



# TAXI FARE MONITORING ANNUAL REPORT 2015-16

Regional and Country taxi zones

December 2016



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# GLOSSARY

<b>Australian Bureau of Statistics (ABS)</b>	The statistical agency of the Government of Australia.
<b>Consumer Price Index (CPI)</b>	An Australian Bureau of Statistics measure of changes in the prices of a basket of goods and services representative of consumption expenditure in Australian metropolitan areas.
<b>Component index</b>	A measure used to estimate the change in a specific cost component over time (for example the wage price index).
<b>Cost share</b>	The share of the total cost of providing taxi services that a specific cost component represents.
<b>Country zone</b>	The taxi zone comprised of all areas not included in the metropolitan, urban and regional zones.
<b>Distance rate</b>	A fare component that is charged per kilometre travelled. In most taxi operators' fare structures the distance rate applies when travelling over 21 kilometres per hour.
<b>Fare notification regime</b>	The regime in which operators and networks in the regional and country taxi zones are able to set their own maximum fares, and are required to notify the Taxi Services Commission and passengers of their fares.
<b>Flagfall</b>	A fare component that is a fixed fee charged regardless of the distance travelled or journey time.
<b>High occupancy vehicle</b>	A class of taxi that can carry up to 11 passengers. Higher taxi fares usually apply to high occupancy vehicles if carrying at

least five passengers or if the hirer requests a high occupancy vehicle (except for wheelchair passengers).

<b>Market power</b>	The ability to increase prices, without losing market share, above the level that would occur in a competitive market.
<b>Metropolitan zone</b>	Referred to in legislation as the 'Melbourne metropolitan zone', the taxi zone comprising key areas of metropolitan Melbourne (see Taxi Services Commission website for zone maps).
<b>Multi Purpose Taxi Program (MPTP)</b>	A government program that subsidises taxi fares for people with severe and permanent disabilities. MPTP members receive a 50 per cent subsidy on taxi fares up to a maximum of \$60 per trip and \$2180 per year. Some MPTP members are exempt from the annual cap.
<b>Regional zone</b>	The taxi zone comprised of service areas of population sizes around 10 000 to 50 000, such as Traralgon, Shepparton, Swan Hill, Echuca, Horsham, Colac, Ocean Grove and Warrnambool.
<b>Return on assets</b>	A measure of profitability calculated as revenue divided by total assets.
<b>Taxi cost index (TCI)</b>	Consists of component indexes for costs incurred in providing taxi services and is used to measure changes in the costs of providing taxi services over time.
<b>Taxi operator</b>	A person who owns, maintains and operates a taxi vehicle. A taxi operator must source a taxi licence in order to be permitted to operate a taxi. A taxi operator may engage a taxi driver for their vehicle or they may drive the taxi themselves.
<b>Taxi Services Commission (TSC)</b>	The TSC is responsible for regulation of the commercial passenger vehicle industry.
<b>Taximeter</b>	A device required in all taxis to calculate and display taxi

fares. The Taxi Services Commission is responsible for specifying the functional requirements of taximeters.

<b>The Commission</b>	The Essential Services Commission — Victoria’s independent economic regulator of certain prescribed services. The Commission is responsible for monitoring taxi fares in the country and regional zones.
<b>Urban zone</b>	Referred to in legislation as ‘the urban and large regional zone’, the taxi zone comprising of Geelong, Ballarat, Bendigo, Frankston, Dandenong and the Mornington Peninsula (see Taxi Services Commission website for zone maps).
<b>Wage Price Index</b>	An ABS measure of changes over time in wages and salaries for employee jobs.
<b>Waiting time rate</b>	A fare component that is a minimum charge per minute. In most taxi operators’ fare structures the waiting time rate applies when travelling at 21 kilometres per hour or slower.

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# SUMMARY

## THE FARE NOTIFICATION REGIME

Victoria's regional and country taxi zones operate under a fare notification regime which commenced in June 2014. The regime requires taxi operators to set their own taxi fares and notify those fares to the Taxi Services Commission for publication on its website. Prior to this, taxi fares were determined by the Minister for Public Transport.

Under the *Transport (Compliance and Miscellaneous) Act 1983*, the Essential Services Commission is required to monitor and report annually on trends in regional and country taxi fares and costs for the purpose of identifying and highlighting potential areas of misuse of market power.<sup>1</sup> This 2015-16 report contains our analysis of trends in regional and country taxi fares and costs between June 2014 and June 2016.

## OUR FINDINGS ON COSTS AND FARES

In the two years since the regime began, we estimate that the cost of operating a taxi in regional and country areas has decreased by approximately three per cent, primarily owing to lower fuel prices.

Over the same period, our analysis indicates 147 of the 228 regional and country taxi operators have made no changes to their fares. The remaining 81 taxi operators have notified fare increases ranging from seven to 38 per cent, with the vast majority of fare increases being 16 per cent or less over the two years.

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<sup>1</sup> *Transport (Compliance and Miscellaneous) Act 1983*, S162ED

## **OUR CONCLUSIONS**

While we have observed large increases in fares charged by some taxi operators over the past two years, despite declining costs, we do not consider that further investigation into potential misuses of market power is warranted at this stage.

Of the taxi operators who have notified fare increases, most have done so once in the two year period. In our consultations, some taxi operators have explained their preference for making larger but less frequent changes to fares. Less frequent changes help minimise the costs associated with changing fares, such as taximeter reprogramming. In addition, there is some evidence of price competition developing in areas where large fare increases have occurred. In Colac, following the largest fare increases in Victoria, two new taxi networks entered the local market offering lower price services. This suggests regional and country taxi operators' market power, to the extent it may exist in a particular area, may be temporary.

We will continue to closely monitor prices and costs for taxis in regional and country areas. Where we observe sustained increases in fares above cost trends, we will investigate further.

# 1 INTRODUCTION

In Victoria's regional and country taxi zones, taxi fares are set by taxi operators under a fare notification regime. In this chapter we provide an overview of the fare notification regime, as well as the Commission's role in monitoring and reporting on regional and country taxi fares.

## 1.1 BACKGROUND

Taxis in Victoria are licensed to operate in one of four taxi zones in Victoria: the metropolitan zone; the urban and large regional zone (urban zone); the regional zone; or the country zone (see Figure 1.1).

The regional and country zones cover areas outside metropolitan Melbourne and the regional centres of Geelong, Ballarat and Bendigo. The regional zone is comprised of smaller regional centres typically with population sizes of 10,000 to 50,000, while the country zone covers the remainder of Victoria.

As at 30 June 2016, there were 228 taxi operators in the regional and country zones operating 493 taxi licences between them. Of those, 336 taxis were licensed to the regional zone and 157 to the country zone.

While fares for taxis licensed to the metropolitan and urban zones are set by the Commission, regional and country taxi operators set their own fares under a fare notification regime described below.

**FIGURE 1.1 VICTORIAN TAXI ZONES**



## 1.2 THE FARE NOTIFICATION REGIME

Under taxi industry reforms implemented in June 2014, taxi operators in the regional and country taxi zones are required to set their own fares under a fare notification regime. Prior to the commencement of this regime taxi fares were determined by the Minister for Public Transport.

The *Transport (Compliance and Miscellaneous) Act 1983* (the Act) sets out the regime under which fares set by regional and country taxi operators must be notified to the Taxi Services Commission (TSC) and published on the TSC website. Operators who have not formally notified the TSC of their fares since June 2014 are deemed by legislation to have notified the fares previously determined by the Minister in May 2014.

In many regional and country areas, local taxi services are run as cooperatives<sup>1</sup> comprised of multiple taxi operators. It is typical for multiple taxi operators in a cooperative to jointly fund and operate a single booking network<sup>2</sup>, facilitating the dispatch of their taxis to customer bookings through one booking service. In most regional and country taxi cooperatives, all taxi operators in the cooperative charge the same fares. Usually this type of conduct would be a breach of federal laws on cartel conduct. However, in May 2014, the Australian Competition and Consumer Commission granted an authorisation to regional and country taxi cooperatives to agree on the maximum fares their members may charge passengers.<sup>3</sup> The authorisation expires 31 December 2017.

### 1.3 OUR MONITORING ROLE

Under the Act, the Commission has a role for the first five years of the fare notification regime to:

- monitor and report on trends in prices, costs and return on assets for regional and country taxi operators
- identify and highlight potential areas of misuse of market power that warrant further investigation.

The Act states these activities are to be undertaken with a view to keep Victorian consumers and the Government informed about the industry's economic performance and to support the efficient operation of the industry.<sup>4</sup>

In performing this role we are required to publish annual reports on our monitoring activities. Our first annual report was published in November 2015 and contained analysis of fares notified in 2014-15. This report is the second annual report published

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<sup>1</sup> Cooperatives are groups of independent taxi operators that join together to fund and operate under a single taxi booking network.

<sup>2</sup> A taxi booking network receives taxi bookings from customers and coordinates dispatch of affiliated taxis affiliated to bookings.

<sup>3</sup> Australian Competition and Consumer Commission 2014, *The Victorian Taxi Association – Authorisation – A91428*, Final Determination, 9 October.

<sup>4</sup> *Transport (Compliance and Miscellaneous) Act 1983*, section 162ED(1)

as part of our five year role and includes analysis of all fares notified until the end of financial year 2015-16.

## **1.4 OUR APPROACH TO FARE MONITORING**

In performing our monitoring role we are mindful to ensure our approach achieves its intended purpose without imposing undue regulatory burden on regional and country taxi operators. Analysis of prices, costs and return on assets has the potential to be a highly information intensive exercise. To minimise the information burden on taxi operators we aim to make use of publicly available data where possible. We also adopt an approach that favours simplicity over complexity, while ensuring our analysis and activities adequately address the key intention of our role – to identify and highlight potential areas of misuse of market power that warrant further investigation.

Market power involves the ability to raise and maintain prices above the level that would prevail in a competitive market. To identify where this may potentially be occurring in the regional and country taxi zones, our approach is to compare changes in taxi operators' notified maximum fares against the estimated changes in the cost of providing taxi services.

### **ASSESSING TAXI COSTS**

We use a taxi cost index (TCI) to estimate the changes in the costs of providing taxi services in the regional and country taxi zones. The TCI measures the overall changes across key cost components incurred in providing taxi services. While the costs of individual taxi operators will vary, the TCI provides a representative measure of overall movements in typical taxi costs to inform our assessment.

### **ASSESSING TAXI FARES**

To assess taxi fares we compare fares notified by different taxi operators, and changes in taxi operators' notified fares over time. Assessing these taxi fare trends against trends in the TCI allows us to identify potential divergences in fares relative to costs, which may be a sign of market power being exercised.

## **CONSULTATION WITH TAXI OPERATORS**

Where our fare and cost analysis raise concerns, we consult with the relevant taxi operators to better understand their individual circumstances. This is an important part of our approach given local markets across regional and country Victoria inevitably have unique characteristics, which our initial analysis may not capture.

## **RETURN ON ASSETS**

The Act also refers to monitoring return on assets as part of our role. Return on assets (ROA) is a measure of profitability calculated as net revenue divided by total assets.

As the valuation of assets would require taxi operators to provide a large amount of detailed information on their assets, reporting on ROA would impose a significant regulatory burden on the industry. At this time we consider the cost of monitoring ROA would not justify its use for the purposes of our monitoring role. For this reason we have not included ROA as a measure in our monitoring activities to date.

## 2 TRENDS IN TAXI COSTS

In this chapter we discuss the typical costs faced by taxi operators, our approach to measuring these costs, and the changes in taxi operating costs we have observed over the past two years.

### 2.1 TAXI COST COMPONENTS

In May 2015 we commissioned an extensive survey of regional and country taxi operators to understand the typical costs of operating taxis. From the survey we identified seven key cost components that were typically representative of taxi operators' overall cost profiles. These key components are summarised in Table 2.1.

**TABLE 2.1 KEY COST COMPONENTS FOR TAXI OPERATORS**

<b>Cost component</b>	<b>Description</b>
Vehicle	Includes costs associated with purchasing or leasing a vehicle, including fit-out.
Licence	Costs associated with purchasing or leasing a licence.
Network fees	Costs associated with network affiliation. Operators receive access to services such as centralised booking, dispatch and networked security alarms.
Insurance	Includes compulsory third party insurance (Transport Accident Charge), comprehensive insurance and workers' compensation insurance.
Maintenance and repairs	Includes the cost of operators' own time, staff costs and costs paid to other businesses for maintenance and repairs.
Fuel	Total fuel costs incurred by a taxi.
Wash/cleaning	Costs associated with washing/cleaning a taxi.
Administration	Includes the cost of operators' own time, staff costs and costs paid to other businesses for administration (e.g. accountant).

Source: Essential Services Commission 2015, *Taxi Fare Monitoring Annual Report 2014-15*, November, p. 8.

From the survey results, we estimated the total cost associated with operating a typical regional and country taxi. We also estimated the cost share of each component – that is the share of total costs each component makes up. This allows us to monitor changes in costs using a taxi cost index methodology described below.

## **2.2 USING A TAXI COST INDEX TO MONITOR COST CHANGES**

To measure changes in taxi costs over time we use a taxi cost index. There are two basic parts of our taxi cost index: the component indexes and the weighting of those indexes. Each component index measures the change in one of the key cost components we identified in our survey of taxi operators. For example, we measure changes in the ‘maintenance and repairs’ cost component according to changes in the ‘Melbourne CPI maintenance and repairs of motor vehicles’ index, available from the Australian Bureau of Statistics (ABS). The component indexes are each assigned a cost share based on their percentage share of total costs. By multiplying the change in each component index over time by its share of total costs, we can estimate the change in the total costs over time.

### **COMPONENT INDEXES**

The component indexes we use to represent the change in taxi operators key cost components are shown in Table 2.2.

**TABLE 2.2 TAXI COST INDEX: COMPONENT INDEXES**

Cost component	Cost component index
Vehicle	Composite index based on ABS motor vehicle CPI (ABS series A2328556K) and RBA small business 3 year fixed rate lending series (RBA series FILRSB3YF)
Licence	Melbourne all groups CPI less 0.5 percentage points
Network fees	Melbourne CPI telecommunications equipment and services (ABS series A2328511F)
Compulsory third party insurance	Determined as the percentage change in TAC compulsory third party charges
Comprehensive insurance	Insurance Council of Australia's comprehensive motor vehicle insurance (national) average premium index
Workers compensation	Wages price index for hourly rates of pay in Victoria excluding bonuses (ABS series A2608359V)
Maintenance and repairs	Melbourne CPI maintenance & repairs of motor vehicles (ABS series A2328736V)
Fuel	FUELtrac LPG pump price indexes averaged for 20 regional centres
Wash/cleaning	Melbourne all groups CPI (ABS series A2325811C)
Administration	Wage Price Index for hourly rates of pay in Victoria excluding bonuses (ABS series A2608359V)

With the exception of the fuel index (which we obtain from FUELtrac) all indexes come from publicly available sources including the ABS, the Reserve Bank of Australia, the Transport Accident Commission and the Insurance Council of Australia. Our monitoring of changes in key cost components therefore avoids imposing a significant burden on taxi operators to regularly report their costs to us.

## **COST SHARES**

The cost share we assign to each component index is based on the cost profile from our survey of regional and country taxi operators' costs in May 2015. We periodically update the cost shares by multiplying them by the change in the corresponding component index. This ensures the share of total costs each component represents is updated when different costs change by different amounts over time.

## **2.3 OBSERVED CHANGE IN THE TAXI COST INDEX**

On the basis of the changes we have observed in the component indexes, and their cost shares, we estimate that the cost of operating a conventional taxi in the regional zone has decreased almost three per cent over the two years from June 2014 to June 2016. We estimate similar decreases in costs for country zone taxi operators and high

occupancy vehicle taxi operators. As Table 2.3 reveals, the overall decrease in total costs was largely driven by decreases in fuel costs. Since June 2014 fuel costs have decreased by around 20 per cent. While there was a slight increase in the indexes for most other cost components, these increases were outweighed by the large decrease in the index for fuel. The contribution of each cost category to the overall change in costs can also be seen in Table 2.3.

**TABLE 2.3 CHANGE IN TAXI COST INDEX FOR REGIONAL CONVENTIONAL TAXIS**  
June 2014 to June 2016

	Share of costs June 2016	Change in component index	Contribution to change in total costs
	%	% change	% change
Vehicle	8.8	-2.93	-0.26
Licence	16.4	2.52	0.41
Network fees	11.5	-9.44	-1.08
CTP insurance	1.9	4.22	0.08
Comprehensive insurance	3.2	-1.78	-0.06
Workers compensation	2.6	4.88	0.13
Maintenance and repairs	15.7	5.03	0.79
Fuel	19.1	-20.13	-3.85
Wash/cleaning	1.8	3.02	0.05
Administration	19.1	4.88	0.93
<b>Total</b>	<b>100.0</b>		<b>-2.85</b>

Further details on our taxi cost index calculations and component indexes are available in Appendix A.

## 2.4 WHAT WE EXPECT THIS TO MEAN FOR TAXI FARES

In general where we see costs decrease we would not expect prices to increase. In competitive markets if a firm sets its prices too high above its costs it is likely to lose market share to its competitors.

As we have observed a decrease in the taxi cost index, we would generally expect to see downward pressure on fares. Where this is not the case, a potential explanation

could be that some market power exists. However, there are other possible reasons a taxi operator might choose to increase fares when costs are falling, which we discuss in chapter 3.

# 3 TRENDS IN TAXI FARES

In this chapter we outline how we measure changes in taxi fares for the purpose of our monitoring role and summarise the trends we have observed over the past two years since the commencement of the fare notification regime. We also note the limitations of comparing changes in fares and costs, including potential reasons why fares and costs might diverge.

## 3.1 HOW WE MEASURE CHANGES IN TAXI FARES

There are a number of challenges in calculating the magnitude of taxi fare changes and comparing different taxi fares in a simple way. Taxi fares are typically structured to include multiple components such as:

- flagfall – a fixed charge for hiring a taxi
- distance rate – a per kilometre charge that applies when the taxi is travelling above 21 kilometres per hour
- waiting time rate – a per minute charge that applies when the taxi is stationary or travelling at less than 21 kilometres per hour.

Taxi fare structures also often include additional fees or charges based on specific characteristics of a trip, such as:

- whether the trip is booked (for example, booking fees)
- the time of day the trip occurs (for example, late night fees)
- the day of the week the trip occurs (for example, holiday fees)
- the number of passengers (for example, higher fares for high occupancy trips).

Different taxi operators can have different fare structures, and their fare rates can vary depending on the time of day and day of week. Comparing different taxi operators' fares, and changes in those fares over time, is therefore not always a straight-forward exercise.

## **WEIGHTED AVERAGE FARES**

To enable a simple analysis of trends in taxi fares for the purposes of our monitoring role, we calculate a weighted average fare. The weighted average fare calculation takes account of all components in a taxi operator's fare structure and estimates a single average fare for that operator. This approach avoids unnecessarily complex analysis of many different fare structures applying at different times of the day and week, across hundreds of regional and country taxi operators.

In calculating a weighted average fare from fare structures with multiple components there are a number of assumptions we have to make. Certain trip characteristics affect the weighted average fare calculation – for example, the distances of trips occurring and the proportion of trips that are booked (and therefore attract a booking fee). To inform these assumptions we have analysed a sample of regional and country trip data obtained from the Taxi Services Commission (TSC). From the trip data sample we have estimated a representative profile of trips and their characteristics to inform our weighted average fare calculation.

We utilise a three step approach to calculate weighted average fares for each taxi operator.

- 1.** We use the trip data sample obtained from the TSC to estimate the characteristics of the average trip for each hour block of the week. The characteristics we estimate include the percentage of booked trips, percentage of multi purpose taxi program<sup>1</sup> trips, distance travelled and time spent on the waiting time rate.
- 2.** Using the trip characteristics from step one, and taxi operators' fare structures published on the TSC's website, we then calculate each operator's average fare for each hour block of the week.

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<sup>1</sup> A state government program that subsidises taxi fares for people with severe and permanent disabilities. Most multi purpose taxi program members receive a 50 per cent subsidy on taxi fares up to a maximum of \$60 per trip and \$2180 per year. Some taxi operators charge lower fares to multi purpose taxi program customers.

3. We then multiply the average fare for each hour block by the percentage share of total trips that take place in that hour (according to the trip data sample).

This approach takes account of the differences in taxi operators' fare structures, and how trip characteristics typically vary across the week, to generate a single average fare estimate for each operator. We use these weighted average fare estimates as the basis for our analysis of trends in taxi fares.<sup>2</sup> Further detail on how we estimate weighted average fares can be found in Appendix B.

## 3.2 CHANGES IN FARES VERSUS CHANGES IN COSTS

We monitor trends in taxi fares and costs to identify areas where there may be potential misuses of market power occurring. Market power reflects an ability to raise prices above costs without the risk of losing customers to competitors. To identify sustained increases in fares above costs, we present trends in fares and costs over the last two years (2014-15 and 2015-16) since the fare notification regime began.

Since the regime began in June 2014, 81 of the 228 taxi operators currently operating in regional and country zones have changed their fares from the fares previously regulated by the Government. Collectively these operators manage approximately 41 per cent of the total regional and country taxi fleet (493 licences as at June 2016). Fare changes range from increases of seven to 38 per cent over the last two years. However, fares remain unchanged from the previously regulated levels set by the Minister in May 2014 for 59 per cent of the regional and country taxi fleet.

We have analysed changes in taxi operators' fares according to areas in which they are reported to operate.<sup>3</sup> Changes in standard conventional taxi fares over the past two

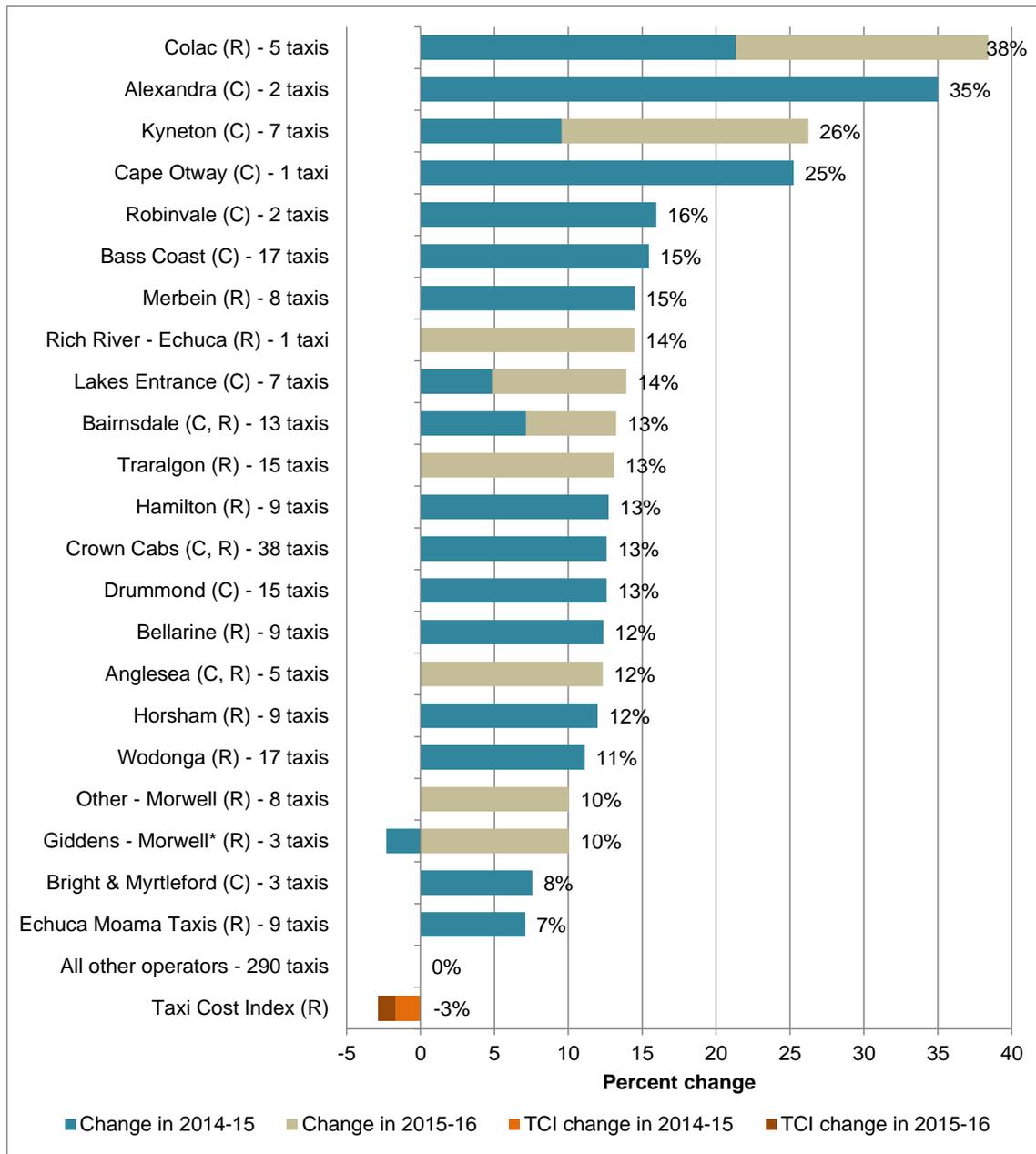
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<sup>2</sup> This year we have reviewed and updated our calculation of the weighted average fare, which is described in more detail in Appendix B. As a result, the fare estimates for 2014-15 presented in this 2016 annual report will differ slightly from those presented in our 2015 annual report. The most notable difference is for Colac, where our updated fare calculation results in a lower estimated 2014-15 fare increase than we previously reported. However, the differences are minor in almost all cases and do not alter the conclusions of our 2015 annual report.

<sup>3</sup> Following June 2014 reforms, taxi operators are permitted to operate anywhere within the zone of their taxi licence (regional or country zone). Areas of operation are recorded by the Taxi Services Commission based on previous taxi licence conditions that restricted operating areas (prior to June 2014 reforms) or areas nominated in new licence applications.

years for each area are shown in Figure 3.1, along with our estimate of the decline in representative taxi operating costs over the same period.

**FIGURE 3.1 FARE AND COST CHANGES SINCE JUNE 2014**  
Listed by taxi network or operator in recorded operating area



Notes: C designates a country zone taxi operator; R a regional zone taxi operator.  
\*In 2014-15, taxi operator Giddens changed their fare structure to remove the booking fee while increasing other fare components. According to our weighted average fare calculation this resulted in an overall fare decrease. We note this estimate is sensitive to the assumption of the number of booked trips.

Of the fare changes notified since our last monitoring report, we note in particular that following increases in fares in 2014-15 operators in Kyneton and Colac also increased their fares significantly in 2015-16. We examine these increases in further detail in chapter 4.

### **3.3 POTENTIAL REASONS FOR DIVERGENCE IN FARES AND COSTS**

Our initial analysis of fares and costs highlights that 36 per cent of taxi operators, managing 41 per cent of the taxi fleet, have increased fares in the past two years despite it being likely that operating costs have declined over the same period (predominantly due to lower fuel prices). However, we are cautious not to come to an immediate conclusion about potential misuse of market power on this observation alone – there are other possible explanations for a divergence in fares and costs.

#### **LIMITATIONS OF OUR FARE AND COST ESTIMATES**

We have made a number of practical simplifications in the way we estimate fares and costs for our monitoring activities. We favour a simplified approach as this limits the reporting burden for the taxi industry while allowing us to highlight key trends that may require further analysis. A corresponding aspect of this approach is that the initial analysis can miss certain unique characteristics of local markets or individual taxi operators' circumstances that may explain an apparent divergence in fares and costs.

As noted in the section on our weighted average fare calculation methodology above, we derive average trip characteristics from a sample of regional and country trip data. While the sample is likely to reflect the regional and country zones as a whole, trip characteristics in individual areas may differ, and this would affect the average fare calculation.

Additionally, the cost indexes we use to estimate changes in typical operating costs may not necessarily reflect an individual operator's circumstances. For example, we use the ABS's Melbourne telecommunications equipment and services index to estimate the change in taxi operators' network costs. This is a reasonable proxy as taxi networks essentially provide telecommunications equipment and services to taxi operators. However, while telecommunications equipment and services costs have

generally decreased over the last two years across the whole of the Australian economy, consultation with taxi operators has indicated that taxi network fees have increased in some cases.

## **FARE CORRECTION**

Prior to June 2014, the fares determined by the Minister were uniform across regional and country Victoria. However, as mentioned above, costs may vary from area to area. In areas where costs are higher than average, operators may have increased fares as once off adjustments to account for this (or other unique circumstances) when the price notification regime came into effect. After the fare notification regime came into effect in 2014-15 we observed some significant once off fare increases.

We note most operators have not increased their fares since the price notification regime began, which suggests the previously regulated fares were at least sufficient to recover costs for those areas of operation.

## **PERIODIC FARE INCREASES**

In our consultation with stakeholders, taxi operators have suggested to us a reluctance to increase their fares due to the costs associated with changing fares, such as updating fare schedules, taximeters and signage. To minimise these costs, some taxi operators may avoid making minor fare changes on a regular basis and instead opt to make less frequent fare changes of a larger magnitude. This may lead to a divergence in fares and costs in the short term.

## **DECREASING DEMAND**

Taxi operators' fares need to recover both fixed and variable costs. If demand for taxi trips declines, a taxi operator may choose to increase fares in order to recover the same fixed costs over a smaller number of trips. This is another potential reason why fares might be observed to diverge from costs in the absence of market power.

## **TRANSIENT MARKET POWER**

The 2014 reforms to the taxi industry were intended to lower market entry costs, for example by making available annual taxi licences. The intention of these reforms was to stimulate competition in the market by ensuring it is contestable. However, market

entry and the development of competition may take some time. In the meantime, fares may diverge from costs for a limited period of time.

In chapter 4 we discuss an example of where market entry and new competition has occurred after the incumbent operator in Colac increased fares.

# 4 ANALYSIS AND CONCLUSIONS ON NOTABLE FARE INCREASES

This chapter discusses in more detail some of the areas where notable fare increases have occurred. We summarise the findings from our consultation with taxi operators in these areas and present our conclusions for the purpose of our fare monitoring role.

## 4.1 AREAS WHERE NOTABLE FARE INCREASES HAVE OCCURRED

In last year's report we noted that there were significant fare increases in some areas during 2014-15. We did not consider further investigation was required at that time, but we indicated that we would continue to monitor fares in those areas in 2015-16. In most of those areas taxi operators made no further changes to their fares, with the exception of Colac.

Another area of concern where fares have now increased notably over the past two years is Kyneton, where Kyneton Country Cabs increased fares in both 2014-15 and 2015-16.

Fares charged by taxi operators in Colac and Kyneton are now amongst the highest in the state following their consecutive fare increases in both 2014-15 and 2015-16. These increases have taken place despite the high likelihood of costs having decreased over the last two years.

As we noted in chapter 3, there are potential explanations for why fares may diverge from costs without a misuse of market power. Accordingly, we consulted with operators in Colac and Kyneton to gain a better understanding of the reasons behind their

decisions to increase fares. The following two sections contain our findings for those two areas.

#### **4.1.1 COLAC**

Colac Taxis operates five taxis in Colac. It increased its fares in both 2014-15 and 2015-16, resulting in a cumulative weighted average fare increase of 38 per cent since June 2014. This is the highest fare increase in all of Victoria. Given we estimate costs have decreased over the same period, at first glance the notified increases raise concern. However, consultation with stakeholders has revealed that competition from new entrants to the Colac taxi market appears to be emerging.

In 2016, Crown Cabs – a taxi network operating in multiple locations across Victoria – began operating two taxis in Colac in competition with Colac Taxis. Crown Cabs has been charging fares approximately 18 per cent lower than Colac Taxis, according to our weighted average fare calculations. Furthermore, we have heard during our consultations that a taxi operator from Winchelsea has also recently commenced offering services in Colac at lower fares than both Colac Taxis and Crown Cabs.

Given that new taxi services, competing on price, have emerged in Colac we consider the potential for misuse of market power is limited.

#### **4.1.2 KYNETON**

Kyneton Country Cabs also increased its fares in both 2014-15 and 2015-16. The cumulative increase in the weighted average fare for Kyneton since the fare notification regime began has been around 26 per cent – well in excess of the change we have observed in the taxi cost index.

In our consultations with Kyneton Country Cabs we were informed that at the previous fare level it had been difficult to attract drivers and it was necessary to increase fares to entice drivers to work.

We were also told demand for taxi services in Kyneton has been decreasing. As discussed in chapter 3, in some situations where taxi operators face falling demand

they may choose to increase their fares in excess of changes in their costs in order to recover fixed costs over fewer trips.

While taxi fares in Kyneton have increased considerably in excess of costs over the last two years, the explanations provided by Kyneton Country Cabs for these increases are plausible and would suggest the fare increases are not necessarily reflective of a misuse of market power.

We also note that if new entry occurred (or threatened to occur) in Kyneton the way it has in Colac, this would constrain the ability of Kyneton Country Cabs to further increase its prices. The likelihood of new entry in Kyneton depends on the reason for declining taxi demand. If demand has fallen in response to general economic conditions (rather than primarily because of higher prices) then it is unlikely new entry would occur.

Given that there are plausible explanations for the fare increases we do not consider the fare increases in Kyneton warrant further investigation at this time, but we will continue to monitor fares in this area closely.

#### **4.1.3 FARE INCREASES IN OTHER AREAS**

We have observed fares increase despite declining costs in a number of other regional and country areas. However, we do not consider these fare increases warrant further investigation at this stage.

Of particular note are large fare increases in Alexandra (35 per cent) and Cape Otway (25 per cent). While these fare increases are respectively the second and fourth largest increases we have observed, they were one off increases made in 2014-15. This makes it plausible that the increases were intended as periodic increases to avoid the changeover costs associated with frequent fare updates.

In addition to Colac and Kyneton, there are two other areas where taxi operators have notified consecutive fare increases in 2014-15 and 2015-16 – Bairnsdale and Lakes Entrance. Their cumulative fare increases over the two year period are now 13 per cent and 14 per cent respectively, which brings their fares to a level similar to the majority of other taxi operators who have notified one off increases.

While we do not consider that fare increases in these areas warrant further investigation at this stage, we will continue to monitor fares and investigate further if we observe sustained fare increases in excess of costs.

## 4.2 FARE MONITORING CONCLUSIONS FOR 2016

Since the fare notification regime began in June 2014, approximately 36 per cent of regional and country taxi operators have increased fares for approximately 41 per cent of the taxi fleet. Fare increases over the two year period to June 2016 range from seven to 38 per cent. These increases have occurred despite it being likely that taxi operating costs have declined by around three per cent over the same period, primarily due to lower fuel costs.

At this stage we consider the observed fare increases are more likely associated with the unique circumstances of individual operators and local markets, rather than market power being misused to a significant extent. We note in particular that most taxi operators who have increased fares have only done so once in the past two years, potentially to avoid the changeover costs associated with smaller and more frequent fare changes.

We also note that operators who increase their fares too aggressively may expose themselves to the risk of competition from other taxi operators. Evidence of this has been observed recently in Colac where, following a large fare increase by the incumbent operator in 2014-15, two additional competing taxi networks have now entered the Colac taxi market charging lower fares.

As there are plausible explanations for the fare increases we have observed other than misuse of market power, and evidence of high fares attracting new entrants to local markets, we do not consider further investigation into potential misuses of market power is warranted at this time.

We will continue to monitor changes in the fares and costs of regional and country taxi operators and investigate further where we see fares increasing by more than costs in a sustained manner.

# APPENDIX A: FIGURES UNDERLYING TAXI COST INDEX ANALYSIS

This section provides all of the figures necessary to replicate the changes in our taxi cost index for conventional and high occupancy taxis in both the regional and country zones. These include the changes observed in the component indexes, cost shares, and the total taxi cost indexes.

## CHANGE IN COMPONENT INDEXES

The changes in component indexes are used in the calculation of the change in the taxi cost index for all taxis in the regional and country zones. Table A.1 below displays the change in each component for 2014-15, 2015-16, and the cumulative change over both years.

**TABLE A.1 CHANGE IN COMPONENT INDEXES 2014-15 TO 2015-16**

Cost Item	2014-15	2015-16	Cumulative change
Vehicle	-3.07% <sup>1</sup>	0.15%	-2.93%
Licence	0.90%	1.10%	2.52%
Network fees	-3.45% <sup>2</sup>	-6.20%	-9.44%
CTP insurance	2.75% <sup>3</sup>	1.43%	4.22%
Comprehensive insurance	-1.42%	-0.37%	-1.78%
Workers compensation	2.56%	2.27%	4.88%
Maintenance and repairs	0.91%	4.08%	5.03%
Fuel	-8.75%	-12.47%	-20.13%
Wash/cleaning	1.40%	1.60%	3.02%
Administration	2.56%	2.27%	4.88%

## COST SHARES

The cost shares for our taxi cost index are derived from our 2015 survey of taxi operators in the regional and country zones. At the time of our last report, we used the cost shares we observed in the survey. However, as costs have changed over the past year, the cost share for each component index will have changed. To account for this we modified the shares we observed in June 2015 using the changes we observed in the component indexes between June 2015 and June 2016.

<sup>1</sup> In our 2015 annual monitoring report we reported the change in vehicle costs had been -1.45 per cent. This is different to this year's estimate because we used a different assumption about the borrowing costs for vehicles. Last year we assumed that there was no change in the finance rate between 2014 and 2015. As foreshadowed in our last report, for this report we have used the RBA's lending rates for small business to measure the change in lending costs.

<sup>2</sup> In our 2015 report we reported that network costs decreased by 3.2 per cent. The discrepancy between last year's report and this year's report is that last year we used the broader communications index rather than the telecommunications services and equipment index. We consider that the telecommunications and equipment index is a superior measure of the change in network costs. The broader communications index includes postal services while the telecommunications and equipment index does not.

<sup>3</sup> In our 2015 report we reported that CTP insurance costs had increased by 1.2 per cent. This is different to this year's estimate. Last year we measured the year ended change for CTP insurance rather than the year average change. We have moved to a year average change to be consistent with how we measure changes for the other component indexes.

Tables A.2 to A.5 below present the old and new cost shares for conventional and high occupancy taxis in both taxi zones.

**TABLE A.2 CONVENTIONAL TAXIS IN THE REGIONAL ZONE**

Cost Item	Share of total costs June 2015	Change in component index 2016	Share of total costs June 2016
Formula	a	b	$c = a ( 1+b ) \div \Sigma a ( 1+b )$
Vehicle	8.6%	0.15%	8.8%
Licence	15.9%	1.10%	16.4%
Network fees	12.0%	-6.20%	11.5%
CTP insurance	1.8%	1.43%	1.9%
Comprehensive insurance	3.1%	-0.37%	3.2%
Workers compensation	2.5%	2.27%	2.6%
Maintenance and repairs	14.8%	4.08%	15.7%
Fuel	21.4%	-12.47%	19.1%
Wash/cleaning	1.7%	1.60%	1.8%
Administration	18.3%	2.27%	19.1%

**TABLE A.3 HIGH OCCUPANCY TAXIS IN THE REGIONAL ZONE**

Cost Item	Share of total costs June 2015	Change in component index 2016	Share of total costs June 2016
Formula	a	b	$c = a ( 1+b ) \div \Sigma a ( 1+b )$
Vehicle	12.8%	0.15%	13.1%
Licence	14.9%	1.10%	15.4%
Network fees	10.5%	-6.20%	10.0%
CTP insurance	2.2%	1.43%	2.3%
Comprehensive insurance	3.4%	-0.37%	3.4%
Workers compensation	3.9%	2.27%	4.1%
Maintenance and repairs	13.4%	4.08%	14.2%
Fuel	20.1%	-12.47%	18.0%
Wash/cleaning	1.7%	1.60%	1.7%
Administration	17.2%	2.27%	17.9%

**TABLE A.4 CONVENTIONAL TAXIS IN THE COUNTRY ZONE**

Cost Item	Share of total costs June 2015	Change in component index 2016	Share of total costs June 2016
Formula	a	b	$c = a ( 1+b ) \div \sum a ( 1+b )$
Vehicle	9.6%	0.15%	9.9%
Licence	5.5%	1.10%	5.7%
Network fees	13.5%	-6.20%	13.0%
CTP insurance	2.0%	1.43%	2.1%
Comprehensive insurance	3.5%	-0.37%	3.6%
Workers compensation	2.8%	2.27%	2.9%
Maintenance and repairs	16.6%	4.08%	17.7%
Fuel	24.0%	-12.47%	21.6%
Wash/cleaning	1.9%	1.60%	2.0%
Administration	20.5%	2.27%	21.5%

**TABLE A.5 HIGH OCCUPANCY TAXIS IN THE COUNTRY ZONE**

Cost Item	Share of total costs June 2015	Change in component index 2016	Share of total costs June 2016
Formula	a	b	$c = a ( 1+b ) \div \sum a ( 1+b )$
Vehicle	14.3%	0.15%	14.6%
Licence	5.1%	1.10%	5.3%
Network fees	11.7%	-6.20%	11.2%
CTP insurance	2.5%	1.43%	2.6%
Comprehensive insurance	3.8%	-0.37%	3.8%
Workers compensation	4.3%	2.27%	4.5%
Maintenance and repairs	14.9%	4.08%	15.8%
Fuel	22.4%	-12.47%	20.1%
Wash/cleaning	1.9%	1.60%	1.9%
Administration	19.1%	2.27%	20.0%

## CHANGES IN THE TAXI COST INDEXES

As discussed in chapter 2, we use the changes observed in the component indexes and cost shares to determine the changes in our taxi cost indexes.

In general, since monitoring began, we have observed a decrease in the taxi cost index for conventional and high occupancy vehicles in both the regional and country zones. The decrease in costs has been larger in the country zone compared to the regional zone, primarily because fuel accounts for a larger share of costs for country taxis according to our 2015 taxi operator survey.

Tables A.6 to A.9 below show the changes in the taxi cost index for each taxi type between June 2014 and June 2016. They also show how the change in each component index has contributed to the changes.

**TABLE A.6 CONVENTIONAL TAXIS IN THE REGIONAL ZONE**

Change in taxi cost index June 2014 to June 2016

	Share of costs June 2016	Change in component index	Contribution to change in total costs
	%	% change	% change
Formula	a	b	$c = ( a \div 100 ) \times b$
Vehicle	8.8	-2.93	-0.26
Licence	16.4	2.52	0.41
Network fees	11.5	-9.44	-1.08
CTP insurance	1.9	4.22	0.08
Comprehensive insurance	3.2	-1.78	-0.06
Workers compensation	2.6	4.88	0.13
Maintenance and repairs	15.7	5.03	0.79
Fuel	19.1	-20.13	-3.85
Wash/cleaning	1.8	3.02	0.05
Administration	19.1	4.88	0.93
<b>Total</b>	<b>100.0</b>		<b>-2.85</b>

**TABLE A.7 HIGH OCCUPANCY TAXIS IN THE REGIONAL ZONE**

Change in taxi cost index June 2014 to June 2016

	Share of costs June 2016	Change in component index	Contribution to change in total costs
	%	% change	% change
Formula	a	b	c = ( a ÷ 100 ) × b
Vehicle	13.1	-2.93	-0.38
Licence	15.4	2.52	0.39
Network fees	10.0	-9.44	-0.95
CTP insurance	2.3	4.22	0.10
Comprehensive insurance	3.4	-1.78	-0.06
Workers compensation	4.1	4.88	0.20
Maintenance and repairs	14.2	5.03	0.71
Fuel	18.0	-20.13	-3.62
Wash/cleaning	1.7	3.02	0.05
Administration	17.9	4.88	0.87
<b>Total</b>	<b>100.0</b>		<b>-2.68</b>

**TABLE A.8 CONVENTIONAL TAXIS IN THE COUNTRY ZONE**

Change in taxi cost index June 2014 to June 2016

	Share of costs June 2016	Change in component index	Contribution to change in total costs
	%	% change	% change
Formula	a	b	c = ( a ÷ 100 ) × b
Vehicle	9.9	-2.93	-0.29
Licence	5.7	2.52	0.14
Network fees	13.0	-9.44	-1.22
CTP insurance	2.1	4.22	0.09
Comprehensive insurance	3.6	-1.78	-0.06
Workers compensation	2.9	4.88	0.14
Maintenance and repairs	17.7	5.03	0.89
Fuel	21.6	-20.13	-4.34
Wash/cleaning	2.0	3.02	0.06
Administration	21.5	4.88	1.05
<b>Total</b>	<b>100.0</b>		<b>-3.54</b>

## TABLE A.9 HIGH OCCUPANCY TAXIS IN THE COUNTRY ZONE

Change in taxi cost index June 2014 to June 2016

	Share of costs June 2016	Change in component index	Contribution to change in total costs
	%	% change	% change
Formula	a	b	c = ( a ÷ 100 ) × b
Vehicle	14.6	-2.93	-0.43
Licence	5.3	2.52	0.13
Network fees	11.2	-9.44	-1.06
CTP insurance	2.6	4.22	0.11
Comprehensive insurance	3.8	-1.78	-0.07
Workers compensation	4.5	4.88	0.22
Maintenance and repairs	15.8	5.03	0.80
Fuel	20.1	-20.13	-4.05
Wash/cleaning	1.9	3.02	0.06
Administration	20.0	4.88	0.98
<b>Total</b>	<b>100.0</b>		<b>-3.30</b>

# APPENDIX B: WEIGHTED AVERAGE FARE CALCULATION

As discussed in chapter 3, we use a weighted average fare calculation to estimate the impact of changes in taxi operators' fare structures. The weighted average fare calculation involves a three step process.

## **STEP 1: AVERAGE TRIP CHARACTERISTICS FOR EACH HOUR OF THE WEEK**

We have obtained a sample of regional and country taxi trip data from the Taxi Services Commission. These data include the details of each trip that affect the taxi fare for that trip – these include the trip distance, the length of time the trip took, whether or not it was booked (and therefore attracted a booking fee) and whether or not the passenger was a multi purpose taxi program<sup>1</sup> (MPTP) member.

The trip data sample covers the year from October 2013 to September 2014. It includes trip data submitted to the Taxi Services Commission by taxi networks including: Morwell Taxis, Riviera Taxis & Hire Cars, Swan Hill City Taxis, Warrnambool Radio Taxis, Warrnambool 13CABS, and Wodonga Taxis.<sup>2</sup>

From these data we can calculate a trip profile, for each hour block of the week including:

- the average trip distance
- the average trip time

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<sup>1</sup> The MPTP is a state government program that subsidises taxi fares for people with severe and permanent disabilities. Most MPTP members receive a 50 per cent subsidy on taxi fares up to a maximum of \$60 per trip and \$2180 per year. Some taxi operators charge lower fares MPTP members.

<sup>2</sup> Data from other taxi networks or operators in the regional and country zones was either not available or incomplete over the sample period. We have used the year October 2013 to September 2014 as this was the year for which the dataset was most complete.

- the percentage of booked trips
- the percentage of trips taken by MPTP members.

The trip profile given by these characteristics is used to calculate average fares for each hour block of the week in step 2. The profiles for each characteristic across each hour of the week are shown in Figures B.2 to B.5 at the end of this appendix.

## **STEP 2: CALCULATE AVERAGE FARES FOR EACH HOUR OF THE WEEK**

Using the average trip profile calculated in step 1, and taxi operators' fare structures published on the Taxi Services Commission's website, we then estimate each taxi operator's average fare for each hour block of the week.

## **STEP 3: CALCULATE WEIGHTED AVERAGE FARES**

From the trip data described in step 1, we can also calculate the percentage of trips that occur in each hour block of the week (see Figure B.1 at the end of this appendix). This provides the 'weights' in our weighted average fare calculation.

We can then calculate the weighted average fare for each taxi operator by multiplying:

- a. their average fares for each hour across the week (from step 2); by
- b. the percentage of trips that occur during each hour (based on the trip data).

## **NOTE ON TRIP DATA**

Since our last report we have received updated trip data from the Taxi Services Commission. Using these data we updated the trip profile described in step 1 that we use to estimate the trip characteristics underlying the weighted average fare calculation.

This change did not greatly affect the trip duration and distance profiles. The main change was in the percentages of MPTP trips and booked trips – our updated calculations apply higher proportions of MPTP trips and booked trips.

For the majority of taxi operators' fare structures, this has not had a significant effect on our weighted average fare estimates. Fare estimates that were most affected by this update were for cases where taxi operators removed booking fees from their fare structures, or had different fares applying to MPTP and non-MPTP passengers.

This update does not alter the conclusions of last year's report.

## **NOTE ON THE FARE ESTIMATION FORMULA**

The trip data sample we have obtained from the Taxi Services Commission does not include the fare for each trip. We therefore estimate fares as described in step 2 based on trip distance and trip time.

Estimating fares based on trip distance and time involves some uncertainty because most taxi operators' fare structures incorporate speed-dependent charges. Typical fare structures apply a per kilometre charge (distance rate) only when travelling above 21 kilometres per hour, and a per minute charge (waiting time rate) when travelling below 21 kilometres per hour.

We have developed the following formula to estimate fares based on total trip distance and time.

$$Total\ fare = FF + DR(DT) + WR(0.665(TD) - 0.441(DT) - 1.315) + BF$$

where:

- *FF* is the flagfall
- *DR* is the distance rate in dollars
- *DT* is the distance travelled in kilometres
- *WR* is the waiting rate in dollars
- *TD* is the trip duration in minutes
- *BF* is the booking fee (if it applies).

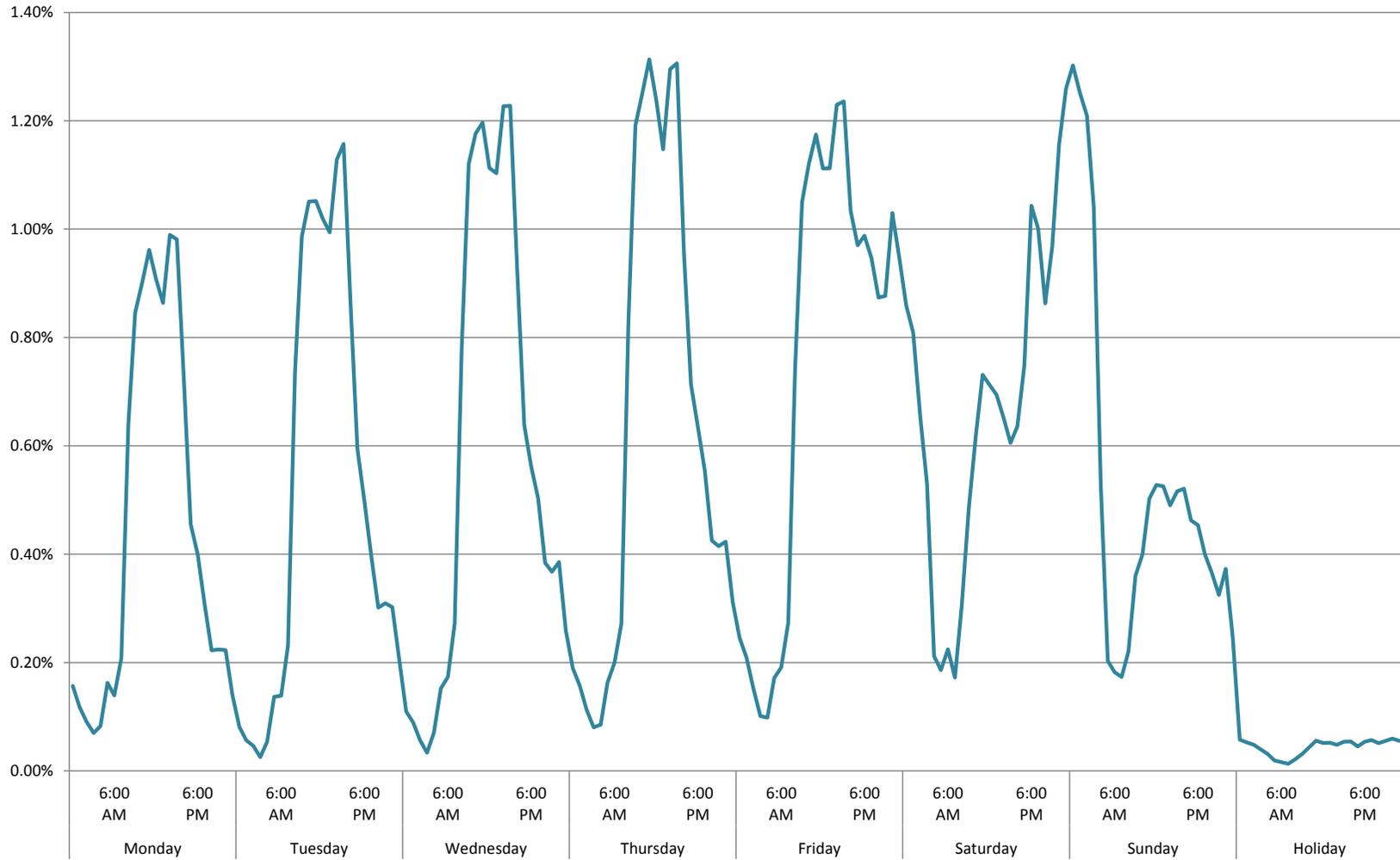
The coefficients in the equation were estimated by doing a multiple regression of total fares on distance travelled and trip duration. The data used for the regression were a sample of MPTP trip records obtained from the Taxi Services Commission. The MPTP trip data includes taxi trips taken by MPTP members including trip distance, trip time and actual fare.

This fare estimation formula is an updated and improved version of the formula we used for the analysis in our 2015 annual monitoring report. The updated formula we now apply better reflects regional and country taxis, whereas the previous formula was

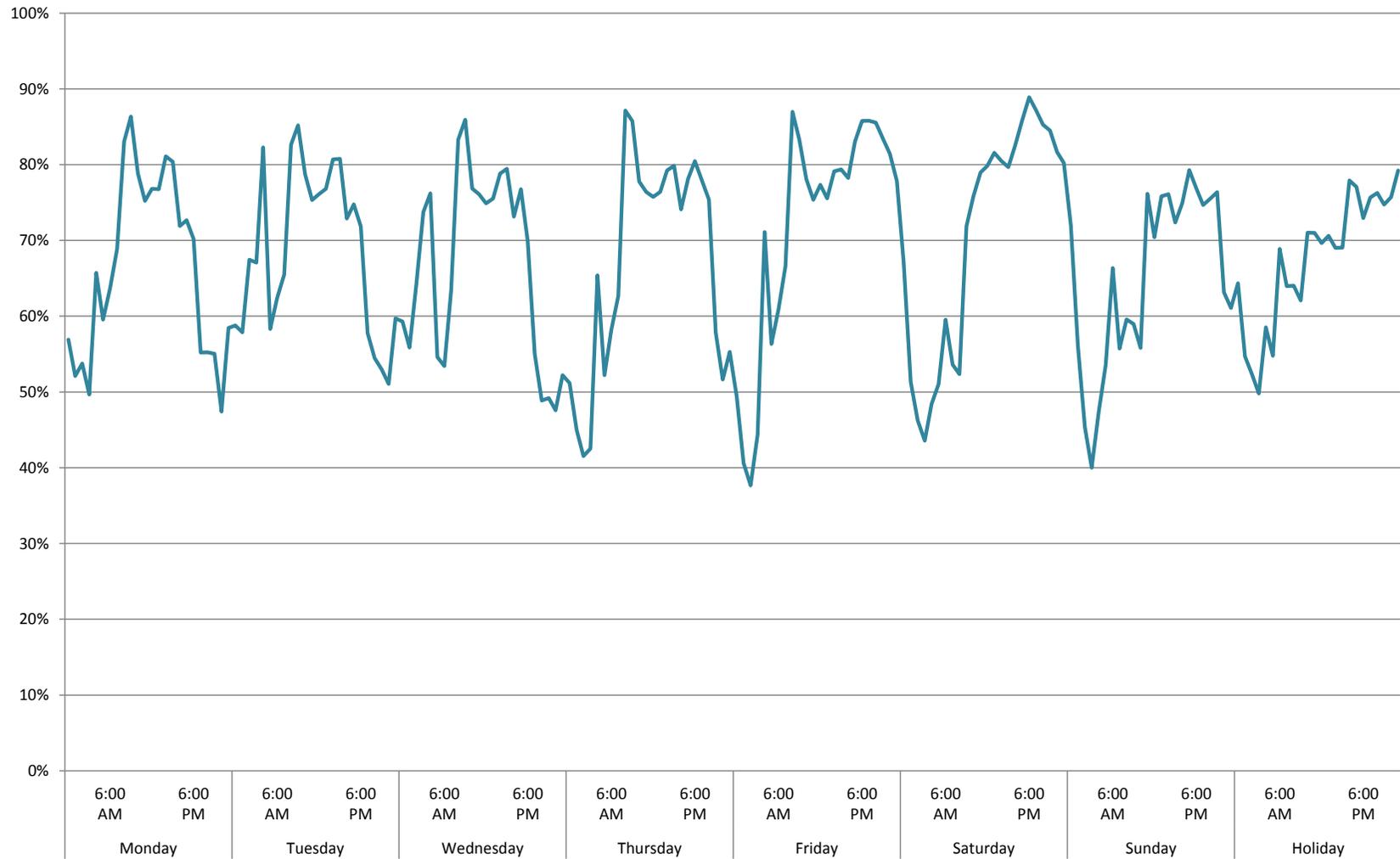
estimated based on metropolitan taxi data. The main implication of the update is that the waiting time rate is given less weight in estimating the total fare. This intuitively makes sense given regional and country taxis are likely to spend less time in traffic congestion than metropolitan taxis, and therefore spend a lower proportion of the trip on the waiting time rate.

While the change in formula means there is some discrepancy between the fare estimates in our 2015 and 2016 annual monitoring reports, the change does not materially affect the analysis and findings in our 2015 report.

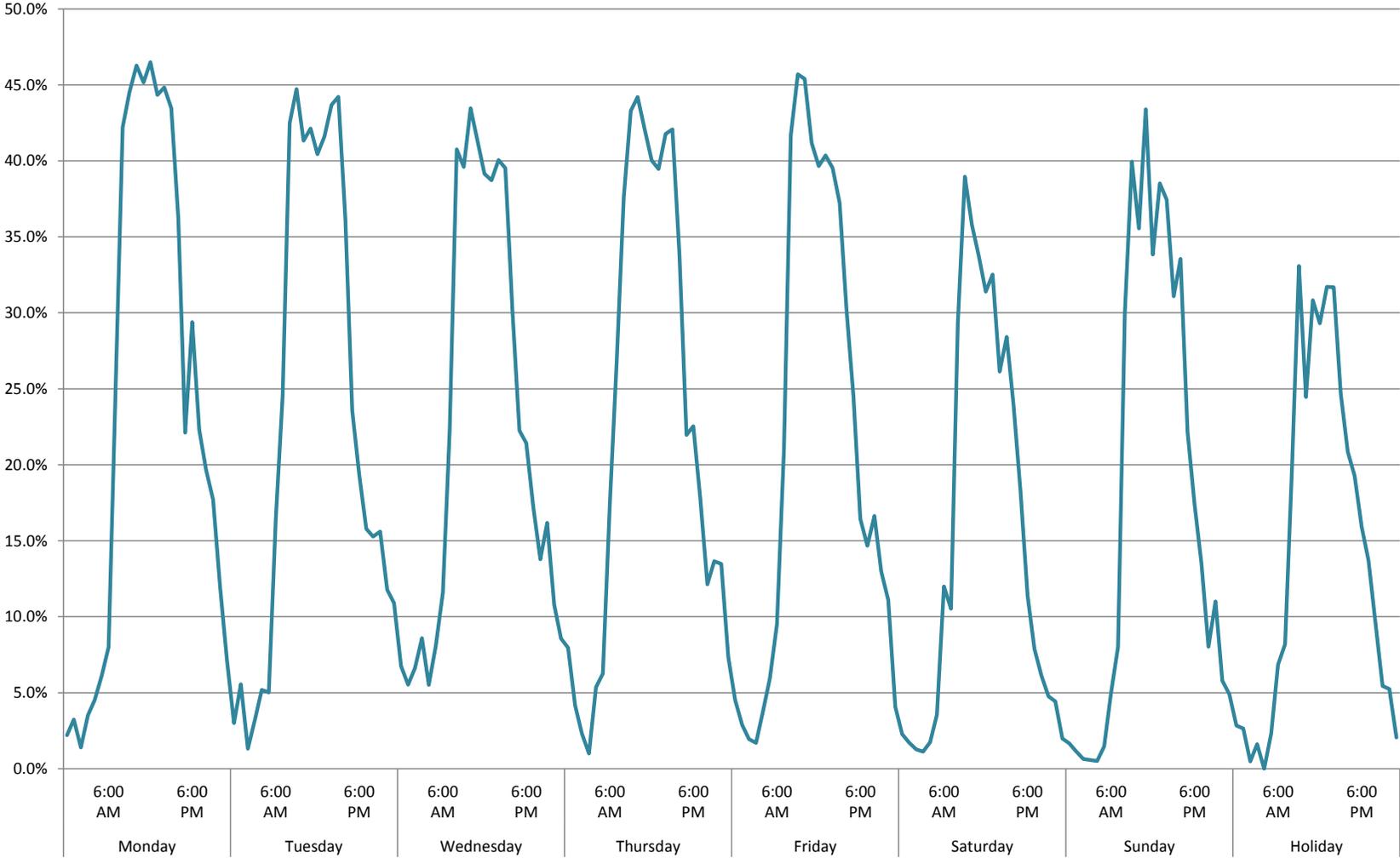
**FIGURE B.1 PERCENTAGE SHARE OF TOTAL TRIPS IN EACH HOUR OF THE WEEK**



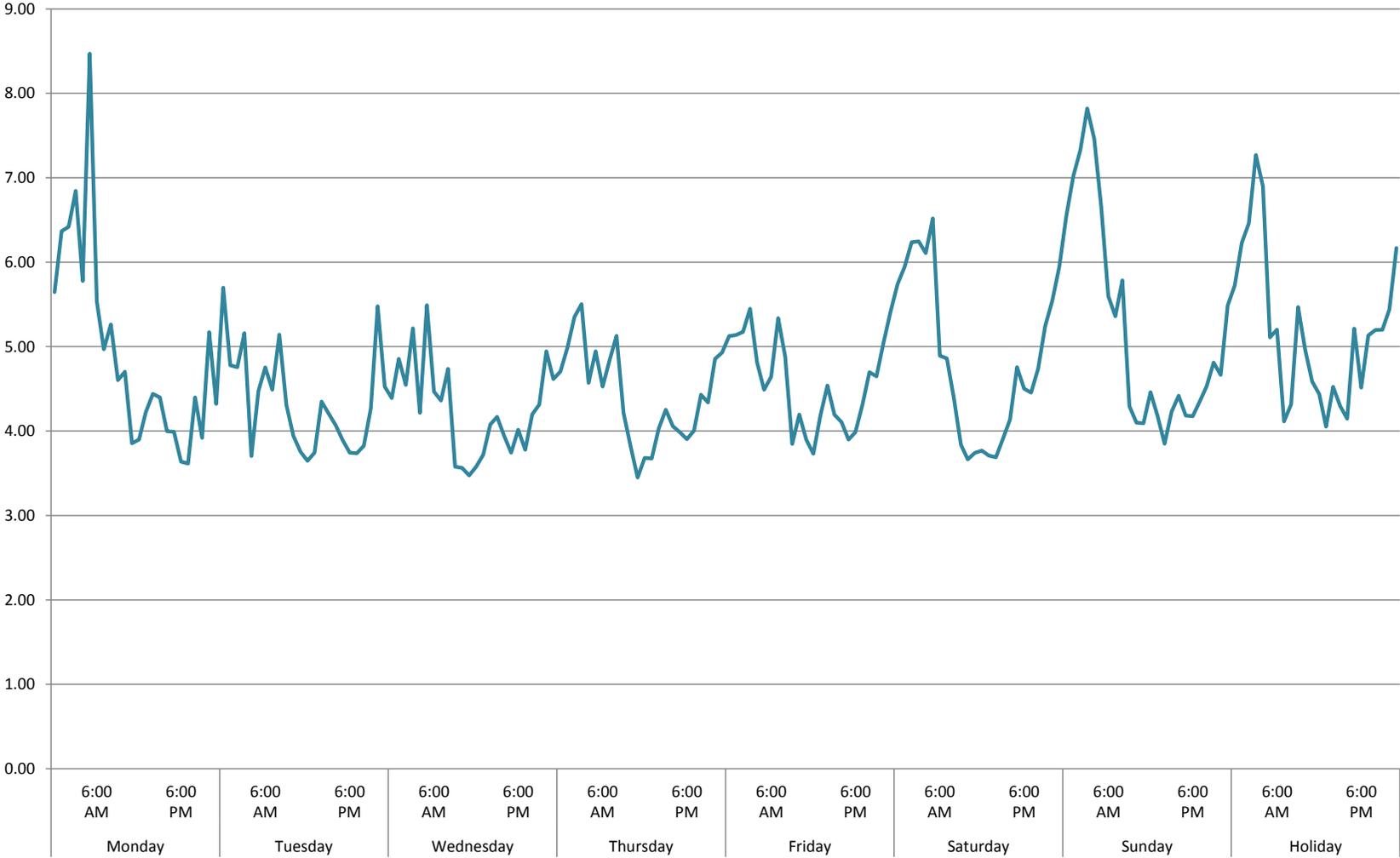
**FIGURE B.2 TRIP PROFILE: PERCENTAGE OF TRIPS THAT ARE BOOKED FOR EACH HOUR OF THE WEEK**



**FIGURE B.3 TRIP PROFILE: PERCENTAGE OF TRIPS THAT ARE MPTP FOR EACH HOUR OF THE WEEK**



**FIGURE B.4 TRIP PROFILE: AVERAGE TRIP LENGTH IN KILOMETRES FOR EACH HOUR OF THE WEEK**



**FIGURE B.5 TRIP PROFILE: AVERAGE TRIP DURATION IN MINUTES FOR EACH HOUR OF THE WEEK**

