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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. 16

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Foreword

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

Clause 17 of the Ministerial Directions governing the Bass Strait Passenger Vehicle Equalisation Scheme 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 2015 to 30 June 2017.

The report was prepared by Mark Cregan and Tim Risbey.

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Head of Bureau
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March 2018

Acknowledgements

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At a glance

The Australian Government spent \$44.7 million in 2016–17 on the Bass Strait Passenger Vehicle Equalisation Scheme (the Scheme), up 1.4 per cent from 2015–16, and \$44.1 million in 2015–16 (up 7.8 per cent on 2014–15).

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 (2017) 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 2015 to 30 June 2017):

- Rebates increased for all vehicle types by 2.3 per cent on 1 July 2015 and 2.3 per cent on 1 July 2016.
- From 1 July 2016, one-way rebates were \$220 for a car or bus, \$112 for a motorbike, \$32 for a bicycle and up to \$440 for a motorhome.
- Three operators¹ provided ferry services: TT-Line, Sea Road Shipping and Bass Island Line. TT-Line carried almost all sea passengers.
- The number of people travelling by sea increased by 8.6 per cent in 2015–16 and a further 3.8 per cent in 2016–17.

¹ Sea Road Shipping ceased services on 4 April 2017. Bass Island Line (wholly owned by the Tasmanian Ports Corporation) commenced King Island services on 5 April 2017. No claims data for Bass Island Line was available as at 5 August 2017. <http://www.examiner.com.au/story/4574747/new-ships-slightly-calm-freight-storm/>

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. The cost of this benchmark sea package decreased by 0.9 per cent between June 2015 and June 2016, then increased by 1.0 per cent between June 2016 and June 2017. (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 used updated econometric modelling in its evaluation of the impact of the Scheme. Over the monitoring period BITRE estimates that:

- The number of sea passengers with a motor vehicle may have been 29.0 per cent higher than without the Scheme.
- Just under 26 450 additional visitors to Tasmania travelled by sea due to the Scheme in 2016–17 (down from 27 650 new visitors in 2015–16).
- These additional visitors to Tasmania spent an estimated \$71.4 million in 2016–17 (down from an estimated \$74.6 million in 2015–16).

Table 1 Key facts: 2016–17 and 2015–16^a

	<i>2016–17 (latest year)</i>	<i>(% change)</i>	<i>2015–16</i>	<i>(% change)^f</i>	<i>Quick reference</i>
Expenditure (millions) ^b	\$44.7	(+1.4)	\$44.1	(+7.8)	p.8
Eligible vehicles	190 658	(+0.4)	189 983	(+3.9)	Table 2, p.6
Sea passengers ^c	433 549	(+3.5)	418 831	(+8.9)	Table 22, p.43
Air passengers ^c	4 017 692	(+3.8)	3 869 076	(+4.8)	Table 22, p.43
Extra motor vehicle passengers ^d	85 339	(+4.4)	81 752	(+9.2)	Table 13, p.268
Estimated spending by extra visitors to Tasmania (million) ^e	\$71.4	(-4.3)	\$74.6	(+18.3)	p.302
- tourists	\$46.4	-	\$48.5	-	
- visiting friends and relatives	\$10.7	-	\$11.2	-	
- business visitors	\$7.1	-	\$7.5	-	
- other visitors	\$7.1	-	\$7.5	-	

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 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 including by tourists, business visitors, visiting friends and relatives and other (includes conference, not specified and other purpose).

f. 2015-16 estimates compared to revised 2014-15 values. The model revises the historical values. In this case the number of extra motor vehicle passengers in 2014–15 has been revised up from 65 722 to 74 900

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
Air and sea traffic	9
Sea services	11
Sea fares	12
Sea passenger fares	12
Vehicle fares	13
Benchmark sea package	15
Air services and related fares	17
Air and sea passenger trends	19
Visitor travel	19
Resident travel	19
Motor vehicle passenger and berth-only passengers	21
Types of motor vehicles	22
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 2015–2017	39
References	43

Tables

Table 1	Key facts: 2016–17 and 2015–16 ^a	vi
Table 2	Total eligible vehicles carried by operator, 2015–16 and 2016–17	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, 2015–16 and 2016–17 (nominal dollars)	5
Table 5	TT-Line's average reimbursement per eligible vehicle passenger, 1996–97 to 2016–17	6
Table 6	TT-Line one-way voyages by vessel, 1995–96 to 2016–17	11
Table 7	TT-Line average traffic per voyage by service, 1995–96 to 2016–17	12
Table 8	TT-Line net vehicle fares as at the 30 June 2017	14
Table 9	Motor vehicle fares for SeaRoad Shipping	14
Table 10	One-way passenger fares Melbourne-Devonport (\$), as at end of 2015–16 and 2016–17	15
Table 11	Number of adult visitors travelling to Tasmania, purpose and mode, 1996–97 to 2016–17 ('000)	20
Table 12	Eligible vehicles for which reimbursements paid, 2001–02 to 2016–17	23
Table 13	Impact of the Scheme on Melbourne-Devonport motor vehicle passenger numbers, one-way trips, 1996–97 to 2016–17	26
Table 14	Data used to re-estimate the Melbourne-Devonport econometric model	32
Table 15	Regression results for Melbourne-Devonport sea model 2016–17	33
Table 16	TT-Line selected financial information, 1998–99 to 2016–17 (\$'000)	35
Table 17	Financial indicators (adjusted) for TT-Line, 1998–99 to 2016–17	36
Table 18	TT-line reimbursements and adjusted operating revenue, 1998–99 to 2016–17	37
Table 19	Estimated adult ^a return passengers travelling between Tasmania and the mainland by purpose, 2015–16 and 2016–17 ('000)	39
Table 20	Estimated adult return passengers travelling between Tasmania and the mainland by purpose, 2015–16 ('000)	40
Table 21	Estimated adult ^a return passengers travelling between Tasmania and the mainland by purpose, 2016–17 ('000)	40
Table 22	Sea and air passengers across Bass Strait, one-way passenger movements 1993–94 to 2016–17	41

Figures

Figure 1	TT-Line operating revenue, expenses and number of voyages, 1992–93 to 2016–17	4
Figure 2	TT-Line reimbursements under the Scheme, 1996–97 to 2016–17	7
Figure 3	Adjusted TT-Line revenue and revenue net of scheme rebates, 1992–93 to 2016–17	7
Figure 4	Sea and air passengers carried across Bass Strait, return journeys, 1993–94 to 2016–17	9
Figure 5	Real sea package prices for the peak season as at the end of June, with and without the standard rebate, 2016–17 dollars	16
Figure 6	Number of air passengers between Tasmania and the mainland, one-way trips, 1985–86 to 2016–17	17
Figure 7	Melbourne–Hobart airfare indices, July 1993 to August 2017	18
Figure 8	Number of sea passengers carried across Bass Strait, one-way trips, 1995–96 to 2016–17	21

Executive summary

In 2016–17 the Australian Government spent \$44.7 million on the Bass Strait Passenger Vehicle Equalisation Scheme (the Scheme), an increase of 1.4 per cent on 2015–16. Spending on the Scheme in 2015–16 was \$44.1 million (up 7.8 per cent on 2014–15).

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. This monitoring report must have specific regard to changes in fares and movements of passenger numbers.

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

- Rebates increased by 2.3 per cent on 1 July 2015. One-way rebates increased to up to \$215 for a car or bus, \$109 for a motorbike, \$31 for a bicycle and up to \$430 for an eligible motor home.
- Rebates increased by 2.3 per cent on 1 July 2016. One-way rebates increased to up to \$220 for a car or bus, \$112 for a motorbike, \$32 for a bicycle and up to \$440 for an eligible motor home.

TT-Line, SeaRoad Shipping and Bass Island Line² provided Bass Strait ferry services between 1 July 2015 and June 2017. 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 \$25.1 million, compared with \$18.8 million in 2015–16 and \$1.2 million in 2014–15.

The number of voyages operated by TT-Line increased by 24 voyages (2.9 per cent) in 2016–17 and by 47 (6.1 per cent) in 2015–16.

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

- average revenue per voyage decreased by 0.3 per cent in 2015–16 and increased by 1.8 per cent in 2016–17
- average voyage operating expenses decreased by 0.2 per cent in 2015–16 and decreased by 3.2 per cent in 2016–17
- average cost per passenger decreased by 2.8 per cent in 2015–16 and a further 3.8 per cent in 2016–17.

Sea passenger and vehicle fares changed over the two year period. TT-Line fares increased in 2016–17, with a general two per cent increase in passenger fares and an increase in peak period vehicle fares. Fare structures were basically unchanged, although TT-Line did introduce several new promotional fares and categories including package fare products.

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. It is important to note that 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 BITRE's benchmark net peak season sea package (with the rebate) at the end of June 2017 was \$766 one-way. This compares with \$747 at the end of June 2016 and \$742 at the end of June 2015.

In real terms, BITRE's benchmark sea package was virtually unchanged between June 2015 and June 2017 with:

- A decrease of 0.9 per cent between June 2015 and June 2016.
- An increase of 1.0 per cent between June 2016 and June 2017.

² Sea Road Shipping ceased services on 4 April 2017. Bass Island Line (wholly owned by the Tasmanian Ports Corporation) picked up the King Island service from 5 April 2017.

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 fluctuations, since June 2013.
- The restricted economy fare index has declined since June 2013 but remains above the levels seen in 2009 and 2010.
- The internet full economy fare index has increased steadily since June 2011.

Trends in travel across Bass Strait in 2015–16 and 2016–17 include:

- Total adult air and sea passenger numbers reached 2.18 million passengers in 2016–17.
- Air travel's modal share remained stable, decreasing slightly to 90.3 per cent in 2015–16 then increasing to 90.5 per cent in 2016–17.
- The number of people travelling by sea increased by 8.6 per cent in 2015–16 and a further 3.8 per cent in 2016–17, continuing the increases from the previous two years.
- Sea travel by Tasmanians travelling for business purposes to the mainland declined by 10.8 per cent in 2015–16 but then rose in 2016–17 by 5.0 per cent.
- Conversely, air travel by visitors to Tasmania travelling for business increased by 7.8 per cent in 2015–16, then decreased by 1.7 per cent to an estimated 277 100 passengers in 2016–17.
- Sea travel by visitors travelling for business to Tasmania increased by 1.5 per cent to an estimated 23 100 passengers in 2015–16, then increased by a further 13.7 per cent to an estimated 26 300 passengers in 2016–17.

BITRE has used an updated econometric model to evaluate the impact of the Scheme. Over the monitoring period it is estimated that the number of motor vehicle passengers may have been 29.0 per cent higher than without the Scheme. However, the analysis also indicates that 38 per cent of these additional motor vehicle passengers may have travelled without the Scheme as berth-only sea passengers. The updated model has also revised the estimates in the previous monitoring review (BITRE 2016). In this case, the number of extra motor vehicle passengers in 2014–15 has been revised up from 65 722 to 74 900.

BITRE estimates that just under 26 450 new visitors to Tasmania travelled by sea as a result of the Scheme in 2016–17 (down from 27 650 new visitors in 2015–16). These new visitors included an estimated 17 100 new leisure visitors (17 900 in 2015–16); 3900 new visitors who were visiting friends and relatives (4100 in 2015–16) and 2600 new business visitors (2700 in 2015–16).

These new motor vehicle visitors spent³ an estimated \$71.4 million in 2016–17 (down from an estimated \$74.6 million in 2015–16) including:

- Additional spending by new leisure visitors of \$46.4 million in 2016–17 (\$48.5 million in 2015–16).
- Additional spending by new passengers in the ‘visiting friends and relatives category’ of \$10.7 million in 2016–17 (\$11.2 million in 2015–16).
- Additional spending by new business visitors of \$7.1 million in 2016–17 (\$7.5 million in 2015–16).
- Additional spending by other visitors of \$7.1 million in 2016–17 (\$7.5 million in 2015–16).

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.

³ 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 \$2700 per trip per person in 2016–17 (estimate based on Tourism Tasmania data—personal comm. 2017).

CHAPTER I

The Scheme

In August 1996, the then 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 took effect from 1 September 2002 and were last amended 17 May 2017. 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, Regional Development and Cities.

Policy direction and funding for the Scheme is provided by the Surface Transport Policy Division of the Department of Infrastructure, Regional Development and Cities. There is an annual review of the rebate allowing for indexing of the rebate if deemed appropriate.

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 fifteen previous reports on the Scheme, the most recent covering 2014–2015.

Operators

Three companies—TT-Line Company Pty Ltd (TT-Line), SeaRoad Shipping and Bass Island Line—provided Bass Strait sea services in 2015–16 and 2016–17 and lodged claims under the BSPVES⁴. Eight individuals also lodged claims under the BSPVES.

⁴ Bass Island Line claims were not available for analysis as of 4 August 2017. Bass Island Line claims data will be included in future monitoring reports.

TT-Line carried 433 549 one-way passengers and 190 317 eligible vehicles in 2016–17, up from 418 831 one-way passengers and 189 614 eligible vehicles in 2015–16. The number of voyages increased by 47 or 6.1 per cent in 2015–16 and by 24 voyages or 2.9 per cent in 2016–17.

Spirit of Tasmania I and *Spirit of Tasmania II* of TT-Line operated the Melbourne–Devonport route.⁵ 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, ceasing operations on 4 April 2017. Sea passenger services were not available on the SeaRoad Shipping service. Bass Island Line commenced operations between Tasmania and King Island on 5 April 2017. 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 337 eligible vehicles in 2016–17, down from 365 eligible vehicles in 2015–16.

No claims data was available for the newly established Bass Island Line.

The total number of eligible vehicles remained at record high levels over the two year period (Table 2).

Table 2 Total eligible vehicles carried by operator, 2015–16 and 2016–17

Operator	2015–16		2016–17	
	Motor vehicles carried	Share of total (per cent)	Motor vehicles carried	Share of total (per cent)
TT-Line	189 614	99.8	190 317	99.8
SeaRoad Shipping	365	0.2	337	0.2
Bass Island Line	0	0.0	0	0.0
Private claims	4	0.0	4	0.0
Total vehicles	189 983	100	190 658	100

Source Tasmanian Transport Programs team, Department of Human Services—personal comm. 2017

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

TT-Line reported for 2016–17:

⁵ *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).

- an underlying operating profit of \$35.9 million, compared to \$26.9 million in 2015–16 and \$17.5 million in 2014–15, and
- an after-tax profit of \$25.1 million, compared with \$18.8 million in 2015–16 and \$1.2 million in 2014–15.

BITRE estimates that for 2016–17 TT-Line had:

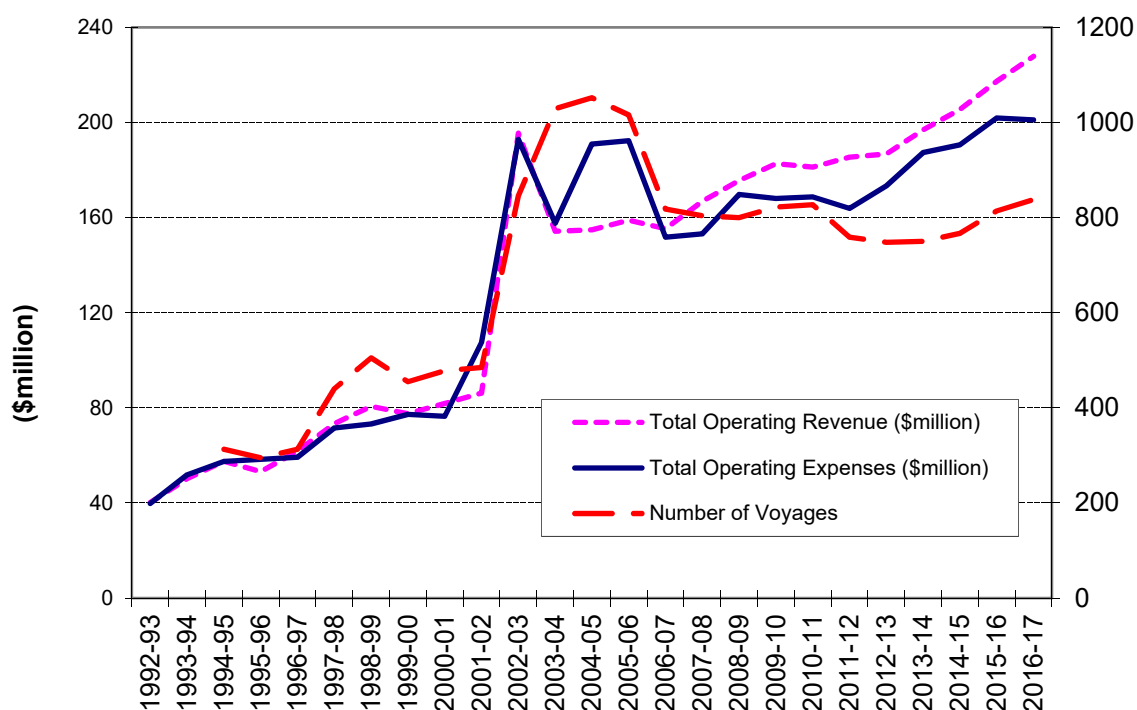
- operating revenues of \$227.8 million, compared with \$217.3 million in 2015–16 and \$205.4 million in 2014–15, and
- operating expenses of \$201.1 million, compared with \$201.8 million in 2015–16 and \$190.6 million in 2014–15.

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

- average revenue per voyage decreased by 0.3 per cent in 2015–16 and increased by 1.8 per cent in 2016–17
- average voyage operating expenses decreased by 0.2 per cent in 2015–16 and decreased by 3.2 per cent in 2016–17

average cost per passenger decreased by 2.8 per cent in 2015–16 and a further 3.8 per cent in 2016–17. 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 2016–17



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

Source TT-Line (2017) and previous annual reports

Rebates paid

Vehicle rebates changed in July 2015 and July 2016. Table 3 summarises the one-way rebates for eligible vehicles as at 30 June 2016 and 30 June 2017. The level of rebate is constant throughout the year.

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.

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 2016</i>	<i>June 2017</i>
Motor car or bus	Up to 215	Up to 220
Motor home	Up to 430	Up to 440
Eligible passenger vehicle towing a caravan	Up to 430	Up to 440
Motorcycle	Up to 109	Up to 112
Bicycle	Up to 31	Up to 32

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. 2017

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 \$44.7 million under the Scheme in 2016–17 (up 1.4 per cent over 2015–16). Expenditure in 2015–16 was \$44.1 million (up 7.8 per cent from 2014–15). 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 2016–17 and 2015–16 (Table 4). Over 99 per cent of rebates under the Scheme went to passengers with an accompanying eligible vehicle travelling on TT-Line services.

Table 4 Rebates paid to Bass Strait and King Island service providers for vehicles carried, 2015–16 and 2016–17 (nominal dollars)

<i>Service provider</i>	<i>2015–16</i>	<i>2016–17</i>
TT-Line	43 983 561	44 599 046
SeaRoad Shipping	107 020	93 740
Bass Island Line	0	0
Private Claims	0	0
Total rebates paid	44 078 016	44 677 031

Source Tasmanian Transport Programs, Department of Human Services—personal comm. 2017

Table 5 presents a historical series of nominal payments to TT-Line and the average reimbursement per eligible vehicle passenger.

Table 5 TT-Line's average reimbursement per eligible vehicle passenger, 1996–97 to 2016–17

	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	13.87	153 045	55.4	90.6
1997–98	12.93	21.19	231 098	56.0	91.7
1998–99	14.44	23.36	261 487	55.2	89.3
1999–00	14.21	22.44	248 745	57.1	90.2
2000–01	15.03	22.39	259 438	57.9	86.3
2001–02	15.93	23.07	272 922	58.4	84.5
2002–03	31.79	44.70	432 498	73.5	103.3
2003–04	34.23	47.00	438 841	78.0	107.1
2004–05	32.34	43.37	395 928	81.7	109.5
2005–06	31.33	40.70	384 974	81.4	105.7
2006–07	28.30	35.71	340 273	83.2	104.9
2007–08	30.10	36.75	335 881	89.6	109.4
2008–09	34.69	44.33	342 099	101.4	129.6
2009–10	36.34	42.04	356 125	102.1	118.1
2010–11	36.75	41.23	354 864	103.6	116.2
2011–12	34.26	37.57	318 615	107.5	117.9
2012–13	32.77	35.34	297 134	110.3	118.9
2013–14	37.45	39.38	321 585	116.5	122.5
2014–15	40.86	42.08	344 356	118.6	122.2
2015–16	43.98	44.64	371 789	118.3	120.1
2016–17	44.60	44.60	388 829	114.7	114.7

a, Real 2016–17 dollars

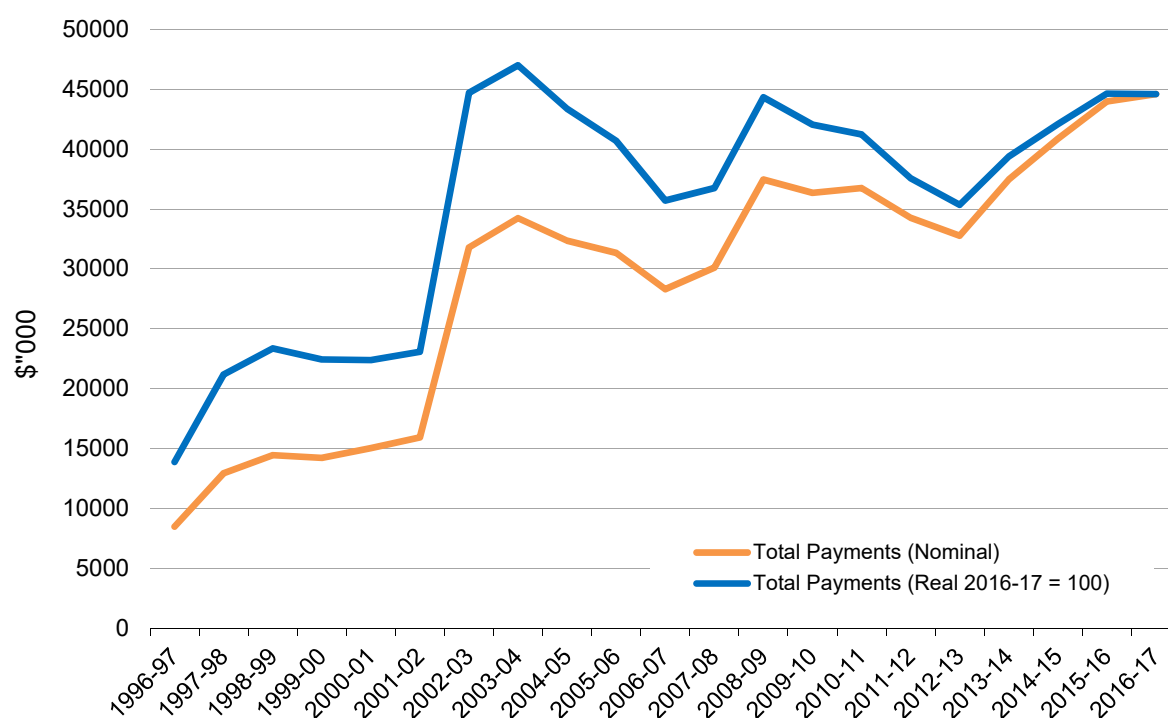
Source Tasmanian Transport Programs, Department Human Services—personal comm. 2015 and earlier; TT-Line—personal comm. 2015 and earlier

Reimbursements almost doubled in 2002–03 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 1 September 2002 that replaced the seasonal rebate structure with a constant rebate throughout the year and extended the Scheme to include additional vehicle types (Table 5 and Figure 2).

In 2011–12 total nominal rebate payments decreased for the first time since 2006–07. After decreasing again in 2012–13, payments have increased since 2013–14.

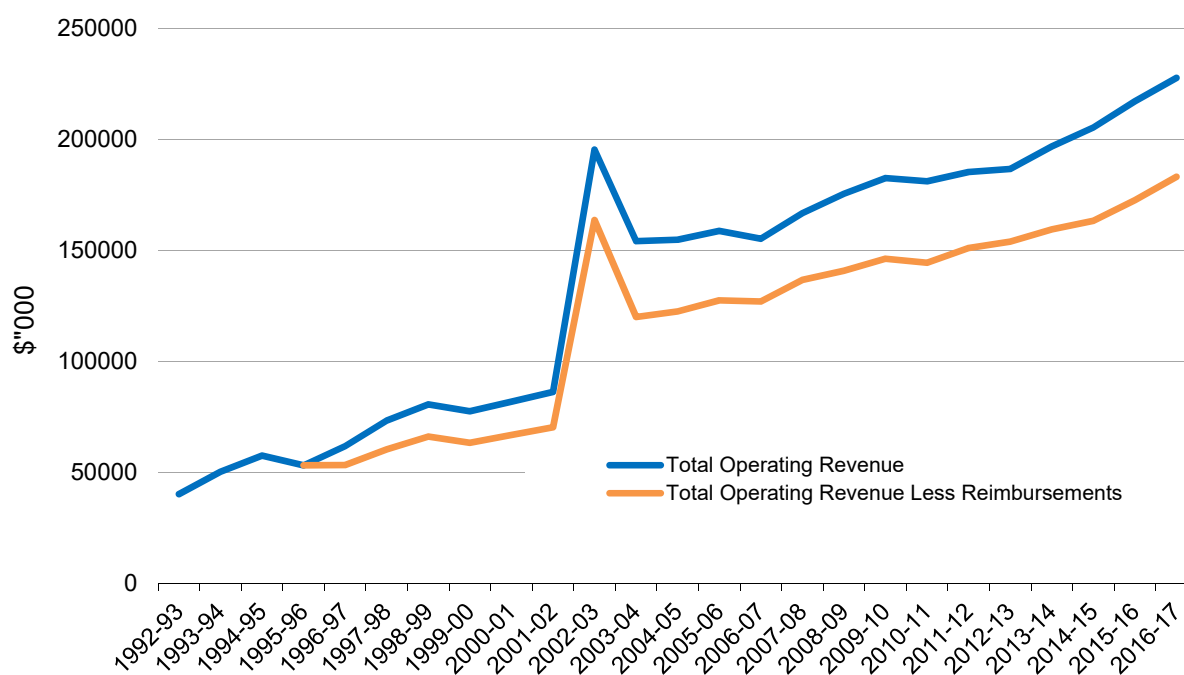
The average nominal rebate for each TT-Line per motor vehicle passenger has increased from \$83.20 in 2006–07 to \$114.70 in 2016–17, a real increase of 9.3 per cent over ten years (Table 5).

Figure 3 shows reimbursements paid to TT-Line and TT-Line's operating revenue. Rebate reimbursements represented 19.6 per cent of TT-Line operating revenue in 2016–17.

Figure 2 TT-Line reimbursements under the Scheme, 1996–97 to 2016–17

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 2016–17

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

Source TT-Line (2017) and previous annual reports.

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CHAPTER 2

Bass Strait sea and air travel

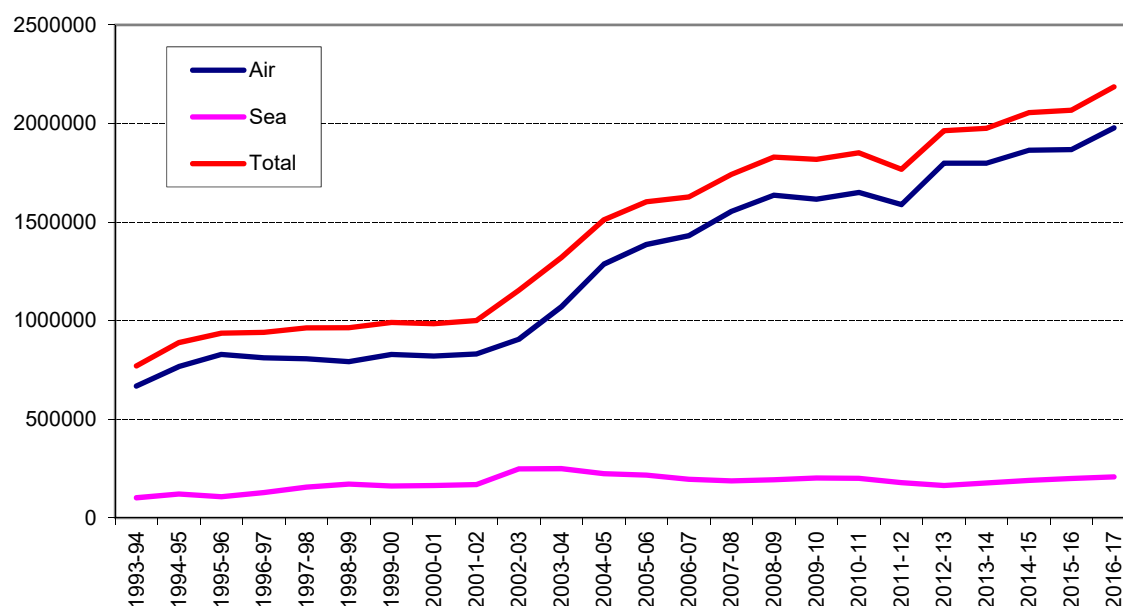
Air and sea traffic

The last five years has seen an increase of 25.8 per cent in air and sea passengers numbers across Bass Strait (Table 22). For 2016-17 and 2017-18:

- 2.18 million adult passengers travelled by air and sea in 2016-17, up 118 000 passengers, a 5.7 per cent increase compared with 2015-16.⁶
- 2.06 million adult passengers travelled by air and sea across Bass Strait in 2015-16, an increase of 116 600 passengers, or 6.0 per cent, on 2014-15.

Figure 4 shows the numbers of sea and air passengers carried since 1993-94.

Figure 4 Sea and air passengers carried across Bass Strait, return journeys, 1993-94 to 2016-17



Note Data includes day trippers and minors.

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

⁶ Tourism Tasmania 'Tasmanian Visitor Survey'—personal comm. 2001; 2007; 2011; 2013; 2015

The Scheme applied to sea passenger travel from 1 September 1996. There was a significant initial impact on passenger travel across Bass Strait:

- Between 1995–96 and 1998–99 sea traffic grew 60 per cent while air traffic declined four per cent.
- Between 1998–99 to 2001–02 there was a decline in sea traffic of one per cent, partly due to the breakdown of the *Spirit of Tasmania*, while air traffic increased by five per cent.

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, introduction of the Sydney–Devonport service in January 2004 and subsequent cessation of the Sydney service in August 2006, with major impacts on travel across Bass Strait:

- Between 2001–02 to 2002–03 sea traffic grew 47 per cent and air traffic grew nine per cent, reflecting in large part the introduction in September 2002 of the larger *Spirit of Tasmania I* and *Spirit of Tasmania II*.
- 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 despite the start of the Sydney–Devonport service in January 2004.
- Between 2004–05 and 2006–07 the numbers of air passengers grew while sea passengers declined. The latter was associated with significant falls in discount air fares.

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.

While total sea passenger numbers remained relatively flat between 2006–07 and 2012–13 (approximately 190 000–200 000 return passengers) there were significant year on year changes in both sea and air passenger numbers:

- Sea passengers declined in 2007–08, increased in 2008–09 and 2009–10, then declined slightly in 2010–11. The decline continued through 2012–13, with sea passenger numbers falling to levels not seen since 2001–02.
- Air passenger numbers declined in 2009–10 for the first time since 2000–01 then increased in 2010–11 to a new high of 1.65 million, before declining again in 2011–12.

There has been significant sustained growth in both air and sea passengers over the last five years (2012–13 and 2016–17):

- Sea passenger numbers increased year on year up to over 207 000 passengers in 2016–17, approaching levels last seen in 2005–06.
- Air passenger number increased significantly in 2012–13 and continued the upward trend in 2015–16 and 2016–17.
- Adult air and sea passenger numbers reached 2.18 million in 2016–17.
- Air travel's modal share decreased to 90.3 per cent in 2015–16 then increased to 90.5 per cent in 2016–17.

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.

The number of Melbourne–Devonport voyages increased in 2015–16 and 2016–17.

Table 6 TT-Line one-way voyages by vessel, 1995–96 to 2016–17

Year	<i>Spirit of Tasmania</i>	<i>Devil Cat</i>	<i>Spirit of Tasmania I/II</i>	<i>Spirit of Tasmania III^c</i>	Total voyages
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
2015–16	na	na	814	na	814
2016–17	na	na	838	na	838

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 (2017) and previous Annual Reports

The average number of passengers per voyage increased in both 2015–16 and 2016–17, to 518 per voyage in 2016–17. The average number of vehicles, however, per voyage decreased in both 2015–16 and 2016–17, down to 227 in 2016–17 (Table 7).

With the increase in the number of voyages, this may suggest that more berth only passengers have utilised the service.

Table 7 TT-Line average traffic per voyage by service, 1995–96 to 2016–17

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
2015–16	515	na	233	na
2016–17	518	na	227	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 (2017) 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 2015–16 and 2016–17:

- A general shift away from the two season structure (introduced on 14 September 2009) with different passenger fares for peak and off-peak periods with movement more towards different night and day sailing passenger fares.
- A general 2 per cent price increase across all fares on the 16th November 2016.
- Up to 16 passenger fare types. These include standard passenger fares (FLEXX and Spirit categories) and a variety of promotional, campaign or package 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 passenger fares are many, varied and complicated, with a range of conditions, dates and packages.

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 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).

Vehicle fares changed three times between 1 July 2015 and 30 June 2017, including changes by TT-Line and changes in vehicle rebates:

- On 1 July 2015, vehicle fares increased. The combined effect of vehicle fare changes and with the annual indexing of the rebate, a standard car fare increased to \$87 (with a \$215 rebate). Standard vehicle fares were the same for both peak and off-peak periods.
- From 1 July 2016, vehicle fares increased by two per cent. This increased a standard car fare to \$89 (with a \$220 rebate due to the annual indexing).
- From 16 November 2016, vehicle fares increased during peak periods, with a standard vehicle fare being \$99 (with a \$220 rebate).

On 30 June 2017, the net fare for a standard passenger (off-peak) car was \$89 per vehicle (a gross vehicle fare of \$309, less a rebate of \$220 per vehicle).

Table 8 gives vehicle fares (net of the rebate) as at 30 June 2017.

Table 8 TT-Line net vehicle fares as at the 30 June 2017

<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	89	99
5.31–6.0 metres	99	109
Campervans/motor homes less than 2 metres wide		
0.1 –5.3 metres	89	99
5.31–6.0 metres	99	109
Motor homes/campervans and vehicles towing caravans		
0.1–7.0 metres	109	154
7.01–8.0 metres	186	245
8.01–9.0 metres	263	336
9.01–10.0 metres	340	427
10.01–11.0 metres	417	518
Over 11.01 m + \$/per metre	77	91
Standard Vehicles towing caravans where total length is greater than 6 m or width greater than 2 m.		
0.1–7.0 metres	109	154
7.01–8.0 metres	186	245
8.01–9.0 metres	263	336
9.01–10.0 metres	340	427
10.01–11.0 metres	417	518
Over 11.0m + \$/per metre	77	91
Vehicles towing trailers or vehicles other than motor homes/campervans ^a and buses		
0.1–6.0 metres	107	153
6.01–7.0 metres	329	374
7.01–8.0 metres	406	465
8.01–9.0 metres	483	556
9.01–10.0 metres	560	647
10.01–11.0 metres	637	738
Over 11.0m + \$/per metre	77	91
Motor bikes	60	60
Motor bike with side car or trailer	85	85
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>June 2016</i>	<i>June 2017</i>
<i>Vehicle category</i>	<i>Cost one-way^a</i>	<i>Cost one-way^a</i>
Vehicle up to 4.29m in length	\$424 + fuel surcharge + GST	\$442 + fuel surcharge + GST
Vehicle 4.3 to 5.5 m in length	\$563 + fuel surcharge + GST	\$587 + 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, BITRE estimates

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.

Bass Island Line fare information was not available.

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 2015–16 and 2016–17 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, 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 were unchanged in 2015–16 and increased slightly in 2016–17.

Table 10 One-way passenger fares Melbourne-Devonport (\$), as at end of 2015–16 and 2016–17

<i>Passenger type</i>	<i>June 2016</i>		<i>June 2017</i>	
	<i>Off-Peak</i>	<i>Peak</i>	<i>Off-Peak</i>	<i>Peak</i>
Adult	228 (96)	385 (229)	231 (99)	386 (230)
Pensioner	219 (87)	289 (133)	221 (89)	296 (140)
Child	171 (39)	223 (67)	171 (39)	236 (80)

Notes June 2016 and 2017 fares are base per person fares with an additional cabin upgrade price of \$132 (\$156 in Peak season 2015–17) for an inside 3 berth cabin. June 2016 and 2017 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. 2017

Table 10 shows that the cost of the adult sea peak period passenger fare used in the benchmark package increased from \$385 in June 2016 to \$386 in June 2017 (an increase of \$1).

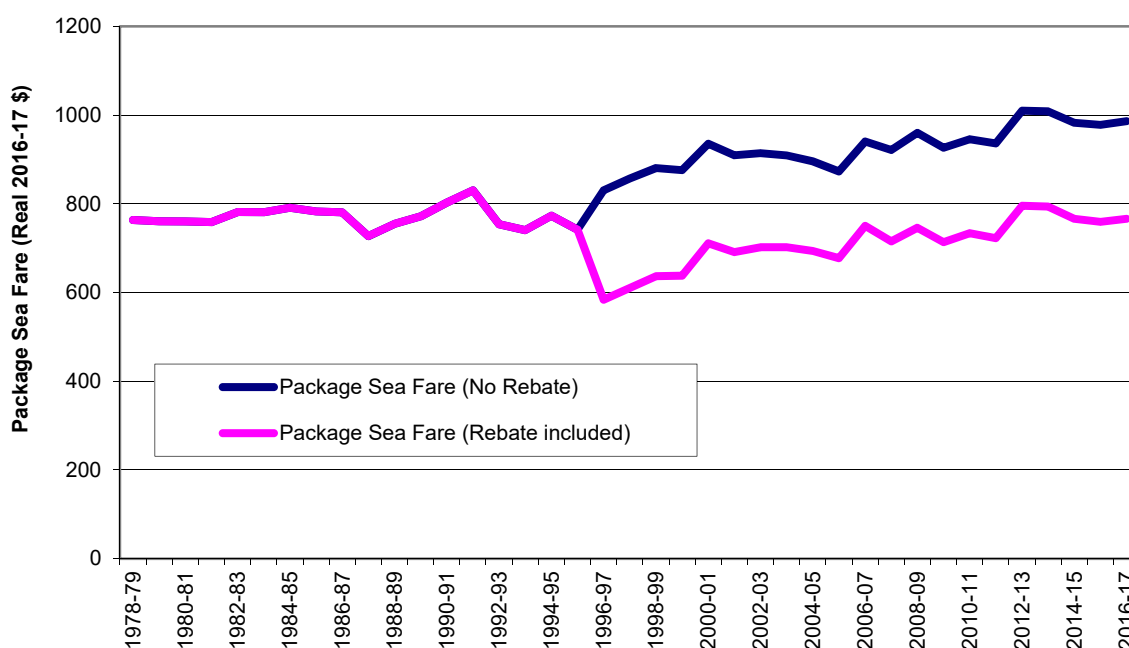
The cost of BITRE's benchmark net peak season sea package (with the rebate) at the end of June 2017 was \$766 one-way. This compares with \$747 at the end of June 2016 and \$742 at the end of June 2015.

The effect of the Scheme on sea travel costs (as for June 2017) 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 \$470 one-way.
- For a return journey and average 17 night stay in Tasmania (with a \$21 per day spend on transport for people taking their own vehicle, up from \$19), the cost of the off-peak sea package would have been \$1297 (up from \$1265). The cost of this off-peak package would have increased by \$440 to \$1737 (down from \$1685) without the rebate—the Scheme reduced the cost of an off-peak sea package by 25.3 per cent (up from 24.9 per cent in June 2015).
- If it were a 7 night stay, then the cost of this off-peak sea package would have been \$1087 (\$1527 without the rebate—a 28.8 per cent cost reduction).

Figure 5 illustrates the effect of the standard rebate on the real (consumer price index adjusted) cost of BITRE's peak season sea package for listed TT-Line fares for two adults with a standard vehicle at the end of June each year.

Figure 5 Real sea package prices for the peak season as at the end of June, with and without the standard rebate, 2016–17 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 0.03 per cent between June 2015 and June 2017. The real value of this package decreased 0.9 per cent between

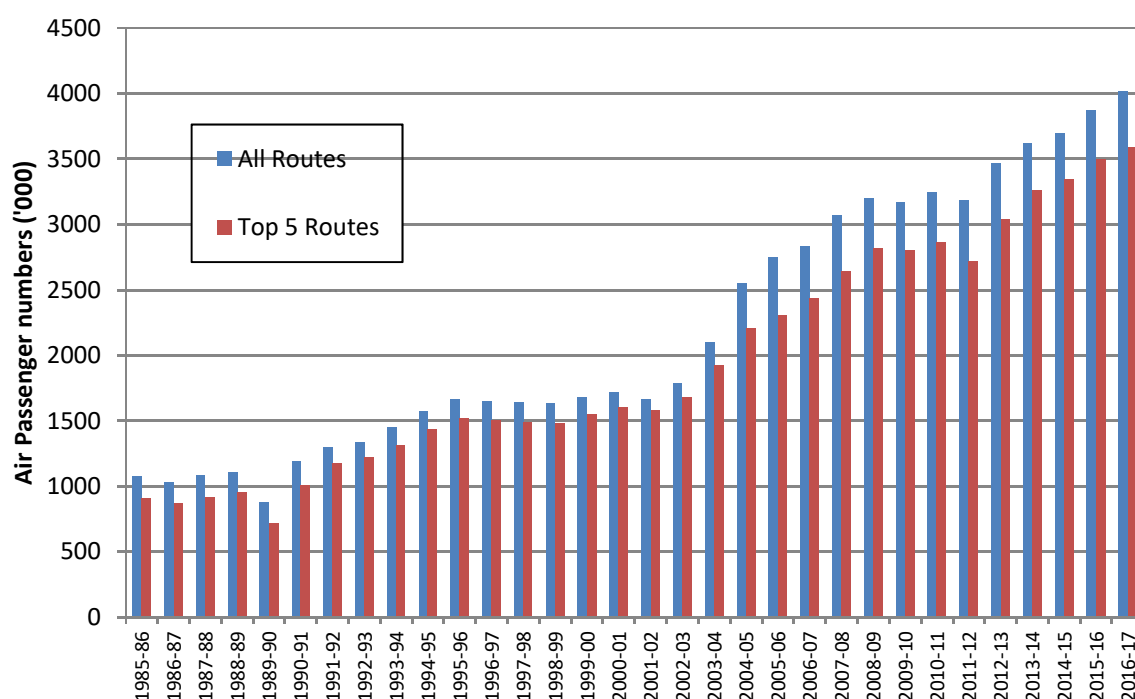
June 2015 and June 2016, then increased 1.0 per cent between June 2016 and June 2017. Caution should be taken with comparisons over time as:

- 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 3.8 million in 2015–16, then increased to just over 4.0 million in 2016–17. The top five routes accounted for about 3.5 million one-way trips (90 per cent) of all air passengers on Tasmanian interstate routes (Figure 6).

Figure 6 Number of air passengers between Tasmania and the mainland, one-way trips, 1985–86 to 2016–17



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.

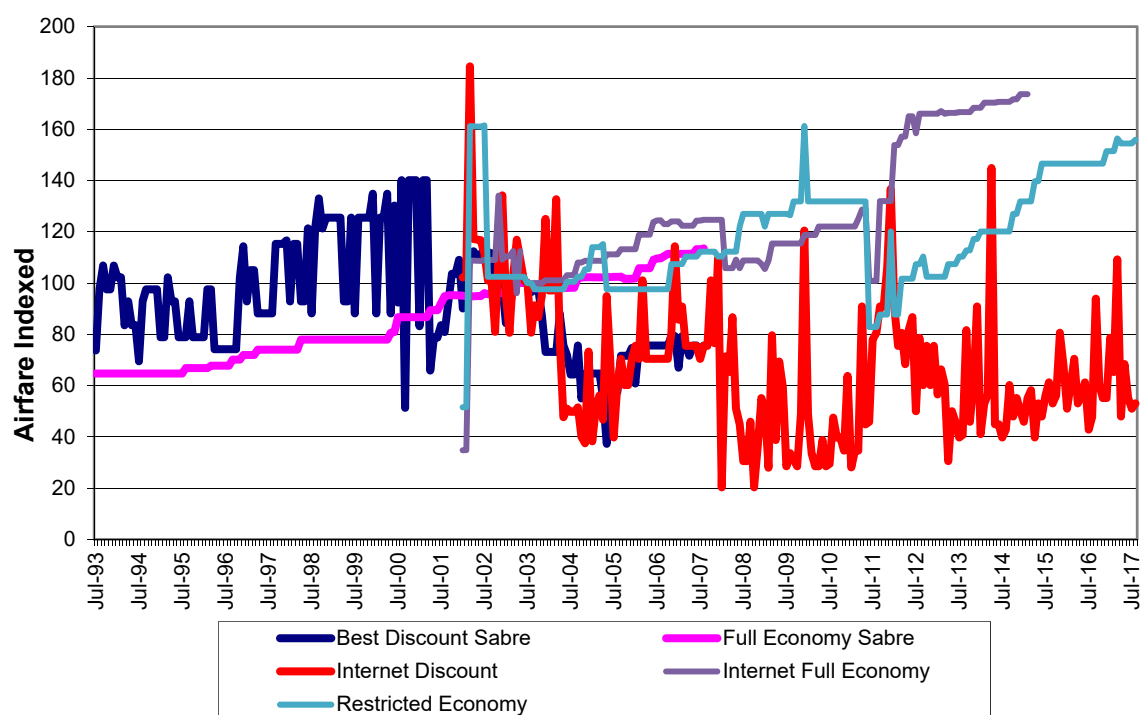
The entry of low cost airlines into the Tasmanian market has resulted in substantial falls in discount air fares (Figure 7). The fall in discount air fares have driven the rapid growth in the number of air passengers between the mainland and Tasmania since 2003–04.

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. Recently Restricted Economy has continued to climb to record high levels while Internet Discount remains volatile but relatively low.

Figure 7 Melbourne–Hobart airfare indices, July 1993 to August 2017



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 adult⁷ visitors to Tasmania (return trips) by purpose of travel and mode over the twenty one years to 2016–17. 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. Since 2012–13 these adult sea passengers has steadily risen year on year.

Visitors in the ‘visiting friends and relatives’ category have historically been a significant part of the TT-Line service. Since 2009–10 around fifteen to 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 up to fifteen per cent of the sea passenger travel. The ‘business’ sea passenger share peaked at 16.2 per cent in 2013–14.

Conversely, air travel by visitors to Tasmania travelling for business increased by 7.8 per cent in 2015–16, then decreased by 1.7 per cent to an estimated 277 100 passengers in 2016–17.

Resident travel

Sea travel by Tasmanians travelling for business purposes to the mainland declined by 10.8 per cent in 2015–16 but then rose in 2016–17 by 5.0 per cent.

⁷ 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 2016–17 ('000)

<i>Purpose</i> <i>Mode</i>	<i>Holiday/leisure</i>		<i>Visiting friends and relatives</i>		<i>Business</i>		<i>Other</i>		<i>Total</i>	
	<i>Sea</i>	<i>Air</i>	<i>Sea</i>	<i>Air</i>	<i>Sea</i>	<i>Air</i>	<i>Sea</i>	<i>Air</i>	<i>Sea</i>	<i>Air</i>
1996–97	49.5	171.8	12.8	113.5	4	75.8	7.3	47.9	73.9	409.2
1997–98	71.7	187.5	16.2	102.1	4.1	71.4	4.4	43.6	96.6	404.8
1998–99	85.2	191.3	18.3	106.9	4.9	70.3	5.5	41.3	114.1	409.8
1999–00	86	204.5	17.5	95.8	4.8	80.3	3.9	38.8	112.2	419.4
2000–01	77.9	192.9	17.2	114.7	5.2	63.8	9.2	39	109.7	410.5
2001–02	79.1	180.2	17.6	102.7	5.5	85.3	8.4	40.6	110.8	409
2002–03	120.2	222.7	33.7	113.6	13.3	96.9	11.5	39.8	179	473.2
2003–04	120.1	271.4	22.7	149	15.5	103.3	7.7	49.7	166.2	573.5
2004–05	102.7	267.1	18.6	172.9	14.6	122.2	10.4	49.1	146.3	611.2
2005–06	102.4	285.2	16.1	212.5	11.3	123	11.1	51.1	140.8	671.7
2006–07	92.3	291.1	15.8	206.1	13.6	123	6.1	79.5	127.8	699.3
2007–08	88.4	308.1	15.7	218.9	13.3	139.5	5.3	60.6	122.6	727.1
2008–09	90.4	346.1	15.4	224.9	15	126.3	6.5	82.7	127.3	779.9
2009–10	82.6	310.8	20.3	240.2	15.1	158.4	12.7	70.1	130.7	779.5
2010–11	89.6	289.5	19.2	239.3	15.1	147.3	10.2	85.2	134.1	761.3
2011–12	71.2	274.5	18.7	232	12.6	155.2	9.9	81.1	112.4	742.8
2012–13	62.8	321.1	17.9	278	13.9	171.1	7.3	89.6	101.9	859.8
2013–14	69.1	409.1	18.6	288	16.2	164.1	8.3	84.4	112.3	945.6
2014–15	79.3	462.5	19.4	301.2	14.3	173.6	8.5	87.9	121.4	1025.1
2015–16	93.6	460.3	20.4	288.4	13.1	180.4	10.1	101.6	137.1	1030.7
2016–17	96.7	526.6	23.1	319.9	16	186.5	10.3	90.6	146.1	1123.6

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.

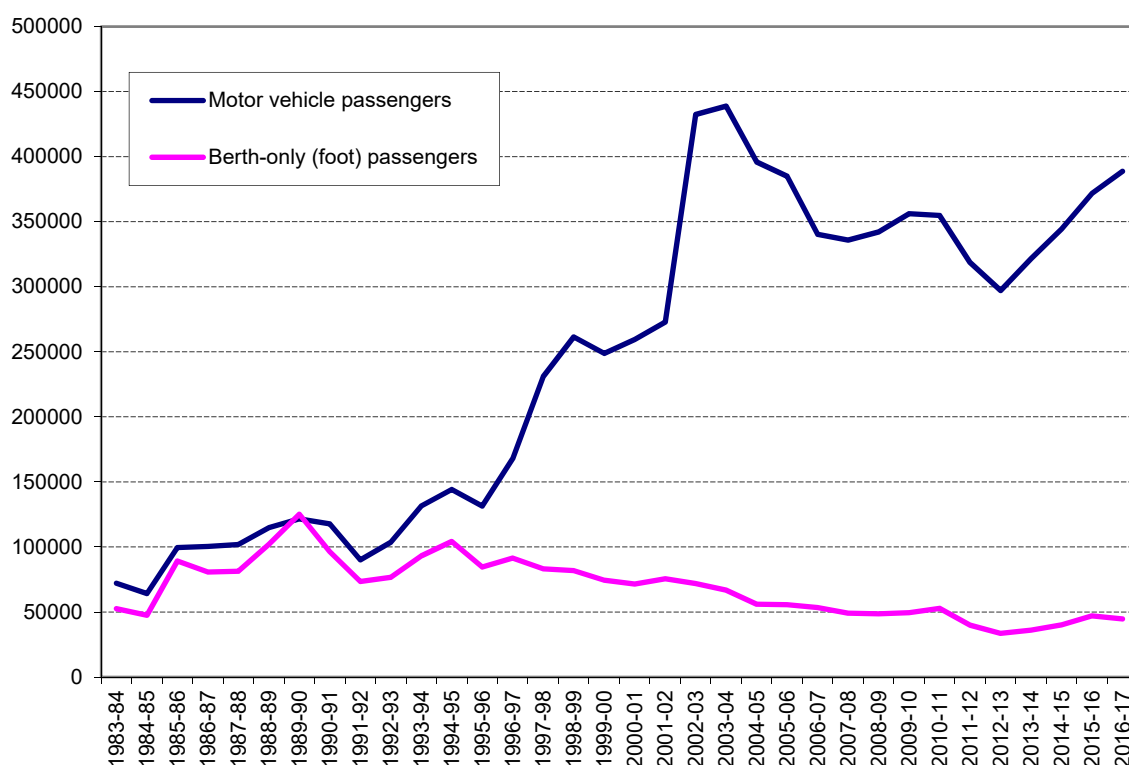
c. Includes attendance at conferences, other purposes and not specified.

Sources: Tourism Tasmania 'Tasmanian Visitor Survey'—personal comm. 2001; 2007; 2011; 2013; 2015; 2017

Motor vehicle passenger and berth-only passengers

Figure 8 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 8 Number of sea passengers carried across Bass Strait, one-way trips, 1995–96 to 2016–17



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. 2017 and earlier

Up until the most recent year, the average number of motor vehicle passengers per eligible vehicle has fallen below 2.0 since the introduction of the Scheme (1.9 in 2015–16 and rising to 2.0 in 2016–17), 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 47 per cent between 1995–96 (before the start of the Scheme) and 2016–17, while the number of one-way motor vehicle passengers has increased by 195 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. Berth only passengers increased again in 2015–16 but again declined in 2016–17

Figure 8 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 72 090 (14.2 per cent), with the number of motor vehicle passengers falling 11.4 per cent and the number of berth-only passengers down 33.0 per cent.

Types of motor vehicles

Table 12 gives a breakdown of eligible vehicles for which reimbursements were paid from 2001–02 to 2016–17. It shows cars have declined as a proportion of all eligible vehicles since the Scheme was broadened in September 2002.

Total counts of vehicles increased in both 2015–16 and 2016–17. Largest increases were for motorcycles and pushbikes. Total vehicle counts in 2016–17 (190 317) were mostly equivalent to 2007–08 levels (190 261).

The numbers of eligible vehicles towing a caravan, motorhomes and buses all experienced decreases (0.7 per cent, 39.7 per cent and 15.9 per cent respectively) between 2014–15 and 2016–17.

Table 12 Eligible vehicles for which reimbursements paid, 2001–02 to 2016–17

	<i>Motor cars</i>	<i>Eligible vehicles + caravan</i>	<i>Motorcycles</i>	<i>Motor homes</i>	<i>Pushbikes</i>	<i>Buses</i>	<i>Total</i>
2001–02	128353	0	6303	0	0	324	134980
2002–03	196871	7359	7023	5991	1188	474	218906
2003–04	199902	9648	8699	9023	431	791	228494
2004–05	188757	10186	8791	7870	992	365	216961
2005–06	179955	10798	11402	7891	692	370	211108
2006–07	160823	10969	7720	8177	692	311	188692
2007–08	161139	11307	8917	8048	556	294	190261
2008–09	164890	11562	10373	8306	877	247	196255
2009–10	164287	12138	12384	9353	654	202	199018
2010–11	151505	12121	9650	9714	771	225	183986
2011–12	134583	11328	9496	8414	597	170	164588
2012–13	124401	10442	8336	8051	521	150	151901
2013–14	138558	11391	10062	8877	651	160	169699
2014–15	148973	12679	11043	9185	827	170	182877
2015–16	152686	13127	12907	5094	976	142	189614
2016–17	154381	12585	11656	5540	872	143	190317
<i>Change from 2014–15 to 2016–17</i>	3.6%	-0.7%	5.6%	-39.7%	5.4%	-15.9%	4.1%

Sources: Tasmanian Transport Programs, Department of Human Services (formerly Centrelink)—personal comm. 2003 to 2017

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CHAPTER 3

Effectiveness of the Scheme

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

In 2016–17, the \$220 rebate on a standard car represented 22.3 per cent of BITRE's benchmark one-way Melbourne–Devonport sea fare for a couple travelling with an eligible passenger car (Also 22.3 per cent in 2015–16 with a \$215 rebate). This compares with 22.0 per cent at the end of June 2014–15 (with a \$210 rebate), 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 model includes 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 sea model used in this monitoring report has been revised by removing two dummy variables. The revised 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.

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 2016–17. 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 2016–17

Year	Motor vehicle passenger one-way trips: Melbourne–Devonport			
	Without Scheme (estimates) ^c	With Scheme (actual)	Difference ^c	Per cent Change
1996–97 ^a	111349	153045	41695	37.4
1997–98	169556	231098	61542	36.3
1998–99	193853	261487	67634	34.9
1999–00	185275	248745	63470	34.3
2000–01	199175	259438	60263	30.3
2001–02	209527	272922	63395	30.3
2002–03 ^d	334680	432498	97818	29.2
2003–04 ^b	317895	409115	91220	28.7
2004–05 ^b	267255	343252	75997	28.4
2005–06 ^b	243481	312304	68823	28.3
2006–07	267301	335423	68122	25.5
2007–08	262015	335881	73866	28.2
2008–09	267040	342099	75059	28.1
2009–10	280789	356125	75336	26.8
2010–11	279424	354864	75440	27.0
2011–12	248638	318615	69977	28.1
2012–13	234400	297134	62734	26.8
2013–14	253530	321585	68055	26.8
2014–15	269459	344356	74897	27.8
2015–16	290037	371789	81752	28.2
2016–17	303490	388829	85339	28.1
All years	5188169	6690604	1502435	29.0

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 -1.26 obtained from the model indicates that a 1 per cent reduction in the sea fare leads to a 1.26 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 2016–17 the Scheme resulted in approximately 85 300 additional one-way trips by motor vehicle passengers between Melbourne and Devonport. This is an increase of 28.1 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 65 000 (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 97 000 in 2002–03 (revised). This declined to an estimated 68 000 in 2006–07 (revised), then increased to approximately 75 000 in 2010–11. The next two years saw it decline to similar levels seen in 2001–02. Motor vehicle passengers have then increased each year from 2013–14 to 2016–17, up to an estimated 85 300 extra motor vehicle sea passengers.

The 2016–17 model results indicate that the proportion of motor vehicle passengers on the Melbourne–Devonport route attributable to the Scheme has increased 1.1 per cent from 27.0 per cent in 2010–11 to 28.1 per cent in 2016–17 (Table 13). The (revised) proportion of motor vehicle passengers attributed to the Scheme has declined from 37.4 per cent of Melbourne–Devonport motor vehicle passengers in 1997–98 (the first full year after the introduction of the Scheme) to 28.1 per cent in 2016–17.

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 87 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 2016–17. 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.⁸ For example, the model uses annual data, covers a relatively short time period, and does not include some potentially relevant variables. 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.

⁸ 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.

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).⁹

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). This upward trend has continued into 2015–16 and 2016–17.

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 7).

⁹ Possible explanations include data limitations and limited substitutability of sea travel for most air passengers.

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, and again in 2015–16 and 2016–17.

BITRE's analysis indicates that the rebate may have reduced the number of berth-only sea passenger movements in 2016–17 by approximately 32 400 (26 400 in 2015–16) 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 32 400 fewer berth-only passenger movements from the econometric estimate of just over 85 300 additional motor vehicle passenger movements in 2016–17. This implies that 38 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 52 900 increase in one-way motor vehicle sea passengers between Melbourne and Devonport in 2016–17 (55 300 in 2015–16). Assuming each passenger made a return trip with their vehicle, this equates to 26 450 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).¹⁰

BITRE estimates that in 2016–17 as a result of the Scheme:

- 17 100 new leisure visitors travelled by sea (17 900 in 2015–16).
- 3 900 new visitors visiting friends and relatives travelled by sea (4 100 in 2015–16).
- 2 600 new business visitors travelled by sea (2 700 in 2015–16).
- 2 600 new 'other' visitors travelled by sea (2 700 in 2015–16).

¹⁰ 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).

If each new motor vehicle visitor spent \$2700 per person (data by purpose is not available),¹¹ the estimated spending by all new motor vehicle passengers was an additional \$71.4 million in 2016–17 (\$74.6 million in 2015–16) including:

- Additional spending by new leisure visitors of \$46.4 million in 2016–17 (\$48.5 million in 2015–16).
- Additional spending by new passengers in the ‘visiting friends and relatives category’ of \$10.7 million in 2016–17 (\$11.2 million in 2015–16).
- Additional spending by new business visitors of \$7.1 million in 2016–17 (\$7.5 million in 2015–16).
- Additional spending by other visitors of \$7.1 million in 2016–17 (\$7.5 million in 2015–16).

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 \$2700 per person, the Scheme would have needed to have increased the number of additional visitors to Tasmania by just over 16 500 in 2016–17 for the increase in visitor spending to equal the total rebate paid.

¹¹ 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 \$2700 per trip per person for all journey purposes in 2016–17 (BITRE estimate based on Tourism Tasmania data—personal communication 2017).

Appendix A

Sea passenger traffic model

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

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 2016–17. 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.

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 Exchange Rate</i>
	<i>('000)</i>		<i>(\$/package)</i>	<i>(\$ billion)</i>	<i>(million)</i>	
1985–86	99 509	22.6	291	429.0	16.0	0.7039
1986–87	100 335	24.5	317	430.3	16.3	0.6299
1987–88	101 915	26.0	317	443.8	16.5	0.7141
1988–89	114 783	27.5	353	468.5	16.8	0.7833
1989–90	121 559	30.4	390	496.3	17.1	0.7776
1990–91	117 785	33.3	427	491.1	17.3	0.8302
1991–92	90 070	35.6	450	493.5	17.5	0.7985
1992–93	103 642	32.9	413	507.1	17.7	0.7134
1993–94	131 542	33.3	413	521.4	17.9	0.6463
1994–95	144 134	35.8	445	540.3	18.1	0.7416
1995–96	131 455	37.0	445	558.5	18.3	0.7605
1996–97	167 788	39.4	355	572.0	18.5	0.7912
1997–98	231 098	41.4	371	581.2	18.7	0.7271
1998–99	261 487	43.0	392	602.6	18.9	0.5943
1999–00	248 745	43.3	402	625.0	19.2	0.6522
2000–01	259 438	47.9	475	649.1	19.4	0.5440
2001–02	272 922	52.4	475	662.7	19.7	0.4944
2002–03	432 498	53.6	497	664.6	19.9	0.5415
2003–04	409 115	54.2	509	698.4	20.1	0.6832
2004–05	343 252	56.1	515	732.1	20.4	0.7265
2005–06	312 304	57.4	519	762.5	20.7	0.7637
2006–07	335 423	61.4	592	801.7	21.1	0.7477
2007–08	335 881	58.9	583	824.3	21.4	0.8860
2008–09	342 099	55.6	627	872.0	21.9	0.7962
2009–10	356 125	59.2	677	956.4	22.0	0.8789
2010–11	354 864	60.9	690	1009.0	22.3	0.9657
2011–12	318 615	70.1	675	1030.0	22.7	0.9500
2012–13	297 134	82.9	738	1054.7	23.2	1.0305
2013–14	321 585	84.4	754	1073.4	23.5	0.9396
2014–15	344 356	86.4	742	1088.8	23.8	0.8693
2015–16	371 789	95.5	747	1134.1	24.2	0.7055
2016–17	388 829	100.0	766	1155.5	24.6	0.7672

Notes

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

Source TT-Line (2017) and previous Annual Reports, TT-Line—personal comm. 2017 and previous years; ABS (2017), BTRE (2006a; 2006b), Reserve Bank of Australia Table F11.1 Dec 2017 and earlier years.

Results of the Melbourne-Devonport Model

The estimated regression results are presented in Table 15. The adjusted R^2 value of 0.87 suggests that the model is a good fit. It indicates that 87 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 13 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 2016–17

<i>Variable</i>	<i>Estimated coefficient</i>	<i>T-Statistics</i>
Y - Real Income	1.91	2.54
P - Real Sea Fare	-1.26	-3.11
Q - Real Full Economy Air fare	0.34	2.05
AUDUSD - Exchange Rates	-1.01	-4.22
Introduction of the <i>Spirit of Tasmania</i> 1/II 2001–02 onwards (DSP)	0.54	4.62
Intercept	-12.69	-4.03
Adjusted R2	0.87	

Source BITRE analysis

In terms of the total impact on the number of motor vehicle passenger movements, the most important variable in the 2016–17 model is per capita real household income (previously also real household income).

The coefficient of the per capita real household income (1.91) is of the expected sign and is significant at the 95 per cent confidence level. The real income estimated elasticity of 1.91 means that a 1 per cent increase (decrease) in the level of per capita real household income will result in a 1.91 per cent increase (decrease) in the number of motor vehicle passenger movements.

The second most important variable in the 2016–17 model is the real sea fare (own-price) with an estimated elasticity of -1.26. This indicates that a 1 per cent decrease (increase) in the real sea fare will result in a 1.26 per cent increase (decrease) in the number of motor vehicle passenger movements.

Similarly the AUD/USD exchange rate with an estimated elasticity of -1.01 is currently the third most important variable with a 1 per cent change resulting in a 1.1 per cent increase (decrease) on the number of motor vehicle passengers.

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 0.34 meaning that a 1 per cent increase (decrease) in the level of the full economy air fare will result in a 0.34 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 but is now starting to become insignificant.

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 significant¹² 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 must 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 30 years, with the Scheme operating for just nineteen 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.

¹² As already noted, the discount airfare series is only available from October 1992. When this discount fare series was used in the model, the resulting airfare coefficient was not significant. This appears to reflect limitations in the fare data—the discount airfare 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 airfare series.

Appendix B

TT-Line financial indicators

Table 16 TT-Line selected financial information, 1998–99 to 2016–17 (\$'000)

	Operating expenses								Total operating expense	Operating profit/loss	Abnormals/ extraordinaries	Profit/loss
	Total operating revenue	Operations-general	Operations-write down	Ship sale carrying value	Hotel services	Customer acquisition	Admin	Other				
1996–97	61766	22357	0	0	15296	4893	6098	10556	59200	2566	0	2566
1997–98	73325 ^a	22724 ^a	0	0	15464	4698	6219	22406	71511	1814	780	1034
1998–99	80607	33932	0	0	17783	6015	5707	9793	73230	7377	0	7377
1999–00	77511	40865	0	0	16924	5900	4889	8697	77275	236	0	236
2000–01	81842	42864	0	0	17782	6261	6871	2696	76474	5368	0	5368
2001–02	86236	42402	30887	0	18130	6680	7462	1958	107519	-21283	0	-21283
2002–03	195518 ^b	69454	0	62732	27708	11437	8902	12673	192906	2612	0	2612
2003–04	154250	90900	0	0	33878	10574	8340	13954	157646	-3396	0	-3396
2004–05	154874	118603	43237	0	34306	13222	8593	16192	234153	-79279	0	-79279
2005–06	158882	120798	-43237	0	34575	16234	8478	12245	149093	9789	0	9789
2006–07	155336	93187	0	0	26634	16466	8665	6809	151761	3575	0	3575
2007–08	166863	95246	0	0	29354	15674	7735	5161	153170	13693	0	13693
2008–09	175587	112786	0	0	29490	14379	9061	4049	169765	5822	0	5822
2009–10	182677	112815	0	0	23577	8598	7840	15252	168082	14595	0	14595
2010–11	181233	112356	0	0	21700	7685	10526	16486	168753	12480	0	12480
2011–12	185392	106941	0	0	23112	7908	9877	16027	163865	21527	0	21527
2012–13	186769	110566	0	0	27391	10204	10425	14816	173402	13367	0	13367
2013–14	196965	115601	0	0	28622	12427	11580	19116	187346	9619	0	9619
2014–15	205468	116146	0	0	28904	14139	11158	20256	190603	14865	0	14865
2015–16	217324	126321	0	0	30108	12647	11893	20928	201897	15427	0	15427
2016–17	227837	122447	0	0	31099	11845	12204	23543	201138	26699	0	26699

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 (2017) 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 2016–17

	Operating revenue	Operating expenses ^b	
	per voyage ^a	per passenger	per voyage
1996-97	197335	228	189137
1997-98	166648	228	162525
1998-99	159618	213	145010
1999-00	170354	239	169835
2000-01	171218	231	159987
2001-02	177806	220 ^d	158004 ^d
2002-03	158710 ^c	258 ^d	153870 ^d
2003-04	149903	312	153203
2004-05	147219	422 ^e	181479 ^e
2005-06	156380	534 ^f	231857 ^f
2006-07	189897	385	185527
2007-08	207541	398	190510
2008-09	219484	434	212206
2009-10	222235	414	204479
2010-11	219145	414	204054
2011-12	244258	457	215896
2012-13	249691	524	231821
2013-14	262620	524	249795
2014-15	267885	496	248505
2015-16	266983	482	248031
2016-17	271882	464	240021

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 (2017) and previous Annual Reports; BITRE estimates

Table 18 TT-line reimbursements and adjusted operating revenue, 1998–99 to 2016–17

	<i>Reimbursements paid (\$'000)</i>	<i>Operating revenue (\$'000)</i>	<i>Reimbursements as a proportion of operating revenue</i>
1996-97	8 475	61 766	13.7
1997-98	12 939	73 325	17.6
1998-99	14 447	80 607	17.9
1999-00	14 211	77 511	18.3
2000-01	15 031	81 842	18.4
2001-02	15 932	86 236	18.5
2002-03	31 793	134 269	23.7
2003-04	34 236	154 250 ^a	22.2
2004-05	32 350	154 874	20.9
2005-06	31 331	158 882	19.7
2006-07	28 304	155 336	18.2
2007-08	30 109	166 863	18.0
2008-09	34 699	175 587	19.8
2009-10	36 348	182 677	19.9
2010-11	36 751	181 233	20.3
2011-12	34 261	185 392	18.5
2012-13	32 771	186 769	17.5
2013-14	37 452	196 965	19.0
2014-15	40 855	205 468	19.9
2015-16	43 983	217 324	20.2
2016-17	44 599	227 837	19.6

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

Source TT-Line (2017) and previous Annual Reports

Appendix C

Bass Strait travel 2015–2017

Table 19 Estimated adult^a return passengers travelling between Tasmania and the mainland by purpose, 2015–16 and 2016–17 ('000)

<i>Purpose of travel</i>	<i>2015–16</i>			<i>2016–17</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	460.3	93.6	553.9	526.6	96.7	623.3
Visiting friends/relatives	288.4	20.4	308.8	319.9	23.1	342.9
Business	180.4	13.1	193.4	186.5	16.0	202.5
Conference	43.4	1.8	45.2	34.3	1.2	35.5
Other/not specified	58.2	8.2	66.5	56.4	9.1	65.4
Total visitors	1030.7	137.1	1167.8	1123.6	146.1	1269.6
<i>Tasmanian residents</i>						
Holiday/leisure	234.9	19.5	254.4	225.3	21.4	246.7
Visiting friends/relatives	306.1	20.3	326.4	320.9	15.8	336.8
Business	171.8	7.5	179.3	192.0	8.9	200.9
Conference	26.7	0.2	26.9	25.2	0.1	25.3
Other/not specified	97.4	15.7	113.1	91.0	15.6	106.7
Total Tasmanians	836.9	63.2	900.1	854.5	61.8	916.3
Total passengers	1867.6	200.3	2067.9	1978.1	207.8	2185.9

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

Source Tourism Tasmania Tasmanian Visitor Survey—personal comm. 2017

Table 20 Estimated adult return passengers travelling between Tasmania and the mainland by purpose, 2015–16 ('000)

	<i>Air</i>		<i>Sea</i>		<i>Total</i>	
	<i>Number (‘000)</i>	<i>Percent change on 14– 15</i>	<i>Number (‘000)</i>	<i>Percent change on 14– 15</i>	<i>Number (‘000)</i>	<i>Percent change on 14– 15</i>
<i>Visitors</i>						
Holiday, leisure, or visiting friend and relatives	748.7	-2.0%	114.0	15.5%	862.7	0.0%
Business/conference/other	282.0	7.8%	23.1	1.5%	305.1	7.3%
Total visitors	1030.7	0.5%	137.1	12.9%	1167.8	1.8%
<i>Tasmanian residents</i>						
Holiday, leisure, or visiting friend and relatives	541.0	17.8%	39.8	8.1%	580.8	17.1%
Business/conference/other	295.9	4.7%	23.4	-10.8%	319.3	3.4%
Total Tasmanians	836.9	12.8%	63.2	0.3%	900.1	11.9%
Total passengers	1867.7	5.7%	200.3	8.6%	2067.9	6.0%

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

Source Tourism Tasmania Tasmanian Visitor Survey—personal comm. 2017

Table 21 Estimated adult^a return passengers travelling between Tasmania and the mainland by purpose, 2016–17 ('000)

	<i>Air</i>		<i>Sea</i>		<i>Total</i>	
	<i>Number (‘000)</i>	<i>Percent change on 15–16</i>	<i>Number (‘000)</i>	<i>Percent change on 15–16</i>	<i>Number (‘000)</i>	<i>Percent change on 15–16</i>
<i>Visitors</i>						
Holiday, leisure, or visiting friend and relatives	846.5	13.1%	119.8	5.1%	966.2	12.0%
Business/conference/other	277.1	-1.7%	26.3	13.7%	303.4	-0.6%
Total visitors	1123.6	9.0%	146.1	6.5%	1269.6	8.7%
<i>Tasmanian residents</i>						
Holiday, leisure, or visiting friend and relatives	546.3	1.0%	37.2	-6.5%	583.5	0.5%
Business/conference/other	308.3	4.2%	24.5	5.0%	332.8	4.2%
Total Tasmanians	854.5	2.1%	61.8	-2.2%	916.3	1.8%
Total passengers	1978.1	5.9%	207.8	3.8%	2185.9	5.7%

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

Source Tourism Tasmania Tasmanian Visitor Survey—personal comm. 2017

Table 22 Sea and air passengers across Bass Strait, one-way passenger movements 1993–94 to 2016–17

Year	<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
2015–16	3 496 370	3 869 076	371 789	47 042	418 831
2016–17	3 589 194	4 017 692	388 829	44 720	433 549

Source BITRE-AVSTATS—personal comm. 2017, TT-Line—personal comm. 2017

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