country WATs, total costs are estimated to exceed pay-in revenue, although this seems highly unlikely in practice. As operator earnings are a relatively small cost component, small errors in estimating revenue or other operator costs can have a potentially large impact on estimated operator earnings. Due to the relatively small sample size for country WATs, there is significant uncertainty around both revenue and cost estimates. Estimated operator earnings for an urban WAT may therefore be a reasonable proxy for a country WAT.

Given the potential for relatively small errors to have a large impact on estimated operator earnings, it is important to check the plausibility of these estimates. One way of checking the plausibility is to convert the annual estimates of operator earnings to an implied hourly wage rate.

Operator earnings per hour can be implied from the information presented above (table 6.20). The implied operator earnings per hour ranges between around \$33.30 per hour for an operator of a standard taxi in country areas and \$45.10 per hour for WATs operators. This is equivalent of an annual salary package (including superannuation) of between around \$69 000 and \$94 000, based on a 40 hour week. This seems broadly plausible.

6.20 Estimated operator earnings per hour

	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
Net operator earnings (\$/year) ^a	9 223	10 246	7 711	10 246
Time spent (hours/year) ^b	213.8	213.8	213.8	213.8
Hourly operator earnings (\$/hour)	40.3	45.1	33.3	45.1

^a Based on estimated operator earnings (table 6.19) less staff and other costs of \$601.80 per taxi (see table 6.18). Estimated earnings for an urban WATs is used as a proxy for country WATs. ^b Based on hours per week from the survey (see table 6.18) annualised.

Source: Survey of operators; CIE analysis.

Operator risk

A number of stakeholders raised the issue about the exclusion of operator risk from the draft report.

An operator does bear a number of risks:

- an operator may be required to pay-back a car loan over a period shorter than the economic life of the car. In this case, the operator bears residual risk related to the value of the taxi;
- an operator may be required to pay insurance costs up-front and hence has to finance this amount. Insurance companies do offer monthly payment opportunities to reduce this risk but sometimes at a cost premium; and
- other assets owned by an operator may be implicitly backing a loan, with these assets at risk if the business does not make sufficient money. We consider that this risk is low, with taxi finance specialists generally only using the taxi vehicle as guarantee against a loan.

The risks that an operator bears will depend on how the operation is set up. For example, a low risk operation would see an operator having monthly insurance payments and licence lease payments and a lease for a vehicle (with no vehicle ownership). In this case, an operator would be able to quickly exit the industry were revenues to be lower than costs with minimal loss.

A higher risk operator may own the vehicle and have financed it themselves, pay insurance up-front and have longer contracts for plate leases for which payments are required even if the taxi is not on the road.

We have sought to include costs in this final report so that taxi operators bear minimal risks. The major change from the draft report in this regard is that we have added a financing cost for insurance.

Operator cost model

The estimated revenue and costs for standard taxi and WAT operators in urban and country areas is set out in table 6.21. Because we have used estimated pay-ins less other costs as the measure of operator earnings (except in the case of country WATs) total revenue equals total costs. For country WAT operators, estimated costs exceed estimated pay-in revenue. This is because we have used estimated operator earnings for an urban WAT as a proxy for operator earnings due to the uncertainty around the estimates.

6.21 Operator cost model (excluding GST)

	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT^a</i>
	\$/vehicle/year	\$/vehicle/year	\$/vehicle/year	\$/vehicle/year
Revenue				
Pay-ins paid to operator	71 772	55 509	80 820	53 448
Costs				
Operator administration	9 223	10 246	7 711	10 246
Maintenance costs	7 562	7 736	8 504	8 932
Plate lease costs	28 789	1 000	17 005	1 000
Insurance	13 163	15 164	8 321	9 089
Vehicle lease payments	5 805	12 189	4 745	14 477
Network fees	7 231	9 173	16 085	18 028
Cleaning	n.a.	n.a.	3 358	3 371
Fuel	n.a.	n.a.	15 091	11 139
Total operator costs	71 772	55 509	80 820	76 282

^a Revenue does not match costs for country WAT operators because we used the earnings of an urban WAT as a proxy for operator earnings due to the uncertainty around the estimates.

Note: Totals may not add exactly due to rounding.

Source: Survey of operators; CIE analysis.

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 estimated cost structure of the industry for standard taxis and WATs in urban and country areas and assess the implications for fares. We then estimate the average fare implied by these costs. Finally, we compare the weightings implied by this cost structure to those used by IPART in the 2011 fare review.

Developing a cost model for the taxi industry

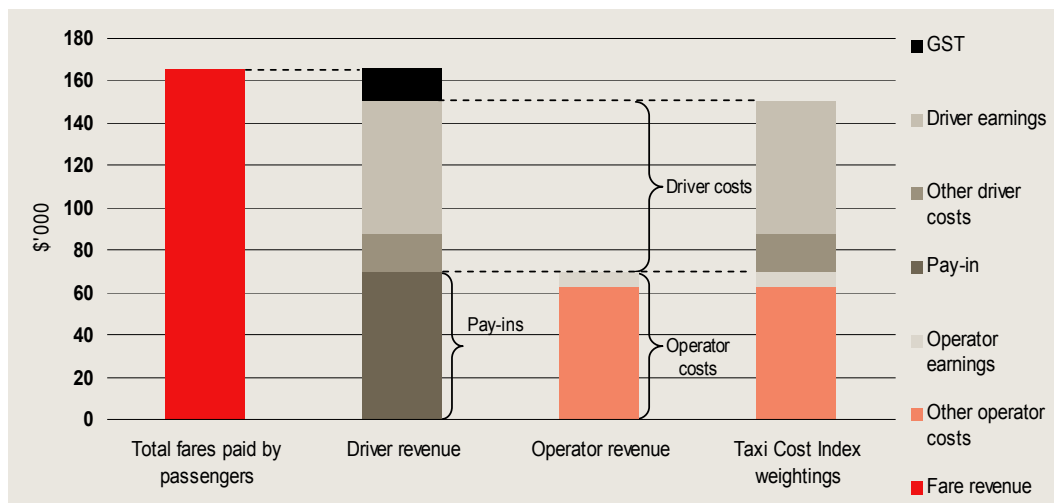
The weightings for the TCIs are based on the costs incurred by both drivers and operators in providing taxi services.

Both driver and operator costs must be covered by fare revenue. As discussed in the previous chapters, all fare revenue is initially paid to drivers. The driver retains what is left of the fare revenue after covering the pay-in to the operator and other costs the driver is responsible for, such as fuel and cleaning (where relevant).

Pay-ins are a transfer from drivers to operators. They are a financial cost to drivers, but revenue for operators. The pay-ins received by operators are used to fund the various costs under the operator's responsibility, such as licence plate costs, vehicle costs, insurance and network fees. The operator's earnings are determined by the pay-in revenue left over after all other costs have been paid. The relationship between revenue and costs is summarised in chart 7.1 (in this case for an urban standard taxi).

In bringing together operator and driver costs to form an industry cost model, it is therefore not necessary to include pay-ins as a separate cost item. Including pay-ins as a driver cost in addition to all operator costs would involve double-counting.

7.1 Structure of the Taxi Cost Index — urban standard taxi



Data source: The CIE.

Cost structure of the taxi industry

The estimated cost structure of providing a taxi service for a year is set out in table 7.2. Key findings include the following.

- Urban taxis are more expensive than country taxis because of higher plate lease costs (standard taxis) and higher insurance costs.
- 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.

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

Cost item	Urban		Country	
	Standard	WAT	Standard	WAT
	\$/taxi/year	\$/taxi/year	\$/taxi/year	\$/taxi/year
Driver labour	62 936	60 375	62 236	45 645
Fuel	14 615	16 880	15 091	11 139
Cleaning	3 233	3 338	3 358	3 371
Operator administration	9 223	10 246	7 711	10 246
Maintenance costs	7 562	7 736	8 504	8 932
Plate lease costs	28 789	1 000	17 005	1 000
Insurance	13 163	15 164	8 321	9 089
Vehicle lease payments	5 805	12 189	4 745	14 477
Network fees	7 231	9 173	16 085	18 028
Total annual costs	152 556	136 102	143 056	121 926

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 for a number of reasons:

- lower demand – an increase in fares would reduce demand for taxi services;
- higher pay-ins – 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 increase the pay-ins to operators; and
- more taxis on the road – in quieter periods, when there are fewer taxis on the road, higher earnings in the short term would encourage more drivers to offer their services, resulting in more taxis servicing a given level of demand.

Over time, a combination of these factors is likely to erode any short-term boost in driver earnings. 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.

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.

Implied average fare

The average fare implied by these cost estimates is shown in table 7.3. The total fare revenue estimate is based on the costs shown in table 7.2 with the 10 per cent GST added back on. The estimate for the average number of jobs is based on the average number of jobs per shift reported in the survey multiplied by the number of shifts

driven per year. The average fare tends to be higher in urban areas than in the country and higher for WATs than standard taxis.

7.3 Average fare

	<i>Urban standard</i>	<i>Urban WAT</i>	<i>Country standard</i>	<i>Country WAT</i>
Total fares (\$/per year) ^a	167 812	149 712	157 361	134 119
Total jobs (No. per year) ^b	8 730	5 475	10 849	6 450
Average fare (\$)	19.22	27.35	14.50	20.79

^a Based on the costs shown in table 7.2 plus the 10 per cent GST. ^b Based on the number of jobs per shift reported in the survey of drivers (see tables C.23 to C.26) multiplied by the estimated number of shifts driven per year (see tables 4.3, 4.5 and 4.7).

Source: The CIE.

Weightings implied by estimated cost structure

Weightings for the TCIs are based on the share of each item in total costs. The weightings implied by the cost structure estimated above are shown in table 7.4.

7.4 Implied weightings based on estimated cost structure

<i>Cost item</i>	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
	\$/taxi/year	\$/taxi/year	\$/taxi/year	\$/taxi/year
Driver labour	41.3	44.4	43.5	37.4
Fuel	9.6	12.4	10.5	9.1
Cleaning	2.1	2.5	2.3	2.8
Operator administration	6.0	7.5	5.4	8.4
Maintenance costs	5.0	5.7	5.9	7.3
Plate lease costs	18.9	0.7	11.9	0.8
Insurance	8.6	11.1	5.8	7.5
Vehicle lease payments	3.8	9.0	3.3	11.9
Network fees	4.7	6.7	11.2	14.8
Total annual costs	100.0	100.0	100.0	100.0

Source: The CIE.

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 7.5).

7.5 Comparison of cost weights

<i>Cost items</i>	<i>Urban standard</i>		<i>Country standard</i>	
	CIE	IPART	CIE	IPART
	Per cent	Per cent	Per cent	Per cent
Notional drivers' wages	41.3	39.1	43.5	42.2
Driver entitlements (notional self funded)	-	1.5	-	6.3
Driver provision for super	-	4.0	-	4.4
LPG fuel	9.6	6.8	10.5	6.4
Other drivers' costs	2.1	2.4	-	1.6
Operator's salary equivalent	6.0	6.8	5.4	7.3
Driver entitlements in the contract determination	-	4.4	-	
Maintenance costs	5.0	4.7	4.9	4.0
Plate lease costs	18.9	14.0	11.9	11.8
Insurance	8.6	8.1	5.8	4.9
Vehicle lease payments	3.8	2.2	3.3	2.3
Network fees	4.7	3.1	11.2	4.6
Other operators' costs	-	3.0	2.3	4.1
Total	100.0	100.0	100.0	100.0

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

Source: IPART taxi cost model 2011, table 7.2.

8 Verifying the cost model

This chapter seeks to provide verification around the cost estimates reported in the survey. Verification is particularly focused on whether our implied figures for total taxi revenue are robust and hence whether the figures for taxi driver earnings are robust. These verification exercises produce mixed results but overall, suggest that our estimates are plausible.

Australian Taxation Office benchmarks

The Australian Taxation Office has a set of benchmarks that it uses for the taxi industry to assist in tax compliance.⁸ Benchmarks included revenue per kilometre, number of shifts per taxi, fuel use per taxi, kilometres per taxi. These are for 2009.

The figures from the survey differ markedly from the benchmarks used by the Australian Taxation Office. Largely, we expect that this is because the survey has better information than used in setting ATO benchmarks. Below we look at some of the key differences.

The Australian Taxation Office uses a benchmark of \$1.18 in revenue per kilometre travelled (for 2009 and including GST). The survey implies a substantially higher revenue per kilometre travelled than ATO benchmarks. For example, urban standard taxis, the survey implies a 25 per cent higher revenue per kilometre than ATO figures.

8.1 Australian Taxation Office benchmarks

Cost items	Urban		Country	
	Standard	WAT	Standard	WAT
Annual fare revenue from survey (\$)	167 812	149 712	157 361	134 119
Average kilometres from survey (No.)	106 892	110 023	92 351	85 441
Implied dollars per kilometre (\$/km)	1.57	1.36	1.70	1.57
ATO benchmark of dollars per kilometer (2009)	1.18	1.18	1.18	1.18
ATO benchmark adjusted for fare increases since 2009	1.26	1.26	1.26	1.26
Difference between survey and adjusted ATO (per cent)	24.6	8.0	35.2	24.6

Note: All items include GST to be comparable to ATO figures. Fare increases are for urban taxis. Dollars per kilometre from survey is based on our measure of total costs.

Source: Australian Taxation Office website, accessed 19 January 2012; CIE analysis of survey results.

⁸ Australian Taxation Office Website, <http://www.ato.gov.au/businesses/content.aspx?menuid=0&doc=/content/00214445.htm&page=2&H2>, accessed 19 January 2012.

Note that the ATO benchmark of *total* taxi revenue (\$177 000 including GST for 2009) is higher than the figures from the survey because taxis are assumed to drive more kilometres than found in the survey.

Meter data

A second check can be undertaken on revenue per kilometre using meter data. The Australian Taxi Drivers Association has provided meter data for 14 taxis operating out of Alexandria. This is a small sample of taxis and may not reflect conditions elsewhere in Sydney or operating out of other bases. In particular, we expect that these taxis might have a higher revenue per kilometre than an average taxi because:

- long trips are not required to and from the base at the start and end of shift due to its central location;
- these taxis might be more likely to operate within the city with potentially shorter trips. Shorter trips generate a higher revenue per kilometre because of the flagfall charge; and
- these taxis might be more likely to be operated on a higher intensity and with more night shifts. Night shifts have a premium attached to the fare and hence taxis driving more night shifts would, other things equal, have a higher revenue per kilometre travelled.

The meter records also cover a longer period than a year. Because fares have been rising, the dollars per kilometre figure might be below what would be expected for the most recent year.

The meter data from the 14 taxis suggest revenue per kilometre of around \$1.60 to \$1.80. This is somewhat higher than the figures from the survey. If this is correct, then revenue from the survey is between 2 per cent and 13 per cent below its actual level. If this entire amount of revenue gap was from under-reported driver earnings then this would suggest that drivers are under-reporting earnings in the survey by between 5 per cent and 36 per cent.

8.2 Revenue from meter records provided

Cost items	Urban standard taxis	
	Low meter benchmark	High meter benchmark
Implied dollars per kilometer from survey (\$/km)	1.57	1.57
Meter benchmark (\$/km)	1.60	1.80
Difference between survey and meter benchmark (per cent)	-1.9	-12.8
Implied under-reporting of driver earnings if all revenue gap is attributed to driver earnings (per cent)	-4.7	-35.7

Note: All items include GST to be comparable to meter records. Dollars per kilometre from survey is based on our measure of total costs.

Source: Meter records provided by the Australian Taxi Drivers Association; CIE analysis of survey results.

Operator-drivers revenue

Driver earnings have been estimated based on survey responses from bailee drivers only, since drivers who are also operators do not explicitly pay the pay-in. The earnings of a driver who is also the operator therefore includes the amount that a bailee driver would pay to the operator.

The survey asked drivers who are also operators to report the total amount retained as driver earnings, although some appear to have reported this as the amount paid to operator (the pay-in). Another cross-check on whether the earnings reported by bailee drivers have been understated is to compare total driver earnings and payments to operators (per hour) reported by bailee drivers to that reported by operator-drivers (table 8.3). This is essentially a measure of total takings per hour, excluding fuel and cleaning costs).

8.3 Total hourly takings (excluding fuel and cleaning costs)

	<i>Bailee drivers</i>	<i>Operator-drivers</i>	<i>Difference</i>
	\$ per hour	\$ per hour	\$ per hour
Day shifts			
Monday	24.37	24.02	0.4
Tuesday	24.10	23.04	1.1
Wednesday	24.44	24.06	0.4
Thursday	24.96	24.31	0.7
Friday	26.10	25.07	1.0
Saturday	23.95	23.30	0.7
Sunday	23.70	22.23	1.5
Night shift			
Monday	22.94	22.74	0.2
Tuesday	24.85	23.95	0.9
Wednesday	26.82	25.67	1.1
Thursday	28.67	27.40	1.3
Friday	33.06	31.33	1.7
Saturday	33.38	32.67	0.7
Sunday	24.58	24.78	-0.2

Note: See appendix for further details.

Source: CIE survey of drivers.

The difference between total takings per hour (excluding fuel and cleaning costs) reported by bailee drivers and operator-drivers is not statistically significant (at the 90 per cent level of significance). This provides some evidence that bailee drivers have not under-reported earning to any significant extent.

Method 1 and method 2

Bailee drivers can use Method 1, which is a share of revenue collected, or Method 2, which is a fixed pay-in. In Sydney nearly all drivers use Method 2, while outside of

Sydney the majority of drivers receive a share of the revenue. In Sydney, the share of revenue for drivers set under the Contract Determination is 45 per cent or 50 per cent for Method 1 depending on the experience of the driver.

The NSW Taxi Council has suggested that driver earning figures are too low because they are less than 50 per cent of total revenue in Sydney. If this were the case then drivers would choose to operate under Method 1 rather than Method 2.

The Contract Determination does allow drivers to choose the method that they use. It is unclear that this part of the Contract Determination has any more weight in actual market outcomes than similar requirements for entitlements to be paid. A number of other stakeholders have suggested that a driver is not in a position to choose to use Method 1.

Records provided by individual drivers

As part of the survey process an individual driver of standard taxis in Sydney provided records for every shift he drove over the year from 1 October 2010 to 30 September 2011. This data was maintained by the driver, but has been verified by the operator since the driver works on the percentage of fares method. The data is also supported by the driver's tax records. The driver reports he works around 10.5 hours per shift excluding shift administration and breaks. The implied fare collected per hour are shown in table 8.4.

8.4 Fares per hour based on driver's records

	<i>Fares collected</i>	<i>Hours worked</i>	<i>Fares per hour</i>
	\$	No.	\$/hour
Monday night	277.7	10.5	26.4
Tuesday night	292.3	10.5	27.8
Wednesday night ^a	307.4	10.5	29.3
Thursday night	317.5	10.5	30.2
Friday night	378.8	10.5	36.1
Saturday night	364.3	10.5	34.7
Sunday night	296.6	10.5	28.2

^a The driver rarely drives the Wednesday night shift, so these estimates are based on a small sample.

Source: Information provided by driver.

Comparing the data on fares collected by the driver per hour worked with the estimates from the survey is a useful cross-check. Although these records are from a single driver that may not be representative of the experiences of all drivers, they span an entire year. This means that for most shifts there are at least 40 observations. The comparison shows that our estimates of fares per hour are within a few dollars per hour of that implied by the driver's records. This provides some evidence that drivers did not under-report earnings in the survey, as has been suggested.

8.5 Comparison of fares per hour

	<i>Fares per hour — survey estimates^a</i>	<i>Fares per hour — driver records</i>	<i>Difference</i>
	\$/hour	\$/hour	\$/hour
Monday night	26.15	26.45	-0.29
Tuesday night	28.30	27.84	0.46
Wednesday night	30.03	29.27	0.76
Thursday night	32.50	30.24	2.25
Friday night	37.14	36.08	1.06
Saturday night	37.10	34.69	2.41
Sunday night	27.50	28.25	-0.75

^a Based on estimated takings per shift for a driver of standard taxis in urban areas (see table E.1) divided by estimated hours driven by those bailee drivers (see table C.10).

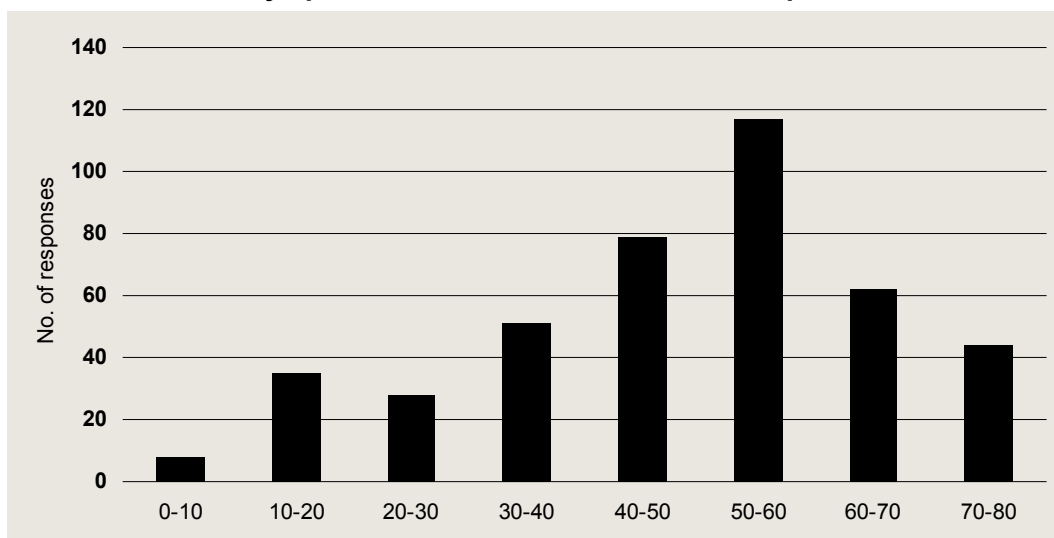
Source: Survey of drivers, information provided by driver, The CIE.

Indirect indicators of conditions

The low taxi earnings reported in survey results leads to questions about why drivers (and driver-operators) work for these rates while general employment conditions are relatively good. A significant share (37 per cent) of drivers suggested that they would not be in the industry in two years, with more than 70 per cent indicating this was because of poor pay or poor conditions.

Potentially, a choice to work as a taxi driver could be influenced by the flexibility of the work (including the ability to work long hours), taxation arrangements and suitability for other employment. We do not have sufficient information to investigate all these issues in detail. We do have information on hours worked by operator-drivers. This suggests that operator-drivers are driving an average of 51.5 hours per week, with a significant number driving 60-80 hours per week (chart 8.6).

8.6 Hours driven by operator-drivers — distribution of responses



Data source: CIE survey of operators.

9 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 in the TCIs of:

- WATs
- driver and operator labour
- driver entitlements
- licence plate lease costs.

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 9.1.

9.1 Weights for aggregating cost structure

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

Source: NSW Department of Transport.

Applying these weights would give the estimated cost structure shown in table 9.2.

9.2 Urban and country cost structures

<i>Cost item</i>	<i>Urban areas</i>	<i>Country areas</i>
	<i>\$/taxi/year</i>	<i>\$/taxi/year</i>
Driver labour	62 673	58 351
Fuel	14 847	14 165
Cleaning	3 244	3 361
Operator administration	9 328	8 304
Maintenance costs	7 580	8 604
Plate lease costs	25 940	13 258
Insurance	13 368	8 501
Vehicle lease payments	6 460	7 024
Network fees	7 430	16 540
Total annual costs	150 869	138 108

Source: The CIE.

The implied weightings based on a standard taxi and a weighted average of standard taxis and WATs are compared in table 9.3.

9.3 Implied weightings for urban and country TCIs

	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>Weighted</i>	<i>Standard</i>	<i>Weighted</i>
	Per cent	Per cent	Per cent	Per cent
Driver labour	41.3	41.5	43.5	42.3
Fuel	9.6	9.8	10.5	10.3
Cleaning	2.1	2.2	2.3	2.4
Operator administration	6.0	6.2	5.4	6.0
Maintenance costs	5.0	5.0	5.9	6.2
Plate lease costs	18.9	17.2	11.9	9.6
Insurance	8.6	8.9	5.8	6.2
Vehicle lease payments	3.8	4.3	3.3	5.1
Network fees	4.7	4.9	11.2	12.0
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.

There are various alternative notional wage rates that could be applied. These include:

- the minimum wage – in Australia this is currently \$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;
- the wage rate implied by the annual leave entitlements specified in the Contract Determination; or
- any number of alternative occupations – drivers indicated a wide range of alternative occupations in the survey.

The cost shares using the minimum wage is shown in table 9.4. This increases the weight on driver labour costs for standard taxis from 41 per cent to 55 per cent for urban and from 44 per cent to 55 per cent for country, with the weight of other cost items decreasing accordingly.

9.4 Urban and country cost shares using notional driver earnings

<i>Cost item</i>	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
	Per cent	Per cent	Per cent	Per cent
Driver labour	55.0	52.2	54.9	44.9
Fuel	7.3	10.7	8.4	8.0
Cleaning	1.6	2.1	1.9	2.4
Operator administration	4.6	6.5	4.3	7.4
Maintenance costs	3.8	4.9	4.7	6.4
Plate lease costs	14.5	0.6	9.5	0.7
Insurance	6.6	9.6	4.6	6.6
Vehicle lease payments	2.9	7.7	2.7	10.4
Network fees	3.6	5.8	9.0	13.0
Total annual costs	100.0	100.0	100.0	100.0

Source: The CIE.

The advantages of using a notional wage rate higher than the best estimate of actual driver earnings are not clear. It would increase the weight of driver labour costs in the TCI. But this would not increase actual driver earnings to this level. Some stakeholders argue that a notional wage rate recognises the actual value of driver's time. However, if drivers value an alternative use of their time more highly than the expected earnings on offer from driving taxis, they would not be willing to supply their labour as a taxi driver. Clearly there are many taxi drivers in NSW that are willing to supply their labour based on current earnings.

While there appears to be few advantages of using a notional wage rate above actual earnings, there are several clear disadvantages. Most particularly, it would 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. Furthermore, moving away from actual observations makes it impossible for the cost model to reconcile with estimated total fare revenue. This has been a persistent criticism of the TCIs and is considered critical to the integrity of the TCIs as an instrument for setting fares.

Some stakeholders question the accuracy of the survey results on several grounds, including that drivers may have under-reported their actual earnings and that the single week that the survey was undertaken may not be representative of the full year. While these criticisms are broadly plausible, it is difficult to test whether they are correct. Nevertheless, our estimates from the survey are likely to be closer to actual driver earnings than a notional wage rate. In particular:

- the confidence intervals around the estimates, particularly for urban standard taxis are relatively narrow. There is however, less certainty around the estimates for country WATs;
- in relative terms, the reported earnings patterns through the week are consistent with expectations; and
- various reconciliation exercises suggest our estimates are plausible.

Alternative approach to measuring the cost of operator administration

The cost of operator administration included in the cost model is based on estimated pay-ins less other operator costs (except in the case of country WATs). As with driver labour costs, an alternative way of measuring the cost of operator administration is to base it on the number of hours spent on administration over the year at a notional wage rate (plus staff and other costs).

There are a range of notional wage rates that could be used to estimate operator earnings. Since the tasks undertaken by an operator are largely administrative in nature, one option is to use the market wage for office managers of \$59 062 (annual) converted into an hourly rate based on a 40 hour week.⁹ Based on the average survey response for all operators (standard, WAT, urban and country) of 4.1 hours per week spent administration plus staff and other costs of \$606 (excluding GST), this gives an annual cost for operator administration of \$7178.

The weightings for operator earnings using the notional wage rate approach are shown in table 9.5. In general, operator earnings have a slightly smaller weighting under this approach, with other costs receiving a slightly larger weighting accordingly.

9.5 Urban and country cost structures using alternative approach to estimating operator earnings

<i>Cost item</i>	<i>Urban</i>		<i>Country</i>	
	<i>Standard</i>	<i>WAT</i>	<i>Standard</i>	<i>WAT</i>
	Per cent	Per cent	Per cent	Per cent
Driver labour	41.8	45.4	43.7	38.4
Fuel	9.7	12.7	10.6	9.4
Cleaning	2.1	2.5	2.4	2.8
Operator administration	4.8	5.4	5.0	6.0
Maintenance costs	5.0	5.8	6.0	7.5
Plate lease costs	19.1	0.8	11.9	0.8
Insurance	8.7	11.4	5.8	7.6
Vehicle lease payments	3.9	9.2	3.3	12.2
Network fees	4.8	6.9	11.3	15.2
Total annual costs	100.0	100.0	100.0	100.0

Source: The CIE.

As discussed previously, operator earnings are a relatively small share of total costs, which means that relatively small errors in estimating operator revenue or other costs can have a large impact on estimated operator earnings. The case for using the notional wage rate approach is therefore stronger for operators than it is for drivers.

⁹ My Careers salary site, <http://content.mycareer.com.au/salary-centre/administration-office-support/office-management-coordination/australia>, accessed 5 December 2011.

Nevertheless, given that the estimated operator earnings based on the pay-in less other costs method are plausible based on current estimates (except for country WATs), there is an advantage in treating driver and operator earnings in a consistent way.¹⁰ However, if there are significant adjustments made to some other cost items, this would have a large impact on operator earnings. If there any such adjustments to other cost items, it may be better to use the notional wage rate approach.

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-n 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 9.6).

9.6 Estimated driver entitlements

	<i>Quantity per driver</i>	<i>Cost per unit</i>	<i>Total entitlement per driver</i>	<i>Total entitlement per operator^a</i>
	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.

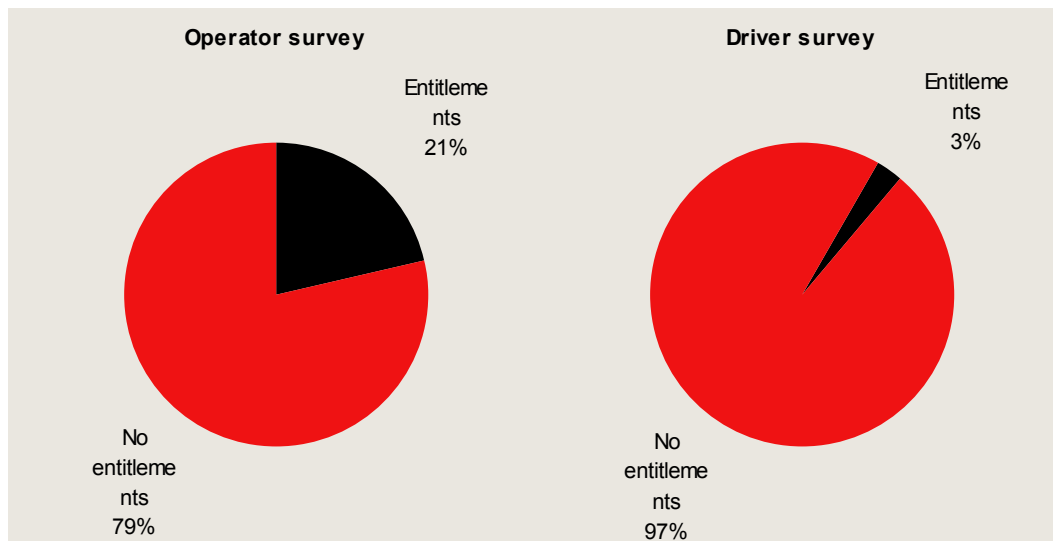
However, drivers are not always paid these entitlements. The survey of operators suggests that around 20 per cent of operators in the Sydney Metropolitan area pay annual leave and sick leave entitlements. Since paying driver entitlements to permanent drivers is a legal requirement, it is likely that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

¹⁰ Assuming IPART chooses to use estimated driver earnings from the survey, rather than a notional wage.

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.

9.7 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.

Treatment of plate lease costs

Plate lease costs are a financial 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 9.8). 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.

9.8 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.

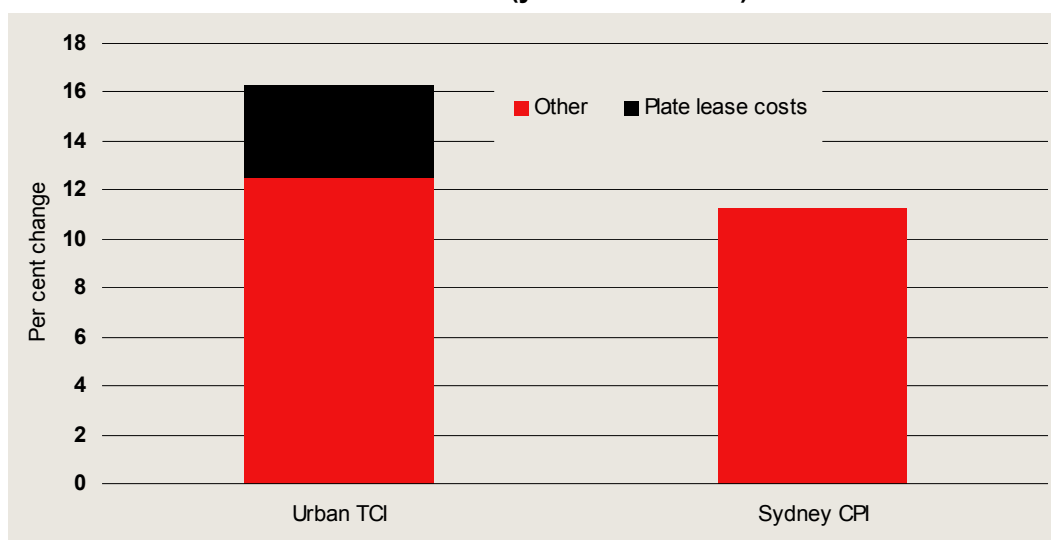
An increase in plate lease costs reflects an increase in rents flowing to licence plate owners. From a regulator's perspective, there seems to be little logic in increasing the regulated price because the rents received by an entity with market power have increased.

Nevertheless, including licence plate lease costs in the TCI recognises that they are a financial 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.¹¹ 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 9.9).

¹¹ Based on the average Sydney CPI in the year to March 2011, compared to the average Sydney CPI in the year to March 2007.

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



Data sources: IPART, ABS, The CIE.

An alternative option outlined in IPART’s Issues Paper was to leave the licence plate lease costs in the TCI, without inflating them. This has the advantage of recognising that licence plate lease costs are a financial cost to operators, but also breaks the circularity in the fare setting process.

If licence plate lease costs were removed from the TCIs, the cost structures are set out in table 9.10.

9.10 Urban and country cost structures with no plate lease costs

Cost item	Urban		Country	
	Standard	WAT	Standard	WAT
	%	%	%	%
Driver labour	41.3	44.4	43.5	37.4
Fuel	9.6	12.4	10.5	9.1
Cleaning	2.1	2.5	2.3	2.8
Operator administration	24.9	8.3	17.3	9.2
Maintenance costs	5.0	5.7	5.9	7.3
Plate lease costs	0.0	0.0	0.0	0.0
Insurance	8.6	11.1	5.8	7.5
Vehicle lease payments	3.8	9.0	3.3	11.9
Network fees	4.7	6.7	11.2	14.8
Total annual costs	100.0	100.0	100.0	100.0

Source: The CIE.

Appendices

APPENDIX 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? (<i>choose one</i>)			
<input type="checkbox"/> Easier <input type="checkbox"/> Harder <input type="checkbox"/> Same			
2. How many taxis do you operate?_			
3. How many of your vehicle(s) are standard, premium and wheelchair accessible/ maxi taxis? (<i>specify number of taxis of each type, write 1 if you operate a single taxi</i>)			
_Standard taxis		_Premium taxis	
_Wheelchair accessible taxis (WAT)		_Maxi taxis (vehicle that carries 5-11 passengers but is not a WAT)	
4. Please tick yes or no for the following questions. If you tick yes, please provide additional information if requested.			
Question	No	Yes	If “yes”...
Do you pay for daily cleaning costs for your vehicle(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
Do you have general liability insurance for your business?	<input type="checkbox"/>	<input type="checkbox"/>	
Do you have comprehensive insurance for your vehicle(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
Do you pay for fuel used by bailee drivers?	<input type="checkbox"/>	<input type="checkbox"/>	
Do you pay annual and sick leave entitlements to permanent bailee driver(s) (working at least 5 shifts per week)?	<input type="checkbox"/>	<input type="checkbox"/>	
Do you discount pay-ins for permanent bailee drivers instead of paying annual and sick leave entitlements?	<input type="checkbox"/>	<input type="checkbox"/>	
Do you offer drivers multi-day bailments, such as across a weekend?	<input type="checkbox"/>	<input type="checkbox"/>	
Do you also drive your taxi? <i>If you drive please also fill out the driver survey</i>	<input type="checkbox"/>	<input type="checkbox"/>	How many hours each week on average? _____
Do any of your taxis operate under licences that restrict the time that they can operate, such as peak availability licences?	<input type="checkbox"/>	<input type="checkbox"/>	How many? _____
If you have bailee drivers, do you collect a percentage of fares (rather than a fixed amount from the driver)?	<input type="checkbox"/>	<input type="checkbox"/>	What share do you collect? _____%
Do you have another job outside of your taxi business?	<input type="checkbox"/>	<input type="checkbox"/>	What is your other job? _____

<p>5. 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.)</p>		
<p>a) Do you spend your own time on administration?</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, hours per week?</p> <p>-</p>	<p>b) Do you pay staff to undertake administration?</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, staff costs per year?</p> <p>\$ _____</p>	<p>c) Do you pay other businesses for administration (such as accounting fees)?</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, costs per year (including GST)? \$ _____</p>
<p>6. This question is about repairs and maintenance costs for your vehicle(s). Please do not include costs that were covered by insurance in your answers below.</p>		
<p>a) Do you spend time on repairs and maintenance yourself?</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, hours per year?</p> <p>_____ hours</p>	<p>b) Do you pay staff to undertake repairs and maintenance?</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, annual staff costs?</p> <p>\$ _____</p>	<p>c) Do you pay other businesses to undertake repairs and maintenance (mechanics, parts etc)?</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, annual expenses? (including GST): \$ _____</p>
<p>7. Do you lease any taxi licences? (<i>yes or no</i>)</p>		
<p><input type="checkbox"/> Yes, what is the annual licence lease cost <i>per licence</i> (GST inclusive, licence lease cost only)?</p> <p> \$ _____ Standard licence</p> <p> \$ _____ Wheelchair accessible licence</p> <p> \$ _____ Other</p> <p>Who do you lease your licence(s) from?</p> <p><input type="checkbox"/> Licence owners</p> <p><input type="checkbox"/> Network</p> <p><input type="checkbox"/> NSW Department of Transport</p> <p><input type="checkbox"/> Licence broker</p> <p><input type="checkbox"/> Other:</p>		<p><input type="checkbox"/> No</p>
<p>8. Do you lease any vehicles from another person or organisation? (<i>yes or no</i>)</p>		
<p><input type="checkbox"/> Yes, what is the annual vehicle lease cost <i>per vehicle</i> (GST inclusive, vehicle lease cost only)?</p> <p> \$ _____ Standard vehicle</p> <p> \$ _____ Wheelchair accessible vehicle</p> <p> \$ _____ Premium vehicle</p> <p> \$ _____ Maxi taxi vehicle</p>		<p><input type="checkbox"/> No</p>

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) operate in? (*tick all that apply*)

<input type="checkbox"/> Sydney	<input type="checkbox"/> Wollongong
<input type="checkbox"/> Central Coast	<input type="checkbox"/> Other urban. Please indicate: _
<input type="checkbox"/> Newcastle	<input type="checkbox"/> 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. *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 taxi(s)</i>	<i>Premium taxi(s)</i>	<i>WAT(s)</i>	<i>Maxi taxi(s)</i>	<i>Restricted time taxi</i>
Average kilometres each taxi drives per year?					
Average number of weeks each taxi is on the road each year?					
Average number of hours per week that each taxi is on the road (for weeks in which it is on the road)?					
Average gross income/total sales you received per taxi over the past year (GST inclusive)? <i>If you also drive your taxi include income from this role</i>					

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? <i>(choose yes or no)</i>	
<input type="checkbox"/> Yes Do you expect to be driving a taxi in 2 years? <input type="checkbox"/> Yes <input type="checkbox"/> No, why not? <input type="checkbox"/> Too hard to get shifts <input type="checkbox"/> Pay too low <input type="checkbox"/> Poor conditions <input type="checkbox"/> Retiring <input type="checkbox"/> Other: _ What job would you do if you were not driving a taxi? List: _	<input type="checkbox"/> No, why not? <input type="checkbox"/> Can't get a shift Don't want a shift because: <input type="checkbox"/> Pay too low <input type="checkbox"/> Poor conditions <input type="checkbox"/> Retired <input type="checkbox"/> Other: _ Do you work in another job? <input type="checkbox"/> Yes, what job? _ <input type="checkbox"/> No <i>If you are not currently driving a taxi please end the survey here and mail to the CIE.</i>
2. What was your previous job prior to being a taxi driver? _	
3. Are you: <i>(choose one)</i>	
<input type="checkbox"/> a permanent bailee driver (at least five shifts per week for the same operator) <input type="checkbox"/> a casual bailee driver (less than five shifts a week for the same operator)	<input type="checkbox"/> an operator who also drives <i>If you also operate a taxi please make sure that you also fill out the operator survey as well as this driver survey</i>
4. How many years have you been driving taxis in NSW? <i>(choose one)</i>	
<input type="checkbox"/> less than 1 year <input type="checkbox"/> 1-3 years	<input type="checkbox"/> 4-6 years <input type="checkbox"/> 7 years or more
5. What type of taxi vehicle do you normally drive? <i>(choose one)</i>	
<input type="checkbox"/> Standard taxi <input type="checkbox"/> Wheelchair accessible taxi (WAT)	<input type="checkbox"/> Premium taxi <input type="checkbox"/> Maxi taxi (vehicle that carries 5-11 passengers but is not wheelchair accessible)
6. What area do you normally drive? <i>(choose one)</i>	
<input type="checkbox"/> Sydney <input type="checkbox"/> Central Coast <input type="checkbox"/> Newcastle	<input type="checkbox"/> Wollongong <input type="checkbox"/> Other urban. Please indicate: _ <input type="checkbox"/> Country NSW. Please indicate: _
7. Type of fuel used in the vehicle you normally drive? <i>(choose one)</i>	
<input type="checkbox"/> LPG <input type="checkbox"/> Diesel	<input type="checkbox"/> Petrol <input type="checkbox"/> 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	<input type="checkbox"/>					
Tuesday	<input type="checkbox"/>					
Wednesday	<input type="checkbox"/>					
Thursday	<input type="checkbox"/>					
Friday	<input type="checkbox"/>					
Saturday	<input type="checkbox"/>					
Sunday	<input type="checkbox"/>					
Night shifts						
Monday	<input type="checkbox"/>					
Tuesday	<input type="checkbox"/>					
Wednesday	<input type="checkbox"/>					
Thursday	<input type="checkbox"/>					
Friday	<input type="checkbox"/>					
Saturday	<input type="checkbox"/>					
Sunday	<input type="checkbox"/>					

9. On average, what share of your paid trips are from radio bookings? (<i>specify percentage</i>)		
Percentage of trips: <u> </u> %		
10. How much time do you spend on administration tasks required for each shift not included in the 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: (<i>please tick one</i>)		
a. Daily cleaning costs?	<input type="checkbox"/> Driver	<input type="checkbox"/> Operator
b. Fuel costs?	<input type="checkbox"/> Driver	<input type="checkbox"/> Operator
12. Please answer yes or no for the following questions.		
a. Are you paid annual and sick leave entitlements?	<input type="checkbox"/> No	<input type="checkbox"/> Yes
b. If you are a bailee driver do you pay a percentage of fares (rather than a fixed amount) to the operator?	<input type="checkbox"/> No	<input type="checkbox"/> 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. <i>Do not include administrative tasks related to your role as an operator if you also operate your taxi.</i>		
Do you spend time on these tasks yourself?	Do you pay someone else to undertake any of these tasks for you?	
<input type="checkbox"/> Yes, how many hours per year?	<input type="checkbox"/> Yes, what are your costs per year (GST inclusive)?	
<u> </u> hrs	<u> </u> \$	
<input type="checkbox"/> No	<input type="checkbox"/> No	
14. Are there other expenses that you incur as a taxi driver? (For example, phone, GPS, laundry etc)		
<input type="checkbox"/> No	<input type="checkbox"/> 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

Driver survey

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

B.1 Summary of driver responses

	Responses	
	No.	Share of responses %
Type of driver		
Currently driving	2 180	84.4
Not currently driving	403	15.6
Total	2 583	100.0
Permanent Bailee		
Permanent Bailee	827	37.0
Casual Bailee	1 091	48.8
Driver/operator	317	14.2
Total	2235	100.0
Experience		
Less than 1 year	169	7.3
1-3 years	416	18.1
4-6 years	372	16.1
7 years or more	1347	58.5
Total	2304	100.0
Type of vehicle		
Standard taxi	1 768	77.7
Premium taxi	200	8.8
WAT	253	11.1
Maxi taxi	55	2.4
Total	2276	100.0
Area		
Sydney	1 653	71.6
Central Coast	74	3.2
Newcastle	83	3.6
Wollongong	35	1.5
Other urban	34	1.5
Country	429	18.6
Total	2 308	100.0

(Continued on next page)

B.2 Summary of driver responses (continued)

	Responses		Share of responses	
		No.		%
Type of fuel				
LPG		1 964		87.2
Diesel		48		2.1
Petrol		209		9.3
Petrol/electric		31		1.4
Total		2 252		100.0

Source: CIE taxi driver survey.

Operator survey

Table B.3 summarises the responses to the operator survey.

B.3 Summary of operator responses

	Responses		Share	
		No.		%
Number of taxis operated				
Single cab		411		72.4
2 – 3 taxis		92		16.2
4 – 12 taxis		54		9.5
More than 13 taxis		11		1.9
Total		568		100.0
Does the operator drive?				
Yes		479		82.3
No		103		17.7
Total		582		100.0
Area				
Sydney		411		71.6
Central Coast		13		2.3
Newcastle		26		4.5
Wollongong		14		2.4
Other urban		14		2.4
Country NSW		96		16.7
Total		574		100.0
Taxis operated				
Standard		927		75.6
Premium		120		9.8
WAT		142		11.6
Maxi taxi		37		3.0
Total		1226		100.0

Source: CIE survey of operators.

C Driver survey results

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 C.1 summarises the results of the survey for drivers of standard taxis in urban areas. The sample includes both bailee drivers and operator/drivers.

C.1 Hours per shift — Urban standard

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
	No.	Hours		Hours	Hours
Day shifts					
Monday	445	9.9	1.5	9.8	10.1
Tuesday	460	9.9	1.4	9.8	10.0
Wednesday	441	10.1	1.3	9.9	10.2
Thursday	466	10.0	1.4	9.8	10.1
Friday	438	10.1	1.5	9.9	10.2
Saturday	348	10.6	1.4	10.4	10.7
Sunday	281	10.7	1.7	10.5	10.9
Night shifts					
Monday	280	9.9	1.5	9.7	10.1
Tuesday	326	10.0	1.4	9.8	10.1
Wednesday	339	10.3	1.3	10.1	10.4
Thursday	346	10.5	1.2	10.4	10.7
Friday	350	11.4	1.0	11.3	11.5
Saturday	302	11.5	1.0	11.4	11.6
Sunday	161	10.0	1.7	9.7	10.3

^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.

Source: CIE Survey of taxi drivers.

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

C.2 Hours per shift — Urban WAT

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
	No.	Hours		Hours	Hours
Day shifts					
Monday	47	10.4	1.4	9.9	10.8
Tuesday	48	9.9	2.0	9.4	10.5
Wednesday	50	10.6	1.3	10.2	10.9
Thursday	54	10.0	1.9	9.5	10.5
Friday	49	10.4	1.8	9.9	10.9
Saturday	33	10.5	2.2	9.7	11.2
Sunday	32	10.3	2.5	9.4	11.1
Night shifts					
Monday	10	8.3	2.3	6.9	9.7
Tuesday	10	7.8	2.5	6.3	9.3
Wednesday	11	10.5	2.0	9.3	11.7
Thursday	15	8.8	2.5	7.5	10.1
Friday	18	10.3	2.6	9.1	11.5
Saturday	17	10.9	2.4	9.8	12.1
Sunday	7	10.0	2.8	7.9	12.1

^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.

Source: CIE Survey of taxi drivers.

Table C.3 summarises the results of the survey for drivers of standard taxis in country areas.

C.3 Hours per shift — Country Standard

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
	No.	Hours		Hours	Hours
Day shifts					
Monday	83.0	9.7	1.9	9.3	10.2
Tuesday	81.0	9.9	1.6	9.6	10.3
Wednesday	84.0	9.9	1.6	9.6	10.2
Thursday	87.0	9.5	1.6	9.2	9.8
Friday	96.0	9.4	1.5	9.1	9.7
Saturday	61.0	9.3	2.2	8.7	9.8
Sunday	42.0	9.6	2.1	9.0	10.2
Night shifts					
Monday	26.0	7.8	2.4	6.9	8.8
Tuesday	29.0	8.4	2.3	7.5	9.2
Wednesday	27.0	9.3	2.4	8.4	10.2
Thursday	35.0	10.3	1.9	9.7	10.9
Friday	64.0	11.1	2.1	10.6	11.7
Saturday	57.0	11.3	1.5	10.9	11.7
Sunday	28.0	10.0	2.0	9.3	10.8

^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 C.4 summarises the results of the survey for WAT drivers in country areas.

C.4 Hours per shift — Country WAT

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	Hours		Hours	Hours
Monday	34.0	9.7	1.2	9.2	10.1
Tuesday	34.0	9.7	1.3	9.3	10.2
Wednesday	28.0	9.4	1.2	9.0	9.9
Thursday	31.0	9.8	1.3	9.3	10.2
Friday	34.0	9.5	1.3	9.1	10.0
Saturday	17.0	9.6	1.6	8.9	10.4
Sunday	10.0	10.7	1.4	9.8	11.5
Night shifts					
Monday	5.0	6.8	3.9	3.3	10.2
Tuesday	5.0	6.1	1.9	4.4	7.8
Wednesday	8.0	8.3	1.8	7.1	9.6
Thursday	7.0	8.4	1.2	7.5	9.2
Friday	17.0	11.0	1.1	10.5	11.5
Saturday	11.0	11.3	1.0	10.7	11.9
Sunday	4.0	8.8	1.5	7.3	10.2

^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.

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 C.5.

C.5 Driver administration

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
	No.	No.		No.	No.
Minutes per shift	1982	21.9	13.6	21.4	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 C.6 summarises the survey results for drivers of standard taxis in urban areas. The sample includes on bailee drivers.

C.6 Driver earnings per shift (including GST) — Urban standard

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	387.0	108.6	36.8	104.9	112.3
Tuesday	409.0	105.3	35.1	101.9	108.7
Wednesday	399.0	108.3	35.3	104.9	111.8
Thursday	407.0	113.3	35.6	109.9	116.8
Friday	386.0	124.4	41.6	120.3	128.6
Saturday	312.0	129.5	45.8	124.4	134.6
Sunday	265.0	132.0	52.1	125.7	138.3
Night shifts					
Monday	245.0	85.2	32.7	81.1	89.3
Tuesday	273.0	97.3	32.5	93.5	101.2
Wednesday	298.0	113.3	37.5	109.1	117.6
Thursday	300.0	132.0	41.7	127.3	136.7
Friday	310.0	187.2	55.8	180.9	193.4
Saturday	272.0	192.9	64.6	185.3	200.6
Sunday	142.0	119.6	48.4	111.7	127.6

^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 C.7 summarises the survey results for WAT drivers in urban areas.

C.7 Driver earnings per shift (including GST) — Urban WAT

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	23.0	138.4	74.1	108.2	168.7
Tuesday	22.0	123.5	49.6	102.7	144.2
Wednesday	25.0	122.8	50.7	102.9	142.7
Thursday	25.0	131.7	56.2	109.7	153.8
Friday	22.0	144.5	62.4	118.5	170.6
Saturday	15.0	170.7	100.4	119.9	221.5
Sunday	11.0	150.3	75.9	105.5	195.2
Night shifts					
Monday	5.0	201.4	130.5	87.0	315.8
Tuesday	4.0	87.8	66.9	22.2	153.3
Wednesday	6.0	228.0	104.3	144.5	311.5
Thursday	6.0	170.8	86.6	101.5	240.1
Friday	8.0	249.8	95.0	183.9	315.6
Saturday	8.0	216.8	58.0	176.6	257.0
Sunday	4.0	193.6	144.4	52.1	335.1

^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.

Source: CIE Survey of taxi drivers.

Table C.8 summarises the survey results for WAT drivers in urban areas.

C.8 Driver earnings per shift (including GST) — Country Standard

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	44.0	126.2	48.2	111.9	140.4
Tuesday	44.0	121.9	37.2	111.0	132.9
Wednesday	44.0	118.3	30.7	109.2	127.4
Thursday	46.0	121.2	38.9	109.9	132.4
Friday	54.0	123.4	36.8	113.6	133.2
Saturday	36.0	115.1	41.2	101.6	128.5
Sunday	28.0	127.3	40.7	112.2	142.4
Night shifts					
Monday	18.0	92.7	34.0	77.0	108.4
Tuesday	20.0	97.4	25.4	86.3	108.6
Wednesday	19.0	126.3	46.1	105.6	147.0
Thursday	26.0	147.9	42.9	131.4	164.4
Friday	44.0	190.1	54.5	174.0	206.2
Saturday	39.0	222.1	53.6	205.3	238.9
Sunday	19.0	117.4	47.7	95.9	138.8

^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 C.9 summarises the survey results for WAT drivers in country areas.

C.9 Driver earnings per shift (including GST) — Country WAT

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	24.0	133.6	35.9	119.3	148.0
Tuesday	27.0	134.6	28.1	124.0	145.2
Wednesday	19.0	150.4	40.6	132.1	168.6
Thursday	25.0	162.1	48.2	143.3	181.0
Friday	21.0	155.2	35.5	140.0	170.4
Saturday	9.0	121.8	56.3	85.0	158.6
Sunday	7.0	160.4	26.0	141.2	179.7
Night shifts					
Monday	2.0	96.5	17.7	71.9	121.0
Tuesday	2.0	85.4	28.6	45.8	124.9
Wednesday	6.0	102.5	28.4	79.8	125.2
Thursday	6.0	127.2	30.4	102.9	151.5
Friday	12.0	210.3	71.7	169.7	250.9
Saturday	8.0	285.5	69.4	237.4	333.5
Sunday	3.0	139.6	46.5	87.0	192.2

^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

Tables C.10 to C.14 summarise the survey responses to the hours worked per shift. Unlike the estimates presented above, the sample includes on bailee drivers.

C.10 Hours per shift for bailee drivers — Urban standard

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
	No.	Hours		Hours	Hours
Day shifts					
Monday	445.0	9.9	1.5	9.8	10.1
Tuesday	460.0	9.9	1.4	9.8	10.0
Wednesday	441.0	10.1	1.3	9.9	10.2
Thursday	466.0	10.0	1.4	9.8	10.1
Friday	438.0	10.1	1.5	9.9	10.2
Saturday	348.0	10.6	1.4	10.4	10.7
Sunday	281.0	10.7	1.7	10.5	10.9
Night shifts					
Monday	280.0	9.9	1.5	9.7	10.1
Tuesday	326.0	10.0	1.4	9.8	10.1
Wednesday	339.0	10.3	1.3	10.1	10.4
Thursday	346.0	10.5	1.2	10.4	10.7
Friday	350.0	11.4	1.0	11.3	11.5
Saturday	302.0	11.5	1.0	11.4	11.6
Sunday	161.0	10.0	1.7	9.7	10.3

^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.

Source: CIE Survey of taxi drivers.

C.11 Hours per shift for bailee drivers — Urban WAT

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
	No.	Hours		Hours	Hours
Day shifts					
Monday	27.0	9.8	1.4	9.3	10.4
Tuesday	27.0	9.8	1.6	9.2	10.4
Wednesday	30.0	10.2	1.3	9.7	10.6
Thursday	31.0	9.7	1.8	9.1	10.3
Friday	28.0	9.9	1.4	9.4	10.4
Saturday	20.0	9.8	2.1	8.8	10.7
Sunday	17.0	10.7	2.1	9.7	11.7

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C.12 Hours per shift for bailee drivers — Urban WAT (continued)

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
				No.	Hours
Night shifts					
Monday	6.0	9.0	3.7	6.0	12.0
Tuesday	5.0	8.8	1.6	7.4	10.2
Wednesday	8.0	10.8	2.4	9.1	12.5
Thursday	8.0	9.3	2.3	7.6	10.9
Friday	9.0	10.3	2.8	8.4	12.1
Saturday	11.0	10.5	2.5	9.0	12.0
Sunday	5.0	10.6	3.0	8.0	13.2

^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.

C.13 Hours per shift for bailee drivers — Country Standard

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
				No.	Hours
Day shifts					
Monday	56.0	9.7	1.8	9.2	10.1
Tuesday	59.0	9.8	1.5	9.4	10.2
Wednesday	57.0	10.0	1.5	9.6	10.3
Thursday	59.0	9.5	1.5	9.1	9.8
Friday	71.0	9.5	1.4	9.2	9.9
Saturday	43.0	9.8	1.8	9.2	10.3
Sunday	31.0	10.1	1.6	9.5	10.6
Night shifts					
Monday	21.0	8.1	2.7	6.9	9.3
Tuesday	23.0	8.4	2.2	7.5	9.3
Wednesday	21.0	10.1	1.6	9.4	10.8
Thursday	27.0	10.7	1.2	10.2	11.2
Friday	48.0	11.6	1.3	11.2	11.9
Saturday	44.0	11.6	0.9	11.3	11.9
Sunday	23.0	10.3	1.9	9.5	11.1

^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.

Source: CIE Survey of taxi drivers.

C.14 Hours per shift for bailee drivers — Country WAT

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
	No.	Hours		Hours	Hours
Day shifts					
Monday	31.0	9.4	1.0	9.1	9.8
Tuesday	31.0	9.5	1.1	9.1	9.9
Wednesday	27.0	9.5	1.2	9.1	9.9
Thursday	29.0	9.7	1.2	9.3	10.2
Friday	32.0	9.5	1.3	9.1	9.9
Saturday	14.0	9.8	1.6	9.0	10.7
Sunday	9.0	10.7	1.5	9.8	11.7
Night shifts					
Monday	5.0	6.8	3.9	3.3	10.2
Tuesday	5.0	6.1	1.9	4.4	7.8
Wednesday	8.0	8.3	1.8	7.1	9.6
Thursday	6.0	8.3	1.3	7.2	9.3
Friday	16.0	10.9	1.1	10.4	11.4
Saturday	11.0	11.3	1.0	10.7	11.9
Sunday	4.0	8.8	1.5	7.3	10.2

^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.

Fuel costs per shift

Fuel costs per shift can be obtained directly from the survey of taxi drivers.

Table C.15 summarises the results of the survey for drivers of standard taxis in urban areas.

C.15 Fuel costs per shift (including GST) — Urban standard taxi

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
	No.	\$		\$	\$
Day shifts					
Monday	500	25.8	6.2	25.3	26.4
Tuesday	508	25.4	6.1	24.9	25.9
Wednesday	502	26.2	6.0	25.7	26.7
Thursday	517	26.0	6.2	25.4	26.5
Friday	494	27.2	6.7	26.6	27.7
Saturday	391	28.1	7.6	27.3	28.8
Sunday	302	29.6	8.8	28.6	30.6
Night shifts					
Monday	299	26.7	6.6	26.0	27.5
Tuesday	342	27.7	6.3	27.0	28.3
Wednesday	358	29.2	6.2	28.5	29.8
Thursday	367	31.4	7.2	30.7	32.2
Friday	376	37.2	8.0	36.4	38.0
Saturday	339	37.4	9.2	36.4	38.4
Sunday	175	27.9	6.8	26.8	28.9

^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.

Source: CIE Survey of taxi drivers.

Table C.16 summarises the results of the survey for drivers of urban WATs.

C.16 Fuel costs per shift (including GST) — Urban WAT

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	43	44.6	12.2	40.9	48.2
Tuesday	44	43.2	12.3	39.5	46.8
Wednesday	44	45.0	11.7	41.6	48.5
Thursday	46	44.0	12.6	40.3	47.6
Friday	44	46.8	12.8	43.0	50.6
Saturday	29	45.2	15.4	39.6	50.8
Sunday	26	43.0	11.9	38.4	47.6
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

^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 C.17 summarises the results of the survey for drivers of standard taxis in urban areas.

C.17 Fuel costs per shift (including GST) — Country standard taxi

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	48	31.0	12.3	27.5	34.4
Tuesday	46	34.0	11.8	30.6	37.4
Wednesday	49	34.2	11.5	31.0	37.4
Thursday	50	30.8	10.9	27.8	33.8
Friday	51	30.4	12.0	27.1	33.7
Saturday	38	27.7	11.6	24.1	31.4
Sunday	31	31.7	15.3	26.3	37.1
Night shifts					
Monday	9	23.1	10.4	16.3	29.9
Tuesday	14	21.4	8.5	16.9	25.8
Wednesday	17	23.8	7.6	20.2	27.5
Thursday	23	36.2	14.5	30.2	42.1
Friday	39	41.6	10.9	38.2	45.0
Saturday	35	44.8	13.2	40.4	49.2
Sunday	15	27.8	10.0	22.7	32.9

^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.

Source: CIE Survey of taxi drivers.

Table C.18 summarises the results of the survey for drivers of standard taxis in urban areas.

C.18 Fuel costs per shift (including GST) — Country WAT

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	18	33.4	10.5	28.5	38.3
Tuesday	22	33.7	8.6	30.1	37.3
Wednesday	16	36.9	11.8	31.1	42.6
Thursday	18	40.3	13.5	34.0	46.5
Friday	18	36.9	9.3	32.7	41.2
Saturday	9	42.6	16.9	31.5	53.6
Sunday	7	39.9	16.2	28.0	51.9
Night shifts					
Monday	1	0.0	n.a.	n.a.	n.a.
Tuesday	1	15.0	n.a.	n.a.	n.a.
Wednesday	4	33.5	7.2	26.4	40.6
Thursday	4	34.0	10.2	24.0	44.0
Friday	12	40.8	8.9	35.7	45.8
Saturday	8	48.6	10.3	41.5	55.8
Sunday	2	28.5	2.1	25.6	31.4

^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.

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 C.19.

C.19 Pay-ins per shift (including GST) — Urban standard

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
	No.	\$		\$	\$
Day shifts					
Monday	415.0	129.3	15.6	127.8	130.8
Tuesday	427.0	128.9	15.0	127.5	130.3
Wednesday	420.0	129.6	14.7	128.2	131.0
Thursday	431.0	129.1	14.7	127.7	130.5
Friday	411.0	131.4	16.4	129.8	133.0
Saturday	324.0	118.2	23.2	114.5	119.8
Sunday	265.0	117.2	22.3	114.5	119.8
Night shifts					
Monday	265.0	135.1	19.9	132.7	137.5
Tuesday	296.0	146.0	15.8	144.2	147.8
Wednesday	323.0	154.9	14.0	153.4	156.4
Thursday	322.0	166.0	14.8	164.4	167.6
Friday	330.0	187.4	25.5	184.7	190.2
Saturday	286.0	183.7	27.3	180.5	186.8
Sunday	158.0	115.8	23.4	112.2	119.5

^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.

Estimate pay-ins per shift for urban WATs is shown in table C.20.

C.20 Pay-ins per shift (including GST) — Urban WAT

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	24.0	128.0	29.1	116.3	139.6
Tuesday	24.0	138.1	29.2	126.4	149.8
Wednesday	27.0	141.6	32.2	129.5	153.8
Thursday	27.0	129.4	35.0	116.2	142.6
Friday	26.0	139.3	39.9	124.0	154.6
Saturday	16.0	129.5	26.0	115.6	144.6
Sunday	13.0	130.1	26.7	115.6	144.6
Night shifts					
Monday	6.0	149.1	38.4	118.4	179.8
Tuesday	5.0	168.1	53.7	121.0	215.2
Wednesday	8.0	154.4	69.2	106.4	202.4
Thursday	7.0	186.2	55.1	145.4	227.0
Friday	9.0	201.9	80.3	149.5	254.4
Saturday	9.0	184.8	87.2	127.8	241.7
Sunday	5.0	139.5	47.3	98.0	181.0

^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 were excluded from the sample.

Source: CIE Survey of taxi drivers.

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

C.21 Pay-ins per shift (including GST) — Country Standard

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	40.0	150.1	59.2	131.8	168.4
Tuesday	40.0	153.6	55.4	136.5	170.8
Wednesday	42.0	155.8	54.6	139.3	172.4
Thursday	43.0	151.7	58.5	134.2	169.2
Friday	48.0	168.7	60.4	151.6	185.8
Saturday	35.0	140.4	60.5	138.3	188.0
Sunday	27.0	163.2	65.8	138.3	188.0
Night shifts					
Monday	18.0	114.7	56.9	88.4	141.0
Tuesday	19.0	124.2	33.9	109.0	139.5
Wednesday	18.0	156.2	52.9	131.7	180.6
Thursday	26.0	182.2	70.7	155.0	209.4
Friday	42.0	241.6	92.1	213.7	269.4
Saturday	37.0	287.9	79.5	262.2	313.5
Sunday	17.0	155.1	66.2	123.6	186.6

^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 C.22.

C.22 Pay-ins per shift (including GST) — Country WAT

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	\$		\$	\$
Monday	22.0	170.3	68.2	141.8	198.8
Tuesday	26.0	174.7	65.7	149.5	200.0
Wednesday	18.0	182.6	60.0	154.8	210.3
Thursday	23.0	215.6	82.4	182.0	249.3
Friday	19.0	184.7	71.5	152.6	216.8
Saturday	8.0	134.1	83.7	192.9	254.5
Sunday	6.0	223.7	38.5	192.9	254.5
Night shifts					
Monday	1.0	102.7	n.a.	n.a.	n.a.
Tuesday	2.0	83.0	4.7	76.5	89.5
Wednesday	4.0	114.6	33.5	81.8	147.4
Thursday	4.0	127.6	36.4	92.0	163.3
Friday	8.0	225.1	91.7	161.6	288.7
Saturday	8.0	280.8	132.9	188.7	372.9
Sunday	2.0	69.3	55.5	-7.7	146.2

^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.

Number of jobs per shift

A summary of survey responses to the question on the number of jobs per shift is shown in tables C.23 to C.26.

C.23 Jobs per shift — Urban standard

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Day shifts	No.	No.		No.	No.
Monday	344	12.9	4.1	12.5	13.3
Tuesday	366	12.8	4.2	12.4	13.2
Wednesday	351	13.3	4.4	12.9	13.8
Thursday	360	13.2	4.7	12.7	13.7
Friday	343	14.3	4.9	13.8	14.8
Saturday	282	14.4	5.7	14.2	15.6
Sunday	211	14.9	5.2	14.2	15.6
Night shifts					
Monday	189	12.4	4.4	11.7	13.0
Tuesday	211	14.4	4.7	13.8	15.0
Wednesday	218	16.1	5.2	15.4	16.8
Thursday	223	17.6	4.7	17.0	18.3
Friday	226	23.5	7.0	22.6	24.5
Saturday	222	23.2	7.3	22.2	24.2
Sunday	125	16.2	6.5	15.0	17.3

^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.

Source: CIE Survey of taxi drivers.

C.24 Jobs per shift — Urban WAT

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
Day shifts	No.	No.		No.	No.
Monday	28	12.7	3.9	11.2	14.1
Tuesday	26	11.7	3.5	10.3	13.0
Wednesday	28	12.4	4.6	10.7	14.1
Thursday	29	12.9	3.4	11.7	14.1
Friday	29	13.8	5.0	12.0	15.6
Saturday	19	14.3	7.6	8.3	12.0
Sunday	19	10.2	4.2	8.3	12.0
Night shifts					
Monday	7	10.7	6.1	6.2	15.3
Tuesday	7	9.4	2.7	7.4	11.3
Wednesday	6	15.7	6.3	10.7	20.7
Thursday	8	14.3	5.0	10.8	17.8
Friday	9	15.6	7.8	10.4	20.7
Saturday	7	16.4	7.6	10.7	22.0
Sunday	2	13.5	0.7	12.5	14.5

^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.

C.25 Jobs per shift — Country standard

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
Day shifts	No.	No.		No.	No.
Monday	43	18.6	6.8	16.6	20.6
Tuesday	43	18.7	6.4	16.7	20.6
Wednesday	44	18.5	7.9	16.2	20.9
Thursday	44	19.1	6.9	17.1	21.2
Friday	48	19.2	6.3	17.4	21.0
Saturday	33	18.0	7.2	13.6	19.3
Sunday	25	16.5	7.3	13.6	19.3
Night shifts					
Monday	14	15.4	5.7	12.4	18.4
Tuesday	14	15.6	4.7	13.1	18.0
Wednesday	16	18.9	6.5	15.8	22.1
Thursday	24	22.3	7.5	19.3	25.3
Friday	39	30.7	10.7	27.4	34.1
Saturday	35	33.5	8.9	30.6	36.5
Sunday	16	21.3	7.0	17.9	24.7

^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.

C.26 Jobs per shift — Country WAT

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
	No.	No.		No.	No.
Day shifts					
Monday	18	20.2	7.4	16.8	23.7
Tuesday	21	18.2	5.8	15.7	20.7
Wednesday	16	18.0	6.3	14.9	21.1
Thursday	20	20.5	7.2	17.3	23.7
Friday	21	21.0	7.2	17.9	24.0
Saturday	8	16.3	6.1	14.7	27.8
Sunday	9	21.2	10.0	14.7	27.8
Night shifts					
Monday	1	1.0	na	na	na
Tuesday	2	11.0	5.7	3.2	18.8
Wednesday	5	13.2	2.2	11.3	15.1
Thursday	6	17.0	6.8	11.5	22.5
Friday	10	26.9	5.0	23.8	30.0
Saturday	9	33.6	11.9	25.8	41.4
Sunday	1	20.0	na	na	na

^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 Operator survey results

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 D.1.

D.1 Average hours per week

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
				No.	No.
Urban — Standard taxi	252	103.9	31.3	100.1	107.8
Urban — WAT	75	81.3	32.4	74.0	88.6
Country — Standard taxi	72	98.2	30.6	91.1	105.3
Country — WAT	14	64.9	37.6	45.2	84.6

^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.

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 D.2.

D.2 Licence plate lease costs

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
				No.	\$
Standard licence — urban	131	31 668	3 888	31 002	32 334
Standard licence — country	10	18 706	4 464	15 939	21 473

^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.

Average age and life of vehicles

The survey results for the average age and life of vehicles is shown in table D.1.

D.1 Average age and life of vehicles

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
				Years	Years
	No.	Years		Years	Years
Average age					
Urban standard taxi	270	3.8	1.3	3.6	4.0
Urban WAT	65	5.2	2.4	4.6	5.8
Country standard taxi	65	4.1	1.3	3.8	4.5
Country WAT	3	5.0	1.0	3.9	6.1
Average life					
Urban standard	262	4.9	1.6	4.7	5.0
Urban WAT	65	8.3	2.3	7.8	8.9
Country standard taxi	69	6.2	1.4	5.9	6.6
Country WAT	3	6.7	1.2	5.4	8.0

^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 operators.

Maintenance and repair costs

Maintenance and repair costs by operator size are shown in table D.2.

D.2 Maintenance and repair costs by size of operator

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
				No.	
Own labour (hours per year)					
Single cab (1 taxi)	329	32.7	52.7	27.0	38.4
Small operators (2-3 taxis)	76	10.5	22.8	5.4	15.7
Medium operators (4-12 taxis)	45	19.5	37.7	8.5	30.5
Large operators (13+ taxis)	8	20.1	52.6	-16.3	56.5
All operators	464	29.0	49.7	24.5	33.5
Staff costs (\$ per year)					
Single cab (1 taxi)	328	48.4	267.4	19.5	77.4
Small operators (2-3 taxis)	76	60.9	267.1	0.9	121.0
Medium operators (4-12 taxis)	45	1 226.5	2 621.5	460.6	1 992.4
Large operators (13+ taxis)	8	3 459.7	5 429.1	-302.4	7 221.8
All operators	456	133.9	559.3	82.6	185.3

(Continued on next page)

D.2 Maintenance and repair costs by size of operator (continued)

	<i>Responses</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
	No.				
Other costs (\$ per year)^b					
Single cab (1 taxi)	330	6 538.4	5 116.2	5 986.4	7 090.4
Small operators (2-3 taxis)	77	6 190.3	5 135.9	5 043.2	7 337.5
Medium operators (4-12 taxis)	45	4 897.1	4 483.3	3 587.2	6 207.0
Large operators (13+ taxis)	8	2 709.5	3 784.0	87.3	5 331.6
All operators	462	6 308.9	5 132.7	5 840.8	6 776.9
Total costs (\$ per year)^c					
Single cab (1 taxi)	310	7 993.8	4 907.4	7 447.5	8 540.1
Small operators (2-3 taxis)	72	6 914.3	4 968.7	5 766.6	8 062.0
Medium operators (4-12 taxis)	45	7 005.6	5 113.6	5 511.5	8 499.6
Large operators (13+ taxis)	8	6 568.7	4 757.2	3 272.2	9 865.3
All operators	431	7 689.4	4 826.6	7 233.7	8 145.0

^a Confidence interval is at the 95 per cent level of significance. ^b Includes GST. ^c Operator's own labour is valued at a rate of \$32.10 per hour, based on an average mechanic's wage of \$61 689 per year. GST on 'other costs' has also been excluded.

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 D.3.

D.3 Maintenance and repair costs

	Responses	Average	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
Urban standard					
Hours (No./taxi/year)	238	30.6	50.3	24.2	37.0
Staff costs (\$/taxi/year)	235	218.3	831.9	111.9	324.6
Other costs (\$/taxi/year) ^b	235	5 689.7	5 159.2	5 030.1	6 349.3
Total costs (\$/taxi/year) ^c	223	7 561.7	5 264.5	6 870.8	8 252.7
Urban WAT					
Hours (No./taxi/year)	62	30.7	53.0	17.5	43.9
Staff costs (\$/taxi/year)	62	11.3	68.0	- 5.6	28.2
Other costs (\$/taxi/year) ^b	62	6 234.3	4 350.3	5 151.4	7 317.1
Total costs (\$/taxi/year) ^c	59	7 736.2	4 818.3	6 506.7	8 965.7
Country standard					
Hours (No./taxi/year)	50	9.4	18.2	4.3	14.4
Staff costs (\$/taxi/year)	50	0.0	0.0	n.a.	n.a.
Other costs (\$/taxi/year) ^b	49	9 052.3	5 304.4	7 567.1	10 537.5
Total costs (\$/taxi/year) ^c	47	8 503.7	4 654.3	7 173.1	9 834.3
Country WAT					
Hours (No./taxi/year)	17	14.0	36.4	- 3.3	31.3
Staff costs (\$/taxi/year)	17	1 301.9	2 776.3	- 17.8	2 621.6
Other costs (\$/taxi/year) ^b	17	5 725.3	4 466.6	3 602.1	7 848.6
Total costs (\$/taxi/year) ^c	16	8 932.0	6 122.2	5 932.2	11 931.8

^a Confidence interval is at the 95 per cent level of significance. ^b Includes GST. ^c Operator's own time is valued at a rate of \$32.10 per hour, based on an annual mechanic's wage of \$61 689. GST has also been removed from external costs.

Note: Estimates for urban standard taxis and WATs and country standard taxis are based on the sample of operators that only had the relevant type of cab. Owing to a small sample of WAT-only operators in country areas, the estimates for country WATs are based on the sample of operators with at least one WAT. 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 D.4.

D.4 Administration costs by size of operator

	Responses	Mean	Standard deviation	Confidence interval	
				Lower bound	Upper bound
	No.				
Own labour (hours per year)					
Single cab	367	4.9	4.5	4.4	5.3
Multiple cab operators	121	3.2	2.0	2.9	3.6
All operators	487	4.1	3.3	3.8	4.3
Other costs (\$ per year)					
Single cab (1 taxi)	360	573.4	629.0	508.4	638.4
Multiple cab operators	128	948.8	1 906.8	618.4	1 279.1
All operators	486	601.8	731.2	536.8	666.8

^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.

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 is shown in table D.5.

D.5 Number of permanent drivers per taxi

	Responses	Mean	Standard deviation	Confidence interval ^a	
				Lower bound	Upper bound
	No.	No.		No.	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.

E 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 the responses of bailee drivers to the survey.

Based on the survey results, an average cost model for drivers of a standard taxi in urban areas is shown in table E.1. The confidence intervals around these estimates are relatively narrow, indicating they are reasonably robust.

E.1 Driver cost model — Urban standard driver

	<i>Takings retained by driver</i>	<i>Pay-ins to operator</i>	<i>Fuel</i>	<i>Cleaning</i>	<i>GST on retained takings</i>	<i>Total takings</i>
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Day shifts						
Monday	98.7	129.3	25.9	0.0	9.9	263.8
Tuesday	95.7	128.9	25.3	0.0	9.6	259.5
Wednesday	98.5	129.6	26.1	0.0	9.8	264.1
Thursday	103.0	129.1	26.2	0.0	10.3	268.6
Friday	113.1	131.4	27.1	0.0	11.3	282.9
Saturday	117.7	118.2	28.5	0.0	11.8	276.2
Sunday	120.0	117.2	29.8	0.0	12.0	279.0
Night shifts						
Monday	77.5	135.1	26.6	12.0	7.7	258.9
Tuesday	88.5	146.0	27.7	12.0	8.8	283.0
Wednesday	103.0	154.9	29.1	12.0	10.3	309.3
Thursday	120.0	166.0	31.2	12.0	12.0	341.2
Friday	170.1	187.4	36.8	12.0	17.0	423.4
Saturday	175.4	183.7	38.1	12.0	17.5	426.7
Sunday	108.7	115.8	27.6	12.0	10.9	275.0

Source: CIE taxi driver survey.

An average cost model for an urban WAT driver is shown in table E.2. As the sample size for WATs is significantly smaller, there is greater uncertainty around these estimates, particularly for night shifts.

E.2 Driver cost model — Urban WAT driver

	<i>Takings retained by driver</i>	<i>Pay-ins to operator</i>	<i>Fuel</i>	<i>Cleaning</i>	<i>GST on retained takings</i>	<i>Total takings</i>
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Day shifts						
Monday	125.8	128.0	40.8	0.0	12.6	307.2
Tuesday	112.2	138.1	40.0	0.0	11.2	301.5
Wednesday	111.6	141.6	42.4	0.0	11.2	306.8
Thursday	119.8	129.4	40.8	0.0	12.0	301.9
Friday	131.4	139.3	44.2	0.0	13.1	328.0
Saturday	155.2	129.5	41.8	0.0	15.5	342.0
Sunday	136.7	130.1	47.6	0.0	13.7	328.1
Night shifts						
Monday	183.1	149.1	36.6	12.0	18.3	399.1
Tuesday	79.8	168.1	35.0	12.0	8.0	302.9
Wednesday	207.3	154.4	42.5	12.0	20.7	436.9
Thursday	155.3	186.2	42.2	12.0	15.5	411.2
Friday	227.0	201.9	46.0	12.0	22.7	509.7
Saturday	197.1	184.8	50.7	12.0	19.7	464.2
Sunday	176.0	139.5	49.8	12.0	17.6	394.9

Source: CIE taxi driver survey.

An estimated cost model for drivers of standard taxis in country areas is shown in table E.3. While the sample size for country drivers is smaller than urban areas, these estimates are nevertheless reasonably robust.

E.3 Driver cost model — Country standard driver

	<i>Takings retained by driver</i>	<i>Pay-ins to operator</i>	<i>Fuel</i>	<i>Cleaning</i>	<i>GST on retained takings</i>	<i>Total takings</i>
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Day shifts						
Monday	114.7	150.1	30.1	0.0	11.5	306.4
Tuesday	110.9	153.6	30.0	0.0	11.1	305.6
Wednesday	107.5	155.8	31.7	0.0	10.8	305.8
Thursday	110.2	151.7	27.5	0.0	11.0	300.4
Friday	112.2	168.7	29.6	0.0	11.2	321.7
Saturday	104.6	140.4	28.5	0.0	10.5	284.0
Sunday	115.7	163.2	31.3	0.0	11.6	321.8

(Continued on next page)

E.3 Driver cost model — Country standard driver (continued)

	<i>Takings retained by driver</i>	<i>Pay-ins to operator</i>	<i>Fuel</i>	<i>Cleaning</i>	<i>GST on retained takings</i>	<i>Total takings</i>
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Night shifts						
Monday	84.3	114.7	25.5	12.0	8.4	244.9
Tuesday	88.6	124.2	21.1	12.0	8.9	254.8
Wednesday	114.8	156.2	26.6	12.0	11.5	321.0
Thursday	134.4	182.2	35.8	12.0	13.4	378.0
Friday	172.8	241.6	40.8	12.0	17.3	484.4
Saturday	201.9	287.9	44.5	12.0	20.2	566.5
Sunday	106.7	155.1	25.3	12.0	10.7	309.8

Source: CIE taxi driver survey.

A cost model for country WAT drivers is shown in table E.4. Due to a small sample size, there is much less certainty around these estimates, particularly for night shifts.

E.4 Driver cost model — Country WAT driver

	<i>Takings retained by driver</i>	<i>Pay-ins to operator</i>	<i>Fuel</i>	<i>Cleaning</i>	<i>GST on retained takings</i>	<i>Total takings</i>
	\$ (ex GST)	\$ (including GST)	\$ (including GST)	\$ (including GST)	\$	\$ (including GST)
Day shifts						
Monday	121.5	170.3	34.4	0.0	12.1	338.3
Tuesday	122.4	174.7	33.2	0.0	12.2	342.6
Wednesday	136.7	182.6	34.1	0.0	13.7	367.1
Thursday	147.4	215.6	39.0	0.0	14.7	416.8
Friday	141.1	184.7	36.1	0.0	14.1	376.0
Saturday	110.7	134.1	38.1	0.0	11.1	293.9
Sunday	145.8	223.7	31.0	0.0	14.6	415.1
Night shifts						
Monday	87.7	102.7	0.0	12.0	8.8	211.1
Tuesday	77.6	83.0	15.0	12.0	7.8	195.3
Wednesday	93.2	114.6	33.5	12.0	9.3	262.6
Thursday	115.6	127.6	29.3	12.0	11.6	296.2
Friday	191.2	225.1	39.9	12.0	19.1	487.3
Saturday	259.5	280.8	48.6	12.0	26.0	626.9
Sunday	126.9	69.3	28.5	12.0	12.7	249.4

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

Source: CIE survey of taxi drivers.

F Comparing responses of bailee drivers to operator-drivers

As a cross-check on the plausibility of bailee drivers' responses to the survey question on driver earnings, we compared hourly takings (excluding fuel and cleaning costs) of bailee driver and driver-operators.

Only bailee drivers that responded to the question on hours worked, payment to operator and takings kept by driver were included in the sample. Details of the survey results are summarised in table F.1.

F.1 Bailee drivers — reported hourly takings (excluding fuel and cleaning costs)

	<i>Responses</i>	<i>Average</i>	<i>Standard dev</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
	No.	\$ per hour		\$ per hour	\$ per hour
Day shifts					
Monday	381	24.37	4.82	24.0	24.8
Tuesday	400	24.10	4.81	23.7	24.5
Wednesday	387	24.44	4.75	24.0	24.8
Thursday	395	24.96	4.62	24.6	25.3
Friday	377	26.10	5.33	25.6	26.5
Saturday	301	23.95	5.57	23.4	24.5
Sunday	254	23.70	5.41	23.1	24.3
Night shifts					
Monday	235	22.94	4.29	22.5	23.4
Tuesday	265	24.85	4.41	24.4	25.3
Wednesday	283	26.82	4.27	26.4	27.2
Thursday	290	28.67	4.65	28.2	29.1
Friday	298	33.06	5.55	32.5	33.6
Saturday	259	33.38	6.54	32.7	34.1
Sunday	135	24.58	5.57	23.8	25.4

^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.

Source: CIE Survey of taxi drivers.

Operator-drivers were asked to report all takings less fuel and other costs as driver earnings. However, some operator-drivers reported these takings as payments to operator. Therefore the sample includes those operators that responded to the question on hours worked and either payments to operator or retained driver earnings.

F.2 Operator-drivers — reported hourly takings (excluding fuel and cleaning costs)

	<i>Responses</i>	<i>Average</i>	<i>Standard dev</i>	<i>Confidence interval^a</i>	
				<i>Lower bound</i>	<i>Upper bound</i>
	No.	\$ per hour		\$ per hour	\$ per hour
Day shifts					
Monday	65	24.02	7.34	22.5	25.5
Tuesday	57	23.04	6.71	21.6	24.5
Wednesday	61	24.06	6.55	22.7	25.4
Thursday	58	24.31	6.60	22.9	25.7
Friday	61	25.07	6.43	23.7	26.4
Saturday	45	23.30	6.20	21.8	24.8
Sunday	23	22.23	6.15	20.1	24.3
Night shifts					
Monday	28	22.74	4.85	21.2	24.2
Tuesday	31	23.95	4.14	22.7	25.2
Wednesday	30	25.67	5.33	24.1	27.3
Thursday	28	27.40	4.70	25.9	28.9
Friday	27	31.33	6.01	29.4	33.2
Saturday	32	32.67	9.21	30.0	35.3
Sunday	14	24.78	6.63	21.9	27.7

^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.