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Bureau of Infrastructure, Transport and Regional Economics

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Maritime

**Bass Strait Passenger Vehicle
Equalisation Scheme**

Bureau of Infrastructure, Transport and Regional Economics

Bass Strait Passenger Vehicle Equalisation Scheme
Monitoring Report No. 15

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Canberra, Australia

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Foreword

This report presents the results of the Bureau of Infrastructure, Transport and Regional Economics' (BITRE) fifteenth review of the Bass Strait Passenger Vehicle Equalisation Scheme.

Clause 17 of the Ministerial Directions governing the Bass Strait Passenger Vehicle Equalisation Scheme (amended 5 June 2015) requires the Bureau to produce a monitoring report every two years.

This report covers the operation and impact of the Bass Strait Passenger Vehicle Equalisation Scheme for the period 1 July 2013 to 30 June 2015.

The report was prepared by Mark Cregan and Tim Risbey.

Gary Dolman
Executive Director
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January 2016

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At a glance

The Australian Government spent \$40.9 million in 2014–15 on the Bass Strait Passenger Vehicle Equalisation Scheme (the Scheme), up 9.1 per cent from 2013–14, and \$37.5 million in 2013–14 (up 14.3 per cent on 2012–13).

Under the Scheme, passengers travelling with a vehicle across Bass Strait can receive a rebate applied against the vehicle fare charged by a ferry operator.

The Productivity Commission (2014) reviewed the Scheme in its Tasmanian Freight and Shipping inquiry.

In response the Australian Government (2015) announced that:

- The Scheme will be retained and the current assistance rates maintained;
- The aim of the Scheme is to reduce the cost of seagoing travel for eligible passengers accompanied by an eligible passenger vehicle on a Bass Strait service of the Scheme, and did not extend to equalising the cost of inbound and outbound travel across Bass Strait;
- The Government, through BITRE, will improve evaluation of the Scheme against the stated aim by better capturing and monitoring of the broader impacts, with the scope of monitoring to include visitation and expenditure by the “Business” and “Visiting Friends and Relatives (VFR)” segments of the visitor economy.

The Ministerial Directions governing the Scheme require that the effectiveness of the Scheme be monitored every two years (this report) and that there be a separate annual review of the level of the rebate.

During the two year monitoring period (1 July 2013 to 30 June 2015):

- Rebates increased for all vehicle types by 2.5 per cent on 1 July 2013 and 2.9 per cent on 1 July 2014.
- From 1 July 2014, one-way rebates were \$210 for a car, \$106 for a motorbike, \$30 for a bicycle and up to \$420 for a motorhome.
- Two operators provided ferry services: TT-Line and Sea Road Shipping. TT-Line carried almost all sea passengers.
- The number of people travelling by sea increased by 19.3 per cent in 2013–14, then increased a further 8.3 per cent in 2014–15.

BITRE’s benchmark TT-Line peak season sea package with the rebate provides an indication of changes in the cost of Bass Strait sea passenger travel over the monitoring period. (Fares vary by season and the benchmark does not take into account availability, special or promotional fares, so it may not be representative of fares actually paid by passengers).

The cost of this benchmark sea package decreased by 2.1 per cent between June 2013 and June 2014, then increased by 1.5 per cent between June 2014 and June 2015.

BITRE used econometric modelling in its evaluation of the impact of the Scheme (now including exchange rates).

Over the monitoring period it is estimated that:

- The number of sea passengers with a motor vehicle may have been 23.6 per cent higher than without the Scheme.
- Just under 18 000 new visitors to Tasmania travelled by sea due to the Scheme in 2014–15 (up from 14 500 new visitors in 2013–14).
- New visitors to Tasmania spent an estimated \$50.2 million in Tasmania in 2014–15 (up from an estimated \$39.0 million in 2013–14).

Table 1 Key facts: 2014–15 and 2013–14^a

	2014–15 (latest year)	(% change)	2013–14	(% change)	Quick reference
Expenditure (millions) ^b	\$40.9	(+9.1)	\$37.5	(+14.3)	p.5
Eligible vehicles	182 878	(+7.8)	169 699	(+11.7)	Table 2, p.3
Sea passengers ^c	384 501	(+7.5)	357 617	(+8.1)	Table 22, p.39
Air passengers ^c	3 691 886	(+2.0)	3 618 657	(+4.3)	Table 22, p.39
Extra motor vehicle passengers ^d	65 722	(+10.1)	59 663	na	Table 13, p.26
Estimated spending by extra visitors to Tasmania (million) ^e	\$50.2	(+28.7)	\$39.0	na	p.30
- tourists	\$32.6	-	\$25.4	na	
- business visitors	\$7.5	-	\$5.9	na	
- visiting friends and relatives	\$5.0	-	\$3.9	na	

na Not applicable.

a. Data in brackets gives percentage change from previous year. Sub-totals may not add to totals due to rounding.

b. Total expenditure includes rebates paid, payments for bookings in future time periods and administration fees for the claims made by SeaRoad Shipping. See Table 4 for rebates paid by operator.

c. One-way passengers including visitors to Tasmania, Tasmanian residents, minors and day-trippers.

d. BITRE estimate of the number of additional visitors with motor vehicle who would not have travelled to Tasmania without the Scheme.

e. BITRE estimate of spending in Tasmania by the additional visitors' attributed to the Scheme. Total includes tourists, business visitors, visiting friends and relatives and other.

Contents

Foreword	iii
Acknowledgements	iv
At a glance	v
Contents	vii
Tables	viii
Figures	ix
Executive summary	xi
CHAPTER 1 The Scheme	1
Administration	2
Operators	2
Rebates paid	5
CHAPTER 2 Bass Strait sea and air travel	9
Sea services	9
Sea fares	11
Sea passenger fares	11
Vehicle fares	12
Benchmark sea package	14
Air services and related fares	16
Air and sea passenger trends	18
Visitor travel	18
Motor vehicle passenger and berth-only passengers	20
Types of motor vehicles	21
Air and sea traffic	23
CHAPTER 3 Effectiveness of the Scheme	25
Modelling the change in sea passenger numbers	25
Estimated impact on sea passenger numbers	26
Reliability of the estimates	27
Impact on visitor numbers and spending	28
Appendix A Sea passenger traffic model	31
The Melbourne-Devonport Model	31
Results of the Melbourne-Devonport Model	33
Appendix B TT-Line financial indicators	35
Appendix C Bass Strait travel 2013–2015	37
References	40

Tables

Table 1	Key facts: 2014–15 and 2013–14 ^a	vi
Table 2	Total eligible vehicles carried by operator, 2013–14 and 2014–15	3
Table 3	One way rebates for eligible vehicles on the main Bass Strait and King Island route (dollars)	5
Table 4	Rebates paid to Bass Strait and King Island service providers for vehicles carried, 2013–14 and 2014–15 (nominal dollars)	5
Table 5	TT-Line’s average reimbursement per eligible vehicle passenger, 1996–97 to 2014–15	6
Table 6	TT-Line one-way voyages by vessel, 1995–96 to 2014–15	10
Table 7	TT-Line average traffic per voyage by service, 1995–96 to 2014–15 ..	11
Table 8	TT-Line net vehicle fares as at the 30 June 2015	13
Table 9	Motor vehicle fares for SeaRoad Shipping	13
Table 10	Benchmark one-way passenger fares Melbourne-Devonport (\$), as at end of 2013–14 and 2014–15	14
Table 11	Number of adult visitors travelling to Tasmania, purpose and mode, 1996–97 to 2014–15.....	19
Table 12	Eligible vehicles for which reimbursements paid, 2001–02 to 2014–15	22
Table 13	Impact of the Scheme on Melbourne-Devonport motor vehicle passenger numbers, one-way trips, 1996–97 to 2014–15.....	26
Table 14	Data used to re-estimate the Melbourne-Devonport econometric model	32
Table 15	Regression results for Melbourne-Devonport sea model 2014–15	33
Table 16	TT-Line selected financial information, 1998–99 to 2012–13 (\$’000).	35
Table 17	Financial indicators (adjusted) for TT-Line, 1998–99 to 2014–15	36
Table 18	TT-line reimbursements and adjusted operating revenue, 1998–99 to 2014–15	36
Table 19	Estimated adult ^a return passengers travelling between Tasmania and the mainland by purpose, 2013–14 and 2014–15 (‘000)	37
Table 20	Estimated adult return passengers travelling between Tasmania and the mainland by purpose, 2013–14 (‘000).....	38
Table 21	Estimated adult ^a return passengers travelling between Tasmania and the mainland by purpose, 2014–15 (‘000).....	38
Table 22	Sea and air passengers across Bass Strait, one-way passenger movements 1993–94 to 2014–15.....	39

Figures

Figure 1	TT-Line operating revenue, expenses and number of voyages, 1992–93 to 2014–15	4
Figure 2	TT-Line rebate reimbursements under the Scheme, 1996–97 to 2014–15	7
Figure 3	Adjusted TT-Line revenue and revenue net of scheme rebates, 1992–93 to 2014–15	7
Figure 4	Real sea package prices for the peak season as at the end of June, with and without the standard rebate, 2014–15 dollars	15
Figure 5	Number of air passengers between Tasmania and the mainland, one-way trips, 1985–86 to 2014–15	16
Figure 6	Melbourne–Hobart airfare indices, Jan 2002 to July 2015.....	17
Figure 7	Number of sea passengers carried across Bass Strait, one-way trips, 1995–96 to 2014–15.....	20
Figure 8	Sea and air passengers carried across Bass Strait, return journeys, 1993–94 to 2014–15.....	23

Executive summary

In 2014–15 Australian Government spent \$40.9 million on the Bass Strait Passenger Vehicle Equalisation Scheme (the Scheme), a year on year increase of 9.1 per cent. Spending on the Scheme in 2013–14 was \$37.5 million (up 14.3 per cent on 2012–13).

Passengers travelling with a vehicle across Bass Strait can receive a rebate funded by the Australian Government under the Scheme. The rebate is applied against the fare charged by a ferry operator.

The Productivity Commission (2014) reviewed the Scheme in its Tasmanian Freight and Shipping inquiry. In response the Australian Government (2015) announced:

- That the Scheme will be retained and current assistance rates maintained;
- That the aim of the Scheme is to reduce the cost of seagoing travel for eligible passengers accompanied by an eligible passenger vehicle on a Bass Strait service of the Scheme, and did not extend to equalising the cost of inbound and outbound travel across Bass Strait;
- That the Government, through BITRE, will improve evaluation of the Scheme against the stated aim by better capturing and monitoring of the broader impacts, with the scope of monitoring to include visitation and expenditure by the “Business” and “Visiting Friends and Relatives (VFR)” segments of the visitor economy.

The Ministerial Directions governing the Scheme require the BITRE to undertake a monitoring review every two years (this report), with a separate annual review of the level of the rebate.

Rebates for eligible vehicles increased twice over the two year monitoring period due to annual indexing:

- Rebates increased by 2.5 per cent on 1 July 2013. One-way rebates increased to up to \$204 for a car, \$103 for a motorbike, \$29 for a bicycle and up to \$408 for an eligible motor home.
- Rebates increased by 2.9 per cent on 1 July 2014. One-way rebates increased to up to \$210 for a car, \$106 for a motorbike, \$30 for a bicycle and up to \$420 for an eligible motor home.

TT-Line and SeaRoad Shipping provided Bass Strait ferry services between 1 July 2013 and June 2015. TT-Line carried over 99 per cent of sea passengers with an accompanied eligible vehicle under the Scheme.

TT-Line—wholly owned by the Tasmanian Government—reported an after-tax profit of \$1.2 million in 2014–15, compared with \$10.4 million in 2013–14 (\$12.7 million in 2012–13).

The number of voyages operated by TT-Line increased by 17 voyages (2.2 per cent) in 2014–15 and by 2 (0.2 per cent) in 2013–14.

After adjusting for capital items, BITRE estimates that TT-Line's:

- Average revenue per voyage increased by 2.0 per cent in 2014–15 and increased 5.2 per cent in 2013–14.
- Average voyage operating expenses decreased by 0.5 per cent in 2014–15 and increased by 7.7 per cent in 2013–14.
- Average cost per passenger decreased by 5.4 per cent in 2014–15 and decreased less than 0.1 per cent in 2013–14.

Sea fares changes a number of times over the two year period. TT-Line passenger fares increased in 2013–14, then decreased on 1 July 2014 with the removal of the 'carbon price surcharge'. Fare structures were basically unchanged, although TT-Line did continue to introduce several new promotional fares. Vehicle fares changed throughout the two year period.

SeaRoad Shipping fares increased on 1st October 2013 and 1st October 2014 by:

- 13 per cent in 2013.
- 3 per cent in 2014.

BITRE's benchmark TT-Line peak sea package (with the rebate) provides an indication of changes in the cost of Bass Strait sea passenger travel over the monitoring period. (Fares vary by season and the benchmark does not take into account availability, special or promotional fares, so it may not be representative of fares actually paid by passengers).

BITRE's benchmark net peak season sea package (with the rebate) at the end of June 2015 was \$742 one-way, compared with \$754 at the end of June 2014 and \$738 at the end of June 2013.

In real terms, BITRE's benchmark sea package increased a total of 0.5 per cent between June 2013 and June 2015:

- A decrease of 1.5 per cent between June 2014 and June 2015.
- An increase of 2.1 per cent between June 2013 and June 2014.

Changes in air fares affect the relative affordability of sea travel. BITRE's air fare indices indicate gradual changes over the monitoring period:

- The internet discount fare index has remained relatively low, with minor seasonal adjustments, since June 2013.
- The restricted economy fare index declined after June 2013 but has recently risen to above the levels seen in 2009 and 2010.
- The internet full economy fare index increased steadily since June 2011.

Trends in travel across Bass Strait in 2013–14 and 2014–15 included:

- Total adult air and sea return passenger numbers increased to just under 1.9 million in 2013–14, then climbed further to over 1.9 million in 2014–15.
- Air travel's modal share declined slightly to 91 per cent in 2013–14, then slightly declined again to 90.5 per cent in 2014–15.

- The number of people travelling by sea increased by 19.3 per cent in 2013–14 then increased a further 8.3 per cent in 2014–15, reversing the downward trend from the previous two years.
- Sea travel by Tasmanians travelling for business purposes to the mainland reversed the decline seen in both 2011–12 and 2012–13 to more than double (135 per cent) in 2013–14 and continue with a modest 3 per cent growth in 2014–15.
- Air travel by visitors travelling for business purposes to Tasmania declined by 4.7 per cent in 2013–14, then increased by 5.2 per cent in 2014–15 to an estimated 261 500 passengers
- Sea travel by visitors travelling for business purposes to Tasmania increased over 15 per cent to an estimated 24 500 passengers in 2013–14, then declined by 7.1 per cent to an estimated 22 800 passengers in 2014–15.

BITRE used econometric modelling in its evaluation of the impact of the Scheme. Over the monitoring period it is estimated that the number of motor vehicle passengers may have been 23.6 per cent higher than without the Scheme. However, the analysis also indicates that 43 per cent of these additional motor vehicle passengers may have travelled without the Scheme as berth-only sea passengers.

BITRE estimates that just under 18 000 new visitors to Tasmania travelled by sea due to the Scheme in 2014–15 (up from 14 500 new visitors in 2013–14) including:

- 11 700 new leisure visitors travelled by sea as a result of the Scheme (9 400 in 2013–14).
- 2 700 new visitors visiting friends and relatives travelled by sea as a result of the Scheme (2 200 in 2013–14).
- 1 800 new business visitors travelled by sea as a result of the Scheme (1 500 in 2013–14).

These new motor vehicle visitors spent¹ an estimated \$50.2 million in 2014–15 (up from an estimated \$39.0 million in 2013–14) including:

- Additional new spending by leisure visitors of \$32.6 million in 2014–15 (\$25.4 million in 2013–14).
- Additional new spending by passengers in the ‘visiting friends and relatives category’ of \$7.5 million in 2014–15 (\$5.9 million in 2013–14).
- Additional new spending by business visitors of \$5.0 million in 2014–15 (\$3.9 million in 2013–14).

BITRE’s estimate is indicative as it is based on assumptions about the number of berth-only passengers that would have travelled without the Scheme. It excludes benefits to Tasmanians who travelled to the mainland by sea and any incremental spending related to longer stays by berth-only visitors who decide to take a car.

¹ Spending data by journey purpose and sea passenger type was not available. BITRE estimates that average spending by sea passengers for all journey purposes was \$2800 per trip per person in 2014–15 (estimate based on Tourism Tasmania data—personal comm. 2015).

CHAPTER 1

The Scheme

In August 1996, the Commonwealth Minister for Transport and Regional Development announced the introduction of the Bass Strait Passenger Vehicle Equalisation Scheme (the Scheme) from 1 September 1996, with the aim ‘to reduce the cost of sea travel across Bass Strait for passengers accompanied by an eligible vehicle.’

Passengers travelling with a vehicle across Bass Strait can receive a rebate funded by the Australian Government under the Scheme. This rebate is applied against the fare charged by a ferry operator to transport an accompanied eligible passenger vehicle across Bass Strait.

The Minister noted that the resulting fare reductions would help to increase the demand for travel across Bass Strait, with direct benefits to the tourist industry and potential growth in jobs, investment and population for Tasmania (Sharp 1996, p.1)

On 1 March 2001, the Scheme was extended to cover the carriage of vehicles between King Island and mainland Australia. As sea passenger services were not provided on the King Island route, the rebate is available for passenger vehicles carried by sea where the driver travelled by commercial air service on or about the same day.

The Ministerial Directions governing the Scheme were amended in June 2008. Under the changes:

- the Scheme is now monitored by BITRE every two years, and there is a separate annual review of the level of the rebate.
- Drivers with a medical condition who are unable to travel by sea may now be eligible for a reduced passenger vehicle fare when shipping their vehicle and flying across Bass Strait.
- Drivers who fly across Bass Strait between the Australian mainland and either King Island or the islands in the Furneaux Group, but ship their vehicles, may also be eligible for a rebate.

The Productivity Commission (2014) reviewed the Scheme in its Tasmanian Freight and Shipping inquiry. In response, the Australian Government (2015) announced:

- That the current assistance rates under the Scheme will be maintained;
- That the aim of the Scheme is to reduce the cost of seagoing travel for eligible passengers accompanied by an eligible passenger vehicle on a Bass Strait service of the Scheme, and did not extend to equalising the cost of inbound and outbound travel across Bass Strait;
- That the Government, through BITRE, will improve evaluation of the Scheme against the stated aim by better capturing and monitoring of the broader impacts, with the scope of monitoring to include visitation and expenditure by the “Business” and “Visiting Friends and Relatives (VFR)” segments of the visitor economy.

Administration

The Scheme operates under a set of Ministerial Directions that were approved 1 September 2002. These were amended in June 2008 and again on 30 September 2010. There is now an annual review of the rebate allowing for indexing of the rebate if deemed appropriate. The Ministerial Directions are administered by Tasmanian Transport Programs, a business unit within the Department of Human Services, on behalf of the Department of Infrastructure and Regional Development.

Policy direction and funding for the Scheme is provided by the Surface Transport Policy Division of the Department of Infrastructure and Regional Development.

The Bureau of Infrastructure, Transport and Regional Economics (BITRE) is required to monitor the effectiveness of the Scheme every two years. Clause 17 of the Ministerial Directions state that:

- 17.1 A Service Operator who claims reimbursement under the Scheme shall be subject to monitoring by the Bureau.
- 17.2 The Bureau shall, every two years, monitor the effectiveness of the Scheme over the previous two year period (the first such period being from 1 July 2007 to 30 June 2009). The monitoring shall be done with specific regard to:
 - a) movement in fare prices in the relevant two year period; and
 - b) movement in the number of eligible passengers, eligible passenger vehicles and passengers travelling under related bookings, carried in the relevant two year period.
- 17.3 A Service Operator shall comply with all reasonable requests by the Bureau for information or access to documentation, in relation to the Bureau's monitoring function.

BITRE has prepared fourteen previous reports on the Scheme, the most recent covering 2011–2013.

Operators

Two companies—TT-Line Company Pty Ltd (TT-Line) and SeaRoad Shipping—provided Bass Strait sea services in 2013–14 and 2014–15 and lodged claims under the BSPVES.

TT-Line carried 384 501 one-way passengers and 182 547 eligible vehicles in 2014–15, up from 357 617 one-way passengers and 169 393 eligible vehicles in 2013–14.

Spirit of Tasmania I and *Spirit of Tasmania II* of TT-Line operated the Melbourne–Devonport route.² Each ship can carry up to 1400 passengers, with a maximum passenger capacity of 1040 passengers on night crossings, with a vehicle capacity for each vessel being 660 per sailing.

SeaRoad Shipping operated a once-a-week freight-only service using the *Searoad Mersey* between Port Melbourne and Grassy Port, King Island. Sea passenger services are not available on the SeaRoad Shipping service. Under the Scheme, a rebate is available for eligible passenger vehicles on the Port of Melbourne–King Island route where the driver travels by commercial air service on or about the same day.

The *Searoad Mersey* carried 331 eligible vehicles in 2014–15, up from 306 eligible vehicles in 2013–14.

Furneaux Freight operates a service using the *Matthew Flinders* between the Tasmanian ports of Bridport, Bell Bay and Lady Barron, Flinders Island. No claims for eligible vehicles were lodged by Furneaux Freight.

The total number of eligible vehicles in 2014–15 increased by over 13 000 (7.8 per cent) to 182 878 (Table 2).

Table 2 Total eligible vehicles carried by operator, 2013–14 and 2014–15

Operator	2013–14		2014–15	
	Motor vehicles carried	Share of total (per cent)	Motor vehicles carried	Share of total (per cent)
TT-Line	169 393	99.8	182 547	99.8
SeaRoad Shipping	306	0.2	331	0.2
Furneaux Freight ^a	0	0	0	0
Private claims ^b	0	0	0	0
Total vehicles	169 699	100	182 878	100

a. No claims were lodged by Furneaux Freight for 2011–12 and 2012–13.

b. No Private claims were lodged in 2013–14 or 2014–15.

Source: Tasmanian Transport Programs team, Department of Human Services—personal comm. 2015

This section presents financial indicators for TT-Line, which accounts for over 99 per cent of payments under the Scheme.

TT-Line reported for 2014–15:

- an underlying operating profit of \$17.5 million, compared to \$11.6 million in 2013–14 and \$15.2 million in 2012–13, and
- an after-tax profit of \$1.2 million, compared with \$10.4 million in 2013–14 and \$12.7 million in 2012–13.

² *Spirit of Tasmania I* and *II* have operated the Melbourne–Devonport route since 1 September 2002 when they replaced the *Spirit of Tasmania*. These two new vessels increased the passenger capacity by 212 per cent and the available motor vehicle capacity by 185 per cent (BTRE 2004).

BITRE estimates that for 2014–15 TT-Line had:

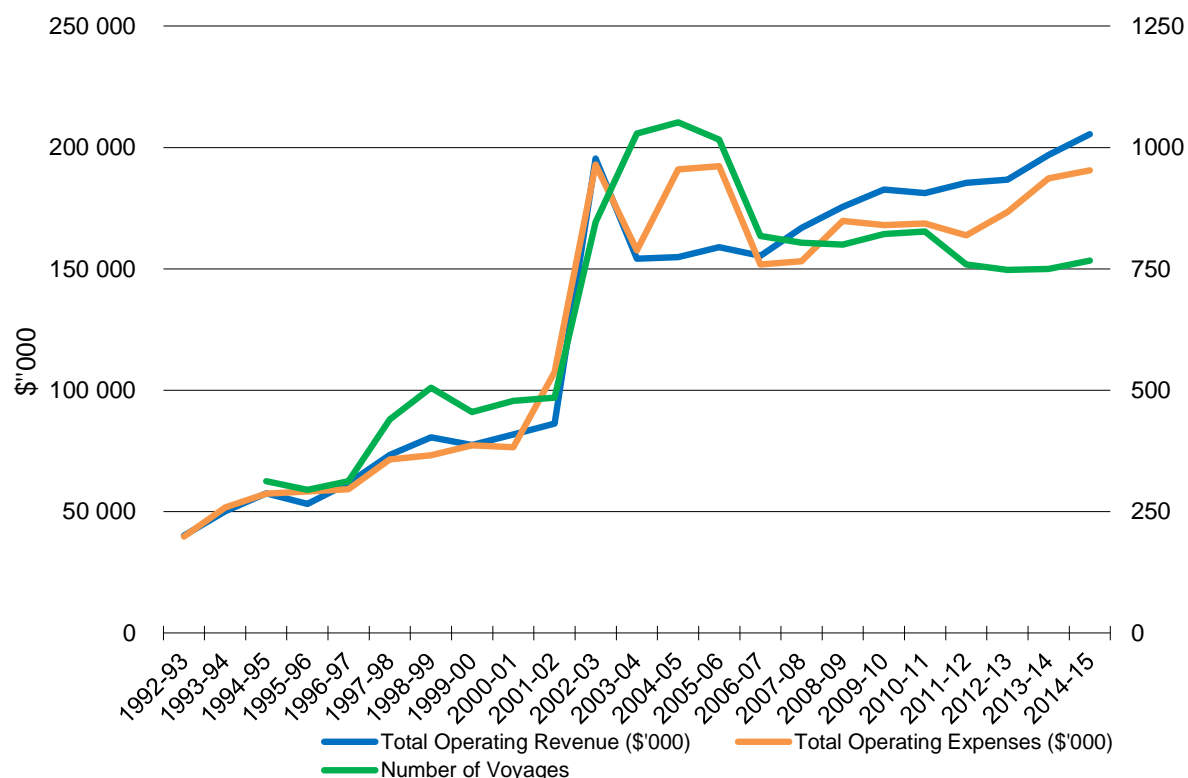
- operating revenues of \$205.4 million, compared with \$186.7 million in 2012–13 (a 10 per cent increase), and
- operating expenses of \$190.6 million, compared with \$173.4 million (10 per cent increase) in 2012–13.

After adjusting for capital items, BITRE estimates that TT-Line’s:

- average revenue per voyage increased by 5.2 per cent in 2013–14 and increased another 2.0 per cent in 2014–15 (the number of voyages increased by 2 or 0.2 per cent in 2013–14 and by 17 voyages or 2.2 per cent in 2014–15)
- average voyage operating expenses increased by 7.7 per cent in 2013–14 and decreased by 0.5 per cent in 2014–15
- average cost per passenger decreased by less than 0.1 per cent in 2013–14 and a further 5.4 per cent in 2014–15.

Figure 1 shows the gap between operating revenue and operating costs and the change in the number of TT-Line voyages.

Figure 1 TT-Line operating revenue, expenses and number of voyages, 1992–93 to 2014–15



Note: 2004–05 operating expenses exclude asset devaluation, and 2005–06 (and subsequent years) operating expenses exclude asset revaluations.

Source: TT-Line (2015) and previous annual reports

Rebates paid

Vehicle rebates changed in July 2013 and July 2014. Table 3 summarises the one-way rebates for eligible vehicles as at 30 June 2014 and 30 June 2015.

TT-Line continues to apply a seasonal fare structure and the constant rebate reduces the aggregate sea fare for passengers with an accompanying eligible vehicle. The TT-Line seasonal fare structure continued as a two season (low-demand and high-demand) fare structure. Rebates on the King Island route are constant throughout the year.

Table 3 One way rebates for eligible vehicles on the main Bass Strait and King Island route (dollars)

<i>Eligible vehicle class</i>	<i>June 2014</i>	<i>June 2015</i>
Motor car or bus	Up to 204	Up to 210
Motor home	Up to 408	Up to 420
Eligible passenger vehicle towing a caravan	Up to 408	Up to 420
Motorcycle	Up to 103	Up to 106
Bicycle	Up to 29	Up to 30

Note: The round trip rebate is exactly double the one-way trip rebate.

Sources: Department Transport and Regional Services (2002, pp.10–11). TT-Line—personal comm. 2015

The Scheme is demand driven and uncapped, with expenditure varying with the number and mix of eligible vehicles carried across Bass Strait.

The Australian Government spent \$40.9 million under the Scheme in 2014–15 (up 9.1 per cent over 2013–14). Expenditure in 2013–14 was \$37.5 million (up 14.3 per cent from 2012–13).

Total expenditure includes rebates paid, payments for bookings in future time periods, and administration fees for the claims made by SeaRoad Shipping. Two service providers were paid rebates in 2014–15 and 2013–14 (Table 4).

Table 4 Rebates paid to Bass Strait and King Island service providers for vehicles carried, 2013–14 and 2014–15 (nominal dollars)

<i>Service provider</i>	<i>2013–14</i>	<i>2014–15</i>
TT-Line	37 452 775	40 855 388
SeaRoad Shipping	63 085	70 386
Private Claims	0	0
Total rebates paid	37 515 860	40 925 774

Source: Tasmanian Transport Programs, Department of Human Services—personal comm. 2015

In 2014–15, a total of \$40.92 million in rebates were paid under the Scheme—an increase of 9.1 per cent over 2013–14, rebates paid in 2013–14 also increased by 14.3 per cent over 2012–13. Over 99 per cent of rebates under the Scheme went to passengers with an accompanying eligible vehicle travelling on TT-Line services.

Table 5 presents TT-Line nominal payments and the average reimbursement per eligible vehicle passenger.

Reimbursements almost doubled in 2002–03 from 2001–02 due to the combined effect of the increase in capacity with the introduction of *Spirit of Tasmania I* and *Spirit of Tasmania II* and changes to the Ministerial Directions from the 1 September 2002 that replaced the previous seasonal structure by a constant rebate throughout the year and extended the Scheme to include additional vehicle types. (Table 5 and Figure 2).

Table 5 TT-Line’s average reimbursement per eligible vehicle passenger, 1996–97 to 2014–15

	Reimbursements paid to TT-Line (\$million)		Motor vehicle passengers (one-way trips)	Average reimbursement per motor vehicle passenger (\$)	
	Nominal	Real ^a		Nominal	Real ^a
1996–97	8.47	13.46	153 045	55.4	88.0
1997–98	12.93	20.56	231 098	56.0	89.0
1998–99	14.44	22.67	261 487	55.2	86.7
1999–00	14.21	21.78	248 745	57.1	87.6
2000–01	15.03	21.73	259 438	57.9	83.8
2001–02	15.93	22.39	272 922	58.4	82.1
2002–03	31.79	43.39	432 498	73.5	100.3
2003–04	34.23	45.62	438 841	78.0	104.0
2004–05	32.34	42.10	395 928	81.7	106.3
2005–06	31.33	39.50	384 974	81.4	102.6
2006–07	28.30	34.66	340 273	83.2	101.9
2007–08	30.10	35.67	335 881	89.6	106.2
2008–09	34.69	43.03	342 099	101.4	125.8
2009–10	36.34	40.81	356 125	102.1	114.6
2010–11	36.75	40.02	354 864	103.6	112.8
2011–12	34.26	36.47	318 615	107.5	114.5
2012–13	32.77	34.31	297 134	110.3	115.5
2013–14	37.45	38.23	321 585	116.5	118.9
2014–15	40.85	40.85	344 356	118.6	118.6

a, Real 2014–15 dollars

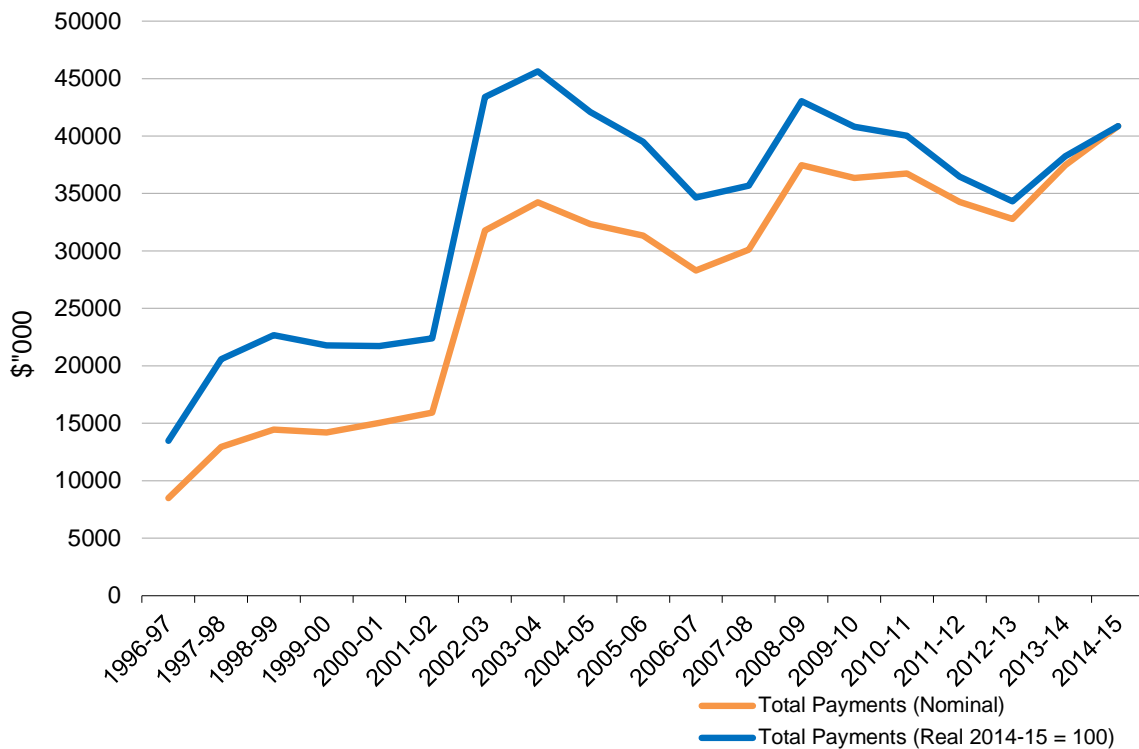
Source: Tasmanian Transport Programs, Department Human Services—personal comm. 2015 and earlier; TT-Line—personal comm. 2015 and earlier

Total nominal rebate payments decreased for the first time in 2011–12 (and decreased further in 2012–13) since 2006–07, this trend has reversed in 2013–14 and 2014–15.

The average nominal rebate for each TT-Line per motor vehicle passenger has increased from \$83.20 in 2006–07 to \$120.40 in 2014–15, a real increase of 16.8 per cent over eight years (Table 5).

The average rebate per motor vehicle passenger has increased in both nominal and real terms possibly due to the increase in vehicle rebates on 1 July 2011, 2012, 2013 and 2014. Figure 3 shows reimbursements paid to TT-Line and TT-Line’s operating revenue. In 2014–15 reimbursements represented 19.8 per cent of TT-Line operating revenue.

Figure 2 TT-Line rebate reimbursements under the Scheme, 1996–97 to 2014–15



Notes: Relates to vehicles shipped; excludes advanced payment numbers for scheduled bookings
 Source: Tasmanian Transport Programs, Department Human Services—personal comm. 2015

Figure 3 Adjusted TT-Line revenue and revenue net of scheme rebates, 1992–93 to 2014–15



Note: Excludes gross proceeds (\$61.2 million) in 2002–03 from the sale of *Spirit of Tasmania*.
 Source: TT-Line (2015) and previous annual reports.

CHAPTER 2

Bass Strait sea and air travel

An estimated 1.95 million adult passengers travelled by air and sea across Bass Strait in 2014–15 (1.89 million in 2013–14). This was an additional 59 000 passengers compared to 2013–14, representing a 3.1 per cent increase (see Appendix C).³

The 1.89 million adult passengers in 2013–14 represents an increase of 4.6 per cent or 83 000 passengers on 2012–13. The last three years has seen the number of adult passengers increase from 1.63 million to 1.95 million in 2014–15, a 7.8 per cent increase (following from a 10.9 per cent increase between 2011–12 and 2012–13).

Significant changes in travel across Bass Strait in 2013–14 and 2014–15 include:

- Total adult air and sea passenger numbers reached 1.95 million passengers in 2014–15.
- Air travel's modal share decreased marginally to 90.9 per cent in 2013–14 and decreased further to 90.5 per cent in 2014–15.
- The number of people travelling by sea increased by 19.3 per cent in 2013–14 and a further 8.3 per cent in 2014–15, reversing the decline in the previous two years.
- Sea travel by Tasmanians travelling for business purposes to the mainland reversed the decline seen in both 2011–12 and 2012–13 to more than double in 2013–14, with a more modest increase of 3 per cent in 2014–15.
- Air travel by visitors to Tasmania travelling for business declined by 4.7 per cent in 2013–14, then increased by 5.2 per cent to an estimated 261 500 passengers in 2014–15.
- Sea travel by visitors travelling for business to Tasmania increased over 15 per cent to an estimated 24 500 passengers in 2013–14, then declined by 7.1 per cent to an estimated 22 800 passengers in 2014–15.

Sea services

The annual number of TT-Line voyages increased from 295 in 1995–96 to 1052 in 2004–05 (Table 6). Total voyages increased significantly with the introduction of the Sydney–Devonport service on 13 January 2004, before declining with the termination of the service in August 2006.

³ Tourism Tasmania 'Tasmanian Visitor Survey'—personal comm. 2001; 2007; 2011; 2013; 2015

The number of Melbourne–Devonport voyages increased in both 2013–14 and 2014–15.

Table 6 TT-Line one-way voyages by vessel, 1995–96 to 2014–15

<i>Year</i>	<i>Spirit of Tasmania</i>	<i>Devil Cat</i>	<i>Spirit of Tasmania I/II</i>	<i>Spirit of Tasmania III^f</i>	<i>Total voyages</i>
1995–96	295	na	na	na	295
1996–97	313	na	na	na	313
1997–98	323	117	na	na	440
1998–99	334	171	na	na	505
1999–00	347	108	na	na	455
2000–01	379	99	na	na	478
2001–02	367	118	na	na	485
2002–03	-a	na	846	na	846
2003–04	na	na	894	135 ^b	1029
2004–05	na	na	832	220	1052
2005–06	na	na	812	204	1016
2006–07	na	na	805	13	818
2007–08	na	na	804	na	804
2008–09	na	na	800	na	800
2009–10	na	na	822	na	822
2010–11	na	na	827	na	827
2011–12	na	na	759	na	759
2012–13	na	na	748	na	748
2013–14	na	na	750	na	750
2014–15	na	na	767	na	767

na not applicable

a. Voyages made by *Spirit of Tasmania* in 2002–03 before its replacement in September 2002 are included in the number of voyages made by *Spirit of Tasmania I* and *Spirit of Tasmania II*.

b. *Spirit of Tasmania III* began operating the Sydney–Devonport route on 13 January 2004. Voyage total for 2003–04 therefore reflects approximately six months data.

c. *Spirit of Tasmania III* operated an extra Melbourne–Devonport service on 15 December 2004 and replaced its sister ships during their biannual dry-dockings from 17 July to 7 August.

Source: TT-Line (2015) and previous Annual Reports

The average number of passengers per voyage increased significantly in both 2013–14 and 2014–15, to 501 per voyage in 2014–15.

The average number of vehicles per voyage also increased significantly in both 2013–14 and 2014–15, to 238 in 2014–15 (Table 7).

Table 7 TT-Line average traffic per voyage by service, 1995–96 to 2014–15

Year	Passengers ^a per voyage		Vehicles per voyage	
	Melbourne	Sydney	Melbourne	Sydney
1995–96	732	na	214	na
1996–97	828	na	258	na
1997–98	714	na	253	na
1998–99	680	na	246	na
1999–00	710	na	264	na
2000–01	692	na	266	na
2001–02	718	na	278	na
2002–03	596	na	248	na
2003–04 ^b	528	249	238	116
2004–05	472	271	226	131
2005–06	443	396	212	188
2006–07 ^c	482	439	230	240
2007–08	479	na	220	na
2008–09	488	na	228	na
2009–10	493	na	228	na
2010–11	493	na	221	na
2011–12	472	na	216	na
2012–13	442	na	203	na
2013–14	477	na	226	na
2014–15	501	na	238	na

na not applicable.

- a. Includes passengers with an accompanying motor vehicle and berth-only passengers.
- b. The eligible vehicles per voyage figures for 2003–04 are derived by vehicles per claim period which may not correspond exactly to TT-Line figures.
- c. The Sydney–Devonport route represents two months of traffic data.
- d. The average vessel size increased substantially with the introduction of the *Spirit of Tasmania I* and *Spirit of Tasmania II* in September 2002, increasing available capacity. TT-Line further increased the capacity of its ships by 60 vehicles per sailing in 2006–07 (TT-Line 2007).

Source: TT-Line (2015) and previous Annual Reports

Sea fares

Passengers on TT-Line pay a passenger fare and fare for their vehicle.

Under the Scheme, the Australian Government pays a subsidy for eligible vehicles. The Scheme does not subsidise passenger fares.

The effect of the rebate for an eligible motor vehicle varies according to the passenger fare type (full fare or concession), season of travel (peak or off-peak), day or night sailing, any TT-Line promotional fare deals, the passenger's choice of accommodation and their vehicle type.

Sea passenger fares

TT-Line continued to offer a tiered passenger fare structure (first introduced on 17 May 2010), with a base passenger fare and additional costs for cabin upgrades.

Key points for passenger fare structure for 2013–14 and 2014–15:

- A two season structure (introduced on 14 September 2009) with different passenger fares for peak and off-peak periods.

- Different fares for day sailings (also introduced on 14 September 2009). Day sailings operated during the peak season (December to April) in the summer months and for a period during July and August. Day sailing passenger fares were heavily discounted.
- Up to 16 passenger fare types. These include standard passenger fares (“FLEXX” and “Spirit”) and a variety of promotional or campaign deals. Limited numbers of certain promotional fares are made available subject to a range of conditions. Generally, full payment is required at the time of booking, fares may be non-refundable, and date, time or name changes may not be permitted.

TT-Line made a number of changes to passenger fares between July 2013 and June 2015:

- On 22 September 2013, passenger fares increased by up to \$8 (3.5 per cent).
- TT-Line introduced a number of new promotional fares.
- On the 1st July 2014, TT-Line removed the ‘carbon price surcharge’ of \$3 from every passenger fare.

Vehicle fares

In addition to their own fare, TT-Line passengers must pay a fare for their accompanied vehicle. Under the Scheme, passengers travelling with a vehicle across Bass Strait can receive a rebate applied against the vehicle fare charged by a ferry operator.

On 30 June 2013, the net fare for a standard passenger car was \$89 per vehicle (a gross vehicle fare of \$288, less a rebate of \$199 per vehicle).

Vehicle fares changed five times between 1 July 2013 and 30 June 2015, including changes by TT-Line and changes in vehicle rebates:

- On 1 July 2013, vehicle fares decreased with the annual indexing of the rebate. This decreased a standard car fare to \$84 (with a \$204 rebate).
- From 22 September 2013, vehicle fares increased by between one and ten dollars. This increased a standard car fare to \$89.
- From 1 July 2014, vehicle fares decreased \$6 when TT-Line removed the carbon price surcharge. This decreased a standard car fare to \$83.
- Also on 1 July 2014, vehicle fares decreased with the annual indexing of the rebate. This decreased a standard car fare to \$77 (with a \$210 rebate).
- From 28 September 2014, TT-Line increased vehicle fares. This increased a standard car fare to \$83.

On 30 June 2015, the net fare for a standard passenger car was \$83 per vehicle (a gross vehicle fare of \$293, less a rebate of \$210 per vehicle).

Table 8 gives vehicle fares (net of the rebate) as at 30 June 2015.

Table 8 TT-Line net vehicle fares as at the 30 June 2015

<i>Vehicle type – length</i>	<i>Off-peak</i>	<i>Peak</i>
Standard cars/vehicles and vehicles towing trailers less than 2.0 metres wide		
0.1 –5.3 metres	83	83
5.31–6.0 metres	93	93
Campervans/motor homes less than 2 metres wide		
0.1 –5.3 metres	83	83
5.31–6.0 metres	93	93
Motor homes/campervans and vehicles towing caravans		
0.1–7.0 metres	102	145
7.01–8.0 metres	176	231
8.01–9.0 metres	250	317
9.01–10.0 metres	324	403
10.01–11.0 metres	398	489
Over 11.01 m + \$/per/metre	74	86
Standard Vehicles towing caravans where total length is greater than 6 m or width greater than 2 m.		
0.1–7.0 metres	102	145
7.01–8.0 metres	176	231
8.01–9.0 metres	250	317
9.01–10.0 metres	324	403
10.01–11.0 metres	398	489
Over 11.0m + \$/per metre	74	86
Vehicles towing trailers or vehicles other than motor homes/campervans and buses		
0.1–6.0 metres	102	145
6.01–7.0 metres	312	355
7.01–8.0 metres	386	441
8.01–9.0 metres	460	527
9.01–10.0 metres	534	613
10.01–11.0 metres	608	699
Over 11.0m + \$/per metre	74	86
Motor bikes	58	58
Motor bike with side car or trailer	81	81
Push bikes	5	5

a Where total length is greater than 6 metres or width greater than 2 metres. Maximum height is 4.2 metres. Maximum width is 2.4 metres.

Source: TT-Line—personal comm. 2015

Motor vehicle fares for the SeaRoad Shipping service (operated using the *Searoad Mersey*) are shown in Table 9.

Table 9 Motor vehicle fares for SeaRoad Shipping

<i>Vehicle category</i>	<i>June 2014</i>	<i>June 2015</i>
	<i>Cost one-way^a</i>	<i>Cost one-way^a</i>
Vehicle up to 4.29m in length	\$420 + fuel surcharge + GST	\$433 + fuel surcharge + GST
Vehicle 4.3 to 5.5 m in length	\$558 + fuel surcharge + GST	\$575 + fuel surcharge + GST

a. Bona fide tourist vehicles receive a free return trip, effectively halving the cost of a return trip. Conditions apply to tourist rate include: shipper must present air tickets, return trip within three months and same vehicle must be shipped both ways. King Island also charges some direct wharfage charges and the fuel surcharge varies month-by-month.

Source: SeaRoad Shipping—personal comm. 2015

Eligible tourist vehicles on the SeaRoad Shipping service receive a free return trip, effectively halving the cost of a return trip. In order to receive the tourist vehicle rate the vehicle shipper must present air tickets, and return with the vehicle within three months.

Benchmark sea package

BITRE constructs a benchmark one-way sea package to illustrate changes in the cost of sea travel over time.

This benchmark sea package comprises TT-Line sea fares for two adults with an inside three to four berth cabin, a fare for a standard motor car, plus two meals purchased on board.

The passenger fare for 2013–14 and 2014–15 used in the benchmark sea package is based on a night sailing fare representative of peak season fares (Tier 1). Other fare types (Tier 2 to Tier 5) may be significantly lower but not necessarily available in the peak period. For example, Tier 5 fares for a night sailing would be expected to be available during off-peak periods.

The passenger fare component of BITRE’s benchmark sea package is for an adult in the peak season. BITRE (2012) modified the methodology to take account of changes in TT-Line passenger fare structures in both 2010 and 2011 (notably, the introduction of a five tiered fare structure by TT-Line on 17 May 2010). While the benchmark sea package series since 2010 is indicative of changes in fare levels, there is a break in series with benchmark values since 2011 not directly comparable with previous years.

The passenger fares used in the benchmark sea package are illustrated in Table 10. Fares decreased in all categories between 2013–14 and 2014–15.

Table 10 One-way passenger fares Melbourne-Devonport (\$), as at end of 2013–14 and 2014–15

<i>Passenger type</i>	<i>June 2014</i>		<i>June 2015</i>	
	<i>Off-Peak</i>	<i>Peak</i>	<i>Off-Peak</i>	<i>Peak</i>
Adult	231 (99)	388 (232)	228 (96)	385 (229)
Pensioner	222 (90)	292 (136)	219 (87)	289 (133)
Child	174 (42)	226 (70)	171 (39)	223 (67)

Notes: June 2014 and 2015 fares are base per person fares with an additional cabin upgrade price of \$132 (\$156 in Peak season 2013–15) for an inside 3 berth cabin. June 2014 and 2015 fares in brackets are the base per person fare. Passenger fares exclude meals costs.

TT-Line list fare data applicable at 30 June of the relevant year. It does not take into account availability or special/promotional fares. Fare levels vary across the year by season. Passengers can choose different standards and prices of accommodation. These passenger fares may not be representative of average fares paid by passengers.

Source: TT-Line—personal comm. 2015

Table 10 shows that the cost of the adult sea peak period passenger fare used in the benchmark package decreased from \$388 in June 2014 to \$385 in June 2015 (a decrease of \$3).

The cost of BITRE’s benchmark net peak season sea package (with the rebate) at the end of June 2015 was \$742 one-way. This compares with \$754 at the end of June 2014 and \$738 at the end of June 2013.

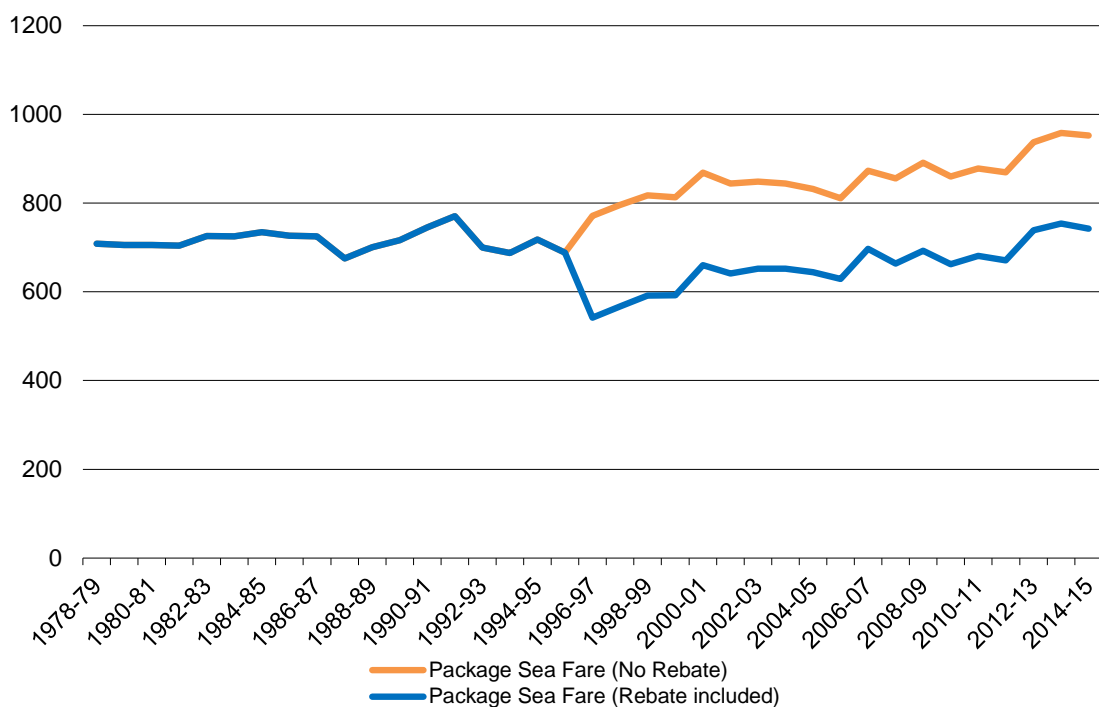
The combined impact of the removal of the carbon price surcharges on passenger and vehicle fares, with the annual indexing of the vehicle rebate has decreased the benchmark sea package by \$12 (1.6 per cent of the benchmark sea package as for June 2015).

The effect of the Scheme on sea travel costs (as for June 2015) is illustrated in the following example:

- During the off-peak season (April to December), the costs of BITRE's package sea package, including the passenger fare, the cabin upgrade, net vehicle fare (with the rebate) and meals, would have been \$452 one-way.
- For a return journey and average 19 night stay in Tasmania (with a \$19 per day spend on transport for people taking their own vehicle, down from \$23), the cost of the off-peak sea package would have been \$1265 (down from \$1340). The cost of this off-peak package would have increased by \$420 to \$1685 (down from \$1738) without the rebate—the Scheme reduced the cost of an off-peak sea package by 24.9 per cent (up from 23.0 per cent in June 2013).
- If it were a 7 night stay, then the cost of this off-peak sea package would have been \$1037 (\$1457 without the rebate—a 28.8 per cent cost reduction).

Figure 4 illustrates the effect of the standard rebate on the real (consumer price index adjusted) cost of BITRE's peak season sea package for list TT-Line fares for two adults with a standard vehicle at the end of June each year.

Figure 4 Real sea package prices for the peak season as at the end of June, with and without the standard rebate, 2014–15 dollars



Note: Series indicative for peak season. Fares vary by season and the benchmark does not take into account availability, special or promotional fares, so it may not be representative of fares actually paid by passengers. Does not account for changes in the characteristics of the ships or that passengers can choose different standards and prices of accommodation.

Source: BITRE analysis

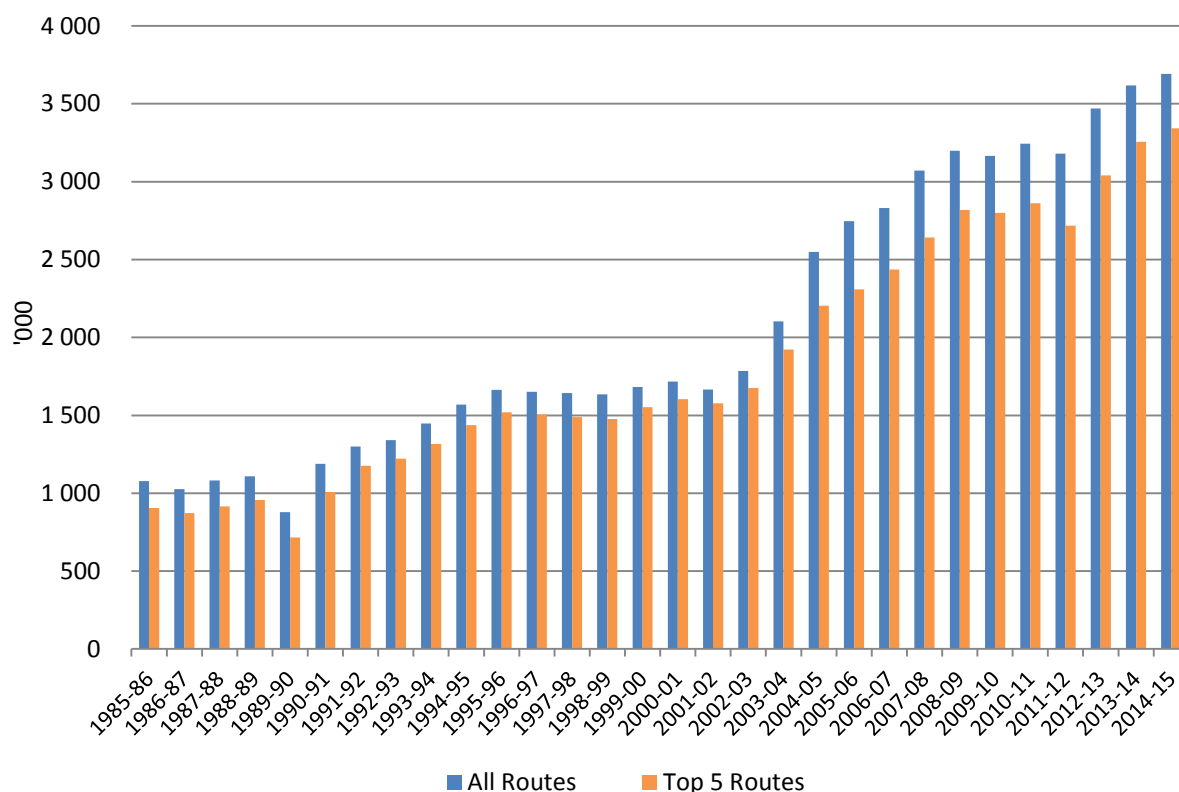
In real terms, the cost of BITRE’s sea package increased 0.5 per cent between June 2013 and June 2015. The real value of this package increased 2.1 per cent between June 2013 and June 2014, then decreased 1.5 per cent between June 2014 and June 2015. Caution should be taken with comparisons over time as:

- There have been major improvements in the ships used to provide the service, including changes in the on-board service offerings
- Passengers can choose different standards and prices of accommodation (including the option of no cabin upgrade).
- This comparison is for the peak season only (particularly as TT-Line dropped shoulder season fares on 14 September 2009).

Air services and related fares

One-way trips by domestic air passengers to and from Tasmania increased to over 3.6 million in 2013–14, then increased to just under 3.7 million in 2014–15. The top five routes accounted for just over 3.3 million one-way trips (90 per cent) of all air passengers on Tasmanian interstate routes (Figure 5).

Figure 5 Number of air passengers between Tasmania and the mainland, one-way trips, 1985–86 to 2014–15



Note: Passenger numbers are one-way trips by revenue passengers—those passengers paying any level of fare on scheduled domestic regular public transport services. Top five routes are Hobart–Melbourne, Launceston–Melbourne, Hobart–Sydney, Devonport–Melbourne

(Brisbane-Hobart from 2009–10), and Launceston–Sydney.

Source: BITRE domestic air passenger data

Low cost carriers started operations to Tasmania in 2001. Coupled with the introduction of new air routes, this has substantially increased the total number of air passengers.

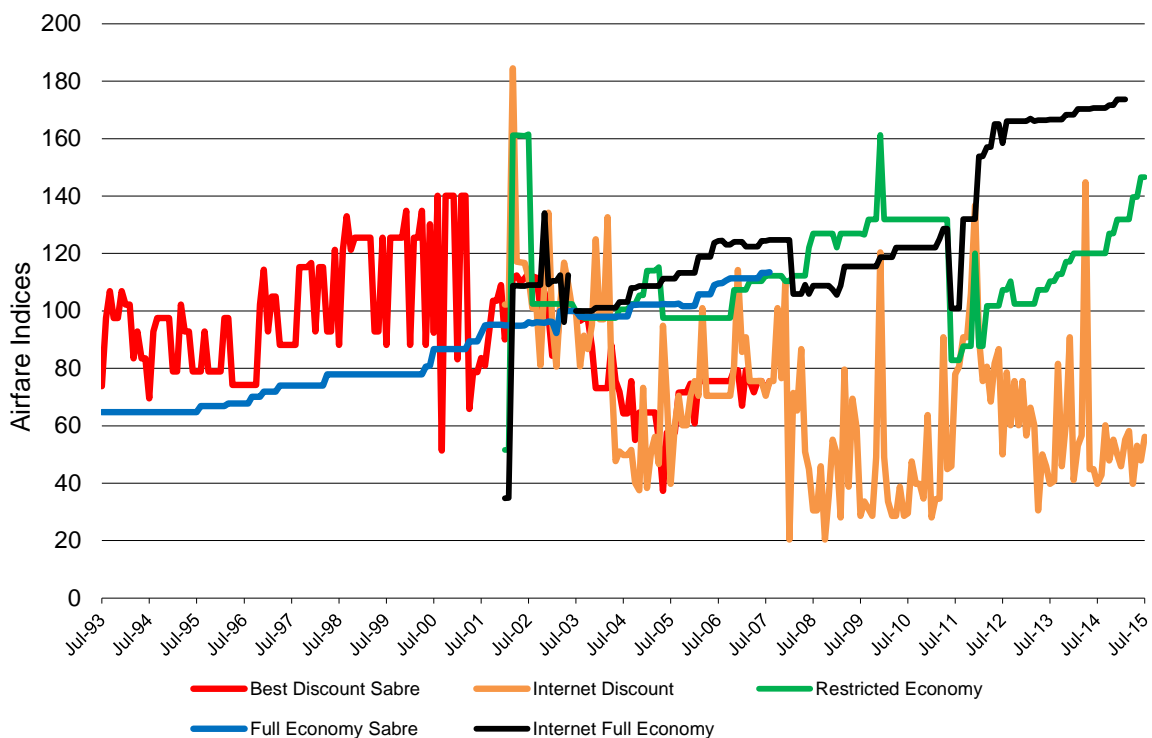
The entry of low cost airlines into the Tasmanian market has resulted in substantial falls in discount air fares (Figure 6). The fall in discount air fares have driven the rapid growth in the number of air passengers between the mainland and Tasmania since 2003–04.

BITRE’s discount air fares index remained relatively stable between June 2006 and June 2007 after an increase of 26 per cent in the previous year. Between June 2007 and June 2009 there was no clear trend with the Internet Discount Fare index fluctuating significantly over this two year period.

Between June 2009 to June 2011 the Internet Discount Fare index decreased by 23 per cent. Between June 2011 and June 2013 the Internet Discount Fare index declined steadily. Since June 2013 the Internet Discount fare has remained relatively low with minor seasonal adjustments.

BITRE’s restricted Economy index declined after May 2011 then steadily increased but remained below levels seen in 2009 and 2010. After June 2013 the restricted economy index declined heavily but has recently risen to above the levels seen in 2009 and 2010. The Internet Full Economy index increased steadily from June 2011.

Figure 6 Melbourne–Hobart airfare indices, Jan 2002 to July 2015



a. Base Index July 2003 = 100
 Source: BITRE domestic air passenger data

Air and sea passenger trends

This section looks at trends in travel to Tasmania for visitors, motor vehicle and berth-only passengers, types of vehicles, and sea and air passenger numbers.

Visitor travel

Table 11 gives the number of adult⁴ visitors to Tasmania (return trips) by purpose of travel and mode over the nineteen years to 2014–15. It includes sea passengers on the Sydney–Devonport service between January 2004 and August 2006.

Tasmania experienced growth in the number of adult visitors travelling by sea for holiday and leisure purposes between 1996–97 and 2000–01.

An increase in holiday and leisure sea visitors in 2002–03 was largely due to the upgrading of the TT-Line service. At the same time, the Scheme was changed by extending eligibility to other vehicle types and raising off-peak and shoulder rebates—changes that would have further stimulated growth in sea passenger numbers.

Since 2003–04 the number of adult sea passengers travelling for holiday/leisure purposes declined until 2008–09. While numbers subsequently fluctuated, 2012–13 recorded the lowest number of adult sea passengers travelling for holiday/leisure purposes since 1996–97. A modest recovery in this category was recorded in 2013–14 and 2014–15.

Visitors in the ‘visiting friends and relatives’ category have historically been a significant part of the TT-Line service. Since 2009–10 around twenty per cent of sea passengers have been visiting friends or relatives.

Visitors in the business category make up the third largest share of sea passengers. Since 2002–03 ‘business’ passengers have accounted for about fifteen per cent of the sea passenger travel. The ‘business’ sea passenger share peaked at 16.2 per cent in 2013–14.

⁴ Tourism Tasmania visitor data are for adult visitors only, and are not directly comparable with TT-Line data which are expressed in terms of one-way trips and include children.

Table 11 Number of adult visitors travelling to Tasmania, purpose and mode, 1996–97 to 2014–15

Purpose/mode	1996–97	1997–98	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
Holiday/leisure																			
Sea	49.5	71.7	85.2	86	77.9	79.1	120.2	120.1	102.7	102.4	92.3	88.4	90.4	82.6	89.6	71.2	62.8	69.1	79.3
Air	171.8	187.5	191.3	204.5	192.9	180.2	222.7	271.4	267.1	285.2	291.1	308.1	346.1	310.8	289.5	274.5	321.1	409.1	462.5
Visiting friends and relatives																			
Sea	12.8	16.2	18.3	17.5	17.2	17.6	33.7	22.7	18.6	16.1	15.8	15.7	15.4	20.3	19.2	18.7	17.9	18.6	19.4
Air	113.5	102.1	106.9	95.8	114.7	102.7	113.6	149	172.9	212.5	206.1	218.9	224.9	240.2	239.3	232	278	288.0	301.2
Business																			
Sea	4	4.1	4.9	4.8	5.2	5.5	13.3	15.5	14.6	11.3	13.6	13.3	15	15.1	15.1	12.6	13.9	16.2	14.3
Air	75.8	71.4	70.3	80.3	63.8	85.3	96.9	103.3	122.2	123	123	139.5	126.3	158.4	147.3	155.2	171.1	164.1	173.6
Other c																			
Sea	7.3	4.4	5.5	3.9	9.2	8.4	11.5	7.7	10.4	11.1	6.1	5.3	6.5	12.7	10.2	9.9	7.3	8.3	8.5
Air	47.9	43.6	41.3	38.8	39	40.6	39.8	49.7	49.1	51.1	79.5	60.6	82.7	70.1	85.2	81.1	89.6	84.4	87.9
Total																			
Sea	73.9	96.6	114.1	112.2	109.7	110.8	179	166.2	146.3	140.8	127.8	122.6	127.3	130.7	134.1	112.4	101.9	112.3	121.4
Air	409.2	404.8	409.8	419.4	410.5	409	473.2	573.5	611.2	671.7	699.3	727.1	779.9	779.5	761.3	742.8	859.8	945.6	1025.1

Note: Data collected by survey and subject to sampling error.

a. Excludes minors and day trippers.

b. Includes passengers carried on the Sydney–Devonport services between January 2004 and August 2006.

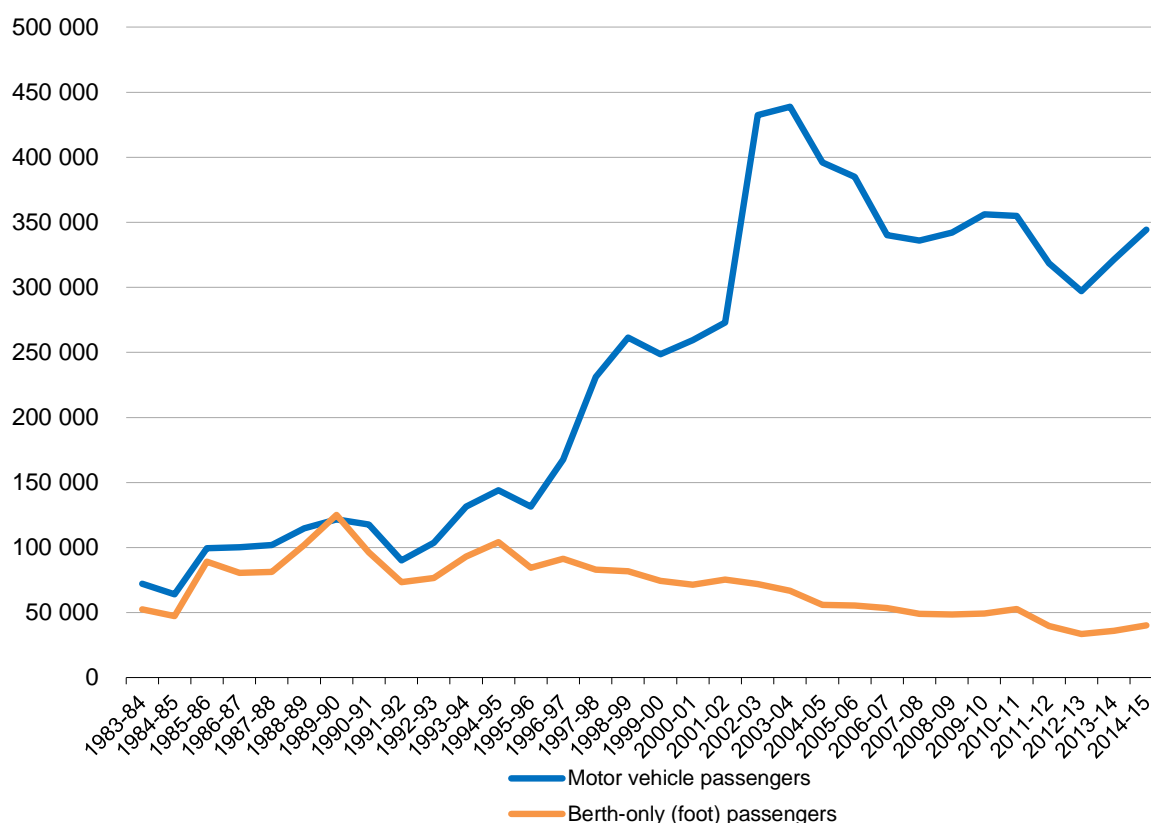
c. Includes attendance at conferences, other purposes and not specified.

Sources: Tourism Tasmania ‘Tasmanian Visitor Survey’—personal comm. 2001; 2007; 2011; 2013; 2015

Motor vehicle passenger and berth-only passengers

Figure 7 presents data on the number of one-way motor vehicle sea passengers and berth-only sea passengers since 1995–96, including Sydney–Devonport passengers carried between January 2004 and August 2006.

Figure 7 Number of sea passengers carried across Bass Strait, one-way trips, 1995–96 to 2014–15



a. Includes both visitors and Tasmanian residents.

b. Sydney–Devonport data included for 2003–04, 2004–05, 2005–06 and 2006–07. The Sydney–Devonport services commenced 13 January 2004 and

Source: TT-Line—personal comm. 2015 and earlier

The average number of motor vehicle passengers per eligible vehicle has fallen below 2.0 since the introduction of the Scheme (1.8 in 2013–14 and 2014–15, down from 1.9 in the previous two years), with changes in the number of motor vehicle passengers mirroring changes in the number of eligible vehicles.

The number of one-way berth-only passengers has declined by 52 per cent between 1995–96 (before the start of the Scheme) and 2014–15, while the number of one-way motor vehicle passengers has increased by 160 per cent over the same period.

This indicates that the Scheme caused substitution between these types of sea travel—that is, it encouraged sea passengers to take their own motor vehicle. One-way berth-only passenger numbers declined each year between 2001–02 and 2008–09, increasing in 2009–10 and 2010–11, only to fall to its lowest levels since

the start of the Scheme in 2011–12 and 2012–13. One-way berth-only passenger numbers increased marginally in 2013–14 and 2014–15.

Figure 7 also shows a very large increase in total passenger numbers carried by TT-Line in 2002–03 associated with the introduction of the new ships. This net increase in passengers was due to a large increase in the number of motor vehicle passengers, while the number of berth-only passengers fell by 3661 (4.8 per cent).

Between 2003–04 and 2007–08, total one-way motor vehicle passenger numbers declined significantly.

In 2008–09, the number of one-way motor vehicle passengers increased by 6218 (1.8 per cent) and the number of berth-only passengers decreased 504 (1 per cent), resulting in a net increase of 5714 sea passengers (1.4 per cent).

In 2009–10 and 2010–11 total passengers increased each year. Motor vehicle passengers increased in 2009–10 and then decreased slightly in 2010–11. Berth-only passengers increased in both 2009–10 and 2010–11 probably due to the new fare structure and the discounted day sailing fares.

In both 2011–12 and 2012–13, motor vehicle passengers declined sharply, falling to levels not seen since 2001–02.

Since the peak in 2003–04 of 505 639 one-way passengers, sea passenger numbers have fallen by 121 138 (23.9 per cent), with the number of motor vehicle passengers falling 21.5 per cent and the number of berth-only passengers down 39.9 per cent.

Types of motor vehicles

Table 12 gives a breakdown of eligible vehicles for which reimbursements were paid from 2001–02 to 2014–15. It shows cars have declined as a proportion of all eligible vehicles since the Scheme was broadened in September 2002.

Counts of all vehicle types increased in both 2013–14 and 2014–15, with larger increases for vehicles towing a caravan and motorcycles. Total vehicle counts in 2014–15 (182 827) were just below 2010–11 levels (183 986).

Table 12 Eligible vehicles for which reimbursements paid, 2001–02 to 2014–15

<i>Eligible vehicles</i>	<i>Number of eligible vehicles</i>														<i>Change from 2012–13 to 2014–15</i>
	<i>2001–02</i>	<i>2002–03</i>	<i>2003–04</i>	<i>2004–05</i>	<i>2005–06</i>	<i>2006–07</i>	<i>2007–08</i>	<i>2008–09</i>	<i>2009–10</i>	<i>2010–11</i>	<i>2011–12</i>	<i>2012–13</i>	<i>2013–14</i>	<i>2014–15</i>	
Motor cars	128353	196871	199902	188757	179955	160823	161139	164890	164287	151505	134583	124401	138558	148973	19.8%
Eligible vehicles + caravan	0	7359	9648	10186	10798	10969	11307	11562	12138	12121	11328	10442	11391	12679	21.4%
Motorcycles	6303	7023	8699	8791	11402	7720	8917	10373	12384	9650	9496	8336	10062	11043	32.5%
Motor homes	0	5991	9023	7870	7891	8177	8048	8306	9353	9714	8414	8051	8877	9185	14.1%
Pushbikes	0	1188	431	992	692	692	556	877	654	771	597	521	651	827	58.7%
Buses	324	474	791	365	370	311	294	247	202	225	170	150	160	170	13.3%
Total	134980	218906	228494	216961	211108	188692	190261	196255	199018	183986	164588	151901	169699	182877	20.4%

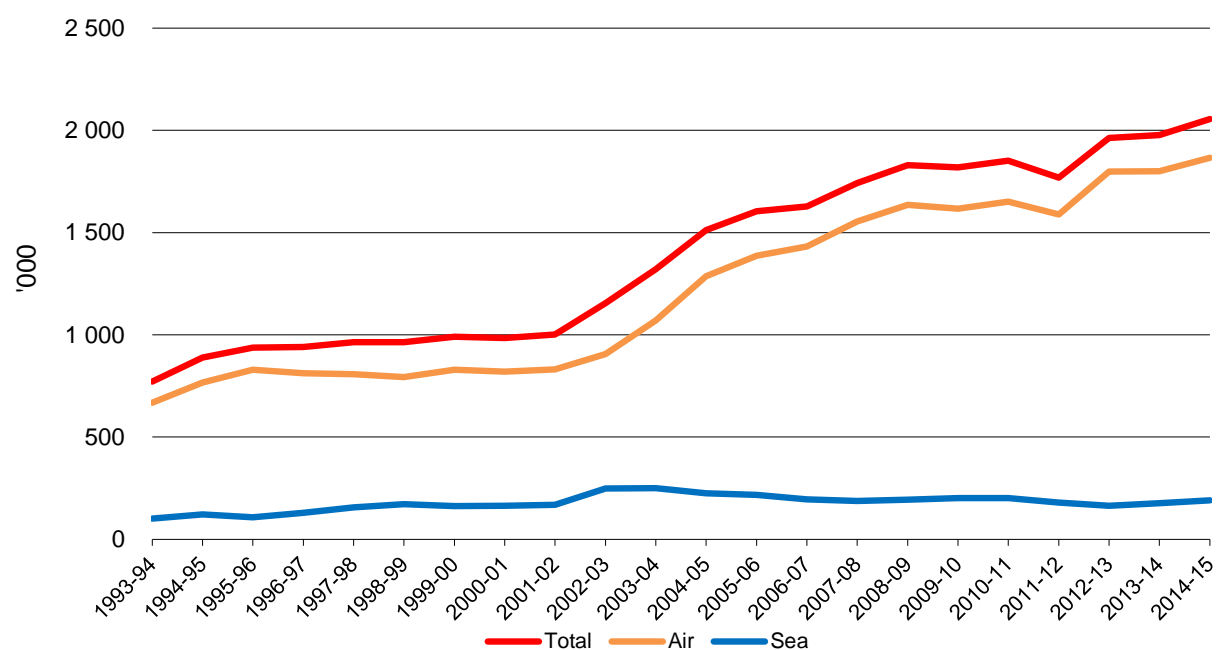
Sources: Tasmanian Transport Programs, Department of Human Services (formerly Centrelink)—personal comm. 2003 to 2015

Air and sea traffic

Figure 8 shows the number of sea passengers and air passengers carried between the mainland and Tasmania since 1993–94.

The Scheme applied to travel from 1 September 1996. In the period from 1995–96 to 1998–99, sea traffic grew 60 per cent while air traffic declined four per cent.

Figure 8 Sea and air passengers carried across Bass Strait, return journeys, 1993–94 to 2014–15



Note: Data includes day trippers and minors.

Source: Tourism Tasmania Tasmanian Visitor Survey—personal comm. various years

There was a decline in sea traffic of one per cent between 1998–99 to 2001–02, partly due to the breakdown of the *Spirit of Tasmania*, while air traffic increased by five per cent.

Sea traffic grew 47 per cent and air traffic grew nine per cent between 2001–02 to 2002–03, reflecting in large part the introduction in September 2002 of the larger *Spirit of Tasmania I* and *Spirit of Tasmania II*.

This growth pattern reversed between 2002–03 and 2003–04. The number of air passengers grew by 18 per cent while sea passenger numbers grew less than one per cent—this was despite the start of the Sydney–Devonport service in January 2004.

In 2004–05 air passenger numbers continued to grow whereas sea passenger numbers declined. This reduction in the number of sea passengers was associated with significant falls in discount air fares. This trend continued in 2005–06 and 2006–07 with growth in air passenger numbers and decline in sea passenger numbers.

Sea passenger numbers declined further in 2007–08 before increasing in 2008–09. This increase continued into 2009–10 but declined slightly in 2010–11.

The decline in sea passenger numbers continued into both 2011–12 and 2012–13, falling to levels not seen since 2001–02.

Air passenger numbers declined in 2009–10 (the first decline since 2000–01) but then increased in 2010–11 to a new high of 1.65 million. Air passengers, along with total passengers, declined again in 2011–12 but then increased markedly in 2012–13 and continued the upward trend in 2013–14 and 2014–15.

The period since 2002 has seen major changes in both the air market (entry and expansion of both Virgin Blue and Jetstar) and sea market (the replacement of the *Spirit of Tasmania* with the *Spirit of Tasmania I* and *Spirit of Tasmania II* in September 2002, the introduction of the Sydney–Devonport service in January 2004 and subsequent cessation in August 2006).

While low cost carriers and reductions in air fares help explain the drop in sea passenger numbers since 2003–04, the reduction in 2006–07 sea passenger numbers may be explained by a combination of increasing sea fares and the cessation of the Sydney–Devonport service.

Since 2006–07 total sea passenger numbers remained relatively flat around 190 000 to 200 000 return passengers, until the previous two years where sea passenger numbers have declined by 36 500 return passengers or approximately 18 per cent between 2010–11 and 2012–13. Sea passenger numbers increased in 2013–14 and again in 2014–15 approaching similar numbers that occurred in 2008–09.

CHAPTER 3

Effectiveness of the Scheme

The rebate substantially reduces the cost of freighting an accompanying eligible vehicle for passengers.

In 2014–15, the \$210 rebate on a standard car represented 22.0 per cent of BITRE’s benchmark one-way Melbourne–Devonport sea fare for a couple travelling with an eligible passenger car. This compares with 21.2 per cent at the end of June 2013 (with a \$199 rebate), 22.4 per cent at the end of June 2011 (with a \$188 rebate) and 22.9 per cent of the sea package fare as at the end June 2010 (with a \$183 rebate).

These reductions in vehicle fares due to the Scheme would be expected to stimulate an increase in sea travel across Bass Strait. Lower fares would be expected to attract new travellers as well as travellers from other markets—including other destinations in Australia.

Lower vehicle sea fares may also encourage some travellers, notably fly-drive tourists, to switch from air to sea transport. It would also be expected that some berth-only sea passengers may choose to travel with their motor vehicle rather than hire a car.

Some of these factors are evident in the traffic trend comparisons. However, changes in the number of sea travellers since the introduction of the Scheme also reflect other factors such as population changes and income growth.

BITRE has therefore constructed econometric models to help identify the impact of the Scheme on the number of motor vehicle sea passengers.

Modelling the change in sea passenger numbers

The econometric model used to assess the impact of the Scheme estimates the relationship between the number of motor vehicle passengers—that is, sea passengers with an accompanying eligible vehicle—and changes in population, real household disposable income, the sea package fare, the full economy air fare and the Australian dollar (AUD), United States of America dollar (USD) exchange rate.

The sea model used in this monitoring report is a revised model that is not directly comparable to the model used in previous BITRE Monitoring Reports. The current (revised) model has included the AUD/USD indicative daily exchange rate as an indicator of preferences for domestic travel as opposed to international travel, depending on relative ‘value for money’.

The model includes a single dummy variable to account for the increase in capacity resulting from the introduction of the *Spirit of Tasmania I* and *Spirit of Tasmania II* from September 2002. Two dummy variables have been excluded from the (revised) model. These were one to account for the Sydney–Devonport service which commenced in January 2004 and ceased in August 2006, and the other to take account of the drop in Bass Strait travel in 2011–12 and 2012–13.

The revised model uses a real (CPI-adjusted) fare series to remove general price inflation as an implicit variable in the growth in motor vehicle passenger numbers.

BITRE has used the real sea fare (own-price) elasticity from the revised model to calculate the net impact of the Scheme on one-way motor vehicle passenger numbers on the Melbourne–Devonport route.

Appendix A outlines the model and data, and further discusses issues related to the modelling of the Bass Strait sea service.

Estimated impact on sea passenger numbers

Table 13 presents estimates of the Scheme’s impact on the number of one-way trips by motor vehicle passengers based on a revised model for 2014–15. The model used new estimates of motor vehicle passenger trips for previous years which are not directly comparable to results contained in previous monitoring reports.

Table 13 Impact of the Scheme on Melbourne-Devonport motor vehicle passenger numbers, one-way trips, 1996–97 to 2014–15

Year	Motor vehicle passenger one-way trips: Melbourne–Devonport			
	Without Scheme (estimates) ^c	With Scheme (actual)	Difference ^c	Per cent Change
1996–97 ^a	116140	153045	36905	31.8
1997–98	176680	231098	54418	30.8
1998–99	201754	261487	59733	29.6
1999–00	192720	248745	56025	29.1
2000–01	206435	259438	53003	25.7
2001–02	217165	272922	55757	25.7
2002–03 ^d	346547	432498	85951	24.8
2003–04 ^b	329002	409115	80113	24.4
2004–05 ^b	276525	343252	66727	24.1
2005–06 ^b	251886	312304	60418	24.0
2006–07	275781	335423	59642	21.6
2007–08	271040	335881	64841	23.9
2008–09	276216	342099	65883	23.9
2009–10	290080	356125	66045	22.8
2010–11	288717	354864	66147	22.9
2011–12	257191	318615	61424	23.9
2012–13	242140	297134	54994	22.7
2013–14	261922	321585	59663	22.8
2014–15	278634	344356	65722	23.6
All years	4756573	5929986	1173413	24.7

a. Data cover ten months only in 1996–97 as the Scheme commenced on 1 September 1996. Actual traffic (that is, with the Scheme) in the full year 1996–97 was 167 788 persons.

b. Excludes Sydney–Devonport data for 2003–04, 2004–05, 2005–06 and 2006–07.

c. Passenger numbers without the Scheme are estimated using the revised model for 2010–11, and values will vary from previous monitoring reports.

d. The large increase in passenger numbers in 2002–03 was due to a substantial increase in TT-Line capacity (*Spirit of Tasmania I* and *Spirit of Tasmania II* together provided more than twice the passenger capacity and over three times the car capacity of *Spirit of Tasmania*) and changes to the Scheme extended eligibility for the rebate to more vehicle types and increased off-peak and shoulder season rebates (Ministerial Directions 2002).

Sources: TT-Line data and BITRE analysis

The estimated real sea fare (own-price) elasticity of -1.06 obtained from the model indicates that a 1 per cent reduction in the sea fare leads to a 1.06 per cent increase in the number of one-way motor vehicle passengers (see Table 15, Appendix A).

On the basis of this own-price elasticity, BITRE estimates that in 2014–15 the Scheme resulted in approximately 65 700 additional one-way trips by motor vehicle passengers between Melbourne and Devonport. This is an increase of 23.6 per cent relative to the likely situation without the Scheme (Table 13).

As can be seen from Table 13, the number of one-way motor vehicle passengers attributable to the Scheme increased until 1998–99, then stayed around an estimated 55 000 (revised) motor vehicle passengers per annum until September 2002.

Following the September 2002 changes to the TT-Line service and rebate structure, the number of one-way trips by motor vehicle passengers increased to an estimated 85 000 in 2002–03 (revised). This declined to an estimated 59 000 in 2006–07 (revised), then increased to approximately 66 000 in 2010–11. The next two years saw it decline to similar levels seen in 2001–02. Motor vehicle passengers increased in both 2013–14 and 2014–15, up to an estimated 65 700 extra motor vehicle sea passengers.

The 2014–15 model results indicate that the proportion of motor vehicle passengers on the Melbourne–Devonport route attributable to the Scheme has increased nearly a full per cent from 22.9 per cent in 2010–11 to 23.6 per cent in 2014–15 (Table 13).

The (revised) proportion of motor vehicle passengers attributed to the Scheme has declined from 30.8 per cent of Melbourne–Devonport motor vehicle passengers in 1997–98 (the first full year after the introduction of the Scheme) to 23.6 per cent in 2014–15.

Reliability of the estimates

The revised econometric model for Melbourne–Devonport performs well in terms of standard statistical tests. The variables included in the model explain 88 per cent of the variation in motor vehicle passenger numbers on the Bass Strait route between Melbourne and Devonport over the period 1985–86 to 2014–15. In addition, all of the estimated coefficients are significant and of the expected sign.

This econometric model is affected by data limitations and detailed analysis should be interpreted with caution.⁵ For example, the model uses annual data, covers a relatively short time period, and does not include some potentially relevant variables.

⁵ For example, prior to 2002–03 the model's sea fare (own-price) variable included peak-period fares only—that is it did not incorporate the higher or lower off-peak and shoulder rebates. The model may therefore have under or over estimated the impact of the Scheme in those years.

Despite these limitations, the results provide empirical support for the view that the Scheme has contributed to increased sea passenger travel between Melbourne and Devonport.

Impact on visitor numbers and spending

The number of new visitors who travelled because of the rebate, and their additional spending in Tasmania, is an important, albeit partial, indicator of the impact of the Scheme.

Since the introduction of the Scheme in 1996 the number of motor vehicle passengers grew substantially to 2003–04. However, some of this growth has been at the expense of other travel demands—notably the decline in berth-only passengers, but also potentially reduced air traffic demand.

While lower sea fares may have had an impact on some categories of air travel, BITRE has not adjusted for any reduction in air travel demand as the econometric model of the Melbourne–Tasmania air market found no statistically significant relationship between aggregate air travel demand and the price of sea travel (BITRE 2006b, Appendix A).⁶

In order to assess the effectiveness of the Scheme in increasing the demand for travel, BITRE has made assumptions about the level of berth-only passengers who would have travelled without the Scheme.

Before the introduction of the Scheme, the ratio of berth-only to total sea passengers remained fairly steady, with a small peak in 1989–90 at the time of the Pilots Dispute.

The trend between 1990–91 and 1995–96 was for a steady overall growth in the number of berth-only passengers of approximately 1.5 per cent.

Sea passenger numbers peaked in 2003–04 then declined at an average rate of 5 per cent per annum between 2004–05 and 2008–09.

While generally declining since the start of the Scheme, berth-only passenger numbers increased in 2009–10 and again in 2010–11. These increases may have been due to the restructure of TT-Line passenger fares and discounted day sailings that operated through peak times.

In 2011–12 and 2012–13 berth-only passenger numbers again decreased, falling to just 33 564 passengers in 2012–13.

Berth-only passengers have increased over the last two years (2013–14 and 2014–15) but levels are still relatively low (40 000 in 2014–15).

⁶ Possible explanations include data limitations and limited substitutability of sea travel for most air passengers.

The entry of low fare airlines into the Tasmania–mainland air market has resulted in a significant reduction in BITRE’s discount air fare series from 2004 (Figure 6).

While this reduction has stimulated growth in the air travel market (Figure 5) it has also had a negative impact on the sea travel market.

BITRE has therefore reduced the growth rate for berth-only passengers in the counter-factual case (that is, without the Scheme) since 2004–05 to reflect the decline in the total number of sea passengers.

BITRE has extrapolated the growth in berth-only passenger numbers for the counter-factual case using a five step process:

1. Increasing by 1.5 per cent per annum between 1996–97 and 2003–04.
2. Decreasing by 5 per cent per annum between 2004–05 and 2008–09.
3. Stabilising in 2009–10 and 2010–11.
4. Decreasing by 5 per cent per annum in 2011–12 and 2012–13.
5. Increasing by 5 per cent per annum 2013–14 and 2014–15.

BITRE’s analysis indicates that the rebate may have reduced the number of berth-only sea passenger movements in 2014–15 by approximately 29 800 (30 600 in 2013–14) compared to the level that would have been expected without the Scheme.

BITRE has assumed that the Scheme, by reducing vehicle fares, induced these berth-only sea passengers to take their motor vehicle. BITRE has therefore subtracted this estimate of 29 800 fewer berth-only passenger movements from the econometric estimate of just over 65 700 additional motor vehicle passenger movements in 2014–15. This implies that 43 per cent of the additional motor vehicle sea passengers may have travelled anyway as berth-only sea passengers.

The net effect of the Scheme is approximately 35 900 increase in one-way motor vehicle sea passengers between Melbourne and Devonport in 2014–15 (29 100 in 2013–14). Assuming each passenger made a return trip with their vehicle, this equates to just under 18 000 return motor vehicle passengers.

Tourism Tasmania visitor survey data shows that most (65 per cent) were travelling for holiday or leisure purposes, with 15 per cent visiting friends and relatives and 10 per cent travelling for business (Table 19).⁷

BITRE estimates that in 2014–15:

- 11 700 new leisure visitors travelled by sea as a result of the Scheme (9 400 in 2013–14).
- 2 700 new visitors visiting friends and relatives travelled by sea as a result of the Scheme (2 200 in 2013–14).

⁷ That is, sea passenger numbers minus the estimated number of Tasmanian residents and visitors travelling for non-leisure reasons (including visiting friends/relatives and business reasons).

- 1 800 new business visitors travelled by sea as a result of the Scheme (1 500 in 2013–14).
- 1 700 new ‘other’ visitors travelled by sea as a result of the Scheme (1 400 in 2013–14).

If each new motor vehicle visitor spent \$2800 per person (data by purpose is not available),⁸ the estimated spending by all new motor vehicle passengers was an additional \$50.2 million in 2014–15 (\$39.0 million in 2013–14) including:

- Additional spending by new leisure visitors of \$32.6 million in 2014–15 (\$25.4 million in 2013–14).
- Additional spending by new passengers in the ‘visiting friends and relatives category’ of \$7.5 million in 2014–15 (\$5.9 million in 2013–14).
- Additional spending by new business visitors of \$5.0 million in 2014–15 (\$3.9 million in 2013–14).

BITRE’s spending estimates are based on assumptions about the number of berth-only passengers that would have travelled without the Scheme. It excludes:

- benefits to Tasmanian residents who travelled by sea who may have been eligible
- any incremental spending related to longer stays by berth-only visitors who decide to take a car.

Assuming visitor spending of \$2800 per person, the Scheme would have needed to have increased the number of additional visitors to Tasmania by just over 14 600 in 2014–15 for the increase in visitor spending to equal the total rebate paid.

⁸ Spending data by journey purpose and sea passenger type was not available. BITRE has estimated the average spending by sea passengers with an accompanying vehicle at \$2800 per trip per person for all journey purposes in 2014–15 (BITRE estimate based on Tourism Tasmania data—personal communication 2015).

Appendix A

Sea passenger traffic model

This appendix outlines the revised model that was used to assess the impact of the Scheme on the Melbourne–Devonport sea route. The model has been revised by removing two of the dummy variables and including the relative exchange rate between Australian dollars (AUD) and the United States of America dollars (USD).

The Melbourne-Devonport Model

The model is specified in terms of AUD/USD exchange rates, population, income, own-price and cross-price variables in the following equation:

$$\ln V_t = \ln Y_t * \ln P_t * \ln Q_t * \ln \text{AUDUSD}_t * \text{DSP}_t * u_t$$

where

V = Per capita number of motor vehicle passenger movements;

Y = Per capita real household disposable income of motor vehicle passengers;

P = One-way real package sea fare (including reductions due to the Scheme rebate from 1996–97);

Q = One-way real economy air fare from Melbourne to Hobart;

AUDUSD = AUD/USD daily exchange rate on the earliest available day in October

DSP = Dummy *Spirit of Tasmania* - Dummy variable to take account of the influence of an increase in the passenger capacity of TT-Line following the introduction of the *Spirit of Tasmania I* and *Spirit of Tasmania II*;

u = Error term;

t = Time period.

The influence of population on the number of motor vehicle passenger movements is included by specifying the model on a per capita basis using the population of Australia. BITRE re-estimated the model using annual time-series data from 1985–86 to 2014–15. The time-series data are contained in Table 14.

The AUD/USD exchange rate has been included as a proxy to take account for people's choice as to travel destinations, affecting relative costs of Australian overseas travel and travel by foreign tourists to Australia.

The two dummy variables DSYD and DRT became insignificant and were removed from the model.

Table 14 Data used to re-estimate the Melbourne-Devonport econometric model

<i>Year</i>	<i>Motor vehicle passengers (one-way)^a</i>	<i>Air Fare Index^{b,d}</i>	<i>Sea Fare^{c,d}</i>	<i>Real Income^e</i>	<i>Population^f</i>	<i>AUD/USD^g</i>
	<i>('000)</i>		<i>(\$/package)</i>	<i>(\$ billion)</i>	<i>(million)</i>	<i>Exchange Rate</i>
1985–86	99 509	26.1	291	429.0	16.0	0.7039
1986–87	100 335	28.4	317	430.3	16.3	0.6299
1987–88	101 915	30.1	317	443.8	16.5	0.7141
1988–89	114 783	31.8	353	468.5	16.8	0.7833
1989–90	121 559	35.2	390	496.3	17.1	0.7776
1990–91	117 785	38.5	427	491.1	17.3	0.8302
1991–92	90 070	41.2	450	493.5	17.5	0.7985
1992–93	103 642	38.1	413	507.1	17.7	0.7134
1993–94	131 542	38.6	413	521.4	17.9	0.6463
1994–95	144 134	41.4	445	540.3	18.1	0.7416
1995–96	131 455	42.8	445	558.5	18.3	0.7605
1996–97	167 788	45.6	355	572.0	18.5	0.7912
1997–98	231 098	48.0	371	581.2	18.7	0.7271
1998–99	261 487	49.8	392	602.6	18.9	0.5943
1999–00	248 745	50.1	402	625.0	19.2	0.6522
2000–01	259 438	55.4	475	649.1	19.4	0.5440
2001–02	272 922	60.6	475	662.7	19.7	0.4944
2002–03	432 498	62.1	497	664.6	19.9	0.5415
2003–04	409 115	62.8	509	698.4	20.1	0.6832
2004–05	343 252	65.0	515	732.1	20.4	0.7265
2005–06	312 304	66.4	519	762.5	20.7	0.7637
2006–07	335 423	71.1	592	801.7	21.1	0.7477
2007–08	335 881	68.2	583	824.3	21.4	0.8860
2008–09	342 099	64.4	627	872.0	21.9	0.7962
2009–10	356 125	68.5	677	956.4	22.0	0.8789
2010–11	354 864	70.5	690	1009.0	22.3	0.9657
2011–12	318 615	81.2	675	1030.0	22.7	0.9500
2012–13	297 134	95.9	738	1054.7	23.2	1.0305
2013–14	321 585	97.7	754	1073.4	23.5	0.9396
2014–15	344 356	100.0	742	1088.8	23.8	0.8693

Notes:

- Motor vehicle passengers carried across Bass Strait between Melbourne and Devonport.
- Average one-way real economy air fare index from Melbourne to Hobart (real 2014–15 dollars).
- Average one-way real package net fare during peak season (real 2014–15 dollars). The package net fare includes two adults, two meals and a standard vehicle.
- The air fare and sea package fare indices are in real dollars—taking account of real movements in fare prices
- Real household disposable income of Australians at current (2014–15) prices.
- Population of Australia.
- AUD/USD daily exchange rate on the earliest available day in October of the respective financial year.

Source: TT-Line (2015) and previous Annual Reports, TT-Line—personal comm. 2015 and previous years; ABS (2015), BTRE (2006a; 2006b), Reserve Bank of Australia Table F11.1 Dec 2015 and earlier years.

Results of the Melbourne-Devonport Model

The estimated regression results are presented in Table 15. The adjusted R^2 value of 0.88 suggests that the model is a good fit. It indicates that 88 per cent of the variation in motor vehicle passenger numbers over the period is explained by the variables included in the model (population, income, sea fare, air fare, exchange rates and increased ship capacity). Around 12 per cent of the traffic variation is therefore attributable to factors not specified in the model, such as:

- Changes in community perceptions of Australian and overseas security risks;
- Expenditure on tourism promotion activities for Tasmania and other parts of Australia; and
- Aspects of local and overseas economic conditions such as unemployment, interest rates and fuel prices.

All of the estimated coefficients are of the expected sign and are significant at the 95 per cent confidence level.

Table 15 Regression results for Melbourne-Devonport sea model 2014–15

Variable	Estimated coefficient	T-Statistics
Y - Real Income	1.44	2.24
P – Real Sea Fare	-1.06	-3.05
Q – Real Full Economy Air fare	0.67	2.33
AUDUSD – Exchange Rates	-1.06	-4.87
Introduction of the <i>Spirit of Tasmania I/II</i> 2001–02 onwards (DSP)	0.45	4.36
Intercept	-11.95	-4.37
Adjusted R2	0.88	

Source: BITRE analysis

In terms of the total impact on the number of motor vehicle passenger movements, the most important variable in the 2014–15 model is per capita real household income (previously the full economy real air fare).

The coefficient of the per capita real household income (1.44) is of the expected sign and is significant at the 95 per cent confidence level. The real income estimated elasticity of 1.44 means that a 1 per cent increase (decrease) in the level of per capita real household income will result in a 1.44 per cent increase (decrease) in the number of motor vehicle passenger movements.

The second most equally important variables in the 2014–15 model is the newly added AUD/USD exchange rate with an estimated elasticity of -1.06 and the real sea fare (own-price) also with an estimated elasticity of -1.06. These indicate that a 1 per cent decrease (increase) in the exchange rate/real sea fare will result in a 1.06 per cent increase (decrease) in the number of motor vehicle passenger movements.

The relative importance of the exchange rate may be highlighted that when the Australian dollar was near (and above) parity with the US dollar sea passenger numbers declined heavily (which may well be expected).

The full economy real air fare has an estimated elasticity of 0.67 meaning that a 1 per cent increase (decrease) in the level of the full economy air fare will result in a 0.67 per cent increase (decrease) in the number of motor vehicle passenger movements. Previously the full economy real air fare has been the most important variable.

Full economy fares have been used because of the lack of discount fare data series prior to October 1992.

Full economy fares have increased since budget airlines entered the Tasmanian market, rather than decreased. A priori, an increase in competition would be expected to reduce average air fares, thereby increasing motor vehicle passenger numbers. While discount air fares have fallen substantially, the discount air fare series is generally not significant⁹ in explaining sea passenger movements.

The estimated coefficient of the dummy variable DSP indicates the increased ship capacity provided by TT-Line's new ships positively affected the number of motor vehicle passengers on the Melbourne–Devonport route.

The detailed results on the Melbourne–Devonport econometric model should be interpreted with some caution, as the analysis is constrained by data limitations and other factors.

For example, the time-series annual data cover a period of only 28 years, with the Scheme operating for just seventeen of these years.

In addition, the data are annual rather than monthly or quarterly, and the sea fare and air fare data are based on a specific season and ticket category.

Despite these limitations, the model provides empirical support for the view that the Scheme has contributed to the number of motor vehicle passengers travelling by sea on the Melbourne–Devonport route since 1995–96.

⁹ As already noted, the discount air fare series is only available from October 1992. When this discount fare series was used in the model the resulting air fare coefficient was not significant. This appears to reflect limitations in the fare data—the discount air fare series is volatile with large month to month variations, and may not capture the underlying relationships in an annual model. Consequently, the sea model reported here uses the full economy real air fare series.

Appendix B

TT-Line financial indicators

Table 16 TT-Line selected financial information, 1998–99 to 2012–13 (\$'000)

	98–99	99–00	00–01	01–02	02–03	03–04	04–05	05–06	06–07	07–08	08–09	09–10	10–11	11–12	12–13	13–14	14–15
Total operating revenue	80607	77511	81842	86236	195518 b	15425 0	15487 4	15888 2	15533 6	16686 3	17558 7	18267 7	18123 3	18539 2	18676 9	19696 5	20546 8
Operating Expenses																	
Operations- generale	33932	40865	42864	42402	69454	90900	11860 3	12079 8	93187	95246	11278 6	11281 5	11235 6	10694 1	11056 6	11560 1	11614 6
Operations- write down	0	0	0	30887	0	0	43237	-43237	-	-	-	-	-	-	-	0	0
Ship sale carrying value	0	0	0	0	62732	0	0	0	-	-	-	-	-	-	-	-	-
Hotel services/Terminal Operations	17783	16924	17782	18130	27708	33878	34306	34575	26634	29354	29490	23577	21700	23112	27391	0	0
Customer acquisition	6015	5900	6261	6680	11437	10574	13222	16234	16466	15674	14379	8598	7685	7908	10204	28622	28904
Administration	5707	4889	6871	7462	8902	8340	8593	8478	8665	7735	9061	7840	10526	9877	10425	12427	14139
Other (including Security)	9793	8697	2696	1958	12673	13954	16192	12245	6809	5161	4049	15252	16486	16027	14816	11580	11158
Total operating expense	73230	77275	76474	10751 9	192906	15764 6	23415 3	14909 3	15176 1	15317 0	16976 5	16808 2	16875 3	16386 5	17340 2	19116	20256
Operating profit/loss	7377	236	5368	-21283	2612	-3396	-79279	9789	3575	13693	5822	14595	12480	21527	13367	18734 6	19060 3

a. Ferry revenue and operations-general expenses in 1997–98 include the impact of the Devil Cat/catamaran trial. TT-Line booked an abnormal item of \$780,000 against the trial.

b. Total operating revenue in 2002–03 included gross proceeds of \$61.2 million from the sale of the *Spirit of Tasmania*.

c. The 2004–05 write down in ship values reflected the change from a 'cost' to a 'valuation' accounting method.

d. In 2005–06, the ships were re-valued based on market values for similar vessels in Europe—the major market for this type of roll-on roll-off ferry—and converted from Euros to Australian dollars using the exchange rates as at 30 June 2006. TT-Line (2006d, pp 1-2) states that—while the underlying value of the ships did not change—the translation into Australian dollars increased the value of the ships in the company accounts.

d. TT-Line undertakes annual ship revaluations and write-downs which impact on reported after-tax profit. For comparison purposes, BITRE has excluded these values from the operating profit calculations.

e. 'Operations – general' includes TT-Line Employee Benefits Expense, Cost of Food and Beverages, Consumables, Repairs and Maintenance, Bunker Fuel and Oil for 2011–12, 2012–13, 2013–14 and 2014–15.

Source: TT-Line (2015) and previous Annual Reports; TT-Line (2006d, pp 1-2). TT-Line—personal comm. January 2001

Table 17 Financial indicators (adjusted) for TT-Line, 1998–99 to 2014–15

Indicator	98–99	99–00	00–01	01–02	02–03	03–04	04–05	05–06	06–07	07–08	08–09	09–10	10–11	11–12	12–13	13–14	14–15
Operating revenue per voyage ^a	159 618	170 354	171 218	177 806	158 710 ^c	149 903	147 219	156 380	189 897	207541	219484	222235	219145	244258	249691	262620	267885
Operating expenses ^b																	
- per passenger	213	239	231	220 ^d	258 ^d	312	422 ^e	437 ^f	385	398	434	414	414	457	524	524	496
- per voyage	145 010	169 835	159 987	158 004 ^d	153 870 ^d	153 203	181 479 ^e	189 301 ^f	185 527	190510	212206	204479	204054	215896	231821	249795	248505

a. Total revenue divided by the number of voyages.

b. Incorporates expenses for passengers, vehicles and freight.

c. Revenue adjusted to exclude gross proceeds from the sale of the *Spirit of Tasmania* in 2002–03.

d. Expenses adjusted to exclude write-down in carrying value of the *Spirit of Tasmania* in 2001–02 and carrying value of this ship in 2002–03.

e. Expenses adjusted to exclude write-down of \$43.24 million in the total value of all three ships.

f. Expenses adjusted to exclude asset revaluation of \$43.2 million.

Source: TT-Line (2015) and previous Annual Reports; BITRE estimates

Table 18 TT-line reimbursements and adjusted operating revenue, 1998–99 to 2014–15

Year	98–99	99–00	00–01	01–02	02–03	03–04	04–05	05–06	06–07	07–08	08–09	09–10	10–11	11–12	12–13	13–14	14–15
Reimbursements paid (\$'000)	14 447	14 211	15 031	15 932	31 793	34 236	32 350	31 331	28 304	30 109	34 699	36 348	36 751	34 261	32 771	37 452	40 855
Operating revenue (\$'000)	80 607	77 511	81 842	86 236	134269	154250 ^a	154874	158882	155336	166863	175587	182677	181233	185392	186769	196965	205468
Reimbursements as a proportion operating revenue	17.9	18.3	18.4	18.5	23.7	22.2	20.9	19.7	18.2	18.0	19.8	19.9	20.3	18.5	17.5	19.0	19.9

a. Excludes gross proceeds (\$61.2 million) from the sale of the *Spirit of Tasmania* in 2002–03.

Source: TT-Line (2015) and previous Annual Reports

Appendix C

Bass Strait travel 2013–2015

Table 19 Estimated adult^a return passengers travelling between Tasmania and the mainland by purpose, 2013–14 and 2014–15 ('000)

<i>Purpose of travel</i>	<i>2013–14</i>			<i>2014–15</i>		
	<i>Air</i>	<i>Sea</i>	<i>Total</i>	<i>Air</i>	<i>Sea</i>	<i>Total</i>
<i>Visitors to Tasmania</i>						
Holiday/leisure	409.1	69.1	478.3	462.5	79.3	541.7
Visiting friends/relatives	288.0	18.6	306.6	301.2	19.4	320.6
Business	164.1	16.2	180.3	173.6	14.3	187.8
Conference	33.5	1.2	34.6	24.1	0.6	24.7
Other/not specified	50.9	7.1	58.0	63.8	7.9	71.7
Total visitors	945.6	112.3	1057.9	1025.1	121.4	1146.6
<i>Tasmanian residents</i>						
Holiday/leisure	195.1	16.9	212.0	186.2	17.2	203.4
Visiting friends/relatives	275.7	15.7	291.4	272.9	19.6	292.6
Business	168.7	7.4	176.1	157.8	8.5	166.4
Conference	32.5	0.3	32.7	22.1	0.7	22.8
Other/not specified	104.8	17.7	122.5	102.7	17.0	119.6
Total Tasmanians	776.7	58.1	834.8	741.7	63.0	804.7
Total passengers	1722.3	170.4	1892.7	1766.8	184.5	1951.3

a. Excludes minors and day trippers. Data collected by survey and subject to sampling error.

Source: Tourism Tasmania Tasmanian Visitor Survey—personal comm. 2015

Table 20 Estimated adult return passengers travelling between Tasmania and the mainland by purpose, 2013–14 ('000)

	<i>Air</i>		<i>Sea</i>		<i>Total</i>	
	<i>Number</i> (<i>'000</i>)	<i>Percent</i> <i>change</i> <i>on 12–13</i>	<i>Number</i> (<i>'000</i>)	<i>Percent</i> <i>change</i> <i>on 12–13</i>	<i>Number</i> (<i>'000</i>)	<i>Percent</i> <i>change</i> <i>on 12–13</i>
<i>Visitors</i>						
Holiday, leisure, or visiting friend and relatives	697.1	16.4%	87.8	8.7%	784.9	15.5%
Business/conference/other	248.5	-4.7%	24.5	15.7%	273.0	-3.2%
Total visitors	945.6	10.0%	112.3	10.2%	1057.9	10.0%
<i>Tasmanian residents</i>						
Holiday, leisure, or visiting friend and relatives	470.8	-2.7%	32.7	8.6%	503.4	-2.1%
Business/conference/other	306.0	-5.3%	25.4	135.1%	331.4	-0.8%
Total Tasmanians	776.7	-3.8%	58.1	42.0%	834.8	-1.6%
Total passengers	1722.3	3.3%	170.4	19.3%	1892.7	4.6%

a. Excludes minors and day trippers. Data collected by survey and subject to sampling error.

Source: Tourism Tasmania Tasmanian Visitor Survey—personal comm. 2015

Table 21 Estimated adult^a return passengers travelling between Tasmania and the mainland by purpose, 2014–15 ('000)

	<i>Air</i>		<i>Sea</i>		<i>Total</i>	
	<i>Number</i> (<i>'000</i>)	<i>Percent</i> <i>change</i> <i>on 13–14</i>	<i>Number</i> (<i>'000</i>)	<i>Percent</i> <i>change</i> <i>on 13–14</i>	<i>Number</i> (<i>'000</i>)	<i>Percent</i> <i>change</i> <i>on 13–14</i>
<i>Visitors</i>						
Holiday, leisure, or visiting friend and relatives	763.7	9.5%	98.7	12.4%	862.3	9.9%
Business/conference/other	261.5	5.2%	22.8	-7.1%	284.2	4.1%
Total visitors	1025.1	8.4%	121.4	8.2%	1146.6	8.4%
<i>Tasmanian residents</i>						
Holiday, leisure, or visiting friend and relatives	459.2	-2.5%	36.8	12.6%	496.0	-1.5%
Business/conference/other	282.5	-7.7%	26.2	3.2%	308.8	-6.8%
Total Tasmanians	741.7	-4.5%	63.0	8.5%	804.7	-3.6%
Total passengers	1766.8	2.6%	184.5	8.3%	1951.3	3.1%

a. Excludes minors and day trippers. Data collected by survey and subject to sampling error.

Source: Tourism Tasmania Tasmanian Visitor Survey—personal comm. 2015

Table 22 Sea and air passengers across Bass Strait, one-way passenger movements 1993–94 to 2014–15

<i>Year</i>	<i>Air passenger one-way movements</i>		<i>Sea passenger one-way movements</i>		
	<i>Top 5 routes</i>	<i>Total air passenger movements</i>	<i>Motor vehicle passenger movements</i>	<i>Berth only passenger movements</i>	<i>Total TT-Line sea passenger movements</i>
1993–94	1 316 502	1 447 953	131 542	93 146	224 688
1994–95	1 437 299	1 570 093	144 134	104 169	248 303
1995–96	1 520 527	1 663 584	131 455	84 531	215 986
1996–97	1 506 181	1 650 496	167 788	91 381	259 169
1997–98	1 489 747	1 642 839	231 098	83 134	314 232
1998–99	1 477 718	1 635 031	261 487	81 851	343 338
1999–00	1 553 795	1 681 100	248 745	74 466	323 211
2000–01	1 603 502	1 716 439	259 438	71 523	330 961
2001–02	1 577 808	1 665 126	272 922	75 513	348 435
2002–03	1 676 710	1 783 987	432 498	71 852	504 350
2003–04	1 922 305	2 104 080	409 115	62 926	472 041
2004–05	2 204 400	2 550 200	343 252	49 139	392 391
2005–06	2 308 214	2 746 538	312 304	47 407	359 711
2006–07	2 492 935	2 831 274	335 423	52 549	387 972
2007–08	2 703 134	3 090 842	335 881	49 137	385 018
2008–09	2 815 956	3 231 898	342 099	48 633	390 732
2009–10	2 800 783	3 221 993	356 125	49 429	405 554
2010–11	2 861 367	3 296 269	354 864	52 772	407 636
2011–12	2 718 425	3 181 276	318 615	39 817	358 432
2012–13	3 040 594	3 469 685	297 134	33 564	330 698
2013–14	3 257 247	3 618 657	321 585	36 032	357 617
2014–15	3 342 484	3 691 886	344 356	40 145	384 501

Source: BITRE-AVSTATS—personal comm. 2015, TT-Line—personal comm. 2015

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